

Rocker and paddle switches



Section D

SMT TR	Tiny, SMT, washable	D 3
TR	Tiny, washable	D 5
S and SR	Miniature, washable	D 10
AS	Miniature, snap-in	D 20
7000	Miniature (includes 57000)	D 23
FM	Industrial, snap-in	D 41
2600	Industrial, illuminated or non-illuminated	D 44
KR	New! Industrial, sealed, unique rocker design, illuminated or non-illuminated	D 52
KL	New! Industrial, locking, sealed, illuminated or non-illuminated	D 61
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Selection guide

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Rocker and paddle switches

						
Series	SMT TR	TR	S-SR	AS	7000	FM
Page	D-3	D-5	D-10	D-20	D-23	D-41
Poles	1	1,2	1,2	1	1,2	1
Maximum ratings	0,4VA 20V AC/DC	0,5A 48V AC/DC	2A 250VAC 4A 30VDC	2A 250VAC	3A 250VAC 4A 30VDC	10A 250VAC
Illuminated						X
Mounting options						
Horizontal SMT	X					
Vertical Through hole		X	X	X	X	X
Horizontal Through hole		X	X		X	
Vert. right angle Through hole		X	X		X	
Snap-in			X	X	X	X
Rear mounting			X		X	
Panel cut-out				18,65X8,9		19,2x12,9
Terminal options						
PCB	X	X	X	X	X	X
Solder lugs			X	X	X	X
Quick-connect						X
Sealing	Process sealed	Process sealed	Process sealed	No	No	Optional boot

					
Series	2600	KR	KL	KI	KG
Page	D-44	D-52	D-61	D-70	D-75
Poles	1,2	1,2	1,2		1,2
Maximum ratings	16A 250VAC	10A 24VDC	10A 24VDC	24VDC	15A 250VAC 15A 12VDC
Illuminated	X	X	X	X	X
Mounting options					
Snap-in	X	X	X	X	X
Panel cut-out	30 x 22	36,8 X 21,08	36,8 X 21,08	36,8 X 21,08	36,8 X 21,08
Terminal options					
Solder lugs	X	X	X	X	X
Quick-connect	X	X	X	X	X
Screw	X	X	X		X
Sealing	No	IP68	IP68	IP68	



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SMT TR series

Surface mount tiny washable rocker switches

Distinctive features and specifications



- Entirely designed for surface mount
- Tape and reel packaging
- Reflow solderable
 - High temperature plastic materials
 - Tin plated ground plate
 - Terminal coating : tin alloy over nickel plating
 - Terminals turned to the outside, preventing the shadow effect in infrared soldering and permitting visual inspection of solder joints
 - Distance between case and circuit : 0,55 mm (.021)
 - End stackable with 10,16 mm (.40) pitch
 - Available with positioning pins to ensure switch orientation during the reflow process and increasing switch mechanical resistance
- Protected against electrostatic discharges (ESD) up to 10 KV
- Washable

Construction withstands cleaning processes, including hot water under pressure

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 0,4VA 20V max. AC or DC
- Minimum load : 10mA 50mV or 10µA 5VDC
- Initial contact resistance : 20 mΩ max
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 1.000 Vrms. 50 Hz min. between terminals and frame 500 Vrms. 50 Hz min. between terminals
- Electrical life at full load :
 - 2 position switches : 60.000 cycles
 - 3 position switches : 30.000 cycles
- Static resistance : 10 KV (Schaffner equipment)

GENERAL SPECIFICATIONS

- Operating temperature : -40°C to +85°C
- Moisture resistance : 21 days per IEC 512-6 test 11c
- Vibration resistance : 10-500 Hz / 10 g per IEC 512-4 test 6d
- Shock resistance : 50 g per IEC 512-4 test 6c

MATERIALS

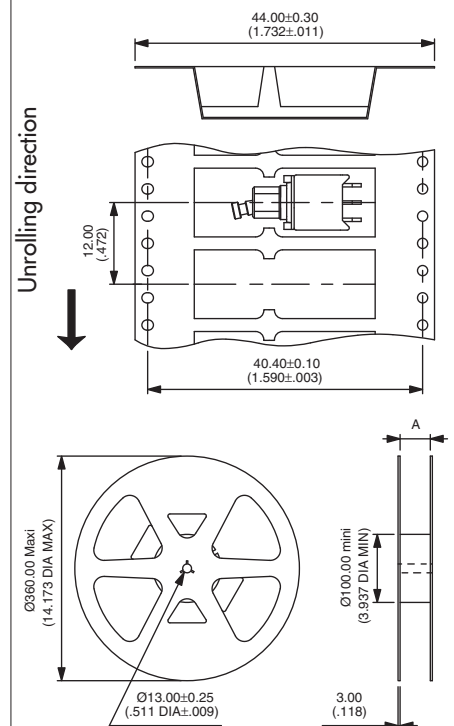
- Case : high temperature plastic material UL94-V0
- Actuator : high temperature plastic rocker
- Ground plate and positioning pins : steel, tin plated
- Contacts : brass, gold plated
- Terminals : brass, with pure tin plating over nickel barrier

SOLDERING AND CLEANING

- Reflow soldering : infrared, vapor phase or infrared convection
- Washable per IEA-RS448-2 :
 - water + detergent - preferred
 - solvents
- Further information on reflow soldering : see end of catalogue.

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

PACKAGING



Tape width	24.00 (.944)	44.00 (1.732)
Reel (dimension A)	24.40+2.00/0.00 (.960+.078/.000)	44.40+2.00/0.00 (1.748+.078/.000)

Standard packaging unit : 700 pieces
Tape meeting international standard IEC - Publication 286-3 (EIA481A)
Start leader : 400 mm min.

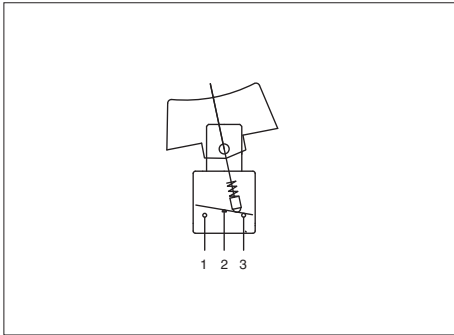


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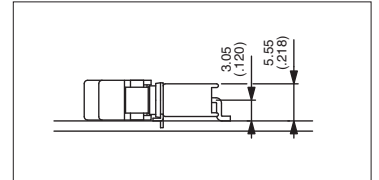
SMT TR series

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Surface mount tiny washable rocker switches



- With or without positioning pins
- Single pole

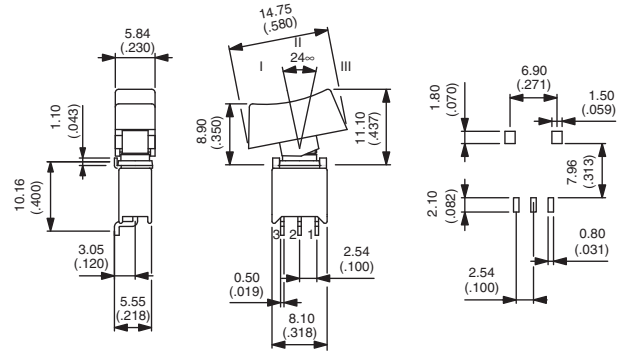


Without positioning pins



TR36WS80000
TR39WS80000
TR37WS80000
TR38WS80000
TR32WS80000

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



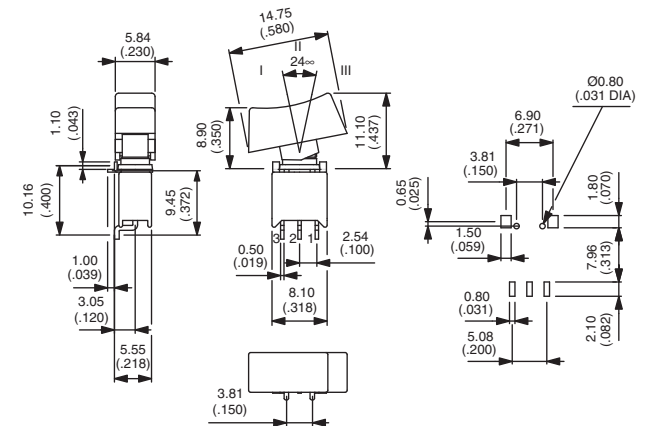
Supplied without rocker.

With positioning pins



TR36WS80065
TR39WS80065
TR37WS80065
TR38WS80065
TR32WS80065

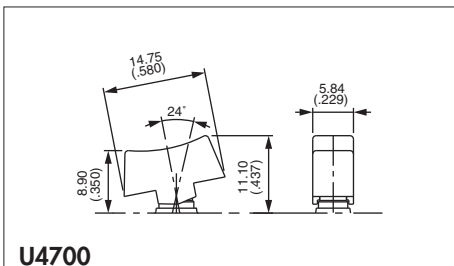
III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



Supplied without rocker.

ROCKERS

Order separately.



Rocker colours

Replace last "0" by number

1	blue	5	yellow
1/4	dark blue	6	red
2	black	7	ivory
3	green	7/1	white
4	grey	9	orange



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Sealed

- Single piece case
- O-ring seal between actuator and bushing
- Epoxy sealed terminals

Wide variety of contact materials

Same PCB layout as tiny toggle (TL), pushbutton (TP) and slide switches (TG)

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - gold plated contacts : 0,4VA 20V max. AC or DC
 - silver plated contacts : 0,5A 48V max. AC or DC
- Minimum load : 10mA 50mV - 10 μ A 5VDC
- Contact resistance : 20 m Ω max.
- Insulation resistance : 1.000 M Ω min. at 500VDC
- Dielectric strength :
 - 1.000 Vrms 50 Hz min. between terminals and frame
 - 500 Vrms 50 Hz min. between terminals
- Electrical life at full load :

Contacts	Number of cycles	
	2 positions	3 positions
Gold plated	60.000	30.000
Silver plated	20.000	10.000

MATERIALS

- Case : PBT
- Actuator : polyamide
- Contacts and terminals :
 - 0 : brass, gold plated
 - 1 : brass, silver plated
 - 3 : brass, gold plated (1,27 micron gold)
 - 8 : contact brass, gold plated + tin plated terminals
 - 9 : contact brass, gold plated (1,27 micron gold) + tin plated terminals
- Terminal seal : epoxy

GENERAL SPECIFICATIONS

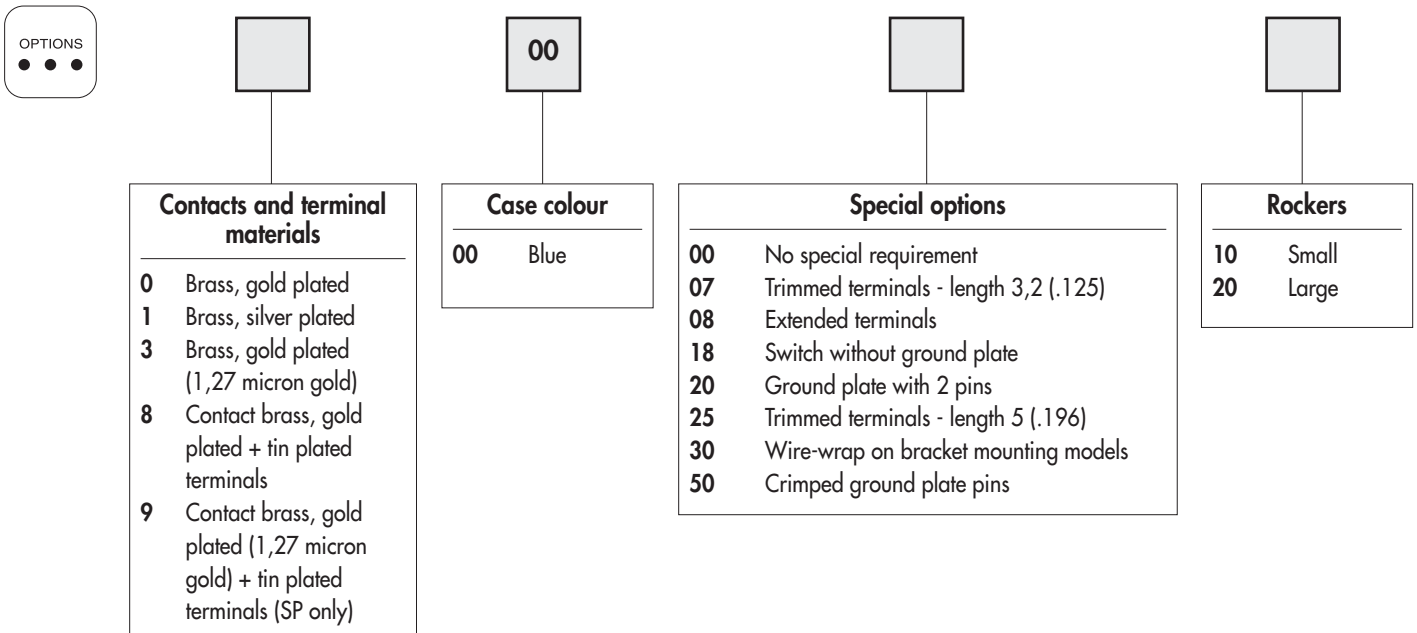
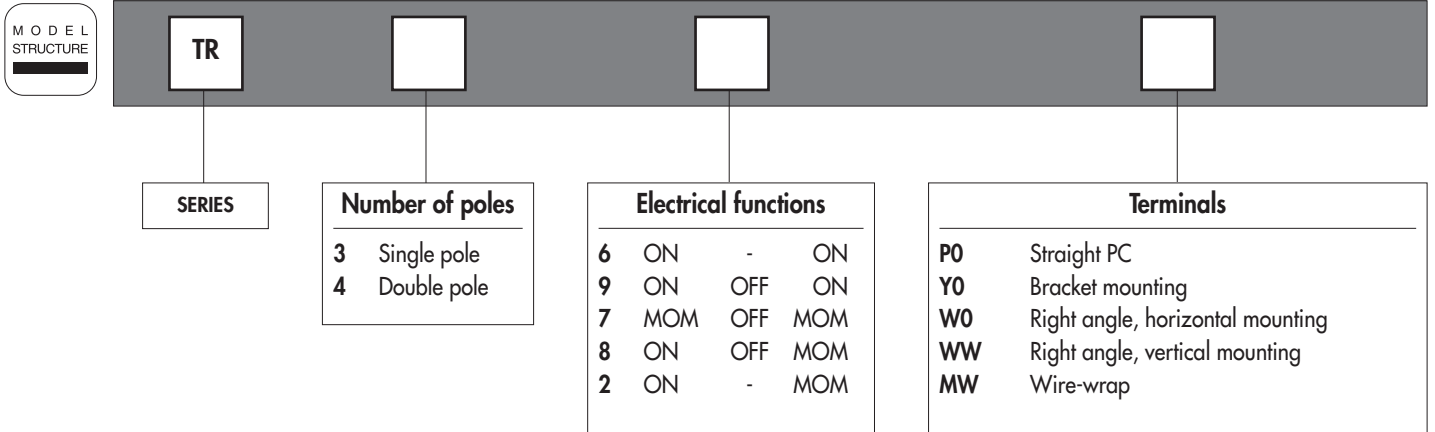
- Strength of terminals : pull-out force - 10N max.
- Operating temperature : -30°C to +85°C
- Moisture : 21 days 95 % (NFC 20-603 - IEC 68-2-3)
- Cleaning : solvents or water + detergent
- Wave soldering : 260°C - 5 sec.

