

# TECHNICAL CATALOG INTERLOCKING SYSTEM




# 1 – Introduction – Main features

Box locks are used to mechanically lock electrical installations. The basic functionalities are:

- The lock must turn with the adequate key
- The lock must lock (i.e. cannot rotate) in the absence of key
- The lock must not turn neither with another key combination, nor with a simple tool - flat blade screw driver for instance
- The lock must trap the key (i.e. it cannot be removed) when the key was turned in the locked position
- The lock must not eject the key

These functionalities are related to safety procedures and are intended to protect:

- People using the electrical installations against the high voltage dangers
- The equipments against improper operations which could damage them.

 www.ronis.fr	Introduction	
		1

## 2 – Technical information

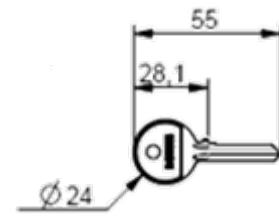
We are able to provide 2 types of key.

- 1- Asymmetric Keys RONIS  
about 10 000 combinations
- 2- Reversible keys RK more difficult to copy  
about 80 000 combinations

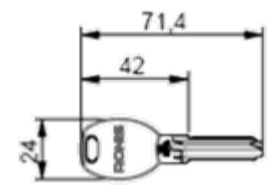
As standard, the combinations are marked on each key / cylinder.  
Several locks with the same combination are available on request .


The locks should not suffer any damage under the following conditions:  
-Storage temperature: [-55 ° C +85 ° C]  
-Temperature: [-20 ° C +85 ° C]  
-Humidity average: 95% beyond 24and 90% after one month

Asymmetric standard key



Reversible key RK

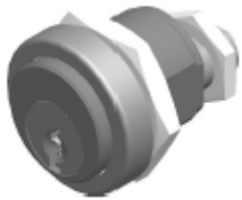


 www.ronis.fr	Technical specifications	
		2

## • Technical drawing of standards cylinders

These locks are used for mechanical interlocking of switches, circuit breakers, transfer switches, disconnectors and earth switches of most medium voltage transducers ... Generally, a cam is mounted on the rotor and is driven directly by the key.

The cams are used primarily for blocking elements in a device or to conceal the entrance of a crank for operating the switch for example.



**Material:** brass  
**Profile cylinder:** 6 profiles available in 5 or 6 piston  
**Trainer Background:**  
 -Free tip: M11x1 with flat 9mm  
 With-fitting: M17x1 with 15mm square  
**Rotation:** 90 degrees clockwise or counterclockwise

REFERENCES					
Version	Rotation *	Rotor	Drive	Stop **	Fixing hole
1104	A	M23x1 tongue of 19	M11x1	segment	
1104	B	M23x1 tongue of 19	M11x1	segment	
1104-30	A	M23x1 tongue of 19	M17x1	segment	
1104-30	B	M23x1 tongue of 19	M17x1	segment	
1351	A	M22x0,8 tongue of 19	M17x1	segment	
1351	B	M22x0,8 tongue of 19	M17x1	segment	
1351-10	A	M22x0,8 tongue of 19	M11x1	segment	
1351-10	B	M22x0,8 tongue of 19	M11x1	segment	
1351-500	A	M22x0,8 tongue of 19	M17x1	steel pin	
1351-500	B	M22x0,8 tongue of 19	M17x1	steel pin	
1351-500-10	A	M22x0,8 tongue of 19	M11x1	steel pin	
1351-500-10	B	M22x0,8 tongue of 19	M11x1	steel pin	

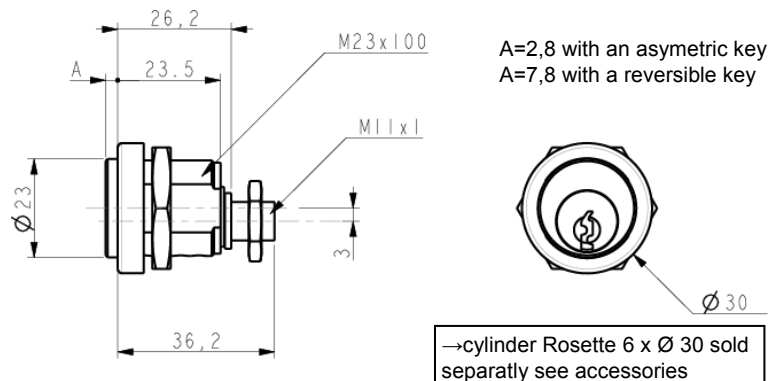
\* A = counterclockwise ; B = clockwise \*\* steel pin version used in case of stress on the cam or large offset



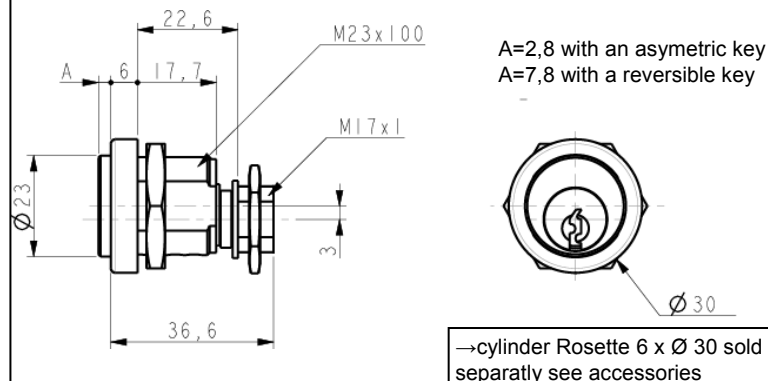
Cylinders drawings

2 - 1

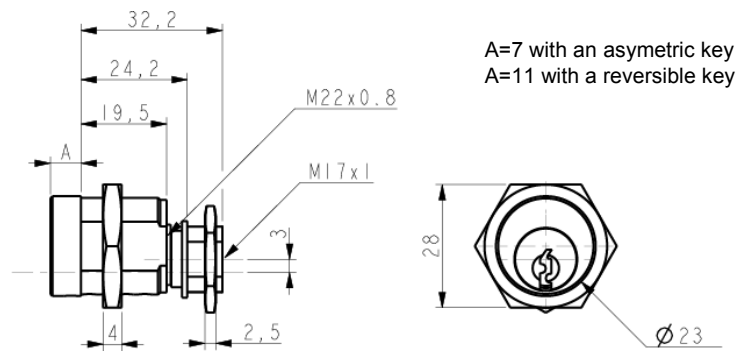
## Dimensions 1104



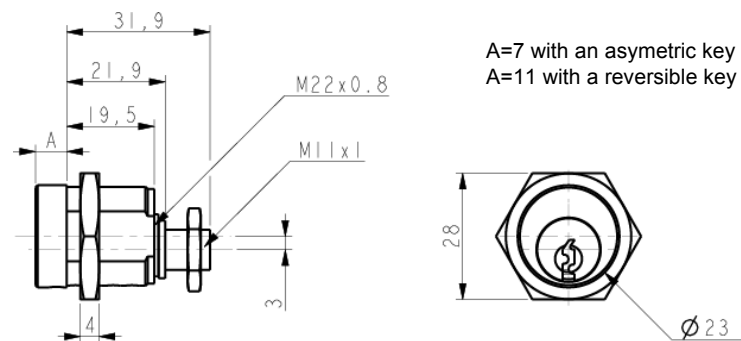
## Dimensions 1104-30



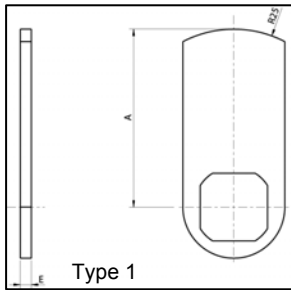
## Dimensions 1351



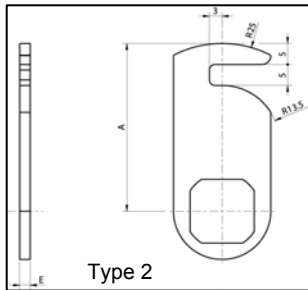
## Dimensions 1351-10



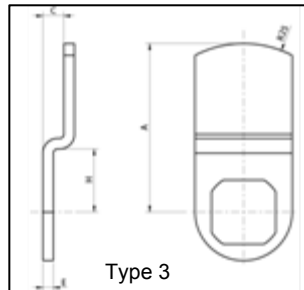
•1351 and 1104-30:



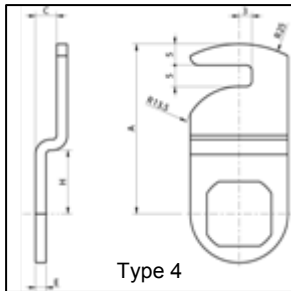
Type 1



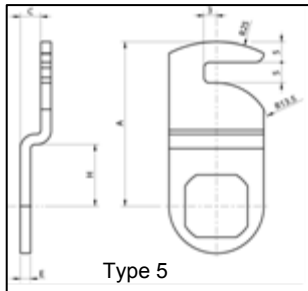
Type 2



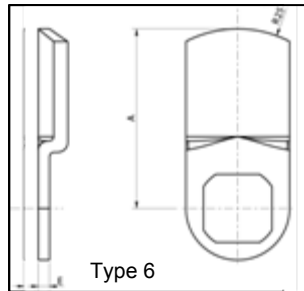
Type 3



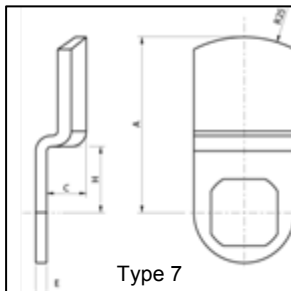
Type 4



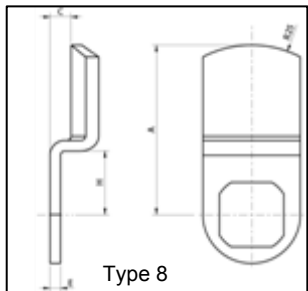
Type 5



Type 6



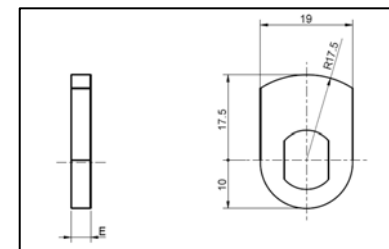
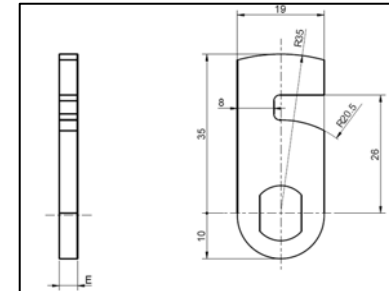
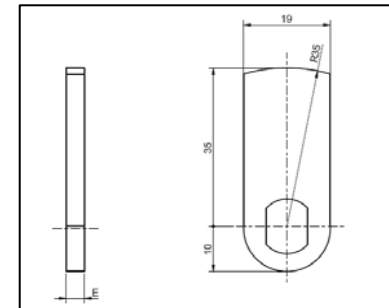
Type 7



Type 8

A,E,C and H upon references

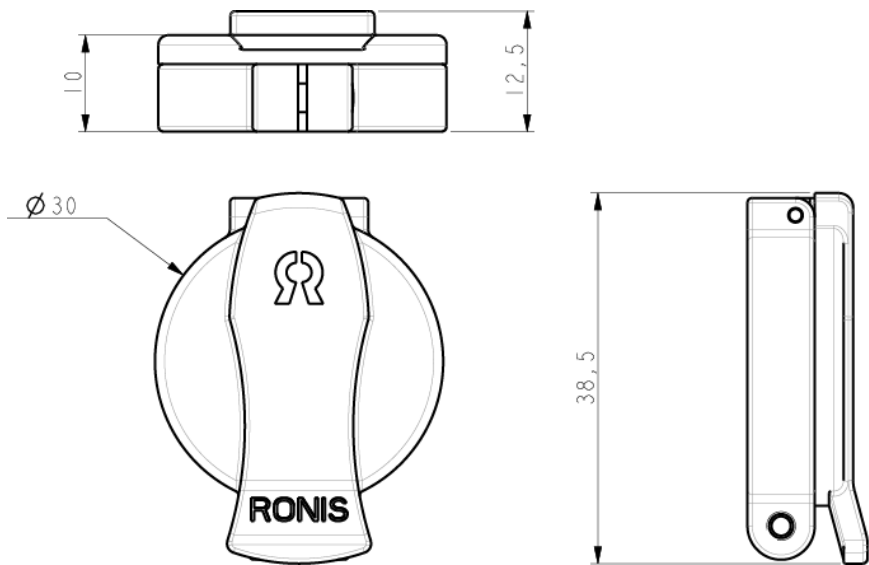
•1104 and 1351-10:



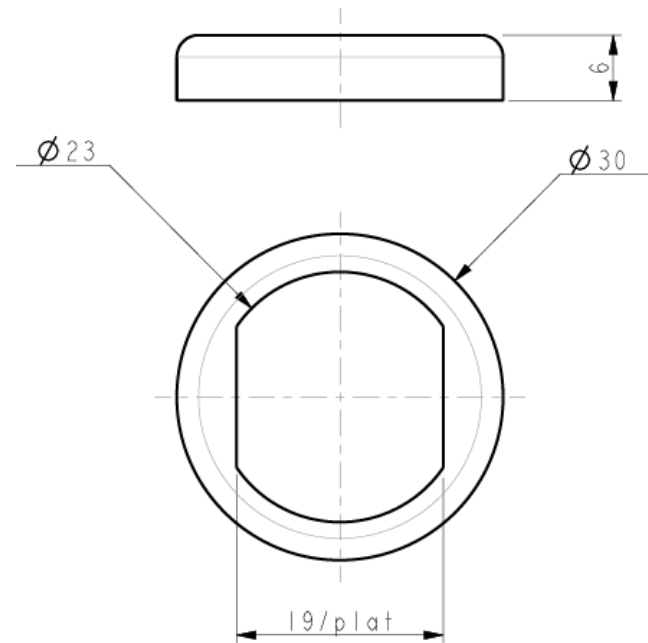
Camlocks

2 - 3

## Shutter

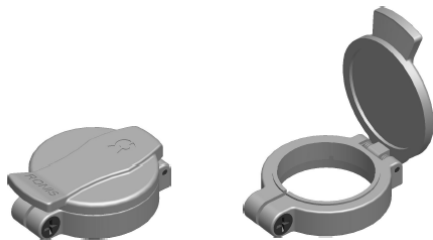



## Cylinder Rosette



For locks : 978, 1049, 1104, 1351  
Reference: 6980120001

For locks : 1104  
Reference: 166013097



 www.ronis.fr	Accessories	
		2 - 4

Pictogram							
Meaning	Free key	captive key	Bolt out	Bolt in	Closed door	Opened door	Mechanical connection

### 3-1 – 1 cylinder (standard configuration)

	EL11 AP	ELP1
Initial state		
Final state		

### 3-2 – 2 cylinders (standard configuration)

	EL12				EL22		ELP2	
	AP	BP	CP	GP	AP	BP	Standard	Special
Initial state								
Final state								

### 3-3 – 3 cylinders (standard configuration)

	EL13			ELP3	
	AP	BP	EP	Standard	Special
Initial state					
Final state					

These diagrams correspond to our most standards. Other references are available upon request.



