

New!

KL series

Locking power rocker switches

Distinctive features

Unlocking actuator

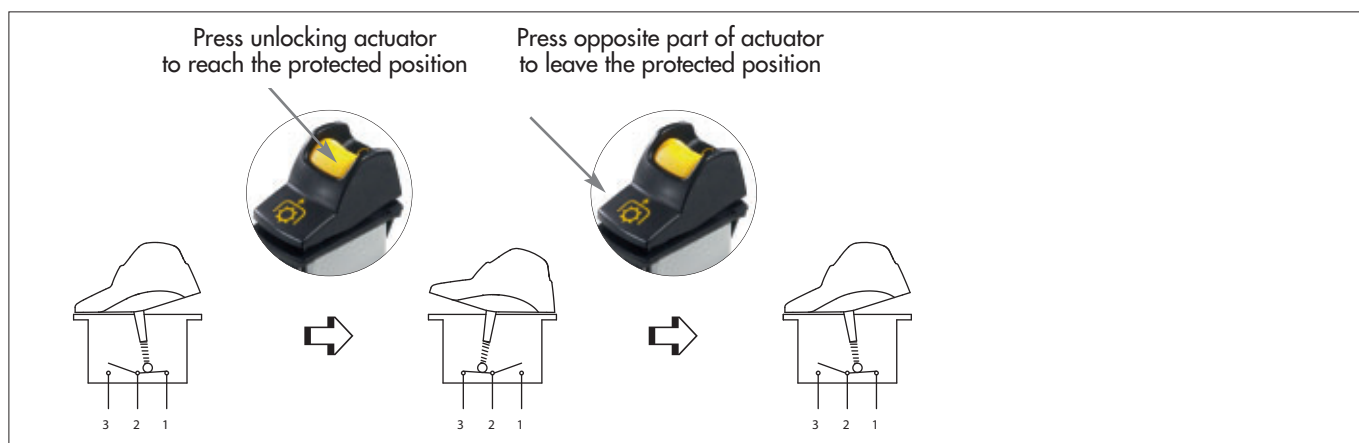
Each KL rocker switch includes an unlocking actuator.

This actuator must be pressed to activate the protected function of the rocker. Moreover, two frames protect the unlocking actuator from untimely activation.

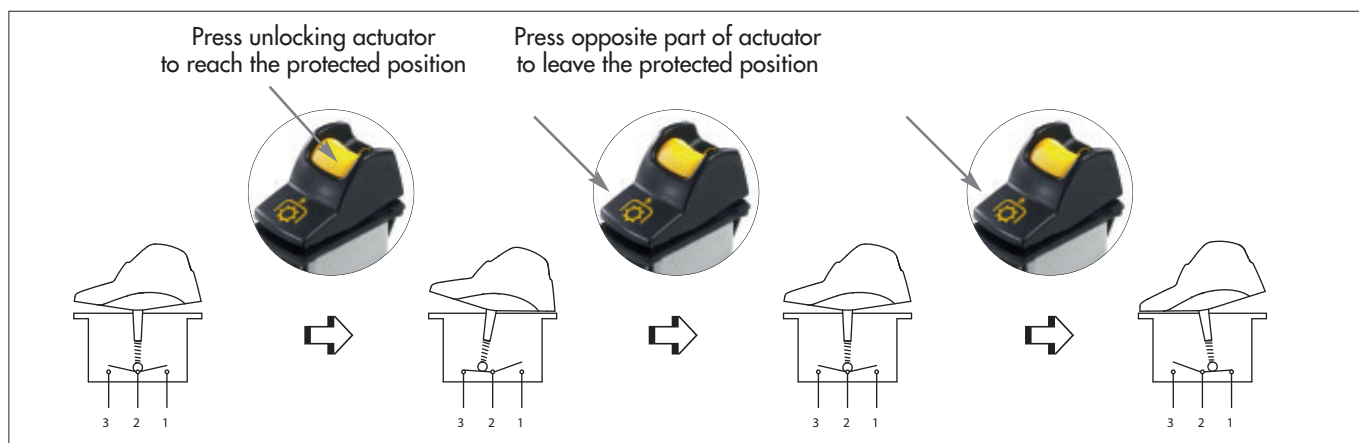
This intuitive and secured ergonomics is patented by APEM.



