- ❑ **Wide choice of bezel colours**

- ❑ **Wide choice of LEDs**

- ❑ **Laser etched symbols**

- ❑ **Long life expectancy**

- ❑ **Optionally sealed to IP68**

ELECTRICAL SPECIFICATIONS

- Operating voltage : 6VDC, 12VDC or 24VDC
- Nominal current : 20mA per LED

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
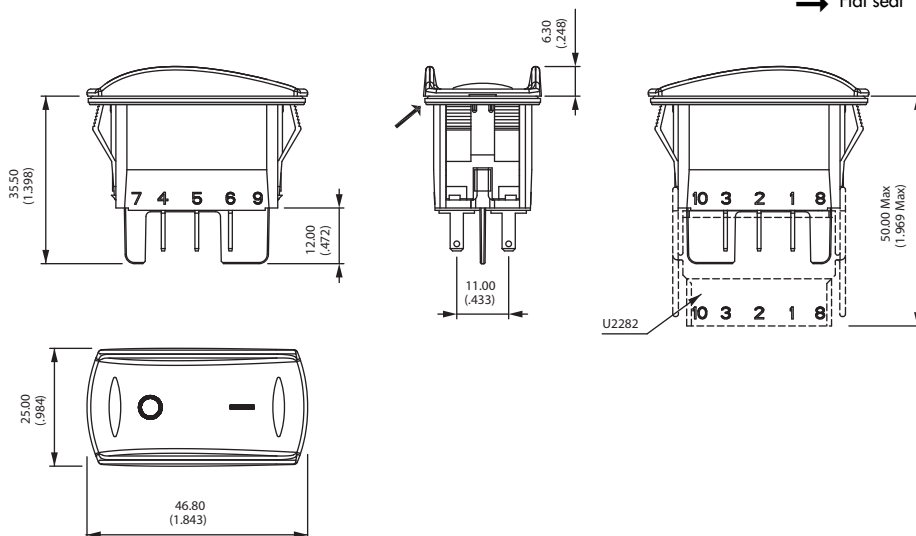- Operating temperature : -40°C to +85°C

MATERIALS

- Case : ABS
- Bezel : ABS
- Terminals : brass, silver plated

SEALING

Sealing is optional.

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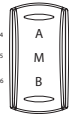

DIMENSIONS

Flat seal

6.30 (.248)

35.50 (1.398)

12.00 (.472)

7 4 5 6 9

11.00 (.433)

10 3 2 1 8

50.00 Max (1.969 Max)

U2282

10 3 2 1 8

25.00 (.984)

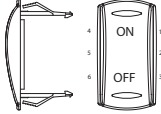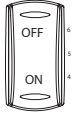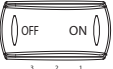46.80 (1.843)

Packaging unit : 40 pieces

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

The company reserves the right to change specifications without notice.

KI series

LED indicators

Selection guide

KI			Side A	Side M	Side B			Side A	Side M	Side B		

SERIES

Colours

1	Blue
1/4	Dark blue
2	Black
3	Green
4	Grey
5	Yellow
6	Red
9	Orange

LEDS

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

DC voltage standard

Type of illumination

X	Standard
S	Super bright

Symbols

Sealing

X	No
K	Yes

Marking orientation

N

O

S

E

Terminals with barrier

C	Solder lug / quick-connect
F	Quick-connect 6,35
J	Quick-connect 2,8

On request : 48VDC voltage - AC voltage - new design
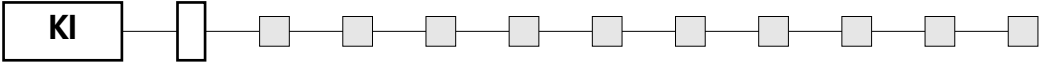
Symbols & **Accessories** : see end of section D.

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

BEZEL COLOUR

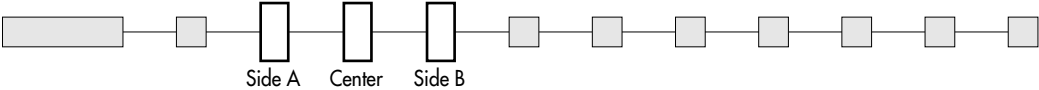| KI | | |

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

Code	Colour
4	Grey
5	Yellow
6	Red
9	Orange

LEDS

Side A   Center   Side B

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

X   Without LED

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

LED consumption : 20mA @ nominal voltage (25°C)
Other illumination solutions : on request.

