

Power supplies

Version 2021



Weidmüller 

Orange Selection

Quick and easy planning

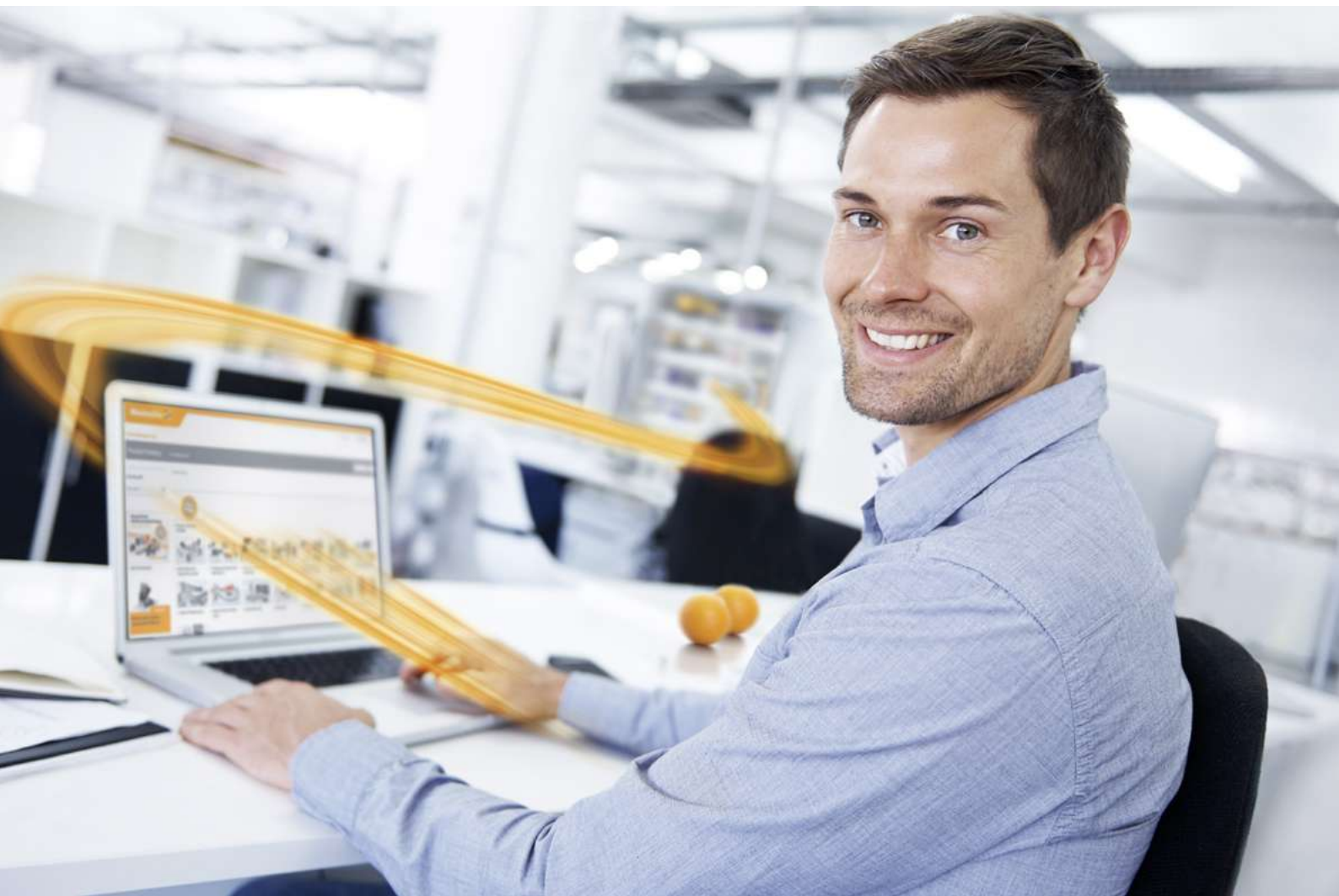
As a planning engineer, do you want to select products easily and receive them quickly? From a partner you can rely on? Then plan with the Orange Selection from Weidmüller in the future. The Orange Selection items are always available, carefully selected and the portfolio consists of more than 1,500 items to fully cover your standard needs.

If your order is placed before 3:00 pm, we guarantee that your order will be on its way the very next working day.

For even more efficient planning and production processes, we will of course provide all articles in digital form. CAD, ETIM and eClass data are available in our online product catalogue **catalog.weidmueller.com**

We have summarised all the advantages of the Orange Selection on our website.

Check it out: **www.weidmueller.com/orange-selection**



Power supplies

Catalogue 4.3

Power supplies

Switched-mode power supply units

Electronic load monitoring

Uninterruptible power supplies

DC/DC converters

Redundancy, diode and capacity modules

Communication modules

Appendix

Service and support

Glossary/Technical appendix

Index

Index Type / Index Order No.
Addresses worldwide

Power supplies – Overview

connectPower 1ph PROtop



- Single-phase switched-mode power supply module
- High MTBF values
- Cl. I Div. 2 + ATEX
- Power category 72...960 W
- Output 12, 24 and 48 V DC

connectPower 3ph PROtop



- Multiphase switched-mode power supply module
- 3× 320...575 V AC or 2× 360...575 V AC
- 450...800 V DC
- UL approval
- Power category 120...960 W

connectPower PROtop DCDC



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower PROtop UW



- DCL technology for excellent dynamic range
- Operating modes: single / parallel operation and adjustable short-circuit behaviour (continuous current or switch-off)
- High durability up to 15 years, MTBF > 1.000.000 hours

connectPower 1ph PROmax



- Single-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category from 70...960 W
- International approvals

connectPower 3ph PROmax



- 3-phase switched-mode power supply module
- Slim design
- High efficiency
- Power category 120...960 W
- Wide range of approvals

connectPower 1ph PROeco



- Single-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower 3ph PROeco



- 3-phase switched-mode power supply modules
- Slim design
- Large temperature range from -25 °C to 70 °C
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals

connectPower PRO-PM



- Wall mounting
- Flat design
- Metal housing
- Power category 25...350 W
- Universal input and output voltages

connectPower 1ph INSTA POWER



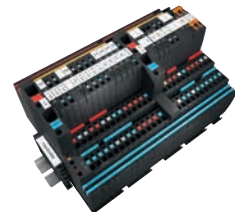
- Single-phase switched-mode power supply modules for the distribution board
- Compact form
- Power category 16 and 96 W
- Input and output voltage 5...48 V
- International approvals

topGUARD



- Electronic load monitoring
- Integrated potential distribution
- IO Link capable
- Status notification LEDs

maxGUARD



- Electronic load monitoring
- Status notification LEDs and potential-free contact
- Reset input
- Compact design

connectPower UPS control units



- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature, for a long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

connectPower Battery modules



- Maintenance-free, lead-acid batteries from 1.3 Ah to 17 Ah
- Integrated temperature sensor for an extended service life
- Integrated fuse for reliable activation
- Buffer times up to 40 A / 30 min or 10 A / 90 min
- Robust metal housing for wall mounting

connectPower Buffer modules



- Maintenance-free UPS on a capacitor basis, with capability to support 20 A / 200 ms
- Parallel switching to increase the output current or support time
- Status notification via LED and relay contact

connectPower DC/DC converters



- Compact form
- Metal housing
- International approvals
- High degree of efficiency
- DCL peak load reserve up to 600%

connectPower Redundancy modules



- Fast status diagnosis via LED display and status relay
- Universally applicable due to wide range of variants (max. up to 80 A output current)
- Wide range of approvals (e.g. cULus, Class I, Div. 2, ATEX and IECEx)

connectPower Diode modules



- Diode module for 100 % decoupling of switching power supplies
- Optimal power doubling
- Max. up to 40 A Output current
- International approvals

Power supplies – Overview

connectPower Capacity modules



- To increase the peak current
- Provides sufficient energy reserves
- Compact design
- For tripping circuit breakers

















































Communication modules















- Tool-free assembly
- Protection class IP20
- Flexible to adapt PROtop and topGUARD to different communication protocols
- Available in CANopen and IO-Link

Find the perfect product to meet your requirement















Our extensive portfolio of power supplies at a glance

Series / family		Input side		Output side				Additional functions				Recommendation for application						Order No.											
Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering						
PROtop A.4	PRO TOP1 72W 24V 3A	1	85-277	80-410	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70 Start up @ -40	90.0	> 1	III	                  	●	●	●	●	●	●	●	●	●	●	●	●	2466850000	
	PRO TOP1 120W 24V 5A	1			24	5	120									91.0	2466870000												
	PRO TOP1 240W 24V 10A	1			24	10	240									92.5	2466880000												
	PRO TOP1 480W 24V 20A	1			24	20	480									93.5	2466890000												
	PRO TOP1 960W 24V 40A	1			24	40	960									94.5	2466900000												
	PRO TOP1 120W 12V 10A	1			12	10	120									91.0	2466910000												
	PRO TOP1 480W 48V 10A	1			48	10	480									93.5	2467030000												
	PRO TOP1 960W 48V 20A	1			48	20	960									94.5	2466920000												
	PRO TOP1 72W 24V 3A F	1			24	3	72									90.0	2568970000												
	PRO TOP1 120W 24V 5A F	1			24	5	120									91.0	2568980000												
	PRO TOP1 240W 24V 10A F	1			24	10	240									92.5	2568990000												
	PRO TOP1 120W 12V 10A F	1			12	10	120									91.0	2569000000												
	PRO TOP3 120W 24V 5A	2/3			3 x 320-3 x 575/ 2 x 360-2 x 575	450-800 (max. 500 acc. to UL508)	24									5	120	89.0	2467060000										
	PRO TOP3 240W 24V 10A	2/3					24									10	240	93.0	2467080000										
	PRO TOP3 480W 24V 20A	2/3					24									20	480	94.0	2467100000										
	PRO TOP3 960W 24V 40A	2/3					24									40	960	95.3	2467120000										
PRO TOP3 480W 48V 10A	2/3	48	10	480			94.0	2467150000																					
PRO TOP3 960W 48V 20A	2/3	48	20	960			95.3	2467170000																					
PRO TOP1 72W 24V 3A CO	1	85-277	80-410	24			3	72	> 60	130 % permanently with ≤ 40 °C	NO	-40 to +70	90.0	> 1	III	                	●	●	●	●	●	●	●	●	●	●	●	●	2466970000
PRO TOP1 120W 24V 5A EX	1			24			5	120									91.0	2466980000											
PRO TOP1 240W 24V 10A EX	1			24	10	240	92.5	2466990000																					
PRO TOP1 480W 24V 20A EX	1			24	20	480	93.5	2467000000																					
PRO TOP1 960W 24V 40A EX	1			24	40	960	94.5	2467010000																					
PRO TOP1 120W 12V 10A EX	1			12	10	120	91.0	2467020000																					
PRO TOP1 480W 48V 10A EX	1			48	10	480	93.5	2467040000																					
PRO TOP1 960W 48V 20A CO	1			48	20	960	94.5	2467050000																					
PRO TOP3 120W 24V 5A CO	2/3			24	5	120	89.0	2467070000																					
PRO TOP3 240W 24V 10A CO	2/3			24	10	240	93.0	2467090000																					
PRO TOP3 480W 24V 20A CO	2/3			24	20	480	94.0	2467110000																					
PRO TOP3 960W 24V 40A CO	2/3			24	40	960	95.3	2467130000																					
PRO TOP3 960W 36V 26,6A CO	2/3			36	27	960	95.3	2467140000																					
PRO TOP3 480W 48V 10A CO	2/3			48	10	480	94.0	2467160000																					
PRO TOP3 960W 48V 20A CO	2/3			48	20	960	95.3	2467180000																					
PRO TOPDC 24V/24V 5A	/			/	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ Uin 14 V)	24	5	120									> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70	89	> 1	I II III	         	●	●	●	●	●
PRO TOPDC 24V/24V 10A	/	24	10			240	91	2627640000																					
PRO TOPDC 24V/24V 20A	/	24	20			480	91	2627630000																					
PRO TOPDC 24V/48V 10A	/	48	10			480	91	2627660000																					
PRO TOPDC 24V/24V 10A EX	/	24	10			240	91	2467300000																					
PRO TOPDC 24V/24V 20A EX	/	24	20			480	91	2467310000																					
PRO TOPDC 24V/24V 5A EX	/	24	5			120	89	2467290000																					
PROtop UJW A.34	PRO TOP2 120W 24V 5A UW EX	1/2	85...550 V AC (Derating: 2 %/1 V @ 85...100 V AC)			90...800 V DC (Derating: 1 %/1 V @ 90...120 V DC)	24	5	120	> 60	130 % permanently with ≤ 40 °C	NO	-40 to +70	89	> 1	III									 	●	●	●	●

NO = NO contact
 CO = CO contact
 Start-up @ -40°C = In the range of -40 to -25°C the device starts, but some technical parameter may differ (i.e., ripple-voltage).

Series / family		Input side		Output side			Additional functions				Recommendation for application						Order No.							
Page	Description	Phases	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	Rated current [A]	Power rating [W]	Derating at [°C]	Load reserve	Type of contact	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering	
PROmax A.40	PRO MAX 72W 24V 3A	1	85-277	80-370	24	3	72	> 60	130 % permanently with ≤ 40 °C	NO	-25 to +70 -25 to +70 -25 to +70	90.0	> 0.5	III	  CI1 Div2  C  EAC  Semi F47 	●	●	●	●	●	●	●	●	1478100000
	PRO MAX 120W 24V 5A	1			24	5	120					90.0				1478110000								
	PRO MAX 180W 24V 7.5A	1			24	7.5	180					90.0				1478120000								
	PRO MAX 240W 24V 10A	1			24	10	240					91.0				1478130000								
	PRO MAX 480W 24V 20A	1			24	20	480					91.0				1478140000								
	PRO MAX 960W 24V 40A	1			24	40	960					91.5				1478150000								
	PRO MAX 70W 5V 14A	1			5	14	70					86.0				1478210000								
	PRO MAX 72W 12V 6A	1			12	6	72					89.0				1478220000								
	PRO MAX 120W 12V 10A	1			12	10	120					89.0				1478230000								
	PRO MAX 240W 48V 5A	1			48	5	240					91.0				1478240000								
	PRO MAX 480W 48V 10A	1			48	10	480					91.5				1478200000								
	PRO MAX 960W 48V 20A	1			48	20	960					92.5				1478270000								
	PRO MAX3 120W 24V 5A	2/3			3 x 320-3 x 575/	450-800	24					5				120	90.0	1478170000						
	PRO MAX3 240W 24V 10A	2/3			2 x 360-2 x 575	(max. 500 acc. to UL508)	24					10				240	91.0	1478180000						
PRO MAX3 480W 24V 20A	2/3	3 x 320-3 x 575/	acc. to UL508)	24	20	480	91.5	1478190000																
PRO MAX3 960W 24V 40A	2/3	2 x 360-2 x 575	UL508)	24	40	960	92.5	1478200000																
PROeco A.52	PRO ECO 72W 24V 3A	1	85-264	80-370	24	3	72	> 40	/	NO	-20 to +70	87.0	> 0.5	II	   EAC 	●	●	●	●	●	●	●	1469470000	
	PRO ECO 120W 24V 5A	1			24	5	120					87.0				1469480000								
	PRO ECO 240W 24V 10A	1			24	10	240					90.0				1469490000								
	PRO ECO 480W 24V 20A	1			24	20	480					91.0				1469510000								
	PRO ECO 960W 24V 40A	1			24	40	960					93.0				1469520000								
	PRO ECO 72W 12V 6A	1			12	6	72					90.0				1469570000								
	PRO ECO 120W 12V 10A	1			12	10	120					90.0				1469580000								
	PRO ECO 240W 48V 5A	1			48	5	240					90.0				1469590000								
	PRO ECO 480W 48V 10A	1			48	10	480					90.0				1469610000								
	PRO ECO3 120W 24V 5A	2/3			3 x 320-3 x 575/	450-800	24					5				120	89.0	1469530000						
	PRO ECO3 240W 24V 10A	2/3			2 x 360-2 x 575	(max. 500 acc. to UL508)	24					10				240	93.0	1469540000						
	PRO ECO3 480W 24V 20A	2/3			3 x 320-3 x 575/	acc. to UL508)	24					20				480	94.0	1469550000						
	PRO ECO3 960W 24V 40A	2/3			2 x 360-2 x 575	UL508)	24					40				960	95.3	1469560000						
	PRO-PMI A.64	PRO PM 100W 12V 8.5A			1	90-264	/					12				8.5	100	> 50	/	/	-20 to +70	84	/	II
PRO PM 100W 24V 4.5A		1	24	4.5	100			86	2660200286															
PRO PM 100W 48V 2.3A		1	48	2.3	100			86	2660200287															
PRO PM 150W 12V 12.5A		1	12	12.5	150			84	2660200288															
PRO PM 150W 24V 6.5A		1	24	6.5	150			86	2660200289															
PRO PM 150W 48V 3.3A		1	48	3.3	150			86	2660200290															
PRO PM 250W 12V 21A		1	12	21	250			84	2660200291															
PRO PM 250W 24V 10.5A		1	24	10.5	250			86	2660200292															
PRO PM 250W 48V 5.2A		1	48	5.2	250			86	2660200293															
PRO PM 350W 24V 14.6A		1	24	14.6	350			86	2660200294															
PRO PM 350W 48V 7.3A		1	48	7.3	350			86	2660200295															
PRO PM 35W 12V 3A		1	12	3	35			84	2660200278															
PRO PM 35W 24V 1.5A		1	24	1.5	35			86	2660200279															
PRO PM 35W 48V 0.75A		1	48	0.75	35			86	2660200280															
PRO PM 35W 5V 7A		1	5	7	35			82	2660200277															
PRO PM 75W 12V 6A		1	12	6	75			84	2660200282															
PRO PM 75W 24V 3.2A		1	24	3.2	75			86	2660200283															
PRO PM 75W 48V 1.6A		1	48	1.6	75			86	2660200284															
PRO PM 75W 5V 14A		1	5	14	75			82	2660200281															
INSTA POWER A.78		PRO INSTA 16W 24V 0.7A	1	85...264 (Derating @ 100 V AC)	95...370			24	0.7	16	55	/	/	-25 to +70	82.5	750,000	II					CE   CI.1 Div.2 NEC CI.2 (only 2580260000)		
	PRO INSTA 30W 12V 2.6A	1	12			2.6	30	85	2580220000															
	PRO INSTA 30W 24V 1.3A	1	24			1.3	30	86	2580190000															
	PRO INSTA 30W 5V 6A	1	5			6	30	82	2580210000															
	PRO INSTA 60W 12V 5A	1	12			5	60	86	2580240000															
	PRO INSTA 60W 24V 2.5A	1	24			2.5	60	89	2580230000															
	PRO INSTA 90W 24V 3.8A	1	24			3.8	90	87	2580250000															
	PRO INSTA 96W 24V 4A	1	24			4	96	87	2580260000															
	PRO INSTA 96W 48V 2A	1	48			2	96	89	2580270000															

Overview

Series / family		Input side			Output side				Additional functions				Recommendation for application						Order No.										
Page	Description	AC input voltage [V]	DC input voltage [V]	Rated voltage [V]	configurable range [V]	Rated current [A]	Power rating [W]	Type of contact	Parallel connection option	Side-by-side connectability	Temperature range [°C]	Efficiency [%]	MTBF time [Mh]	Surge category	Approvals	Field cabinets	Small and series machine construction	Machine construction and plant manufacture	Simple process applications	Process industry	Energy technology	Power distribution	Marine engineering						
USV	C.4	CP DC UPS 24V 20A/10A	20-30	U _n -0,3 VU _n -0,3 V		10 / 20		NO		●	-25 to +70	98.0		III	  	●	●	●	●					●	1370050010				
		CP DC UPS 24V 40A				40	NO	●	98.0	●	1370040010																		
		CP DC BUFFER 24V 20A	22.5-30	24		20		NO		●		95.0				●	●	●	●					●	1251220000				
		CP A BATTERY 24V DC1.3AH		24		10 A / 7.8 min	1.3 Ah	≤ 2	●								●	●	●	●					●	1406930000			
		CP A BATTERY 24V DC3.4AH		24		10 A / 11.3 min	3.4 Ah	≤ 2	●			0 to +40					●	●	●	●					●	1251070000			
		CP A BATTERY 24V DC7.2AH		24		10 A / 26.5 min	7.2 Ah	≤ 2	●								●	●	●	●					●	1251080000			
		CP A BATTERY 24V DC12AH		24		10 A / 51 min	12 Ah	≤ 2	●								●	●	●	●					●	1251090000			
		CP A BATTERY 24V DC17AH		24		10 A / 81 min	17 Ah	≤ 2	●								●	●	●	●					●	1251110000			
DC/DC	D.2	PRO DCDC 120W 24V 5A	18-31.2	24	22.5-29.5	5	120					92.0			    										●	2001800000			
		PRO DCDC 240W 24V 10A	18-31.2	24	22.5-29.5	10	240	NO	≤ 5	●	-25 to +70	92.0	> 1	III												●	2001810000		
		PRO DCDC 480W 24V 20A	18-31.2	24	22.5-29.5	20	480	NO				93.0															●	2001820000	
DM / RM / CAP	E.4	PRO RM 10	10-32	U _n -0,13 VU _n -0,13 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480	NO	yes			> 98		III	 	●	●	●	●	●	●			●	2486090000				
		PRO RM 20				2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960	NO	yes		> 98										●	●	●	●	●			●	2486100000
		PRO RM 40				3 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)	1920	NO	yes		> 98					-40 to +70						●	●	●	●	●			●
	E.6	PRO DM 10	0-60	U _n -0,7 VU _n -0,7 V		2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C), 2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)	480		yes			> 97		III	 	●	●	●	●	●	●			●	2486070000				
		PRO DM 20				2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C), 2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)	960		yes		> 97										●	●	●	●	●			●	2486080000
	E.7	CP M CAP	18-30	U _n			40 A / 1 min		CO				-25 to +70			 	●	●	●	●	●					●	1222240000		
CP M CAP								CO	yes		> 0.5											●	●	●	●				

Switched-mode power supply units

Switched-mode power supply units	Overview	A.2
	connectPower PROtop	A.4
	connect Power PROtop DCDC	A.26
	connect Power PROtop UW	A.34
	connectPower PROmax	A.40
	connectPower PROeco	A.52
	connectPower PRO-PM	A.64
	connectPower INSTA POWER	A.78

Optimum power supply for automation technology

The switch-mode power supplies feature a high efficiency, compact dimensions and minimal heat generation.

They are an excellent and reliable solution for providing power in all automation applications – safely providing 24 V DC voltage.

The different product series are optimised for the automation industry: they feature Ex approvals for the processing industry, a flat shape perfect for distribution tasks within buildings and provide decentralised control voltages.

All-purpose usage: with a wide range of AC/DC inputs, single-, double- or three-phase versions and a wide temperature range. Additional performance increases

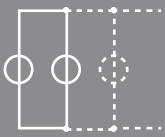
are possible using simple parallel connection. Weidmüller switch-mode power supplies are reliable usable for all applications because of their high efficiency and their resistance to both short circuits and overloads.

Weidmüller offers a system of one- and three-phase switch-mode power supplies especially for the PROtop family. These can be expanded with additional modules to create whole system solutions. The optimal fitting system can be assembled for any type of application: with redundancy circuits containing decoupled outputs, monitoring of the output voltage or triggering of circuit breakers.



AC/DC**International use**

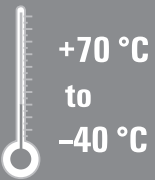
A wide-range input (both DC as well as AC voltages can be used; no switching required) and extensive approvals (UL/CSA and GL (EMC 1 – bridge)).

**Parallel connection**

Module power can be increased by connecting up to five power supplies in parallel without diode module.

**Narrow**

Space-saving configuration in the switching cabinet through very narrow housing construction and side-by-side connectability.

**Robust**

Wide temperature range from -40 °C ... +70 °C.

**Wide choice**

The right power supply for every application: 1-phase 3 A, 5 A, 7.5 A, 10 A, 20 A, 40 A and 3-phase 5 A, 10 A, 20 A, 40 A.

connectPower**connectPower PROtop****connectPower PROtop DCDC****connectPower PROtop UW****connectPower PROmax****connectPower PROeco****connectPower PRO-PM****connectPower INSTA POWER**

High-end-power supplies and future proofed PROtop: Reliable, powerful, efficient and communication-capable

A Production processes constantly need to be made more efficient. As well as performance, energy efficiency and sustainability are also playing an increasingly important role in cutting-edge industry. PROtop power supplies combine excellent performance data with exemplary sustainability, which has a positive impact on the productivity of the entire production facility.

PROtop offers a number of advantages that give you a real competitive edge. These include the permanent reduction of energy costs thanks to high efficiencies as well as the increase in plant availability due to long service life and high MTBF values. In addition, there is a high functional density due to the extremely space-saving designs.

PROtop can achieve significant savings compared to conventional power supply units. Its increased efficiency saves an average of 50 kWh per day in a medium-sized production facility with approx. 100 PROtop power supplies working in three-shift operation. This adds up to over 15,000 kWh a year and also improves the facility's carbon footprint. The service life, which is twice as long as that of standard power supplies, also sustainably reduces the costs of repurchase and exchange.

Also in the
protection class
IP65
available





Direct parallel switching without diode modules thanks to integrated ORing MOSFETs for reduced system costs



Sustainable and innovative device concept

- Optimum efficiency levels (up to 95.3%) for sustainable energy savings
- High MTBF values (> 1,000,000 h) for permanently high system availability

Communication modules can be adapted without tools.



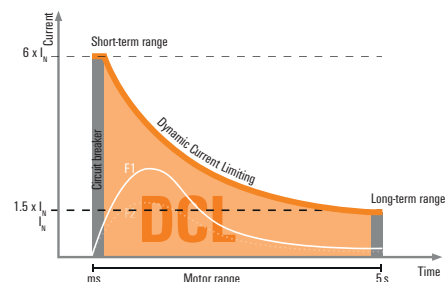
Outstanding peak load reserves

- High dynamic range thanks to unique DCL (dynamic current limiting) technology
- Continuous peak load reserves from millisecond to second range
- Ideal for reliably triggering circuit breakers or for powerful motor starts



Highly future-proof

- Complete data transparency through to the cloud
- Remote controllability for integration into machine control systems
- CANopen and IO-Link communication protocols



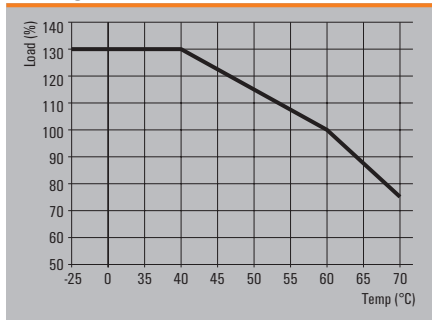
connectPower PROtop

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- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

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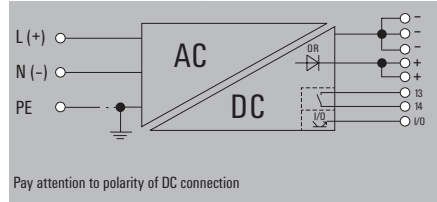
- 1-phase power supplies

PRO TOP1 72 W 24 V 3 A

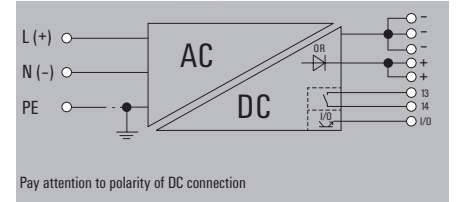
PRO TOP1 120 W 24 V 5 A



Similar to illustration



Similar to illustration



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	3 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	3 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	5 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	5 (+ / - / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	5 (+ / - / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A	1	2466850000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A	1	2466870000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A	1	2466870000
Note		
Current technical data at catalog.weidmuller.com		

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- 1-phase power supplies

PRO TOP1 240 W 24 V 10 A

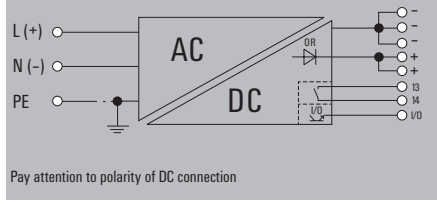
PRO TOP1 480 W 24 V 20 A



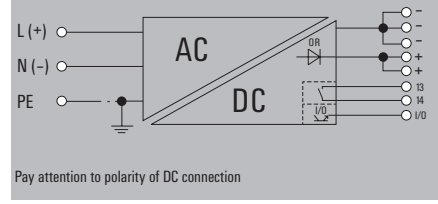
Similar to illustration



Similar to illustration



Pay attention to polarity of DC connection



Pay attention to polarity of DC connection

Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1050 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		5 (+ + / - -)	
0.5 / 1.5 mm ²		0.2 / 2.5 mm ²	
0.5 / 2.5 mm ²		0.2 / 2.5 mm ²	
20 / 12 mm ²		26 / 12 mm ²	

Input		Output	
PUSH IN		PUSH IN	
3 for L/N/PE		5 (+ + / - -)	
0.2 / 10 mm ²		0.2 / 10 mm ²	
0.2 / 6 mm ²		0.2 / 6 mm ²	
20 / 8 mm ²		20 / 8 mm ²	

Connection data

Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
PUSH IN with actuator		PUSH IN with actuator	
3 for L/N/PE		5 (+ + / - -)	
0.5 / 1.5 mm ²		0.2 / 2.5 mm ²	
0.5 / 2.5 mm ²		0.2 / 2.5 mm ²	
20 / 12 mm ²		26 / 12 mm ²	

Input		Output	
PUSH IN		PUSH IN	
3 for L/N/PE		5 (+ + / - -)	
0.2 / 10 mm ²		0.2 / 10 mm ²	
0.2 / 6 mm ²		0.2 / 6 mm ²	
20 / 8 mm ²		20 / 8 mm ²	

Ordering data

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A	1	2466880000
Note		Current technical data at catalog.weidmuller.com

Type	Qty.	Order No.
PRO TOP1 480W 24V 20A	1	2466890000
Note		Current technical data at catalog.weidmuller.com

Type	Qty.	Order No.
PRO TOP1 480W 24V 20A	1	2466890000
Note		Current technical data at catalog.weidmuller.com

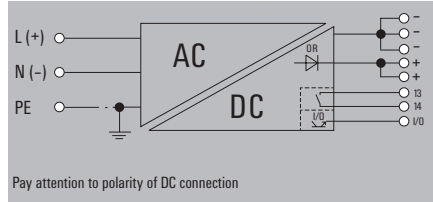
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- 1-phase power supplies

PRO TOP1 960 W 24 V 40 A



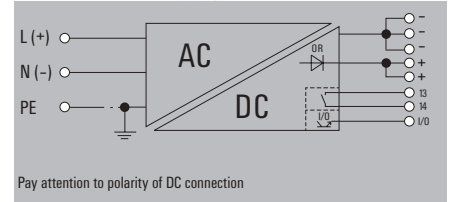
Similar to illustration



PRO TOP1 120 W 12 V 10 A



Similar to illustration



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 124 / 130 mm
Net weight	3400 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	12 V DC ± 1 %
Output voltage	11...15 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	90%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	12 V DC ± 1 %
Output voltage	11...15 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	90%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.75 / 16 mm ²
Wire cross-section, flexible min/max	0.75 / 16 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 4
Note	

Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ / - / -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Input	Output
PUSH IN with actuator	PUSH IN with actuator
3 for L/N/PE	5 (+ / - / -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A	1	2466900000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A	1	2466910000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A	1	2466910000
Note		
Current technical data at catalog.weidmueller.com		

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- 1-phase power supplies

PRO TOP1 480 W 48 V 10 A

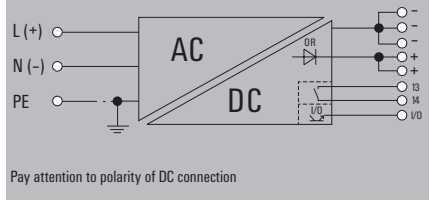
PRO TOP1 960 W 48 V 20 A



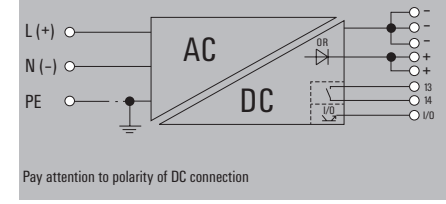
Similar to illustration



Similar to illustration



Pay attention to polarity of DC connection



Pay attention to polarity of DC connection

Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 124 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 124 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ + / - -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
3 for L/N/PE	5 (+ + / - -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A	1	2467030000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOP1 960W 48V 20A	1	2466920000
Note		
Current technical data at catalog.weidmuller.com		

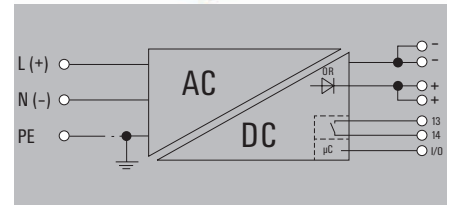
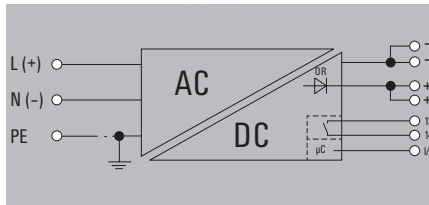
Type	Qty.	Order No.
PRO TOP1 960W 48V 20A	1	2466920000
Note		
Current technical data at catalog.weidmuller.com		

connectPower PROtop

- 1-phase power supplies with output-side screw flange

PRO TOP1 72W 24V 3A F

PRO TOP1 120W 12V 10A F



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	3 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Input		Output	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC		
Input voltage range AC	85...277 V AC		
Frequency range AC	45...65 Hz		
DC input voltage range	80 ... 410 V DC		
Input fuse (internal) / Inrush current	Yes / max. 5 A		
Output		Output	
Rated output voltage	12 V DC ± 1 %		
Output voltage	11...15 V		
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)		
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load		
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)		
Nominal output current for U _{nom}	10 A @ 60 °C		
General data		General data	
Derating	> 60°C (2.5% / 1°C)		
Series switching capability	Yes		
Degree of efficiency	90%		
Power factor (approx.)	> 0.85		
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC		
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error		
Parallel connection option	yes, max 10		
Depth x width x height	125 / 35 / 130 mm		
Net weight	850 g		
Approvals		Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV		

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 1.5
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A F	1	2568970000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A F	1	2569000000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOP1 120W 12V 10A F	1	2569000000
Note		
Current technical data at catalog.weidmueller.com		

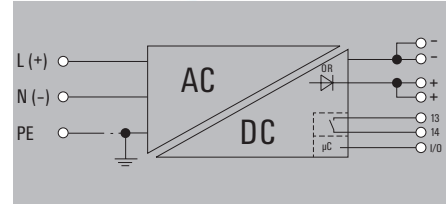
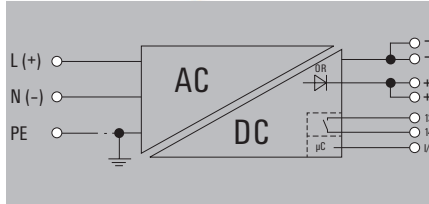
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- 1-phase power supplies with output-side screw flange

PRO TOP1 120W 24V 5A F

PRO TOP1 240W 24V 10A F



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	48...410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Input		Output	
PUSH IN with actuator	PUSH IN with actuator		
3 for L/N/PE	4 (++ / -)		
0.5 / 1.5	0.2 / 2.5		
0.5 / 2.5	0.2 / 2.5		
20 / 12	26 / 12		

Ordering data

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A F	1	2568980000

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A F	1	2568980000

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A F	1	2568990000

Note

Current technical data at catalog.weidmueller.com

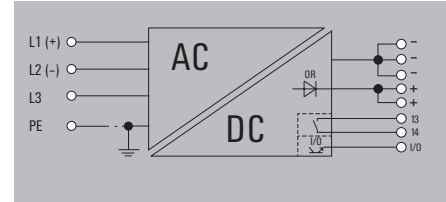
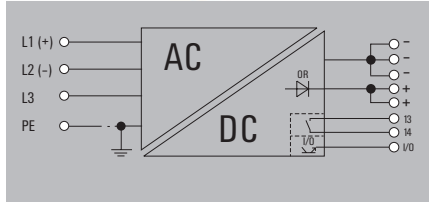
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- 3-phase power supplies

PRO TOP3 120 W 24 V 5 A

PRO TOP3 240 W 24 V 10 A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.4 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	967 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 50 / 130 mm
Net weight	1120 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 50 / 130 mm
Net weight	1120 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ + / - -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ + / - -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A	1	2467060000

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A	1	2467060000

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A	1	2467080000

Note

Current technical data at catalog.weidmueller.com

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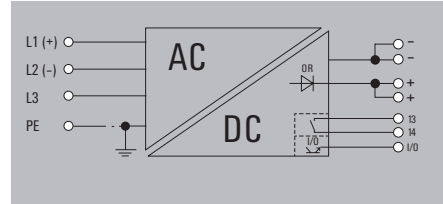
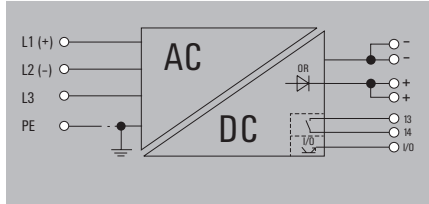
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- 3-phase power supplies

PRO TOP3 480 W 24 V 20 A

PRO TOP3 960 W 24 V 40 A



Technical data

Input	
Rated input voltage	
Input voltage range AC	
Frequency range AC	
DC input voltage range	
Input fuse (internal) / Inrush current	
Output	
Rated output voltage	
Output voltage	
DCL - peak load reserve	
Residual ripple, breaking spikes	
Reserve capacity @ $U_{Nominal}$	
Nominal output current for U_{nom}	
General data	
Derating	
Series switching capability	
Degree of efficiency	
Power factor (approx.)	
AC failure bridging time @ I_{nom}	
LED green/red	
Parallel connection option	
Depth x width x height	
Net weight	
Approvals	
Approvals	

3 x 400...3 x 500 V AC (wide-range input)
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
45...65 Hz
450...800 V DC (max. 500 V DC acc. to UL508)
No / Max. 10 A
24 V DC \pm 1 %
22.5...28.8 V
150 % (5 s); 500 % (15 ms)
< 50 mVss @ U_{Nomin} , Full Load
130% permanent at \leq 40°C, 150 % (5 s)
20 A @ 60 °C
> 60°C (2.5% / 1°C)
Yes
94%
> 0.75 @ 3x400 V AC
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Green: Operation (failure-free), Flashing green: advance warning
I>90%, Green/red flashing: output switched off (switch-off mode),
Flashing red: overload/error
yes, max 10
125 / 68 / 130 mm
1650 g
ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