Box drawings	
	3




**-EL:** The lock latch bolt lock is available in 1, 2, 3 and 4 cylinders. It is used to lock the control of disconnectors and earthing switches. The position of the bolt (in or out) determines the position of the key (captive or free). The mounting bracket is facing away from the cylinder (s). For setting up it is recommended to use the M5 and not perforate the box.

**-ELN:** The lock electric bolt is available in 1 or 2 cylinders. It is used to lock the control of disconnectors, earthing switches and standards bolt locks. The position of the bolt (in or out) determines the position of the key (captive or free) and acts on one or two inverters (change of contact state). Setting up can be opposite to the cylinder. It is recommended to use the M5 and not perforate the box.

**-ELP:** The door locks are used on both access points (hatches, doors, gates ...) but also on removable heads of transducers. When access is opened and the striker is not introduced into the casing of the lock, you can not remove the key. Depending on the lock to make, it is possible to have one, two or three cylinders. The mounting bracket locks the doors is either side cylinder (s) or opposite side cylinder (s). For mounting it is recommended to use the M5 and not perforate the box. Striker standard cubit.

**-ELC:** A key panel enables you to move and release one or more keys by the sequential introduction and operation of one or more keys that become captive. The minimum number of cylinders is 2. To the maximum depending on the size of the space available. If you need more than 6 cylinders, it is necessary to go through an array of several cylinders cascade. The fixing bracket is facing away from the cylinder (s). For setting up it is recommended to use the M5 and not perforate the box.







 www.ronis.fr	Our range	
		3 - 4

RONIS is sharing his expertise in an approach based on the exchange of information with its customers so that the end customer is satisfied with the overall service provided

Customers must provide the Ronis sales representative (sales department, commercial partners, technical service ...) accurate and complete information about their need with at least:

- 1 - the reference desired boxes and their configurations (initial state / final state)
- 2 - Profile of selected key
- 3 - tags and key cylinders (reference and / or combination)
- 4 - a plan that locates the installation of future products interlock

with the codification of marks


Marking choice	Key	Stator
Combination		
Mark		
Combination + mark		

In the context of repetitive trade relations, RONIS can implement on request some "kits." These kits will be managed with a specific nomenclature client and customer cross-references. They contain recurrent references to your commands. The manufacturing cycle is thus optimized by establishing contractual inventory (components or finished products) that will allow RONIS serve his client with a 48 hours delivery time.


RONIS has undertaken to provide the customer:

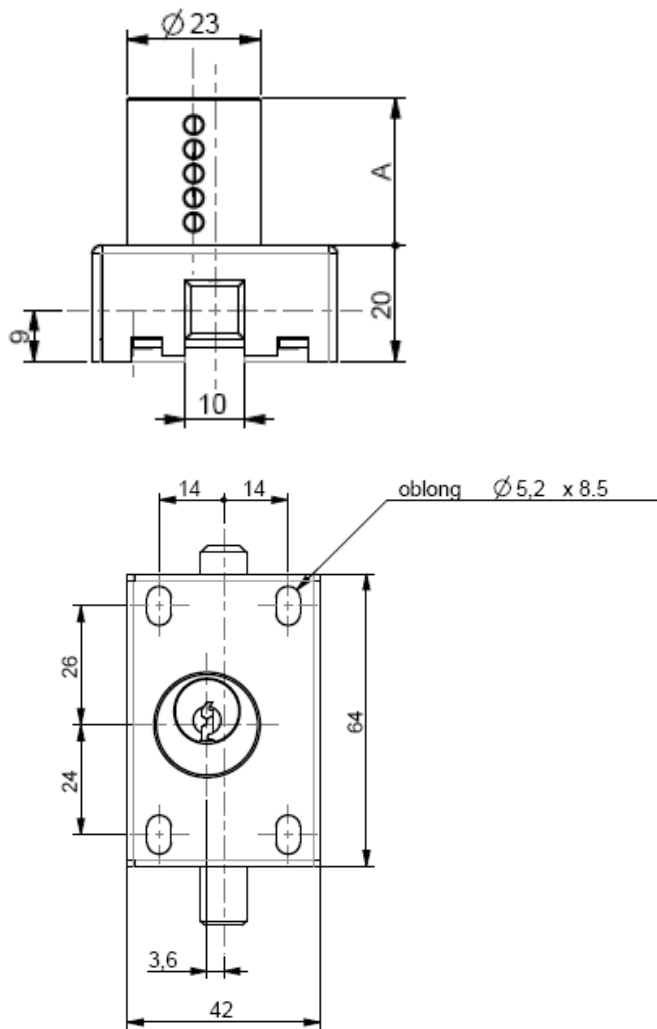
- 1 - a solution that matches its needs
- 2 - documents that show clearly the products and their configuration to facilitate installation and product management.
- 3 - the most competitive QCT (quality costs time) of the market.

For clarity, the boxes presented below do not represent all possible configurations of key positions. This document offers each time a sample configuration that is reversible (the initial state can become the final state and vice versa). The boxes are delivered in the configuration with the least captive keys to preserve it from possible transport damage.

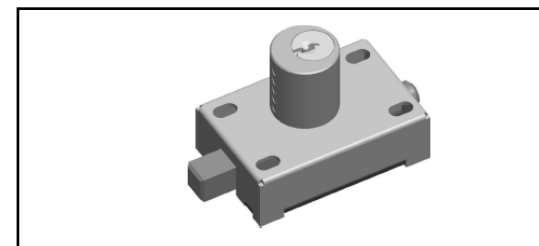
	RONIS process	
		4



 www.ronis.fr	EL lock	
		5



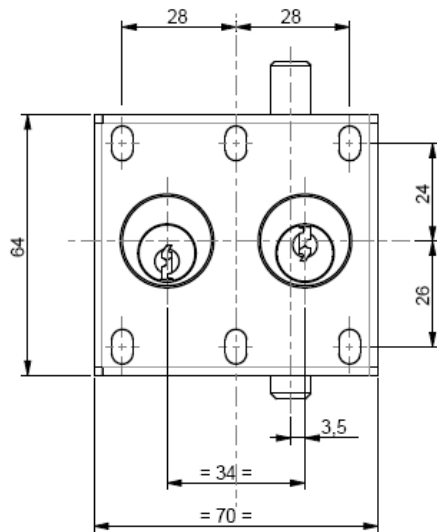
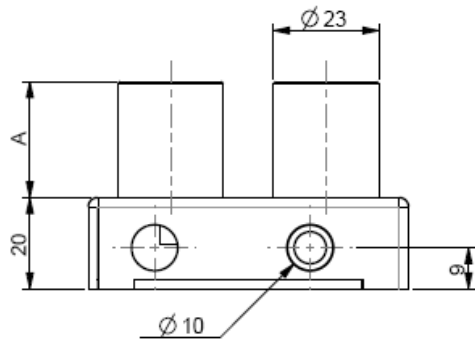
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt  $\varnothing$  10  
 Special bolt on request



Example	EL11 AP	Description
Initial state		Free key, bolt out
Final State		Captive key, bolt in

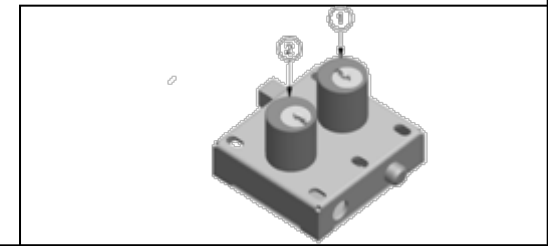


<b>EL11 AP</b>	
Delivery state:	<b>5 - 1</b>



The key 1 may be released (bolt out) when the key 2 has been turning in captive key position.

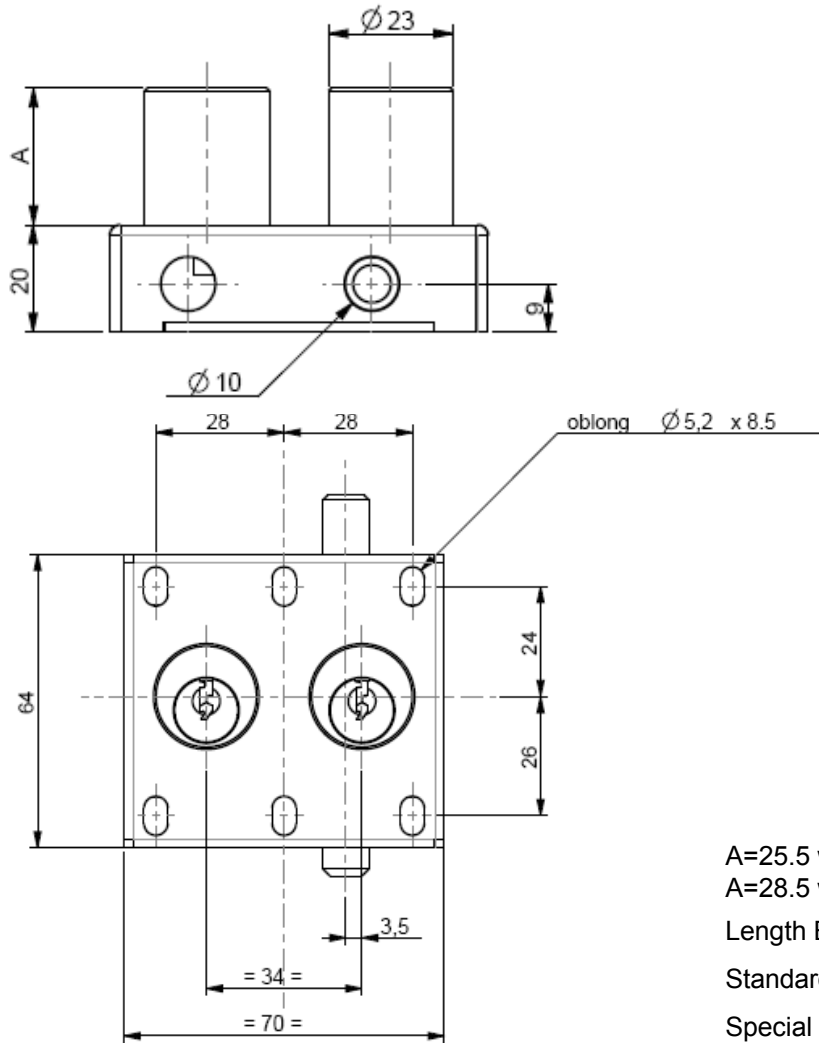
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



Example	EL12 AP	Description
Initial state		Captive key, free key, bolt out
Final State		Free Key, captive key, bolt in

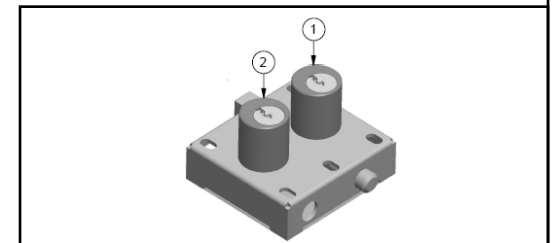


<b>EL12 AP</b>	
Delivery state:	<b>5 - 2</b>



The key 1 may be released (bolt out) when the key 2 has been turning in free key position.

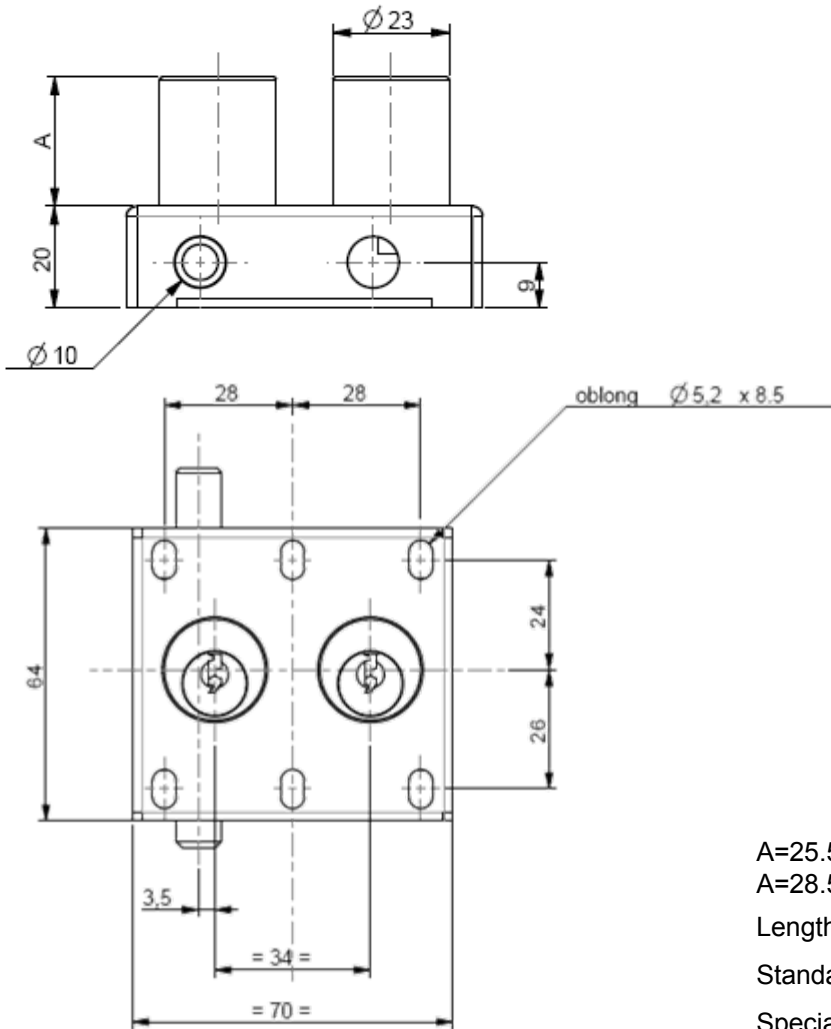
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt  $\varnothing$  10  
 Special bolt on request



Example	EL12 BP	Description
Initial state		Fre key X2, bolt out
Final State		Captive Key X2, bolt in

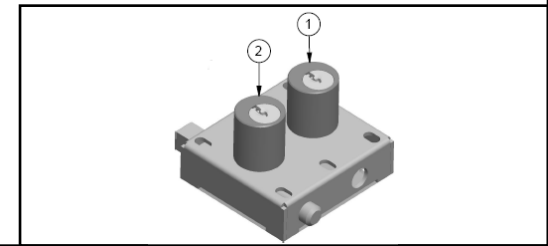


EL12 BP	
Delivery state:	
	5 - 3



The key 2 may be released (bolt out) when the key 1 has been turning in free key position.