Side A

Side B
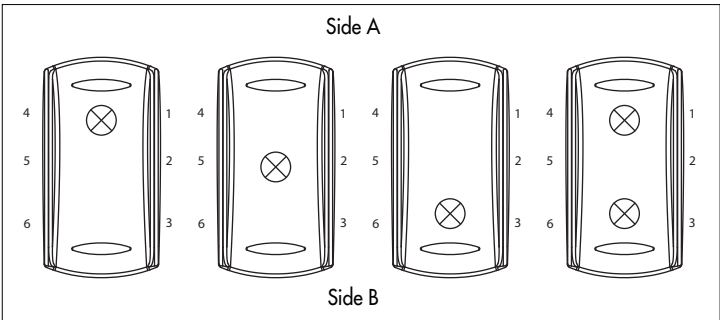
TYPE OF ILLUMINATION
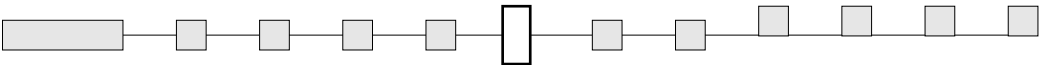
X   Standard
S   Super bright

MARKING ORIENTATION

If no marking required, leave box blank. Other orientations : on request

N   **O**   **S**   **E**
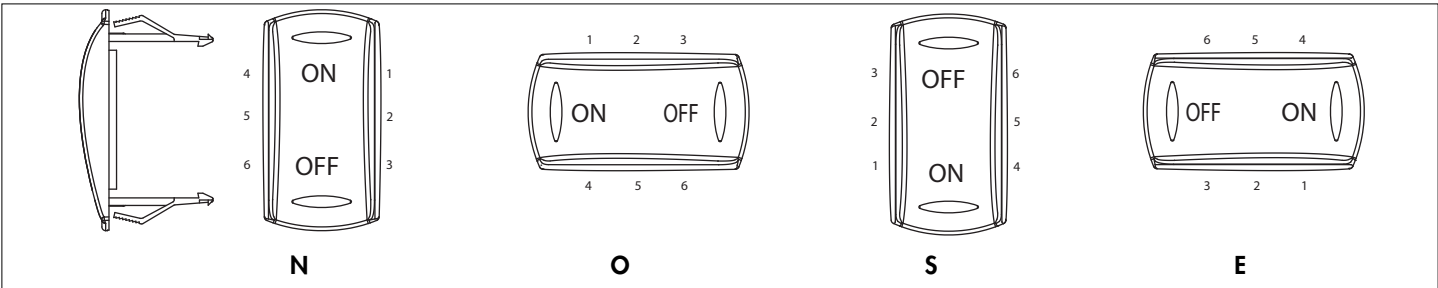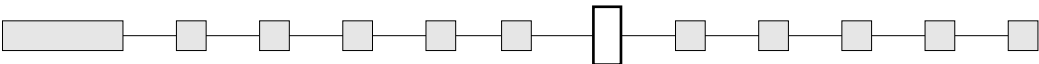
KI series

LED indicators

Marking - Terminals

SYMBOLS
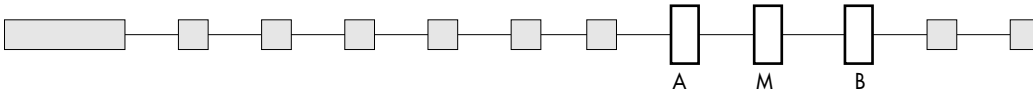
XX No symbol

Available symbols : see end of section D.