2 position versions (electrical functions 1, 5 and 6)



3 position versions (electrical functions 7, 8, 9 4, 4-1R)



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Specifications

New!



- ☐ One protected position
- ☐ Patented intuitive ergonomics
- ☐ Wide choice of colours
- ☐ Laser etched symbols
- ☐ Illuminated or non-illuminated
- ☐ Sealed to IP68

ELECTRICAL SPECIFICATIONS

- Current/voltage rating with resistive load :
 - Silver contacts (A) : 5A 24VDC, 100.000 cycles
 - 10A 24VDC, 10.000 cycles (terminals 6.35 x 0.8 only)
 - Gold plated contacts (D) : 20mA 12V, 150.000 cycles
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals
- Mechanical life : 150.000 cycles min.

MATERIALS

- Case : PA 6-6
- Actuator and unlocking actuator : ABS
- Bezel : PA 6-6
- Terminals : brass, silver plated
- Contacts : silver (A) or silver, gold plated (D)
- Contact roller : brass, nickel plated

ENVIRONMENTAL SPECIFICATIONS

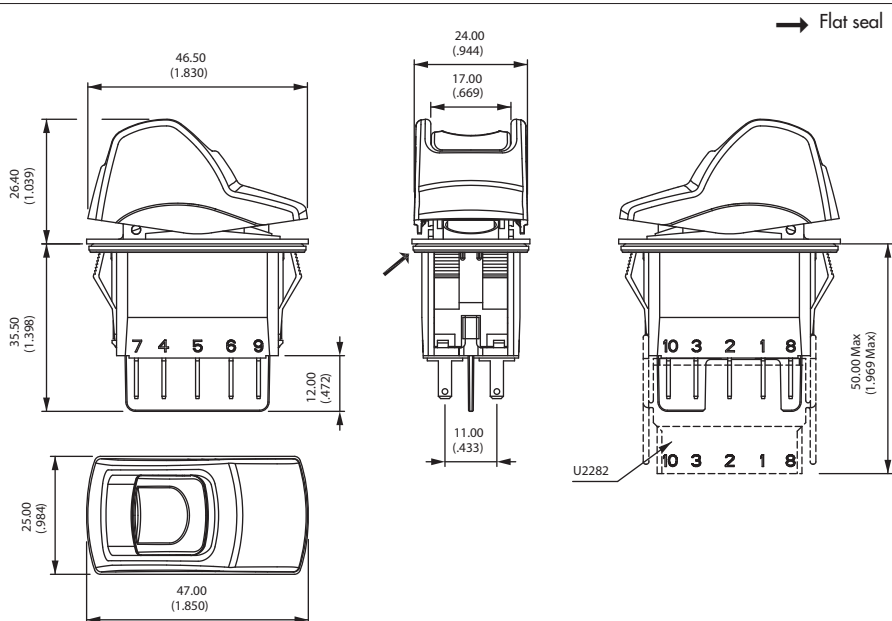
- Degree of protection of sealed versions : frontal sealing to IP68 according to IEC 60529 (submersion under 1 meter of water for more than 30 minutes)
- Salt spray resistance : 96 hours according to IEC 512-6, test 11f
- Operating temperature : -40°C to +85°C

SEALING

Sealing is optional.

To order a sealed product, complete the appropriate box of ordering format on the following pages.

DIMENSIONS



Packaging unit : 40 pieces

Dimensions : First dimensions are in mm while inches are shown as bracketed numbers.

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Selection guide

• To order a complete product, fill in all the boxes of the following order guide.