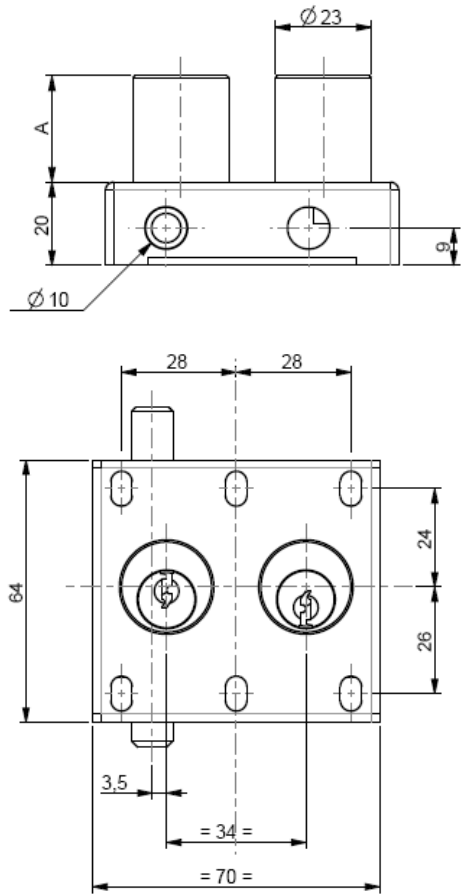
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



Example	EL12 CP	Description
Initial state		Free key X2, bolt out
Final State		Captive Key X2, bolt in

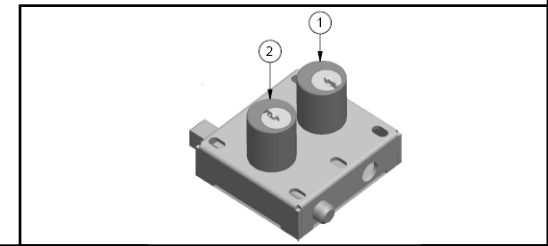


EL 12 CP	
Delivery state:	
	<b>5 - 4</b>



The key 2 may be released (bolt out) when the key 1 has been turning in captive key position.

A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

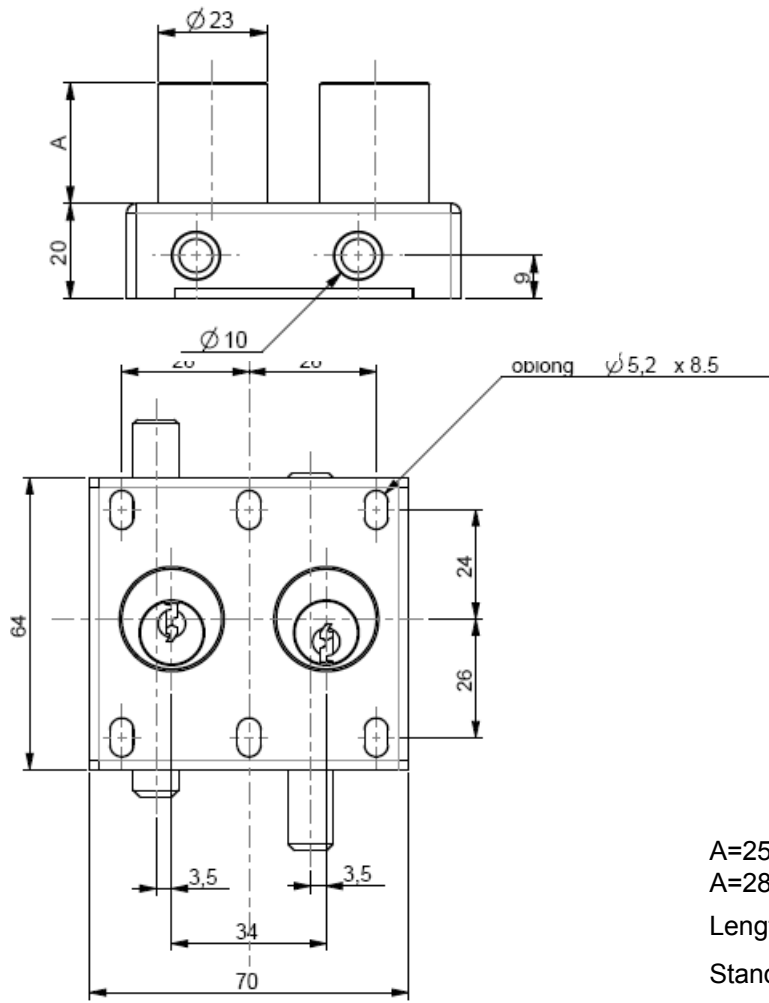


Example	EL12 GP	Description
Initial state		Free key, captive key bolt out
Final State		Captive Key, free key, bolt in



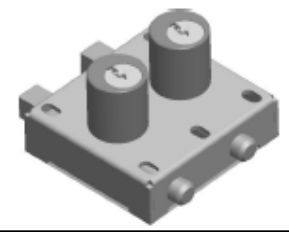
<b>EL12 GP</b>	
Delivery state:	<b>5 - 5</b>







The two keys can not be released at the same time. When a key is free, the bolt is out.

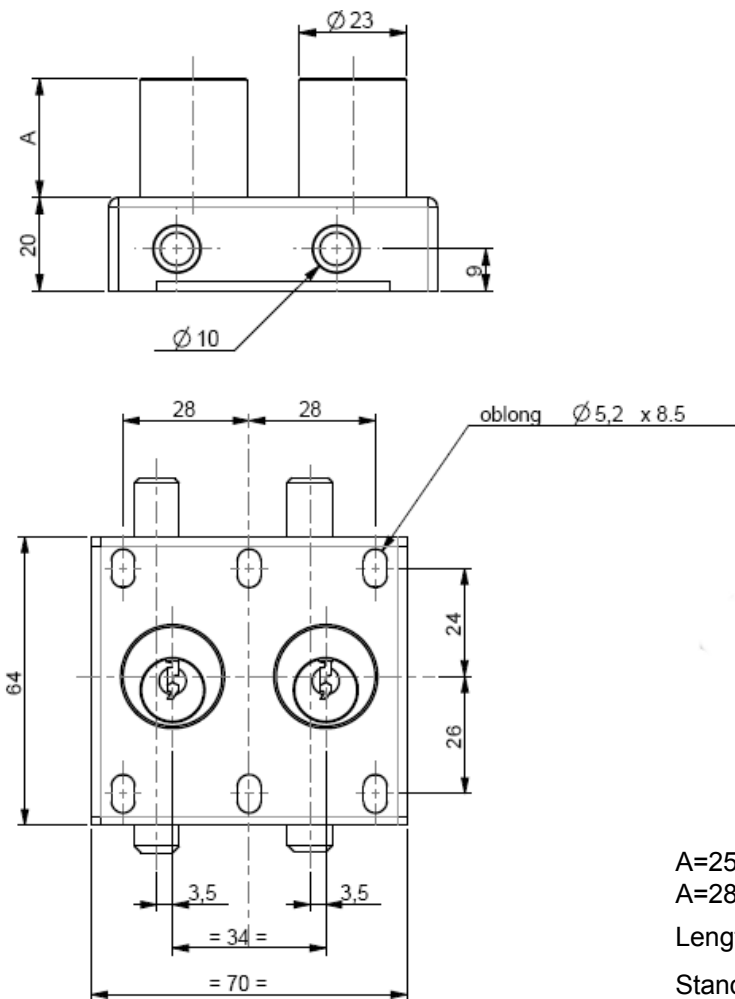
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



Example	EL22 AP	Description
Initial state		Free key, captive key bolt out, bolt in
Final State		Captive Key, free key, bolt in, bolt out

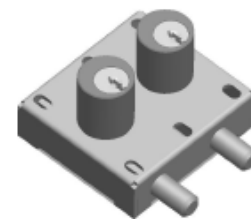


<b>EL22 AP</b>	
Delivery state:	<b>5 - 6</b>

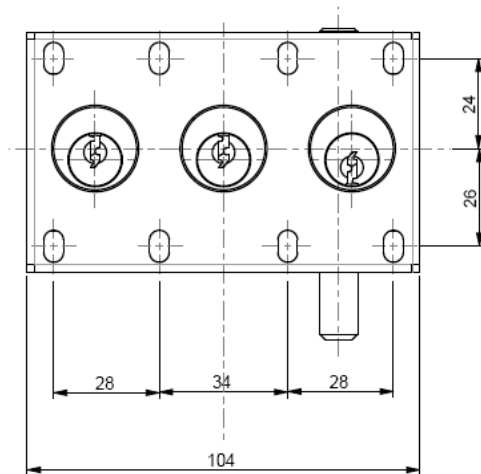
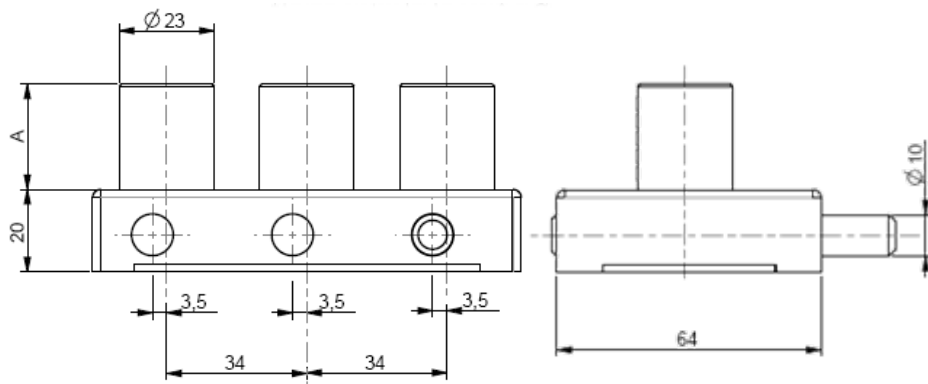


The two locks are independent of one another.  
All scenarios are possible.

A=25.5 with an asymmetric key  
A=28.5 with a reversible key  
Length Bolt out : 18 mm - 35 mm  
Standard dimension for bolt  $\text{Ø} 10$   
Special bolt on request

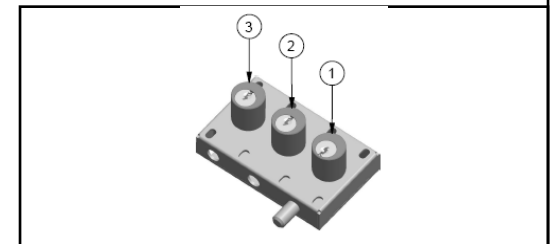


Example	EL22 BP	Description	 www.ronis.fr	<b>EL 22 BP</b>	
Initial state		Configuration on request		Delivery state:	<b>5 - 7</b>
Final State					



The key 1 may be released (bolt out) when the key 2 and 3 have been turning in captive key position.

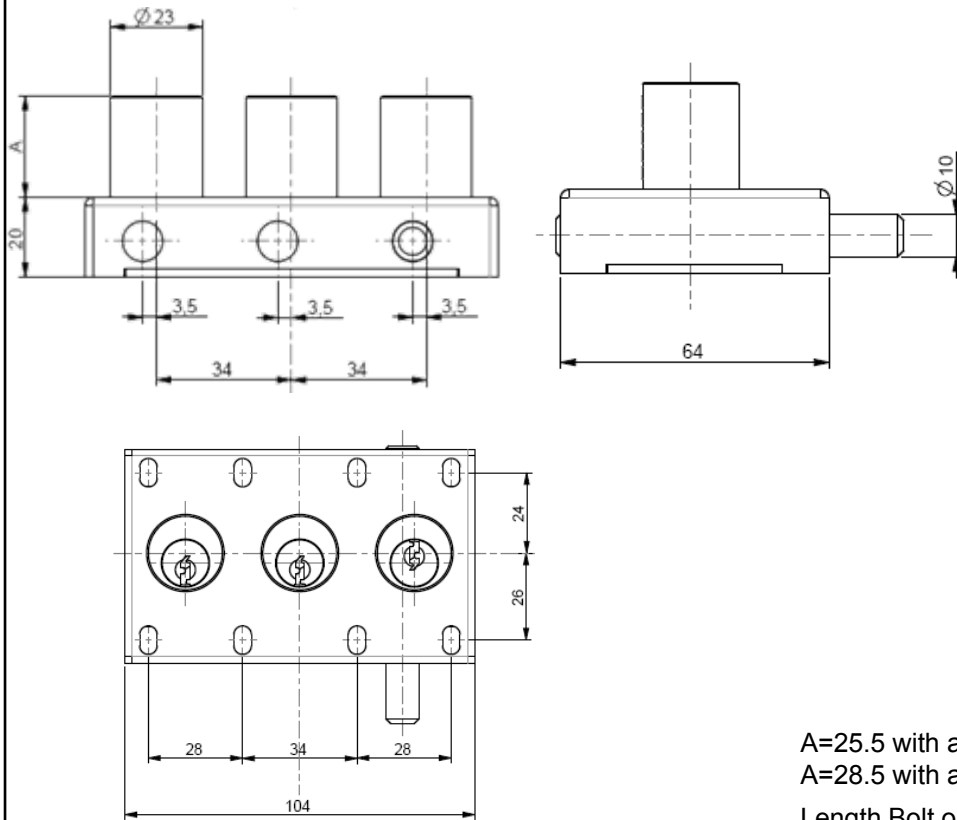
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt  $\varnothing$  10  
 Special bolt on request



Example	EL13 AP	Description
Initial state		Captive key X2, free key, bolt out
Final State		Free key X2, captive key, bolt in

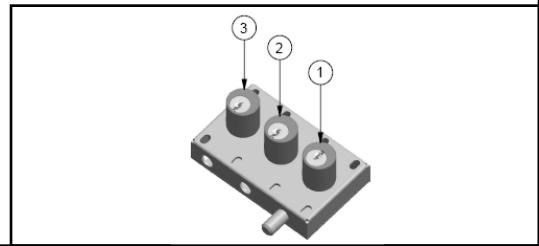


EL13 AP	
Delivery state:	
	5 - 8



The key 1 may be released (bolt out) when the key 2 and 3 have been turning in free key position.

