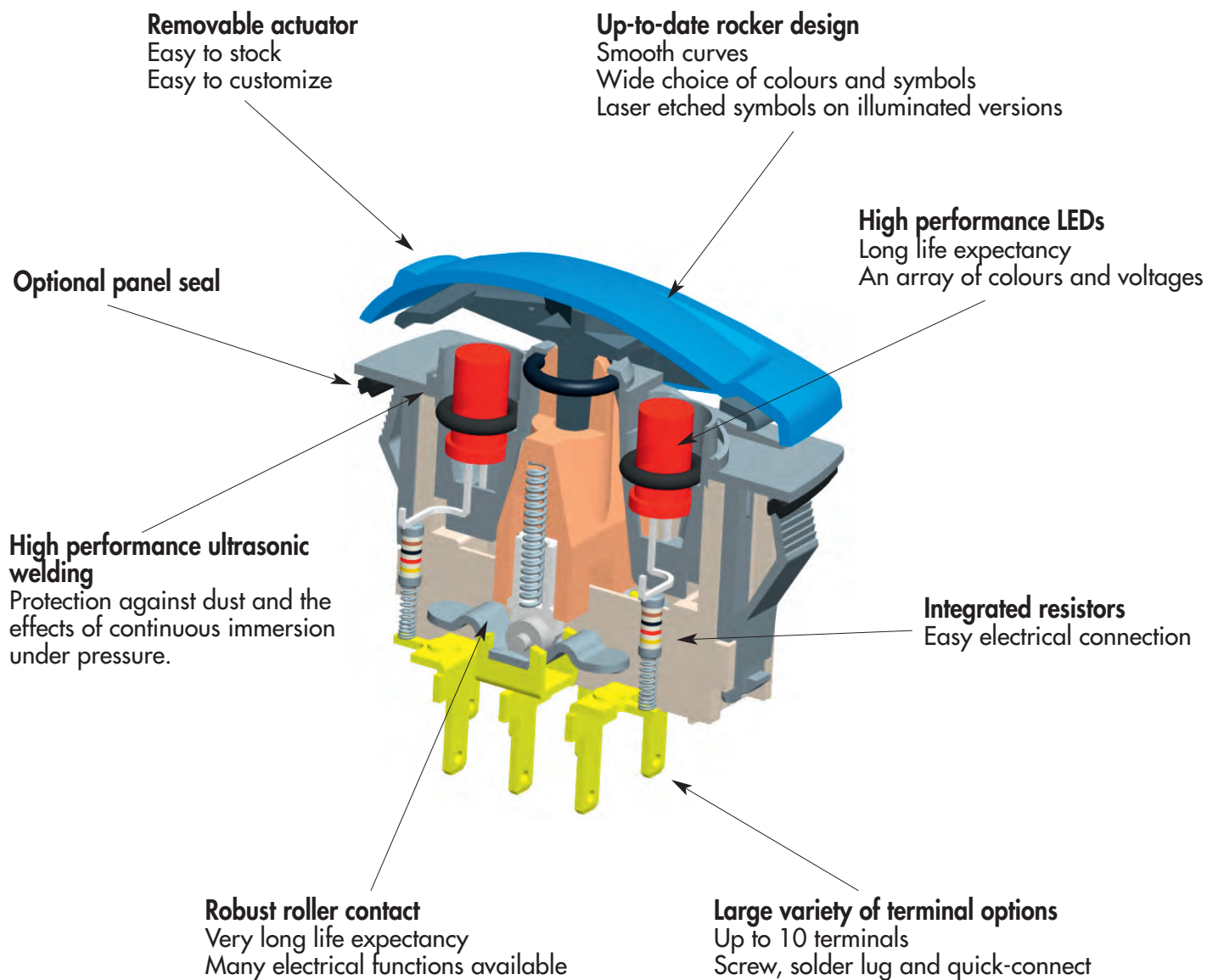


### Attractive rugged rocker switch



APEM will be happy to develop custom product solutions. Please contact us with your requirements.

# KR series

## Power rocker switches

### Specifications



- ☐ Unique rocker design
- ☐ Wide choice of colours
- ☐ Laser etched symbols
- ☐ Illuminated or non-illuminated
- ☐ Optionally sealed to IP68

#### ELECTRICAL SPECIFICATIONS

- Current/voltage rating with resistive load :
  - Silver plated 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
- Current/voltage rating with lamp load - silver contacts (A) :
  - functions 1 & 6 : 100W 24VDC, 10.000 cycles
  - other functions : 60W 24VDC, 10.000 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.