3 x 400...3 x 500 V AC (wide-range input)
3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
45...65 Hz
450...800 V DC (max. 500 V DC acc. to UL508)
No / Max. 10 A
24 V DC \pm 1 %
22.5...28.8 V
150 % (5 s); 400 % (15 ms)
< 50 mVss @ U_{Nomin} , Full Load
130% permanent at \leq 40°C, 150 % (5 s)
40 A @ 60 °C
> 60°C (2.5% / 1°C)
Yes
95,3 %
> 0.75 @ 3x400 V AC
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Green: Operation (failure-free), Flashing green: advance warning
I>90%, Green/red flashing: output switched off (switch-off mode),
Flashing red: overload/error
yes, max 10
175 / 89 / 130 mm
2490 g
ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A	1	2467100000

Type	Qty.	Order No.
PRO TOP3 960W 24V 40A	1	2467120000

Note

Current technical data at catalog.weidmueller.com

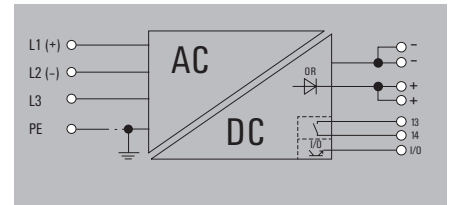
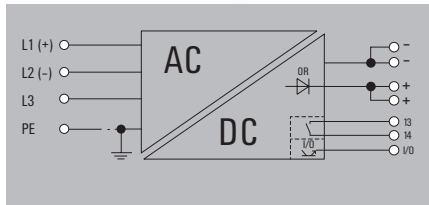
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- 3-phase power supplies

PRO TOP3 480 W 48 V 10 A

PRO TOP3 960 W 48 V 20 A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1645 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP3 480W 48V 10A	1	2467150000

Type	Qty.	Order No.
PRO TOP3 480W 48V 10A	1	2467150000

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A	1	2467170000

Note

Current technical data at catalog.weidmueller.com

Current technical data at catalog.weidmueller.com

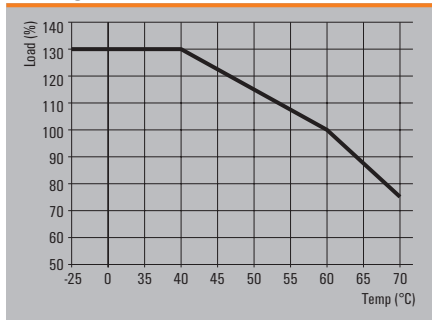
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- DCL technology for an excellent dynamic range
- High energy efficiency (up to 95.4 % efficiency)
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

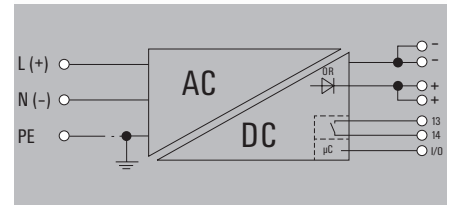
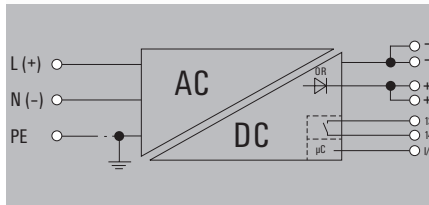
General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-40 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	Yes
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55024:2010/A1:2015, EN 55035:2017, EN 61000-3-2:2014, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop

- 1-phase power supplies

PRO TOP1 72W 24V 3A CO

PRO TOP1 120W 24V 5A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	3 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.5
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC (Derating 40% @ 48 V DC)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 72W 24V 3A CO	1	2466970000
Note		

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A EX	1	2466980000
Note		

Type	Qty.	Order No.
PRO TOP1 120W 24V 5A EX	1	2466980000
Note		

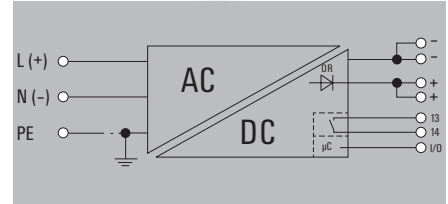
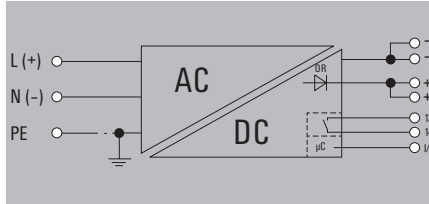
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- 1-phase power supplies

PRO TOP1 240W 24V 10A EX

PRO TOP1 480W 24V 20A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	92 %
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	1.05 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nom}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.18 / 6	0.2 / 6
0.22 / 4	0.5 / 6
26 / 10	24 / 8

Ordering data

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A EX	1	2466990000
Note		

Type	Qty.	Order No.
PRO TOP1 240W 24V 10A EX	1	2466990000
Note		

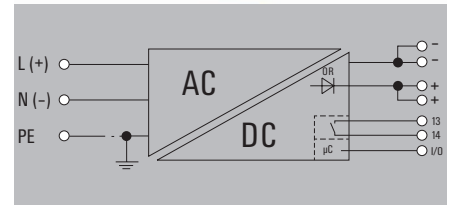
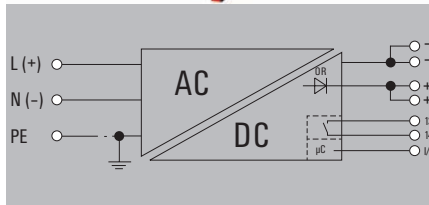
Type	Qty.	Order No.
PRO TOP1 480W 24V 20A EX	1	2467000000
Note		

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- 1-phase power supplies

PRO TOP1 480W 48V 10A EX

PRO TOP1 960W 48V 20A CO



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	93%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1520 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV _{pp}
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 139 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.18 / 6	0.2 / 6
0.22 / 4	0.5 / 6
26 / 10	24 / 8

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - -)
0.18 / 6	0.2 / 16
0.22 / 4	6 / 16
26 / 10	22 / 6

Ordering data

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A EX	1	2467040000
Note		

Type	Qty.	Order No.
PRO TOP1 480W 48V 10A EX	1	2467040000

Type	Qty.	Order No.
PRO TOP1 960W 48V 20A CO	1	2467050000
Note		

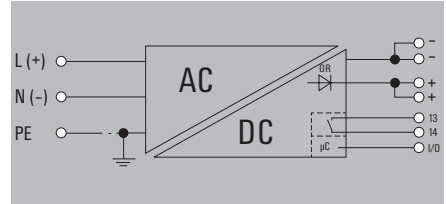
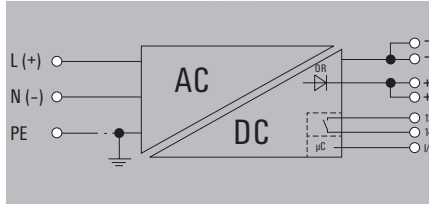
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- 1-phase power supplies

PRO TOP1 960W 24V 40A EX

PRO TOP1 120W 12V 10A EX



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 139 / 130 mm
Net weight	3382 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	40 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.9
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 139 / 130 mm
Net weight	3382 g
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80 ... 410 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Rated output voltage	12 V DC ± 1 %
Output voltage	11...15 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	90%
Power factor (approx.)	> 0.85
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	850 g
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; IECEXTUEV; LLOYDSREG; RINA; TUEV; TUEVSATEX

Connection data	
Connection system	Clamping yoke
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - - -)
0.18 / 6	0.2 / 16
0.22 / 4	6 / 16
26 / 10	22 / 6

Input	Output
Clamping yoke	Clamping yoke connection
3 for L/N/PE	5 (+ + / - - -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A EX	1	2467010000
Note		

Type	Qty.	Order No.
PRO TOP1 960W 24V 40A EX	1	2467010000

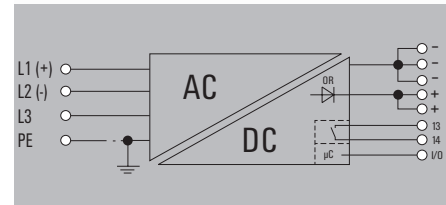
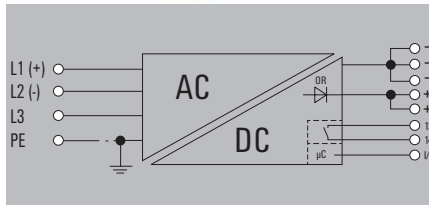
Type	Qty.	Order No.
PRO TOP1 120W 12V 10A EX	1	2467020000
Note		

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- 3-phase power supplies

PRO TOP3 120W 24V 5A CO

PRO TOP3 240W 24V 10A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.4 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	967 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 50 / 130 mm
Net weight	1120 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	93%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 50 / 130 mm
Net weight	1120 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ + / - -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
4 for L1/L2/L3/PE	5 (+ + / - -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A CO	1	2467070000
Note		

Type	Qty.	Order No.
PRO TOP3 120W 24V 5A CO	1	2467070000
Note		

Type	Qty.	Order No.
PRO TOP3 240W 24V 10A CO	1	2467090000
Note		

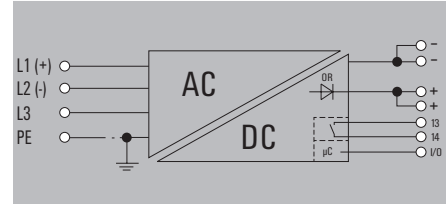
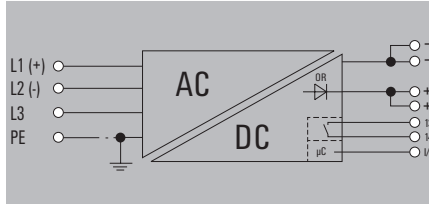
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- 3-phase power supplies

PRO TOP3 480W 24V 20A CO

PRO TOP3 960W 24V 40A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{Nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1650 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{Nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	40 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{Nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Ordering data

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A CO	1	2467110000
Note		

Type	Qty.	Order No.
PRO TOP3 480W 24V 20A CO	1	2467110000
Note		

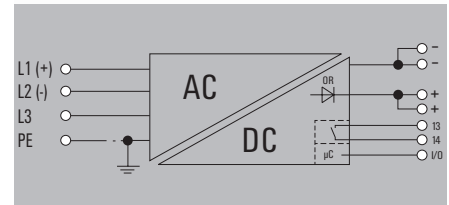
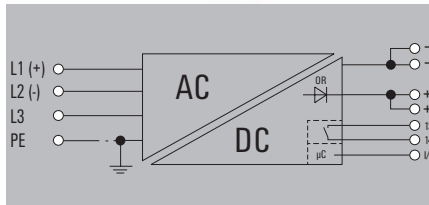
Type	Qty.	Order No.
PRO TOP3 960W 24V 40A CO	1	2467130000
Note		

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- 3-phase power supplies

PRO TOP3 960W 36V 26,6A CO

PRO TOP3 480W 48V 10A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	36 V DC ± 1 %
Output voltage	33...44 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nenn} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	26.6 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1645 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 500 % (15 ms)
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	94%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 68 / 130 mm
Net weight	1645 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.75 / 16 mm ²
Wire cross-section, flexible min/max	0.75 / 16 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 4
Note	

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.75 / 16	0.75 / 16
0.75 / 16	0.75 / 16
20 / 4	20 / 4

Input	Output
PUSH IN	PUSH IN
4 for L1/L2/L3/PE	4 (++ / -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Ordering data

Type	Qty.	Order No.
PRO TOP3 960W 36V 26,6A CO	1	2467140000
Note		

Type	Qty.	Order No.
PRO TOP3 960W 36V 26,6A CO	1	2467140000

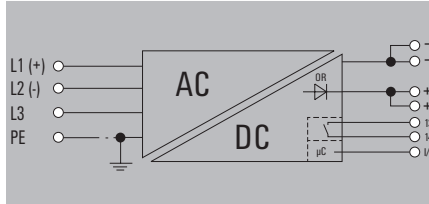
Type	Qty.	Order No.
PRO TOP3 480W 48V 10A CO	1	2467160000
Note		

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- 3-phase power supplies

PRO TOP3 960W 48V 20A CO



Technical data

Input	
Rated input voltage	3x 400...3x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
Input fuse (internal) / Inrush current	No / Max. 10 A
Output	
Rated output voltage	48 V DC \pm 1 %
Output voltage	45...56 V
DCL - peak load reserve	150 % (5 s); 400 % (15 ms)
Residual ripple, breaking spikes	< 100 mV ss @ 48 V DC, I Nenn
Reserve capacity @ U_{Nominal}	130% permanent at $\leq 40^\circ\text{C}$, 150 % (5 s)
Nominal output current for U_{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	95,3 %
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I_{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	175 / 89 / 130 mm
Net weight	2490 g
Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Connection data	Input	Output
Connection system	PUSH IN	PUSH IN
Number of terminals	4 for L1/L2/L3/PE	4 (++ / -)
Wire cross-section, rigid min/max	0.75 / 16	0.75 / 2.5
Wire cross-section, flexible min/max	0.75 / 16	0.75 / 16
Wire cross-section, AWG/kcmil min/max	20 / 4	20 / 4
Note		

Ordering data

Type	Qty.	Order No.
PRO TOP3 960W 48V 20A CO	1	2467180000

Note	
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PROtop DCDC converter with IoT connection – fit for digitalisation

Powerful, efficient, and reliable isolation

PROtop DCDC converters are used for safe electrical isolation to avoid ground loops that can occur when supplying field devices in production or process plants. DCDC converters can be used on long supply lines to refresh the supply voltage.

The integrated ORing MOSFET reliably decouples possible internal short circuits. It allows direct parallel connection of ACDC and DCDC converters of the PROtop series for redundancy purposes or to increase power. This makes the use of the otherwise common diode or redundancy modules obsolete. Furthermore, PROtop DCDC converters feature the powerful DCL technology – and their communication module allows full data transparency and remote control.

Your special advantages:

- Integrated ORing MOSFET for direct parallel connection for redundancy purposes or to increase power
- Thanks to DCL technology, very high peak current reserves for fuse tripping or for powerful motor starts
- Communication interface for complete data transparency and remote control





Fit for the future thanks to IO-LINK

The optional communication modules, which can be retrofitted at any time, create data transparency, and enable automated parameterisation and remote control.



Redundancy without diode modules

The integrated ORing MOSFET allows direct parallel connection for redundancy purposes or to increase power. Diode and redundancy modules are thus obsolete.



Peak current reserves thanks to DCL

The high peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL offers high peak currents for powerful motor starting

Optimal for:



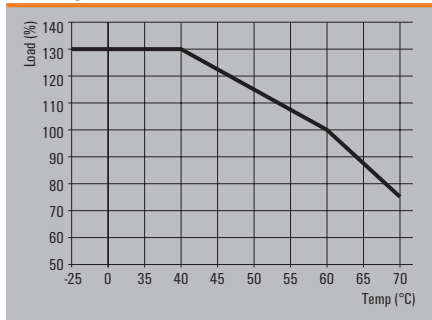
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- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design
- Time-saving PUSH IN connection technology



Derating curve



Technical data

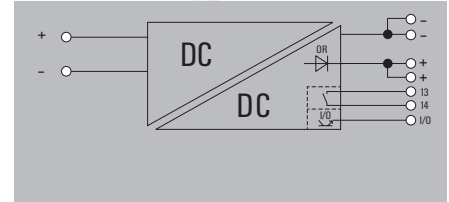
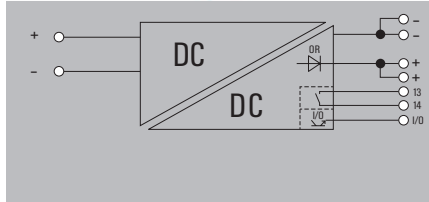
General data	
Insulation voltage input / earth	1.41 kV
Insulation voltage output / earth	0.7 kV
Insulation voltage, input/output	1.41 kV
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C / -40 °C...85 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	No
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 55035:2017, EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, IEC 61000-4-2, IEC 61000-4-3, DIN EN 61000-4-4, EN 61000-4-5:2005, EN 61000-4-6:2008, IEC 61000-4-8
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	SELV according to EN 62368-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

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- DC/DC-Wandler

PRO TOPDC 24V/24V 5A

PRO TOPDC 24V/24V 10A



Technical data

Input	
Rated input voltage	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	800 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	
Approvals	ABS; BURVER; DNVGL; LLOYDSREG; RINA; TUEV; CE

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.5 / 1.5 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 12
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	4 (++, -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	4 (++, -)
0.5 / 1.5	0.2 / 2.5
0.5 / 2.5	0.2 / 2.5
20 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A	1	2627650000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A	1	2627640000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A	1	2627640000
Note		
Current technical data at catalog.weidmuller.com		

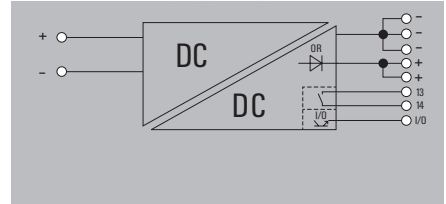
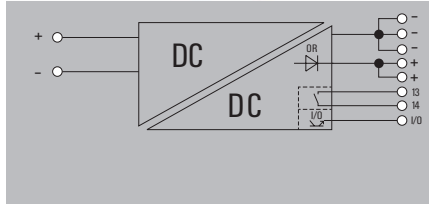
connectPower PROtop DCDC

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A

PRO TOPDC 24V/48V 10A



Technical data

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	2030 g
Approvals	
Approvals	ABS; DNVGL; LLOYDSREG; TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	2020 g
Approvals	
Approvals	TUEV; CE

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	45...56 V
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	No
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	2020 g
Approvals	
Approvals	TUEV; CE

Connection data	
Connection system	PUSH IN with actuator
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.2 / 10 mm ²
Wire cross-section, flexible min/max	0.2 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	20 / 8
Note	

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	5 (+ + / - -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Input	Output
PUSH IN with actuator	PUSH IN with actuator
2 for (+, -)	5 (+ + / - -)
0.2 / 10	0.2 / 10
0.2 / 6	0.2 / 6
20 / 8	20 / 8

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A	1	2627630000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOPDC 24V/48V 10A	1	2627660000
Note		
Current technical data at catalog.weidmuller.com		

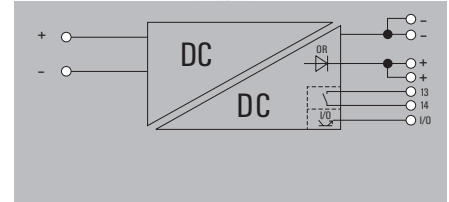
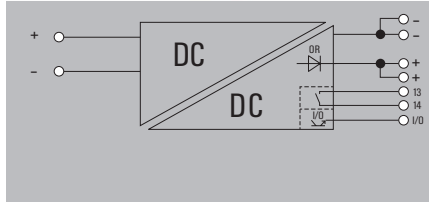
Type	Qty.	Order No.
PRO TOPDC 24V/48V 10A	1	2627660000
Note		
Current technical data at catalog.weidmuller.com		

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 5A EX

PRO TOPDC 24V/24V 10A EX



Technical data

Input	
Rated input voltage	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	800 g
Approvals	
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Rated input voltage	24 V DC
Input current	5.7A @ 24V / 7.6A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 5 A
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	5 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 35 / 130 mm
Net weight	800 g
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Rated input voltage	24 V DC
Input current	11A @ 24V / 15A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / Max. 10 A
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	10 A @ 60 °C
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 43 / 130 mm
Net weight	1000 g
Approvals	DNVGL; LLOYDSREG; RINA; TUEV; CE

Connection data	
Connection system	Clamping yoke
Number of terminals	2 for (+, -)
Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12
Note	

Input	Output
Clamping yoke	Clamping yoke connection
2 for (+, -)	4 (++ / -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Input	Output
Clamping yoke	Clamping yoke connection
2 for (+, -)	4 (++ / -)
0.2 / 4	0.2 / 4
0.2 / 4	0.2 / 4
30 / 12	30 / 12

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 5A EX	1	2467290000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A EX	1	2467300000
Note		
Current technical data at catalog.weidmueller.com		

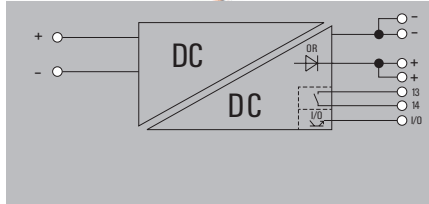
Type	Qty.	Order No.
PRO TOPDC 24V/24V 10A EX	1	2467300000
Note		
Current technical data at catalog.weidmueller.com		

connectPower PROtop DCDC

connectPower PROtop DCDC

- DC/DC converter

PRO TOPDC 24V/24V 20A EX



Technical data

Input	
Rated input voltage	24 V DC
Input current	22A @ 24V / 30A @ 18V
DC input voltage range	14 V...31.2 V (linear Derating from 18 V...14 V, 60% rated load @ U _{in} 14 V)
Input fuse (internal) / Inrush current	Yes / max. 15 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	500 % (15 ms); 200 % (5 s)
Residual ripple, breaking spikes	< 40 mV _{pp} @25 °C
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{nom}	20 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	91%
Mains failure bridge-over time	10ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning >90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 75 / 130 mm
Net weight	2030 g
Approvals	
Approvals	TUEV, CE

Input		Output	
Clamping yoke	2 for (+, -)	Clamping yoke connection	4 (++ / -)
Wire cross-section, rigid min/max	0.18 / 6 mm ²	Wire cross-section, rigid min/max	0.2 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²	Wire cross-section, flexible min/max	0.5 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10	Wire cross-section, AWG/kcmil min/max	24 / 8

Connection data	
Connection system	Clamping yoke connection
Number of terminals	4 (++ / -)
Wire cross-section, rigid min/max	0.2 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 8
Note	

Connection data	
Connection system	Clamping yoke connection
Number of terminals	4 (++ / -)
Wire cross-section, rigid min/max	0.2 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 6 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 8
Note	

Ordering data

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A EX	1	2467310000
Note		
Current technical data at catalog.weidmueller.com		

Type	Qty.	Order No.
PRO TOPDC 24V/24V 20A EX	1	2467310000
Note		
Current technical data at catalog.weidmueller.com		

PROtop UW power supplies with ultra wide input voltage range

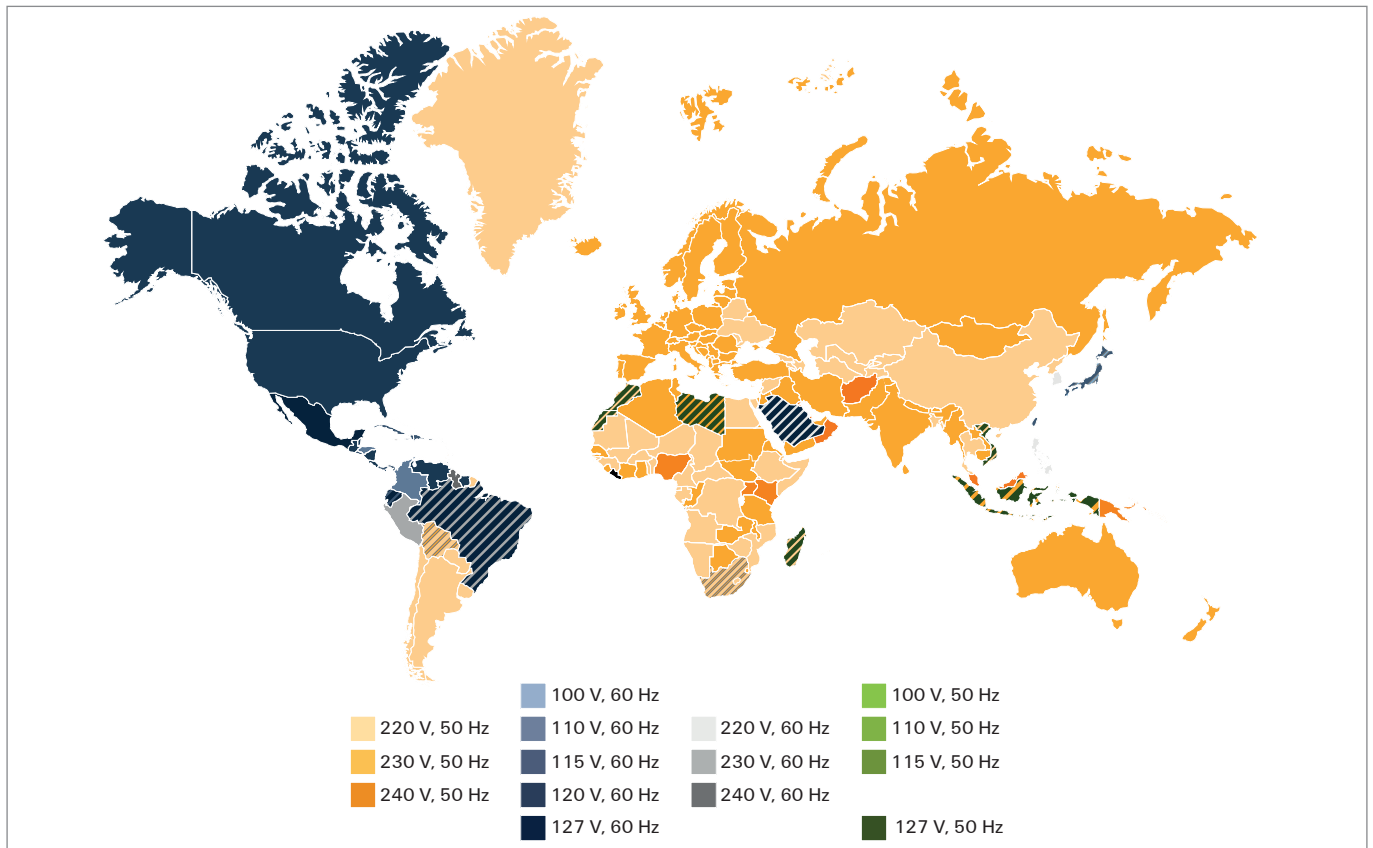
Use only one device for all the mains voltages

An increasing number of machines are being used worldwide. PROtop UW power supply units can be operated on all mains voltages in the world – both on single- and three-phase mains and DC supply networks. The units allow direct parallel connection for redundancy or power increase.

The fully electronic input circuit of our UW power supplies with an ultra-wide input voltage range of 85 – 550 V AC or 90 – 800 V DC allows operation on all supply networks in the world. Device classes up to 240 W ensure the basic supply of small to medium control systems. The integrated ORing MOSFETs of the PROtop family allow direct parallel connection to increase performance as well as the design of redundant power supply systems.

Your special advantages:

- Ultra-wide input voltage range for operation in supply networks worldwide
- Integrated ORing MOSFETs for direct parallel connection for redundancy purposes or to increase power
- DCL technology for high peak current reserves for fuse tripping or motor starts
- Communication interface for data transparency and remote control



Countries with a cross-hatched colour pattern have different supply voltages between the colour-coded voltage supplies.



Operation on all networks worldwide
 The fully electronic input stage of the UW power supply units enables continuous operation on single- and three-phase mains supplies of 85 – 550 V AC as well as operation on DC mains supplies of 90 – 800 V DC.



Direct parallel connection
 The integrated ORing MOSFETs enable direct parallel connection for power increase or redundancy without any diode modules.

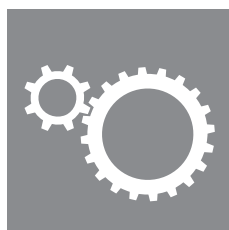


Fit for the future thanks to IO-LINK
 The optional communication modules, which can be retrofitted at any time, ensure data transparency, allow automated parameterization, and enable remote control.



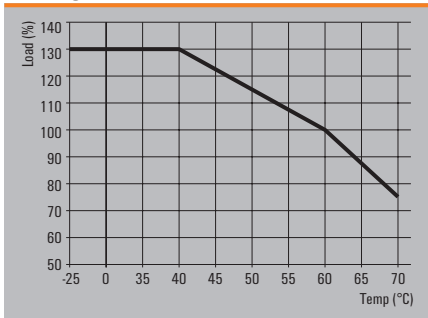
Peak current reserves thanks to DCL
 High peak current reserves of up to 600 % nominal current reliably trigger miniature circuit breakers. In addition, the dynamic current limitation DCL enables high peak currents for powerful motor starts.

Optimal for:



connectPower PROtop UW**connectPower PROtop2 UW**

- DCL technology for an excellent dynamic range
- High energy efficiency
- Mode of operation: single or parallel operation and adjustable short-circuit response (continuous current or switch-off)
- Useful life of up to 15 years, MTBF > 1 000 000 h.
- Extremely slim design

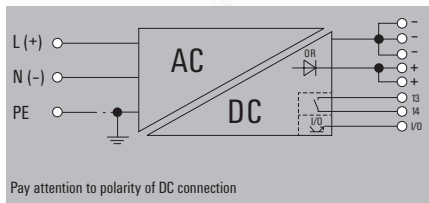
**Derating curve****Technical data**

General data	
Insulation voltage input / earth	3.2 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	3.5 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature	-40 °C...75 °C / -40 °C...85 °C
Humidity at operating temperature	5...100 % no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	> 1.000.000 h according IEC 1709 (SN29500)
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Conformal coating	Yes
EMC / shock / vibration	
Interference immunity test acc. to	EN 55032:2015, EN 61000-3-2:2019, EN 61000-6-3:2007/A1:2011, EN 61000-6-4:2007/A1:2011, EN 61000-3-3:2013+A1:2019, EN 55035:2017, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004
Shock	30 g in all directions
Resistance to vibration	2.3 g (on DIN rail), 4 g (with direct mounting)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60335-1
Safety transformers for switch-mode power supplies	According to EN 61558-2-17
Safety extra-low voltage	SELV according to EN 62368-1, PELV according to EN 60204-1
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROtop2 UW

- 1-phase power supplies with wide voltage input

PRO TOP2 120W 24V 5A UW EX



Technical data

Input	
Rated input voltage	100 - 500 V AC / 120 - 500 V DC
Input voltage range AC	85...550 V AC
Frequency range AC	45...65 Hz
DC input voltage range	90...800 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...28.8 V
DCL - peak load reserve	600 % (15 ms)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Reserve capacity @ U _{Nominal}	130% permanent at ≤ 40°C, 150 % (5 s)
Nominal output current for U _{Nom}	5 A @ 60 °C
General data	
Derating	> 60°C (2.5% / 1°C)
Series switching capability	Yes
Degree of efficiency	89%
Power factor (approx.)	> 0.8 @ 230 V AC, > 0.6 @ 400 V AC
Mains failure bridge-over time, min. [In-Block]	20ms
LED green/red	Green: Operation (failure-free), Flashing green: advance warning I>90%, Green/red flashing: output switched off (switch-off mode), Flashing red: overload/error
Parallel connection option	yes, max 10
Depth x width x height	125 / 39 / 130 mm
Net weight	920 g
Approvals	
Approvals	TUEV, CE

Input		Output	
Clamping yoke	3 for L/N/PE	Clamping yoke connection	4 (++ / -)
Wire cross-section, rigid min/max	0.2 / 4 mm ²	Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²	Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12	Wire cross-section, AWG/kcmil min/max	30 / 12
Note			

Connection data

Input		Output	
Clamping yoke	3 for L/N/PE	Clamping yoke connection	4 (++ / -)
Wire cross-section, rigid min/max	0.2 / 4 mm ²	Wire cross-section, rigid min/max	0.2 / 4 mm ²
Wire cross-section, flexible min/max	0.2 / 4 mm ²	Wire cross-section, flexible min/max	0.2 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	30 / 12	Wire cross-section, AWG/kcmil min/max	30 / 12
Note			

Note			
Current technical data at catalog.weidmuller.com			

Ordering data

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW EX	1	2467240000
Note		
Current technical data at catalog.weidmuller.com		

Type	Qty.	Order No.
PRO TOP2 120W 24V 5A UW EX	1	2467240000
Note		
Current technical data at catalog.weidmuller.com		

connectPower PROtop - Accessories

Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Powerful power supply for machines and systems

PROmax offers flexible solutions for ambitious automation

A Power supplies for large systems and machines are particularly challenging. Failures caused by device defects impact the entire production line and can result in high costs.

Our high performance and durable PROmax switched-mode power supply units are designed for demanding requirements. Continuous overload of up to 120 % or transient peak loads of 300 % are easy for PROmax to handle.

High boost capability and full power are also enabled over a wide temperature range. Our switched-mode power supply units can be used around the world and are also suitable for tight spaces thanks to their narrow width.

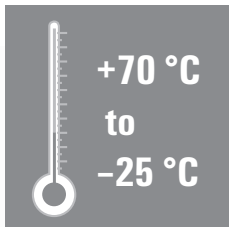


High boost capability for all industrial systems

Whether in large machines and plants, in power engineering or even in light process systems: Thanks to their high boost capability, the space-saving housing geometries, the wide temperature range and the numerous approvals, our PROmax switched-mode power supply units can be used for universal applications and anywhere in the world.

Robust and reliable supply

MTBF values exceeding 500,000 hours and a wide temperature range of -25 °C to +70 °C ensure reliable supply of the systems. Start-up temperatures of -40 °C make the PROmax particularly robust.



Space-saving width

With extremely small width and direct side-by-side fitting, minimal space is required on the DIN rail.



Universal application

Variants with 3 A to 40 A output current, output voltages of 5 V DC to 48 V DC and numerous approvals (e.g. GL, UL, Class I, Div. 2) enable universal application solutions the world over.



Powerful

Continuous output power of up to 120 % at temperatures up to +45 °C and high output peaks up to 300 % ensure safe operation, also at the limits.