CASE + LEDS

KL						Side B	
SERIES	Electrical functions		Contacts		Sealing	LEDS	Wiring
Poles 3 Single pole 4 Double pole	1 ON - OFF 4 ON ON ON 4-1R ON ON MOM 5 MOM - ON 6 ON - ON 7 MOM OFF MOM 8 ON OFF MOM 9 ON OFF ON Function 1 only for 6-terminal versions. Functions 5 and 6 cannot be combined with "H" wiring.		A Silver D Gold plated		X No K Yes	X None A LED 6V red B LED 6V green C LED 6V yellow M LED 6V blue R LED 6V white D LED 12V red E LED 12V green F LED 12V yellow N LED 12V blue S LED 12V white J LED 24V red K LED 24V green L LED 24V yellow P LED 24V blue T LED 24V white	See following pages.
			Terminals		Terminals (continued)		
			Screw 0 6 terminals with barrier Solder lug/quick-connect 2 6 terminals with barrier 4 6 terminals w/o barrier A 10 term. with barrier B 10 term. w/o barrier C 10 terminals for use with connector U2292 Quick-connect 6,35x0,8 3 6 terminals with barrier		Quick-connect 6,35x0,8 5 6 terminals w/o barrier D 10 term. with barrier E 10 term. w/o barrier F 10 term. for use with connector U2292 Quick-connect 2,8x0,8 G 10 term. with barrier H 10 term. w/o barrier J 10 terminals for use with connector U2282		

ACTUATOR

Type	Rocker colour	Unlocking actuator colour
1 For non-illum. application 2 For illuminated application	1 Blue 1/4 Dark blue 2 Black 3 Green 4 Grey 5 Yellow 6 Red 7 Ivory 9 Orange	1 Blue 1/4 Dark blue 2 Black 3 Green 4 Grey 5 Yellow 6 Red 7 Ivory 9 Orange

ACTUATOR MARKING

	Area A	Area B	
Orientation	Symbols		Marking colour
			Illuminated models Blank White Non-illuminated 1 Blue 2 Black 3 Green 4 Grey 5 Yellow 6 Red 7 White 9 Orange

Symbols & Accessories : see end of section D.



NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

KL series

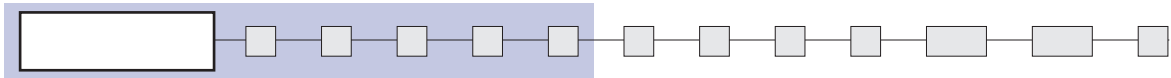
Locking power rocker switches

New!

Case

MODEL
STRUCTURE

CASE + LEDS



Single pole
KL31

Double pole
KL41
KL44*
KL44-1R*

KL35
KL36
KL37
KL38
KL39

2-3
5-6

1-2
4-5

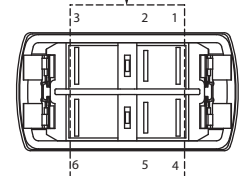
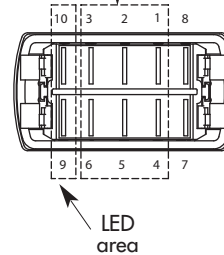
ON - OFF
ON ON ON
ON ON MOM
MOM - ON
ON - ON
MOM OFF MOM
ON OFF MOM
ON OFF ON

* Function 4 : single pole in double pole case

Bottom view

Contact area

Contact & LED area



10 terminal version

6 terminal version

ELECTRICAL FUNCTIONS AND CONNECTIONS

In the tables below, terminal connections as viewed from bottom of switch. Only the contact area is represented. For single pole models, only terminals 1, 2 and 3 are to be considered (not 6, 5, 4).

x = w/o terminal
o = with terminal
▲ = momentary

	2 positions	
	 3 2 1	 3 2 1
Function 1 * KL31-KL41	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 5 KL35 - KL45	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 6 KL36-KL46	 3 2 1 6 5 4	 3 2 1 6 5 4

* Function 1

- Only available for 6 terminal versions.
- Illuminated versions only available with "A" wiring.