Marking colour
White (laser etching)

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

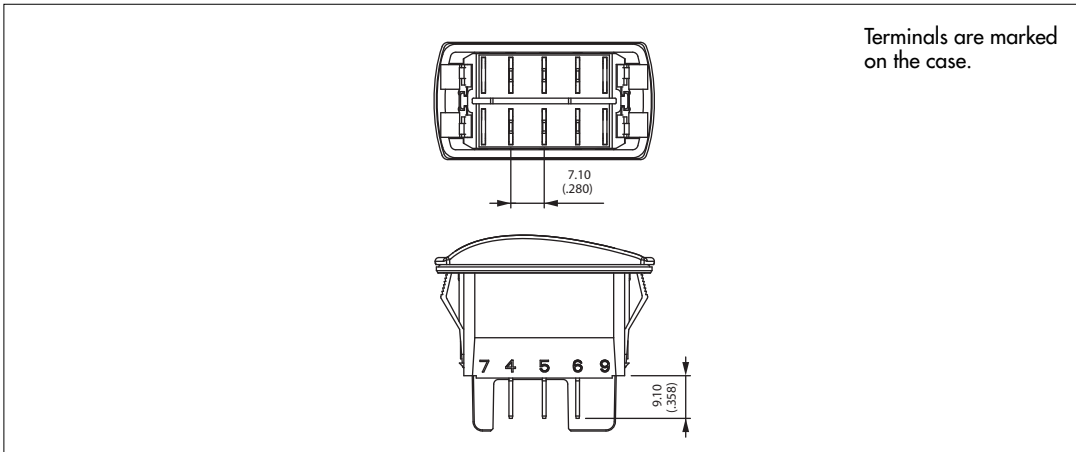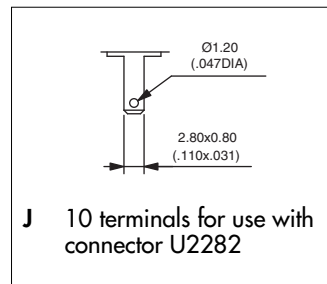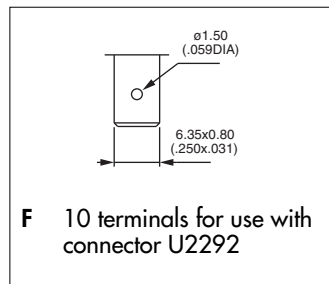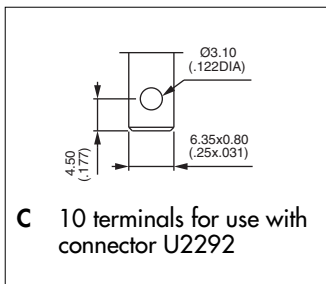**Marking area -** The symbol will be included in the hatched area.
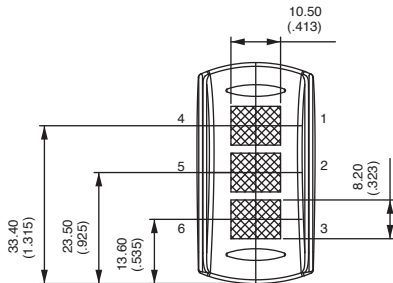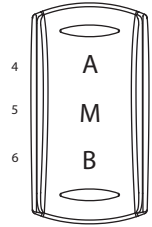
TERMINALS (WITH BARRIER)

Solder lug / quick-connect

Ø3.10 (.122DIA)
6.35x0.80 (.25x.031)
4.50 (.177)

C 10 terminals for use with connector U2292
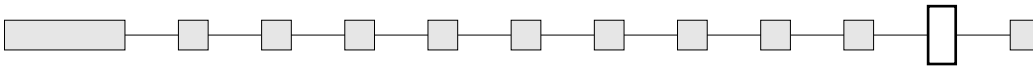
Normalized quick-connect 6,35x0,8

ø1.50 (.059DIA)
6.35x0.80 (.250x.031)

F 10 terminals for use with connector U2292

Normalized quick-connect 2,8x0,8

Ø1.20 (.047DIA)
2.80x0.80 (.110x.031)

J 10 terminals for use with connector U2282

Terminals are marked on the case.