#### ENVIRONMENTAL SPECIFICATIONS

- Degree of protection of sealed versions : frontal sealing to IP68 acc. 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
- Vibration resistance : 10-500 Hz / 10 g per IEC 60068-2-6
- Operating temperature : -40°C to +85°C

#### MATERIALS

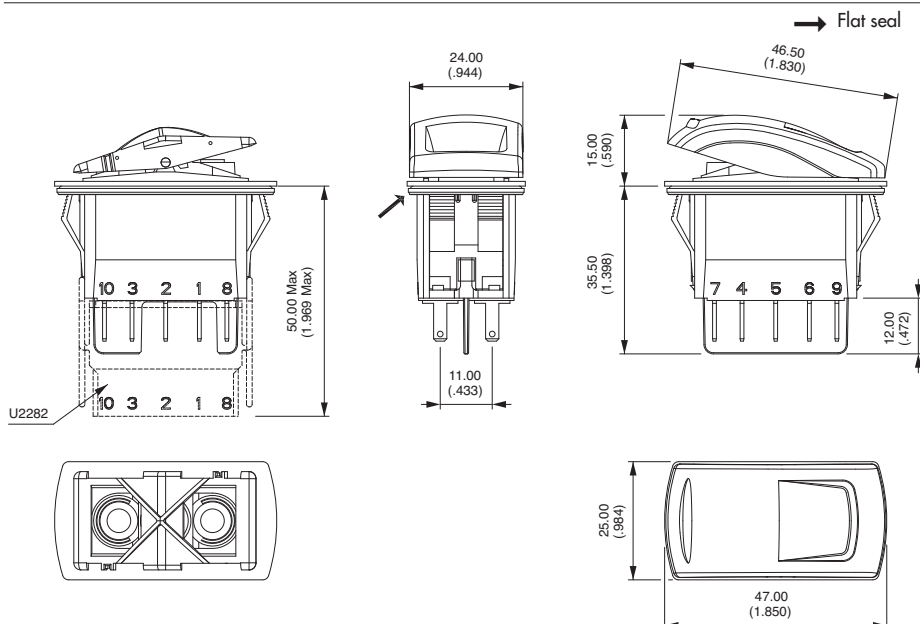
- Case : PA 6-6
- Actuator : ABS
- Bezel : PA 6-6
- Contacts & terminals : brass, solid silver grain, silver plated (A) or brass, solid silver grain, gold plated (D)
- Contact roller : brass, nickel plated

#### 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.

### HOW TO ORDER

- To order a complete product, fill in all the boxes of the following order guide.
- To order case only (without actuator), finish your order number with the LED wiring code.
- To order actuator only (without case), begin the order number with code KRR, then follow the order format from "actuator type" until the end of the options.

### CASE + LEDS

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

### ACTUATOR

<b>Type</b>	<b>Colour</b>
1 For non-illuminated 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 A Aluminium bright

### ACTUATOR MARKING

	Area A	Area M	Area B
<b>Orientation</b>	<b>Symbols</b>		
<b>N</b>  <b>O</b>  <b>S</b>  <b>E</b> 			

Symbols & Accessories : see end of section D.

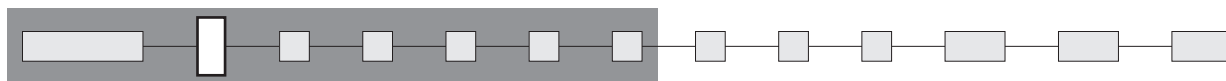


**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

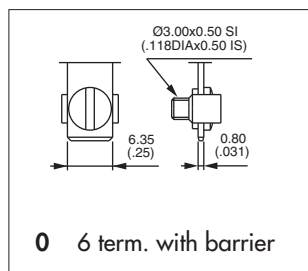


### TERMINALS

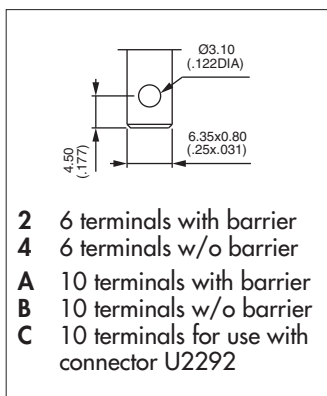
CASE + LEDS



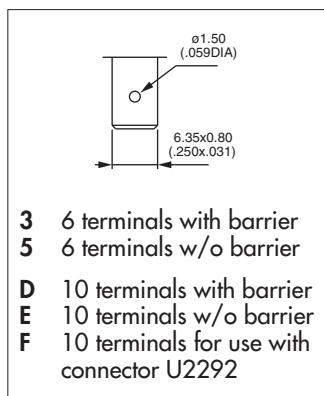
#### Screw



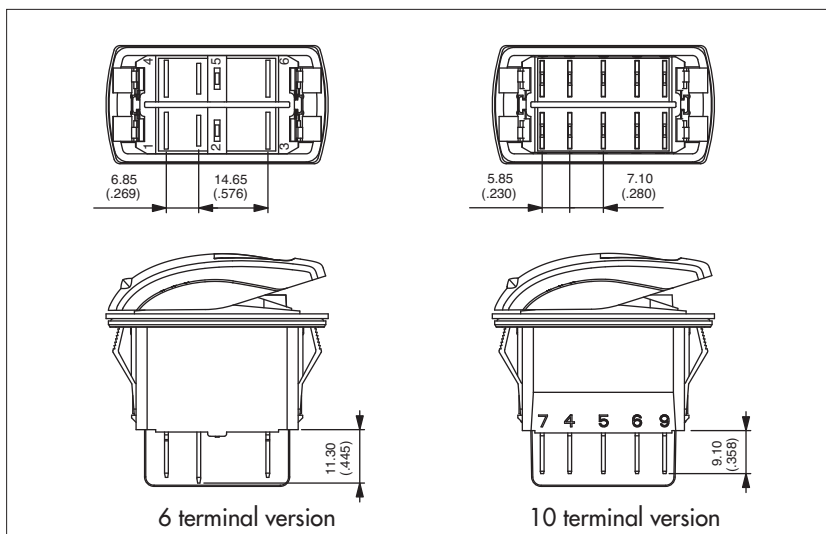
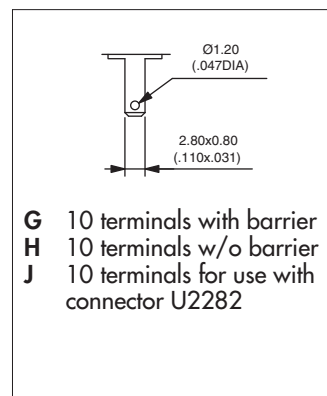
#### Solder lug / quick-connect