	3 positions		
	 3 2 1	 3 2 1	 3 2 1
Function 7 KL37-KL47	 3 2 1 6 5 4	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 8 KL38-KL48	 3 2 1 6 5 4	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 9 KL39-KL49	 3 2 1 6 5 4	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 4 KL44	 3 2 1 6 5 4	 3 2 1 6 5 4	 3 2 1 6 5 4
Function 4-1R KL44-1R	 3 2 1 6 5 4	 3 2 1 6 5 4	 3 2 1 6 5 4

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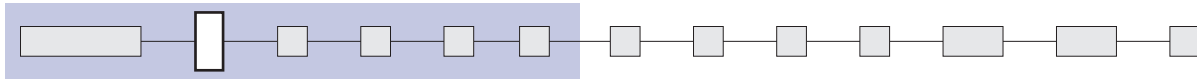
KL series

Locking power rocker switches

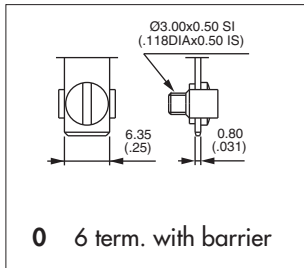
Case

TERMINALS

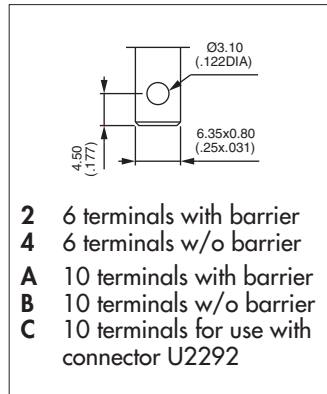
CASE + LEDS



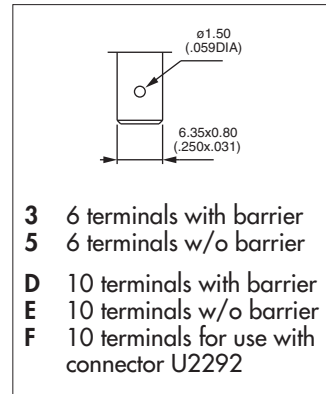
Screw



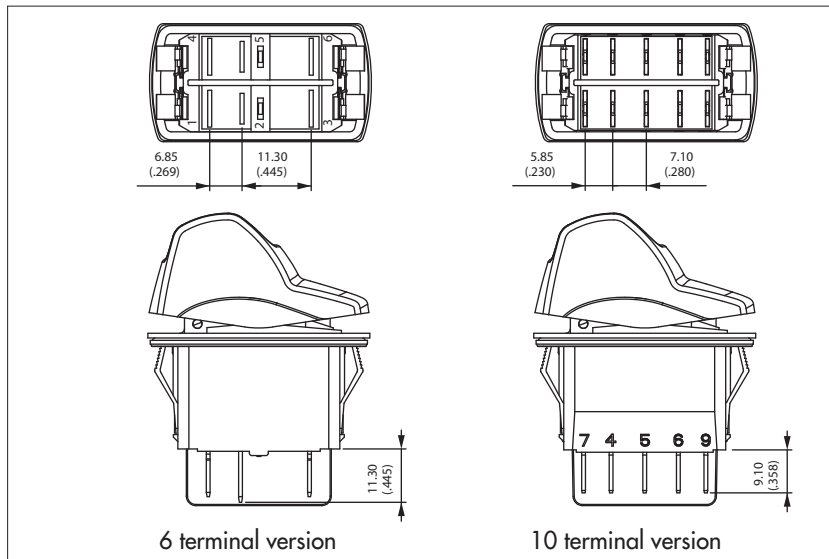
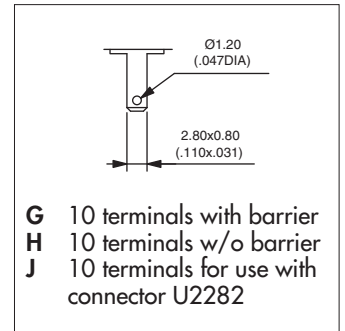
Solder lug / quick-connect



Normalized quick-connect 6,35x0,8



Normalized quick-connect 2,8x0,8

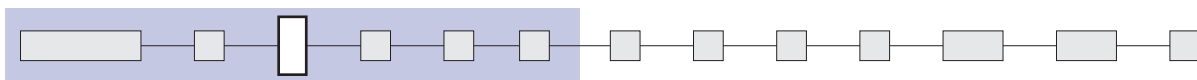


Terminals are marked on the case.