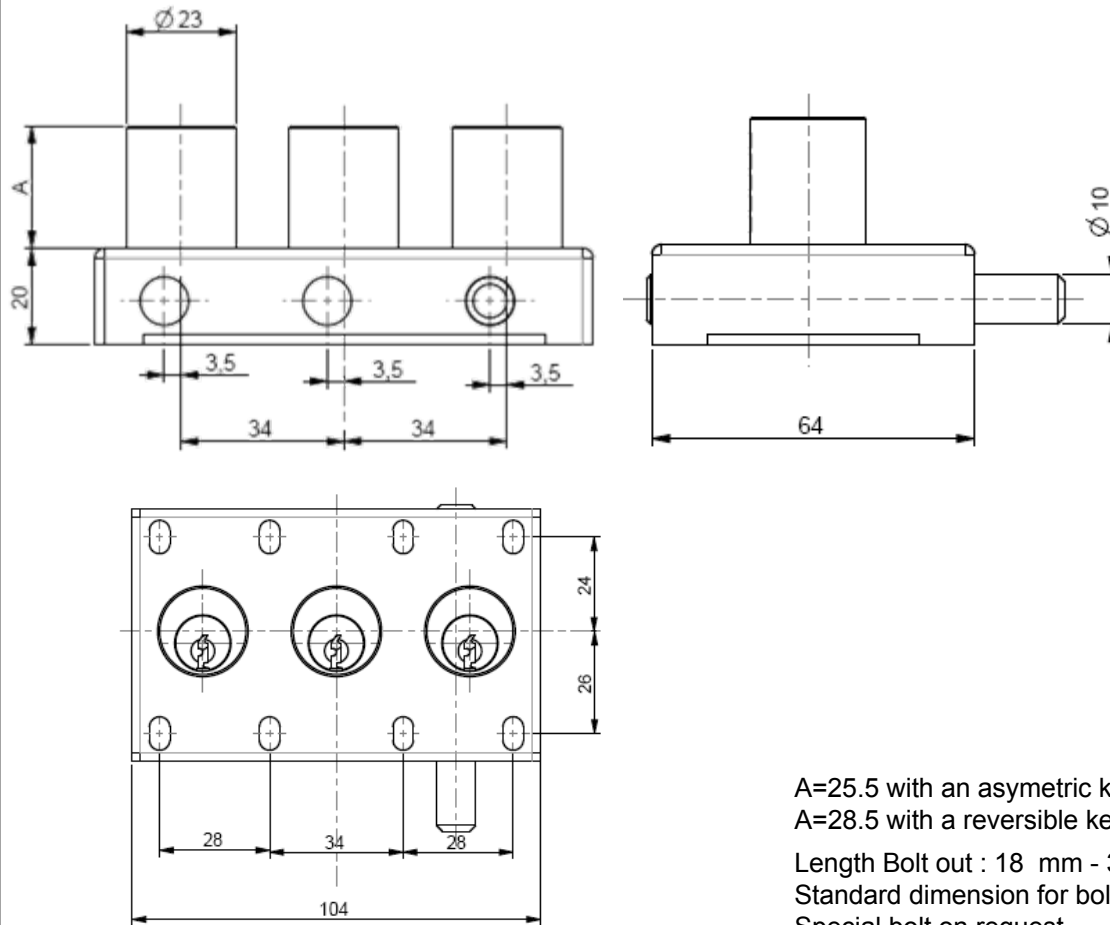
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



Example	EL13 BP	Description
Initial state		Free key X2, captive key, bolt out
Final State		Captive key X2, free key, bolt in

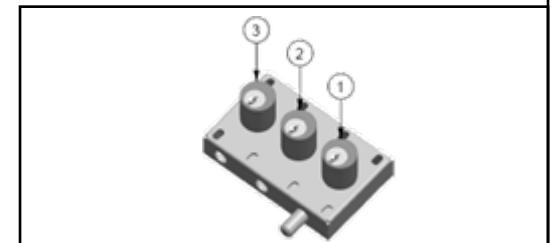


EL13 BP	
Delivery state:	
	5 - 9



The key 1 may be released (bolt out) when the key 2 and 3 have been turning in free key position.

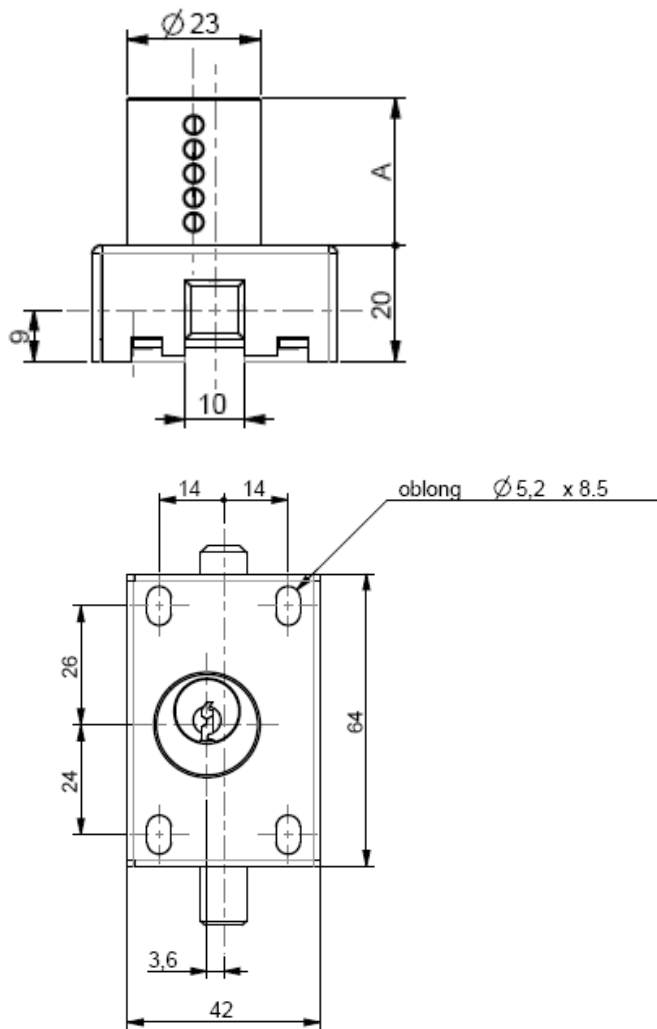
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



Example	EL13 EP	Description
Initial state		Free key X3, bolt out
Final State		Captive key X3, bolt in

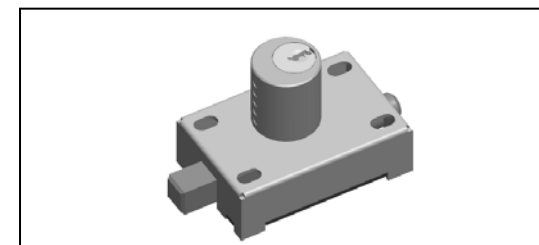




EL13 EP	
Delivery state:	
	5 - 10



A=25.5 with an asymmetric key  
 A=28.5 with a reversible key

Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request



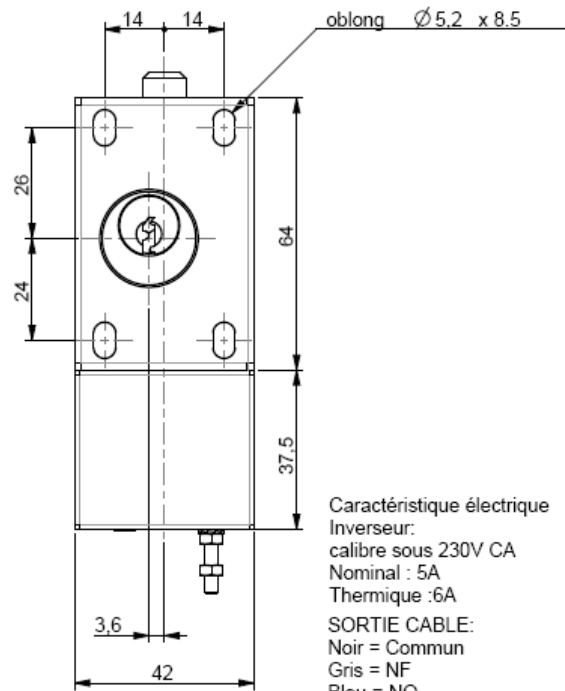
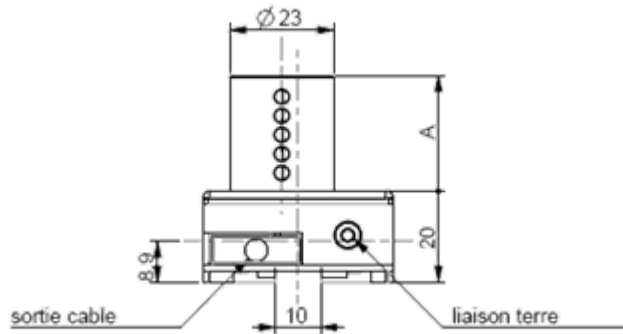
Example	EL11 BP	Description
Initial state		Keu captive, bolt out
Final state		Key free, bolt in



<b>EL11 BP</b>	
Delivery state:	<b>5 - 11</b>

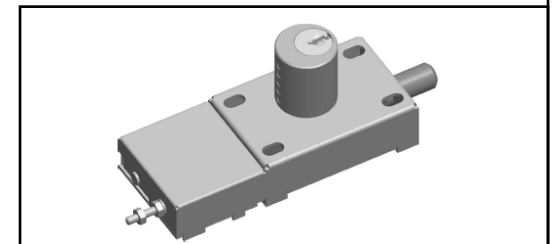




 www.ronis.fr	ELN lock	
		6




Caractéristique électrique  
 Inverseur:  
 calibre sous 230V CA  
 Nominal : 5A  
 Thermique : 6A  
 SORTIE CABLE:  
 Noir = Commun  
 Gris = NF  
 Bleu = NO

A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

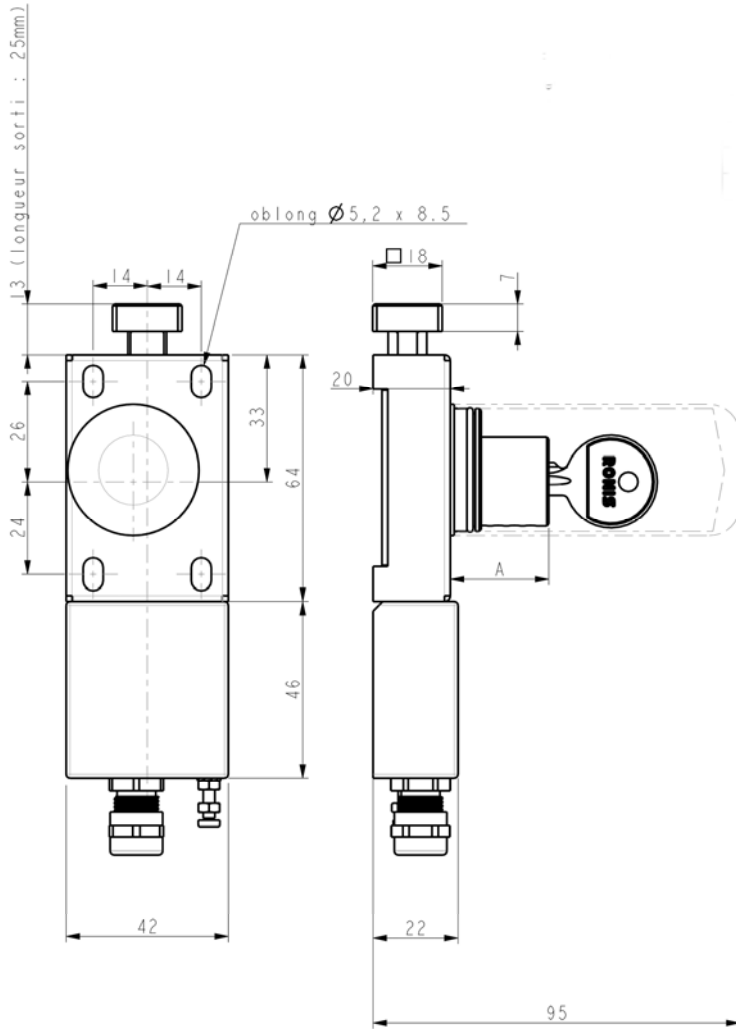


Example	ELN11 AP	Description
Initial state		Free key, bolt out
Final State		Captive key, bolt in



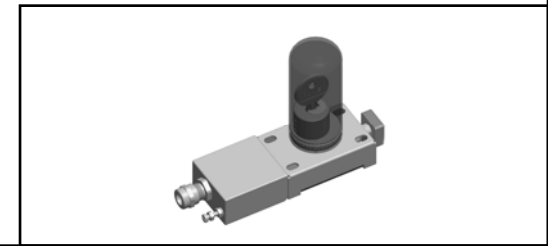
<b>ELN11 AP</b>	
Delivery state:	
	<b>6 - 1</b>








ELN 11 AP special:  
 Waterproof IP 67 only for Switch  
 Waterproof IP 65 only for Cylinder