#### Normalized quick-connect 6,35x0,8



#### Normalized quick-connect 2,8x0,8

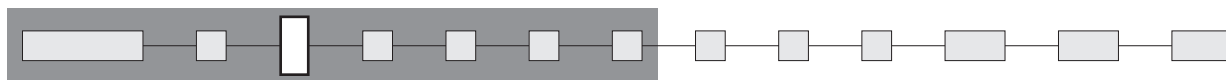


Terminals are marked on the case.

The drawings show the maximum possible number of terminals.

### CONTACT MATERIALS

CASE + LEDS



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

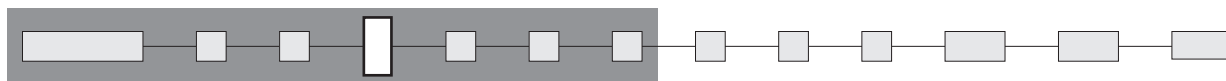
# KR series

## Power rocker switches

Case - LEDs

### SEALING

CASE + LEDS



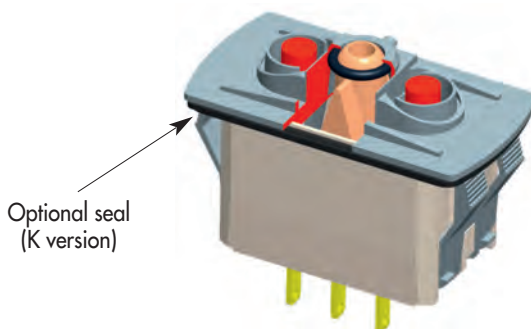
**X** No sealing

**K** IP68 (switch assembled on panel)

Ultrasonic welding of frame to case is standard on all versions.

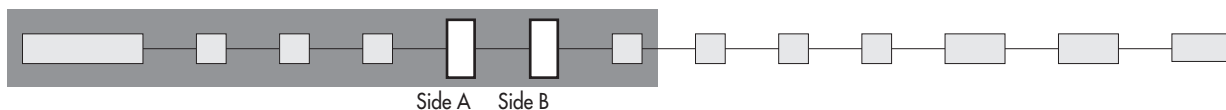
The ultrasonic welding and the optional panel seal prevent water and dust from introducing into the switch housing.

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



### LEDS

CASE + LEDS



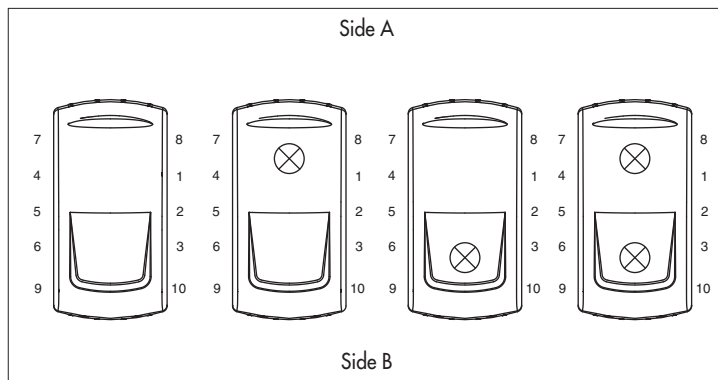
Complete each enlarged box with one of the codes listed below.

**X** Without LED

	Red	Green	Yellow	Blue	White	Red/green
6VDC	<b>A</b>	<b>B</b>	<b>C</b>	<b>M</b>	<b>R</b>	<b>1</b>
12VDC	<b>D</b>	<b>E</b>	<b>F</b>	<b>N</b>	<b>S</b>	<b>2</b>
24VDC	<b>J</b>	<b>K</b>	<b>L</b>	<b>P</b>	<b>T</b>	<b>3</b>
No resistor	<b>U</b>	<b>V</b>	<b>W</b>	<b>Y</b>	<b>Z</b>	<b>-</b>

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

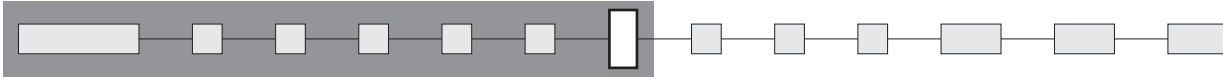
Other illumination solutions : on request.