Robust Input

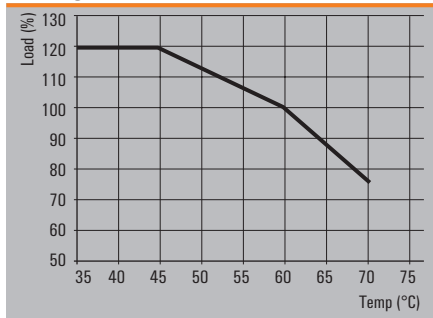
With an AC input voltage range of up to 277 V in single-phase devices and SEMI F47, PROmax is extremely robust.

connectPower PROmax

connectPower PROmax



Derating curve



Permitted continuous limit currents [A]

Typ \ Temp.	45 °C	50 °C	55 °C	60 °C	65 °C	70 °C
1ph 24 V / 3 A	3,6	3,3	3,2	3	2,6	2,2
1ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 24 V / 7,5 A	9	8,5	8	7,5	6,6	5,6
1ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
1ph 24 V / 40 A	48	45,2	42,8	40	35,2	30
1ph 5 V / 14 A	16,8	15,8	15	14	12,3	10,5
1ph 12 V / 6 A	7,2	6,8	6,4	6	5,3	4,5
1ph 12 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 5 A	6	5,7	5,4	5	4,4	3,8
1ph 48 V / 10 A	12	11,3	10,7	10	8,8	7,5
1ph 48 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 5 A	6	5,7	5,4	5	4,4	3,8
3ph 24 V / 10 A	12	11,3	10,7	10	8,8	7,5
3ph 24 V / 20 A	24	22,6	21,4	20	17,6	15
3ph 24 V / 40 A	48	45,2	42,8	40	35,2	30

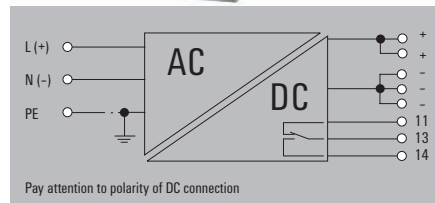
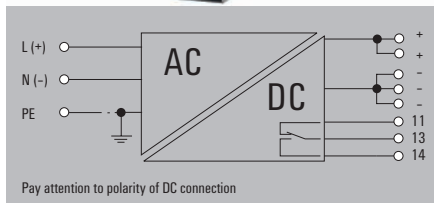
Technical data

General data	
Current limiting	> 120% I _N
Insulation voltage input / earth	3.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Earth leakage current, max.	3.5 mA
Series switching capability	Yes
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	I, with PE connection / 2
MTBF	>500.000h (25°C, IEC 61709 (SN29500))
Housing version	Metal, corrosion resistant
Status indication	LED red/green and relay (≥21.6 V DC LED green, relay on/ ≤20.6 LED red, relay off)
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
EMC / shock / vibration	
Interference immunity test acc. to	EN 55024, EN 55032, IEC61000-3-2,-3, IEC61000-4-2,-3,-4,-5,-6,-8,-11
Shock	30 g in all directions
Resistance to vibration	2.3 g
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower PROmax

PRO MAX 72W 24V 3A

PRO MAX 120W 24V 5A



Technical data

Input
Rated input voltage
Input voltage range AC
Frequency range AC
DC input voltage range
AC current consumption
DC current consumption
Input fuse (internal) / Inrush current
Recommended back-up fuse

100...240 V AC (wide-range input)
85...277 V AC
45...65 Hz
80...370 V DC
1 A @ 230 V AC / 1.5 A @ 115 V AC
1A @ 370 VDC / 1,5A @ 120 VDC
Yes / max. 15 A
6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker

100...240 V AC (wide-range input)
85...277 V AC
45...65 Hz
80...370 V DC
1A @ 230 VAC / 2,5A @ 115 VAC
1,5A @ 370 VDC / 2,5A @ 120 VDC
Yes / max. 15 A
6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker

Output
Rated output voltage
Output voltage
Residual ripple, breaking spikes
Nominal output current for U_{nom}
Continuous output current @ $U_{Nominal}$
Reserve capacity @ $U_{Nominal}$
Current capacity (pulse) @ $U_{Nominal}$

24 V DC \pm 1 %
22.5...29.5 V (adjustable via potentiometer)
< 50 mVss @ U_{Nemo} , Full Load
3 A @ 60 °C
3,6 A @ 45°C, 2,25 A @ 70°C
3,6 A (1 min), 4,5 A (4s)
9 A (2ms)

24 V DC \pm 1 %
22.5...29.5 V (adjustable via potentiometer)
< 50 mVss @ U_{Nemo} , Full Load
5 A @ 60 °C
6.0 A @ 45 °C, 3,75 A @ 70 °C
6 A (1 min), 7.5 A (4s)
15 A (2ms)

General data
Degree of efficiency
Power factor (approx.)
AC failure bridging time @ I_{nom}
Protection against reverse voltages from the load
Parallel connection option
Depth x width x height
Net weight

89%
> 0.90 @ 230 V AC
min. 20 ms
30...35 V DC
yes, max. 5
125 / 32 / 130 mm
650 g

89%
> 0.90 @ 230 V AC
min. 20 ms
30...35 V DC
yes, max. 5
125 / 40 / 130 mm
858 g

Approvals
Approvals

CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV
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CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV
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Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Note

Ordering data

Type	Qty.	Order No.
PRO MAX 72W 24V 3A	1	147810000

Type	Qty.	Order No.
PRO MAX 72W 24V 3A	1	147810000

Type	Qty.	Order No.
PRO MAX 120W 24V 5A	1	147811000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

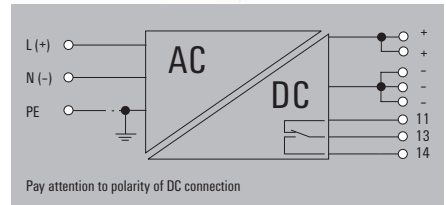
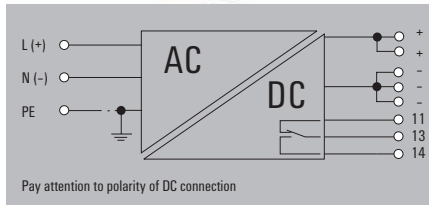
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

connectPower PROmax

PRO MAX 180W 24V 7,5A

PRO MAX 240W 24V 10A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 2 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 2A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	7,5 A @ 60 °C
Continuous output current @ U _{Nominal}	9 A @ 45°C, 5,6 A @ 70°C
Reserve capacity @ U _{Nominal}	9 A (1 min), 11.25 A (4s)
Current capacity (pulse) @ U _{Nominal}	22,5 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 50 / 130 mm
Net weight	950 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 2 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 2A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	7,5 A @ 60 °C
Continuous output current @ U _{Nominal}	9 A @ 45°C, 5,6 A @ 70°C
Reserve capacity @ U _{Nominal}	9 A (1 min), 11.25 A (4s)
Current capacity (pulse) @ U _{Nominal}	22,5 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 50 / 130 mm
Net weight	950 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5A @ 370 VDC / 3A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	10 A @ 60 °C
Continuous output current @ U _{Nominal}	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ U _{Nominal}	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ U _{Nominal}	30 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX 180W 24V 7,5A	1	1478120000

Type	Qty.	Order No.
PRO MAX 180W 24V 7,5A	1	1478120000

Type	Qty.	Order No.
PRO MAX 240W 24V 10A	1	1478130000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

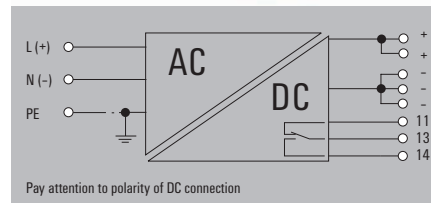
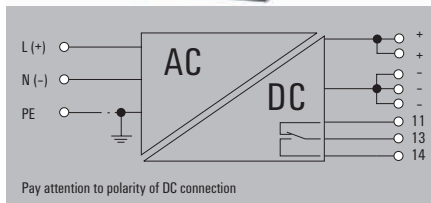
Note
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Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

PRO MAX 480W 24V 20A

PRO MAX 960W 24V 40A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4,8A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	20 A @ 60 °C
Continuous output current @ U _{Nominal}	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ U _{Nominal}	24 A (1 min), 30 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	92 %
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 90 / 130 mm
Net weight	2000 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	40 A @ 60 °C
Continuous output current @ U _{Nominal}	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ U _{Nominal}	48 A (1 min), 60 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	120 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3900 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	40 A @ 60 °C
Continuous output current @ U _{Nominal}	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ U _{Nominal}	48 A (1 min), 60 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	120 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3900 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

Type	Qty.	Order No.
PRO MAX 480W 24V 20A	1	1478140000

Type	Qty.	Order No.
PRO MAX 480W 24V 20A	1	1478140000

Type	Qty.	Order No.
PRO MAX 960W 24V 40A	1	1478150000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
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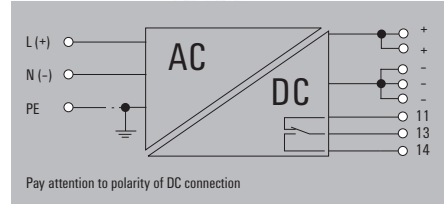
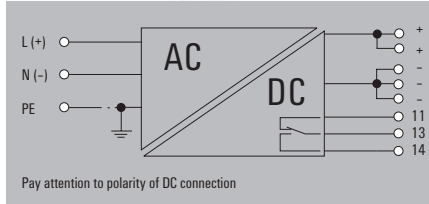
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

connectPower PROmax

PRO MAX 70W 5V 14A

PRO MAX 72W 12V 6A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1 A @ 230 V AC / 1.5 A @ 115 V AC
DC current consumption	1A @ 370 VDC / 1,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 3 - 5 A, char. C, circuit breaker

Output	
Rated output voltage	5 V DC
Output voltage	4.5...7 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	14 A @ 60°C
Continuous output current @ U _{Nominal}	16,8 A @ 45°C, 10,5 A @ 70°C
Reserve capacity @ U _{Nominal}	16.8 A (1 min), 21 A (4s)
Current capacity (pulse) @ U _{Nominal}	42 A (2ms)

General data	
Degree of efficiency	86%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 7.5 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g

Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV

Rated output voltage	12 V DC ± 1 %
Output voltage	10...15 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	6 A @ 60°C
Continuous output current @ U _{Nominal}	7.2 A @ 45°C, 4.5 A @ 70°C
Reserve capacity @ U _{Nominal}	7.2 A (1 min), 9 A (4s)
Current capacity (pulse) @ U _{Nominal}	18 A (2ms)

Degree of efficiency	89%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 18 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 32 / 130 mm
Net weight	650 g

Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV
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Approvals	CE; cULus; cULusEX; cURus; DNVL; EAC; TUEV
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Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10

Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (++,-,11,13,14)
0.18 / 6	0.5 / 6
0.22 / 4	0.5 / 4
26 / 10	26 / 12

Ordering data

Type	Qty.	Order No.
PRO MAX 70W 5V 14A	1	1478210000

Type	Qty.	Order No.
PRO MAX 72W 12V 6A	1	1478220000

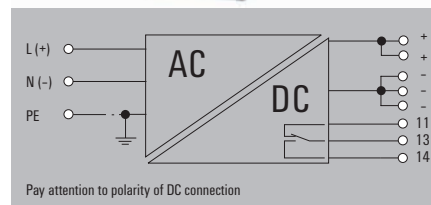
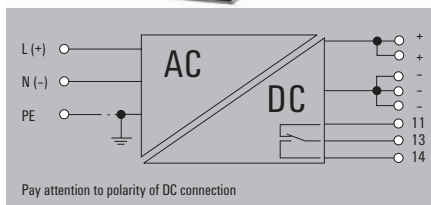
Note	
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Note	
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	

connectPower PROmax

PRO MAX 120W 12V 10A

PRO MAX 240W 48V 5A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1A @ 230 VAC / 2,5A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 2,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker
Output	
Rated output voltage	12 V DC ± 1 %
Output voltage	10...15 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	10 A @ 60 °C
Continuous output current @ U _{Nominal}	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ U _{Nominal}	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ U _{Nominal}	30 A (2ms)
General data	
Degree of efficiency	89%
Power factor (approx.)	> 0.90 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	> 18 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 40 / 130 mm
Net weight	850 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1A @ 230 VAC / 2,5A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 2,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6 A, Char. B, circuit breaker, 6 A, char. C circuit breaker
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	5 A @ 60 °C
Continuous output current @ U _{Nominal}	6.0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ U _{Nominal}	5 A (1 min), 7.5 A (4s)
Current capacity (pulse) @ U _{Nominal}	15 A (2ms)
General data	
Degree of efficiency	92.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	1.5 A @ 230 V AC / 3 A @ 115 V AC
DC current consumption	1,5A @ 370 VDC / 2,5A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{nom}	5 A @ 60 °C
Continuous output current @ U _{Nominal}	6.0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ U _{Nominal}	5 A (1 min), 7.5 A (4s)
Current capacity (pulse) @ U _{Nominal}	15 A (2ms)
General data	
Degree of efficiency	92.5%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1050 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Connection system	Screw connection
Number of terminals	8 (++,-,11,13,14)
Wire cross-section, rigid min/max	0.18 / 6
Wire cross-section, flexible min/max	0.22 / 4
Wire cross-section, AWG/kcmil min/max	26 / 10

Input	Output
Connection system	Screw connection
Number of terminals	8 (++,-,11,13,14)
Wire cross-section, rigid min/max	0.18 / 6
Wire cross-section, flexible min/max	0.22 / 4
Wire cross-section, AWG/kcmil min/max	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX 120W 12V 10A	1	1478230000

Type	Qty.	Order No.
PRO MAX 120W 12V 10A	1	1478230000

Type	Qty.	Order No.
PRO MAX 240W 48V 5A	1	1478240000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

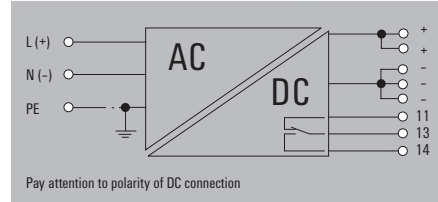
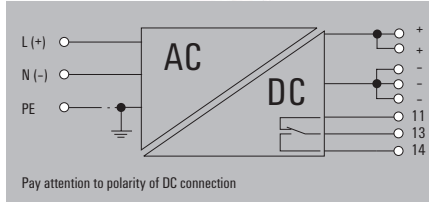
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

connectPower PROmax

PRO MAX 480W 48V 10A

PRO MAX 960W 48V 20A



Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4,8A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	10 A @ 60 °C
Continuous output current @ U _{Nominal}	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ U _{Nominal}	12 A (1 min), 15 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	150 / 90 / 130 mm
Net weight	2000 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	2,3A @ 230 VAC / 4,8A @ 115 VAC
DC current consumption	1,5A @ 370 VDC / 4,8A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	16 A, char. B circuit breaker, 10 A, Char. C circuit breaker
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	10 A @ 60 °C
Continuous output current @ U _{Nominal}	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ U _{Nominal}	12 A (1 min), 15 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	93%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	150 / 90 / 130 mm
Net weight	2000 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...277 V AC
Frequency range AC	45...65 Hz
DC input voltage range	80...370 V DC
AC current consumption	4,52A @ 230 VAC / 10A @ 115 VAC
DC current consumption	2,8A @ 370 VDC / 10A @ 120 VDC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	20 A, char. B circuit breaker, 16 A, char. C, circuit breaker
Output	
Rated output voltage	48 V DC ± 1 %
Output voltage	30...56 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	20 A @ 60 °C
Continuous output current @ U _{Nominal}	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ U _{Nominal}	24 A (1 min), 30 A (4s), 100...240 V AC
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	94%
Power factor (approx.)	> 0.95 @ 230 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	58...65 V DC
Parallel connection option	yes, max. 5
Depth x width x height	150 / 140 / 130 mm
Net weight	3950 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
3 for L/N/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

Type	Qty.	Order No.
PRO MAX 480W 48V 10A	1	1478250000

Type	Qty.	Order No.
PRO MAX 480W 48V 10A	1	1478250000

Type	Qty.	Order No.
PRO MAX 960W 48V 20A	1	1478270000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

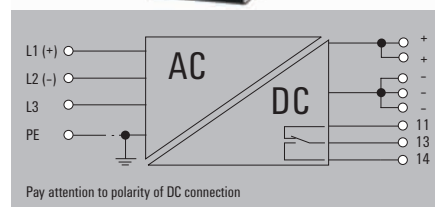
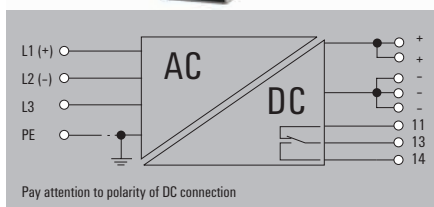
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

PRO MAX3 120W 24V 5A

PRO MAX3 240W 24V 10A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,28A @ 3*500 VAC / 0,3A @ 3*400 VAC
DC current consumption	0,18 A @ 800 V DC / 0,3 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	2...3 A, char. C circuit breaker

Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	5 A @ 60 °C
Continuous output current @ U _{Nom}	6,0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ U _{Nom}	6 A (1 min), 7,5 A (4s), 400...500 V AC
Current capacity (pulse) @ U _{Nom}	15 A (2ms)

Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	10 A @ 60 °C
Continuous output current @ U _{Nom}	12 A @ 45°C, 7,5 A @ 70°C
Reserve capacity @ U _{Nom}	12 A (1 min), 15 A (4s)
Current capacity (pulse) @ U _{Nom}	30 A (2ms)

Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	5 A @ 60 °C
Continuous output current @ U _{Nom}	6,0 A @ 45 °C, 3,75 A @ 70 °C
Reserve capacity @ U _{Nom}	6 A (1 min), 7,5 A (4s), 400...500 V AC
Current capacity (pulse) @ U _{Nom}	15 A (2ms)

General data	
Degree of efficiency	90%
Power factor (approx.)	> 0.50 @ 3x400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 40 / 130 mm
Net weight	783 g

General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 5
Depth x width x height	125 / 60 / 130 mm
Net weight	1322 g

Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV
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Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV
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Connection data	
Connection system	Screw connection
Number of terminals	8 (++,--,11,13,14)
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10

Input		Output	
Connection system	Screw connection	Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE	Number of terminals	8 (++,--,11,13,14)
Wire cross-section, rigid min/max	0.18 / 6 mm ²	Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²	Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10	Wire cross-section, AWG/kcmil min/max	26 / 10

Input		Output	
Connection system	Screw connection	Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE	Number of terminals	8 (++,--,11,13,14)
Wire cross-section, rigid min/max	0.18 / 6 mm ²	Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²	Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10	Wire cross-section, AWG/kcmil min/max	26 / 10

Ordering data

Type	Qty.	Order No.
PRO MAX3 120W 24V 5A	1	1478170000

Type	Qty.	Order No.
PRO MAX3 240W 24V 10A	1	1478180000

Type	Qty.	Order No.
PRO MAX3 240W 24V 10A	1	1478180000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
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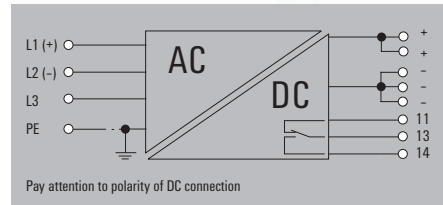
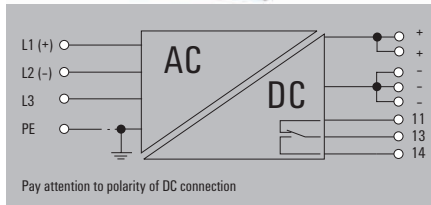
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

connectPower PROmax

connectPower PROmax

PRO MAX3 480W 24V 20A

PRO MAX3 960W 24V 40A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC
DC current consumption	0,7 A @ 800 V DC / 1,2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	20 A @ 60 °C
Continuous output current @ U _{Nominal}	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ U _{Nominal}	24 A (1 min), 30 A (4s)
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 70 / 130 mm
Net weight	1600 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0,7A @ 3*500 VAC / 0,85 @ 3*400 VAC
DC current consumption	0,7 A @ 800 V DC / 1,2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	3 - 5 A, char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	20 A @ 60 °C
Continuous output current @ U _{Nominal}	24 A @ 45°C, 15 A @ 70°C
Reserve capacity @ U _{Nominal}	24 A (1 min), 30 A (4s)
Current capacity (pulse) @ U _{Nominal}	60 A (2ms)
General data	
Degree of efficiency	91.5%
Power factor (approx.)	> 0.85 @ 3*400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 70 / 130 mm
Net weight	1600 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	45...65 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1,3A @ 3*500 VAC / 1,6A @ 3*400 VAC
DC current consumption	1,4 A @ 800 V DC / 2,4 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	6...8 A, char. C circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer)
Residual ripple, breaking spikes	< 50 mVss @ U _{Nom} , Full Load
Nominal output current for U _{Nom}	40 A @ 60 °C
Continuous output current @ U _{Nominal}	48 A @ 45°C, 30 A @ 70°C
Reserve capacity @ U _{Nominal}	48 A (1 min), 60 A (4s), 400...500 V AC
Current capacity (pulse) @ U _{Nominal}	120 A (2ms)
General data	
Degree of efficiency	93.5%
Power factor (approx.)	> 0.75 @ 3x400 V AC
AC failure bridging time @ I _{nom}	min. 20 ms
Protection against reverse voltages from the load	30...35 V DC
Parallel connection option	yes, max. 3
Depth x width x height	150 / 140 / 130 mm
Net weight	3400 g
Approvals	
Approvals	CE; cULus; cULusEX; cURus; DNVGL; EAC; TUEV

Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.18 / 6 mm ²
Wire cross-section, flexible min/max	0.22 / 4 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 10
Note	

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 4
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
4 for L1/L2/L3/PE	8 (+, -, 11, 13, 14)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

Type	Qty.	Order No.
PRO MAX3 480W 24V 20A	1	1478190000

Type	Qty.	Order No.
PRO MAX3 480W 24V 20A	1	1478190000

Type	Qty.	Order No.
PRO MAX3 960W 24V 40A	1	1478200000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



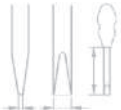
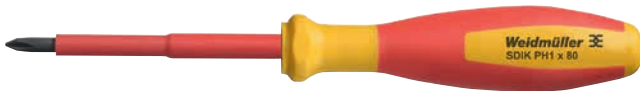
Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

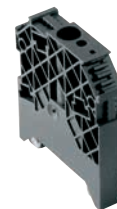
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

Endwinkel

For DIN rail TS 35



Type	Colour	Torque	Qty.	Order No.
Polyamide with fibre glass, screwable WEW 35/1 SW	black	1.2 Nm	50	1162600000

Find the cost-effective solution for your power supply

PROeco combines all of the basic functions in a compact design

A

Even in series machine construction, switched-mode power supply units can create a real competitive edge thanks to above-average performance values. The efficient PROeco series offers all of the basic functions and delivers impressively high performance and flexibility.

Our PROeco switched-mode power supply units are characterised by their compact design, a high degree of efficiency and the fact that they are extremely easy to service. Thanks to over temperature protection, short-circuit and overload protection, they can be universally used in all applications.

Solutions featuring PROeco are characterised by extensive safety functions and compatibility with our diode modules, capacity modules and UPS components for setting up a redundant power supply.



Rapid status diagnosis

The tricolour LED display and an integrated status relay make it easier to analyse statuses and errors during commissioning and operation.



Extremely compact

With a depth of 100 mm, PROeco power supplies even fit into small cabinets. The compact design also saves up to 50 % space in the cabinet.



Robust and reliable

PROeco power packs work reliably in a wide temperature range from -25 °C to +70 °C and boast a high MTBF value of more than 500,000 hours.

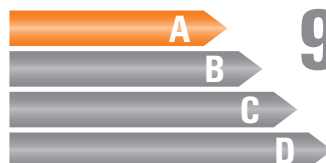
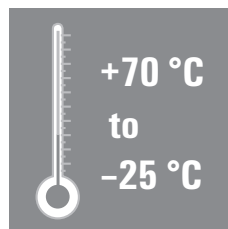
Power supply solution

Together with the uninterruptible DC UPS, the diode modules or CAP modules, you can create a power supply solution that is tailored to your requirements.



Noticeably energy-saving

A high degree of efficiency of up to 93 % and minimal no-load losses ensure low energy consumption and a long service life.



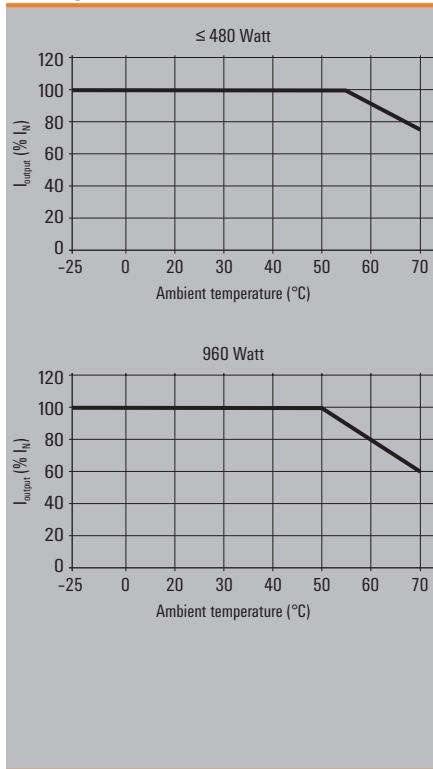
connectPower PROeco

PROeco power supplies with basic functionality and a high level of reliability

- Single- and three-phase switched-mode power supply units
- Slim design
- Large temperature range from -25 °C to 70 °C
- The output voltage can be precisely adjusted via the potentiometer on the front
- Remote monitoring via integrated status relay
- Three-coloured LED indicators for simple error detection
- Advanced visual warning at 90 % rated output current
- International approvals



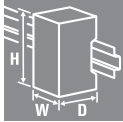
Derating curve



Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Max. perm. air humidity (operational)	5 %...95 % RH
Protection degree	IP20
Protection class	I, with PE connection
Pollution degree	2
Insulation voltage, input/output	3 kV
Insulation voltage input / earth	2 kV
Insulation voltage output / earth	0.5 kV
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Parallel connection option	yes, max. 5
Housing version	Metal, corrosion resistant
Mounting position, installation notice	on terminal rail TS 35
Short-circuit protection	Yes
Overload protection	Yes
Protection against over-heating	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-8 (Fields), EN61000-4-11 (Dips)
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Resistance to vibration / Shock	1 g according to EN 50178 / 15 g In all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

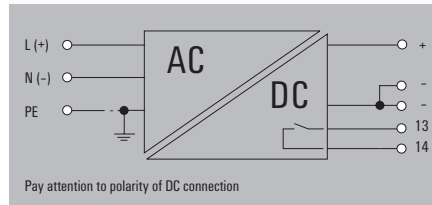
connectPower PROeco



PRO ECO 72W 24V 3A



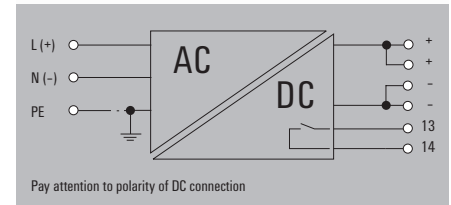
Similar to illustration



PRO ECO 120W 24V 5A



Similar to illustration



Technical data

Input	
Rated input voltage	
Input voltage range AC	
Frequency range AC	
DC input voltage range	
AC current consumption	
DC current consumption	
Input fuse (internal) / Inrush current	
Recommended back-up fuse	
Output	
Rated output voltage	
Output voltage	
Ramp-up time / Residual ripple, breaking spikes	
Nominal output current for U_{nom}	
Continuous output current @ $U_{Nominal}$	
Capacitive load	
Protection against inverse voltage	
Signalling	
Indication	
Floating contact / Contact load	
Relay on/off	
General data	
Degree of efficiency	
Power loss idling / nominal load / Power loss, nominal load	
Earth leakage current, max.	
Power factor (approx.)	
AC failure bridging time @ I_{nom}	
Parallel connection option	
Depth x width x height / Net weight	
Approvals	
Approvals	
Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

100...240 V AC (wide-range input)	
85...264 V AC (derating at 100 V AC)	
47...63 Hz	
80...370 V DC (Derating @ 120 V DC)	
0,55 A @ 230 V AC / 1,04 A @ 110 V AC	
0,22 A @ 370 V DC / 0,68 A @ 120 V DC	
Yes / max. 40 A	
2 A / DI, safety fuse	
6 A, Char. B, circuit breaker	
2...4 A, Char. C circuit breaker	
24 V DC ± 1 %	
22...28 V (adjustable via potentiometer)	
≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I_N	
3 A at 55 °C	
3 A @ 55 °C, 2,25 A @ 70 °C	
unrestricted	
Yes	
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)	
Yes / max. 30 V DC / 1 A	
Output voltage >21.6 V DC/ <20.4 V DC, overload	
87 %	
4 W / 9.5 W	
3.5 mA	
> 0.5...230 V AC / > 0.53...115 V AC	
> 100 ms @ 230 V AC / > 20 ms @ 115 V AC	
yes, max. 5	
100 / 34 / 125 mm / 566 g	
CE; cULus; EAC; TUEV	
Input	Output
Screw connection	Screw connection
3 for L/N/PE	5 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

100...240 V AC (wide-range input)	
85...264 V AC (derating at 100 V AC)	
47...63 Hz	
80...370 V DC (Derating @ 120 V DC)	
1,26 A @ 230 V AC / 2,24 A @ 110 V AC	
0,39 A @ 370 V DC / 1,16 A @ 120 V DC	
Yes / max. 40 A	
4 A / DI, safety fuse	
6 A, Char. B, circuit breaker	
3...5 A, Char. C, circuit breaker	
24 V DC ± 1 %	
22...28 V (adjustable via potentiometer)	
≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I_N	
5 A at 55 °C	
5 A @ 55 °C, 3,75 A @ 70 °C	
unrestricted	
Yes	
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90 \% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)	
Yes / max. 30 V DC / 1 A	
Output voltage >21.6 V DC/ <20.4 V DC, overload	
87 %	
4 W / 15 W	
3.5 mA	
> 0.5...230 V AC / > 0.53...115 V AC	
> 80 ms @ 230 V AC / > 20 ms @ 115 V AC	
yes, max. 5	
100 / 40 / 125 mm / 675 g	
CE; cULus; EAC; TUEV	
Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO ECO 72W 24V 3A	1	1469470000

Type	Qty.	Order No.
PRO ECO 72W 24V 3A	1	1469470000

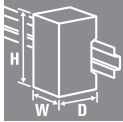
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Type	Qty.	Order No.
PRO ECO 120W 24V 5A	1	1469480000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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Technical data

Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1,23 A @ 230 V AC / 2,47 A @ 110 V AC
DC current consumption	1,18 A @ 370 V DC / 2,4 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	10 A @ 55 °C
Continuous output current @ U _{Nominal}	10 A @ 55 °C, 2.5 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	90%
Power loss idling / nominal load / Power loss, nominal load	2 W / 24 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 60 / 125 mm / 1016 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

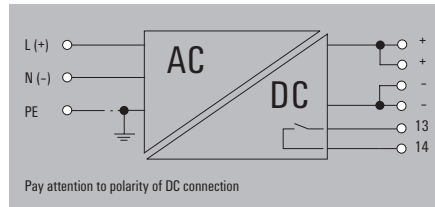
Ordering data

Type	
PRO ECO 240W 24V 10A	Qty. 1
Order No.	
1469490000	
Note	
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	

PRO ECO 240W 24V 10A



Similar to illustration



Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	1,23 A @ 230 V AC / 2,47 A @ 110 V AC
DC current consumption	1,18 A @ 370 V DC / 2,4 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 15 A
Recommended back-up fuse	4 A / DI, safety fuse 10 A, Char. B, circuit breaker 3...4 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	10 A @ 55 °C
Continuous output current @ U _{Nominal}	10 A @ 55 °C, 2.5 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	90%
Power loss idling / nominal load / Power loss, nominal load	2 W / 24 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.94 @ 230 V AC / > 0.99 @ 115 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 60 / 125 mm / 1016 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	

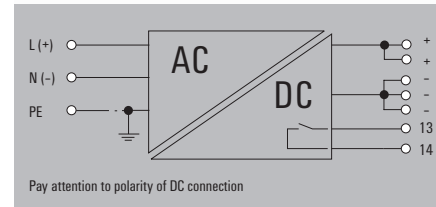
Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

Type	Qty.	Order No.
PRO ECO 240W 24V 10A	1	1469490000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

PRO ECO 480W 24V 20A



Similar to illustration



Input	
Rated input voltage	100...240 V AC (wide-range input)
Input voltage range AC	85...264 V AC (derating at 100 V AC)
Frequency range AC	47...63 Hz
DC input voltage range	80...370 V DC (Derating @ 120 V DC)
AC current consumption	2,37 A @ 230 V AC / 5,2 A @ 110 V AC
DC current consumption	1,55 A @ 370 V DC / 4,65 A @ 120 V DC
Input fuse (internal) / Inrush current	Yes / max. 5 A
Recommended back-up fuse	6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	20 A @ 55 °C
Continuous output current @ U _{Nominal}	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	91%
Power loss idling / nominal load / Power loss, nominal load	5 W / 43 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.98...230 V AC / > 0.98...115 V AC
AC failure bridging time @ I _{nom}	> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1557 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	3 for L/N/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.	

Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 10

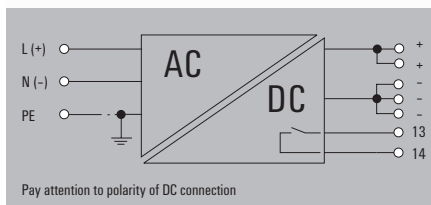
Type	Qty.	Order No.
PRO ECO 480W 24V 20A	1	1469510000
Note		
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.		

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PRO ECO 960W 24V 40A



Similar to illustration



Technical data

Input	
Rated input voltage	
Input voltage range AC	
Frequency range AC	
DC input voltage range	
AC current consumption	
DC current consumption	
Input fuse (internal) / Inrush current	
Recommended back-up fuse	
Output	
Rated output voltage	
Output voltage	
Ramp-up time / Residual ripple, breaking spikes	
Nominal output current for U_{nom}	
Continuous output current @ $U_{Nominal}$	
Capacitive load	
Protection against inverse voltage	
Signalling	
Indication	
Floating contact / Contact load	
Relay on/off	
General data	
Degree of efficiency	
Power loss idling / nominal load / Power loss, nominal load	
Earth leakage current, max.	
Power factor (approx.)	
AC failure bridging time @ I_{nom}	
Parallel connection option	
Depth x width x height / Net weight	
Approvals	
Approvals	
Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
4,6 A @ 230 V AC / 9,9 A @ 110 V AC
2,9 A @ 370 V DC / 9 A @ 120 V DC
Yes / max. 5 A
16 A / DI, safety fuse
20 A, Char. B, circuit breaker
16 A, Char. C, circuit breaker
24 V DC ± 1 %
22...28 V (adjustable via potentiometer)
≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I_n
40 A @ 50 °C
40 A @ 50 °C, 24 A @ 70 °C
unrestricted
Yes
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\%$ I_{Rated} typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage >21.6 V DC/ <20.4 V DC, overload
93%
8 W / 85 W
3.5 mA
> 0.98...230 V AC / > 0.98...115 V AC
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 3
120 / 160 / 125 mm / 3190 g
CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (+, -, 13, 14)
0.5 / 6	0.5 / 16
0.5 / 2.5	2.5 / 10
26 / 12	22 / 8

Ordering data

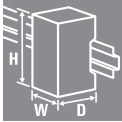
Type	Qty.	Order No.
PRO ECO 960W 24V 40A	1	1469520000

Note

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

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PRO ECO 72W 12V 6A

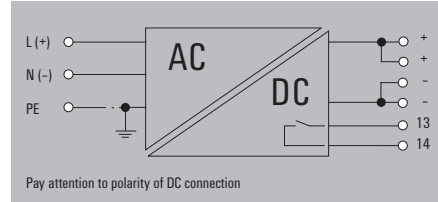
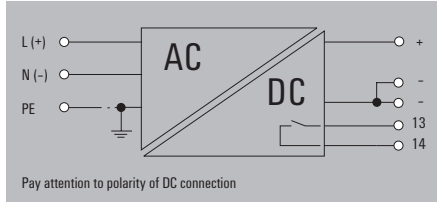


Similar to illustration

PRO ECO 120W 12V 10A



Similar to illustration



Technical data

Input	
Rated input voltage	
Input voltage range AC	
Frequency range AC	
DC input voltage range	
AC current consumption	
DC current consumption	
Input fuse (internal) / Inrush current	
Recommended back-up fuse	
Output	
Rated output voltage	
Output voltage	
Ramp-up time / Residual ripple, breaking spikes	
Nominal output current for U_{nom}	
Continuous output current @ $U_{Nominal}$	
Capacitive load	
Protection against inverse voltage	
Signalling	
Indication	
Floating contact / Contact load	
Relay on/off	
General data	
Degree of efficiency	
Power loss idling / nominal load / Power loss, nominal load	
Earth leakage current, max.	
Power factor (approx.)	
AC failure bridging time @ I_{nom}	
Parallel connection option	
Depth x width x height / Net weight	
Approvals	
Approvals	
Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
0.6 A @ 230 V AC / 1.1 A @ 115 V AC
0.25 A @ 370 V DC / 0.7 A @ 120 V DC
Yes / max. 40 A
2 A / DI, safety fuse
6 A, Char. B, circuit breaker
2...4 A, Char. C circuit breaker
12 V DC ± 1 %
10...16 V (adjustable via potentiometer)
≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn
6 A @ 55 °C
6 A @ 55 °C, 4.5 A @ 60 °C
unrestricted
Yes
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage >21.6 V DC / <20.4 V DC, overload
85 %
4 W / 15 W
3.5 mA
> 0.5...230 V AC / > 0.53...115 V AC
> 100 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 5
100 / 34 / 125 mm / 570 g
CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
3 for L/N/PE	5 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

100...240 V AC (wide-range input)
85...264 V AC (derating at 100 V AC)
47...63 Hz
80...370 V DC (Derating @ 120 V DC)
1.25 A @ 230 V AC / 2.25 A @ 110 V AC
0.4 A @ 370 V DC / 1.2 A @ 120 V DC
Yes / max. 40 A
4 A / DI, safety fuse
6 A, Char. B, circuit breaker
3...5 A, Char. C, circuit breaker
12 V DC ± 1 %
10...16 V (adjustable via potentiometer)
≤ 100 ms / < 50 mV ss @ 12 V DC, I Nenn
10 A @ 55 °C
10 A @ 55 °C, 2.5 A @ 70 °C
unrestricted
Yes
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)
Yes / max. 30 V DC / 1 A
Output voltage >21.6 V DC / <20.4 V DC, overload
87 %
4 W / 20 W
3.5 mA
> 0.5...230 V AC / > 0.53...115 V AC
> 80 ms @ 230 V AC / > 20 ms @ 115 V AC
yes, max. 5
100 / 40 / 125 mm / 684 g
CE; cULus; EAC; TUEV

Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (+, -, 13, 14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

Ordering data

Type	Qty.	Order No.
PRO ECO 72W 12V 6A	1	1469570000

Type	Qty.	Order No.
PRO ECO 72W 12V 6A	1	1469570000

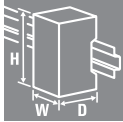
Type	Qty.	Order No.
PRO ECO 120W 12V 10A	1	1469580000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

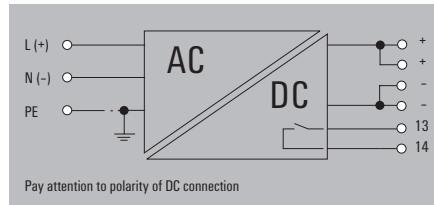
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

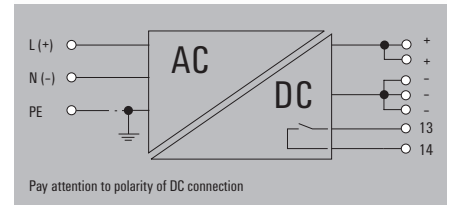
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PRO ECO 240W 48V 5A



PRO ECO 480W 48V 10A



Technical data

Input	
Rated input voltage	
Input voltage range AC	
Frequency range AC	
DC input voltage range	
AC current consumption	
DC current consumption	
Input fuse (internal) / Inrush current	
Recommended back-up fuse	
Output	
Rated output voltage	
Output voltage	
Ramp-up time / Residual ripple, breaking spikes	
Nominal output current for U_{nom}	
Continuous output current @ $U_{Nominal}$	
Capacitive load	
Protection against inverse voltage	
Signalling	
Indication	
Floating contact / Contact load	
Relay on/off	
General data	
Degree of efficiency	
Power loss idling / nominal load / Power loss, nominal load	
Earth leakage current, max.	
Power factor (approx.)	
AC failure bridging time @ I_{nom}	
Parallel connection option	
Depth x width x height / Net weight	
Approvals	
Approvals	
Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

100...240 V AC (wide-range input)	
85...264 V AC (derating at 100 V AC)	
47...63 Hz	
80...370 V DC (Derating @ 120 V DC)	
1.2 A @ 230 V AC / 2.4 A @ 115 V AC	
1.2 A @ 370 V DC / 2.4 A @ 120 V DC	
Yes / Max. 10 A	
4 A / DI, safety fuse	
10 A, Char. B, circuit breaker	
3...4 A, Char. C, circuit breaker	
48 V DC ± 1 %	
42...56 V (adjustable via potentiometer)	
≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn	
5 A at 55 °C	
5 A @ 55 °C, 3,75 A @ 70 °C	
unrestricted	
Yes	
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)	
Yes / max. 30 V DC / 1 A	
Output voltage >21.6 V DC / <20.4 V DC, overload	
92 %	
3 W / 23 W	
3.5 mA	
> 0.94 @ 230 V AC / > 0.99 @ 115 V AC	
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	
yes, max. 5	
100 / 60 / 125 mm / 1.01 g	
CE; cULus; EAC; TUEV	
Input	Output
Screw connection	Screw connection
3 for L/N/PE	6 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.5 / 2.5
26 / 12	26 / 12

100...240 V AC (wide-range input)	
85...264 V AC (derating at 100 V AC)	
47...63 Hz	
80...370 V DC (Derating @ 120 V DC)	
2.4 A @ 230 V AC / 5.2 A @ 110 V AC	
1.5 A @ 370 V DC / 4.6 A @ 120 V DC	
Yes / max. 3 A	
6 A / DI, safety fuse	
16 A, Char. B, circuit breaker	
6...8 A, Char. C, circuit breaker	
48 V DC ± 1 %	
42...56 V (adjustable via potentiometer)	
≤ 100 ms / < 100 mV ss @ 48 V DC, I Nenn	
10 A @ 55 °C	
10 A @ 55 °C, 2.5 A @ 70 °C	
unrestricted	
Yes	
Green LED ($U_{output} > 21.6$ V DC), Yellow LED ($I_{output} > 90\% I_{Rated}$ typ.), red LED (overload, overtemperature, short-circuit, $U_{output} < 20.4$ V DC)	
Yes / max. 30 V DC / 1 A	
Output voltage >21.6 V DC / <20.4 V DC, overload	
93%	
5 W / 50 W	
3.5 mA	
> 0.98...230 V AC / > 0.98...115 V AC	
> 20 ms @ 230 V AC / > 20 ms @ 115 V AC	
yes, max. 3	
120 / 100 / 125 mm / 1570 g	
CE; cULus; EAC; TUEV	
Input	Output
Screw connection	Screw connection
3 for L/N/PE	7 (++,-,13,14)
0.5 / 6	0.5 / 6
0.5 / 2.5	0.22 / 4
26 / 12	26 / 10