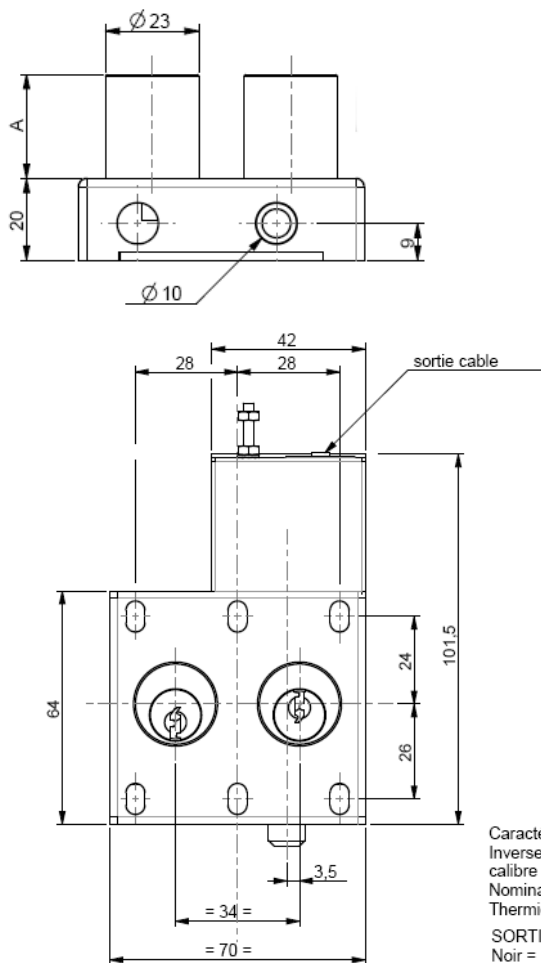
A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt  $\varnothing 10$   
 Special bolt on request



Example	ELN11 AP	Description
Initial state		Free key, bolt out
Final State		Captive key, bolt in



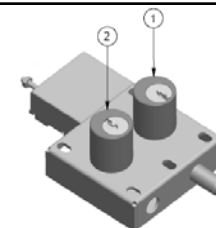
ELN11 AP special	
Delivery state:	
	6 - 2



Caractéristique électrique  
 Inverseur:  
 calibre sous 230V CA  
 Nominal : 5A  
 Thermique : 6A  
 SORTIE CABLE:  
 Noir = Commun  
 Gris = NF  
 Bleu = NO

A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

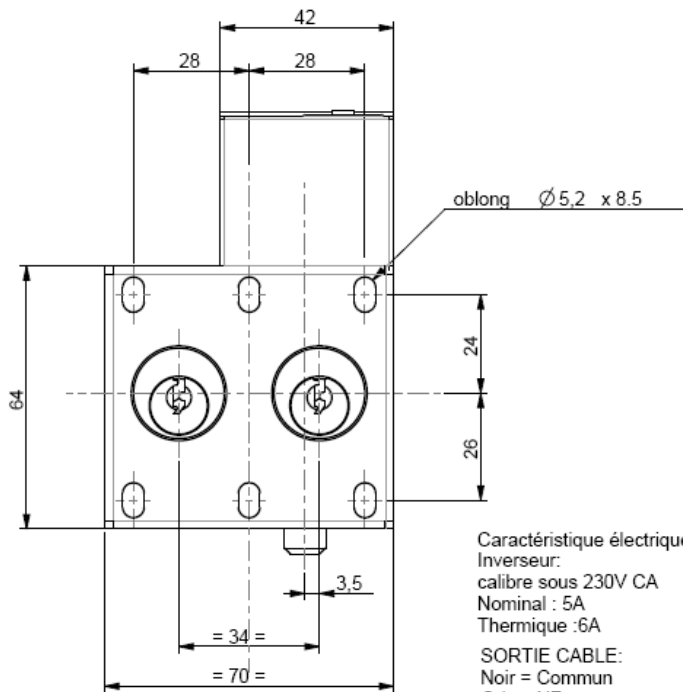
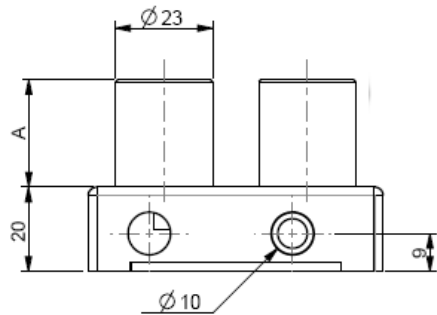
The key 1 may be released (bolt out) when the key 2 has been turning in captive key position.



Example	ELN12 AP	Description
Initial state		Captive key, free key, bolt out
Final State		Free key, captive key, bolt in



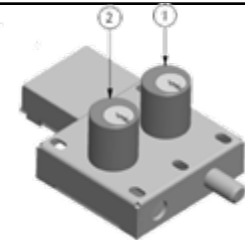
ELN12 AP	
Delivery state:	
	6 - 3



Caractéristique électrique  
 Inverseur:  
 calibre sous 230V CA  
 Nominal : 5A  
 Thermique :6A  
 SORTIE CABLE:  
 Noir = Commun  
 Gris = NF  
 Bleu = NO

A=25.5 with an asymmetric key  
 A=28.5 with a reversible key  
 Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

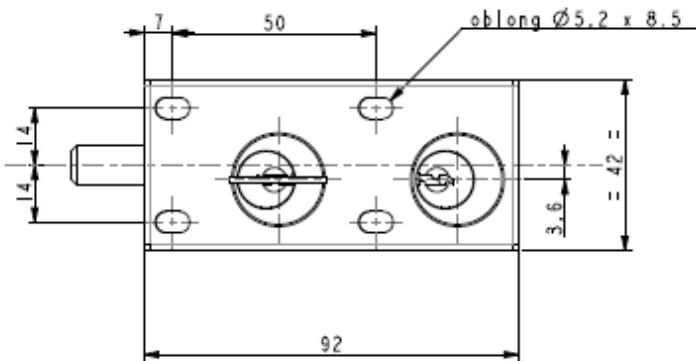
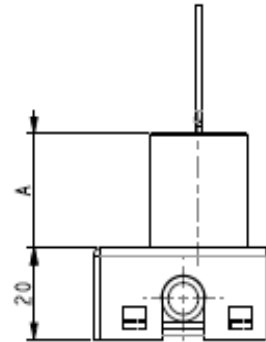
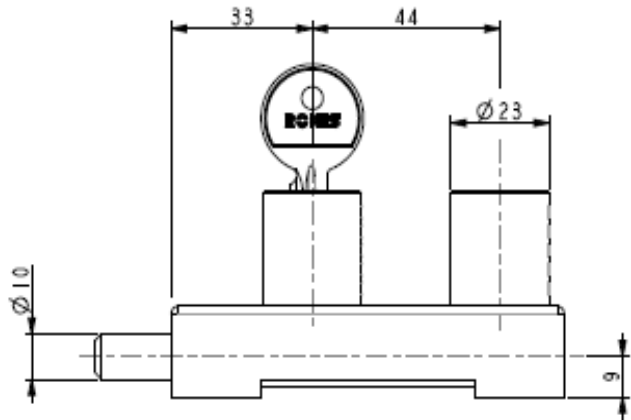
The key 2 may be released (bolt out)  
 when the key 1 has been turning in bolt  
 out position.



Example	ELN12 BP	Description
Initial state		Free key X2, bolt out
Final State		Captive key X2, bolt in



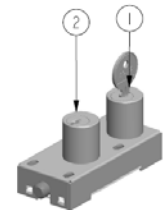
<b>ELN12 BP</b>	
Delivery state:	
	<b>6 - 4</b>



A=25.5 with an asymmetric key  
 A=28.5 with a reversible key

Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

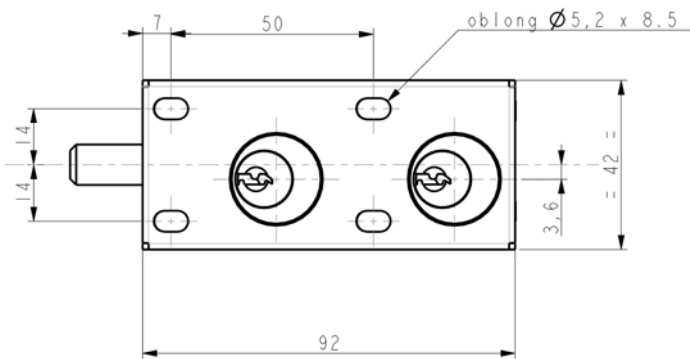
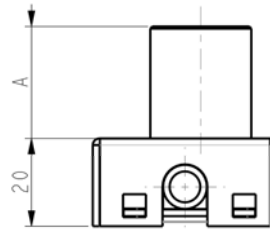
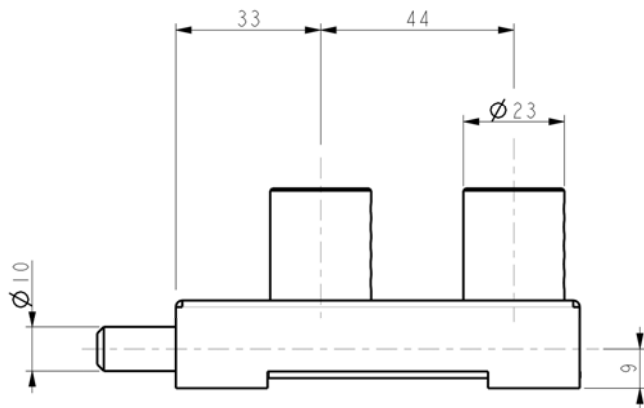
The key 2 may be released (bolt in) when the key 1 has been turning in captive key position.



Example	ELL12 AP	Description
Initial state		Key 1 free, key 2 captive, bolt out
Final State		Key 1 Captive, key 2 free, bolt in



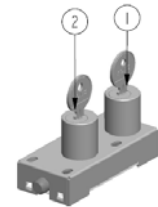
<b>ELL12 AP</b>	
Delivery state:	<b>6 - 5</b>



A=25.5 with an asymmetric key  
 A=28.5 with a reversible key

Length Bolt out : 18 mm - 35 mm  
 Standard dimension for bolt Ø 10  
 Special bolt on request

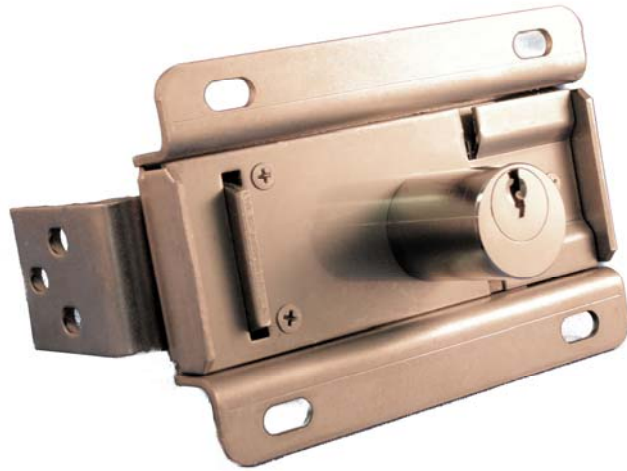
The key 1 may be released when the key 2 has been turning in free key position.




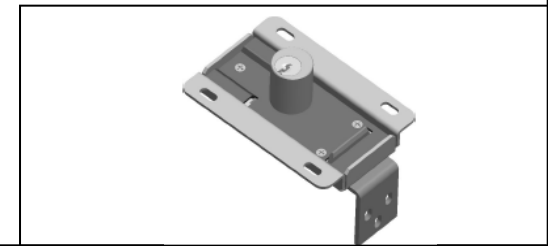
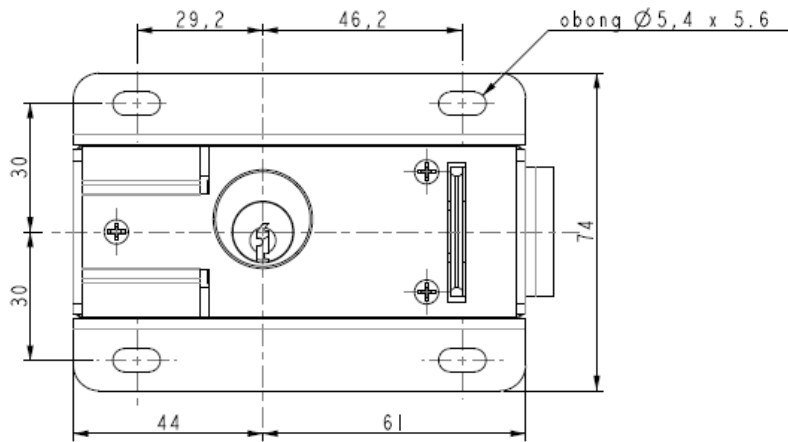
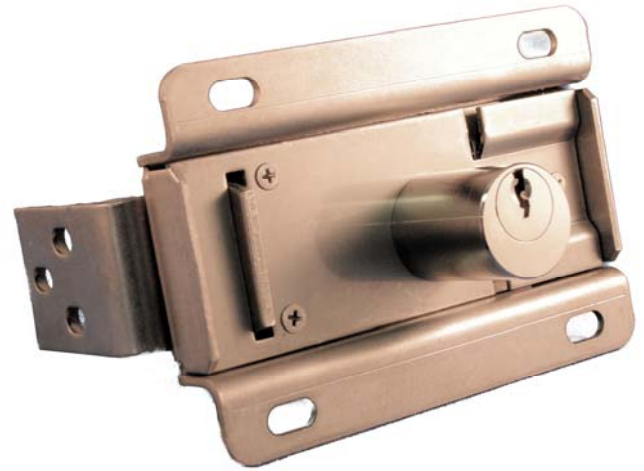
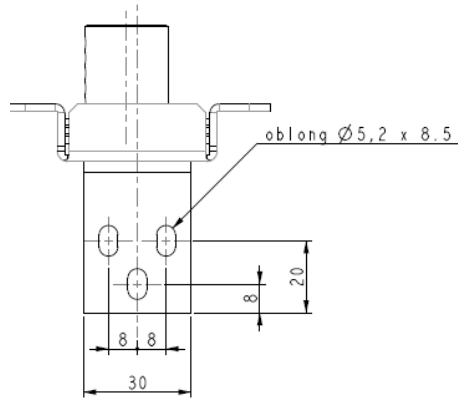
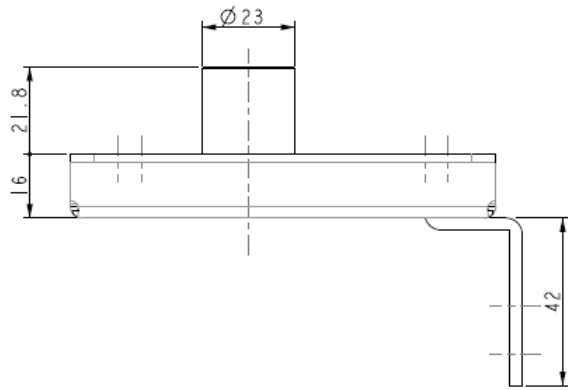
Example	ELL12 BP	Description
Initial state		Keys 1 and 2 free, bolt out
Final State		Keys 1 and 2 captive, bolt in