TR series

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Tiny washable rocker switches

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

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



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



Packaging unit : 50 pieces.

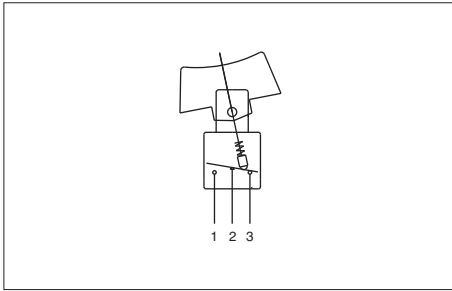


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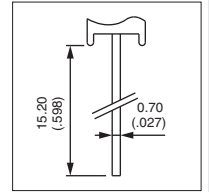
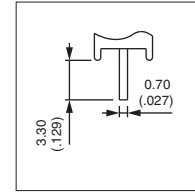


TR series

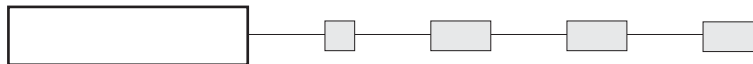
Tiny washable rocker switches



- Straight PC, right angle or wire-wrap terminals
- 1 and 2 pole configurations



MODEL STRUCTURE



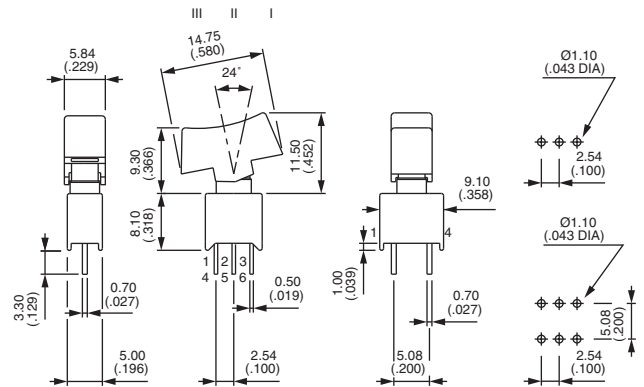
Shown with small rocker (code 10)

Straight PC terminals : TR..PO



	Single pole	Double pole
TR36PO	ON	ON
TR39PO	ON OFF	ON
TR37PO	MOM OFF	MOM
TR38PO	ON OFF	MOM
TR32PO	ON	MOM

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

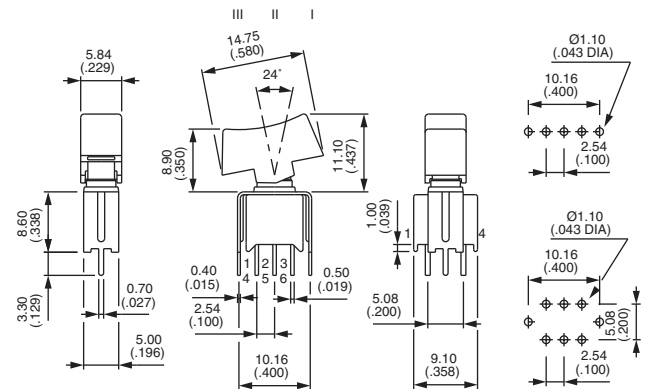


Straight terminals - bracket mounting : TR..YO



	Single pole	Double pole
TR36YO	ON	ON
TR39YO	ON OFF	ON
TR37YO	MOM OFF	MOM
TR38YO	ON OFF	MOM
TR32YO	ON	MOM

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

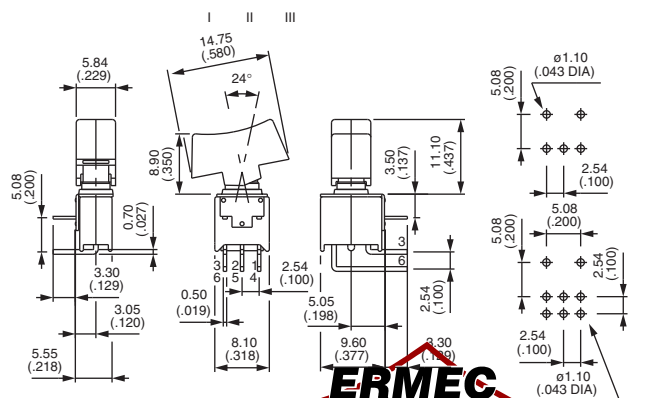


Right angle terminals - horizontal mounting : TR..WO



	Single pole	Double pole
TR36WO	ON	ON
TR39WO	ON OFF	ON
TR37WO	MOM OFF	MOM
TR38WO	ON OFF	MOM
TR32WO	ON	MOM

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



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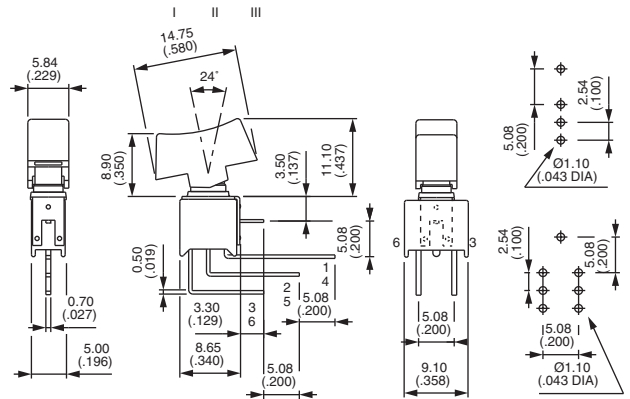
TR series

Tiny washable rocker switches

Right angle terminals - vertical mounting : TR..WW



	Single pole	Double pole	III	II	I
TR36WW	ON	-	ON		
TR39WW	ON	OFF	ON		
TR37WW	MOM	OFF	MOM		
TR38WW*	ON	OFF	MOM		
TR32WW*	ON	-	MOM		
TR46WW				ON	
TR49WW				OFF	ON
TR47WW				MOM	MOM
TR48WW*				ON	MOM
TR42WW*				-	MOM

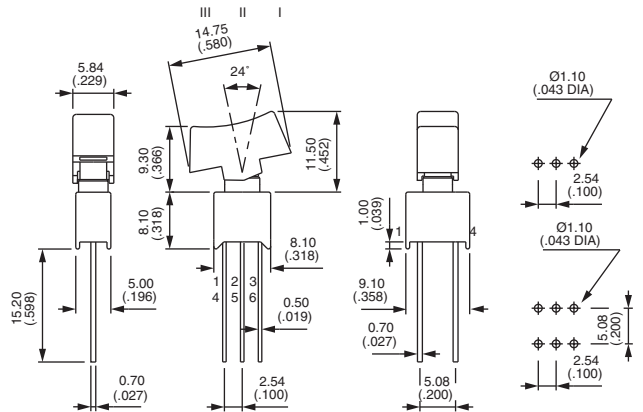


* Functions 2 and 8 : reversed connection available . Consult factory.

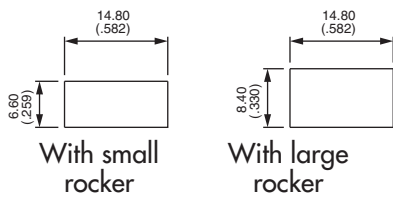
Wire-wrap terminals : TR..MW



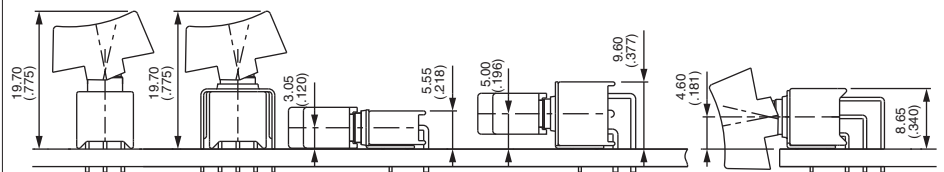
	Single pole	Double pole	III	II	I
TR36MW	ON	-	ON		
TR39MW	ON	OFF	ON		
TR37MW	MOM	OFF	MOM		
TR38MW	ON	OFF	MOM		
TR32MW	ON	-	MOM		
TR46MW				ON	
TR49MW				OFF	ON
TR47MW				MOM	MOM
TR48MW				ON	MOM
TR42MW				-	MOM



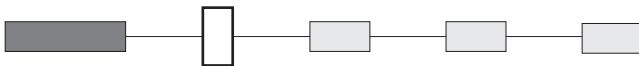
PANEL CUT-OUT



PCB MOUNTING

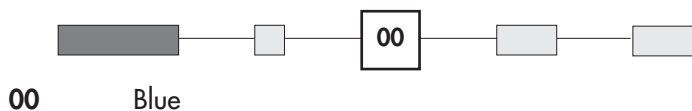


CONTACT AND TERMINAL MATERIALS



- 0 Brass, gold plated
- 1 Brass, silver plated
- 3 Brass, gold plated (1,27 micron gold)
- 8 Contact brass, gold plated + tin plated terminals
- 9 Contact brass, gold plated (1,27 micron gold) + tin plated terminals (single pole only)

CASE COLOUR

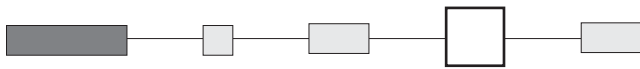




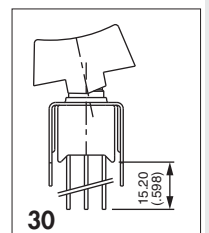
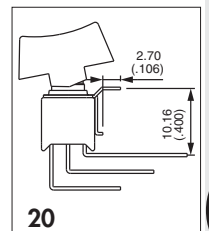
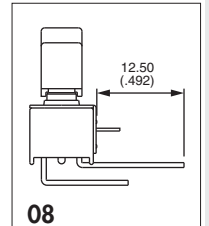
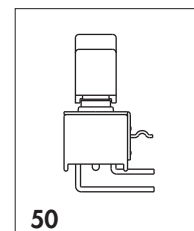
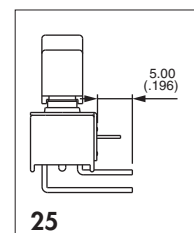
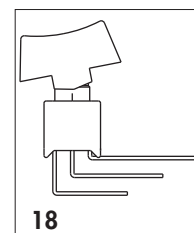
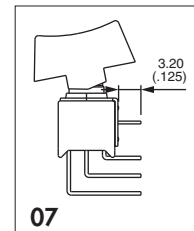
TR series

Tiny washable rocker switches

SPECIAL OPTIONS

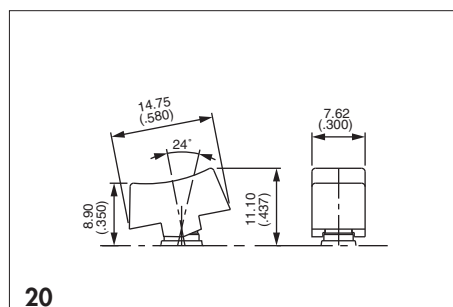
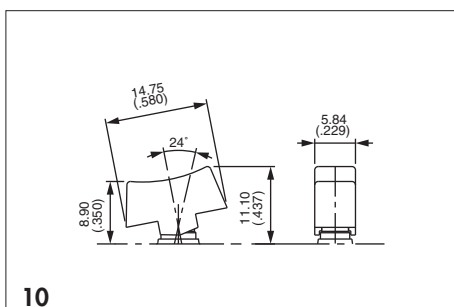
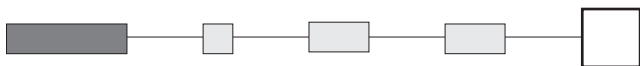


- 00 No special requirement
- 07 **Trimmed terminals** - length 3,2 mm (.125) for TR..WW models only
- 08 **Extended terminals** for TR..WO models only
- 18 Switch **without ground plate** for TR..WW models only
- 20 **Ground plate with 2 pins** for TR..WW models only
- 25 **Trimmed terminals** - length 5 mm (.196) for all models, except TR..WW
- 30 **Wire-wrap terminals** on models with mounting **bracket**
- 50 **Crimping of ground plate pins.**
Retains switch on PCB during handling and wave soldering.
For models TR..WO, TR..WW and TR..YO single and double pole.