Ordering data

Type	Qty.	Order No.
PRO ECO 240W 48V 5A	1	1469590000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

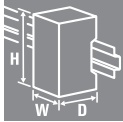
Type	Qty.	Order No.
PRO ECO 480W 48V 10A	1	1469610000

The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note

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PRO ECO3 120W 24V 5A

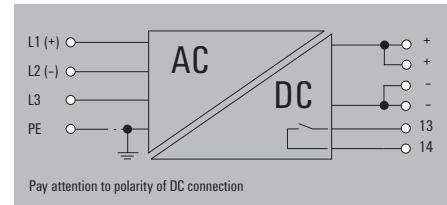
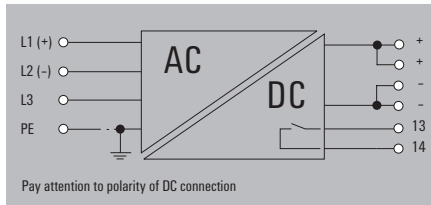


Similar to illustration

PRO ECO3 240W 24V 10A



Similar to illustration



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	0.3 A @ 3 x 500 V AC / 0.4 A @ 3 x 400 V AC
DC current consumption	0.2 A @ 800 V DC / 0.4 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A
Recommended back-up fuse	2 A / DI, safety fuse 2...3 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	5 A at 55 °C
Continuous output current @ U _{Nominal}	5 A @ 55 °C, 3,75 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	87 %
Power loss idling / nominal load / Power loss, nominal load	6 W / 17 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I _{nom}	> 40 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 5
Depth x width x height / Net weight	100 / 40 / 125 mm / 685 g
Approvals	
Approvals	CE; cULus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Input		Output	
Screw connection	Screw connection		
4 for L1/L2/L3/PE	6 (++, -, 13, 14)		
0.5 / 6	0.5 / 6		
0.5 / 2.5	0.5 / 2.5		
26 / 12	26 / 12		

Input		Output	
Screw connection	Screw connection		
4 for L1/L2/L3/PE	6 (++, -, 13, 14)		
0.5 / 6	0.5 / 6		
0.5 / 2.5	0.5 / 2.5		
26 / 12	26 / 12		

Ordering data

Type	Qty.	Order No.
PRO ECO3 120W 24V 5A	1	1469530000

Type	Qty.	Order No.
PRO ECO3 120W 24V 5A	1	1469530000

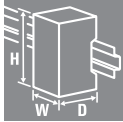
Type	Qty.	Order No.
PRO ECO3 240W 24V 10A	1	1469540000

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

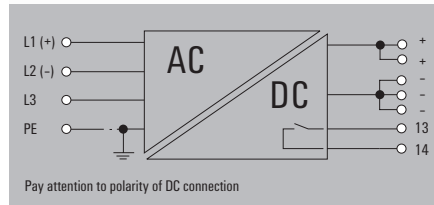
Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Note
The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

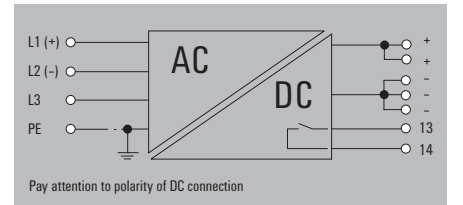
connectPower PROeco



PRO ECO3 480W 24V 20A



PRO ECO3 960W 24V 40A



Technical data

Input	
Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 50 A
Recommended back-up fuse	4 A / DI, safety fuse 3...5 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	20 A @ 55 °C
Continuous output current @ U _{Nominal}	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	89%
Power loss idling / nominal load / Power loss, nominal load	8 W / 48 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I _{nom}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1300 g
Approvals	
Approvals	CE; cULus; cURus; EAC; TUEV
Connection data	
Connection system	Screw connection
Number of terminals	4 for L1/L2/L3/PE
Wire cross-section, rigid min/max	0.5 / 6 mm ²
Wire cross-section, flexible min/max	0.5 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	

Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	1.2 A @ 3 x 500 V AC / 1.5 A @ 3 x 400 V AC
DC current consumption	0.7 A @ 800 V DC / 1.2 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 50 A
Recommended back-up fuse	4 A / DI, safety fuse 3...5 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	20 A @ 55 °C
Continuous output current @ U _{Nominal}	20 A @ 55 °C, 15 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	89%
Power loss idling / nominal load / Power loss, nominal load	8 W / 48 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I _{nom}	> 30 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 100 / 125 mm / 1300 g
Approvals	
Approvals	CE; cULus; cURus; EAC; TUEV

Rated input voltage	3 x 400...3 x 500 V AC (wide-range input)
Input voltage range AC	3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
Frequency range AC	47...63 Hz
DC input voltage range	450...800 V DC (max. 500 V DC acc. to UL508)
AC current consumption	2.15 A @ 3 x 500 V AC / 2.68 A @ 3 x 400 V AC
DC current consumption	1.37 A @ 800 V DC / 2.37 A @ 450 V DC
Input fuse (internal) / Inrush current	Yes / max. 40 A
Recommended back-up fuse	6 A / DI, safety fuse 10 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22...28 V (adjustable via potentiometer)
Ramp-up time / Residual ripple, breaking spikes	≤ 100 ms / < 50 mV _{pp} @ 24 V DC, I _N
Nominal output current for U _{nom}	40 A @ 50 °C
Continuous output current @ U _{Nominal}	40 A @ 50 °C, 24 A @ 70 °C
Capacitive load	unrestricted
Protection against inverse voltage	Yes
Signalling	
Indication	Green LED (U _{output} > 21.6 V DC), Yellow LED (I _{output} > 90 % I _{Rated} typ.), red LED (overload, overtemperature, short-circuit, U _{output} < 20.4 V DC)
Floating contact / Contact load	Yes / max. 30 V DC / 1 A
Relay on/off	Output voltage >21.6 V DC / <20.4 V DC, overload
General data	
Degree of efficiency	90%
Power loss idling / nominal load / Power loss, nominal load	5 W / 95 W
Earth leakage current, max.	3.5 mA
Power factor (approx.)	> 0.55 @ 3 x 500 V AC / > 0.65 @ 3 x 400 V AC
AC failure bridging time @ I _{nom}	> 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
Parallel connection option	yes, max. 3
Depth x width x height / Net weight	120 / 160 / 125 mm / 2899 g
Approvals	
Approvals	CE; cULus; cURus; EAC; TUEV

Ordering data

Type	Qty.	Order No.
PRO ECO3 480W 24V 20A	1	1469550000

Type	Qty.	Order No.
PRO ECO3 480W 24V 20A	1	1469550000

Type	Qty.	Order No.
PRO ECO3 960W 24V 40A	1	1469560000

Note
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The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.

Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIK PH 1 X 80				80	2749890000
SDIS 0.5X3.0X100		0,5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

PRO-PM – the efficient plate mounted power supply solution

Powering simple automation applications

A

Simple machines and automation applications require standard power supply solutions with basic functionalities. The new power supplies of the PRO-PM series offer an excellent price/performance ratio and are designed for reliable DC control voltage.

Due to the wide range of variants with output voltages of 5, 12, 24, and 48 V and extensive international approvals, they are suitable for use in many applications. The power range extends from 35 W to 350 W. The individual adaptability makes PRO-PM the right choice for many standard machines.

Your special advantages:

- Especially compact and robust metal housing
- Wide temperature range from -20°C to +70°C – for almost all industrial applications
- Certified according to CE, CCC, and cURus for universal worldwide use



Compact design

The low height of only 30 mm saves space and reduces overall system costs

Wide range of applications

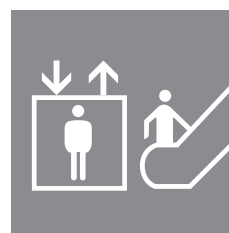
The wide temperature range from - 20°C to +70°C as well as international certificates such as CE, cURus, CCC etc. ensure reliable operation worldwide.



Especially economic

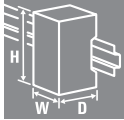
Thanks to the new „Design-to-Cost“ concept, PRO-PM power supplies offer a particularly favourable price/performance ratio.

Optimal for:



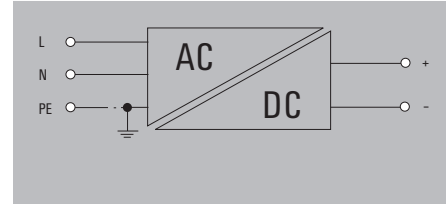
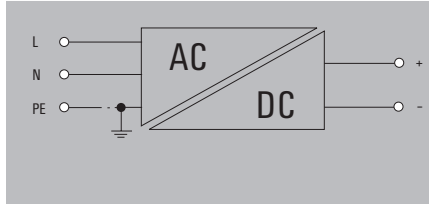
connectPower PRO-PM

connectPower PRO-PM



PRO PM 35W 5V 7A

PRO PM 35W 12V 3A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	5 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	7 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	5.6...6.8 V @ 5 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	82 %
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	223 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	220 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	220 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Note

Ordering data

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Type	Qty.	Order No.
PRO PM 35W 5V 7A	1	2660200277

Type	Qty.	Order No.
PRO PM 35W 12V 3A	1	2660200278

Note

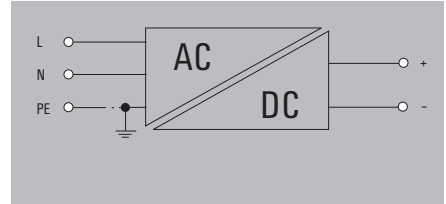
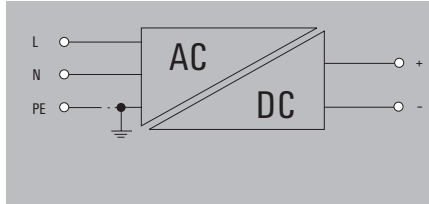
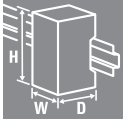
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 35W 24V 1.5A

PRO PM 35W 48V 0.75A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	1.5 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	223 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	0.75 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	223 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	2 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	0.75 A
Output power	35 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	223 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 82 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 35W 24V 1.5A	1	2660200279

Note

Note

Type	Qty.	Order No.
PRO PM 35W 24V 1.5A	1	2660200279

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

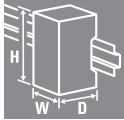
Note

Type	Qty.	Order No.
PRO PM 35W 48V 0.75A	1	2660200280

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

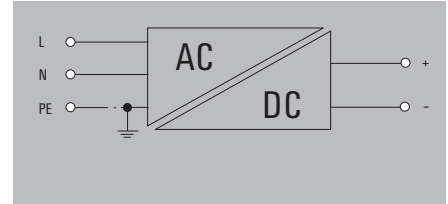
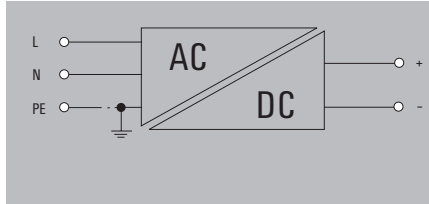
connectPower PRO-PM

connectPower PRO-PM



PRO PM 75W 5V 14A

PRO PM 75W 12V 6A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	5 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	14 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	5.6...6.8 V @ 5 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	82 %
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	6 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	6 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Note

Note

Note

Ordering data

Type	Qty.	Order No.
PRO PM 75W 5V 14A	1	2660200281

Type	Qty.	Order No.
PRO PM 75W 5V 14A	1	2660200281

Type	Qty.	Order No.
PRO PM 75W 12V 6A	1	2660200282

Note

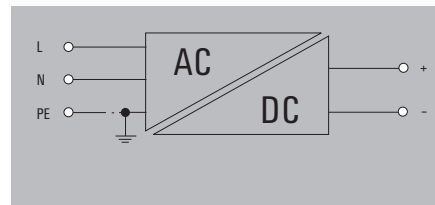
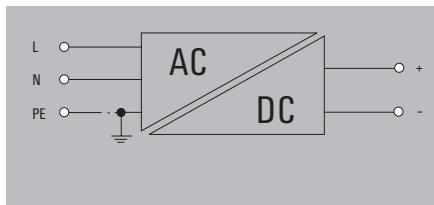
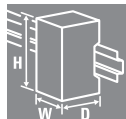
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 75W 24V 3.2A

PRO PM 75W 48V 1.6A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.2 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	1.6 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	1.6 A
Output power	75 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	240 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	99 / 97 / 30 mm

Note

Note

Note

Ordering data

Type	Qty.	Order No.
PRO PM 75W 24V 3.2A	1	2660200283

Type	Qty.	Order No.
PRO PM 75W 24V 3.2A	1	2660200283

Type	Qty.	Order No.
PRO PM 75W 48V 1.6A	1	2660200284

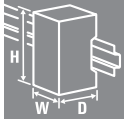
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

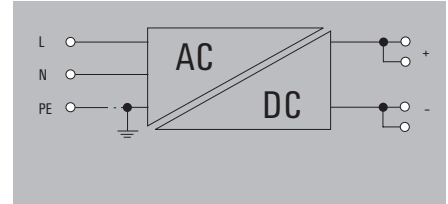
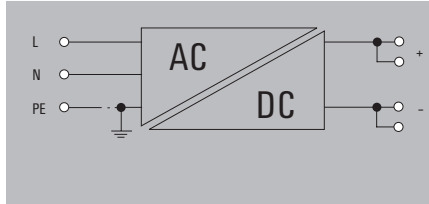
connectPower PRO-PM

connectPower PRO-PM



PRO PM 100W 12V 8.5A

PRO PM 100W 24V 4.5A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	8.5 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	4.5 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	4.5 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 100W 12V 8.5A	1	2660200285

Type	Qty.	Order No.
PRO PM 100W 24V 4.5A	1	2660200286

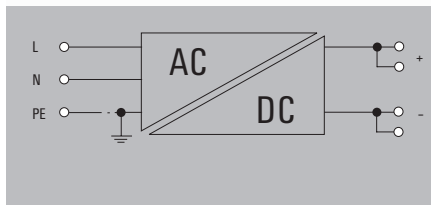
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 100W 48V 2.3A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	2.3 A
Output power	100 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	330 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	129 / 97 / 30 mm

Note

Ordering data

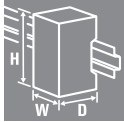
Type	Qty.	Order No.
PRO PM 100W 48V 2.3A	1	2660200287

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

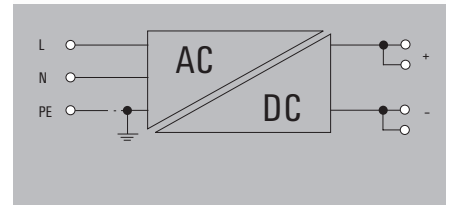
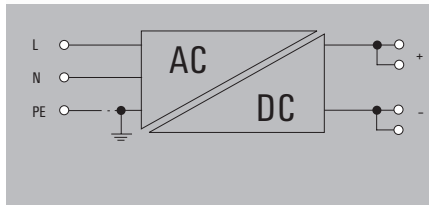
connectPower PRO-PM

connectPower PRO-PM



PRO PM 150W 12V 12.5A

PRO PM 150W 24V 6.5A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	12.5 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	6.5 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	6.5 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Note

Note

Note

Ordering data

Type	Qty.	Order No.
PRO PM 150W 12V 12.5A	1	2660200288

Type	Qty.	Order No.
PRO PM 150W 12V 12.5A	1	2660200288

Type	Qty.	Order No.
PRO PM 150W 24V 6.5A	1	2660200289

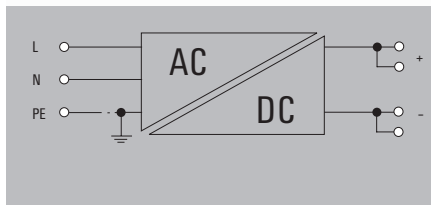
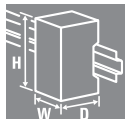
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 150W 48V 3.3A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	4 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	3.3 A
Output power	150 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	394 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	159 / 97 / 30 mm

Note

Ordering data

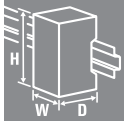
Type	Qty.	Order No.
PRO PM 150W 48V 3.3A	1	2660200290

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

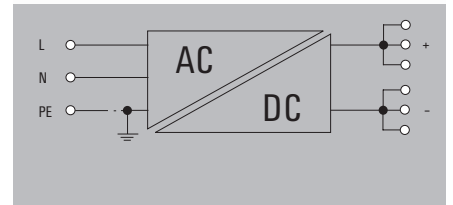
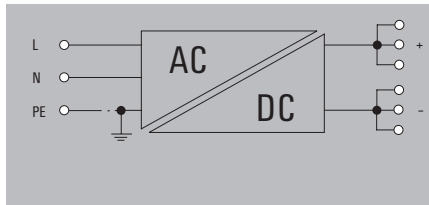
connectPower PRO-PM

connectPower PRO-PM



PRO PM 250W 12V 21A

PRO PM 250W 24V 10.5A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	12 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	21 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	13.5...16.2 V @ 12 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	84%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	10.5 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	0.84 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	24 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	10.5 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 100 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	28...32 V @ 24 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	0.84 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Note

Note

Note

Ordering data

Type	Qty.	Order No.
PRO PM 250W 12V 21A	1	2660200291

Type	Qty.	Order No.
PRO PM 250W 12V 21A	1	2660200291

Type	Qty.	Order No.
PRO PM 250W 24V 10.5A	1	2660200292

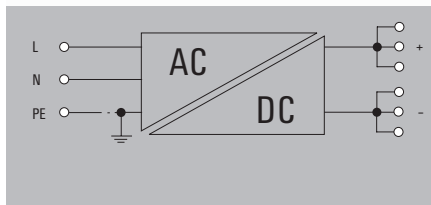
Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

PRO PM 250W 48V 5.2A



Technical data

Input	
Input voltage range AC	90...264 V AC
Frequency range AC	47...63 Hz
Rated input voltage	100...240 V AC
Recommended back-up fuse	6 A at 230 V AC, characteristic curve C
Output	
Output voltage	48 V DC
Output voltage adjustment	± 10% nominal output voltage tolerance, adjustable with potentiometer
Output current	5.2 A
Output power	250 W
Derating	> 50°C (2% / 1°C)
Residual ripple, breaking spikes	< 150 mV _{pp}
Overload protection	120%...180% I _{nominal} , hiccup mode with automatic recovery
Surge protection	55...62 V @ 48 V DC
Mains failure bridge-over time	20 ms
Parallel connection option	Yes, with diode module
General data	
Ambient temperature (operational)	-20 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 % RH
Degree of efficiency	86%
Status indication	LED green: ready
Mounting position, installation notice	Panel mount, screw fix
Net weight	736 g
Approvals	CE; cULus; CCC
Screw connection	
Connection cross-section, solid, min. / max.	0.34 / 4 mm ²
Depth x width x height	215 / 115 / 30 mm

Note

Ordering data

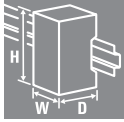
Type	Qty.	Order No.
PRO PM 250W 48V 5.2A	1	2660200293

Note

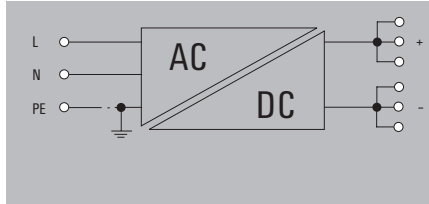
The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

connectPower PRO-PM

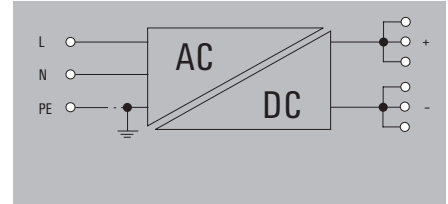
connectPower PRO-PM



PRO PM 350W 24V 14.6A



PRO PM 350W 48V 7.3A



Technical data

Input

Input voltage range AC
Frequency range AC
Rated input voltage
Recommended back-up fuse

Output

Output voltage
Output voltage adjustment

Output current
Output power
Derating
Residual ripple, breaking spikes
Overload protection

Surge protection
Mains failure bridge-over time
Parallel connection option

General data

Ambient temperature (operational)
Storage temperature
Humidity
Degree of efficiency
Status indication
Mounting position, installation notice
Net weight
Approvals

Screw connection

Connection cross-section, solid, min. / max.
Depth x width x height

90...264 V AC
47...63 Hz
100...240 V AC
6 A at 230 V AC, characteristic curve C

24 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
14.6 A
350 W
> 50°C (2% / 1°C)
< 100 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

28...32 V @ 24 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
750 g
CE; cULus; CCC

0.34 / 4 mm²
215 / 115 / 30 mm

90...264 V AC
47...63 Hz
100...240 V AC
6 A at 230 V AC, characteristic curve C

48 V DC
± 10% nominal output voltage tolerance, adjustable with potentiometer
7.3 A
350 W
> 50°C (2% / 1°C)
< 150 mV_{pp}
120%...180% I_{nominal}, hiccup mode with automatic recovery

55...62 V @ 48 V DC
20 ms
Yes, with diode module

-20 °C...70 °C
-40 °C...85 °C
5...95 % RH
86%
LED green: ready
Panel mount, screw fix
750 g
CE; cULus; CCC

0.34 / 4 mm²
215 / 115 / 30 mm

Note

Ordering data

Type	Qty.	Order No.
PRO PM 350W 24V 14.6A	1	2660200294

Type	Qty.	Order No.
PRO PM 350W 48V 7.3A	1	2660200295

Note

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

The internal varistor found in a switch-mode power supply does not replace the necessary surge protection in a system.

An everlasting power supply for buildings and machines

INSTA POWER power supplies – compact, efficient and reliable

A In building automation and mechanical engineering, many small distributors, meter cabinets and electrical distributions must often be taken into account. Efficient power supply solutions with high power density and high efficiency are in demand here.

The single phase INSTA POWER have a broad power spectrum, compact design, and good price-performance ratio. They operate in a temperature range from -25 °C to +70 °C and have wide range of approvals and wide-range voltage input. They are suitable for a variety of applications, which include signal and telecommunication systems and automation systems with low power requirements up to 96 W.

With its unique combination of particularly slim design, proven PUSH IN connection technology and high cost efficiency, INSTA POWER has decisive advantages over competitive products on the market.



Building automation with the compact power package.

The new INSTA POWER is optimal for the use in building automation. Due to the standardized design with small width, this power supply also finds sufficient space in sub-distribution boards and small distribution boards. Furthermore, the extensive power spectrum of INSTA POWER is an additional advantage for compact applications.

Extremely space- and energy-saving

With a basic depth of only 60 mm, INSTA POWER fits into the smallest control cabinets. The high efficiency of up to 91 % and the extremely low no-load power loss of max. 0.5 W ensure minimum energy costs.

**Robust and reliable**

INSTA POWER operates reliably in a temperature range from -25 °C to +70 °C (start-up: -40 °C) and have a high MTBF value of more than 1,000,000 hours.

**Easy and quick to install**

The INSTA POWER devices can either be snapped onto a DIN rail or screwed to the control cabinet wall. The maintenance work and measurements can be carried out conveniently via the PUSH IN connections.

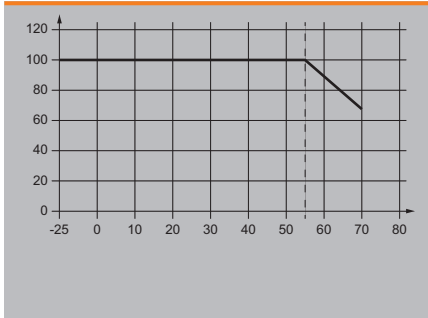


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Derating curve



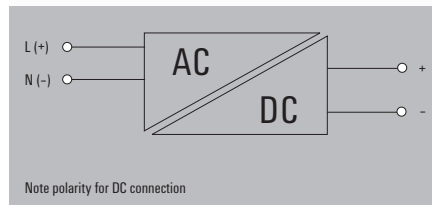
Technical data

General data	
Ambient temperature (operational)	-25 °C...70 °C
MTBF	> 750.000 h nach IEC 61709 (SN29500)
Protection degree	IP20
Housing version	Plastic, protective insulation
Mounting position, installation notice	Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Signalling	
LED green	Operating voltage OK
EMC / shock / vibration	
Limiting of mains voltage harmonic currents	According to EN 61000-3-2
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips), EN 61000-4-11 (Dips)
Shock	15 g in all directions
Insulation coordination	
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	4 kV
Insulation voltage input / earth	3.5 kV
Protection class	II
Pollution degree	2
Electrical safety (applied standards)	
For use with electronic equipment	Acc. to EN50178 / VDE0160
Electrical machine equipment	Acc. to EN60204
Protection against dangerous shock currents	Acc. to VDE0106-101
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Safety transformers for switch-mode power supplies	According to EN 61558-2-16

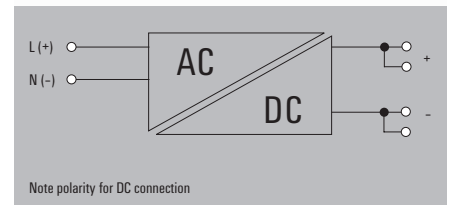
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- 1-phase power supplies

PRO INSTA 16 W 24 V 0.7 A



PRO INSTA 30 W 5 V 6 A



Technical data

Input	
Rated input voltage	
Input voltage range AC	
AC current consumption	
Frequency range AC	
DC input voltage range	
DC current consumption	
Inrush current	
Output	
Rated output voltage	
Nominal output current for U_{nom}	
Output voltage	
Continuous output current @ $U_{Nominal}$	
Residual ripple, breaking spikes	
Capacitive load	
General data	
Degree of efficiency	
Power loss idling / nominal load	
Power loss, nominal load	
Protection against reverse voltages from the load	
Depth x width x height	
Net weight	
Approvals	
Approvals	

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
0.25 A @ 230 V AC / 0.45 A @ 100 V AC
45...65 Hz
95...370 V DC
0.08 A @ 370V DC / 0.22 A @ 120 V DC
max. 40 A
24 V DC \pm 1 %
0.7 A @ 55 °C
22...28 V (adjustable via potentiometer on front)
0.7 A @ 55 °C, 0.43 A @ 70 °C
< 50 mVss @ U_{Ntemp} , Full Load
unrestricted
82.5 %
0.4 W
3.6 W
30...35 V DC
60 / 22.5 / 90.5 mm
82 g
cCSAus; TUEV

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
0.5 A @ 230 V AC / 1.0 A @ 100 V AC
45...65 Hz
95...370 V DC
0.2 A @ 370 V DC / 0.5 A @ 120 V DC
max. 40 A
5 V DC \pm 2 %
6 A @ 55 °C
7...4 V (adjustable via potentiometer on front)
6 A @ 55 °C, 3.75 A @ 70 °C
< 50 mVss @ U_{Ntemp} , Full Load
unrestricted
82 %
0.45 W
5.4 W
8...10 V DC
60 / 72 / 90 mm
256 g
cCSAus; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	2 (+ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 16W 24V 0.7A	1	2580180000
Note		

Type	Qty.	Order No.
PRO INSTA 30W 5V 6A	1	2580210000
Note		

Type	Qty.	Order No.
PRO INSTA 30W 5V 6A	1	2580210000
Note		

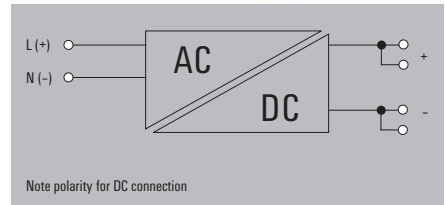
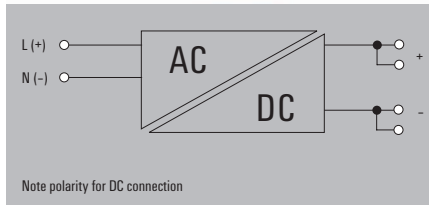
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- 1-phase power supplies

PRO INSTA 30 W 12 V 2.6 A

PRO INSTA 30 W 24 V 1.3 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	12 V DC ± 1 %
Nominal output current for U _{nom}	2.6 A @ 55 °C
Output voltage	16...9 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	2.6 A @ 55 °C, 1.625 A @ 55 °C
Residual ripple, breaking spikes	< 50 mV _{ss} @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	85 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	5.29 W
Protection against reverse voltages from the load	18...25 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	1.3 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	1.3 A @ 55 °C, 0.8 A @ 70 °C
Residual ripple, breaking spikes	< 50 mV _{ss} @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	86 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	4.88 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	0.5 A @ 230 V AC / 1.0 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.2 A @ 370 V DC / 0.5 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	24 V DC ± 1 %
Nominal output current for U _{nom}	1.3 A @ 55 °C
Output voltage	22...28 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	1.3 A @ 55 °C, 0.8 A @ 70 °C
Residual ripple, breaking spikes	< 50 mV _{ss} @ U _{Nom} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	86 %
Power loss idling / nominal load	0.45 W
Power loss, nominal load	4.88 W
Protection against reverse voltages from the load	30...35 V DC
Depth x width x height	60 / 54 / 90 mm
Net weight	192 g
Approvals	
Approvals	cCSAus; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	2 (L,N)
Wire cross-section, rigid min/max	0.25 / 2.5 mm ²
Wire cross-section, flexible min/max	0.25 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 12
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 30W 12V 2.6A	1	2580220000
Note		

Type	Qty.	Order No.
PRO INSTA 30W 12V 2.6A	1	2580220000
Note		

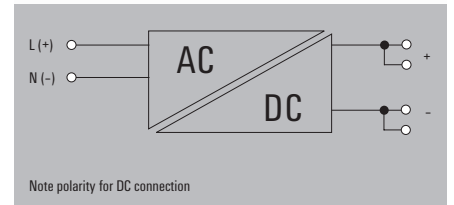
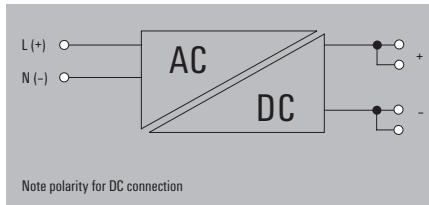
Type	Qty.	Order No.
PRO INSTA 30W 24V 1.3A	1	2580190000
Note		

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- 1-phase power supplies

PRO INSTA 60 W 12 V 5 A

PRO INSTA 60 W 24 V 2.5 A



Technical data

Input	
Rated input voltage	
Input voltage range AC	
AC current consumption	
Frequency range AC	
DC input voltage range	
DC current consumption	
Inrush current	
Output	
Rated output voltage	
Nominal output current for U_{nom}	
Output voltage	
Continuous output current @ $U_{Nominal}$	
Residual ripple, breaking spikes	
Capacitive load	
General data	
Degree of efficiency	
Power loss idling / nominal load	
Power loss, nominal load	
Protection against reverse voltages from the load	
Depth x width x height	
Net weight	
Approvals	
Approvals	

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
0.7 A @ 230 V AC / 1.5 A @ 100 V AC
45...65 Hz
95...370 V DC
0.25 A @ 370 V DC / 0.8 A @ 120 V DC
max. 40 A
12 V DC \pm 1 %
5 A @ 55 °C
16...9 V (adjustable via potentiometer on front)
5 A @ 55 °C, 3.75 A @ 70 °C
< 50 mVss @ U_{Ntemp} , Full Load
unrestricted
86%
0.42 W
8.4 W
18...25 V DC
60 / 72 / 90 mm
258 g
cCSAus; TUEV

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
0.7 A @ 230 V AC / 1.5 A @ 100 V AC
45...65 Hz
95...370 V DC
0.25 A @ 370 V DC / 0.8 A @ 120 V DC
max. 40 A
24 V DC \pm 1 %
2.5 A @ 55 °C
22...28 V (adjustable via potentiometer on front)
2.5 A @ 55 °C, 1.56 A @ 70 °C
< 50 mVss @ U_{Ntemp} , Full Load
unrestricted
89%
0.44 W
6.6 W
30...35 V DC
60 / 72 / 90 mm
258 g
cCSAus; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 60W 12V 5A	1	2580240000
Note		

Type	Qty.	Order No.
PRO INSTA 60W 24V 2.5A	1	2580230000
Note		

Type	Qty.	Order No.
PRO INSTA 60W 24V 2.5A	1	2580230000
Note		

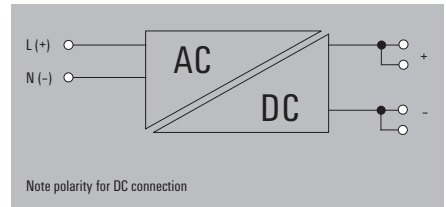
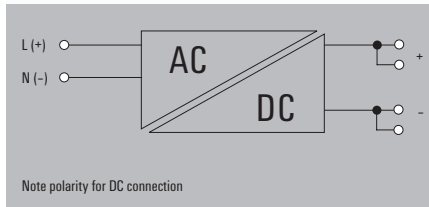
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- 1-phase power supplies

PRO INSTA 90 W 24 V 3.8 A

PRO INSTA 96 W 24 V 4 A



Technical data

Input	
Rated input voltage	
Input voltage range AC	
AC current consumption	
Frequency range AC	
DC input voltage range	
DC current consumption	
Inrush current	
Output	
Rated output voltage	
Nominal output current for U_{nom}	
Output voltage	
Continuous output current @ $U_{Nominal}$	
Residual ripple, breaking spikes	
Capacitive load	
General data	
Degree of efficiency	
Power loss idling / nominal load	
Power loss, nominal load	
Protection against reverse voltages from the load	
Depth x width x height	
Net weight	
Approvals	
Approvals	

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
1.2 A @ 230 V AC / 2.4 A @ 100 V AC
45...65 Hz
95...370 V DC
0.4 A @ 370 V DC / 1.3 A @ 120 V DC
max. 40 A
24 V DC ± 1 %
3.8 A @ 55 °C
22...25 V (adjustable via potentiometer on front)
3.8 A @ 55 °C, 2.38 A @ 70 °C
< 50 mVss @ U_{Nomin} , Full Load
unrestricted
87 %
0.45 W
11.7 W
30...35 V DC
60 / 90 / 90 mm
352 g
cCSAus; TUEV

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
1.2 A @ 230 V AC / 2.5 A @ 100 V AC
45...65 Hz
95...370 V DC
0.4 A @ 370 V DC / 1.35 A @ 120 V DC
max. 40 A
24 V DC ± 1 %
4 A @ 55 °C
22...28 V (adjustable via potentiometer on front)
4 A @ 55 °C, 2.5 A @ 70 °C
< 50 mVss @ U_{Nomin} , Full Load
unrestricted
87 %
0.45 W
12.48 W
30...35 V DC
60 / 90 / 90 mm
352 g
cCSAus; TUEV

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++ / -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

Ordering data

Type	Qty.	Order No.
PRO INSTA 90W 24V 3.8A	1	2580250000
Note		

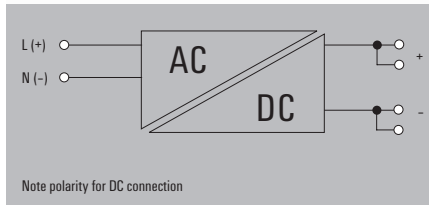
Type	Qty.	Order No.
PRO INSTA 96W 24V 4A	1	2580260000
Note		

Type	Qty.	Order No.
PRO INSTA 96W 24V 4A	1	2580260000
Note		

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- 1-phase power supplies

PRO INSTA 96 W 48 V 2 A



Technical data

Input	
Rated input voltage	100 - 240 V AC / 120 - 340 V DC
Input voltage range AC	85...264 V AC (derating at 100 V AC)
AC current consumption	1.2 A @ 230 V AC / 2.5 A @ 100 V AC
Frequency range AC	45...65 Hz
DC input voltage range	95...370 V DC
DC current consumption	0.4 A @ 370 V DC / 1.35 A @ 120 V DC
Inrush current	max. 40 A
Output	
Rated output voltage	48 V DC ± 1 %
Nominal output current for U_{nom}	2 A @ 55 °C
Output voltage	56...35 V (adjustable via potentiometer on front)
Continuous output current @ $U_{Nominal}$	2 A @ 55 °C, 1.25 A @ 70 °C
Residual ripple, breaking spikes	< 50 mV _{rms} @ U_{Nemo} , Full Load
Capacitive load	unrestricted
General data	
Degree of efficiency	89%
Power loss idling / nominal load	0.45 W
Power loss, nominal load	10.56 W
Protection against reverse voltages from the load	58...62 V DC
Depth x width x height	60 / 90 / 90 mm
Net weight	361 g
Approvals	
Approvals	cCSAus; TUEV

100 - 240 V AC / 120 - 340 V DC
85...264 V AC (derating at 100 V AC)
1.2 A @ 230 V AC / 2.5 A @ 100 V AC
45...65 Hz
95...370 V DC
0.4 A @ 370 V DC / 1.35 A @ 120 V DC
max. 40 A
48 V DC ± 1 %
2 A @ 55 °C
56...35 V (adjustable via potentiometer on front)
2 A @ 55 °C, 1.25 A @ 70 °C
< 50 mV _{rms} @ U_{Nemo} , Full Load
unrestricted
89%
0.45 W
10.56 W
58...62 V DC
60 / 90 / 90 mm
361 g
cCSAus; TUEV

Connection data	
Connection system	PUSH IN
Number of terminals	4 (++, -)
Wire cross-section, rigid min/max	0.25 / 2.5 mm ²
Wire cross-section, flexible min/max	0.25 / 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	24 / 12
Note	

Input	Output
PUSH IN	PUSH IN
2 (L,N)	4 (++, -)
0.25 / 2.5	0.25 / 2.5
0.25 / 2.5	0.25 / 2.5
24 / 12	24 / 12

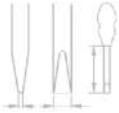
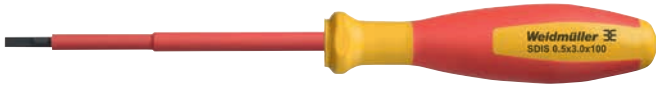
Ordering data

Type	Qty.	Order No.
PRO INSTA 96W 48V 2A	1	2580270000

Type	Qty.	Order No.
PRO INSTA 96W 48V 2A	1	2580270000

Note

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

Electronic load monitoring

Electronic load monitoring	Overview	B.2
	topGUARD	B.3
	maxGUARD	B.8

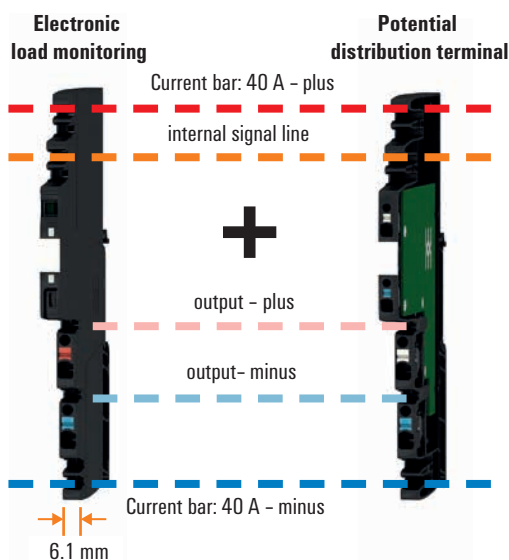
Control current distribution further developed

Load monitoring and potential distribution in one overall solution

New ways in the control current distribution increase the efficiency in the operation of machines and plants. The combination of load monitoring and potential distribution terminals saves up to 50 % space and up to 20 % wiring costs, while the free combinability of numerous single-channel and four-channel variants optimizes material costs. Benefit from the advantages of a modular system that offers you high flexibility and adapts optimally to any application.