7.10 (.280)

9.10 (.358)
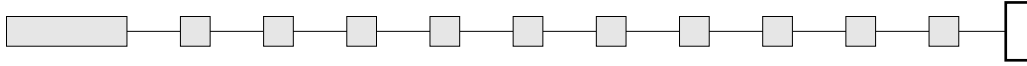
SEALING

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.
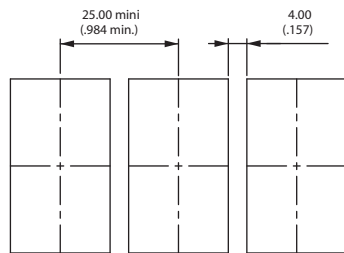*Test conditions available on request.*

Optional seal
(K version)

SWITCH PANEL CUT-OUT

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

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

21.08 0/+0.3
(.830 0/+.012)

36.80 0/+0.3
(1.449 0/+.012)

MATRIX MOUNTING

25.00 mini
(.984 min.)

4.00
(.157)

47.00 mini
(1.850 min.)

10.20
(.402)

ON

OFF

D

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	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION
XX	None	-	16		Revolving light	32		Emergency first aid vehicle (2565)
01	ON	-	17		Rear ventilator	33		Load tipping (1557)
02	OFF	-	18		Heating (0637)	34		Loading light (2457)
03	O	-	19		Door opening	35		Tractor, rear-ward (1667)
04	I	-	20		Windshield demister/defroster (0635)	36		Combine, direction of movement (1678)
05	II	-	21		Windshield wiper (0086)	37		Use no forks (2406)
06	STOP	-	22		Windshield washer (0088)	38		Transmission (1166)
07	A	Stop	23		Ventilator fan (0089)	39		Working spot light (1145)
08	M	Motion	24		Side mirror defroster	40		Engine (0640)
09	△	Up motion	25		Restarting pump	41		Horn (0244)
10	▽	Down motion	26		Front fog lights (0633)	42		Lock (1656)
11		Hot	27		Rear fog lights (0634)	43	TAXI	Taxi sign light (2551)
12		Cold	28		Propulsion system trim	44		Working light (1204)
13		Hazard warning (0085)	29		Beacon (1141)	45		Working light symmetric (1204)
14		Traveller lighting	30		Anchor	46		-
15		Driver lighting (1421	31		Electric motor (0011)	47	ASM	-

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	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION
48		All wheel drive	64		Indicator	80		Front windshield heating
49		Differential lock (1662)	65		Brake release	81	AUS	Aus
50	TOP	-	66	L	Baggage room left door	82		Radiator fan
51	1000	-	67	R	Baggage room right door	83		Remove retarder
52	540E	-	68		Power blinds	84		Restricted speed
53	N	-	69	idle/diag	Engine idle control	85		Preheater
54		Rear window wiper (0097)	70	CRUISE RES/SET	Cruise res/set	86	(ABS)	ABS detection
55		Rear window washer (0099)	71		Driver windows up/down	87	(ECAS)	ECAS detection
56		Lower load (2223)	72	2	Middle door opening	88		Engine stop
57		Cab lock (1560)	73	1	Front door opening	89	CRUISE RES/CAN	Cruise res/cancel
58		Extraction	74		Lighting in baggage room	90		ECAS reset
59		Pumping in	75	CRUISE ON/OFF	Cruise on/off	91		Driver windows heating
60		Rear PTO (1572)	76	TV	TV	92	CRUISE SET+/SET-	Cruise set
61		Front PTO	77		Pump	93		Air bag up/down
62		Rockshaft down	78	WC	Toilet	94		Read lighting
63		Rockshaft up	79	WC	Toilet decontamination	95		Lighting main switch

D

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		-

K range
Power rocker switches and indicators
Accessories for KR, KL and KI series

MOUNTING PANEL END

U2261

56.00 (2.205)

3.80 (.150) 26.50 (1.043) 29.26 (1.152)

MOUNTING PANEL MIDDLE

U2262

56.00 (2.205)

3.80 (.150) 26.50 (1.043) 26.26 (1.034)

SINGLE MOUNTING PANEL

U2267

56.00 (2.205)