Marking on rocker : consult factory.

ROCKERS



10
Small

20
Large

Rocker colours	
Replace "0" by number	
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange



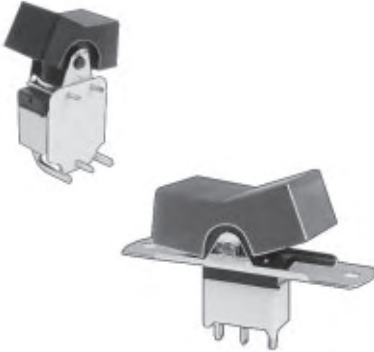
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S and SR series

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Washable rocker and paddle switches

Distinctive features and specifications



- Sealed**
 - Secure assembly of the two case parts
 - Internally sealed bushing
 - Epoxy sealed terminals
- Process compatible (S series)**
 - Wave solderable
 - Washable
- Optional ESD protection**

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (A or 1) : 2A 250VAC - 5A 125VAC - 4A 30VDC
 - brass, gold plated contacts (CD or 0) : 0,4VA 20VAC or DC
 - silver, gold plated contacts (AD or 2) : 2A 250VAC - 5A 125VAC - 4A 30VDC (300mA 30VDC for gold plating)
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1.000 MΩ min.
- Dielectric strength : 1.000 Vrms 50 Hz min.
- Electrical life with nominal load :

Contacts	Number of cycles	
	2 positions	3 positions
A or 1	40.000	40.000
CD or 0	100.000	50.000
AD or 2	40.000	40.000

MATERIALS

- Case and cover : UL94-V0, polyamide, glass filled or PES
- Actuator : polyamide
- Contacts
 - CD or 0** : brass, gold plated
 - A or 1** : silver
 - AD or 2** : silver, gold plated
- Terminal seal : epoxy

GENERAL SPECIFICATIONS

- Mechanical strength :
Terminals are strengthened by a bracket or a ground plate ensuring the rigidity of the switch on the board. Actuator strength is 10N max.
- Operating temperature : -20°C to +85°C
- Storage temperature : -40°C to +85°C
- Moisture :
The insulating materials employed and the complete seal permit the switches to withstand a 56 days moisture test (IEC 68-2-3).
- Soldering - thermal shock (S series only) :
The switches are especially designed for flow soldering at 260°C during 5 seconds owing to high temperature polymer parts.
- Iron soldering (SR series) : 300°C 5 sec. max.
- Solderability : The switches are tested at 235°C according to IEC 68-2-20 after accelerated aging.

AGENCY APPROVALS



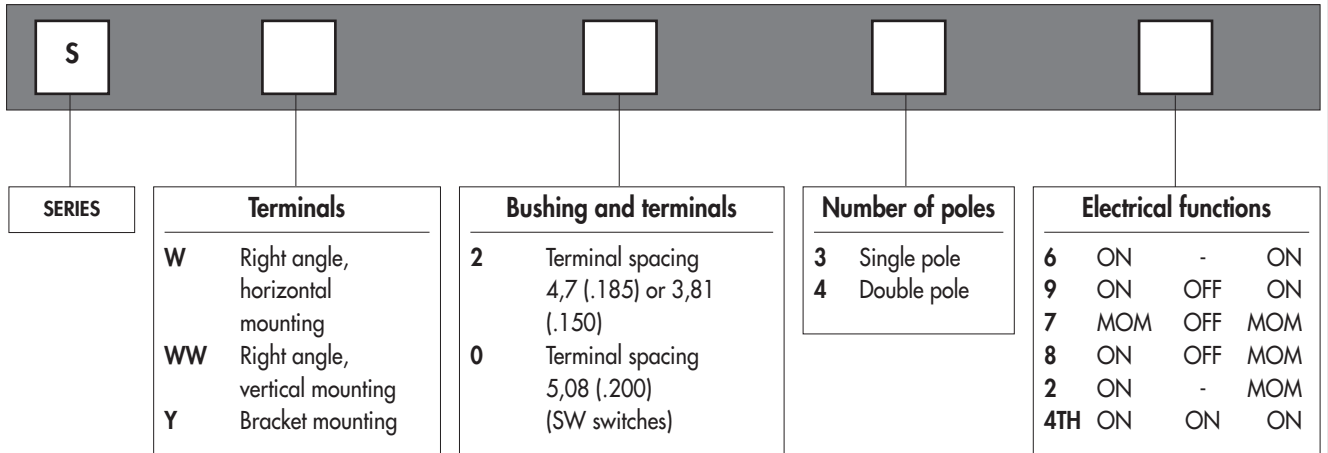
Availability : consult factory for details of approved models.

Marking : to order switches marked UL, complete appropriate box of ordering format.

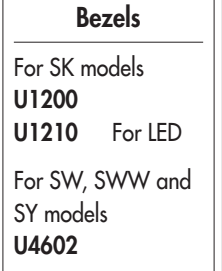
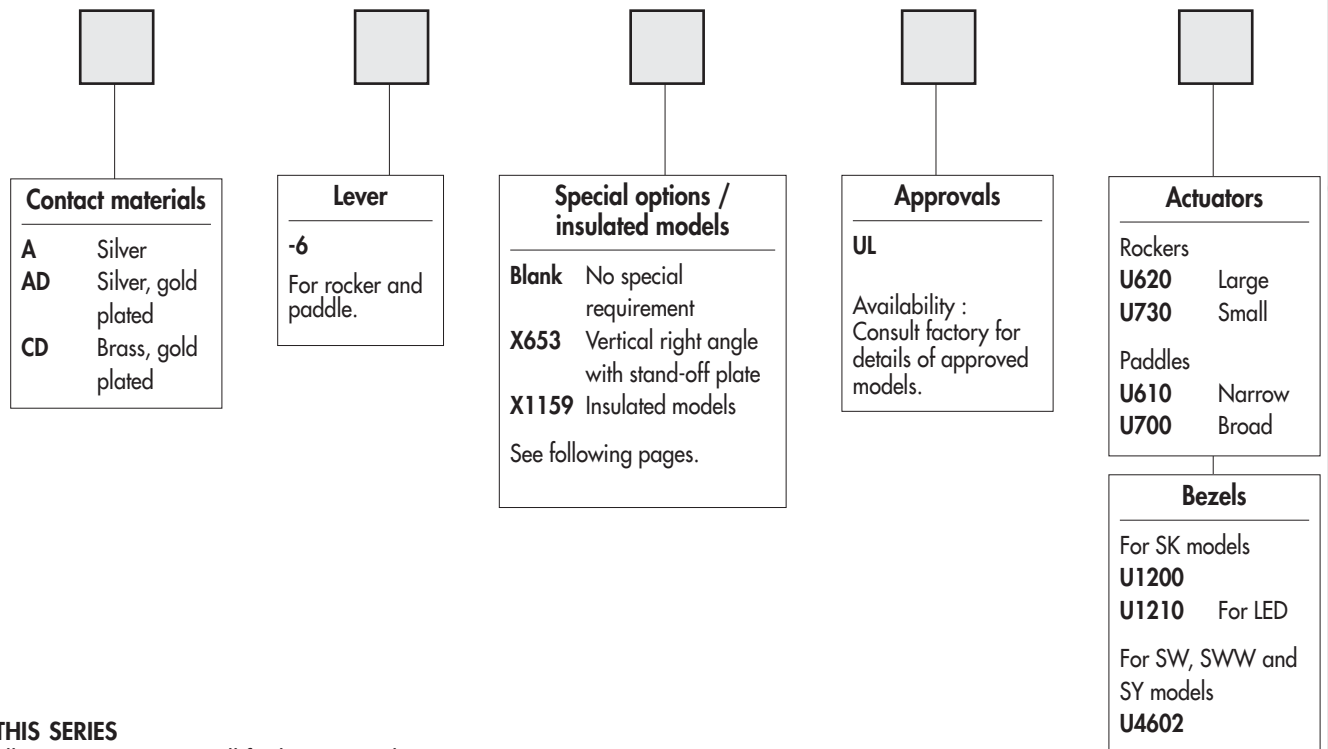


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MODEL
STRUCTURE



OPTIONS




ABOUT THIS SERIES

On the following pages, you will find successively :
 - model structure of switches
 - options in the same order as above
 Specifications are on previous page.

Dimensions : first dimensions are in mm while inches are shown as bracketted numbers.

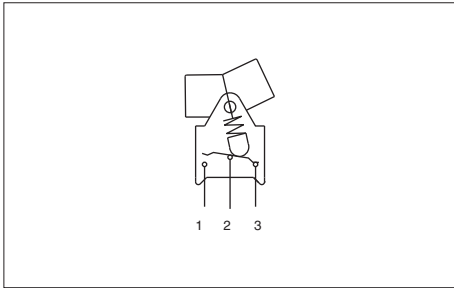
 **NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

 **Packaging unit** : 25 pieces to 50 pieces depending on models.

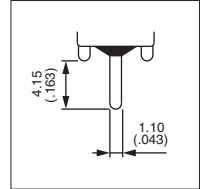


S series

Washable rocker and paddle switches



- Straight PC or right angle terminals
- Models with snap-in mounting (SK)
- Terminal spacing 4,7 (.185) or 5,08 (.200) on SW switches
- 1 and 2 pole configurations



MODEL STRUCTURE



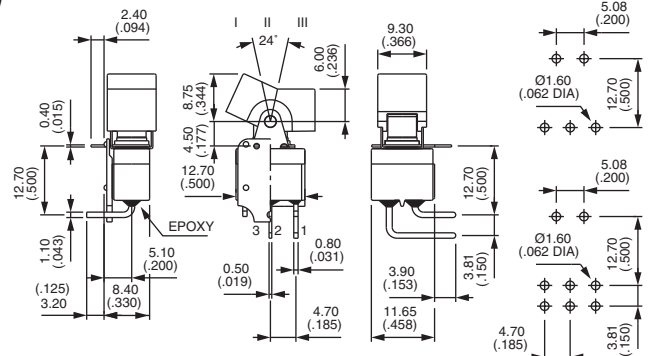
Shown with rocker U620

Right angle terminals - horizontal - spacing 4,7 (.185)



Single pole Double pole

	III	II	I
SW236-6	ON	-	ON
SW239-6	ON	OFF	ON
SW237-6	MOM	OFF	MOM
SW238-6	ON	OFF	MOM
SW232-6	ON	-	MOM
	ON	ON	ON



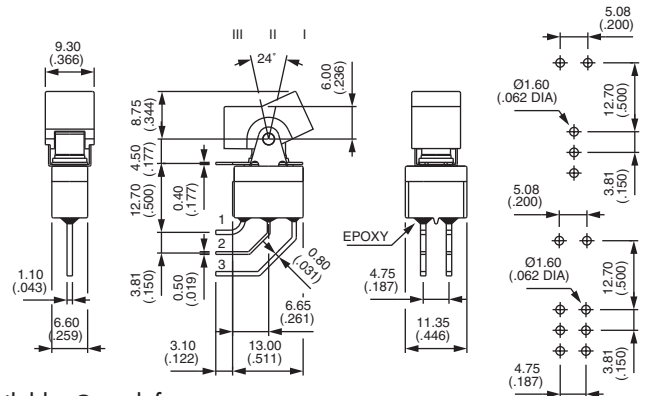
Single pole with stand-off plate, double pole without.