The drawings show the maximum possible number of terminals.

CONTACT MATERIALS

CASE + LEDS



- A** Silver
- D** Silver, gold plated

KL series

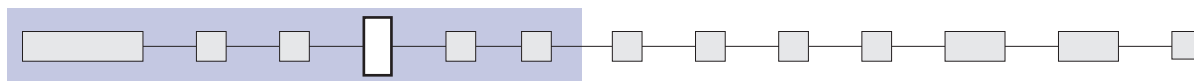
Locking power rocker switches

Case - LEDs

New!

SEALING

CASE + LEDS

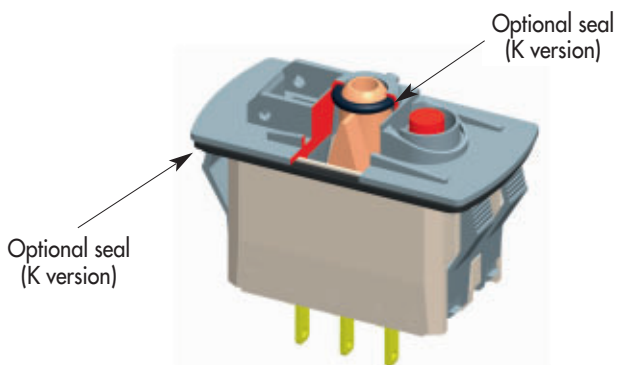


X No sealing

K IP68 (switch assembled on panel)

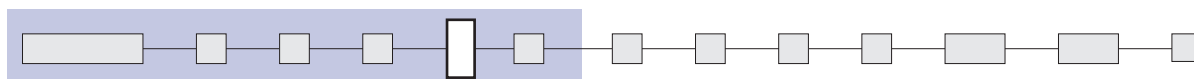
Ultrasonic welding of frame to case is standard on all versions.
The ultrasonic welding and the optional panel seal prevent water and dust from introducing into the switch housing.

*The product shall be installed professionally.
Test conditions available on request.*



LEDS

CASE + LEDS



Side B

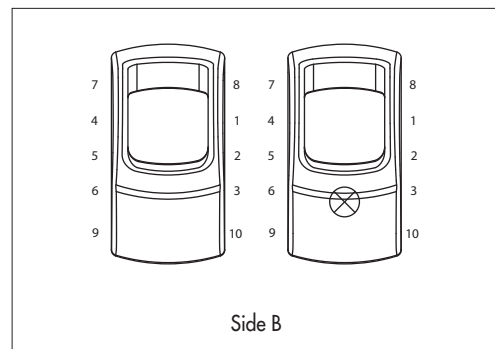
Complete enlarged box with one of the codes listed below.

X Without LED

	Red	Green	Yellow	Blue	White
6VDC	A	B	C	M	R
12VDC	D	E	F	N	S
24VDC	J	K	L	P	T

LED consumption : 20mA @ nominal voltage (25°C)

Other illumination solutions : on request.



Side B

New!