#### WIRING

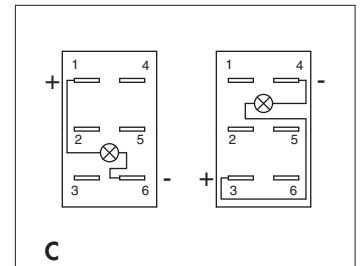
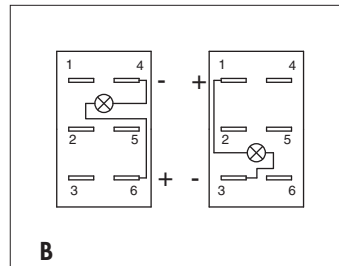
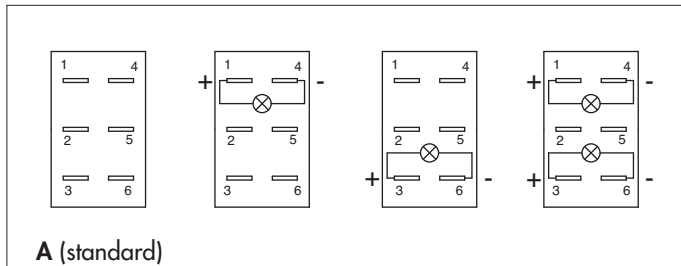
The LED wiring diagram is shown on the case.

#### CASE + LEDS

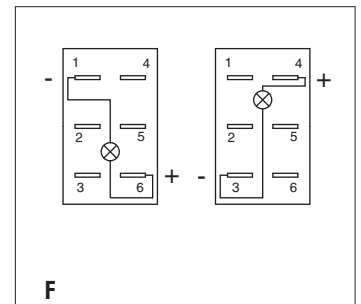
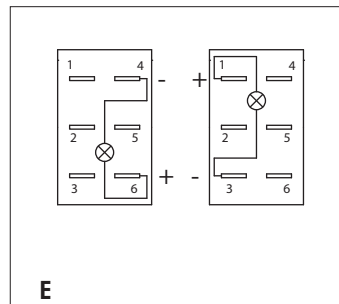
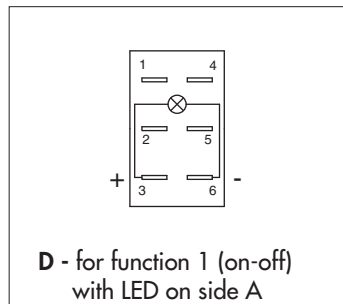


#### • For 6 terminal versions

LED connected to the load

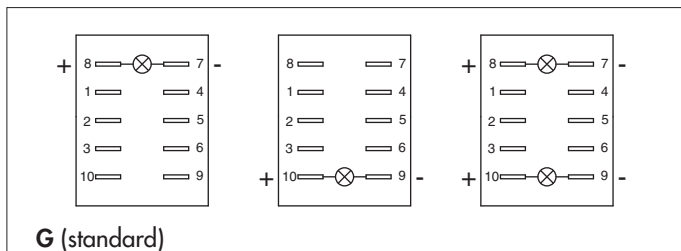


Note : If not available, terminals are added to connect the LED.

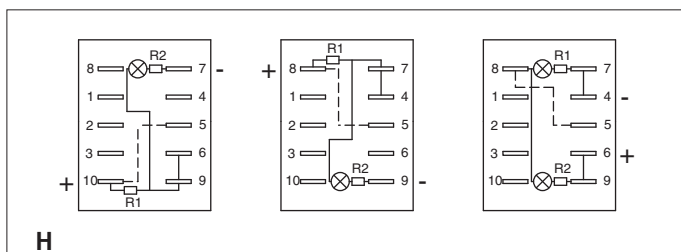


#### • For 10 terminal versions

Independent LED or integrated functions



To have independent LEDs.



To obtain 2 symbol illumination levels (night illumination when OFF and higher illumination when ON).

H wiring with LED on side A available with functions 6, 8, 9 and 44.

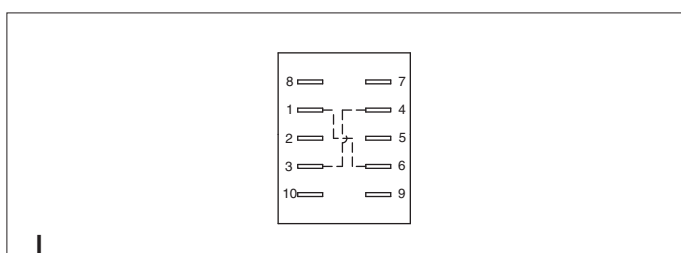
H wiring with LED on side B available with functions 5, 6 and 9.

H wiring with 2 LEDs available with functions 8 and 9.

More information (H wiring schematics) : on request.

Dotted line = external wiring, continuous line = internal wiring

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



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

To have a polarity inversion (typical application : fan motor).

Dotted line = external wiring

Please contact us for other wiring solutions.