Right angle terminals - vertical



Single pole Double pole

	III	II	I
SWW236-6	ON	-	ON
SWW239-6	ON	OFF	ON
SWW237-6	MOM	OFF	MOM
SWW238-6	ON	OFF	MOM
SWW232-6	ON	-	MOM
	ON	ON	ON



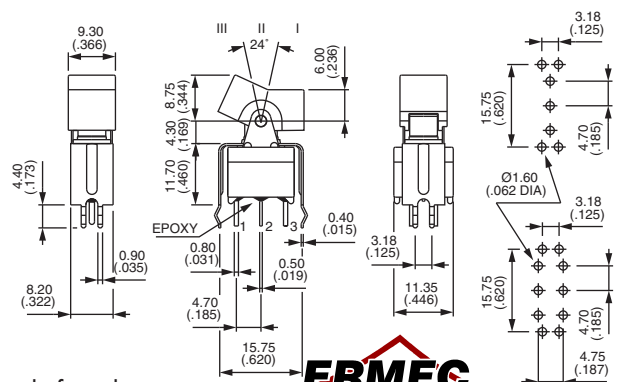
** Functions 2 and 8 : reversed connection available. Consult factory.

Bracket mounting



Single pole Double pole

	III	II	I
SY236-6	ON	-	ON
SY239-6	ON	OFF	ON
SY237-6	MOM	OFF	MOM
SY238-6	ON	OFF	MOM
SY232-6	ON	-	MOM
	ON	ON	ON



* Function 4 : SP in DP case - TH connection, see end of catalogue.





S series

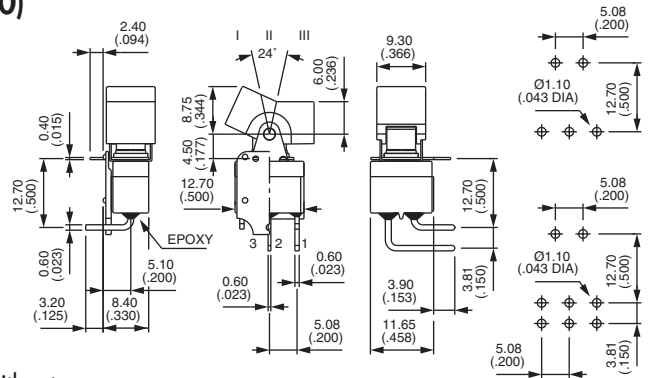
Washable rocker and paddle switches

Right angle terminals - horizontal - spacing 5,08 (.200)



Single pole Double pole

	III	II	I
SW036-6	ON	-	ON
SW039-6	ON	OFF	ON
SW037-6	MOM	OFF	MOM
SW038-6	ON	OFF	MOM
SW032-6	ON	-	MOM
	ON	ON	ON



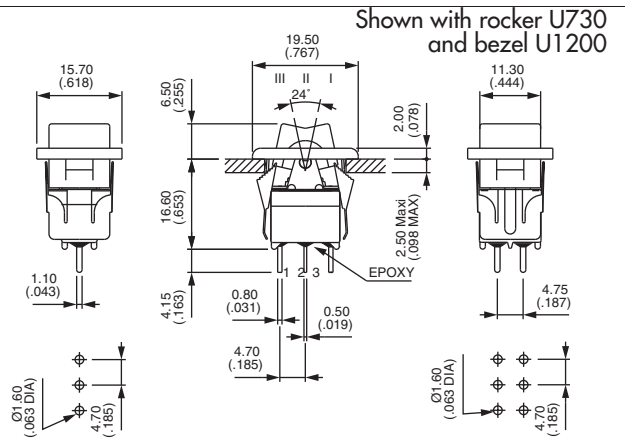
Single pole with stand-off plate, double pole without.

Straight PC terminals - snap-in mounting



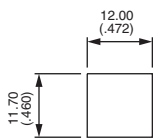
Single pole Double pole

	III	II	I
SK236-6	ON	-	ON
SK239-6	ON	OFF	ON
SK237-6	MOM	OFF	MOM
SK238-6	ON	OFF	MOM
SK232-6	ON	-	MOM
	ON	ON	ON

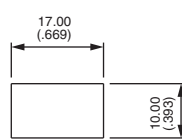


* Function 4 : SP in DP case - TH connection, see end of catalogue.

PANEL CUT-OUT

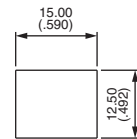


With rocker **U730**
or paddle **U700**



With rocker **U620**
or paddle **U610**

For SK only

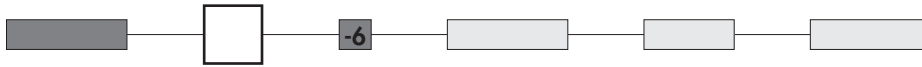


www.ermec.com

S series

Washable rocker and paddle switches

CONTACT MATERIALS



- A Silver
- AD Silver, gold plated
- CD Brass, gold plated

SPECIAL OPTIONS / INSULATED MODELS



X653 Vertical right angle with stand-off plate

Shown with rocker U620

D



Single pole

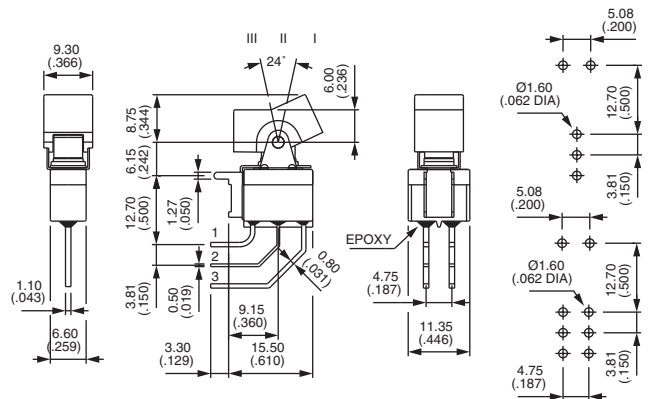
	III	II	I
SWW236-6 X653	ON	-	ON
SWW239-6 X653	ON	OFF	ON
SWW237-6 X653	MOM	OFF	MOM
SWW238-6 X653	ON	OFF	MOM
SWW232-6 X653	ON	-	MOM

Double pole

SWW246-6 X653	ON	-	ON
SWW249-6 X653	ON	OFF	ON
SWW247-6 X653	MOM	OFF	MOM
SWW248-6 X653**	ON	OFF	MOM
SWW242-6 X653**	ON	-	MOM
SWW244TH-6 X653*	ON	ON	ON

* Function 4 : SP in DP case - TH connection, see end of catalogue.

** Functions 2 and 8 : reversed connection available. Consult factory.

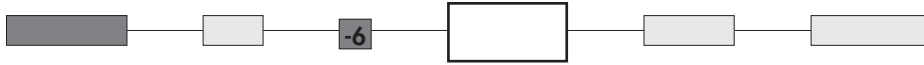


X601 Silver plated brass contacts
 Current/voltage rating for an electrical life of 20.000 cycles :
 0,2A 250VAC - 0,4A 125VAC - 0,5A 30VDC
 Minimum quantity : 5.000 per type and shipment.






SPECIAL OPTIONS / INSULATED MODELS (continued)

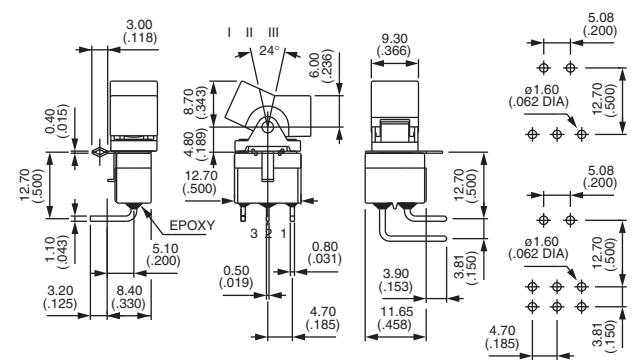


X1159 Insulated model protected against E.S.D. up to 12 KV - Horizontal right angle




	III	II	I
Single pole			
SW236-6 X1159	ON	-	ON
SW239-6 X1159	ON	OFF	ON
SW237-6 X1159	MOM	OFF	MOM
SW238-6 X1159	ON	OFF	MOM
SW232-6 X1159	ON	-	MOM
Double pole			
SW246-6 X1159	ON	-	ON
SW249-6 X1159	ON	OFF	ON
SW247-6 X1159	MOM	OFF	MOM
SW248-6 X1159	ON	OFF	MOM
SW242-6 X1159	ON	-	MOM
SW244TH-6 X1159*	ON	ON	ON

Shown with rocker U620

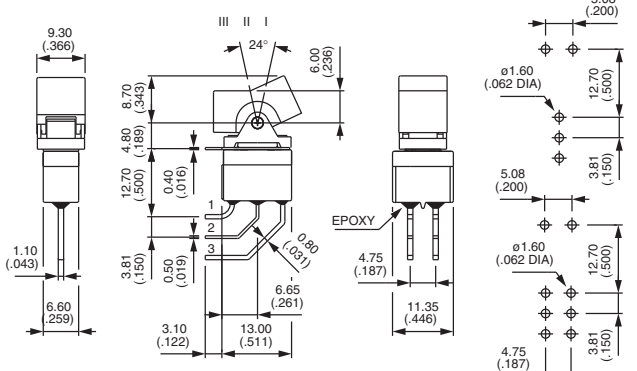


X1159 Insulated model protected against E.S.D. up to 12 KV - Vertical right angle




	III	II	I
Single pole			
SWW236-6 X1159	ON	-	ON
SWW239-6 X1159	ON	OFF	ON
SWW237-6 X1159	MOM	OFF	MOM
SWW238-6 X1159	ON	OFF	MOM
SWW232-6 X1159	ON	-	MOM
Double pole			
SWW246-6 X1159	ON	-	ON
SWW249-6 X1159	ON	OFF	ON
SWW247-6 X1159	MOM	OFF	MOM
SWW248-6 X1159**	ON	OFF	MOM
SWW242-6 X1159**	ON	-	MOM
SWW244TH-6 X1159*	ON	ON	ON

Shown with rocker U620

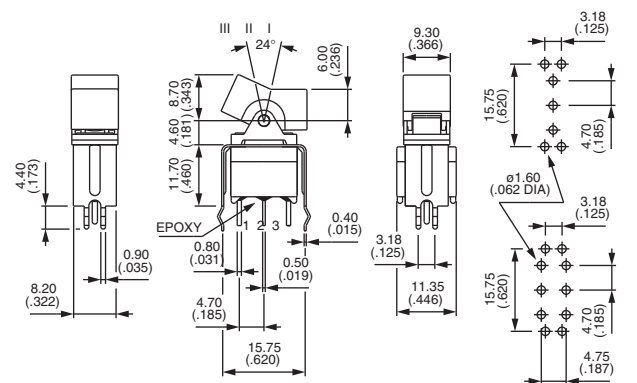


X1159 Insulated model protected against E.S.D. up to 12 KV - Straight PC terminals - bracket mounting



	III	II	I
Single pole			
SY236-6 X1159	ON	-	ON
SY239-6 X1159	ON	OFF	ON
SY237-6 X1159	MOM	OFF	MOM
SY238-6 X1159	ON	OFF	MOM
SY232-6 X1159	ON	-	MOM
Double pole			
SY246-6 X1159	ON	-	ON
SY249-6 X1159	ON	OFF	ON
SY247-6 X1159	MOM	OFF	MOM
SY248-6 X1159**	ON	OFF	MOM
SY242-6 X1159**	ON	-	MOM
SY244TH-6 X1159*	ON	ON	ON

Shown with rocker U620



* Function 4 : SP in DP case - TH connection, see end of catalogue. ** Functions 2 and 8 : reversed connection available. Consult factory.

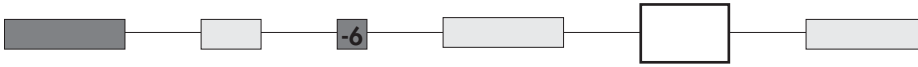
Above models available with all actuators shown on next page.



S series

Washable rocker and paddle switches

AGENCY APPROVAL

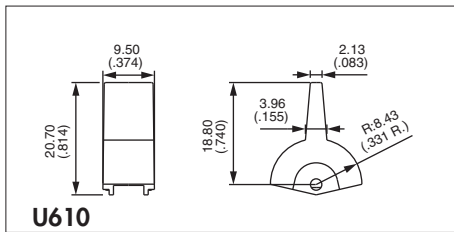
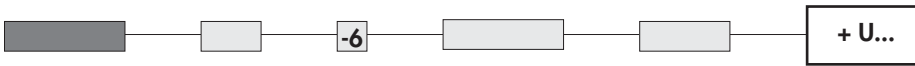


UL

Availability : consult factory for details of approved models.