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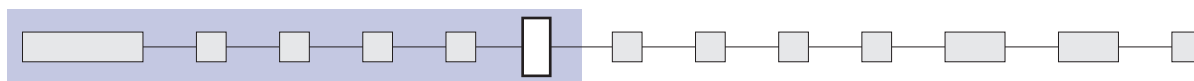
Locking power rocker switches

Case - LED

WIRING

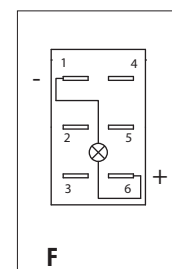
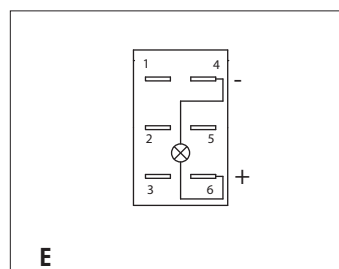
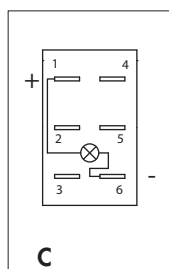
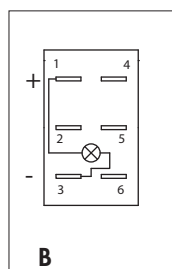
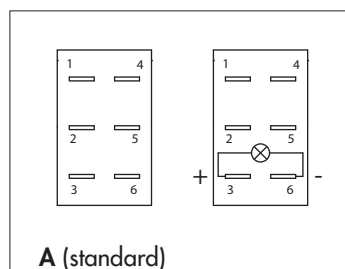
The LED wiring diagram is shown on the case.

CASE + LED



• For 6 terminal versions

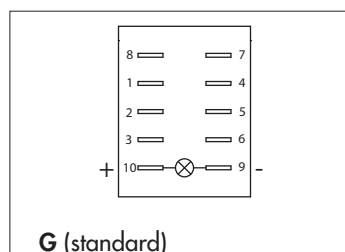
LED connected to the load



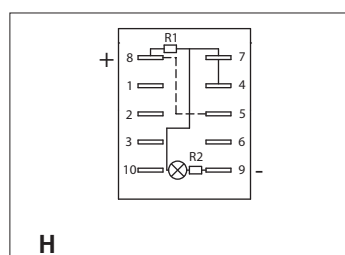
Note : If not available, terminals are added to connect the LED.

• For 10 terminal versions

Independent LED or integrated functions

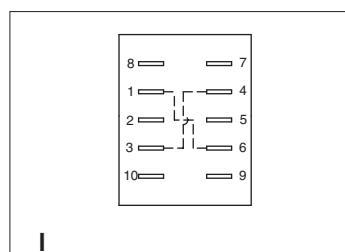


To have independent LED.



To obtain 2 symbol illumination levels (night illumination when OFF and higher illumination when ON).
Dotted line = external wiring, continuous line = internal wiring

Available in Single Pole only, with H and J quick-connect terminals.



To have a polarity inversion (typical application : fan motor).
Dotted line = external wiring

Power supply between 2 and 5 - Load between 1 and 4 or 3 and 6.
Available with H and J quick-connect terminals.

Please contact us for other wiring solutions.

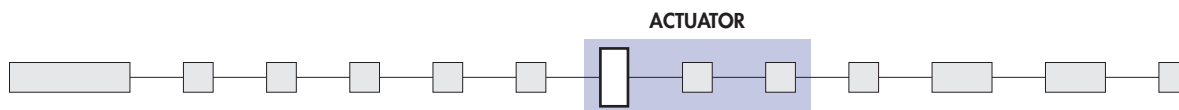
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Actuator - Marking

ACTUATOR TYPE



- 1 For non-illuminated application
- 2 For illuminated application

ROCKER COLOUR



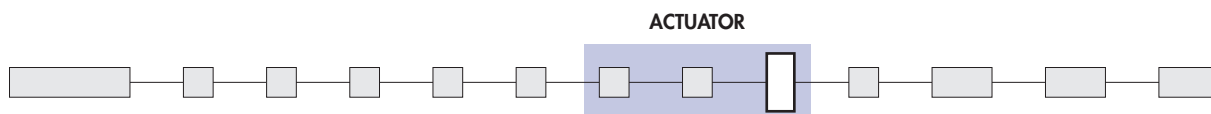
Code	Colour
1	Blue
1/4	Dark blue
2	Black