<b>ELL12 BP</b>	
Delivery state:	<b>6 - 6</b>




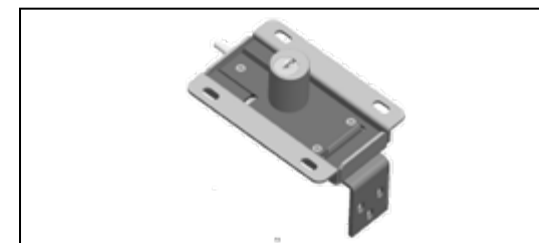
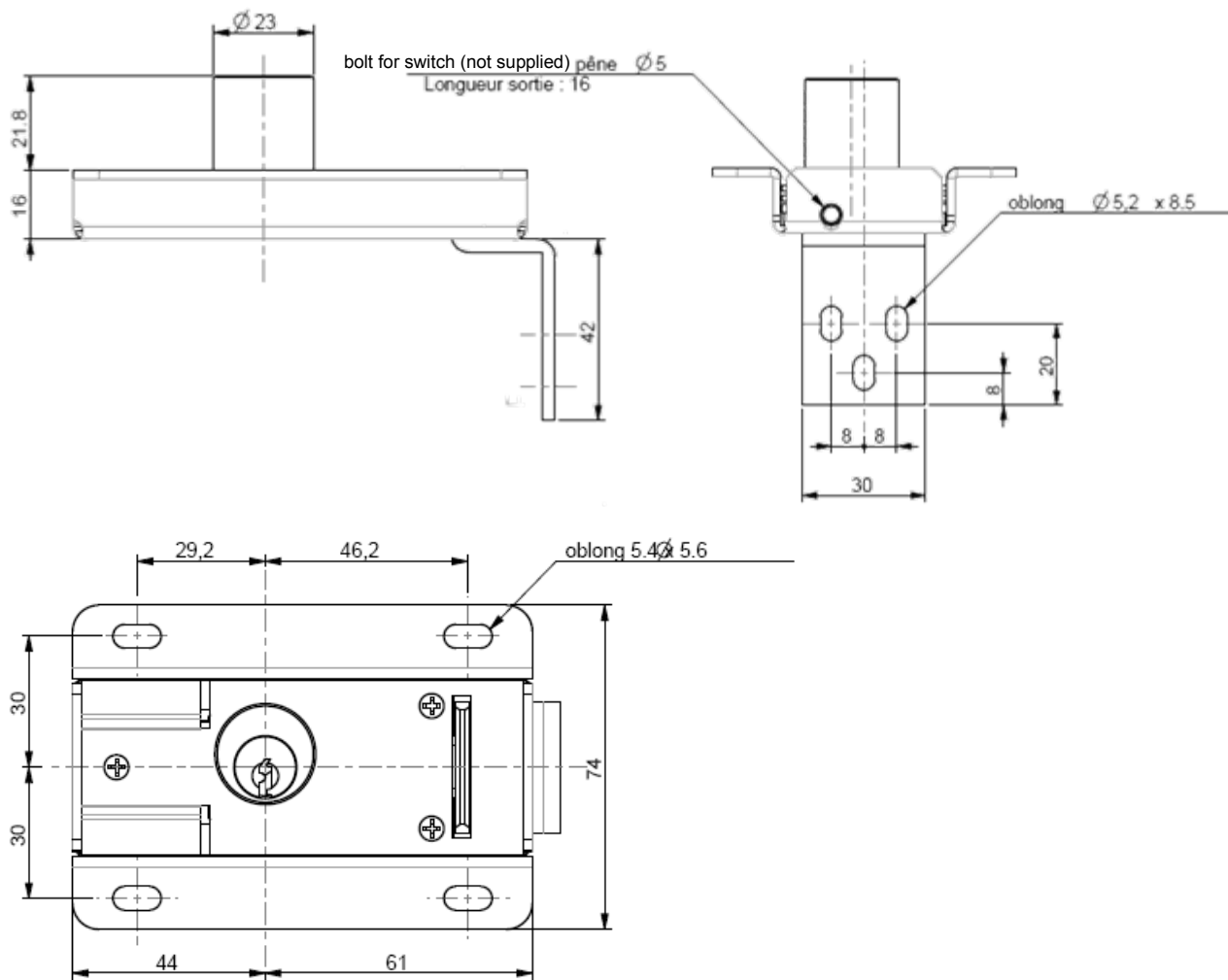
 www.ronis.fr	ELP lock	
		7



Example	ELP1	Description
Initial state		Free key, closed door
Final state		Captive key, opened door



ELP1	
Delivery state:	
7 - 1	

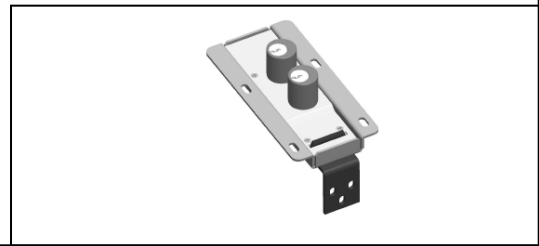
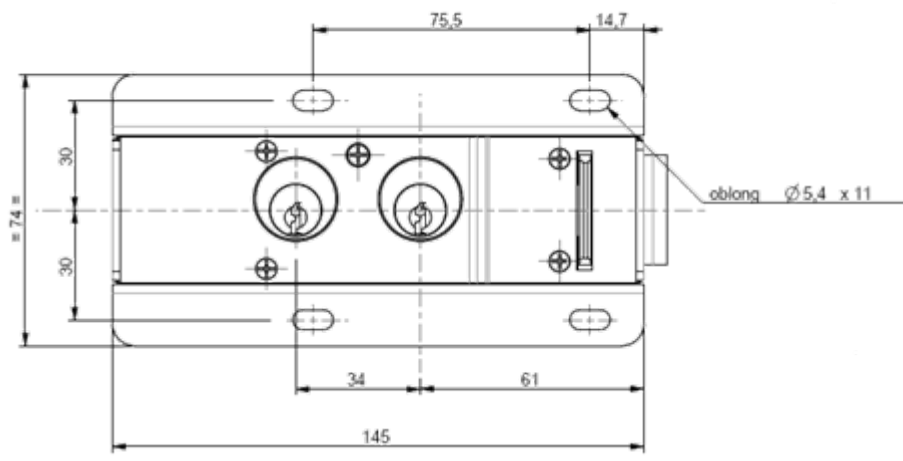
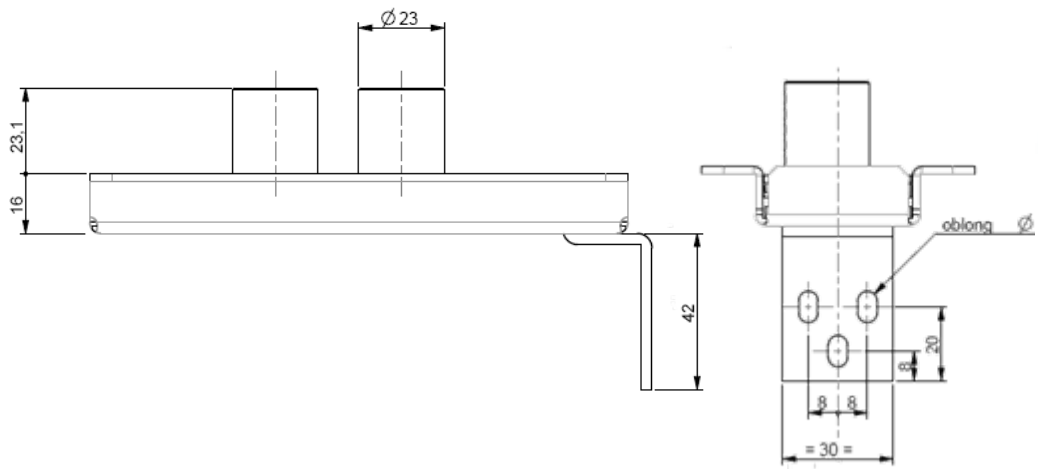




Example	ELP1 AX	Description
Initial state		Free key, closed door
Final state		Captive key, opened door




<b>ELP1 AX</b>	
Delivery state:	<b>7 - 2</b>

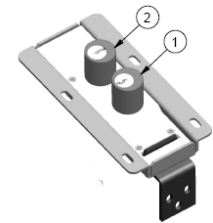
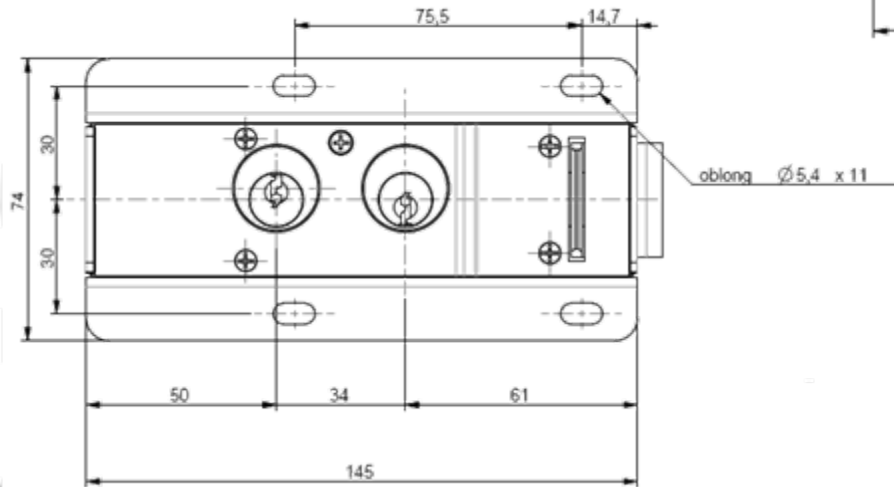
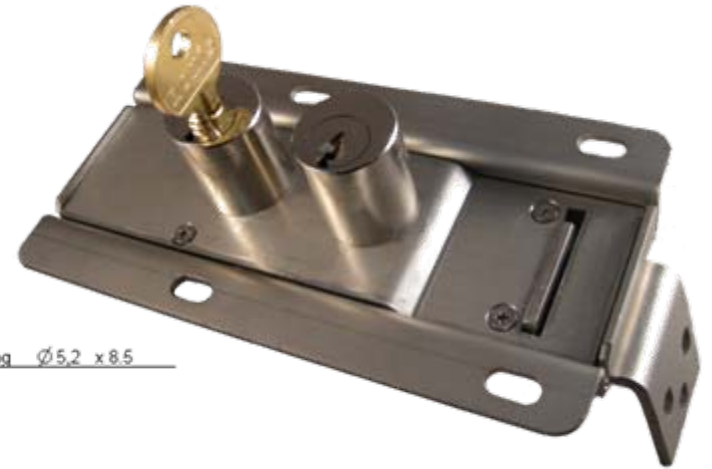
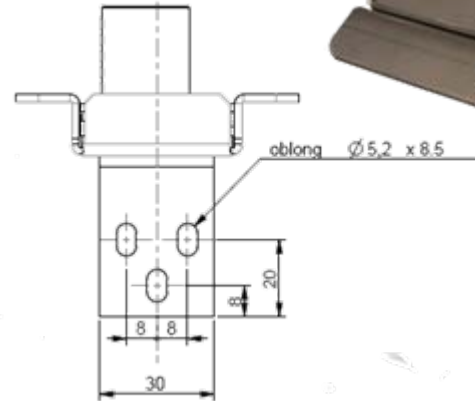
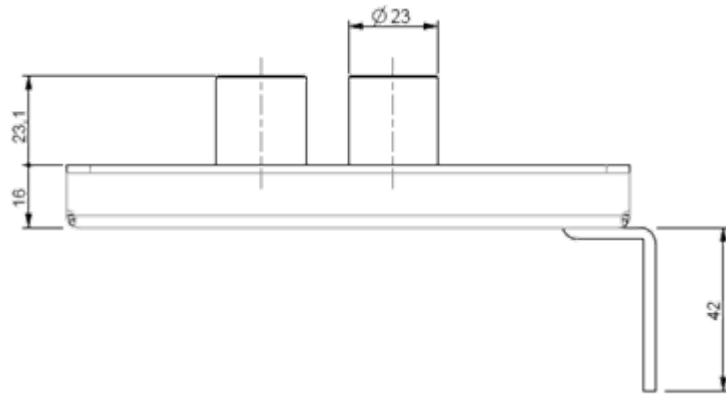




Example	ELP2	Description
Initial state		Free key X2, closed door
Final state		Captive key X2, opened door