3.80 (.150) 26.50 (1.043) 32.26 (1.270)
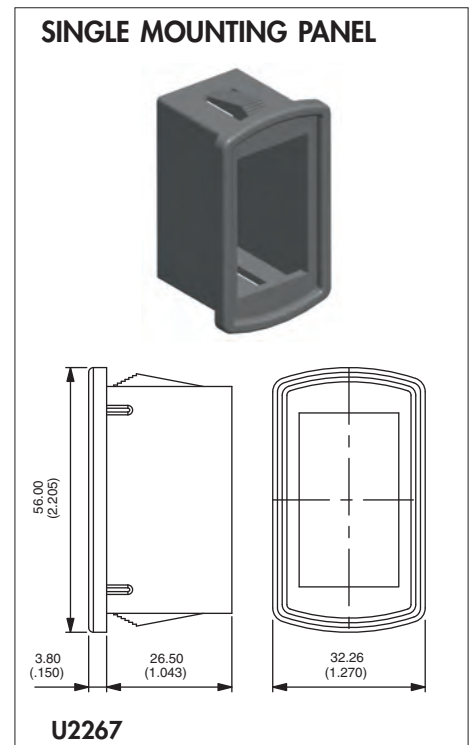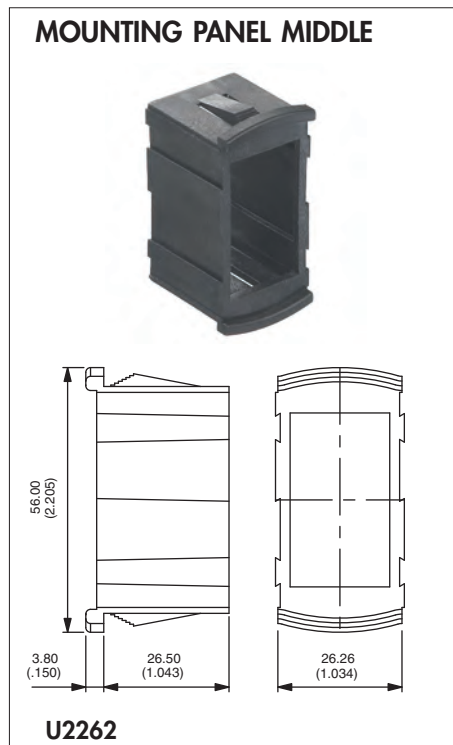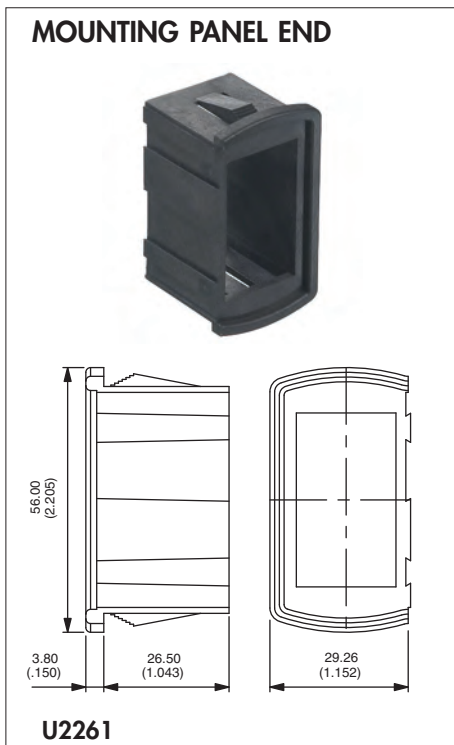
Recommended panel thickness : 1,10 mm - 1,80 mm - 2,60 mm - 3,40 mm - 4,20 mm - 5 mm - 5,80 mm

D

| MOUNTING PANEL CUT-OUT | For additional elements, add 26,40 mm (1.039) |

For 1 element U2267

25.00 0/+0.20 (.984 0/+.008)

48.20 0/+0.20 (1.898 0/+.008)

For 2 elements U2261

51.00 0/+0.20 (2.008 0/+.008)

48.20 0/+0.20 (1.898 0/+.008)

For 3 elements (2xU2261 + 1x U2262)

77.50 0/+0.20 (3.051 0/+.008)

48.20 0/+0.20 (1.898 0/+.008)

22 x 44 ADAPTER

Front panel dismounting

U3060

50.00 (1.969)