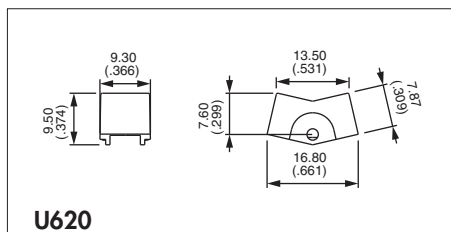
Marking : to order switches marked with the UL symbol, complete above box with "UL".
 Blank : no agency approval required.

ACTUATORS



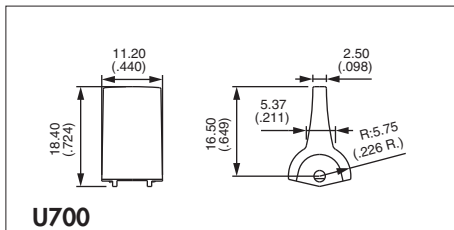
U610

Narrow paddle



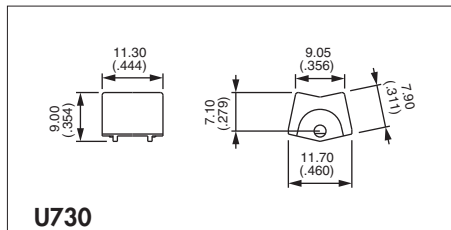
U620

Large rocker



U700

Broad paddle



U730

Small rocker

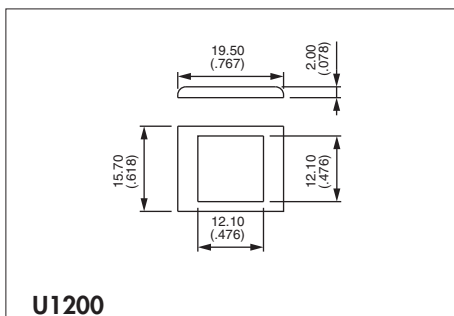
Actuator colours	
Replace last "0" by number	
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange



U610 and U620 not available on SK models

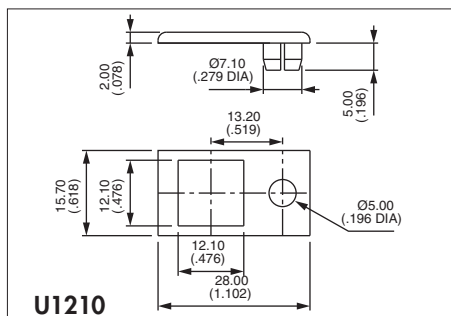
Bezels for SK model (snap-in)

Add bezel part number to actuator part number.



U1200

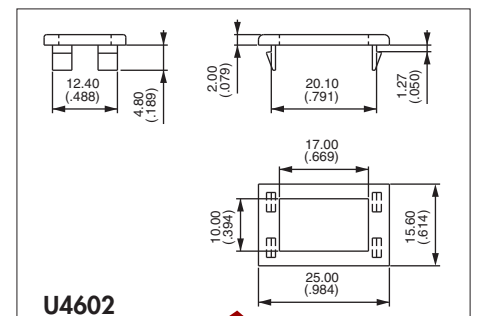
Bezel



U1210

Bezel for LED Ø 5 (.196) - not supplied

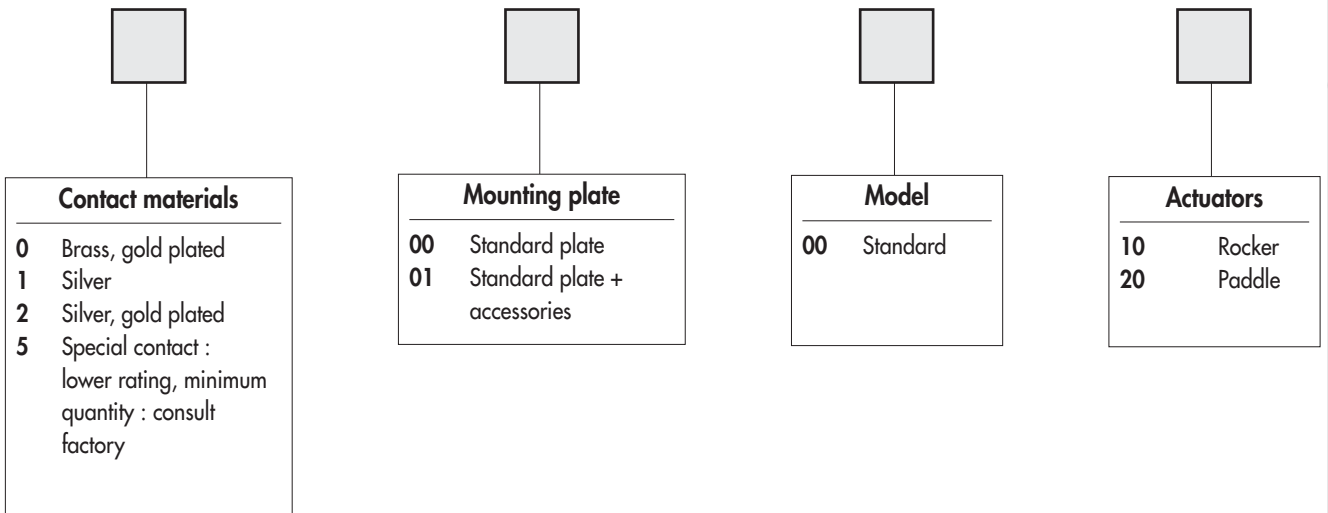
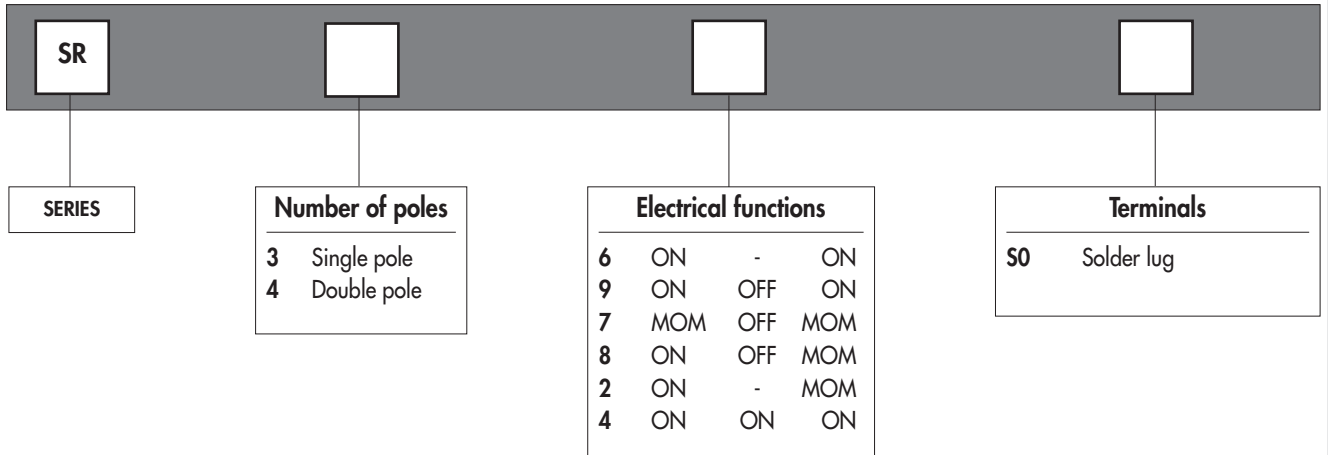
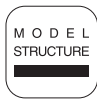
Bezel for SW - SWW and SY models



U4602

Black bezel for U620 only





ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as above

Specifications are at the beginning of this section (S and SR series).

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



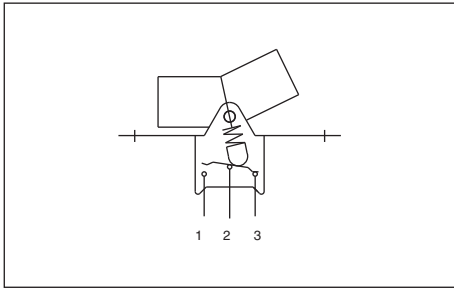
Packaging unit : 20 pieces.



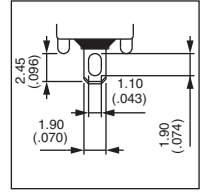
SR series

Washable rocker and paddle switches

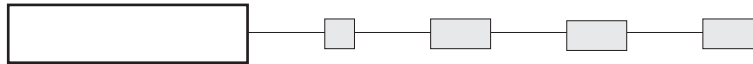
Solder lug terminals



- 1 and 2 pole configurations
- Iron soldering 300°C max. 5 seconds max.



MODEL
STRUCTURE



Shown with standard mounting plate (code 00)

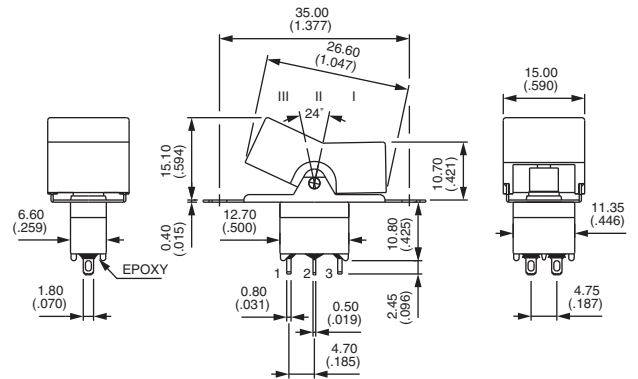
Solder lug terminals



Single pole Double pole

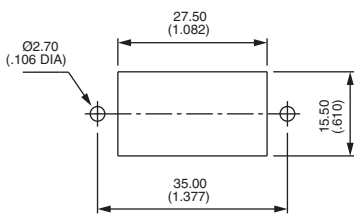
SR36S0	SR46S0
SR39S0	SR49S0
SR37S0	SR47S0
SR38S0	SR48S0
SR32S0	SR42S0
	SR44S0*

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON



* Function 4 : SP in DP case - TH connection, see end of catalogue.

PANEL CUT-OUT

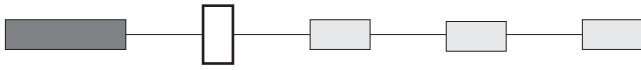




SR series

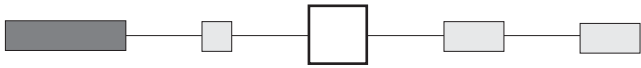
Washable rocker and paddle switches

CONTACT MATERIALS

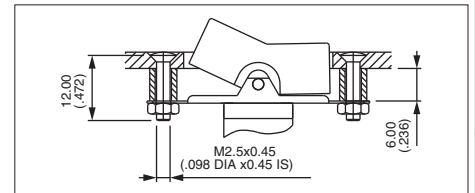


- 0 Brass, gold plated
- 1 Silver
- 2 Silver, gold plated
- 5 Special contact, lower rating, minimum quantity : consult factory.

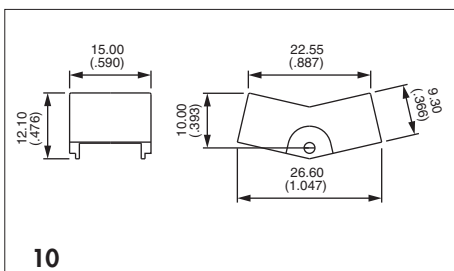
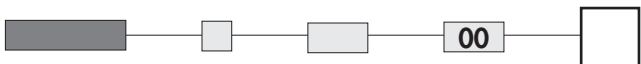
MOUNTING PLATE



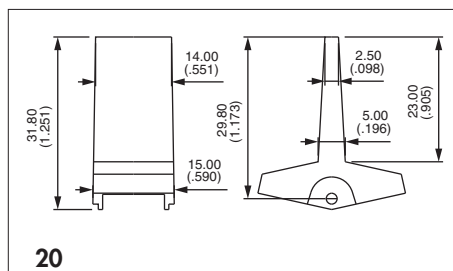
- 00 Standard mounting plate
- 01 Standard mounting plate + mounting accessories (spacers, screws and nuts)



ACTUATORS



10
Rocker



20
Paddle

Actuator colours	
Replace "0" by number	
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange



www.ermec.com

Snap-in rocker switches

Distinctive features and specifications

- Double insulation
- Epoxy sealed terminals
- UL and CSA approved

ELECTRICAL AND GENERAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (code 1) and gold plated silver contacts (code 2) : 2A 250VAC - 4A 125VAC
 - gold plated brass contacts (code 0) : 0,4VA 20V AC or DC
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 10.000 MΩ min.
- Dielectric strength :
 - 1.000 Vrms 50 Hz min. between terminals
 - 4.000 Vrms 50 Hz min. between terminals and metal panel
- Electrical life : 50.000 cycles
- Panel thickness : 1 (.039) to 3 mm (.118) max.
- Operating temperature : -40°C to +85°C

MATERIALS

- Case : PES
- Actuator : polyamide
- Contacts
 - 0 : brass, gold plated
 - 1 : silver
 - 2 : silver, gold plated
 - 5 : special contact, lower rating
- Minimum quantity : consult factory.
- Terminal seal : epoxy

APPROVALS



Availability : consult factory for details or approved models.