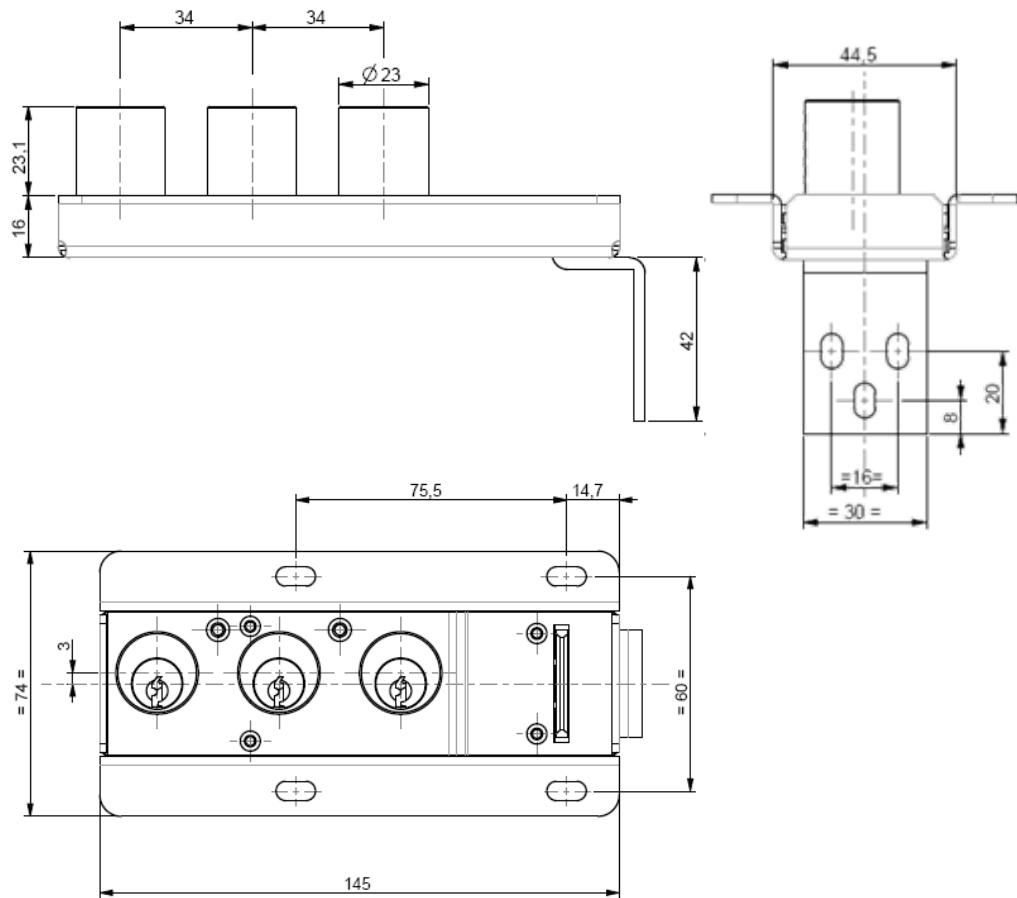
ELP2	
Delivery state:	
7 - 3	



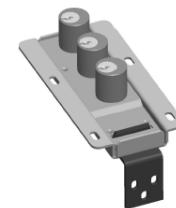
Example	ELP2 Special	Description
Initial state		Captive key, free key, closed door
Final state		Free Key, captive key, opened door



<h1>ELP2 Special</h1>	
Delivery state::	
	<h1>7 - 4</h1>



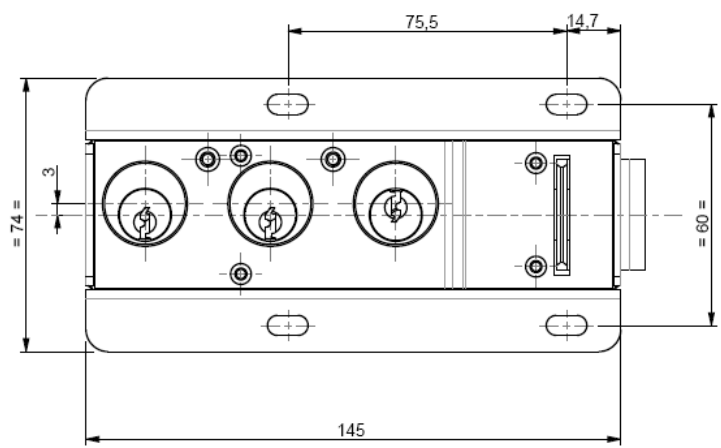
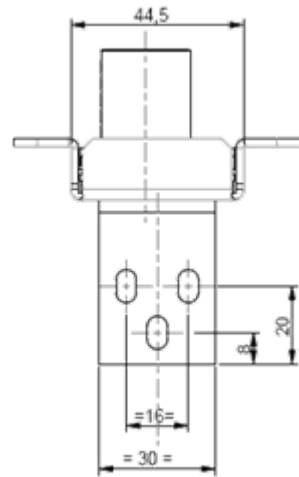
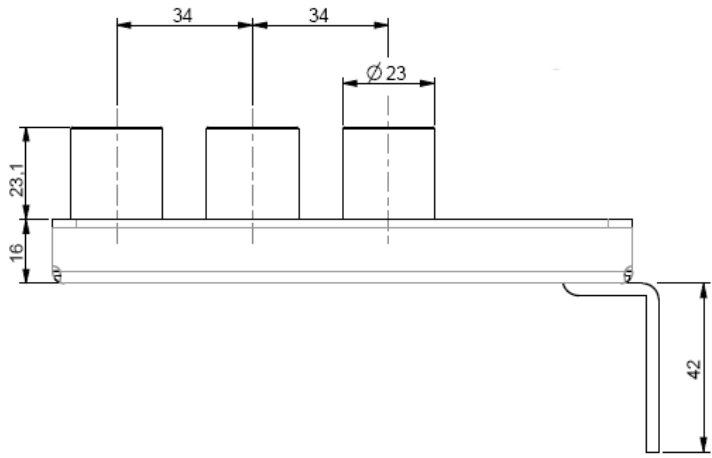
Key 1 releases the strike (captive key) when the keys 2 and 3 are in captive key position



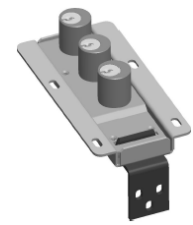
Example	ELP3	Description
Initial state		Free key X3, closed door
Final state		Captive key X3, opened door



<b>ELP3</b>	
Delivery state:	
	<b>7 - 5</b>



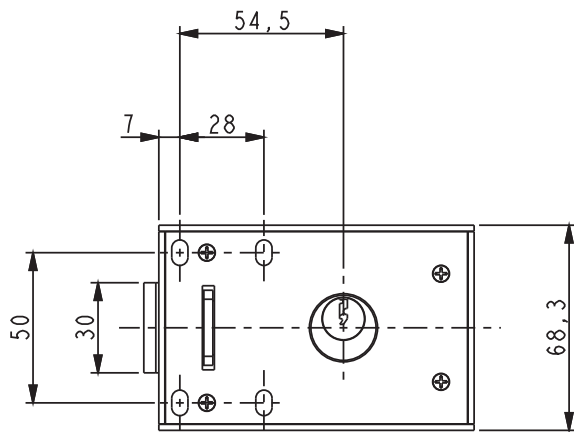
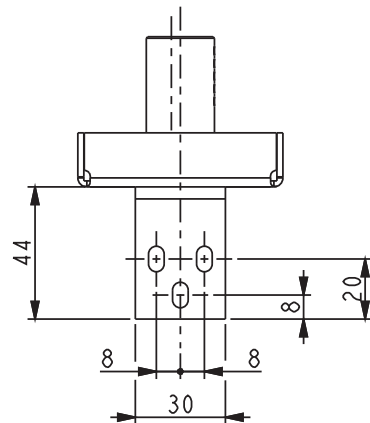
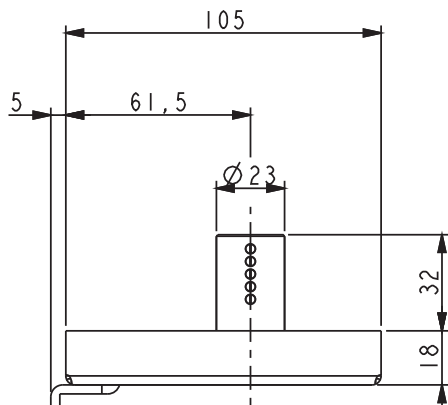
Key 1 releases the strike (free key) when the keys 2 and 3 are in captive key position



Example	ELP3 Special	Description
Initial state		Free key X2, captive key, closed door
Final state		Captive key X2, free key, opened door

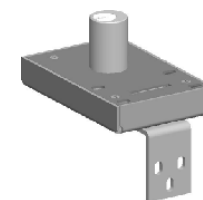


<h1>ELP3 Special</h1>	
Delivery state:	
	<h2>7 - 6</h2>



On request:  
 ELP101AX / 102AX,  
 With bolt Ø 5 mm for a switch  
 (Length bolt out : 14 mm)

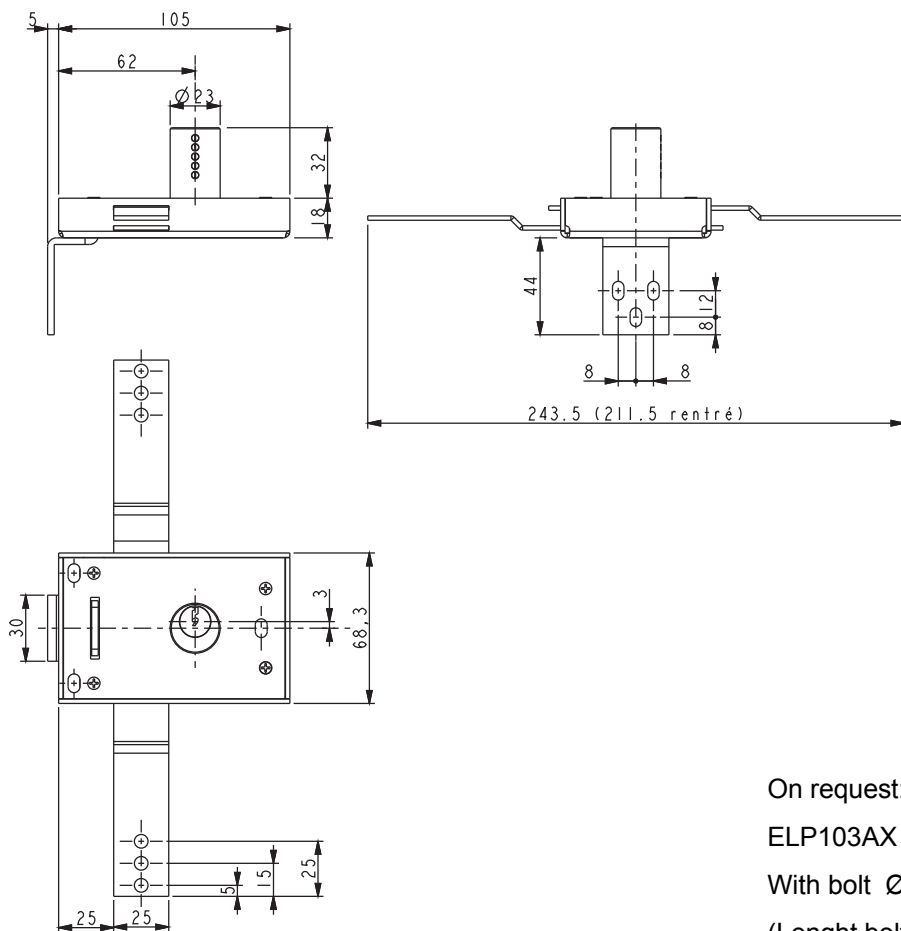
ELP101	ELP102



Example	ELP 101 / 102	Description
Initial state		Free key, closed door
Final state		Captive key, opened door



<b>ELP 101 / 102</b>	
Delivery state:	<b>7 - 7</b>

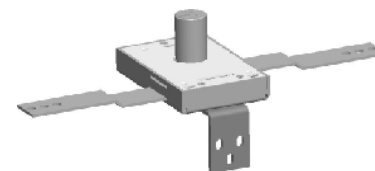
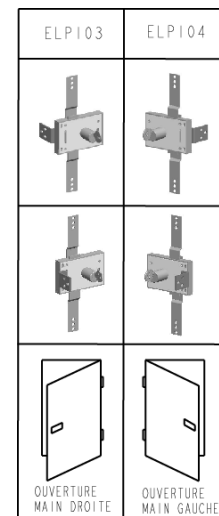


On request:

ELP103AX / 104AX,

With bolt  $\varnothing$  5 mm for a switch

(Length bolt out : 14 mm)



Example	ELP 103 / 104	Description
Initial state		Clé libre, porte fermée
Final state		Clé prisonnière, porte ouverte

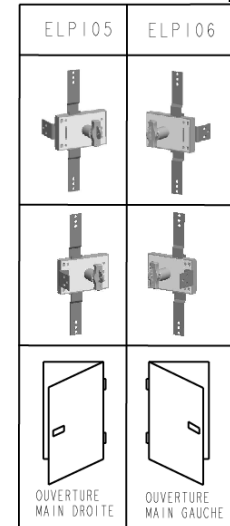
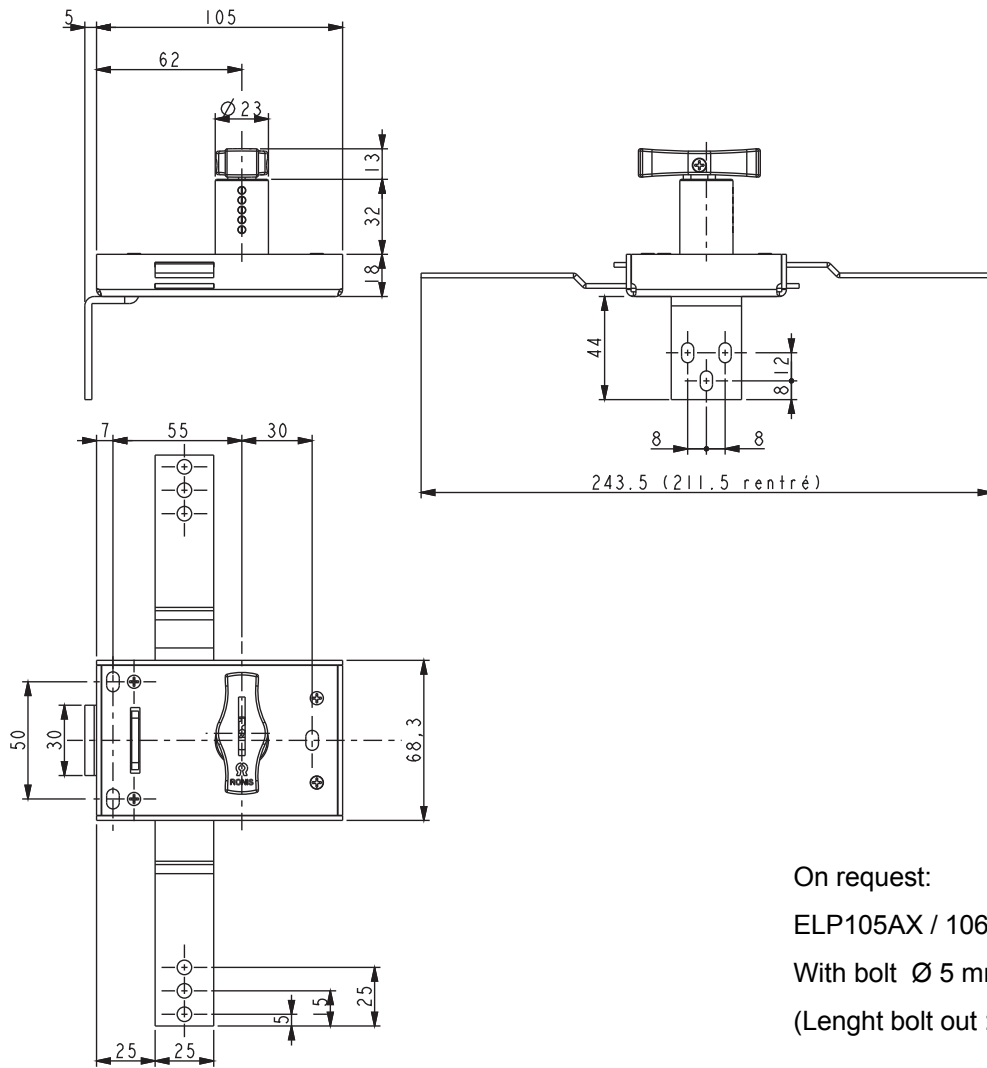