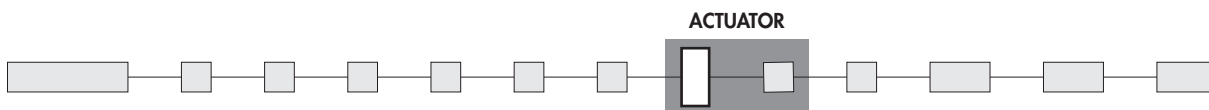
# KR series

## Power rocker switches

### Actuator - Marking

To order actuator only (without case), begin the order number with code KRR, then follow the order format from "actuator type" until the end of the options.

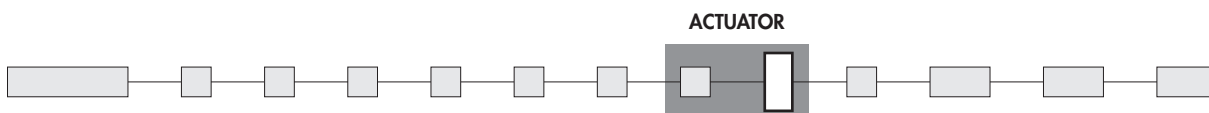
#### ACTUATOR TYPE



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

Other rocker design : on request.

#### ACTUATOR COLOUR



Code	Colour
1	Blue
1/4	Dark blue
2	Black
3	Green

Code	Colour
4	Grey
5	Yellow
6	Red
7	Ivory

Code	Colour
7/1	White
9	Orange
A	Aluminium bright

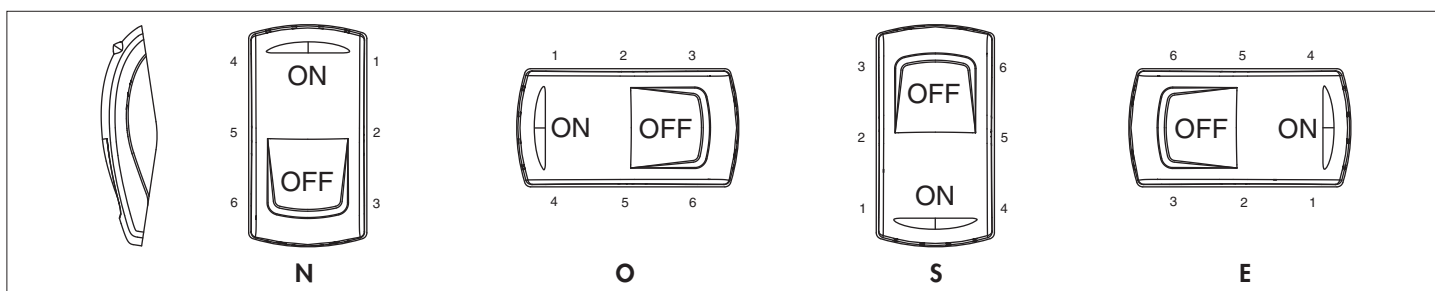
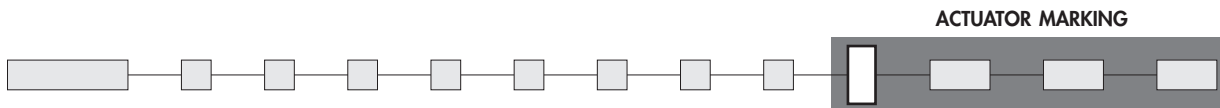
Note : colours 7 and 7/1 not available on illuminated versions.

A **soft-touch varnish** can be added. Consult us.



#### MARKING ORIENTATION

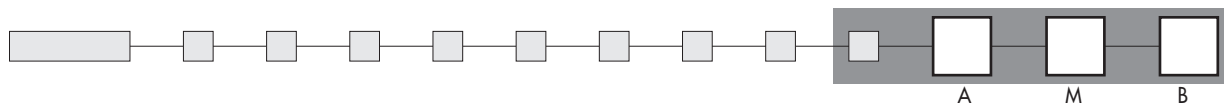
If no marking required, complete the box with code N.



Other orientations : on request



#### SYMBOLS



**XX** No symbol

**Available symbols** : see end of section D.

#### Marking colour

White marking for illuminated rockers (laser etching) and non-illuminated black rockers (pad printing). Black marking for non-illuminated colour rockers (pad printing). Other : on request.

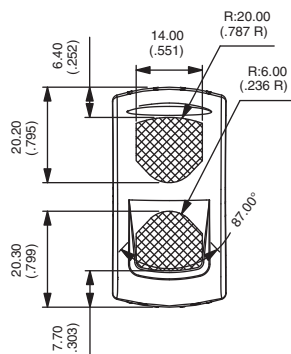
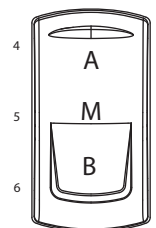
#### Laser etching resistance

- 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

For illuminated versions. The symbol will be included in the hatched area.

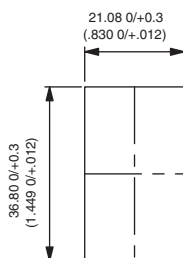
Marking in M area : on request.