Combination of load monitoring and potential distribution



- Three main connection channels: positive, negative and internal signals
- Simple to increase the number of contacts thanks to crossconnection option in the potential distribution terminals



Intelligent protection of DC loads

topGUARD load monitoring system with communication via IO-LINK

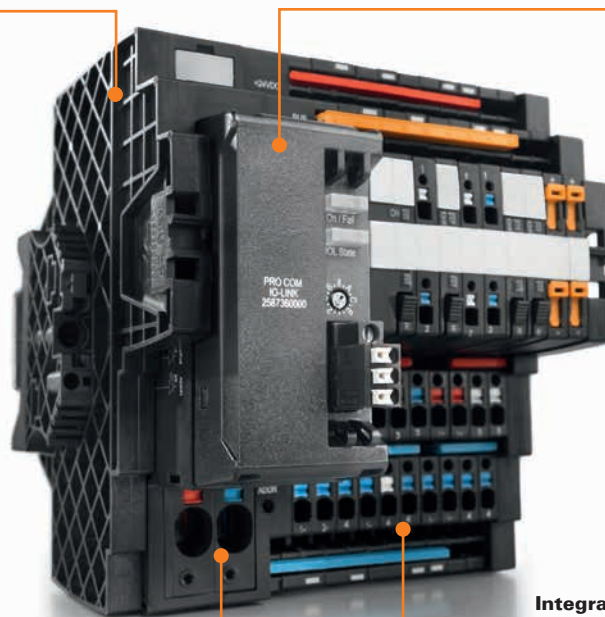
Modern machines and plants require load monitoring systems capable of communication. The IO-Link-capable load monitoring system topGUARD offers remote control options, full data transparency, and reliable protection of the 24 V system voltage.

topGUARD is an outstanding supplement to the IO-Link-capable PROtop power supplies for innovative power management systems. It saves space and time during device installation through an innovative approach to integrated distribution of potential. Parameterisation, control, and provision of all operating data are carried out by plugging in the IO-Link module and integrating an IODD file. The module can be used for PROtop power supplies as well as for topGUARD load monitoring.

IO-LINK capable

The IO-Link-capable load monitoring system topGUARD offers remote control options, provides operating data for optimal condition monitoring, and enables entirely new control solutions.

Data transparency and remote control thanks to IO-Link.



Modular and innovative

The modular concept enables custom-fit solutions. The first of its kind, voltage-adaptive class 2 load monitoring allows the continued use of 18 to 30 V DC operating voltage.

Integrated distribution of potential

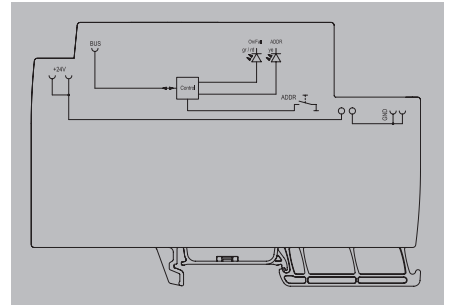
The integrated distribution of potential, well known from the maxGUARD concept, takes up significantly less space and saves valuable time during installation.



topGUARD

topGUARD – power-feed module

TGD FIM-C



B

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
General data
Protection degree
Surge protection input, bus
Overvoltage category
Signalling
Yellow LED
LED green/red
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

No
18...30 V DC
24 V DC
100 mVpp
IP20
Suppressor diode
III
Address is assigned, Addresses being assigned (slow flashing, 1.5 Hz), Address error (fast flashing, 13 Hz)
Station ok (slow flashing green, 1.5 Hz), Device ok (fast flashing green, 13 Hz), Station error (slow flashing red, 1.5 Hz), Device error (fast flashing red, 13 Hz)
2 (+,-)
18..6
0.75...16 mm ²
0.75...10 mm ²
1.2 x 6.5
cULus; CE

Ordering data

Rated current
Note

Type	Qty.	Order No.
TGD FIM-C	1	2625000000

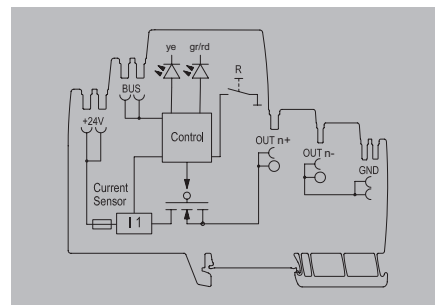
Accessories

Note

Type	Qty.	Order No.
PRO COM IO-LINK	1	2587360000

topGUARD – load monitoring adjustable

TGD ELM-12



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
Output
Connection system
Triggering characteristic
Adjustable range
adjustable rated current
Capacitive load
Function key
Function key
General data
Relay to activate the output
Protection degree
Surge protection input, output, bus
Overvoltage category
Signalling
Yellow LED
LED green
Red LED
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Yes
18...30 V DC
24 V DC
100 mVpp
PUSH IN
see characteristic curve
4-12 A
Yes
20,000 µF
Activation time < 3s, Reset, ON
No
IP20
Suppressor diode
III
Address is assigned, Address is being assigned (flashing)
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
4 (++ / -)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
cULus; CE

Ordering data

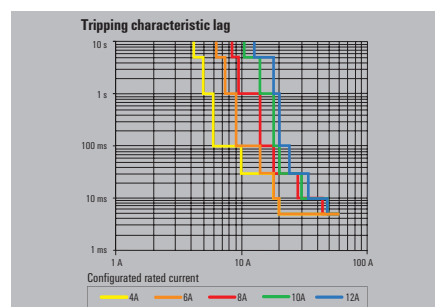
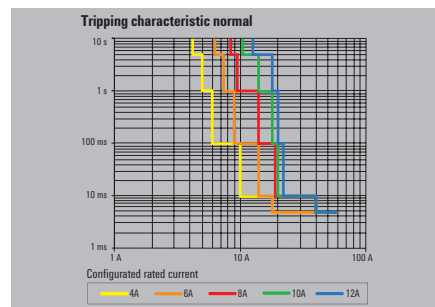
Rated current	12 A
Note	

Type	Qty.	Order No.
TGD ELM-12	1	2624990000

Accessories

Note

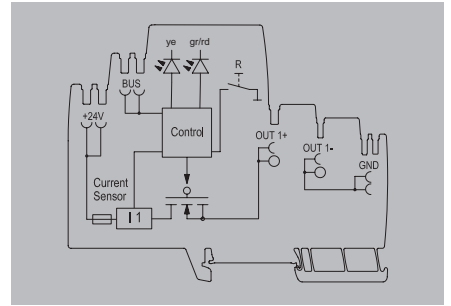
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



topGUARD

topGUARD – Adjustable load monitoring

TGD ELM-6



B

Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
Output
Connection system
Triggering characteristic
Adjustable range
Capacitive load
adjustable rated current
Function key
Function key
General data
Relay to activate the output
Protection degree
Surge protection input, output, bus
Overvoltage category
Signalling
Yellow LED
LED green
Red LED
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Yes
18...30 V DC
24 V DC
100 mVpp
PUSH IN
see characteristic curve
1- 6 A
15,000 µF
Yes
Activation time < 3s, Reset, ON
No
IP20
Suppressor diode
III
Address is assigned, Address is being assigned (flashing)
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
2 (+ / -)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
cULus; CE

Ordering data

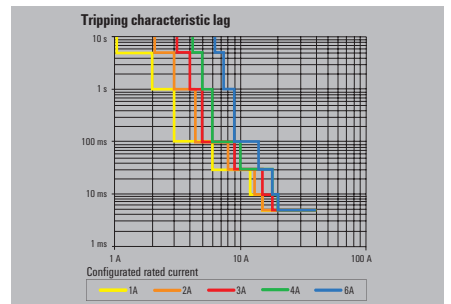
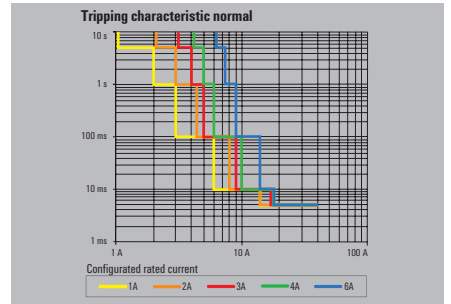
Rated current	6 A
Note	

Type	Qty.	Order No.
TGD ELM-6	1	2624980000

Accessories

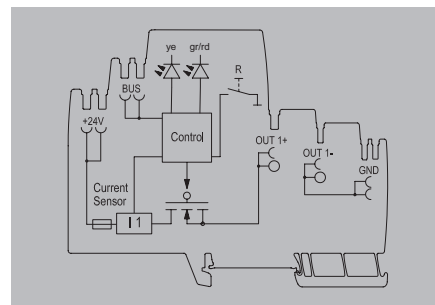
Note

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



topGUARD – Load monitoring class2

TGD ELM-4 CL2



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
max. admissible residual ripple at the input
Output
Connection system
Triggering characteristic
Capacitive load
adjustable rated current
Function key
Function key
General data
Relay to activate the output
Protection degree
Surge protection input, output, bus
Overvoltage category
Signalling
Yellow LED
LED green
Red LED
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

Yes
18...30 V DC
24 V DC
100 mVpp
PUSH IN
see characteristic curve
4.700 µF
Yes
Activation time < 3s, Reset, ON
No
IP20
Suppressor diode
III
Address is assigned, Address is being assigned (flashing)
Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
2 (+ / -)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
cULus; CE

Ordering data

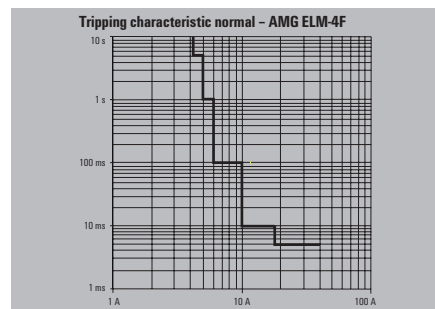
Rated current	4 A
Note	

Type	Qty.	Order No.
TGD ELM-4 CL2	1	2656670000

Accessories

Note

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



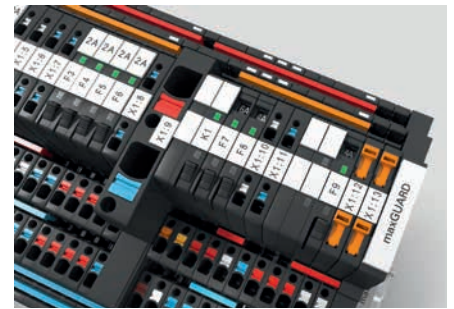
High level of modularity for optimal adaptability

Customised solutions made simple with maxGUARD

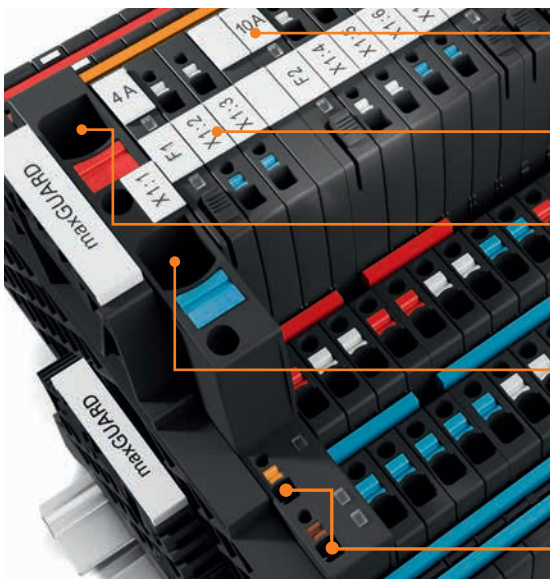
Fail-safe and maintenance-friendly control voltage distributions that can be installed in a time- and space-saving manner are a must for efficient machine and facility operation. With the new maxGUARD system, the terminal blocks (previously installed separately) for distributing potential to the outputs of the electronic load monitors become an integral part of a 24 V DC control voltage distribution solution. The new combination of load monitoring and potential distribution saves time during installation, increases safety against failure and reduces the amount of space required on the terminal rail by 50 %.

Extreme ease of servicing

Sophisticated operating, testing and connection elements permit safe access to all voltage potentials and load circuits during commissioning and maintenance.



Sophisticated arrangement of connections and markers ensures clarity



Markers for current strength

Continuous marker channel for equipment ID

Supply terminal (positive): 16 mm²

Supply terminal (negative): 16 mm²

Reset input and alarm output for connecting to the PLC

Integrated test point

Consistently integrated test points in the maxGUARD control voltage distribution's input and output speed up troubleshooting operations.



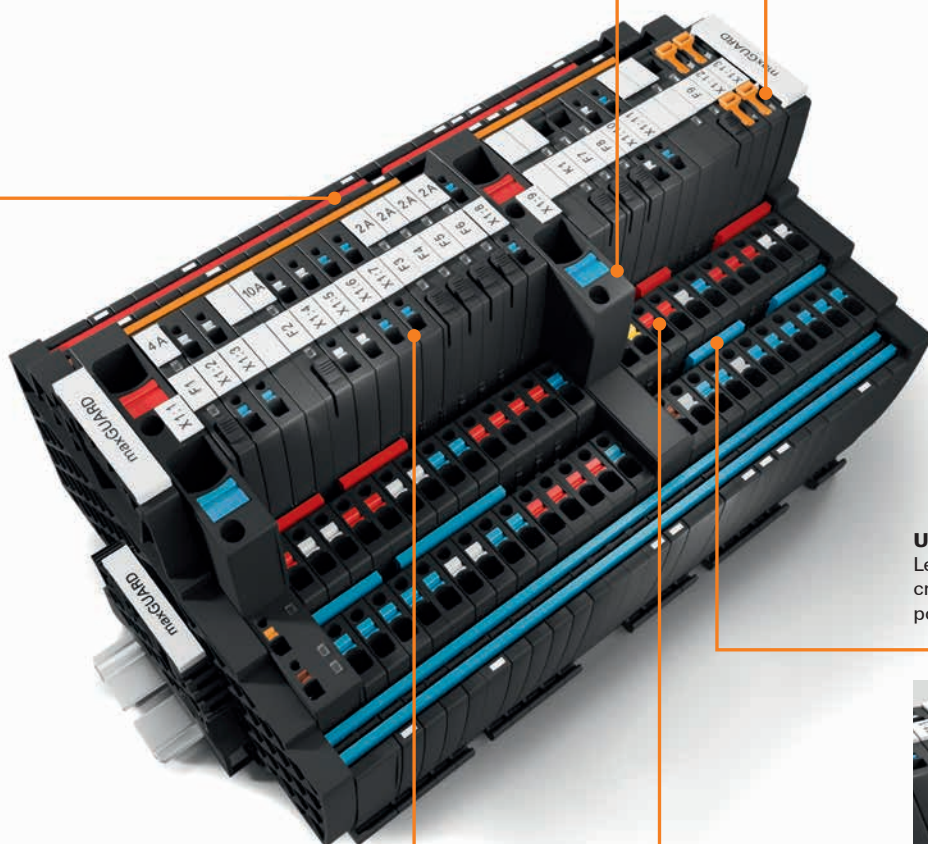
New approvals:
**Marine,
Class 2, Ex**

Practical disconnecting lever

Potential distributor with a disconnecting lever for simple galvanic isolation of the load circuit for testing and checking purposes.



B



Unique cross-connectors

Less time and effort needed for wiring due to cross-connections between load monitoring and potential distribution terminals.



Time saving
of up to
20 %

Particularly space-saving

Electronic load monitors and potential distributors with a 6.1 mm pitch.



Space saving
up to
50 %

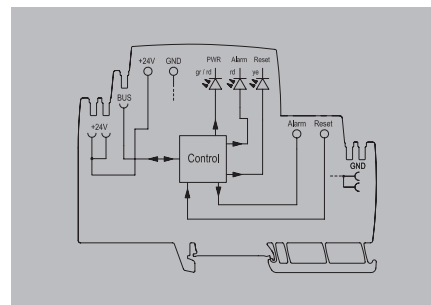
Can be used in a customised way

The sheer range of variants and the very different potential distribution terminals and additional components enable customised solutions at all times.

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle)
Current consumption (full load)
max. admissible residual ripple at the input
General data
Protection degree
Control inputs
Surge protection input, output, bus
Overtoltage category
Signalling
Yellow LED
LED green
Red LED
Transistor output, positive-switching
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

No
18...30 V DC
24 V DC
20 mA
120 mA
100 mVpp
General data
IP20
Reset
Suppressor diode
III
Signalling
External reset is signalled, Alarm is signalled
Operating voltage OK
Alarm
Alarm
Connection data
2 (+,-)
18...6
0.75...16 mm ²
0.75...10 mm ²
1.2 x 6.5
Approvals
CE; cULus; EAC; TUEV
Note

Ordering data

Rated current
Note

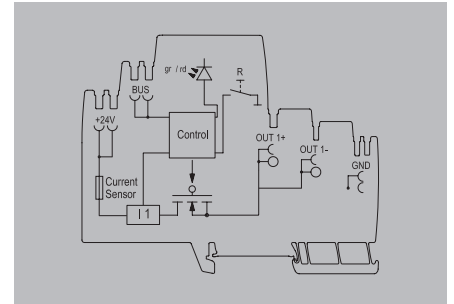
Type	Qty.	Order No.
AMG FIM-C	1	2081880000

maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function > 90 %)

AMG ELM - xF



B

Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle) / Current consumption (full load)	25 mA / I _{out} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	2080420000: 10,000 µF; 2080480000: 10,000 µF; 2080490000: 10,000 µF; 2080500000: 15,000 µF
Function key	
LED initial state	LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off Red LED switched off LED green switched on
General data	
Relay to activate the output	No
Surge protection input, output, bus	Suppressor diode
Protection degree / Overvoltage category	IP20 / III
Signalling	
LED green	Operation (failure-free)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	
1 A	
2 A	
4 A	
6 A	

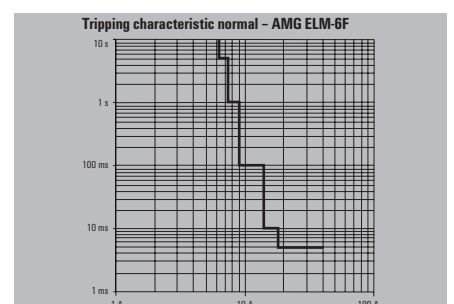
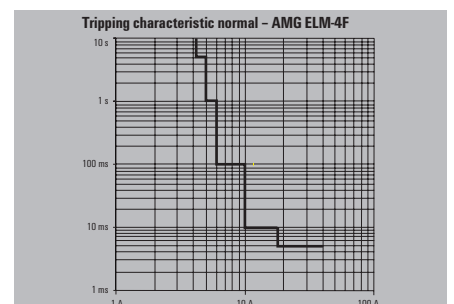
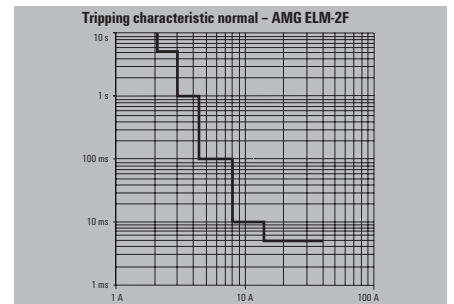
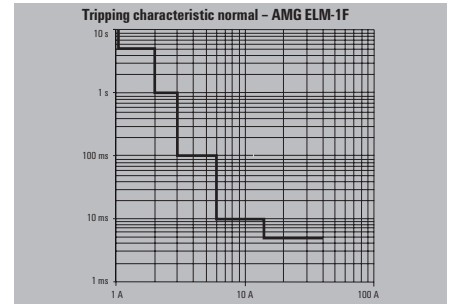
Note

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

Note

Type	Qty.	Order No.
AMG ELM-1F	1	2080420000
AMG ELM-2F	1	2080480000
AMG ELM-4F	1	2080490000
AMG ELM-6F	1	2080500000



maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning > 90 %)

Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	208060000: 15,000 µF; 208065000: 20,000 µF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect)
LED, subsequent state	LED flashing red, load monitoring has triggered (disconnected)
Output, subsequent state	LED red (permanently lit)
General data	
Relay to activate the output	> 0.1 to 2 s (confirm and reset)
Protection degree	> 0.1 to 2 s (restart)
Surge protection input, output, bus	Red LED switched off
Oversvoltage category	Red LED switched off
	LED green switched on
Signalling	
LED green	No
Red LED	IP20
	Suppressor diode
	III
	Operation (failure-free)
	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++) / (-)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data

Rated current	
	8 A
	10 A
Note	

Accessories

Note	
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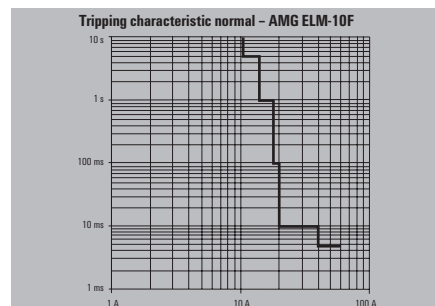
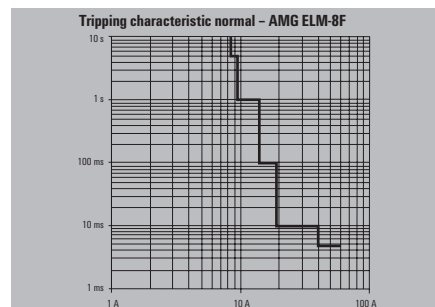
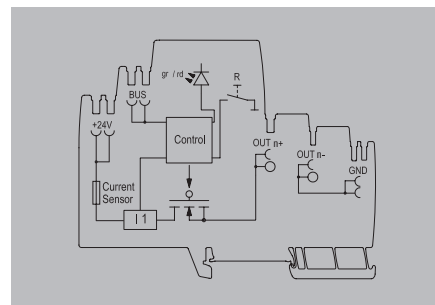
AMG ELM - xF



Tripping characteristic normal – AMG ELM-8F		
10 s		
1 s		
100 ms		
10 ms		
1 ms		
	1 A	100 A
Tripping characteristic normal – AMG ELM-10F		
10 s		
1 s		
100 ms		
10 ms		
1 ms		
	1 A	100 A

Type	Qty.	Order No.
AMG ELM-8F	1	2080600000
AMG ELM-10F	1	2080650000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



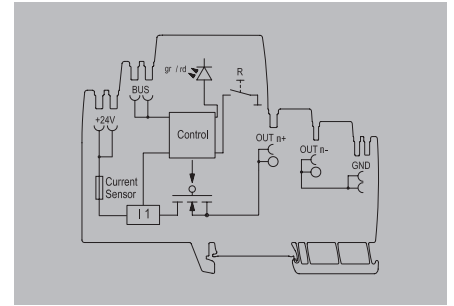
maxGUARD

maxGUARD – load monitoring (fixed value), Class 2

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)

- Class 2 Approval

AMG ELM - xF CL2



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	2491270000: 4.700 µF; 2491280000: 4.700 µF; 2491290000: 4.700 µF
Function key	
LED initial state	LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off Red LED switched off LED green switched on
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; TUEV
Note	

Ordering data

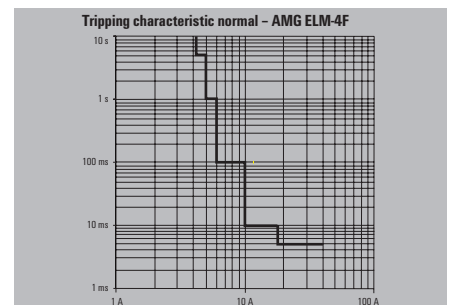
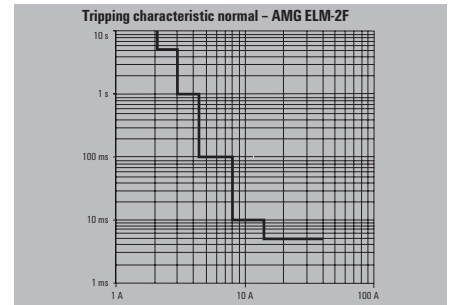
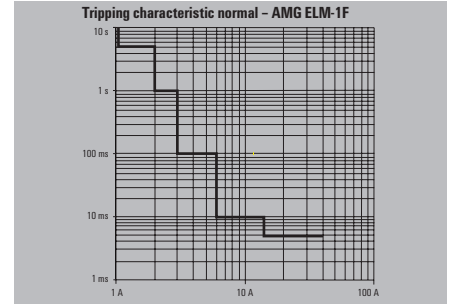
	1 A
	2 A
	4 A
Note	

Accessories

Note	
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Type	Qty.	Order No.
AMG ELM-1F CL2	1	2491270000
AMG ELM-2F CL2	1	2491280000
AMG ELM-4F CL2	1	2491290000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000



maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

AMG ELM-6



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	1- 6 A
Switch-on delay	1 s
Capacitive load	15,000 µF
adjustable rated current	Yes
Function key	
LED initial state	LED green, in operation
	LED flashing red, load monitoring has triggered (disconnected)
	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)
	> 0.1 to 2 s (confirm and reset)
	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off
	LED green switched on
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I _{Out} > 90% I _{Rated} (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

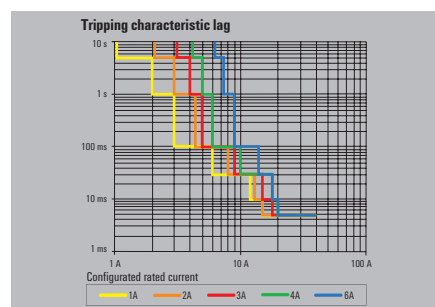
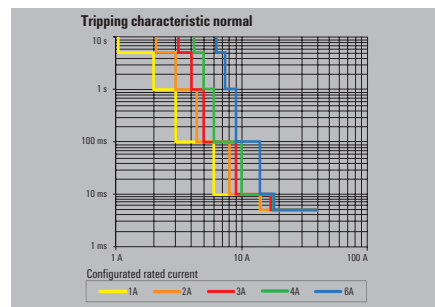
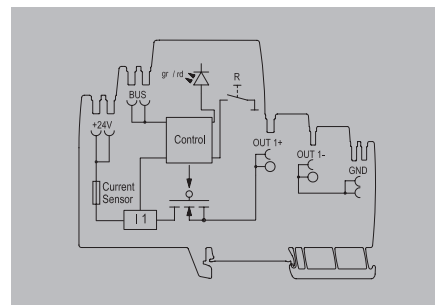
Ordering data

Rated current	6 A
Note	

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

Type	Qty.	Order No.
AMG ELM-6	1	2080360000

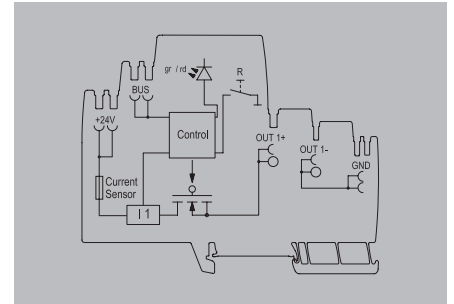


maxGUARD

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning > 90 %)

AMG ELM-12



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	4-12 A
Switch-on delay	1 s
adjustable rated current	Yes
Capacitive load	20,000 µF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off LED green switched on
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

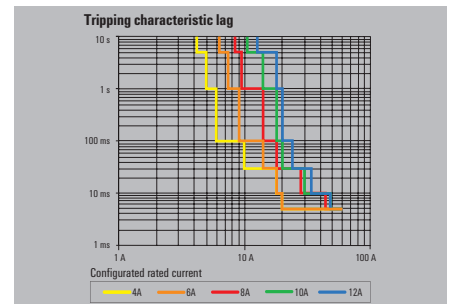
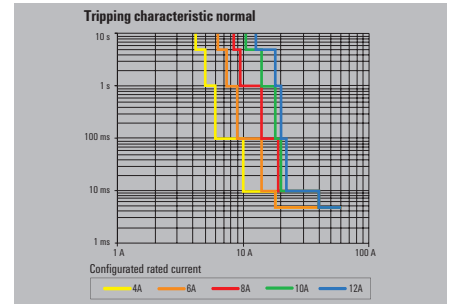
Ordering data

Rated current	12 A
Note	

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

Type	Qty.	Order No.
AMG ELM-12	1	2080410000
Note		



maxGUARD – load monitoring with relay

Electronic load monitoring with 2-pole output relay for all-pole load disconnection; triggering current and triggering characteristic adjustable.

Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	40 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	2082470000: 4- 10 A 2082440000: 1- 6 A
Switch-on delay	1 s
adjustable rated current	Yes
Capacitive load	2082470000: 20,000 µF 2082440000: 15,000 µF
Function key	
LED initial state	LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off LED green switched on
General data	
Relay to activate the output	Yes
Protection degree / Surge protection	IP20 / Suppressor diode
Conformal coating	Yes
Surge protection input, output, bus	Suppressor diode
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	6 (3x + / 3x -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	6 A
	10 A
Note	

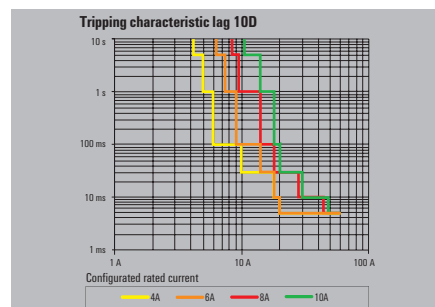
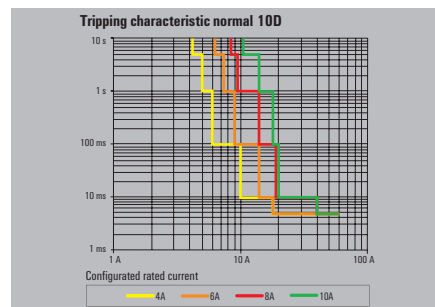
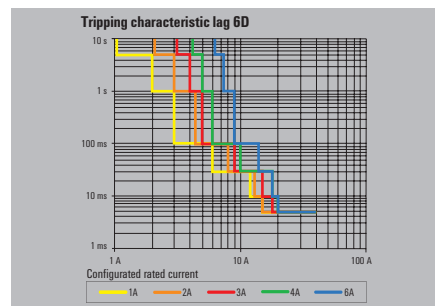
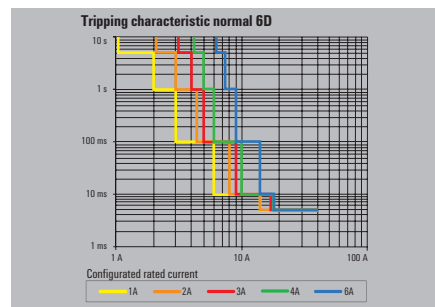
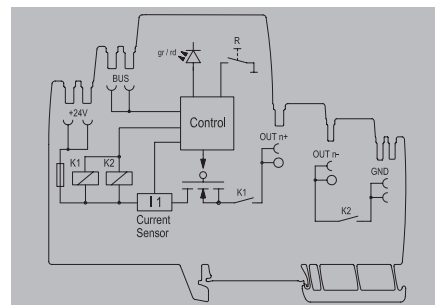
Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

AMG ELM – adjustable with output relay



Type	Qty.	Order No.
AMG ELM-6D CD	1	2082440000
AMG ELM-10D CD	1	2082470000
Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

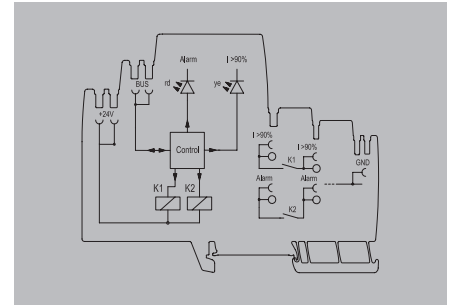


maxGUARD

maxGUARD – Alarm module

Alarm module with potential-free contacts for the “Alarm” and “I>90%” signals > 90 %.