3.50 (.138) 19.00 (.748) 25.00 (.984)

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

22 x 44 ADAPTER

Rear panel dismounting

U3070

50.00 (1.969)

3.50 (.138) 19.00 (.748) 25.00 (.984)

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

PANEL CUT-OUT

22.00 0/+0.1 (.866 0/+.004)

44.00 0/-0.1 (1.732 0/+.004)

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

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 arrrow. 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.
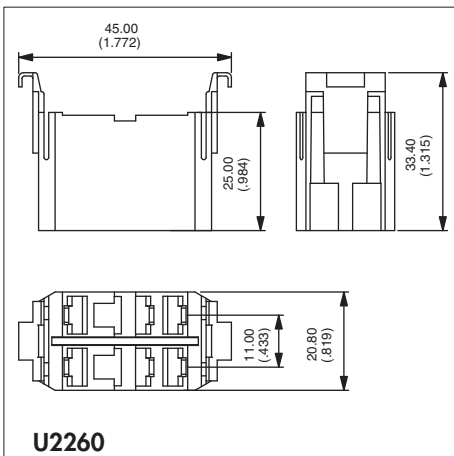
CONNECTORS

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

U2260

U2282

U2292

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).
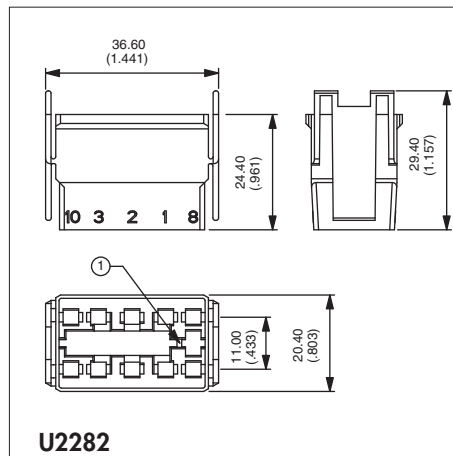Can be used for the KG series.

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).

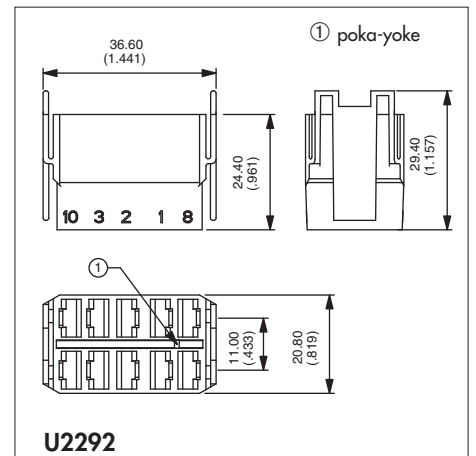**10 terminal version**
For use with terminals type B, C, E or F.
6,35 (1/4) tabs to be fitted by the user (example : TE42282-2).

① poka-yoke

U2260

U2282

U2292

HOLE PLUGS

Usefull for future extensions.

Code	Colour
U2271	Blue
U2271/4	Dark blue
U2272	Black
U2273	Green

Code	Colour
U2274	Grey
U2275	Yellow
U2276	Red
U2277	Ivory
U2279	Orange

Recommended panel thickness :
1,50 mm to 6 mm

6.30 (.248)
1.50 (.059)
22.00 (.866)
44.10 (1.736)
20.80 (.819)
25.00 (.984)
46.80 (1.843)
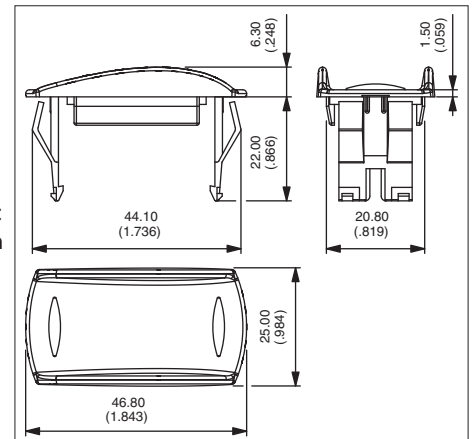
Connectors can be hanged on specific hole plugs. Contact APEM.

D