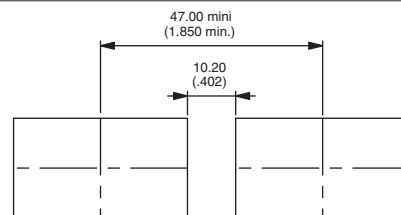
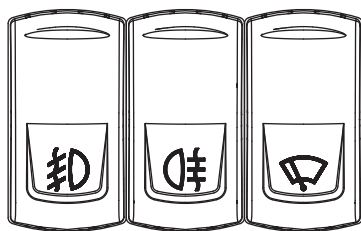
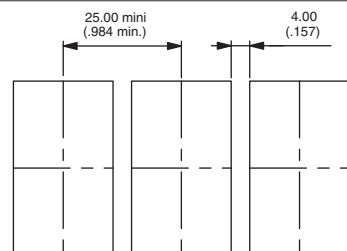
#### SWITCH PANEL CUT-OUT

Panel thickness : 0,8 mm to 4,6 mm

Recommended panel thickness :  
between 2 mm and 3,5 mm



#### MATRIX MOUNTING



# K range

## Power rocker switches and indicators

### Symbols

UG1410A

Most symbols meet the ISO 7000 standard "graphical symbols for use on equipments" (code given in bracket in the description). Contact us for symbols not featured in the following tables.

#### Legend scale :

KR series : 1:1

KL, KG and KI series : depending on space available on the product (see "Symbols" section at the end of each series).

CODE	SYMBOL	DESCRIPTION
XX	None	-
01	ON	-
02	OFF	-
03	O	-
04	I	-
05	II	-
06	STOP	-
07	A	Stop
08	M	Motion
09	▲	Up motion
10	▼	Down motion
11	☀	Hot
12	✱	Cold
13	⚠	Hazard warning (0085)
14	☀	Traveller lighting
15	☀	Driver lighting (1421)

CODE	SYMBOL	DESCRIPTION
16	☀	Revolving light
17	☀	Rear ventilator
18	☀	Heating (0637)
19	☀	Door opening
20	☀	Windshield demister/defroster (0635)
21	☀	Windshield wiper (0086)
22	☀	Windshield washer (0088)
23	☀	Ventilator fan (0089)
24	☀	Side mirror defroster
25	☀	Restarting pump
26	☀	Front fog lights (0633)
27	☀	Rear fog lights (0634)
28	☀	Propulsion system trim
29	☀	Beacon (1141)
30	☀	Anchor
31	☀	Electric motor (0011)

CODE	SYMBOL	DESCRIPTION
32	☀	Emergency first aid vehicle (2565)
33	☀	Load tipping (1557)
34	☀	Loading light (2457)
35	☀	Tractor, rear-ward (1667)
36	☀	Combine, direction of movement (1678)
37	☀	Use no forks (2406)
38	☀	Transmission (1166)
39	☀	Working spot light (1145)
40	☀	Engine (0640)
41	☀	Horn (0244)
42	☀	Lock (1656)
43	☀	Taxi sign light (2551)
44	☀	Working light (1204)
45	☀	Working light symmetric (1204)
46	☀	-
47	ASM	-

# K range

## Power rocker switches and indicators

















### Symbols

















Most symbols meet the ISO 7000 standard "graphical symbols for use on equipments" (code given in bracket in the description). Contact us for symbols not featured in the following tables.

















#### Legend scale :

KR series : 1:1

KL, KG and KI series : depending on space available on the product (see "Symbols" section at the end of each series).

CODE	SYMBOL	DESCRIPTION
48		All wheel drive
49		Differential lock (1662)
50		-
51		-
52		-
53		-
54		Rear window wiper (0097)
55		Rear window washer (0099)
56		Lower load (2223)
57		Cab lock (1560)
58		Extraction
59		Pumping in
60		Rear PTO (1572)
61		Front PTO
62		Rockshaft down
63		Rockshaft up

CODE	SYMBOL	DESCRIPTION
64		Indicator
65		Brake release
66		Baggage room left door
67		Baggage room right door
68		Power blinds
69		Engine idle control
70		Cruise res/set
71		Driver windows up/down
72		Middle door opening
73		Front door opening
74		Lighting in baggage room
75		Cruise on/off
76		TV
77		Pump
78		Toilet
79		Toilet decontamination

CODE	SYMBOL	DESCRIPTION
80		Front windshield heating
81		Aus
82		Radiator fan
83		Remove retarder
84		Restricted speed
85		Preheater
86		ABS detection
87		ECAS detection
88		Engine stop
89		Cruise res/cancel
90		ECAS reset
91		Driver windows heating
92		Cruise set
93		Air bag up/down
94		Read lighting
95		Lighting main switch

# K range

## Power rocker switches and indicators

















### Symbols

















Most symbols meet the ISO 7000 standard "graphical symbols for use on equipments" (code given in bracket in the description). Contact us for symbols not featured in the following tables.






#### Legend scale :

KR series : 1:1

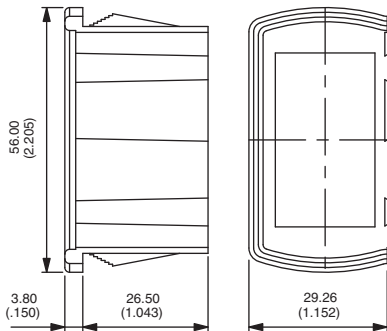
KL, KG and KI series : depending on space available on the product (see "Symbols" section at the end of each series).