Marking : to order switches marked with above approvals, complete last box of ordering format.

ABOUT THIS SERIES

Dimensions : first dimensions are in mm while inches are shown as bracketted numbers.



Packaging unit : 50 pieces.

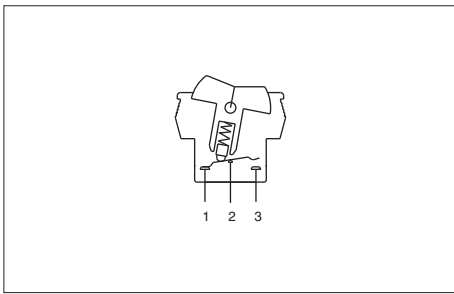


www.ermec.com

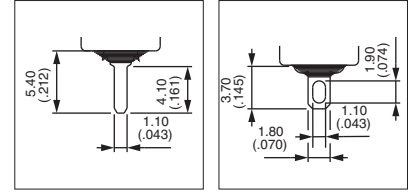


AS series

Snap-in rocker switches



- Black body
- Single pole configuration



MODEL STRUCTURE

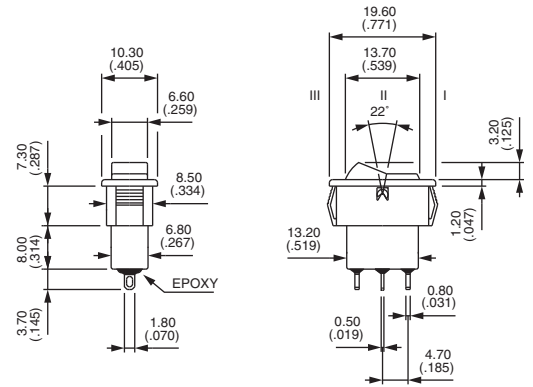


Solder lug terminals



AS36S0
AS39S0
AS37S0
AS38S0
AS32S0

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

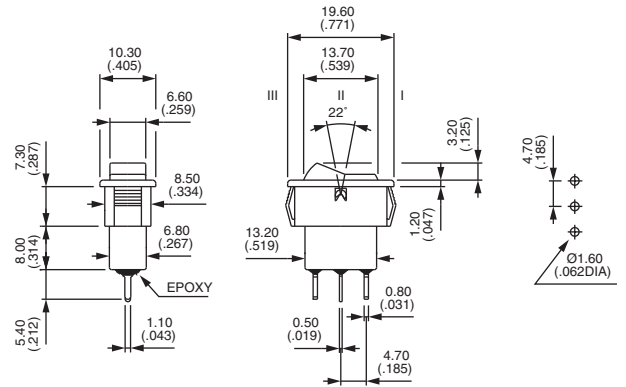


Straight PC terminals

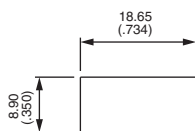


AS36P0
AS39P0
AS37P0
AS38P0
AS32P0

III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



PANEL CUT-OUT

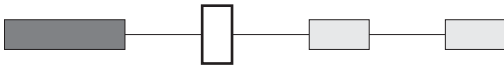


www.ermec.com

AS series

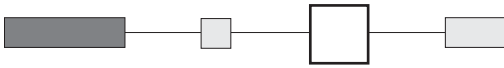
Snap-in rocker switches

CONTACT MATERIALS



- 0 Brass, gold plated
- 1 Silver
- 2 Silver, gold plated
- 5 Special contact, lower rating
Minimum quantity. Consult factory

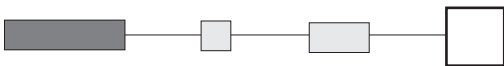
ACTUATORS



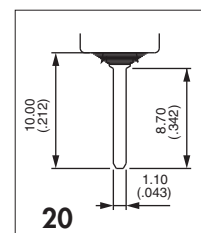
- 00 Black
- 01 Red
- 02 Grey
- 03 Blue
- 04 Ivory
- 07 White
- 09 Dark blue

For marking on actuator, consult factory.

OTHER OPTIONS



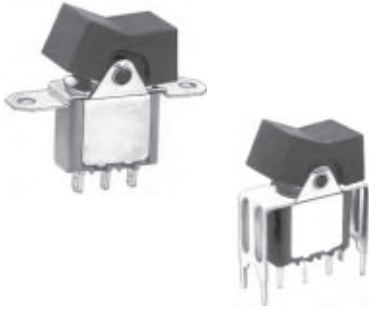
- 10 With **UL-CSA** marking
- 20 10 mm (.393) long straight PC terminals



7000 series

Rocker and paddle switches

Distinctive features and specifications



- ❑ Wide variety of actuators
- ❑ Many mounting styles for panel or PCB
- ❑ VDE, UL and CSA approved

ELECTRICAL SPECIFICATIONS

- Current/voltage rating with resistive load :

Contact	Maximum	Minimum	Level *
Silver A	3A 250VAC - 6A 125VAC - 4A 30VDC	50mA 10VDC	III and IV
Silver, gold plated AD	3A 250VAC - 6A 125 VAC - 4A 30VDC Gold plating withstands up to 100mA 30VDC.	10mA 50mV 10µA 5V	I to IV
Brass, gold plated CD	0,4 VA at 20VAC or DC	10mA 50mV 10µA 5V	I and II

- For inductive, lamp or capacitive loads, consult factory. * For details, see technical information, end of catalogue.
- Initial contact resistance : 10 mΩ
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :
 - 1.000 Vrms 50 Hz min. between terminals
 - 1.500 Vrms 50 Hz min. between poles
 - 1.500 Vrms 50 Hz min. between terminals and frame
- Contact bounce : 2 ms max.
- Electrical life : 50.000 cycles at full load

MATERIALS

- Case : diallylphthalate (DAP) or high temperature plastic material (UL94-V0)
- Actuator : polyamide
- Housing : stainless steel or steel tin plated
- Bracket : steel, tin plated
- Contacts
 - A : silver
 - AD : silver, gold plated
 - CD : brass, gold plated
- Terminal seal : epoxy

GENERAL SPECIFICATIONS

- Mechanical life : 100.000 cycles
- Panel thickness : 1 (.039) to 2,5 mm(.098)
- Operating temperature : -40°C to +85°C

AGENCY APPROVALS



EN 61058-1



For VDE, refer to 57000 series.

Availability : consult factory for details of approved models.

Marking : to order switches marked UL or CSA, complete appropriate box of ordering format.

ERMEC

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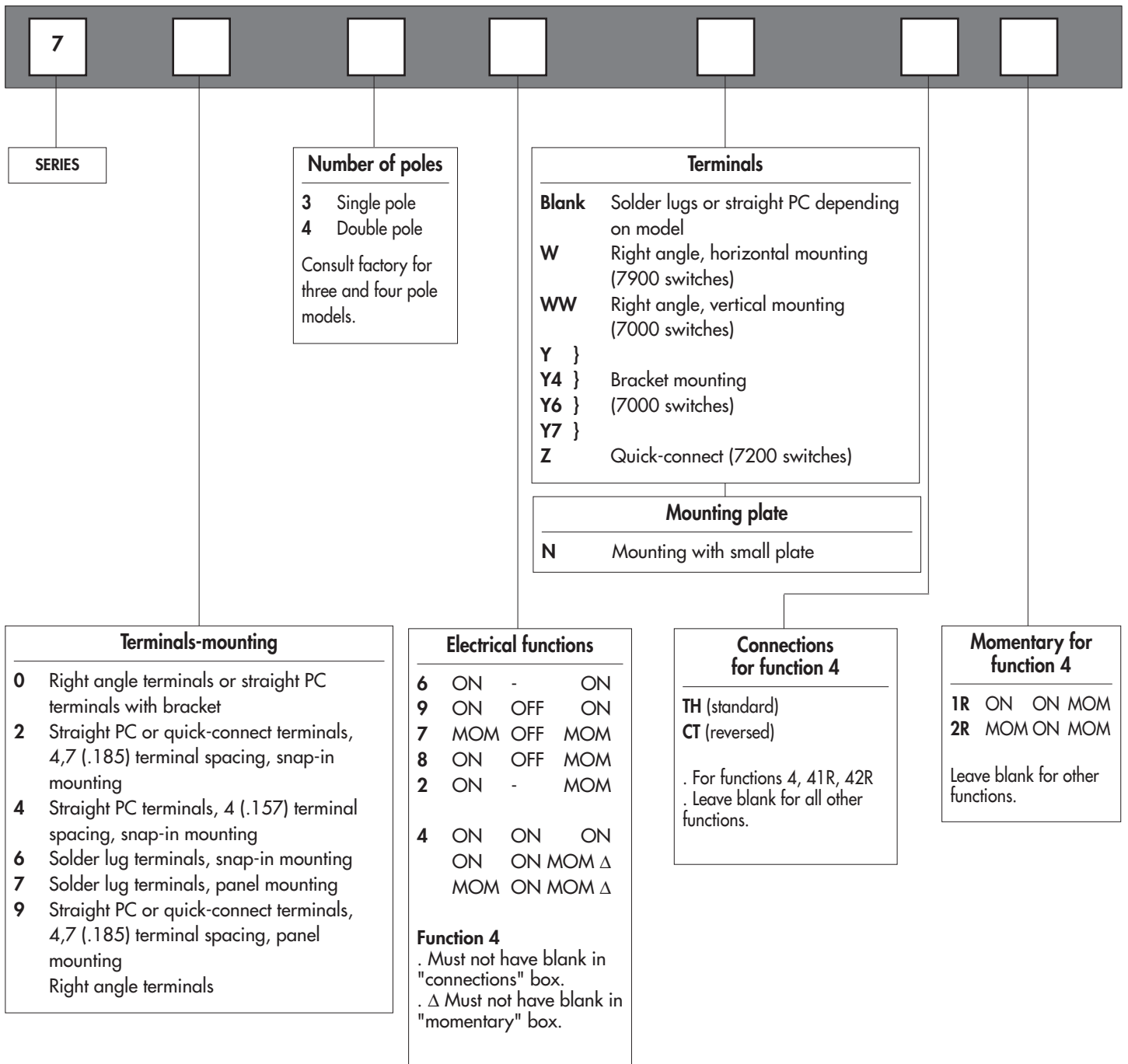
www.ermec.com

7000 series



Rocker and paddle switches

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

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



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

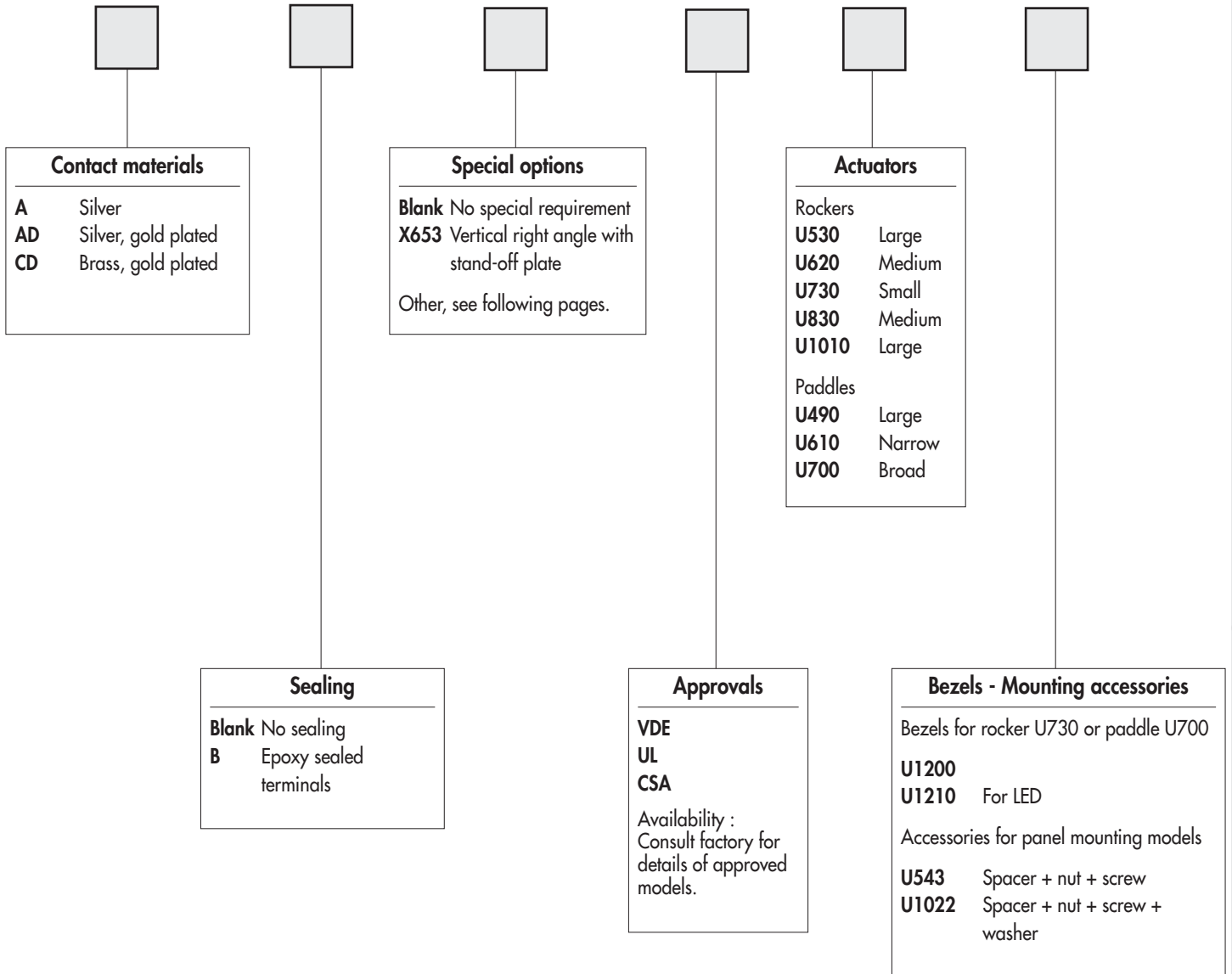




7000 series www.ermec.com

Rocker and paddle switches

Overview



D



Packaging unit : 25 pieces.