Code	Colour
3	Green
4	Grey
5	Yellow

Code	Colour
6	Red
7	Ivory
9	Orange

Note : colour 7 not available on illuminated versions

UNLOCKING ACTUATOR COLOUR



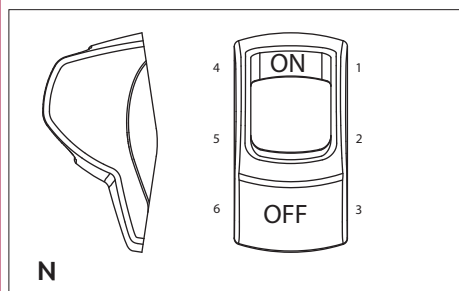
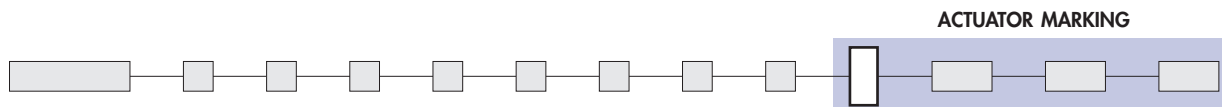
Code	Colour
1	Blue
1/4	Dark blue
2	Black

Code	Colour
3	Green
4	Grey
5	Yellow

Code	Colour
6	Red
7	Ivory
9	Orange

MARKING ORIENTATION

If no marking required, leave box blank.



Other orientations : on request

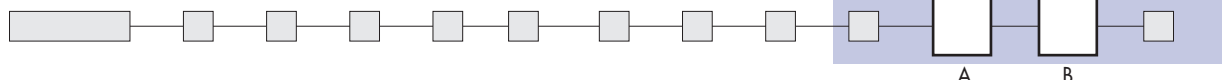
New!

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Marking - Mounting

SYMBOLS



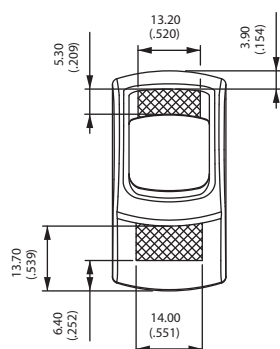
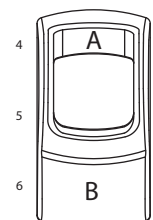
XX No symbol

Available symbols : see end of section D.

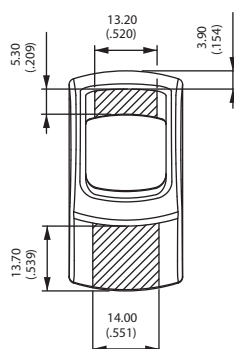
Laser etching resistance

- Water and petrol resistant according to EN61058-1
- Tear resistant (cross-cut test) according to NF ISO 2409 : class 0
- UV resistant according to ISO 4892-2

Marking area - The symbol will be included in the hatched area.

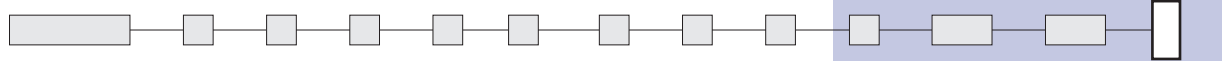


For illuminated versions



For non-illuminated versions

MARKING COLOUR



Illuminated models (laser etching)

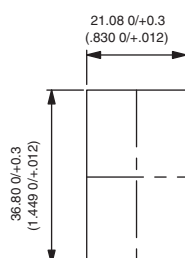
Blank White

Non-illuminated models (pad printing)

1 : Blue - **2** : Black - **3** : Green - **4** : Grey - **5** : Yellow - **6** : Red - **7** : White - **9** : Orange

SWITCH PANEL CUT-OUT

Panel thickness : 0,8 mm to 4,6 mm
Recommended panel thickness :
between 2 mm and 3,5 mm



MATRIX MOUNTING