CODE	SYMBOL	DESCRIPTION
96		Heating using water
97		Low beam
98		Position lights
99		Diesel acceleration
A1		Manual mode
A2		Clockwise cabin rotation
A3		Anticlockwise cabin rotation
A4		-
A5		-
A6		Parking brake
A7		-
A8		-
A9		-
AA		-
AB		-
AC		-

CODE	SYMBOL	DESCRIPTION
AD		-
AE		-
AF		-
AG		Battery charging condition (0247)
AH		Turn signals (0084)
AJ		High beam (0082)
AK		Differential lock, bogie (2600)
AL		Brushing with a rotating brush (0070)
AM		Differential lock, transfer case 4x4 (2475)
AN		Loader bucket, float (1441)
AP		Loader bucket (1437)
AQ		Rear window washer & wiper (0098)
AR		Header Header drive (1579)
AS		Excavator/backhoe boom side shift (2091)
AT		Chemical water treatment (1851)
AU		Grapple skidder, single funct° boom (1762)

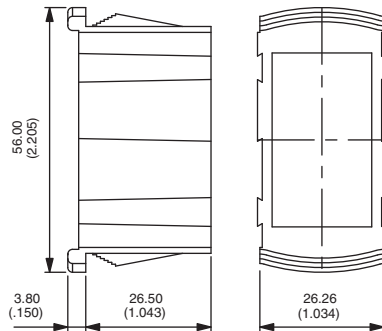
CODE	SYMBOL	DESCRIPTION
AV		-
AW		-
AY		-
AZ		-
B1	HIGH	-
B2	LOW	-
B3		-

### MOUNTING PANEL END



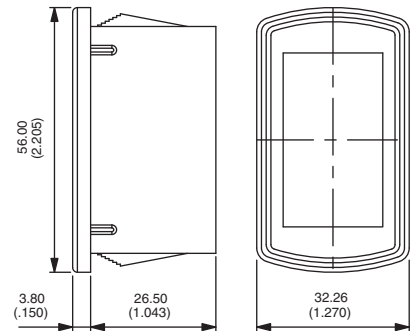
**U2261**

### MOUNTING PANEL MIDDLE



**U2262**

### SINGLE MOUNTING PANEL



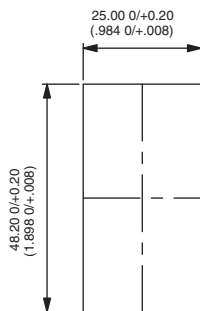
**U2267**

Recommended panel thickness : 1,10 mm - 1,80 mm - 2,60 mm - 3,40 mm - 4,20 mm - 5 mm - 5,80 mm

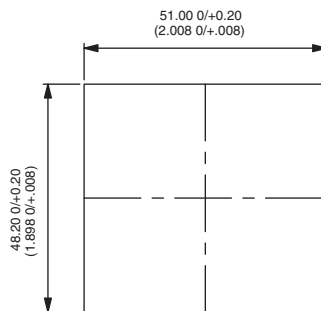
### MOUNTING PANEL CUT-OUT

For additional elements, add 26,40 mm (1.039)

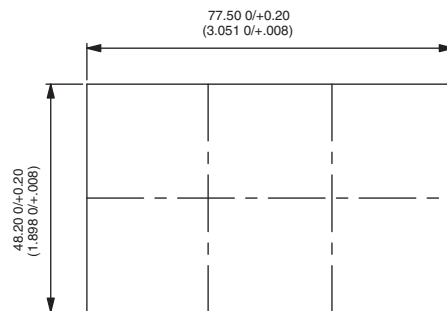
#### For 1 element U2267



#### For 2 elements U2261

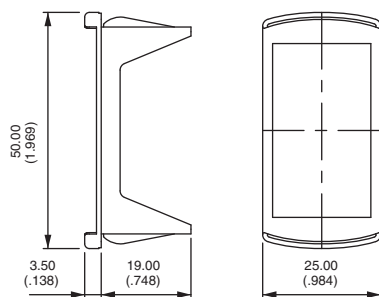


#### For 3 elements (2xU2261 + 1x U2262)



### 22 x 44 ADAPTER

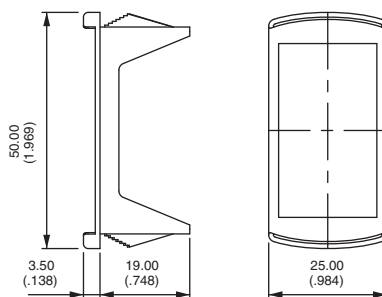
#### Front panel dismounting



**U3060**

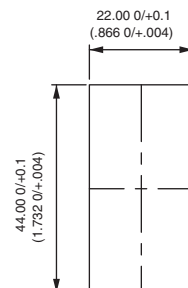
### 22 x 44 ADAPTER

#### Rear panel dismounting



**U3070**

### PANEL CUT-OUT



**Adapter colours** (replace 0 with code)  
 1/4 : dark blue - 2 : black - 4 : grey  
 5 : yellow - 6 : red - 7/1 : white

Recommended panel thickness : 0,60 mm to 1,50 mm

Recommended panel thickness : 1,60 mm -0,1/0 to 5,60 mm -0,1/0 in stages of 0,40 mm

# K range

## Power rocker switches and indicators

Accessories for KR, KL and KI series

### ACTUATOR REMOVING TOOL



U3052

2 tools are supplied

#### EXTRACT ACTUATOR (KR ONLY)

Allows the extraction of the rocker / rocker support assembly.  
Place the 2 claws under the support and push as indicated by the arrow.