AMG AM



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	30 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Surge protection input, bus	Suppressor diode
Overvoltage category	III
Signalling	
Yellow LED	Current > 90% Inom (flashing)
Red LED	Alarm
Floating contact	Yes
Status relay (max. load)	Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A)
Connection data	
Number of terminals	4 (2 x NO)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Ordering data			
Rated current	Type	Qty.	Order No.
	AMG AM	1	2081890000
Note			

Ordering data

Accessories			
Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole / red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

Accessories

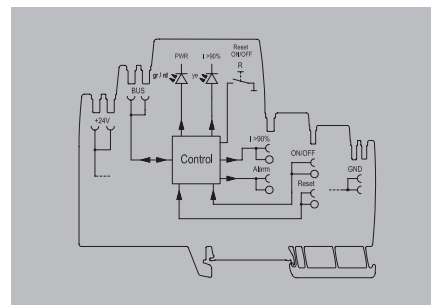
Accessories			
Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole / red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

Accessories			
Plug-in cross-connection	Type	Qty.	Order No.
50-pole	ZQV 4N/50	5	1528130000
50-pole / red	ZQV 4N/50 RD	5	2460730000
50-pole / blue	ZQV 4N/50 BL	5	1528240000
2-pole	ZQV 4N/2	60	1527930000
2-pole / red	ZQV 4N/2 RD	60	2460450000
2-pole / blue	ZQV 4N/2 BL	60	1528040000
Note			

maxGUARD – control module

Control module with extended control function: alarm, reset, I >90% connection/disconnection

AMG CM



Technical data

Input	
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	225 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
General data	
Relay to activate the output	No
Protection degree	IP20
Control inputs	ON/ OFF, Reset
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Transistor output, positive-switching	Pre-warning, Alarm
Connection data	
Number of terminals	2 (Reset / ON)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	CE; cULus; EAC; TUEV
Note	

Type	Qty.	Order No.
AMG CM	1	2081900000

Ordering data

Rated current	
Note	

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

Accessories

Plug-in cross-connection	
50-pole	
50-pole / red	
50-pole / blue	
2-pole	
2-pole/ red	
2-pole / blue	
Note	

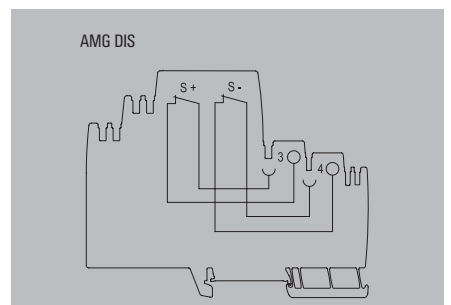
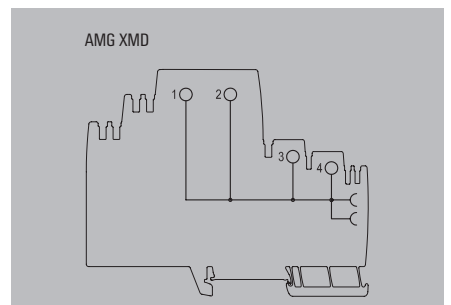
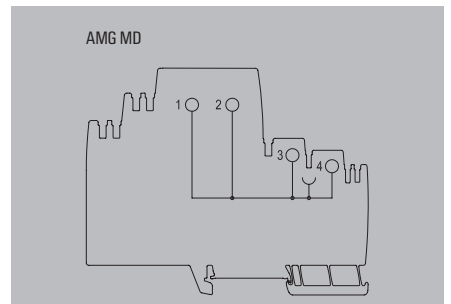
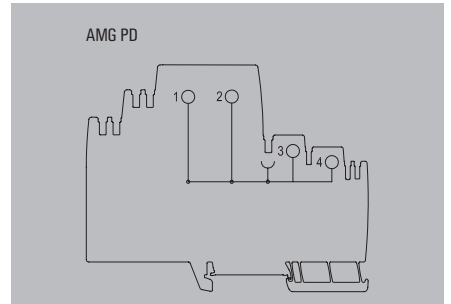
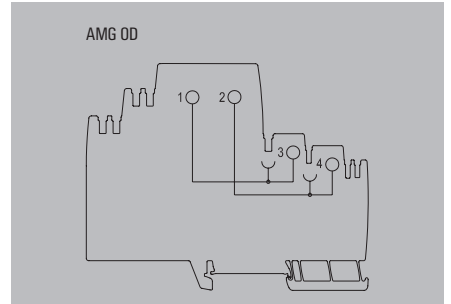
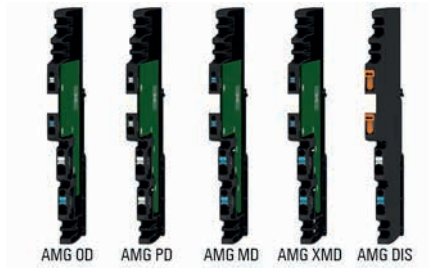
Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

maxGUARD

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

AMG



Technical data

General data

Protection degree
Total current load per potential

Current load per contact point

Connection data

Connection system
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals

Approvals

Note

IP20

2122910000: 12 A;
2122920000: 12 A;
2122930000: 12 A;
2122940000: 24 A;
2123050000: 12 A

12 A

PUSH IN

4 (++) / (-), 2 x 1.5 mm², 2 x 2.5 mm²
26...12

0.14...2.5 mm²

0.14...2.5 mm²

0.6 x 3.5

CE; cULus; EAC; TUEV

Ordering data

Type	Qty.	Order No.
AMG OD	10	2122910000
AMG PD	10	2122920000
AMG MD	10	2122930000
AMG XMD	10	2122940000
AMG DIS	10	2123050000

Note

Accessories

Plug-in cross-connection

50-pole
50-pole / red
50-pole / blue
2-pole
2-pole/ red
2-pole / blue

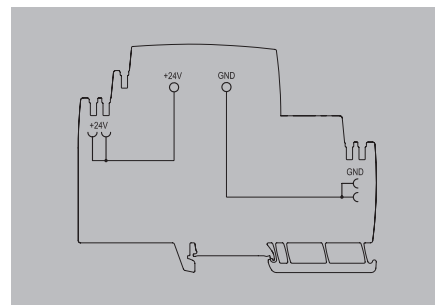
Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

Note

maxGUARD – power-feed module

Passive power-feed module

AMG FIM-0 Ex



Technical data

Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	No
Overvoltage category	III
Connection data	
Number of terminals	2 (+,-)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm ²
Wire cross-section, rigid min/max	0.75...10 mm ²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	
Note	

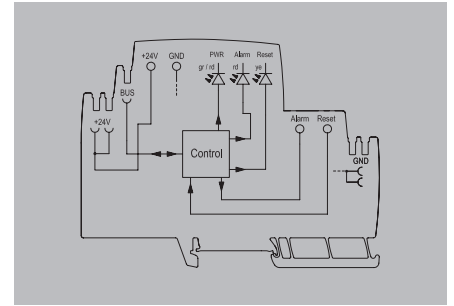
Type	Qty.	Order No.
AMG FIM-0 EX	1	2082530000

maxGUARD

maxGUARD – power-feed module

Active power-feed module with reset and alarm function

AMG FIM-C Ex



B

Technical data

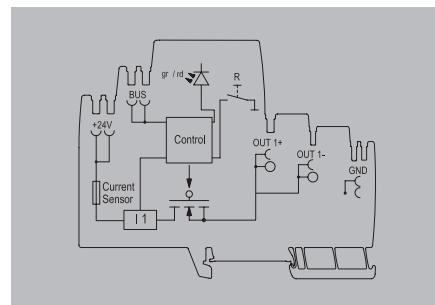
Input	
Input fuse (internal)	No
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	20 mA
Current consumption (full load)	120 mA
max. admissible residual ripple at the input	100 mVpp
General data	
Protection degree	IP20
Control inputs	Reset
Surge protection input, output, bus	Suppressor diode
Overtoltage category	III
Signalling	
Yellow LED	External reset is signalled, Alarm is signalled
LED green	Operating voltage OK
Red LED	Alarm
Transistor output, positive-switching	Alarm
Connection data	
Number of terminals	2 (+,-)
Wire cross-section, AWG/kcmil min/max	18...6
Wire cross-section, flexible min/max	0.75...16 mm ²
Wire cross-section, rigid min/max	0.75...10 mm ²
Screwdriver blade	1.2 x 6.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	
Ordering data	
Rated current	
Note	

Type	Qty.	Order No.
AMG FIM-C EX	1	2082540000

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed current (without I > 90% function)

AMG ELM - xF Ex



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle) / Current consumption (full load)
max. admissible residual ripple at the input

Output
Connection system
Triggering characteristic
Switch-on delay
Capacitive load

Function key
LED initial state

Pressing the button

LED, subsequent state
Output, subsequent state

General data
Relay to activate the output
Surge protection input, output, bus
Protection degree / Overvoltage category

Signalling
LED green
Red LED

Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade

Approvals
Approvals

Note

Ordering data

Rated current	
1 A	
2 A	
4 A	
6 A	

Note

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

Note

Yes
18...30 V DC
24 V DC
25 mA / I _{out} +30 mA
100 mVpp
PUSH IN
see characteristic curve
1 s
2082040000: 10,000 µF;
2082050000: 10,000 µF;
2082060000: 10,000 µF;
2082310000: 15,000 µF

LED green, in operation	LED flashing red, load monitoring has triggered (disconnected)	LED red (permanently lit)
> 0.1 to 2 s (manual disconnect)	> 0.1 to 2 s (confirm and reset)	> 0.1 to 2 s (restart)
Red LED switched off	Red LED switched off	LED green switched on

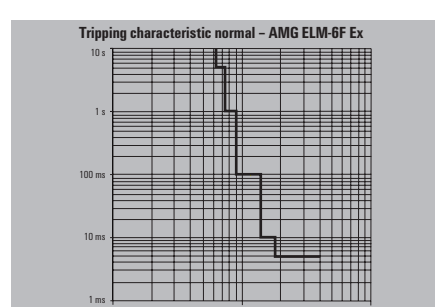
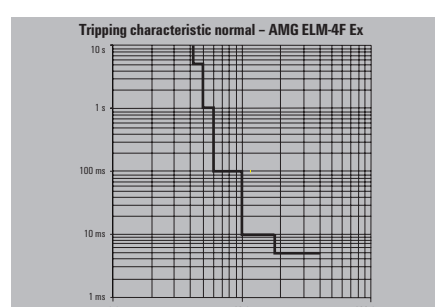
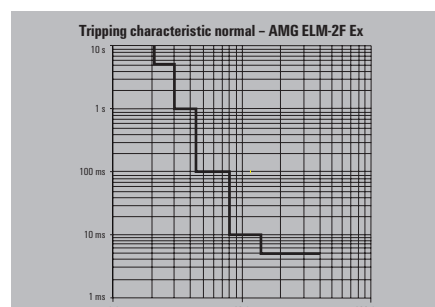
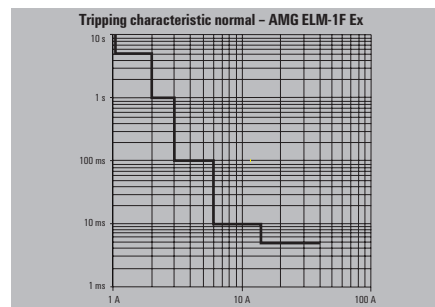
No
Suppressor diode
IP20 / III

Operation (failure-free)
Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)

2 (+ / -)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5

ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV

Type	Qty.	Order No.
AMG ELM-1F EX	1	2082040000
AMG ELM-2F EX	1	2082050000
AMG ELM-4F EX	1	2082060000
AMG ELM-6F EX	1	2082310000

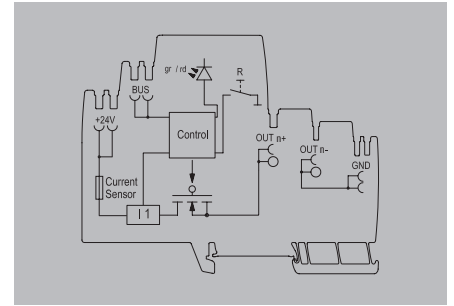


maxGUARD

maxGUARD – load monitoring (fixed value)

Electronic load monitoring with fixed rated current (without I > 90 % pre warning)

AMG ELM - xF Ex



B

Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Switch-on delay	1 s
Capacitive load	2082320000: 15,000 µF; 2082430000: 20,000 µF
Function key	
LED initial state	LED green, in operation
Pressing the button	> 0.1 to 2 s (manual disconnect)
LED, subsequent state	LED flashing red, load monitoring has triggered (disconnected)
Output, subsequent state	LED red (permanently lit)
General data	
Relay to activate the output	> 0.1 to 2 s (confirm and reset)
Protection degree	> 0.1 to 2 s (restart)
Surge protection input, output, bus	Red LED switched off
Oversvoltage category	Red LED switched off
Signalling	
LED green	LED green
Red LED	LED green
Connection data	
Number of terminals	4 (++ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

Ordering data

Rated current	
	8 A
	10 A
Note	

Accessories

Note	
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Tripping characteristic normal – AMG ELM-8F Ex		
10 s	10 A	100 A
1 s		
100 ms		
10 ms		
1 ms		
1 A	10 A	100 A
Tripping characteristic normal – AMG ELM-10F Ex		
10 s	10 A	100 A
1 s		
100 ms		
10 ms		
1 ms		
1 A	10 A	100 A

Type	Qty.	Order No.
AMG ELM-8F EX	1	2082320000
AMG ELM-10F EX	1	2082430000

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable triggering current and triggering characteristic

AMG ELM-6 Ex



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	1- 6 A
Switch-on delay	1 s
Capacitive load	15,000 µF
adjustable rated current	Yes
Function key	
LED initial state	LED green, in operation
	LED flashing red, load monitoring has triggered (disconnected)
	LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect)
	> 0.1 to 2 s (confirm and reset)
	> 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off
Output, subsequent state	Red LED switched off
	LED green switched on
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I _{Out} > 90% I _{Rated} (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	2 (+ / -)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

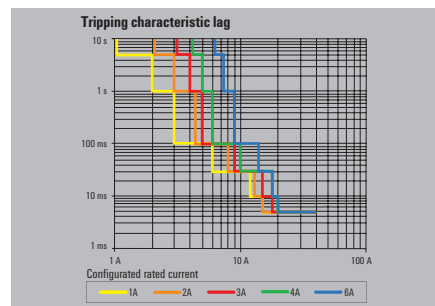
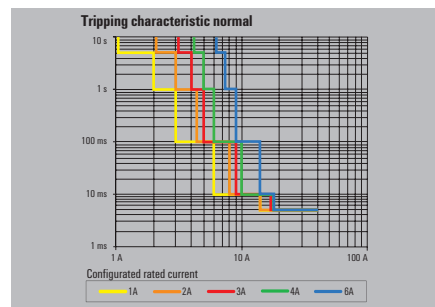
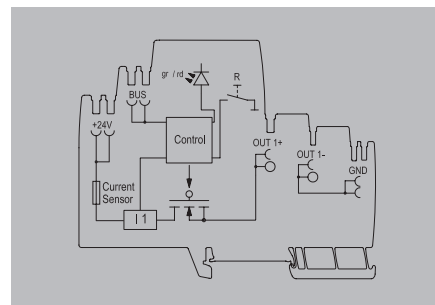
Ordering data

Rated current	6 A
Note	

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

Type	Qty.	Order No.
AMG ELM-6 EX	1	2082000000

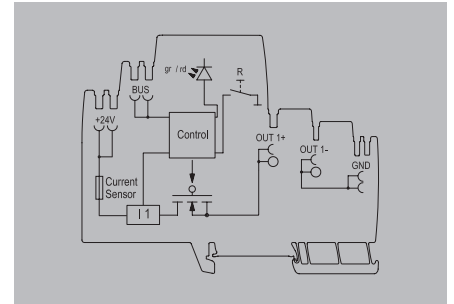


maxGUARD

maxGUARD – load monitoring adjustable

Electronic load monitoring with adjustable trigger current and characteristic (with I > 90 % pre warning)

AMG ELM-12 Ex



Technical data

Input	
Input fuse (internal)	Yes
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	I _{OUT} +30 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
Triggering characteristic	see characteristic curve
Adjustable range	4-12 A
Switch-on delay	1 s
adjustable rated current	Yes
Capacitive load	20,000 µF
Function key	
LED initial state	LED green, in operation LED flashing red, load monitoring has triggered (disconnected) LED red (permanently lit)
Pressing the button	> 0.1 to 2 s (manual disconnect) > 0.1 to 2 s (confirm and reset) > 0.1 to 2 s (restart)
LED, subsequent state	Red LED switched off Red LED switched off LED green switched on
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Overvoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Connection data	
Number of terminals	4 (++) / (-)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

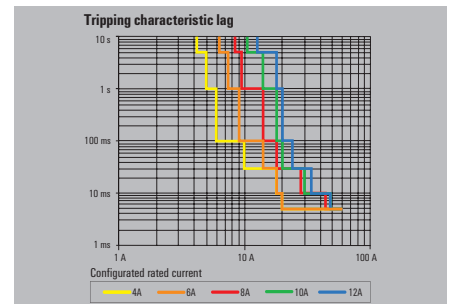
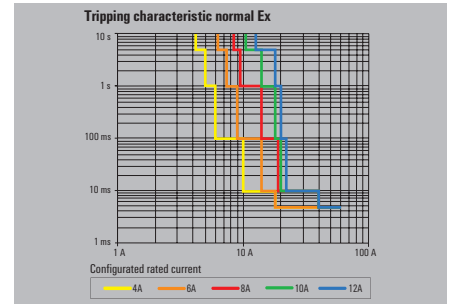
Ordering data

Rated current	12 A
Note	

Accessories

Type	Qty.	Order No.
AMG DIS	10	2123050000
AMG MD	10	2122930000
AMG OD	10	2122910000
AMG PD	10	2122920000
Note		

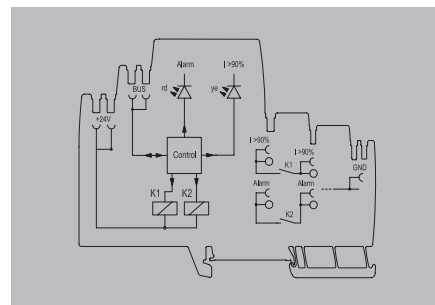
Type	Qty.	Order No.
AMG ELM-12 EX	1	2082010000



maxGUARD – Alarm module

Alarm module with potential-free contacts for the “Alarm” and “I>90%” signals.

AMG AM CO



Technical data

Input
Input fuse (internal)
DC input voltage range
Rated input voltage
Current consumption (idle)
Current consumption (full load)
max. admissible residual ripple at the input
General data
Protection degree
Surge protection input, bus
Overvoltage category
Signalling
Yellow LED
Red LED
Floating contact
Status relay (max. load)
Connection data
Number of terminals
Wire cross-section, AWG/kcmil min/max
Wire cross-section, flexible min/max
Wire cross-section, rigid min/max
Screwdriver blade
Approvals
Approvals
Note

No
18...30 V DC
24 V DC
25 mA
30 mA
100 mVpp
IP20
Suppressor diode
III
Current > 90% Inom (flashing)
Alarm
Yes
Alarm (24 V / 0.1 A), I > 90 % (24 V / 0.1 A)
4 (2 x NO)
26...12
0.14...2.5 mm ²
0.14...2.5 mm ²
0.6 x 3.5
ABS; BURVER; CE; cULus; DNVGL; EAC; LLOYDSREG; RINA; TUEV

Ordering data

Rated current
Note

Type	Qty.	Order No.
AMG AM CO	1	2082770000

Accessories

Plug-in cross-connection	
	50-pole
	50-pole / red
	50-pole / blue
	2-pole
	2-pole/ red
	2-pole / blue
Note	

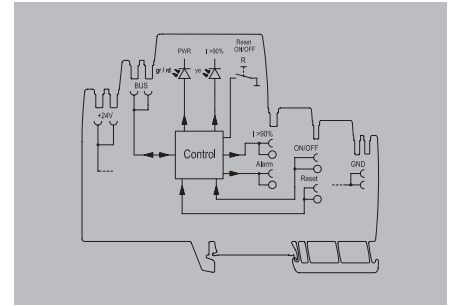
Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

maxGUARD

maxGUARD – control module

Control module with extended control function: Alarm, Reset, I>90%, ON/OFF

AMG CM Ex



B

Technical data

Input	
DC input voltage range	18...30 V DC
Rated input voltage	24 V DC
Current consumption (idle)	25 mA
Current consumption (full load)	225 mA
max. admissible residual ripple at the input	100 mVpp
Output	
Connection system	PUSH IN
General data	
Relay to activate the output	No
Protection degree	IP20
Surge protection input, output, bus	Suppressor diode
Control inputs	ON/ OFF, Reset
Overtoltage category	III
Signalling	
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)
Transistor output, positive-switching	Pre-warning, Alarm
Connection data	
Number of terminals	2 (Reset / ON)
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

Input		
DC input voltage range	18...30 V DC	
Rated input voltage	24 V DC	
Current consumption (idle)	25 mA	
Current consumption (full load)	225 mA	
max. admissible residual ripple at the input	100 mVpp	
Output		
Connection system	PUSH IN	
General data		
Relay to activate the output	No	
Protection degree	IP20	
Surge protection input, output, bus	Suppressor diode	
Control inputs	ON/ OFF, Reset	
Overtoltage category	III	
Signalling		
LED green	Operation (failure-free), Early warning: I Out > 90% I Rated (flashing)	
Red LED	Load monitoring has disconnected, Load monitoring has triggered (flashing), Internal error (rapid flashing)	
Transistor output, positive-switching	Pre-warning, Alarm	
Connection data		
Number of terminals	2 (Reset / ON)	
Wire cross-section, AWG/kcmil min/max	26...12	
Wire cross-section, flexible min/max	0.14...2.5 mm ²	
Wire cross-section, rigid min/max	0.14...2.5 mm ²	
Screwdriver blade	0.6 x 3.5	
Approvals		
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV	
Note		

Ordering data

Rated current	
Note	

Type	Qty.	Order No.
AMG CM EX	1	2083360000

Accessories

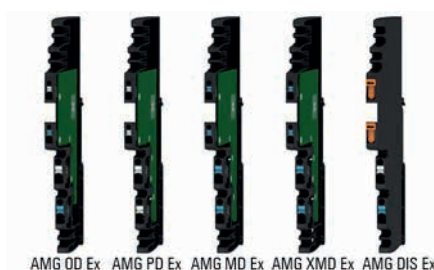
Plug-in cross-connection	
	50-pole
	50-pole / red
	50-pole / blue
	2-pole
	2-pole/ red
	2-pole / blue
Note	

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000

maxGUARD – Potential distributor

Potential distribution in combination with the electronic load monitoring.

AMG



AMG OD Ex AMG PD Ex AMG MD Ex AMG XMD Ex AMG DIS Ex

Technical data

General data	
Protection degree	IP20
Total current load per potential	2495090000: 12 A; 2495070000: 12 A; 2495040000: 12 A; 2495080000: 24 A; 2495100000: 12 A
Current load per contact point	12 A
Connection data	
Connection system	PUSH IN
Number of terminals	4 (++) / -, 2 x 1.5 mm ² , 2 x 2.5 mm ²
Wire cross-section, AWG/kcmil min/max	26...12
Wire cross-section, flexible min/max	0.14...2.5 mm ²
Wire cross-section, rigid min/max	0.14...2.5 mm ²
Screwdriver blade	0.6 x 3.5
Approvals	
Approvals	ABS; BURVER; CE; cULus; cULusEX; DEMKOATEX; DNVGL; EAC; IECEXULD; LLOYDSREG; RINA; TUEV
Note	

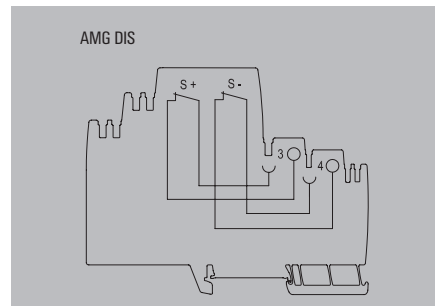
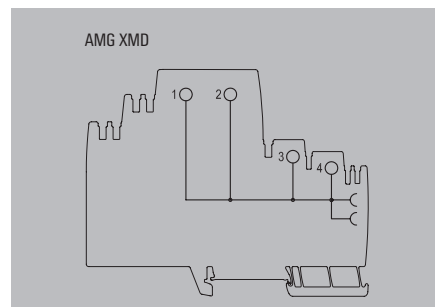
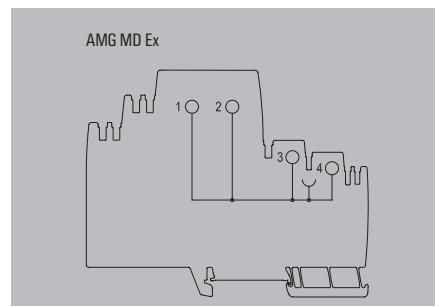
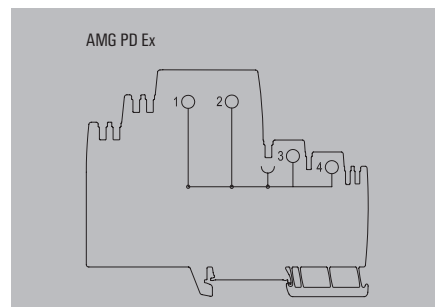
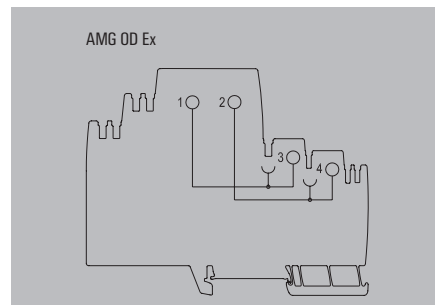
Ordering data

Type	Qty.	Order No.
AMG OD EX	10	2495090000
AMG PD EX	10	2495070000
AMG MD EX	10	2495040000
AMG XMD EX	10	2495080000
AMG DIS EX	10	2495100000

Accessories

Plug-in cross-connection	
50-pole	ZQV 4N/50
50-pole / red	ZQV 4N/50 RD
50-pole / blue	ZQV 4N/50 BL
2-pole	ZQV 4N/2
2-pole / red	ZQV 4N/2 RD
2-pole / blue	ZQV 4N/2 BL
Note	

Type	Qty.	Order No.
ZQV 4N/50	5	1528130000
ZQV 4N/50 RD	5	2460730000
ZQV 4N/50 BL	5	1528240000
ZQV 4N/2	60	1527930000
ZQV 4N/2 RD	60	2460450000
ZQV 4N/2 BL	60	1528040000



maxGUARD – accessories

Cross-connector orange



Type	Qty.	Order No.
ZQV 4N/2	60	1527930000
ZQV 4N/3	60	1527940000
ZQV 4N/4	60	1527970000
ZQV 4N/5	60	1527980000
ZQV 4N/6	20	1527990000
ZQV 4N/7	20	1528020000
ZQV 4N/8	20	1528030000
ZQV 4N/9	20	1528070000
ZQV 4N/10	20	1528090000
ZQV 4N/50	5	1528130000

Cross-connector blue



Type	Qty.	Order No.
ZQV 4N/2 BL	60	1528040000
ZQV 4N/3 BL	60	1528080000
ZQV 4N/4 BL	60	1528120000
ZQV 4N/5 BL	60	1528140000
ZQV 4N/6 BL	20	1528170000
ZQV 4N/7 BL	20	1528180000
ZQV 4N/8 BL	20	1528190000
ZQV 4N/9 BL	20	1528220000
ZQV 4N/10 BL	20	1528230000
ZQV 4N/50 BL	5	1528240000

Cross-connector red



Type	Qty.	Order No.
ZQV 4N/2 RD	60	2460450000
ZQV 4N/3 RD	60	2460810000
ZQV 4N/4 RD	60	2460800000
ZQV 4N/5 RD	60	2460790000
ZQV 4N/6 RD	20	2460780000
ZQV 4N/7 RD	20	2460770000
ZQV 4N/8 RD	20	2460760000
ZQV 4N/9 RD	20	2460750000
ZQV 4N/10 RD	20	2460740000
ZQV 4N/50 RD	5	2460730000

maxGUARD – accessories

Endplate and separation plate



Type	Qty.	Order No.
AMG PP	40	2123000000
AMG EP 2010	30	2495380000
AMG EP KIT	1	2500760000

End brackets



Type	Qty.	Order No.
WEW 35/2 SW	100	1061210000
WEW 35/2 V0 GF SW	100	1479000000

Cutting tool for ZQV



Type	Qty.	Order No.
KT 14	1	1157820000

Uninterruptible power supplies

Uninterruptible power supplies	Overview	C.2
	UPS control unit	C.4
	connectPower Battery modules	C.6
	connectPower Buffer modules	C.8

Uninterruptible power supplies

Weidmüller’s uninterruptible power supplies reliably protect 24 V DC consumers from voltage drop-outs and dips, such as those that could occur as a result of mains faults. These products therefore play a key role in increasing systems availability.

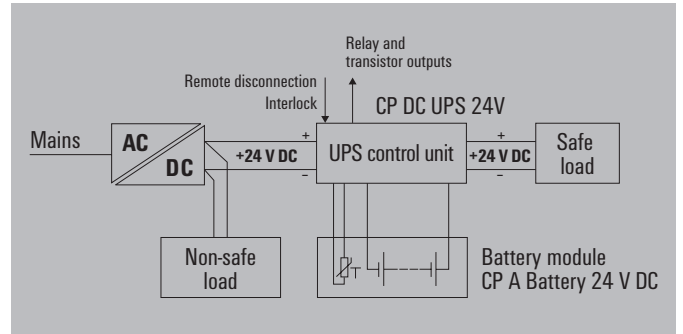
C

The buffer module is the perfect solution for bridging short-term power supply failures or dips of up to 100 ms. The capacitor-based technology enables maintenance-free operation, depending on the application, of up to 10 years.

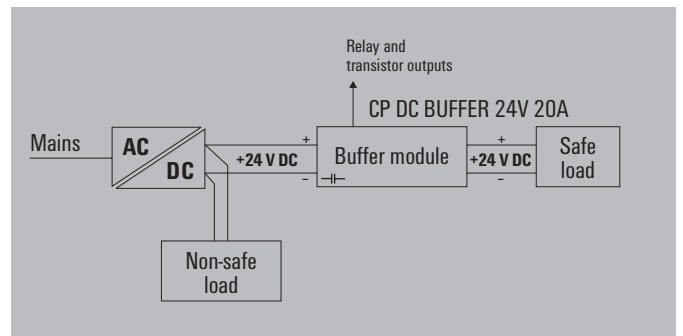
The UPS control unit, together with the accompanying battery module and the power supply, form a complete DC UPS system with support times in minutes or hours. The modular construction allows for the overall load to be distributed into non-safe and safe load circuits, such that often a smaller UPS can be designed.

A huge variety of operating types are available to suit the particular application precisely. A remote input to block battery operation, as well as multiple signal outputs, enable remote operation of the UPS.

UPS with battery module



UPS with buffer module



Space saving

The ability to mount the UPS components side-by-side in only 66 mm width saves space in the electronics cabinet.



Quick error analysis

The charging level indicator and the status and error indicators facilitate rapid error analysis.



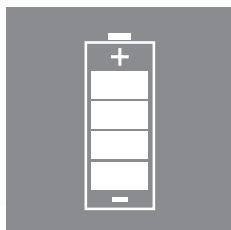
Usable around the globe

International approvals (cURus, cULus) and TÜV certification facilitate the use of these products around the world, and in different applications.



Long battery service life

The temperature-compensated characteristic charge curve ensures the best charge for the battery. This maintains the battery's long service life.



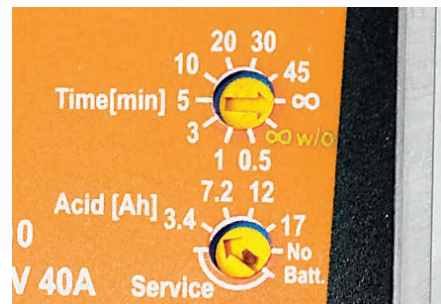
Time saving

The three additional active 24 V DC transistor outputs simplify cabling and save time.



Flexible application

Multiple operation modes optimise the use of battery power and facilitate its flexible application.



UPS control unit

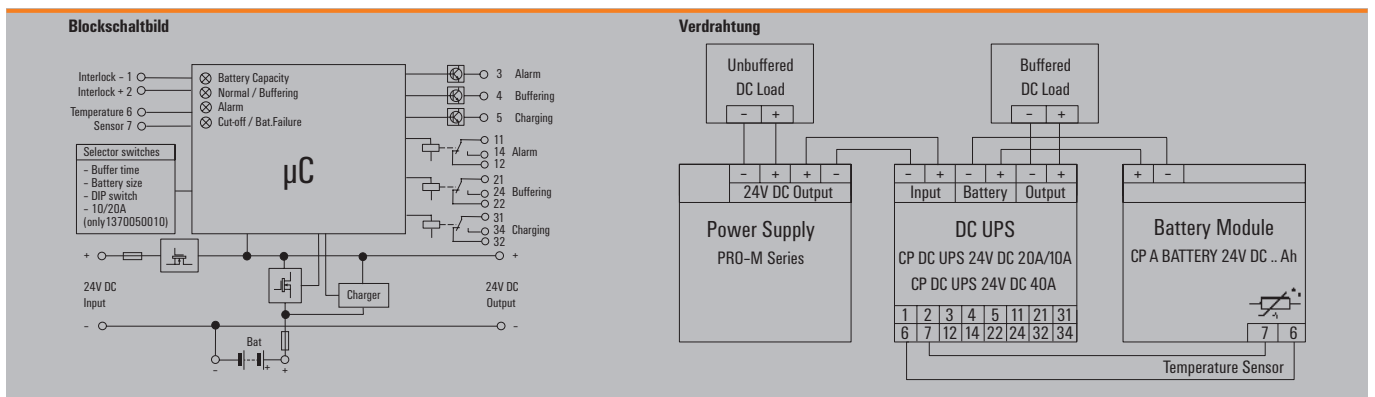
UPS control unit

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature for long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis

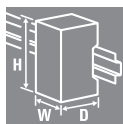


Technical data

Signalling	
Status relay (max. load)	Fault (alarm) (30 V AC/DC 0.1 A), Battery operation (buff.) (30 V AC/DC 0.1 A), Laden (Charg.) (30V AC/DC 0,1A)
Transistor outputs (24...27 V DC max. load 150 mA)	Battery operation (buff.), Charging, Fault (alarm)
Status indicator	Green/yellow LED: normal / buffering, Yellow/red LED: temperature alarm / alarm, Yellow/red LED: switch-off / battery fault
General data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 %, no condensation
Protection degree	IP20
Protection class	III, with no ground connection, for SELV
Pollution degree	2
Overvoltage category	III
Insulation voltage	1 kV DC
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Protection against reverse voltages from the load	32...34 V DC
Parallel connection option	Yes, max. 2, Yes, with diode module
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Overload protection	Yes
Short-circuit protection	Yes
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips)
Resistance to vibration / Shock	2.3 g / 30 g in all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Safety extra-low voltage	



UPS control unit



Technical data

Input	
Rated input voltage	24 V DC
DC input voltage range	20...30 V DC
Input current	≤ 13A (for 10A), ≤ 23A (for 20A)
Input fuse (internal)	Yes
DC current consumption	max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Reverse polarity protection	Yes
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max)
Nominal output current for U _{nom}	20 A @ 60 °C
Integrated battery charger	
Charging feature	IU characteristic curve
Charging voltage (temperature compensated)	27, 48 V @ 20°C
Temperature coefficient	- 48 mV / °C
Charging current	0.15 CA
Battery availability test	every minute
Battery module	
Rated voltage	24 V
Storage medium	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Parallel connection option	Yes, max. 2
Operating elements and control inputs	
Output current selector switch	20 A, 10 A
Selector switch battery	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
Selector switch buffer times	0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0
DIP switch	Inversion of transistor outputs, Operation without temperature probe
Remote disconnection (Interlock)	Yes
Temperature probe	NTC 100 kΩ
General data	
Buffer times	Depending on the connected battery
Degree of efficiency	≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode
Power loss	< 10 W
Depth x width x height / Net weight	150 / 66 / 130 mm / 1146 g
Approvals	
Approvals	CE; cULus; DNVGL; EAC; TUEV

Connection data	
Wire connection method	Screw connection
Wire cross-section, rigid min/max	0.5 / 16 mm ²
Wire cross-section, flexible min/max	0.5 / 16 mm ²
Wire cross-section, AWG/kcmil min/max	26 / 6
Tightening torque	1.2...1.5 Nm
Note	

Ordering data

Type	
CP DC UPS 24V 20A/10A	1370050010
Note	

CP DC UPS 24V 20A/10A



Input	
Rated input voltage	24 V DC
DC input voltage range	20...30 V DC
Input current	≤ 13A (for 10A), ≤ 23A (for 20A)
Input fuse (internal)	Yes
DC current consumption	max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Reverse polarity protection	Yes
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max)
Nominal output current for U _{nom}	20 A @ 60 °C
Integrated battery charger	
Charging feature	IU characteristic curve
Charging voltage (temperature compensated)	27, 48 V @ 20°C
Temperature coefficient	- 48 mV / °C
Charging current	0.15 CA
Battery availability test	every minute
Battery module	
Rated voltage	24 V
Storage medium	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Parallel connection option	Yes, max. 2
Operating elements and control inputs	
Output current selector switch	20 A, 10 A
Selector switch battery	1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
Selector switch buffer times	0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0
DIP switch	Inversion of transistor outputs, Operation without temperature probe
Remote disconnection (Interlock)	Yes
Temperature probe	NTC 100 kΩ
General data	
Buffer times	Depending on the connected battery
Degree of efficiency	≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode
Power loss	< 10 W
Depth x width x height / Net weight	150 / 66 / 130 mm / 1146 g
Approvals	
Approvals	CE; cULus; DNVGL; EAC; TUEV

Input/output/battery		Signal	
Screw connection		Screw connection	
0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
26 / 6	30 / 15	26 / 6	30 / 15
1.2...1.5		1.2...1.5	

Type	Qty.	Order No.
CP DC UPS 24V 20A/10A	1	1370050010

CP DC UPS 24V 40A



Input	
Rated input voltage	24 V DC
DC input voltage range	20...30 V DC
Input current	≤ 43 A
Input fuse (internal)	Yes
DC current consumption	max. 200 mA (without battery), max. 0.5 A (with fully charged battery)
Reverse polarity protection	Yes
Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	Vo = Vin - 0.2 V normal operation (Imax), Vo = Vin - 0.3 V battery supply (I max)
Nominal output current for U _{nom}	40 A @ 60 °C
Integrated battery charger	
Charging feature	IU characteristic curve
Charging voltage (temperature compensated)	27, 48 V @ 20°C
Temperature coefficient	- 48 mV / °C
Charging current	0.15 CA
Battery availability test	every minute
Battery module	
Rated voltage	24 V
Storage medium	3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, Selectable with rotary switch
Parallel connection option	Yes, max. 2
Operating elements and control inputs	
Output current selector switch	3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
Selector switch battery	3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah, No Battery, Service
Selector switch buffer times	0.5 min, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 45 min, ∞, ∞ w/0
DIP switch	Inversion of transistor outputs, Operation without temperature probe
Remote disconnection (Interlock)	Yes
Temperature probe	NTC 100 kΩ
General data	
Buffer times	Depending on the connected battery
Degree of efficiency	≥ 96% normal mode, battery is being charged, ≥ 98% normal mode, battery is charged, ≥ 98% buffer mode
Power loss	< 10 W
Depth x width x height / Net weight	150 / 66 / 130 mm / 1051.8 g
Approvals	
Approvals	CE; cULus; DNVGL; EAC; TUEV

Input/output/battery		Signal	
Screw connection		Screw connection	
0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5	0.5 / 16	0.2 / 1.5
26 / 6	30 / 15	26 / 6	30 / 15
1.2...1.5		1.2...1.5	

Type	Qty.	Order No.
CP DC UPS 24V 40A	1	1370040010

connectPower Battery modules

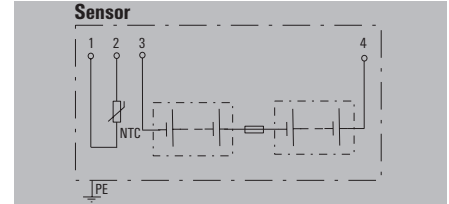
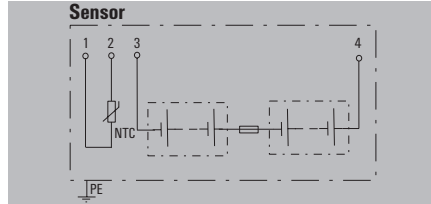
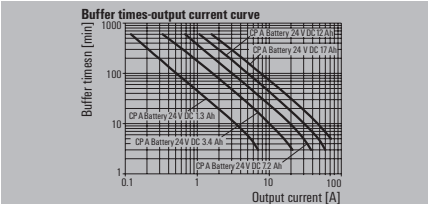
Battery modules

- Maintenance-free lead-acid batteries from 3.4 Ah to 17 Ah
- Integrated temperature sensor for optimal battery charging
- Capacity up to 40 A / 30 min or 1 A / 30 hrs
- Robust metal housing for wall mounting

CP A BATTERY 24V DC1.3AH



CP A BATTERY 24V DC3.4AH



Technical data

Rated input voltage	24 V DC
Nominal capacity	1.3 Ah
Charging current, max.	0.2 A
Overload and short circuit protection	15 A fuse
Buffer time 10A	
Buffer time 20A	
Output current, max.	15 A
Parallel connection option	Yes
Series switching capability	No
Temperature probe	NTC 100 kΩ
General data	
Battery type	Maintenance-free AGM lead-acid battery
Operating life	6...9 years at 20°C
Ambient temperature	0°...+40°C (Charging); -15°...+50°C (Discharging)
Storage temperature	-15 °C...40 °C
Latest commissioning	9 months
Max. perm. air humidity (operational)	5 %...95 % RH
Protection class	III, with no ground connection, for SELV
Protection degree	IP20
Vibration DIN rail/wall in accordance with IEC 68-2-6	0.7 / 0.7 g
Shock wall acc. to IEC 68227	30 g
Depth x width x height / Net weight	124 / 52 / 148 mm / 1650 g
Approvals	
Approvals	cULus; DNVGL; EAC

Rated input voltage	24 V DC
Nominal capacity	3.4 Ah
Charging current, max.	0.51 A
Overload and short circuit protection	25 A fuse
Buffer time 10A	11.3 min
Buffer time 20A	5 min
Output current, max.	25 A
Parallel connection option	Yes
Series switching capability	No
Temperature probe	NTC 100 kΩ
General data	
Battery type	Maintenance-free AGM lead-acid battery
Operating life	6...9 years at 20°C
Ambient temperature	0°...+40°C (Charging); -15°...+50°C (Discharging)
Storage temperature	-15 °C...40 °C
Latest commissioning	9 months
Max. perm. air humidity (operational)	5 %...95 % RH
Protection class	III, with no ground connection, for SELV
Protection degree	IP20
Vibration DIN rail/wall in accordance with IEC 68-2-6	0.7 / 0.7 g
Shock wall acc. to IEC 68227	30 g
Depth x width x height / Net weight	137 / 108 / 144 mm / 3478 g
Approvals	
Approvals	cULus; DNVGL; EAC