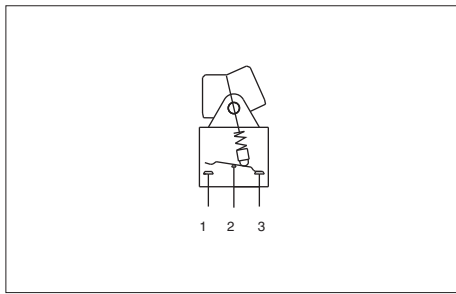
www.ermec.com

7000 series

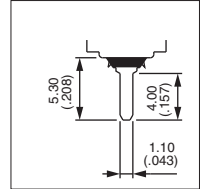
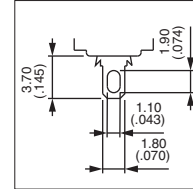
Rocker and paddle switches

Snap-in mounting : 7600 - 7200 - 7400

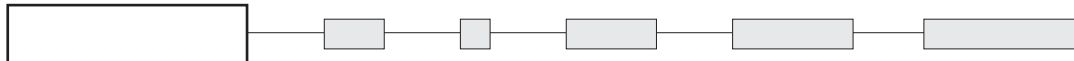
ermec@ermec.com



- Solder lug or straight PC terminals
- Epoxy sealing standard on models with straight PC terminals



MODEL STRUCTURE



Shown with rocker U730 and bezel U1200

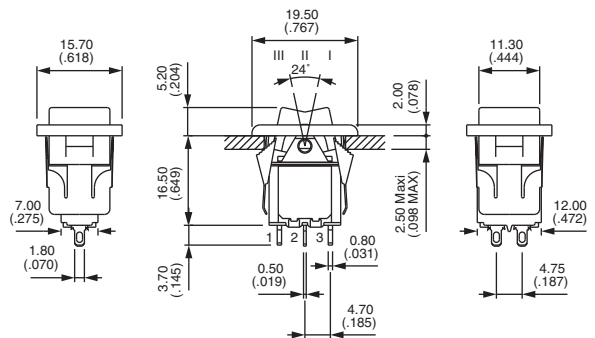
Solder lug terminals : 7600



Single pole Double pole

7636	7646
7639	7649
7637	7647
7638	7648
7632	7642
	7644*
	7644 1R*
	7644 2R*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



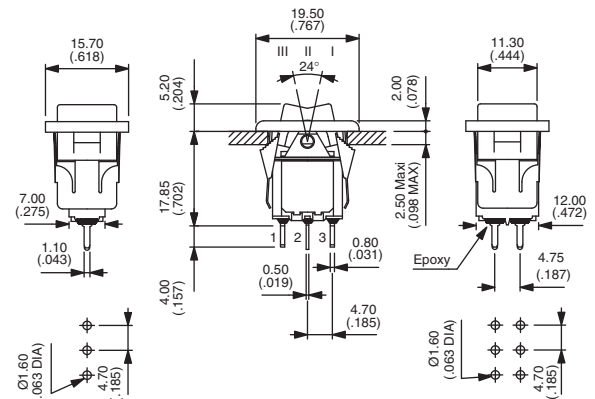
Straight PC terminals - spacing 4,7 (.185) : 7200



Single pole Double pole

7236 B	7246 B
7239 B	7249 B
7237 B	7247 B
7238 B	7248 B
7232 B	7242 B
	7244 B*
	7244 1R B*
	7244 2R B*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



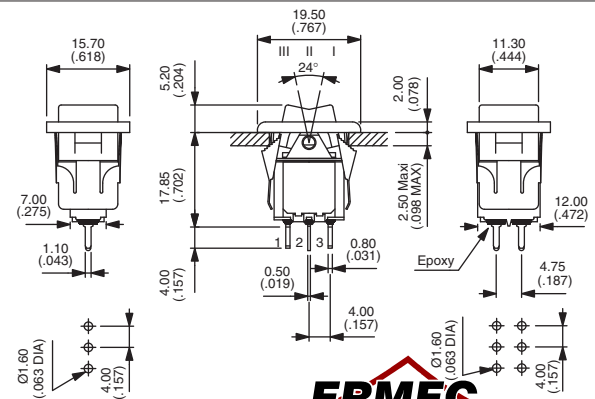
Straight PC terminals - spacing 4 (.157) : 7400



Single pole Double pole

7436 B	7446 B
7439 B	7449 B
7437 B	7447 B
7438 B	7448 B
7432 B	7442 B
	7444 B*
	7444 1R B*
	7444 2R B*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.



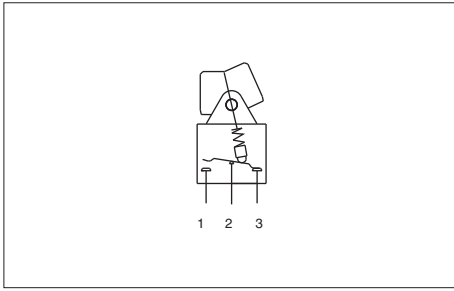
www.ermec.com



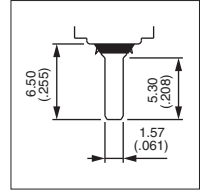
7000 series

Rocker and paddle switches

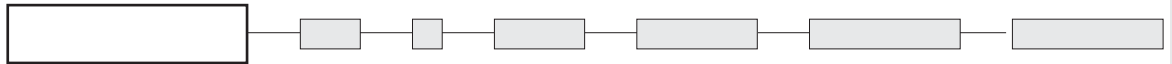
Snap-in mounting : 7200Z



- Quick-connect terminals



MODEL
STRUCTURE



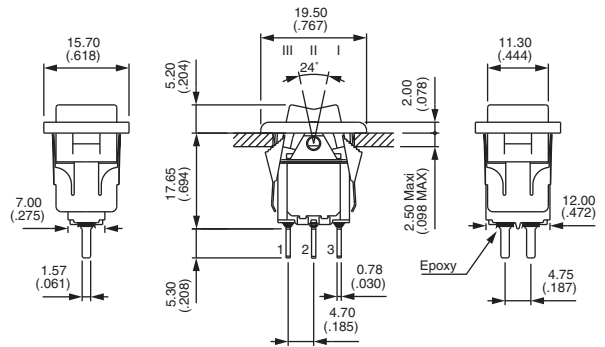
Shown with rocker U730 and bezel U1200

Quick-connect terminals : 7200Z



Single pole	Double pole
7236Z	7246Z
7239Z	7249Z
7237Z	7247Z
7238Z	7248Z
7232Z	7242Z
	7244Z*
	7244Z 1R*
	7244Z 2R*

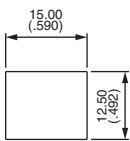
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



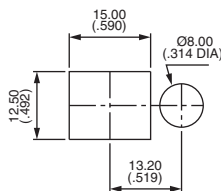
* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.

PANEL CUT-OUT

7600 - 7200 - 7400 - 7200Z



With or without bezel U1200



With bezel U1210

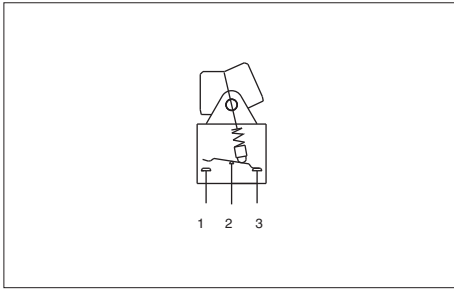


www.ermec.com

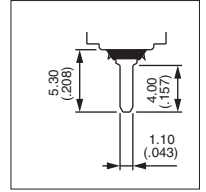
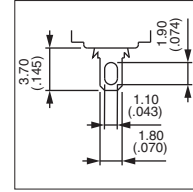
7000 series

Rocker and paddle switches

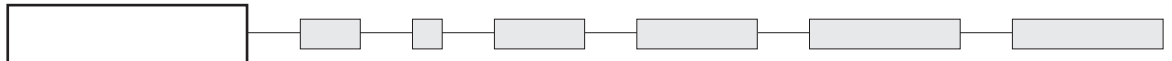
Panel mounting : 7700 - 7900



- Large rocker or paddle
- Solder lug or straight PC terminals
- Quick-connect terminals : on request
- Epoxy sealing standard on models with straight PC terminals



MODEL STRUCTURE



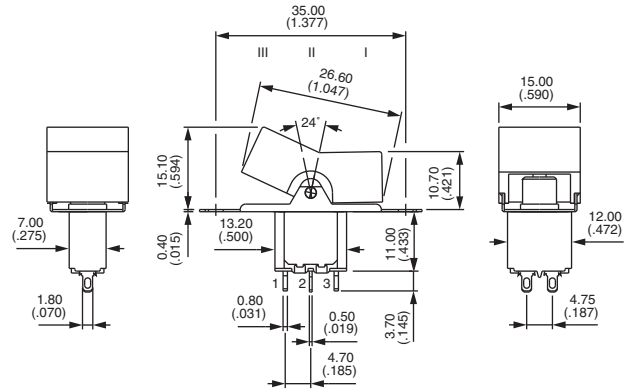
Shown with rocker U530

Solder lug terminals : 7700



Single pole	Double pole
7736	7746
7739	7749
7737	7747
7738	7748
7732	7742
	7744*
	7744 1R*
	7744 2R*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

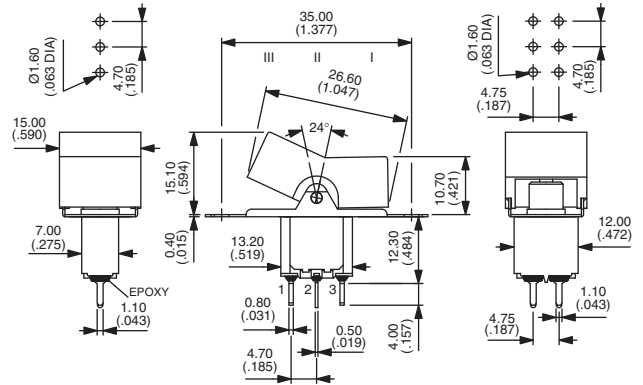


Straight PC terminals : 7900



Single pole	Double pole
7936 B	7946 B
7939 B	7949 B
7937 B	7947 B
7938 B	7948 B
7932 B	7942 B
	7944 B*
	7944 1R B*
	7944 2R B*

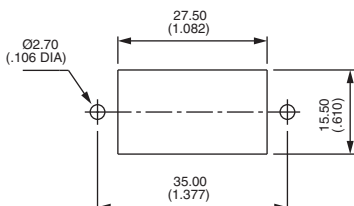
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.