ELP 103 / 104

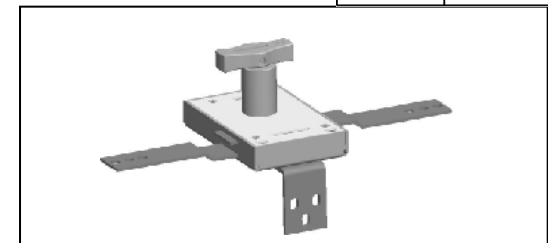
Delivery state:



7 - 8



On request:  
 ELP105AX / 106AX,  
 With bolt Ø 5 mm for a switch  
 (Length bolt out : 14 mm)




Example	ELP 105 / 106	Description
Initial state		Free key, closed door
Final state		Captive key, opened door

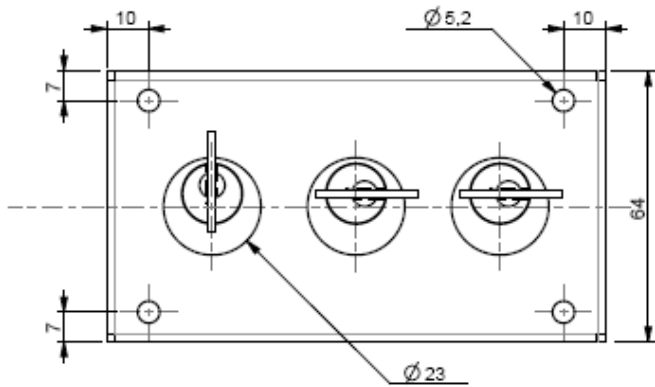
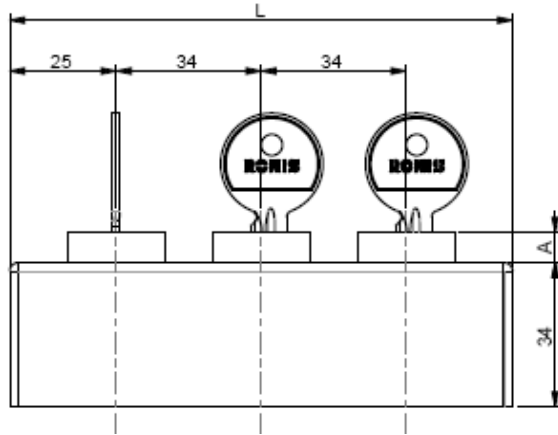


<b>ELP 105 / 106</b>	
Delivery state:	
	<b>7 - 9</b>



 www.ronis.fr	ELC lock	
		8



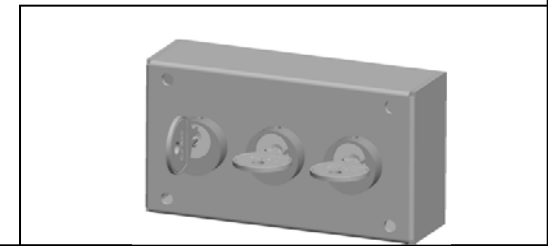


A=7.2 with an asymmetric key  
 A=10.8 with a reversible key

$$L = (\text{number lock} \times 34) + 16$$

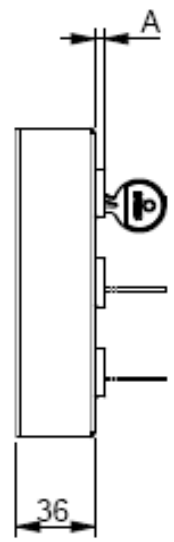
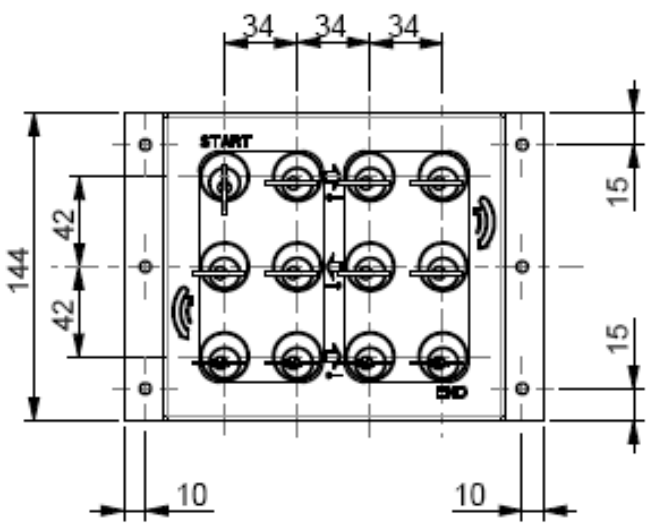
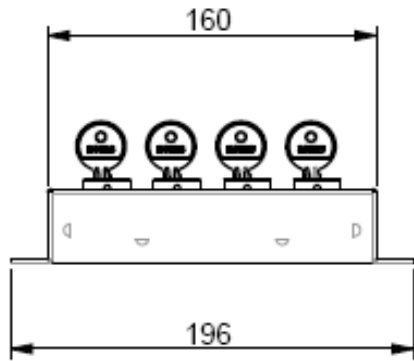


ELC:   
 ↳ Number of captive keys   
 ↳ Number of free keys

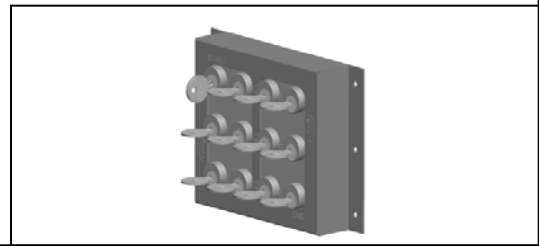


ELC 2 to 6 locks

8 - 1



ELC:   
 ↳ Number of captive keys   
 ↳ Number of free keys

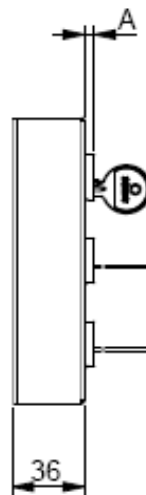
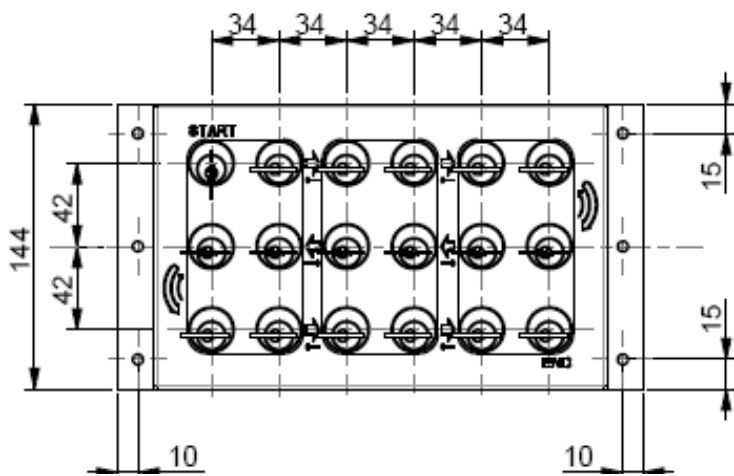
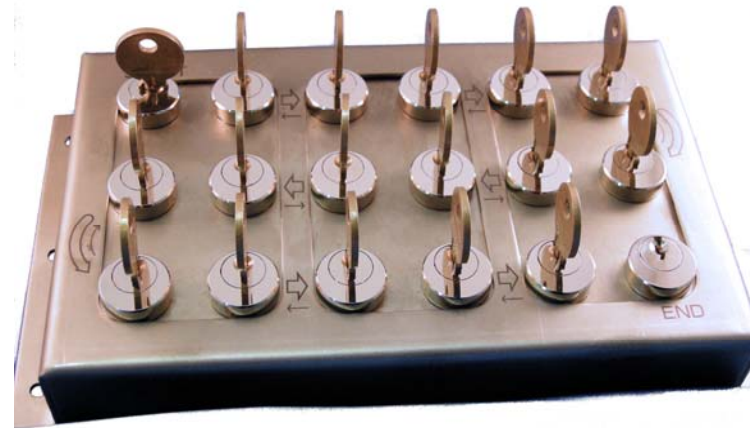
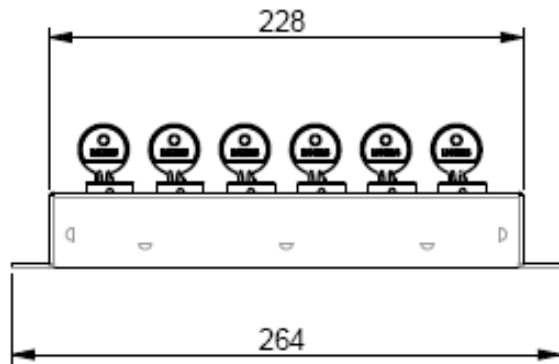


A=7.2 with an asymmetric key   
 A=10.8 with a reversible key



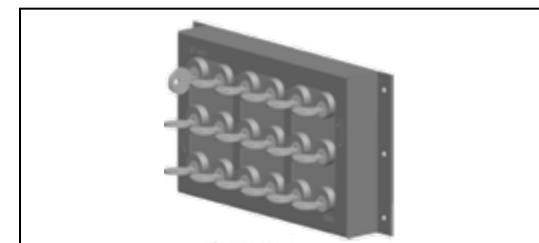
ELC 7 to 12 locks

8 - 2



ELC:
 

- Number of captive keys
- Number of free keys

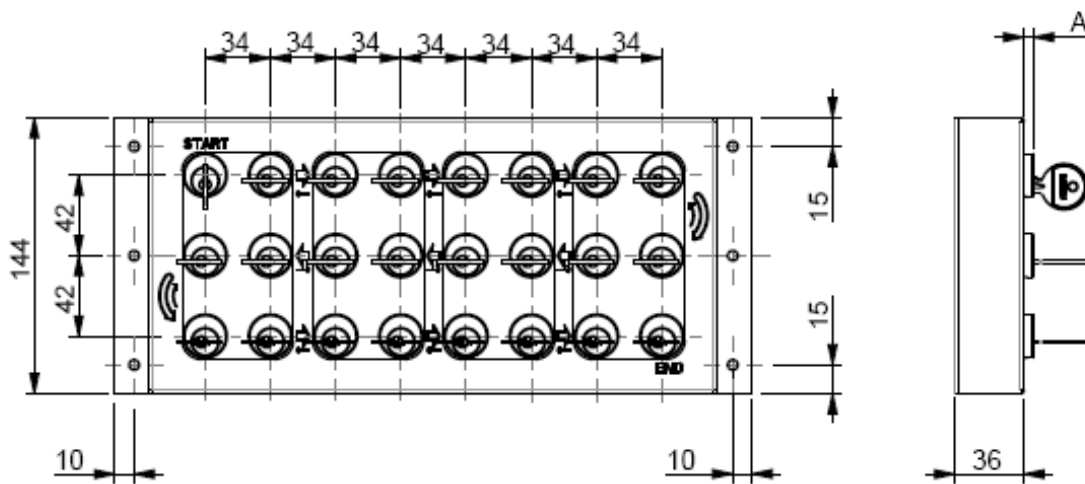
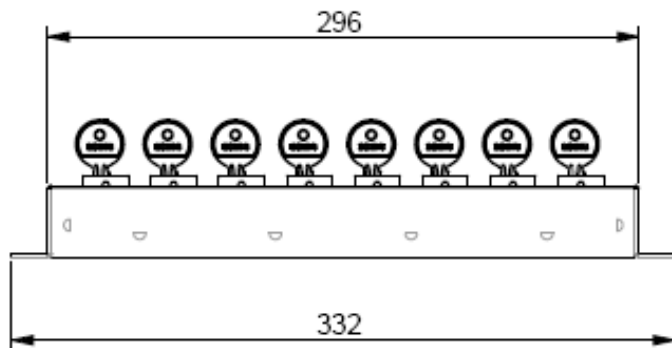


A=7.2 with an asymmetric key  
 A=10.8 with a reversible key



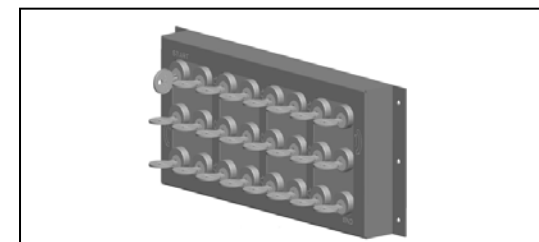
ELC 13 to 18 locks

8 - 3



ELC:
 

- Number of captive keys
- Number of free keys



A=7.2 with an asymmetric key  
 A=10.8 with a reversible key



ELC 19 to 24 locks

8 - 4



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– R.C.S. BOURGES 92 B 65 – N.I.I. FR 46 345 004 147

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