Connection data		
Wire connection method	Pluggable screw connection	
Wire cross-section, rigid min/max	0.2 / 4	
Wire cross-section, flexible min/max	0.2 / 4	
Wire cross-section, AWG/kcmil min/max	30 / 12	
Tightening torque	0.5...0.5 Nm	
Note		
Input/output/battery		
Signal		
Signal	Pluggable screw connection	
Signal	0.2 / 1.5	
Signal	0.2 / 1.5	
Signal	28 / 16	
Signal	0.5...0.6	
Ordering data		
Type	Qty.	Order No.
CP A BATTERY 24V DC1.3AH	1	1406930000
Note		

Input/output/battery		
Signal		
Signal	Pluggable screw connection	
Signal	0.2 / 1.5	
Signal	0.2 / 1.5	
Signal	28 / 16	
Signal	0.5...0.6	
Ordering data		
Type	Qty.	Order No.
CP A BATTERY 24V DC3.4AH	1	1251070000
Note		

Connection data		
Wire connection method	Pluggable screw connection	
Wire cross-section, rigid min/max	0.2 / 4	
Wire cross-section, flexible min/max	0.2 / 4	
Wire cross-section, AWG/kcmil min/max	30 / 12	
Tightening torque	0.5...0.5 Nm	
Note		
Input/output/battery		
Signal		
Signal	Pluggable screw connection	
Signal	0.2 / 1.5	
Signal	0.2 / 1.5	
Signal	28 / 16	
Signal	0.5...0.6	
Ordering data		
Type	Qty.	Order No.
CP A BATTERY 24V DC1.3AH	1	1406930000
Note		

Ordering data

Type	Qty.	Order No.
CP A BATTERY 24V DC1.3AH	1	1406930000
Note		

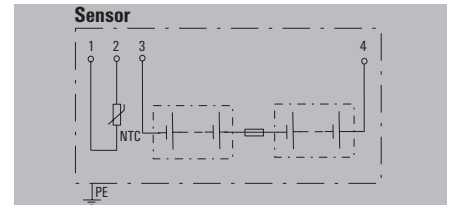
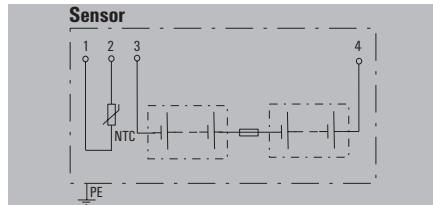
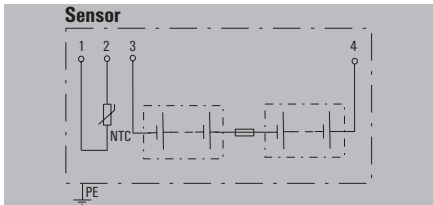
Type	Qty.	Order No.
CP A BATTERY 24V DC3.4AH	1	1251070000
Note		

Type	Qty.	Order No.
CP A BATTERY 24V DC3.4AH	1	1251070000
Note		

CP A BATTERY 24V DC7.2AH

CP A BATTERY 24V DC12AH

CP A BATTERY 24V DC17AH



24 V DC
7.2 Ah
1.08 A
2x25 A fuse
26.5 min
11.5 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
9...12 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
134 / 162 / 155 mm / 6200 g
cULus; DNVGL; EAC

24 V DC
12 Ah
1.8 A
2x25 A fuse
51 min
22.7 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
134 / 229 / 155 mm / 9120 g
cULus; DNVGL; EAC

24 V DC
17 Ah
2.55 A
2x25 A fuse
81 min
34.2 min
50 A
Yes
No
NTC 100 kΩ
Maintenance-free AGM lead-acid battery
6...9 years at 20°C
0°...+40°C (Charging); -15°...+50°C (Discharging)
-15 °C...40 °C
9 months
5 %...95 % RH
III, with no ground connection, for SELV
IP20
- / 0.7 g
30 g
160 / 242 / 178 mm / 13330 g
cULus; EAC

Input/output/battery	Signal
	Pluggable screw connection
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

Input/output/battery	Signal
	Pluggable screw connection
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

Input/output/battery	Signal
	Pluggable screw connection
0.2 / 16	0.2 / 1.5
0.5 / 16	0.2 / 1.5
22 / 6	28 / 16
1.2...1.5	

Type	Qty.	Order No.
CP A BATTERY 24V DC7.2AH	1	1251080000

Type	Qty.	Order No.
CP A BATTERY 24V DC12AH	1	1251090000

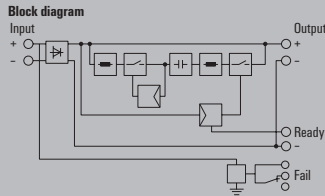
Type	Qty.	Order No.
CP A BATTERY 24V DC17AH	1	1251110000

connectPower Buffer modules

Buffer modules

- Maintenance-free UPS on a capacitor basis, with a capacity of 20 A / 260 ms
- Parallel switching to increase the output current or buffer time
- Status notification via LED and relay contact

CP DC BUFFER 24V 20A



Technical data

Input	
Rated input voltage	24 V DC
Input current	0...22 A
Max. approved input current	22 A
Surge protection	31 - 34 V (only at discharge)
Output	
Output voltage	24 V
Output current	20A
Output current, max.	22 A
Parallel connection option	Yes, without diode module
Overload protection	≥ 22 A (only at discharge)
Surge protection	31 - 34 V (only at discharge)
Status relay (max. load)	Input voltage OK (30 V AC/DC 2A), Ready for operation (24 V AC/DC 300 mA)
Display	
Status indicator	Green LED
General data	
Degree of efficiency	95 %
Insulation voltage, input/output	1 kV
Storage medium	Internal condenser
Buffer times	250 ms at 20 A, 6 s at 1 A
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95 %, no condensation
Depth x width x height / Net weight	150 / 66 / 130 mm / 1280 g
For use with electronic equipment	Acc. to EN50178 / VDE0160
Approvals	
Approvals	cURus; EAC

Input		Output	
Screw connection			
0.5 / 16		0.6 / 16	
0.5 / 16		0.5 / 16	
26 / 6		26 / 6	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input		Output	
Screw connection			
0.5 / 16		0.6 / 16	
0.5 / 16		0.5 / 16	
26 / 6		26 / 6	

Ordering data

Note	
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Type	Qty.	Order No.
CP DC BUFFER 24V 20A	1	1251220000

Note	
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Note	
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Small metal foot



Type	Order No.
MTA 30 MF	1251320000

Large metal foot



Type	Order No.
MTA 45 MF	1251310000

Small plastic foot



Type	Order No.
MTA 30 BK	1168970000

Large plastic foot



Type	Order No.
MTA 45 BK	1962250000

Small wall mounting



Type	Order No.
CP A WALLADAPTER 30 MM	1461870000

Large wall mounting



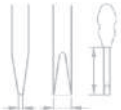
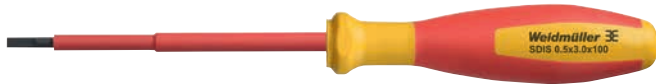
Type	Order No.
CP A WALLADAPTER 45 MM	1461850000

Temperature probe



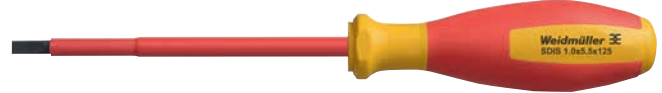
Type	Kabellänge	Order No.
CP DC UPS TF25	2.5 m	1444540000
CP DC UPS TF05	0.5 m	1444480000

Small screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 0.5X3.0X100		0.5	3	100	2749800000

Large screwdriver



Type	Size/AF	a	b	c	Order No.
SDIS 1.0X5.5X125		1	5.5	125	2749850000

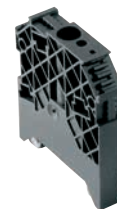
Markers



Type	Colour	Qty.	Order No.
SM 18/9.5 K MC NE WS	white	200	1248580000

End bracket

For DIN rail TS 35



Polyamide with fibre glass, screwable	Colour	Torque	Qty.	Order No.
WEW 35/1 SW	black	1.2 Nm	50	1162600000

DC/DC converters

DC/DC converters	Overview	D.2
	connectPower DC/DC converter	D.4

Stabilise control voltages in 24 V DC systems

Compact and powerful DC/DC converters for an everlasting supply

Maximum supply reliability and minimum downtimes indicate a good power supply system. However, the increasing complexity of supply solutions and the increased use of battery back-up systems can have a negative impact on the stability of the DC control voltage. Supply disruptions, e. g. voltage fluctuations as a result of different potentials or voltage drops as a result of long cables may occur as a result. These issues can often lead to cost-intensive production disruptions.

The DC/DC converter balances out voltage fluctuations, such as those arising as a result of unregulated voltage supplies. Voltage drops at the end of long cables are also balanced out. With protection class III for floating systems and galvanic isolation, the DC/DC converters are particularly well-suited for use with independent supply systems.

As well as having above-average performance characteristics, the DC/DC converter also stands out thanks to its slim design, ease of servicing and high degree of efficiency of up to 94 %. It also has a wide range of safety functions and can be combined with PROtop, PROeco or PROmax power supplies. It is also possible to combine UPS components, diode and redundancy modules with the DC/DC converter in order to establish a redundant power supply. All of these features make the DC converter a real all-rounder when it comes to 24 V DC supply voltages.

Your special advantages:

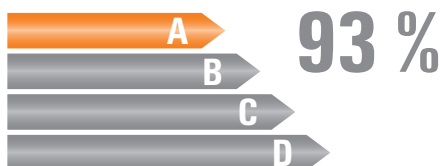
- Reliable and powerful
- The long-lasting Power Boost of up to 120 % and high peak currents of up to 600 % of the rated current for 16 ms guarantee reliable starting and safe operation even within limit ranges.



In floating voltage systems, e. g. with emergency power battery systems in marine engineering, the control voltage needs to be galvanically isolated from the battery voltage

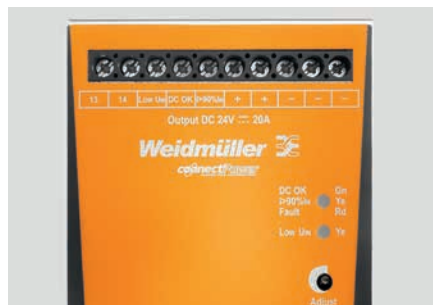
Extremely compact and energy-efficient

The compact design saves up to 30 % space in the control cabinet. The high degree of efficiency of up to 93 % ensures low energy costs.



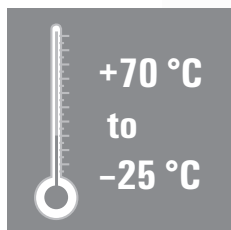
Quick status diagnostics and maintenance

The preventative function monitoring via LED display, the status relay and transistor outputs make it easier to carry out status and error analyses during commissioning and operation.



Robust and reliable

Weidmüller DC/DC converters function reliably over a large temperature range of between -25 °C and +70 °C (start-up: -40 °C), and with a high MTBF value of over 1,000,000 hours.



All-purpose usage

Variants with 5 A, 10 A and 20 A and international approvals (e. g. cULus, Class I, Div. 2, ATEX, GL, DNV) allow for global use in a range of different applications.



ConnectPower DC/DC converter

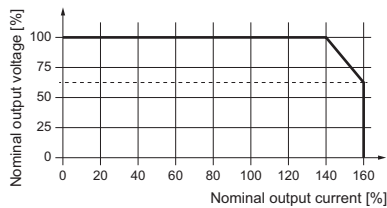
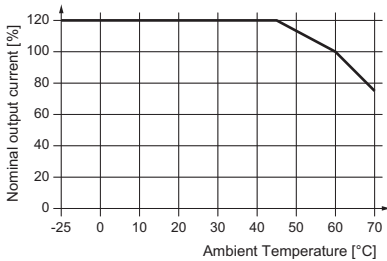


Derating curve

Event	LED (Gr/Ye/Rd)	LED (Ye)	Transistor status outputs			Status relay
			DC OK	$i > 90\% I_N$	$low u_N$	
$U_{in} < 14 V$	OFF	ON	Low	Low	Low	OFF
$U_N = 14...19.2 V$ *)	$I < 90\% I_N$	Gr	ON	High	Low	ON
	$I > 90\% I_N$	Ye	ON	High	High	ON
$U_N > 19.2 V$	$U < 20.4 V$	Rd	ON	Low	Low	OFF
	$I < 90\% I_N$	Gr	OFF	High	Low	High
$U_N > 19.2 V$	$I > 90\% I_N$	Ye	OFF	High	High	High
	$U < 20.4 V$	Rd	OFF	Low	Low	High

Gr = grün / green / verde / verde / verde / verde / 绿色
 Ye = gelb / yellow / jaune / giallo / amarillo / amarillo / 黄色
 Rd = rot / red / rouge / rosso / rojo / vermelho / 红色
 *) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



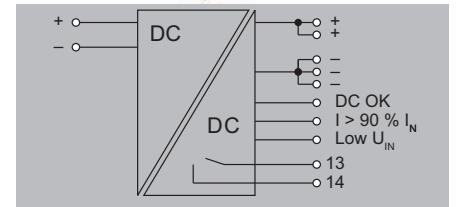
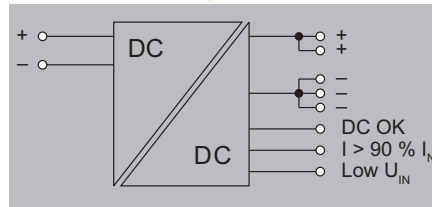
Technical data

General data	
Current limiting	150% I_{out}
Insulation voltage input / earth	1.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	1.5 kV
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III, with no ground connection, for SELV / 2
MTBF	1250000
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance
EMC / shock / vibration	
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field)
Shock	30 g in all directions
Resistance to vibration	2.3 g (15 Hz..150 Hz)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

ConnectPower DC/DC converter

PRO DCDC 120W 24V 5A

PRO DCDC 240W 24V 10A



Technical data

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	Max. 10 A / Yes
Recommended back-up fuse	10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker

Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C
Output power	120 W
Ramp-up time	≤ 9 ms (U _{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U _{Nominal}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes

General data	
AC failure bridging time @ I _{load}	> 10 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	≥ -40 °C
Current limiting	150% I _{load}
Power loss idling / nominal load	2 W / 11 W
Degree of efficiency	Typ.: 92 %

Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof

Floating contact	/
Relay on/off / Contact load	/

Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data	
Connection system	Screw connection: pluggable
Number of terminals	2 for (+, -) 8 (+ / - / signal)
Wire cross-section, rigid min/max	0.2 / 4 0.2 / 2.5
Wire cross-section, flexible min/max	0.2 / 4 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max	30 / 12 24 / 14

Note	

Ordering data

Type	Qty.	Order No.
PRO DCDC 120W 24V 5A	1	200180000

Note	

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	Max. 10 A / Yes
Recommended back-up fuse	10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker

Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C
Output power	120 W
Ramp-up time	≤ 9 ms (U _{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U _{Nominal}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes

General data	
AC failure bridging time @ I _{load}	> 10 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	≥ -40 °C
Current limiting	150% I _{load}
Power loss idling / nominal load	2 W / 11 W
Degree of efficiency	Typ.: 92 %

Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof

Floating contact	/
Relay on/off / Contact load	/

Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data	
Connection system	Screw connection: pluggable
Number of terminals	2 for (+, -) 8 (+ / - / signal)
Wire cross-section, rigid min/max	0.2 / 4 0.2 / 2.5
Wire cross-section, flexible min/max	0.2 / 4 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max	30 / 12 24 / 14

Note	

Type	Qty.	Order No.
PRO DCDC 120W 24V 5A	1	200180000

Note	

Input	
Rated input voltage	24 V DC
DC input voltage range	14...32 V (during operation), 18...32 V (commissioning)
Input fuse (internal)	Yes
Inrush current / Inrush Current Limitation	max. 15 A / Yes
Recommended back-up fuse	25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker

Output	
Rated output voltage	24 V DC ± 1 %
Output voltage	22.5...29.5 V (adjustable via potentiometer on front)
Continuous output current @ U _{Nominal}	10 A @ 40 °C, 12 A @ 45°C, 7,5 A @ 70°C
Output power	240 W
Ramp-up time	≤ 9 ms (U _{out} : 10%...90%)
Capacitive load	unrestricted
Parallel connection option	yes, max. 5 (without diode module)
Reserve capacity @ U _{Nominal}	600% IN for 16 ms
Residual ripple, breaking spikes	max. 20 mVpp @ 24 VDC, IN
Protection against inverse voltage / Overload protection	Yes / Yes

General data	
AC failure bridging time @ I _{load}	> 12 ms @ 24 V DC
Protection against reverse voltages from the load	33...34 V DC
Start-up	≥ -40 °C
Current limiting	150% I _{load}
Power loss idling / nominal load	2 W / 22 W
Degree of efficiency	Typ.: 92 %

Signalling	
Transistor output, positive-switching	DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof

Floating contact	Yes
Relay on/off / Contact load	Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A

Approvals	
Approvals	ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data	
Connection system	Screw connection: pluggable
Number of terminals	2 for (+, -) 10 (+ / - / signal)
Wire cross-section, rigid min/max	0.08 / 4 0.2 / 2.5
Wire cross-section, flexible min/max	0.08 / 4 0.2 / 2.5
Wire cross-section, AWG/kcmil min/max	30 / 12 24 / 14

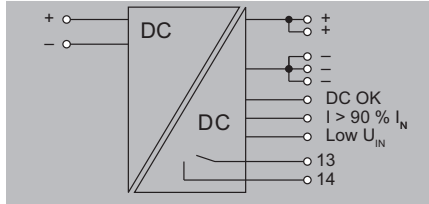
Note	

Type	Qty.	Order No.
PRO DCDC 240W 24V 10A	1	200181000

Note	

ConnectPower DC/DC converter

PRO DCDC 480W 24V 20A



Technical data

Input

Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse

24 V DC
14...32 V (during operation), 18...32 V (commissioning)
Yes
max. 30 A / Yes
40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker

Output

Rated output voltage
Output voltage
Continuous output current @ $U_{Nominal}$
Output power
Ramp-up time
Capacitive load
Parallel connection option
Reserve capacity @ $U_{Nominal}$
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection

24 V DC $\pm 1\%$
22.5...29.5 V (adjustable via potentiometer on front)
20 A @ 60 °C, 24 A @ 45 °C, 15 A @ 70 °C
480 W
 ≤ 9 ms (U_{out} : 10%...90%)
unrestricted
yes, max. 3
600% IN for 16 ms
max. 20 mVpp @ 24 VDC, IN
Yes / Yes

General data

AC failure bridging time @ I_{load}
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency

> 10 ms @ 24 V DC
33...34 V DC
 ≥ -40 °C
150% I_{load}
3 W / 40 W
typ. > 93%

Signalling

Transistor output, positive-switching

DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof

Floating contact
Relay on/off / Contact load

Yes
Output voltage > 21.6 V / < 20.4 V / max. 30 V DC / 0.5 A

Approvals

Approvals

ABS; BURVER; cULus; cULusEX; DNVGL; LLOYDSREG; RINA

Connection data

Connection system
Number of terminals
Wire cross-section, rigid min/max mm^2
Wire cross-section, flexible min/max mm^2
Wire cross-section, AWG/kcmil min/max

Input Output

Screw connection
2 for (+, -) 10 (+ / - / signal)
0.5 / 16 0.18 / 6
0.5 / 16 0.18 / 6
22 / 8 26 / 10

Note

Ordering data

Type	Qty.	Order No.
PRO DCDC 480W 24V 20A	1	2001820000

Note

Redundancy, diode and capacity modules

Redundancy, diode and capacity modules	Overview	E.2
	connectPower redundancy modules	E.4
	connectPower diode modules	E.6
	connectPower capacity module	E.7

Reliable protection of sensitive system components

Redundancy, diode and capacity modules

In many automation applications, power supply systems are required that function reliably even if a power supply unit fails. With our optimally coordinated supplementary modules, a permanent supply concept is created. Weidmüller's diodes and redundancy modules connect two power supplies to each other in order to compensate for the failure of one device. In addition, Weidmüller has a capacity module that has sufficient energy reserves to, for example, connect a miniature circuit breaker to the power supply. quickly and purposefully.

Diode modules

The diode modules allow with 20 A or 40 A output current to the construction of safe power supply systems.



Redundancy modules

Redundancy modules increase system availability is decisive. Each redundant branch is able to supply full output load. The 24-V control voltage remains stable in the event of a power supply failure. The use of MOSFETs in our redundancy modules allows for a optimum efficiency.

Capacity module

The capacity modules provide sufficient energy reserves ready, for example, to meet the demand for a motor start. and I'll cover for you. In addition, the reserve enables the selective circuit breaker tripping in the case of an Short-circuit.

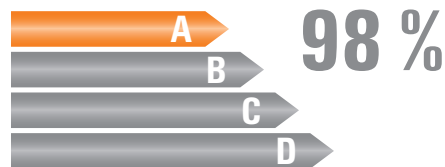


Redundancy module

- Up to 40 A per input
- Individually adjustable current warning for Overload directly at the device
- Suitable for EX areas

The space- and energy-saving system solution

- The compact design saves up to 30 % space in the switch cabinet
- The high degree of efficiency of up to 98 % ensures for low energy costs



Capacity module

- Integrated alarm relay for monitoring the input voltage
- Optical status monitoring by red/green LEDs
- Remote messages via potential-free contact

Diode module

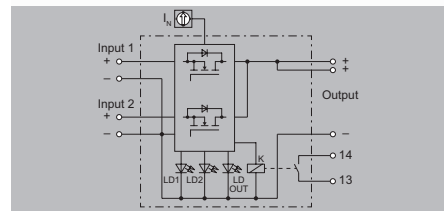
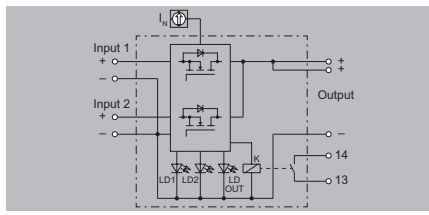
- Ideal for setting up trouble-free systems
- In versions with 20 or 40 A output current obtainable
- Also suitable for small systems

connectPower redundancy modules

connectPower redundancy modules

PRO RM 10

PRO RM 20



Technical data

Input
DC input voltage range
Input current
Output
Rated output voltage
Continuous output current @ $U_{Nominal}$
General data
Ambient temperature (operational)
Storage temperature
Derating
Degree of efficiency
Mounting position, installation notice
Depth x width x height / Net weight
Approvals

10 ... 32 V DC
2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)
$V_{INPUT-typ.}$ 0.13 V
1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60°C / 75% @ 70°C
> 98%
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 30 / 130 mm / 497 g
cULus; DNVGL; EAC

10 ... 32 V DC
2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
$V_{INPUT-typ.}$ 0.2 V
1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60°C / 75% @ 70°C
> 98%
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 38 / 130 mm / 558 g
cULus; DNVGL; EAC

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
PUSH IN	PUSH IN
4 (+,+, -,-)	2 (+ / -)
0.2 / 2.5	0.2 / 10
0.2 / 2.5	0.2 / 6
26 / 12	24 / 8

Input	Output
PUSH IN	PUSH IN
4 (+,+, -,-)	2 (+ / -)
0.2 / 10	0.75 / 16
0.2 / 6	0.75 / 16
24 / 8	20 / 4

Ordering data

Screw connection

Type	Qty.	Order No.
PRO RM 10	1	2486090000

Type	Qty.	Order No.
PRO RM 20	1	2486100000

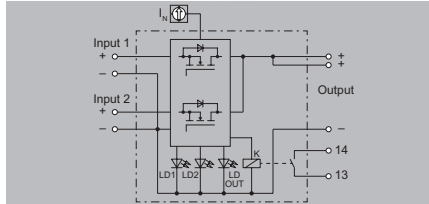
Note

Note

Note

connectPower redundancy modules

PRO RM 40



Technical data

Input	
DC input voltage range	10 ... 32 V DC
Input current	2 × 48 A (-40 °C ~ +45 °C), 2 × 40 A (+45 °C ~ +60 °C), 2 × 30 A (+70 °C)
Output	
Rated output voltage	V_{NOUT} -typ. 0.27 V
Continuous output current @ $U_{Nnominal}$	1 × 96 A (-40 °C ~ +45 °C), 1 × 80 A (+45 °C ~ +60 °C), 1 × 60 A (+70 °C)
General data	
Ambient temperature (operational)	-40 °C...70 °C
Storage temperature	-40 °C...85 °C
Derating	> 60 °C / 75% @ 70 °C
Degree of efficiency	> 98%
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
Depth x width x height / Net weight	125 / 52 / 130 mm /
Approvals	cULus; DNVGL; EAC

Connection data		Input	Output
Connection system		Screw connection	Screw connection
Number of terminals		4 (+, +, -, -)	2 (+ / -)
Wire cross-section, rigid min/max	mm ²	0.2 / 16	0.5 / 16
Wire cross-section, flexible min/max	mm ²	0.5 / 16	0.5 / 35
Wire cross-section, AWG/kcmil min/max		22 / 6	20 / 1
Note			

Ordering data

Type	Qty.	Order No.
PRO RM 40	1	2486110000

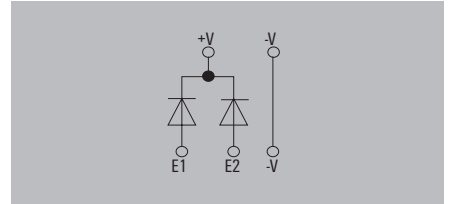
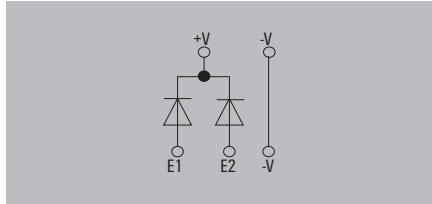
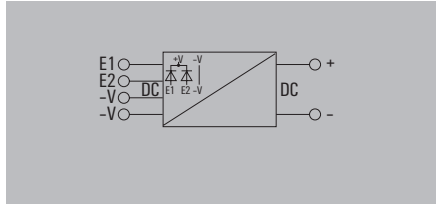
Note
Screw connection

connectPower diode module

connectPower diode modules

PRO DM 10

PRO DM 20



Technical data

Input
DC input voltage range
Input current
Output
Rated output voltage
Continuous output current @ $U_{Nominal}$
General data
Ambient temperature (operational)
Storage temperature
Derating
Degree of efficiency
Mounting position, installation notice
Depth x width x height / Net weight
Approvals

0...60 V DC
2 × 12 A (-40 °C ~ +45 °C), 2 × 10 A (+45 °C ~ +60 °C), 2 × 7.5 A (+70 °C)
$V_{INPUT-typ. 0.7 V}$
1 × 24 A (-40 °C ~ +45 °C), 1 × 20 A (+45 °C ~ +60 °C), 1 × 15 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60 °C / 75% load @ 70 °C
> 97% @ 24 V Input voltage
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 32 / 125 mm / 502 g
cULus

0...60 V DC
2 × 24 A (-40 °C ~ +45 °C), 2 × 20 A (+45 °C ~ +60 °C), 2 × 15 A (+70 °C)
$V_{INPUT-typ. 0.7 V}$
1 × 48 A (-40 °C ~ +45 °C), 1 × 40 A (+45 °C ~ +60 °C), 1 × 30 A (+70 °C)
-40 °C...70 °C
-40 °C...85 °C
> 60 °C / 75% load @ 70 °C
> 97% @ 24 V Input voltage
Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
125 / 32 / 125 mm / 568 g
cULus

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
4 (1+, 2+, 1-, 2-)	4 (++, --)
0.18 / 6	0.18 / 6
0.22 / 4	0.22 / 6
26 / 10	26 / 10

Input	Output
Screw connection	Screw connection
4 (1+, 2+, 1-, 2-)	4 (++, --)
0.18 / 6	0.5 / 16
0.22 / 4	0.5 / 16
26 / 10	22 / 8

Ordering data

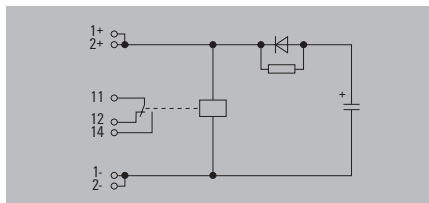
Screw connection
Note

Type	Qty.	Order No.
PRO DM 10	1	2486070000

Type	Qty.	Order No.
PRO DM 20	1	2486080000

connectPower capacity modules

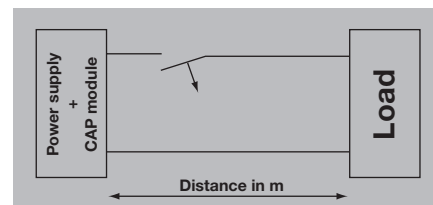
CP M CAP



Pulse triggering for circuit breakers: with the Weidmüller capacitance module

The following conditions apply to the table entries:

- Ambient temperature of 20 °C
- Inner resistance of the circuit breakers is taken into account
- Half of the rated current flows to a neighbouring circuit before the short circuit is formed
- DC-compatible circuit breakers: Siemens 5SY series



Technical data

Input	
Rated input voltage / DC input voltage range	24 V DC / 18...30 V DC
Output	
Peak current output / Recovery time for the capacitor	load dependent (typ. 40 A for 1 ms) / Approx. 1 sec.
Switching thresholds	21.6 V DC, relay is on for Power Good, 20.4 V DC, relay is off for Power Fail
Floating contact	Yes
General data	
Depth x width x height / Net weight	/ 150 / 34 / 130 mm / 725 g
Ambient temperature (operational) / Storage temperature	-25 °C...70 °C/40 °C...85 °C
Humidity	5...95 %, no condensation
Protection degree	IP20
Protection class	III, with no ground connection, for SELV
Pollution degree	2
Insulation voltage	0.5 kV <small>Input / output - Box</small>
MTBF	> 500,000 h in accordance with IEC 61709 (SN29500)
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between.
EMC / shock / vibration	
Noise emission in accordance with EN55032	Class B
Interference immunity test acc. to	EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) EN 61000-4-11 (dips)
Resistance to vibration / Shock	1 g according to EN 50178 / 15 g in all directions
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
For use with electronic equipment	Acc. to EN50178 / VDE0160
Approvals	
Approvals	CE; cULus; DNVGL; EAC

Fuse tripping

Conductor cross section	B6	B10
0.75 mm ²	10 m	
1.0 mm ²	14 m	6 m
1.5 mm ²	20 m	9 m
2.5 mm ²	30 m	15 m
4 mm ²	50 m	24 m
6 mm ²		
B16		
0.75 mm ²		
1.0 mm ²		
1.5 mm ²	4 m	
2.5 mm ²	6 m	
4 mm ²	10 m	
6 mm ²	16 m	
C2 C4		
0.75 mm ²	11 m	6 m
1.0 mm ²	14 m	8 m
1.5 mm ²	21 m	12 m
2.5 mm ²	34 m	19 m
4 mm ²		32 m
6 mm ²		
C6 C10		
0.75 mm ²	3 m	
1.0 mm ²	3.5 m	2 m
1.5 mm ²	5.5 m	3 m
2.5 mm ²	9 m	5 m
4 mm ²	14 m	8 m
6 mm ²		12 m

Connection data

Wire connection method	
Number of terminals	
Wire cross-section, rigid min/max	mm ²
Wire cross-section, flexible min/max	mm ²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
Number of terminals	3 (CO contacts)
Wire cross-section, rigid min/max	0.5 / 6
Wire cross-section, flexible min/max	0.5 / 2.5
Wire cross-section, AWG/kcmil min/max	26 / 12
Note	For low-impedance connections we recommend 2.5 mm ² .

Ordering data

	Plastic clip-in foot
	Metal clip-in foot
Note	

Type	Qty.	Order No.
CP M CAP	1	1222240000
CP M CAP	1	1222240010



Communication modules

Communication modules	Overview	F.2
	CANopen	F.4
	IO-Link	F.5

Exploiting the potential of industry 4.0

Communication modules for continuous networking of your components

The communication capability of machines, plant components and IT systems is a basic prerequisite for exploiting the potential of industry 4.0 and increasing the future security of plants.

Weidmüller's plug-in communication modules enable individual components to exchange relevant data with the cloud. This lays the foundation for targeted process optimization using condition monitoring and remote controllability - factors that play a decisive role in increasing efficiency, quality, process stability and availability can contribute.

The communication modules are designed according to IP20 protected, can be operated without tools and can be flexibly adapted to different customisable communication protocols.



ProCom CANopen

ProCom CANopen connects the device-internal interface of a Weidmüller basic unit (e.g. PROtop) with the CAN bus system of a plant control system.

The CANopen fieldbus protocol is used for this purpose. The communication module is equipped with two RJ45-sockets (CAN 1-1 and 1-2) and is connected via the Basic unit supplied with power.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states



F



ProCom IO-Link

ProCom IO-Link connects the device-internal interface of a Weidmüller basic device (e.g. PROtop or topGUARD) to the communication system of a plant control system using the IO-Link communication protocol. The communication module has a three-pole connection socket for the communication cable and is supplied with power via IO-Link Master.

Range of functions:

- Read out device data and identification
- Read out process data and process alarms
- Reading event and status data
- Configuring the Base Device
- Specify operating modes and setpoints
- Display operating states

CANopen

PRO COM CANopen

PRO COM CAN OPEN



Technical data

System data

Connection type
Field bus protocol
Module type
Interface

2 x RJ45 plug-in connectors
CANopen
plug-on module
PROtop interconnection interface

General data

Ambient temperature (operational)
Protection degree
Weight
Depth x width x height

-25 °C...70 °C
IP20
36 g
33.6 / 35 / 74.4 mm

Approvals

Approvals

ABS; BURVER; DNVGL; LLOYDSREG; RINA

Note



Ordering data

Type	Qty.	Order No.
PRO COM CAN OPEN	1	2467320000

Note



PRO COM IO-LINK

PRO COM IO-LINK



Technical data

System data

Connection type
 IO link standard
 Compatible IO-Link Master
 Module type
 Interface

IO-Link
 IEC 61131-9
 Beckhoff, GE, Rockwell, Siemens, Weidmüller
 plug-on module
 topGUARD interconnection interface, PROtop interconnection interface

General data

Ambient temperature (operational)
 Protection degree
 Weight
 Depth x width x height

-25 °C...70 °C
 IP20
 29 g
 33.6 / 35 / 74.4 mm

Approvals

Approvals

cULus

Note



Ordering data



Type	Qty.	Order No.
PRO COM IO-LINK	1	2587360000

Note



Service and support

Service and support	Our expertise for your requirements	V.2
	Engineering support and customised assembly	V.3
	Personal Support	V.4

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support can answer any questions reliably and expertly. Our online services are available 365 day a year around the clock to provide answers to your questions on our products – from user documentation through software to planning tools.

In short: Weidmüller's global service combines our expertise with your requirements.



Your way to our service
www.weidmueller.com/service

Engineering support and customised assembly

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Alongside our product offering, we support you with our range of services through all the phases of machine construction. The result of this collaboration is a reduction of up to 30% in cycle times, up to 20% more space in the control cabinet and significant fault reduction. Our experienced Connectivity Consulting team delivers a practical impetus rather than just abstract theories.



Fitted mounting rails

Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.



Processed and assembled enclosures

To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.

Personal support

Exactly the right help and information on our solutions and products



If our products are used in your automation technology applications, you need the best possible individual support, from planning through installation to operation. For every stage of your application, we can offer the right tools and information for our products and solutions. Up-to-date, uncomplicated, comprehensive and around the clock via our service portal at www.weidmueller.com/support.

V



Your way to your local personal support
www.weidmueller.com/support



Technical downloads

All information, such as technical data, manuals, certificates and much more for the appropriate use of our products and solutions in your application.



Engineering data

For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.



Product software

Our software makes using and configuration of our products easier for you when it comes to operation, configuration and monitoring.



Approvals, certificates & declaration of conformity

We supply product- or company-related approvals and certificates for your documentation.



Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.

Glossary/Technical appendix

Glossary/Technical appendix	Power Supplies - Overview	W.2
	Standards and approvals	W.4
	Glossary	W.6

Power Supplies – Overview

Power supplies are important links in the energy supply chain of automation systems. Unregulated power supplies or regulated switched-mode power supplies are at the heart of every electrical cabinet. 24 V DC has emerged as the standard control voltage for the supply of electrical sub-assemblies and systems. But other control voltages are also required. The correct power supply is a critical factor for the reliable operation of the supplied components. Thus it must be chosen with particular attention.

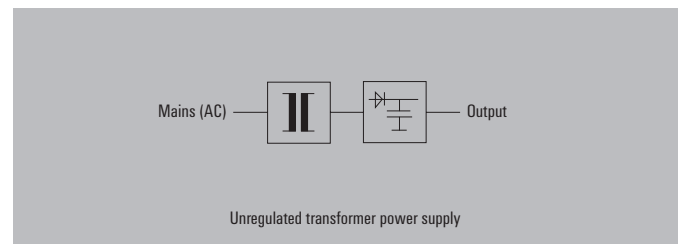
Regulated power supplies from Weidmüller have proven themselves reliable over many years in the supply of electrical sub-assemblies and systems. They perform reliably and safely – even under harsh industrial conditions – in all sectors of machine construction, industrial automation, and the power and process industries.

Weidmüller offers custom-fit solutions for practically all of your requirements:

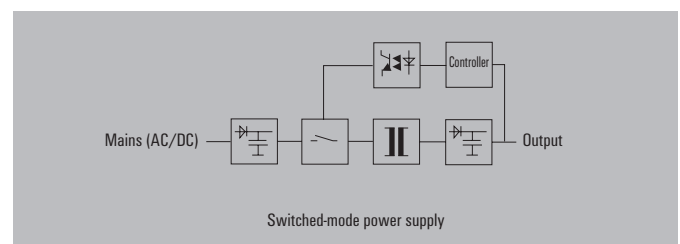
- Switch-mode power supplies
- DC/DC converters
- Diode and redundancy modules
- UPS control modules
- Electronic load monitoring

How they work

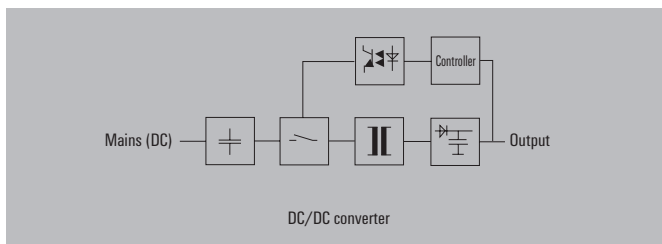
Unregulated power supply units consist of a mains power transformer that transforms the input voltage into a different AC voltage. The units then make use of a rectifier and a filter circuit to smooth out the DC output voltage.