#### EXTRACT ROCKER (KR ONLY)

Allows to separate the rocker from its support.  
Insert the tool between rocker and support as indicated by the arrow. Pull out the tool in the opposite direction.

#### EXTRACT SWITCH (KR, KL AND KI)

Allows to extract switch from panel mounting units. 2 tools are necessary.  
Insert the tools between switch and panel mounting units from the rear to compress the snap-in device. Pull off switch manually.

### CONNECTORS

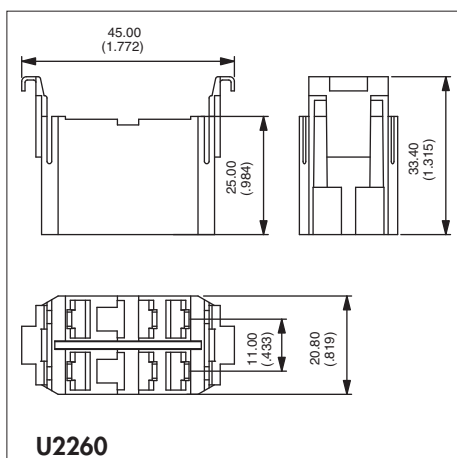
Standard colour : black. Other colours : on request.  
Connectors cannot be combined with wiring types H and I.



U2260

#### 6 terminal version

For use with terminals type 2, 3, 4 or 5.  
6,35 (1/4) tabs to be fitted by the user  
(example : TE42282-2).  
Can be used for the KG series.



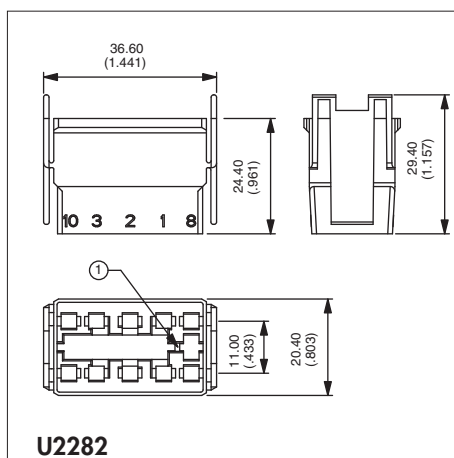
U2260



U2282

#### 10 terminal version

For use with terminals type H or J.  
2,8 (.110) tabs to be fitted by the user  
(example : AMP/Tyco 0-927779-3).



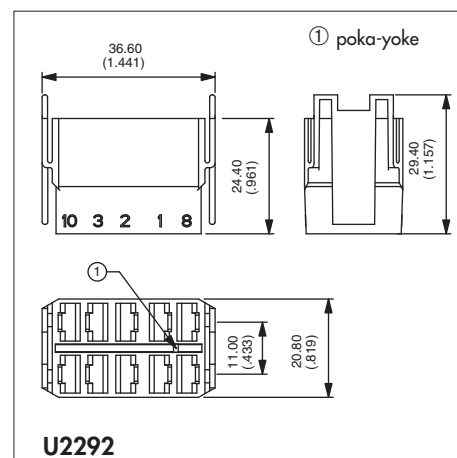
U2282



U2292

#### 10 terminal version

For use with terminals type B, C, E or F.  
6,35 (1/4) tabs to be fitted by the user  
(example : TE42282-2).



U2292



# K range

## Power rocker switches and indicators

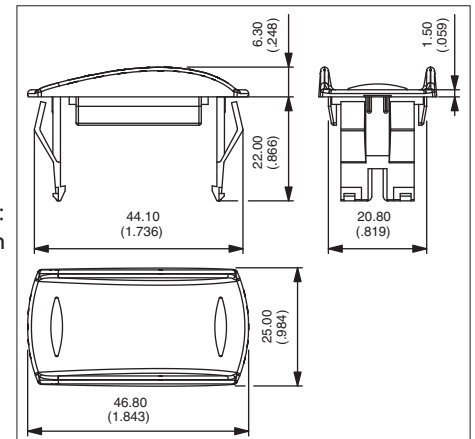
Accessories for KR, KL and KI series

### HOLE PLUGS

Usefull for future extensions.

Code	Colour	Code	Colour
<b>U2271</b>	Blue	<b>U2274</b>	Grey
<b>U2271/4</b>	Dark blue	<b>U2275</b>	Yellow
<b>U2272</b>	Black	<b>U2276</b>	Red
<b>U2273</b>	Green	<b>U2277</b>	Ivory
		<b>U2279</b>	Orange

Recommended panel thickness :  
1,50 mm to 6 mm



Connectors can be hanged on specific hole plugs. Contact APEM.