Regulated power supply units in the range up to 1,000 W are usually designed as primary switched-mode power units. The mains AC voltage is then rectified and transformed in high frequency to the secondary side using switching transistors and power transformers. This is followed by the rectifier and filter circuit in order to generate the DC output voltage. A control circuit compares the current and voltage on the output side to the specified target values and then generates a control signal for the switching transistors. This permits compensation for load changes and mains voltage fluctuations. As a result, the output voltage remains stable. These power supply units are increasingly being operated with DC input voltages (e.g. the Weidmüller PROtop, PROeco, PROmax, etc.).



A DC/DC converter is a variation of the classic switched mode power supply. The switching strategy is similar but there is no input rectifier. Starting with a specified DC input voltage, DC/DC converters generate a different DC voltage at a similar or different level. They are used to adapt different voltage levels and also for isolating potentials.



In use around the globe

Weidmüller's power supply units have been designed for use around the world. They can be used in practically all applications throughout the world because of their CE label and many other national and international approvals. Their wide input voltage ranges and compatibility with various mains power connections increases their global appeal.

Temperature range

During operation, power supply units generate power losses. In Weidmüller's switched-mode power supplies, the resulting heat is dispersed using natural air currents only. The design, which does not make use of a ventilation fan, is an example of our uncompromised durability standard. Weidmüller's power supply units, depending on the model, can be used in temperatures ranging from -40 °C to +70 °C.

Compact and efficient design

Weidmüller's switched-mode power supplies are extra small because they take advantage of the above-average degree of efficiency offered by the latest technologies. The power supplies from Weidmüller – whether they are book-shaped with minimised base surface, or variants with reduced height for use in distributor boxes – always provide the proper cost-saving solution.

Standards and approvals

Standard/Approval	Description
DIN EN 50178 (VDE 0160)	Electronic equipment for use in power installations
DIN EN 60950-1 (VDE 0805-1)	IT Equipment – Safety – Part 1: General requirements
DIN EN 61558-1 (VDE 0570-1)	Safety of transformers, power supply units, throttles and similar devices Part 1: General requirements and tests
DIN EN 61558-2-17 (VDE 0570 Part 2-17)	Safety of transformers, power supply units and similar devices Part 2-17: Special requirements for switch-mode power supply transformers
DIN EN 60204-1 (VDE 0113-1)	Safety of machinery – Electrical equipment of machinery – Part 1: General requirements
DIN VDE 0100-410	Construction of power installations with rated voltages up to 1,000 V Part 4: Protective measures Chapter 41: Protection against electrical shock
DIN EN 61204-1	Power supply units for low voltages, with direct-current-output – properties
DIN EN 60947-1	Low-voltage switching devices – Part 1: General definitions
DIN EN 61140	Protection against electrical shock - common requirements for facilities and operating equipment
IEC 38	Supplementary notes relating to status of international standards and European harmonisation of mains voltages 230/400 V
73/23 EWG	Electrical equipment for use within specific voltage limits (Low Voltage Directive)
2004/108/EG (89/336 EWG)	Electromagnetic compatibility (EMC Directive)
2006/42/EG (98/37 EG)	Safety of machines (directive covering mechanical equipment)
UL	Safety approval for the United States market
CSA	Safety approval for the Canadian market
GL	Test specifications for electrical/electronic devices and systems for use in marine technology
UL1310	Class 2 power supplies (limited energy)
UL1604	Electrical equipment for use in dangerous surroundings

Standard/Approval	Description
SEMI F47	Resistance of electronic devices against voltage drops
2006/95/EG (72/23/EWG)	Low Voltage Directive
EN 60721-3-2	Classification of surrounding conditions
EN 60664-1 (VDE0110-1)	Insulation coordination for electrical equipment
C22.2 No. 107.1	General standards for power supplies (Canadian standard)
EN 61000-3-2	Limiting of mains voltage harmonic currents
EN 61000-4-x	Interference immunity tests

Glossary

A

AC/DC converter	Conventional switched-mode power supplies generate a DC voltage from an AC voltage. For this reason they are sometimes also called AC/DC converters. Such devices are increasingly compatible for use with DC input voltages. The primary and secondary sides are typically electrically isolated.
Ambient temperature (operational)	The ambient operating temperature (the min. and max. values) together with the output current and voltage ratings can be used to describe the power capabilities of a power supply unit.

B

Burst	A burst is a quick low-power burst pulse which can, for example, simulate welding equipment phenomena. Similar phenomena can also result from switching operations on the mains supply. This test can be used to demonstrate immunity against quick transients.
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C

Class of protection	Electrical equipment is classified according to varying classes of protection. These classes define the particular safety measures that are required to avoid an electrical shock. The most widely used power supplies correspond with protection class I. The basic requirement of protection class I is for a basic insulation and for the earthing of all conductive housing parts. If the basic insulation fails, then the earthed conductive housing serves to prevent an electrical shock. For this reason, devices in protection class I are equipped with an earth (PE) connection.
Connecting power supply units in parallel	Power supplies can only be connected in parallel when this is clearly permitted by the manufacturer. Parallel connections are then normally tied to certain conditions. This is a typical way to increase the output power (for example, when extending a facility). Power supplies are also wired in parallel in order to design in redundant power supply systems. The parallel circuit is not wired straight though but connects using decoupling diodes. → Redundancy
Cooling	Cooling is used by components or devices to prevent them from overheating. A variety of cooling strategies are available – two of the most common are natural and forced-air cooling. Natural (convection-based) cooling takes advantage of the natural air currents. Manufacturers must then ensure that there is sufficient air flow by specifying the clearance gaps and mounting positions that are required above and below the ventilation openings. Forced-air cooling normally uses a fan to dissipate any heat that has been generated. When fans are used in a device, they have the effect of increasing the likelihood of device outages. For this reason, a power supply with natural cooling methods is generally preferred.

D

DC/DC converter	DC/DC converters are switched-mode power supplies that convert a specific DC voltage into another voltage. They are a variant of the AC/DC converter. DC/DC converters, in their simplest implementation, do not isolate voltage potentials. They are used only for adapting voltages. Improved DC/DC converters have isolated voltages. A safety isolating transformer in the power element ensures the required electrical isolation. Besides the voltage adaptation, the isolation of the voltage potentials is an important factor.																																
Derating	<p>For power supply devices, derating generally refers to the reduction in power as influenced by the surrounding temperature and the input voltage. A temperature derating often occurs starting at a surrounding temperature of 50 °C. The rated power is guaranteed up to this temperature. The available power continually declines as the temperature heats up above this level. This is typically specified in %/K. A voltage-dependent specification is another form of derating. For switched-mode power supplies, the derating begins below a specific input voltage. So a switched-mode power supply with a wide input range can typically work under full power with 115 V AC input voltage. However at 85 V AC it can only produce 60 % of the power rating. The coefficient is usually specified in %/V.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="624 1115 978 1361"> <p style="text-align: center;">Temperature derating</p> <table border="1"> <caption>Temperature derating data</caption> <thead> <tr> <th>Temperature [°C]</th> <th>Max. current [%IN]</th> </tr> </thead> <tbody> <tr><td>40</td><td>100</td></tr> <tr><td>50</td><td>100</td></tr> <tr><td>60</td><td>100</td></tr> <tr><td>70</td><td>80</td></tr> </tbody> </table> </div> <div data-bbox="1066 1115 1434 1361"> <p style="text-align: center;">Voltage derating</p> <table border="1"> <caption>Voltage derating data</caption> <thead> <tr> <th>Main voltage [V]</th> <th>Max. current [%IN]</th> </tr> </thead> <tbody> <tr><td>85</td><td>60</td></tr> <tr><td>115</td><td>100</td></tr> <tr><td>130</td><td>100</td></tr> <tr><td>150</td><td>100</td></tr> <tr><td>170</td><td>100</td></tr> <tr><td>190</td><td>100</td></tr> <tr><td>210</td><td>100</td></tr> <tr><td>230</td><td>100</td></tr> <tr><td>250</td><td>100</td></tr> <tr><td>270</td><td>100</td></tr> </tbody> </table> </div> </div>	Temperature [°C]	Max. current [%IN]	40	100	50	100	60	100	70	80	Main voltage [V]	Max. current [%IN]	85	60	115	100	130	100	150	100	170	100	190	100	210	100	230	100	250	100	270	100
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210	100																																
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Diode modules	Diode modules are used to construct a redundant power supply system. They are important for decoupling the power supply unit. Thus, a short circuit that occurs on the output of a power supply unit will not influence the output voltage.																																

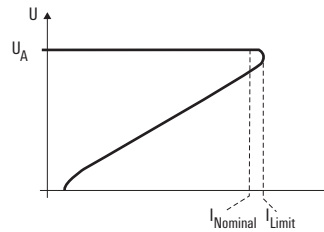
E

Efficiency	The degree of efficiency is equal to the ratio of output power to input power and is expressed in percent. The degree of efficiency can be between 70 and 90 %, depending on the dimensions and type of technology in use.
EMC (electromagnetic compatibility)	Electromagnetic compatibility describes the interference emissions caused by an electronic device and the level of immunity against external electrical influences. Interference emissions can be caused by cabling and wires or by radiated emissions. Immunity measures the resistance against such wire-based emissions and against radiated emissions such as electrostatic fields and magnetic fields. Electric devices must also be protected against electrostatic discharges.

F

Foldback characteristic curve

The foldback characteristic curve is a special type of output curve that protects the power supply unit from overloads. When a specific current limit is exceeded (for example, by 110 or 120 % of the nominal level), the current is limited electronically and lowered to a very low, safe value. This downward-sloping characteristic curve means that it is not sufficient to simply eliminate the overload. The load must be reduced significantly more so that the adjustment control can return to the normal voltage control. Thus this solution is not suitable for many applications and is becoming less popular.



G

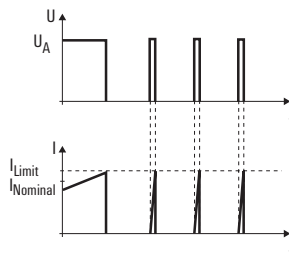
Galvanic isolation

Galvanic (electrical) isolation ensures that no electrical connections can exist between the primary and the secondary sides. Opto modules and transformers are the typical components used.

H

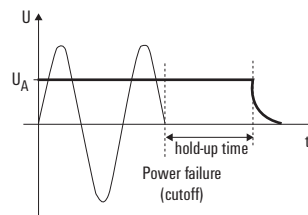
Hiccup mode

The hiccup mode is a special output characteristic curve that protects power supply units from overloads and short circuits. The unit switches off at a specified current limit (for example, 110 or 120 % on the nominal rating) and then switches back on after a certain delay. This leads to a pulsating mode of operations which can only revert to continual operations after the overload has been eliminated. The main disadvantage here is that the connected consumer load must be restarted after every pause. A restart may not be possible with motors or large capacitive loads since the restart current peak may once again exceed the defined limit.



**Hold-up time
(mains-failure bridging time)**

The hold-up time (also known as the mains-failure bridging time) is the interval from the start of the mains outage to the point in time when the output voltage can no longer be maintained at its original level. The hold-up time indicates how long a mains outage may last before it influences the output voltage. For DC power supplies, EN 61204 requires a bridging time of at least 20 ms.



Input voltage range

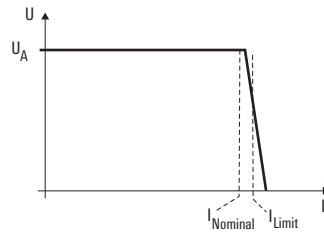
This refers to the minimum and maximum input voltage at which the rated output specifications can be maintained.

Inrush current

The inrush current refers to the peak current that occurs when turning on a consumer load. Switched-mode power supplies have storage capacitors in the input which can cause significant current peaks while the mains power is being switched on. A variety of circuitry solutions can be used to attenuate these current peaks. In the simplest solution, an inrush limiter is used. Active switching can be used in other cases. The peak current specification indicates which upstream fuse should be used in the circuit. If a fuse is selected which is too sensitive, it can trigger when the mains power is switched on.

IU characteristic curve

The IU characteristic curve is a special output characteristic curve that protects power supply units from overloads and short circuits. It offers the best performance with regards to overload and short circuit capabilities. A current limit is activated at a specific current level (for example, 110 or 120 % on the nominal rating). As the load continues to increase, the output voltage is reduced according to the current limit curve until it reaches a level approaching zero volts. Thus a pulsating mode of operations is avoided for short-term overloads. Large capacitive loads or motors are brought back up along the slope of the current-limit characteristic curve. After a short circuit or overload is fixed, the IU characteristic curve offers the advantage of immediately returning to the normal voltage control mechanism. The full output voltage is then immediately available. The IU characteristic curve is becoming the established standard for modern power supplies. Additional variants are available which pertain to the peak current capacity and the slope of the current-limit characteristic curve.



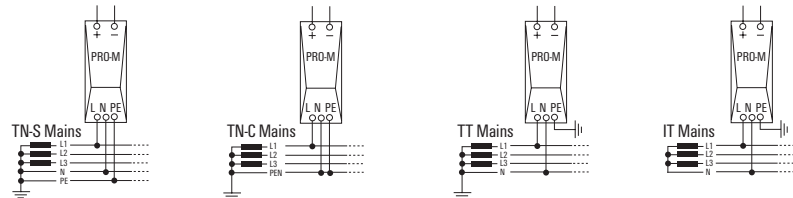
M

Mains harmonics

Power supplies can experience harmonics caused by mains rectification on the input side. These harmonics are multiples of the mains frequencies. Existing standards define specific limit values since such harmonics can significantly lower the mains quality.

Mains system types

This refers to the types of mains supply systems. Systems differ in their method of earthing and the implementation of the phase wire, PE wire and central-point wire. Common mains systems include the TN, IT and TT networks. The individual mains types can also differ in their voltage levels and frequencies.



MTBF (mean time between failure)

The MTBF is a statistical value that specifies the probability that a product will fail. It is typically specified in hours and normally assumes a temperature of 25 °C. The probability of failure depends largely on the ambient surroundings. The key variables are the type of load and the ambient temperature.

W

O

Output characteristic curves	<p>The output characteristic curves of power supply devices are determined by current and voltage. Unregulated devices do not have a current limit. In the case of an overload or short circuit, fuses or temperature switches are used to protect the device. Regulated devices are protected against overload and short circuits by means of various output characteristic curves. In this case, the system attempts to prevent any activation of fuses or temperature switches.</p> <p>The mandatory manual reset which follows an overload or short circuit can then be avoided. Common output characteristic curves include the hiccup mode, the foldback characteristic curve or the IU characteristic curve.</p> <p>→ Hiccup mode, foldback characteristic curve, IU characteristic curve</p>
Overvoltage category	<p>Power supply units are classified into overvoltage categories according to the immunity against mains surges and transient voltages.</p>

P

PELV (protective extra-low voltage)	<p>This is a functional DC voltage with secure isolation according to EN 50178. As with SELV, a reinforced or double insulation is used between the primary and secondary sides. However, the secondary side is earthed.</p>
PFC (power factor correction)	<p>The power factor correction can be either passive or active in relation to power supply devices. The reactive power resulting from the bridge rectification puts a significant strain on the power supply network. The relatively poor power efficiency factor that results can be improved by using passive components (such as filters) or an active electronic mechanism. For switched-mode power supplies, PFC usually refers to the active variant of the power factor correction. Power factors of almost 1 can be reached when using an active PFC. Practically no reactive power is drawn from the mains supply network; therefore the strain on the mains network is relatively low.</p>
Pollution severity	<p>Pollution severity describes the environment and ambient conditions that a device requires in order for it to function smoothly. Significant environmental variables include condensation or air containing dust and oil.</p>
Power-boost or boost	<p>The power-boost function is the surge current handling capacity in the seconds to minutes range. This function is often required for starting up DC motors. DC motors have a high start-up current and often require several seconds before they have achieved their rated rotational speed. The power-boost function helps to optimise this start-up phase.</p>
Power factor	<p>The power factor is the ratio of reactive power to apparent power. It is an indicator of the device performance with respect to the load on the mains power network. Depending on the technology in use, the power factor for power supplies can be between 0.45 and nearly 1.</p>

Power loss	For power supply units, the power loss specification indicates the thermal output emitted during nominal (rated) operations. This is a key specification used by engineers when designing the climate control systems within electrical cabinets. It is calculated as the difference between the input and output power and can also take the degree of efficiency into account.
Power rating	The continual output permitted under the rated conditions.
Power supply units connected in series	Power supplies can only be connected in series when this is clearly permitted by the manufacturer. Such series connections are then normally tied to certain conditions. They can be used to increase the output voltage. This is not widely implemented.
Protection degree	According to DIN EN 60529, devices can be classified according to their protection degrees. The numeric code (for example, IP 20) defines two protection degrees: protection against touch or penetration by external objects (the first digit) and protection against water penetration (the second digit). Switched-mode power supplies intended for use in electrical cabinets or similar enclosures are often designed with IP 20 protection. The first digit (in this case, 2) ensures finger protection. The second digit (0) indicates that no protection against water is provided.
Pulsed current capacity	The pulsed current capacity describes the dynamic performance of a switched-mode power supply. Capacitive consumer loads, with their high inrush currents, put a particular strain on a switched-mode power supply. Peak values are reached (in the ms range) which amount to levels many times higher than the mains current. If the current control mechanism reacts too quickly, this can lead to voltage drops and can cause problems for loads which are connected in parallel. For this reason, power supplies are often equipped with a surge current limiting factor based on time. This allows a high current output for only a few ms which can be much higher than the rated current.

R

Rated control voltage	The nominal value of the sparkover voltage for the relay.
Rated input voltage	The input voltage required at which, under the normal mains voltage fluctuations, the output levels can be kept stable. It usually corresponds to the rated voltage for the electric utility's power grid.
Rated output current	The long-term current permitted under the rated conditions.
Rated output voltage	The nominal output voltage used for the rated specifications. It usually corresponds to the factory default output voltage.

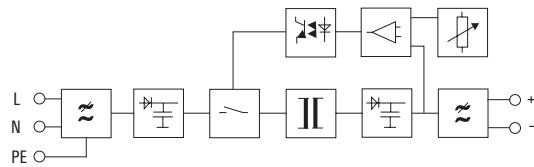
Redundancy	A power supply system is considered redundant if it is constructed so that it has partial power supplies which are independent of each other and each of these can individually deliver the output load. When a fault occurs, therefore, it is still possible to continue to supply the connected rated load. In reality, at least two power supplies are connected in parallel using decoupling diodes. In this way, a short circuit in the output of one power supply will not lead to the failure of the entire power supply system. → Diode modules
Regulated power supply units	Switched-mode power supplies, as opposed to more common power supply units, have become established as the standard for the 10–1,000 W power range. They produce a stable output voltage with minimal residual ripple, even when influenced by fluctuations in the mains voltage, mains frequency or load. Their small size and weight is a result of their superior efficiency degree. The electronic control mechanism typically ensures a constant output voltage that varies $\pm 1\%$.
Residual ripple	The residual ripple describes the ratio of superimposed AC voltage to DC voltage on the output side of the power supplies. In addition to a percent specification, the superimposed ripple is often specified in mV_{SS} for switched-mode power supplies.
Resistance to shock	Resistance to shock refers to mechanical immunity against impacts in any direction. This is a key factor while the product is being transported.
Response time	The response time is the time that a power supply unit needs to compensate for a disturbance (for example, a load fluctuation).

S

Switching frequency	Switched-mode power supplies are normally operated with switching frequencies from 20 to 200 kHz. The HF or power transformer is switched on and off using transistors at this switching frequency. Small, compact units can be built with this method in comparison with the traditional 50/60 Hz transformers.
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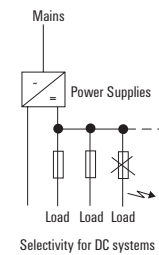
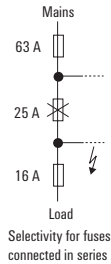
Switched-mode power supply units

The switching pulse can be either primary or secondary. Thus there are primary switched-mode and secondary switched-mode power supply units. Secondary switched-mode power supply units are no longer of much significance. The primary switched-mode power supplies are now the focus of attention. The pulse refers to the high-frequency on and off switching of the transformer or transmitter in order to transmit energy. The high frequency allows the use of extra small inductive and capacitive components, particularly for the transmitter. In comparison to transformer-based power supply units, the weight and volume required are much reduced.



Selectivity

When surge protection equipment is connected in series, selectivity refers to the ability of only one upstream fuse to trigger selectively in the event of an overload. The differentiation can take into account current or also time. With DC power supply systems, selectivity refers to the separate fusing of load circuits on the DC side. In this case as well, only the proper series fuse should trigger in the event of an overload. Fuses in DC circuits play a critical role since the power supplies must react to upcoming short circuits with a speedy cut-off or by limiting the current. Usually electronic fuses are used for this purpose.



SELV (safety extra low voltage)

SELV refers to extra-low safety voltages according to IEC/EN 60950. Reinforced or doubled insulation between the primary and secondary sides is used to prevent electric shock. The output voltage here is sufficiently low so that it does not pose an injury risk if a person comes into direct contact.

Surge

A surge is a high-power voltage pulse which can be caused by, for example, a lightning strike. The switching operations from large consumer loads can also generate such voltage surges on the mains network. The surge test is used to demonstrate the immunity against high-power voltage pulses.

T

Temperature range	The temperature range specifies the minimum and maximum ambient temperatures for which a device can start up and run continuously.
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U

Unregulated power supply units	Unregulated power supplies consist mainly of a transformer, a rectifier and an Elkos filter. Since no controlling system is in place, mains voltage fluctuations influence the DC voltage side. Unregulated power supply units are very sturdy; they can be used in applications where a stabilised DC voltage is not necessary (for example, power supply to contactors).
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V

Vibration resistance	Vibration resistance describes the resistance against constant mechanical vibrations that occur during operations. Rail and ship applications place stricter demands for vibration resistance on the device.
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W

Wide-range input	Modern switched-mode power supplies often feature a wide input range. They can be run under a wide range of voltages: from min. to max. rated voltages including the tolerance limits. They do not require any manual range switching.
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W

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AMG OD	2122910000	B.6
AMG OD	2122910000	B.7
AMG OD EX	2495090000	B.11
AMG OD EX	2495090000	B.31
AMG PD	2122920000	B.11
AMG PD	2122920000	B.14
AMG PD	2122920000	B.15
AMG PD	2122920000	B.16
AMG PD	2122920000	B.17
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AMG PD	2122920000	B.19
AMG PD	2122920000	B.22
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AMG PD	2122920000	B.5
AMG PD	2122920000	B.6
AMG PD EX	2495070000	B.11
AMG PD EX	2495070000	B.31
AMG PP	2123000000	B.11
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AMG XMD	2122940000	B.11
AMG XMD	2122940000	B.22
AMG XMD EX	2495080000	B.11
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CP A BATTERY 24V DC1.3AH	1406930000	C.6
CP A BATTERY 24V DC1.3AH	1406930000	C.7
CP A BATTERY 24V DC1.2AH	1251090000	VIII
CP A BATTERY 24V DC1.2AH	1251090000	VIII
CP A BATTERY 24V DC1.7AH	1251110000	C.7
CP A BATTERY 24V DC1.7AH	1251110000	VIII
CP A BATTERY 24V DC3.4AH	1251070000	C.6
CP A BATTERY 24V DC3.4AH	1251070000	VIII
CP A BATTERY 24V DC7.2AH	1251080000	C.7
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CP A WALLADAPTER 45MM	1461850000	A.62
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CP DC UPS 24V 20A/10A	1370050010	C.5
CP DC UPS 24V 20A/10A	1370050010	VIII
CP DC UPS 24V 40A	1370040010	C.5
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MTA 30 BK	1168970000	A.62
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MTA 30 MF	1251320000	A.51
MTA 30 MF	1251320000	A.62
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PRO DCDC 240W 24V 10A	2001810000	D.5
PRO DCDC 240W 24V 10A	2001810000	VIII
PRO DCDC 480W 24V 20A	2001820000	D.6
PRO DCDC 480W 24V 20A	2001820000	VIII
PRO DM 10	2486070000	E.6
PRO DM 10	2486070000	VIII
PRO DM 20	2486080000	E.6
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PRO ECO 240W 48V 5A	1469590000	A.59
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PRO ECO 480W 48V 10A	1469610000	A.59
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PRO ECO 72W 12V 6A	1469570000	A.58
PRO ECO 72W 12V 6A	1469570000	VII
PRO ECO 120W 12V 10A	1469580000	A.58
PRO ECO 120W 12V 10A	1469580000	VII
PRO ECO 120W 24V 5A	1469480000	A.55
PRO ECO 120W 24V 5A	1469480000	VII
PRO ECO 120W 24V 5A	1469490000	A.56
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PRO ECO 240W 24V 10A	1469510000	A.56
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PRO ECO 480W 24V 20A	1469510000	VII
PRO ECO 480W 24V 20A	1469510000	VII
PRO ECO 72W 24V 3A	1469470000	A.55
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PRO ECO 960W 24V 40A	1469520000	A.57
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PRO ECO3 120W 24V 10A	1469540000	A.60
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PRO INSTA 60W 12V 5A	2580240000	VIII
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PRO TOPDC 24V/24V 20A EX	2467310000	VI
PRO TOPDC 24V/24V 5A	2627650000	A.29
PRO TOPDC 24V/24V 5A	2627650000	VI
PRO TOPDC 24V/24V 5A EX	2467290000	A.31
PRO TOPDC 24V/24V 5A EX	2467290000	VI
PRO TOPDC 24V/48V 10A	2627660000	A.30
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SM 18/9.5 K MC NE WS	1248580000	A.51
SM 18/9.5 K MC NE WS	1248580000	A.62
SM 18/9.5 K MC NE WS	1248580000	A.86
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ZQV 4N/2	1527930000	B.29
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ZQV 4N/2 BL	1528040000	B.22
ZQV 4N/2 BL	1528040000	B.29
ZQV 4N/2 BL	1528040000	B.30
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ZQV 4N/50	1528130000	B.29
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ZQV 4N/50	1528130000	B.31
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ZQV 4N/50 BL	1528240000	B.22
ZQV 4N/50 BL	1528240000	B.29
ZQV 4N/50 BL	1528240000	B.30
ZQV 4N/50 BL	1528240000	B.31
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ZQV 4N/50 RD	2460730000	B.29
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1162600000	WEW 35/1 SW	A.86
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1220000000

1222240000	CP M CAP	E.7
1222240000	CP M CAP	VIII
1222240010	CP M CAP	E.7
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1240000000

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1250000000

1251070000	CP A BATTERY 24V DC3.4AH	C.6
1251070000	CP A BATTERY 24V DC3.4AH	VIII
1251080000	CP A BATTERY 24V DC7.2AH	C.7
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1251090000	CP A BATTERY 24V DC12AH	C.7
1251090000	CP A BATTERY 24V DC12AH	VIII
1251110000	CP A BATTERY 24V DC17AH	C.7
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1251220000	CP DC BUFFER 24V 20A	C.8
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1370000000

1370040010	CP DC UPS 24V 40A	C.5
1370040010	CP DC UPS 24V 40A	VIII
1370050010	CP DC UPS 24V 20A/10A	C.5
1370050010	CP DC UPS 24V 20A/10A	VIII

1400000000

1406930000	CP A BATTERY 24V DC1.3AH	C.6
1406930000	CP A BATTERY 24V DC1.3AH	VIII

1440000000

1444480000	CP DC UPS Tf05	C.9
1444540000	CP DC UPS Tf25	C.9

1460000000

1461850000	CP A WALLADAPTER 45MM	A.38
1461850000	CP A WALLADAPTER 45MM	A.51
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1469480000	PRO ECO 120W 24V 5A	A.55
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1469490000	PRO ECO 240W 24V 10A	A.56
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1469510000	PRO ECO 480W 24V 20A	A.56
1469510000	PRO ECO 480W 24V 20A	VII
1469520000	PRO ECO 960W 24V 40A	A.57
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1469530000	PRO ECO3 120W 24V 5A	A.60
1469530000	PRO ECO3 120W 24V 5A	VII
1469540000	PRO ECO3 240W 24V 10A	A.60
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1469580000	PRO ECO 120W 12V 10A	A.58
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1469590000	PRO ECO 240W 48V 5A	A.59
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1469610000	PRO ECO 480W 48V 10A	A.59
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1478110000	PRO MAX 120W 24V 5A	A.43
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1478120000	PRO MAX 180W 24V 7.5A	A.44
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1478130000	PRO MAX 240W 24V 10A	A.44
1478130000	PRO MAX 240W 24V 10A	VII
1478140000	PRO MAX 480W 24V 20A	A.45
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1478150000	PRO MAX 960W 24V 40A	A.45
1478150000	PRO MAX 960W 24V 40A	VII
1478170000	PRO MAX3 120W 24V 5A	A.49
1478170000	PRO MAX3 120W 24V 5A	VII
1478180000	PRO MAX3 240W 24V 10A	A.49
1478180000	PRO MAX3 240W 24V 10A	VII
1478190000	PRO MAX3 480W 24V 20A	A.50
1478190000	PRO MAX3 480W 24V 20A	VII
1478200000	PRO MAX3 960W 24V 40A	A.50
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1478210000	PRO MAX 70W 5V 14A	A.46
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1478220000	PRO MAX 72W 12V 6A	A.46
1478220000	PRO MAX 72W 12V 6A	VII
1478230000	PRO MAX 120W 12V 10A	A.47
1478230000	PRO MAX 120W 12V 10A	VII
1478240000	PRO MAX 240W 48V 5A	A.47
1478240000	PRO MAX 240W 48V 5A	VII
1478250000	PRO MAX 480W 48V 10A	A.48
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1520000000

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1527930000	Z0V 4N/2	B.22
1527930000	Z0V 4N/2	B.29
1527930000	Z0V 4N/2	B.30
1527930000	Z0V 4N/2	B.31
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1527990000	Z0V 4N/6	B.32
1528020000	Z0V 4N/7	B.32
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1528040000	Z0V 4N/2 BL	B.20
1528040000	Z0V 4N/2 BL	B.21
1528040000	Z0V 4N/2 BL	B.22
1528040000	Z0V 4N/2 BL	B.29
1528040000	Z0V 4N/2 BL	B.30
1528040000	Z0V 4N/2 BL	B.31
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1528070000	Z0V 4N/9	B.32
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1528130000	Z0V 4N/5 BL	B.29
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1528130000	Z0V 4N/5 BL	B.31
1528130000	Z0V 4N/5 BL	B.32
1528140000	Z0V 4N/5 BL	B.32
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1528230000	Z0V 4N/10 BL	B.32
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2001810000	PRO DCDC 240W 24V 10A	D.5
2001810000	PRO DCDC 240W 24V 10A	VIII
2001820000	PRO DCDC 480W 24V 20A	D.6
2001820000	PRO DCDC 480W 24V 20A	VIII

2080000000

2080360000	AMG ELM-6	B.11
2080360000	AMG ELM-6	B.17
2080410000	AMG ELM-12	B.11
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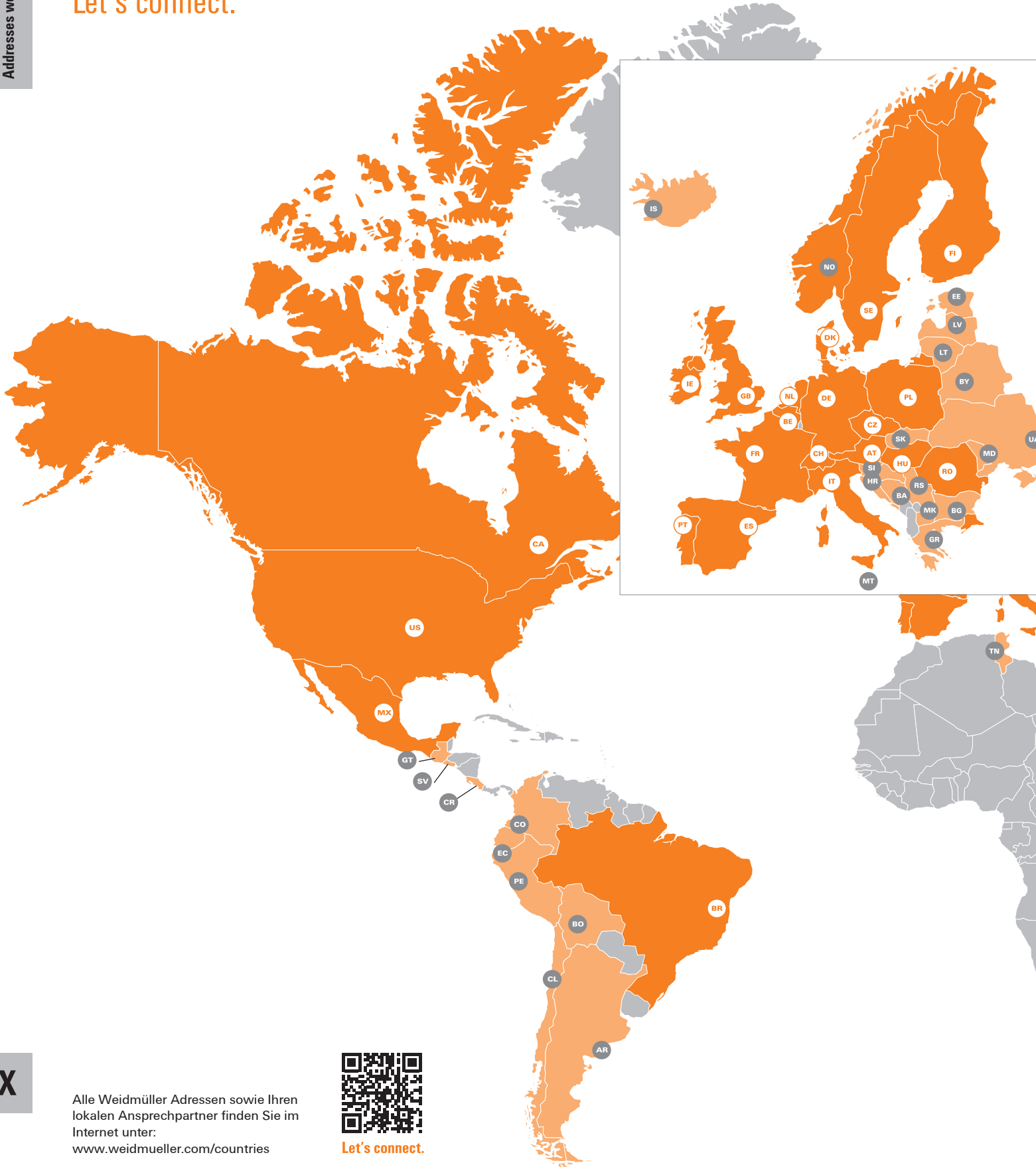
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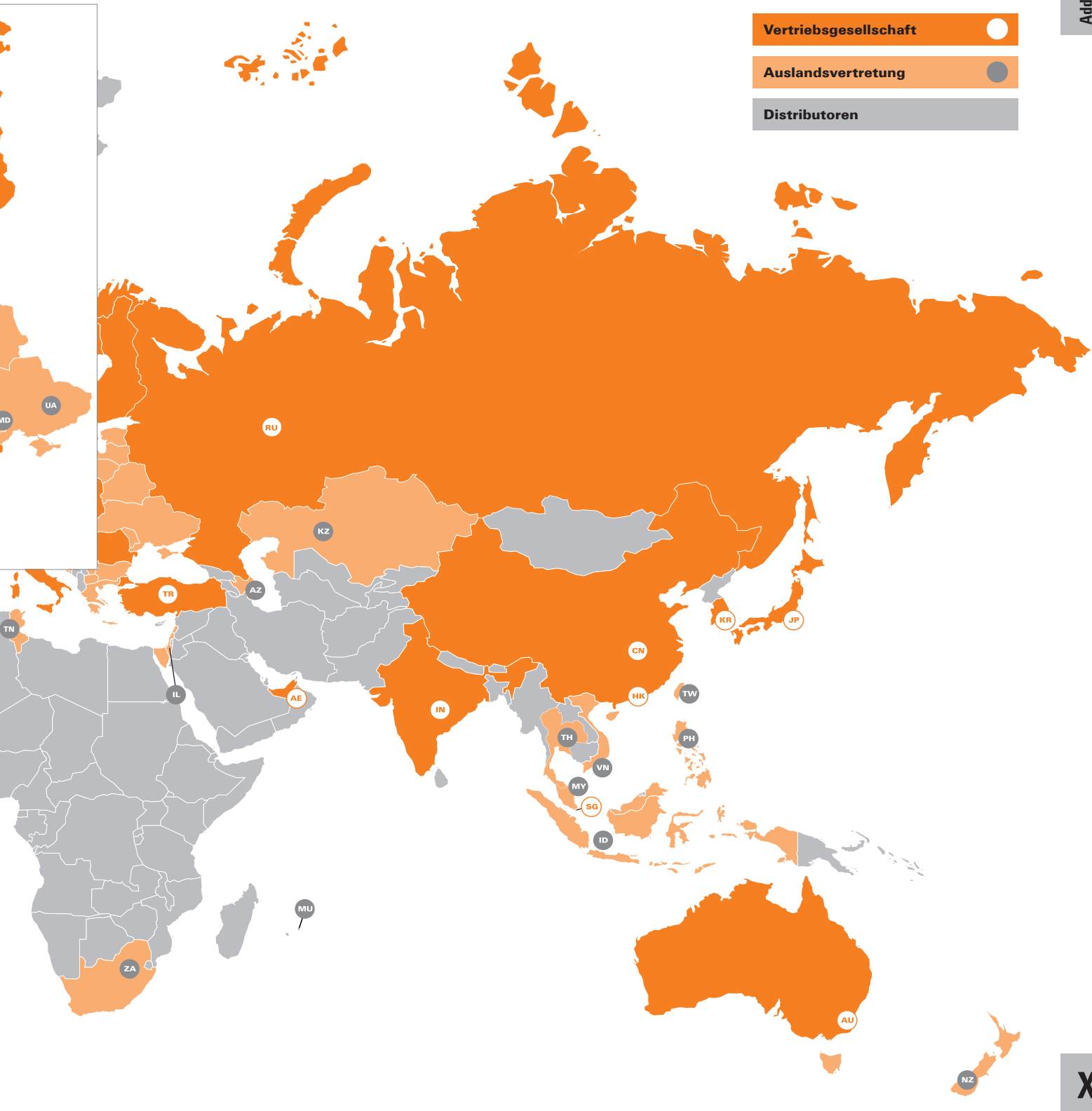


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