PANEL CUT-OUT

7700 - 7900

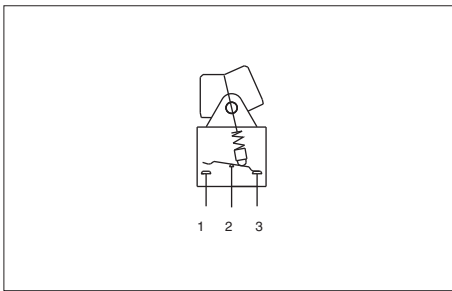




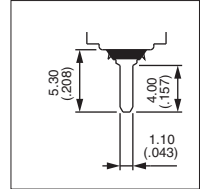
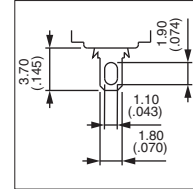
7000 series

Rocker and paddle switches

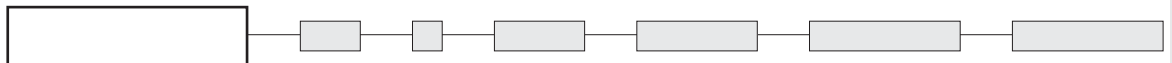
Panel mounting : 7700N - 7900N



- Small or medium rocker or paddle
- Solder lug or straight PC terminals
- Quick-connect terminals : on request
- Epoxy sealing standard on models with straight PC terminals



MODEL STRUCTURE



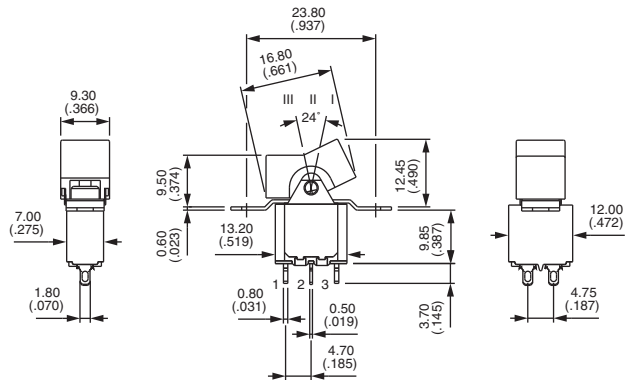
Shown with rocker U620

Solder lug terminals : 7700N



Single pole	Double pole
7736N	7746N
7739N	7749N
7737N	7747N
7738N	7748N
7732N	7742N
	7744N*
	7744N 1R*
	7744N 2R*

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM

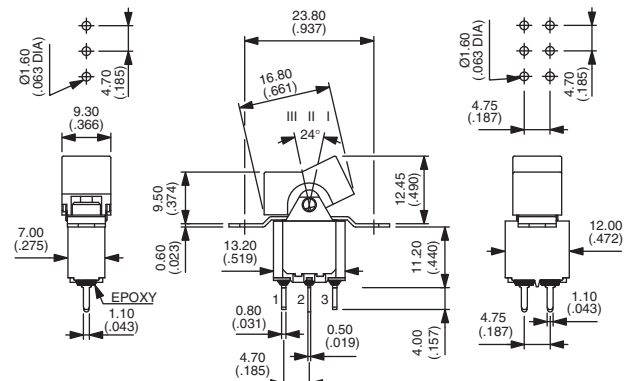


Straight PC terminals : 7900N



Single pole	Double pole
7936N B	7946N B
7939N B	7949N B
7937N B	7947N B
7938N B	7948N B
7932N B	7942N B
	7944N B*
	7944N 1R B*
	7944N 2R B*

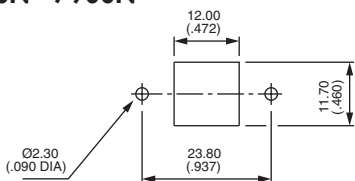
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



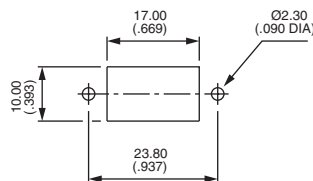
* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.

PANEL CUT-OUT

7700N - 7900N



With small rocker **U730**
or small paddle **U700**



With medium rocker **U620**
or medium paddle **U610**

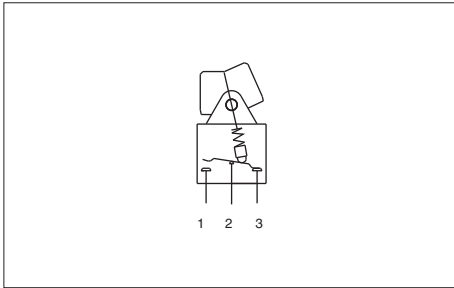


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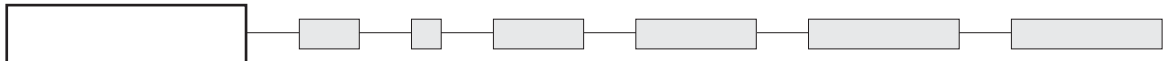
7000 series

Rocker and paddle switches

Right angle terminals - horizontal : 7900W



MODEL
STRUCTURE



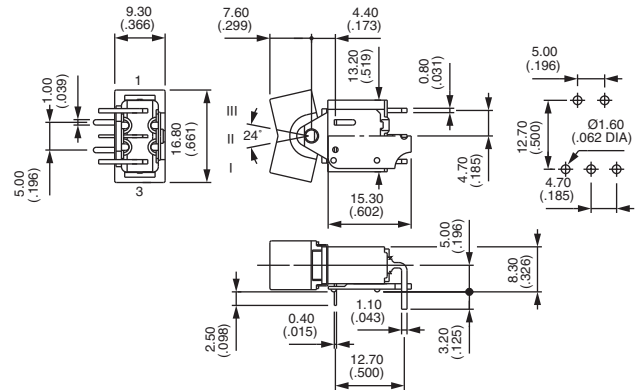
Shown with rocker U620

Single pole



7936W
7939W
7937W
7938W**
7932W**

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

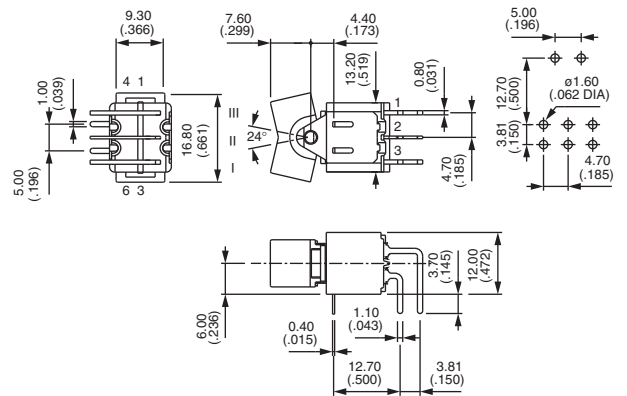


Double pole



7946W
7949W
7947W
7948W**
7942W**
7944W*
7944W 1R*
7944W 2R*

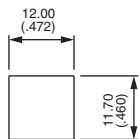
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



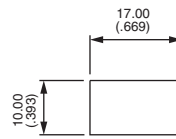
* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.

** Functions 2 and 8 : standard connection (CT) shown on drawing - reversed connection available. Consult factory.

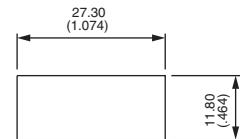
PANEL CUT-OUT



With small rocker **U730**
or small paddle **U700**



With medium rocker **U620**
or medium paddle **U610**



With large rocker **U1010**



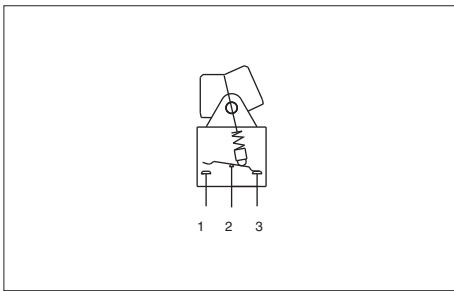
www.ermec.com



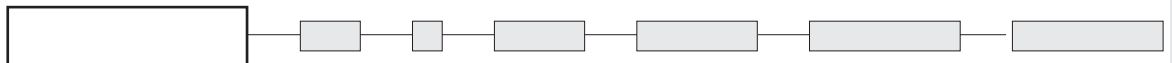
7000 series

Rocker and paddle switches

Right angle terminals - vertical : 7000WW



MODEL STRUCTURE



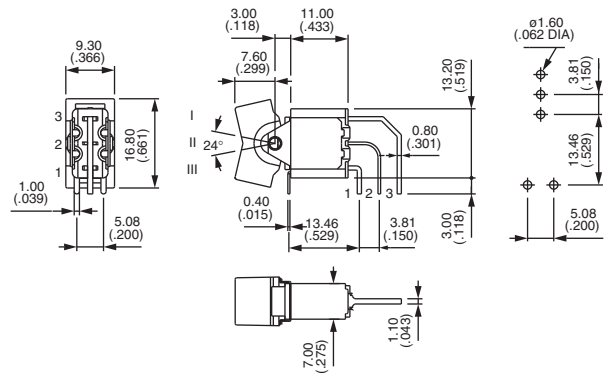
Shown with rocker U830

Single pole



- 7036WW
- 7039WW
- 7037WW
- 7038WW**
- 7032WW**

III	II	I
2-3		1-2
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

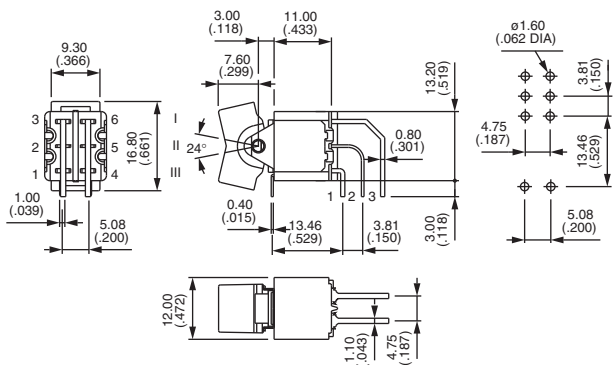


Double pole



- 7046WW
- 7049WW
- 7047WW
- 7048WW**
- 7042WW**
- 7044WW*
- 7044WW 1R*
- 7044WW 2R*

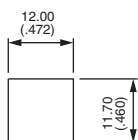
III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



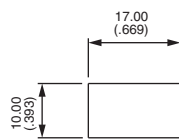
* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.

** Functions 2 and 8 : standard connection (CT) shown on drawing - reversed connection available. Consult factory.

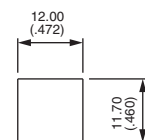
PANEL CUT-OUT



With small rocker **U730**



With medium rocker **U830**



With large rocker **U700**
www.ermec.com

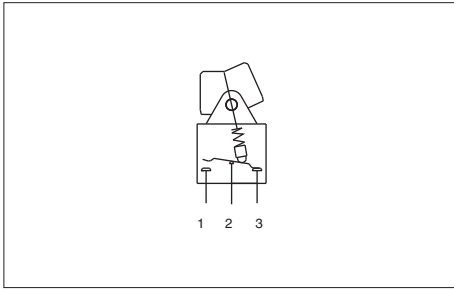
www.ermec.com

7000 series

Rocker and paddle switches

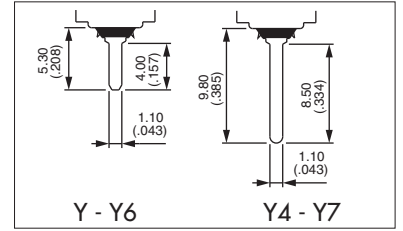
Straight PC terminals - bracket mounting : 7000Y

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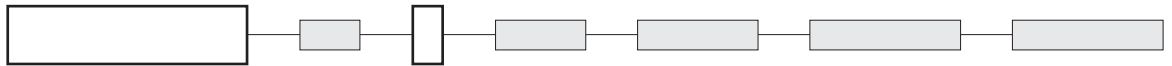


Brackets reduce mechanical stress on solder joints and increase the resistance to vibrations.

- Epoxy sealed terminals standard (B included in model structure)



MODEL STRUCTURE



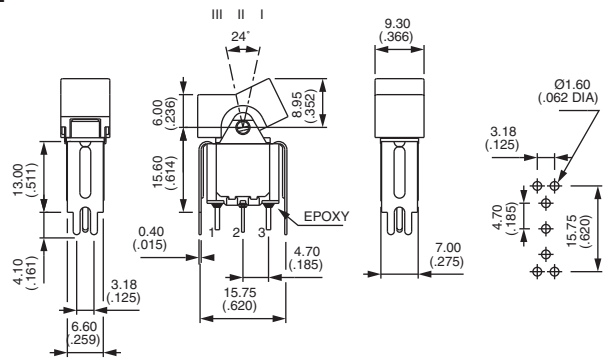
Shown with rocker U620

Short bracket - width 15,75 (.620) - single pole : 7030Y



7036Y B
7039Y B
7037Y B
7038Y B
7032Y B

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM

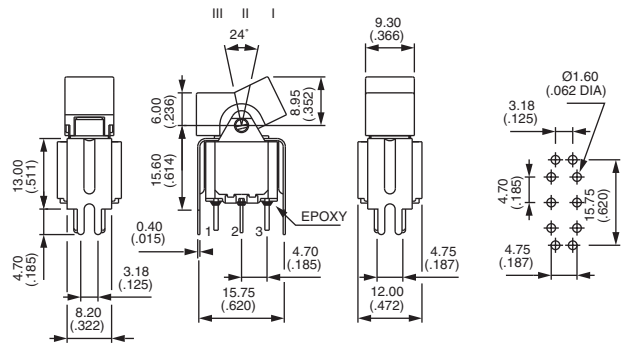


Short bracket - width 15,75 (.620) - double pole : 7040Y



7046Y B
7049Y B
7047Y B
7048Y B
7042Y B
7044Y* B
7044Y 1R* B
7044Y 2R* B

III	II	I
2-3		1-2
5-6		4-5
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM
ON	ON	ON
ON	ON	MOM
MOM	ON	MOM



* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.



www.ermec.com



7000 series

Rocker and paddle switches

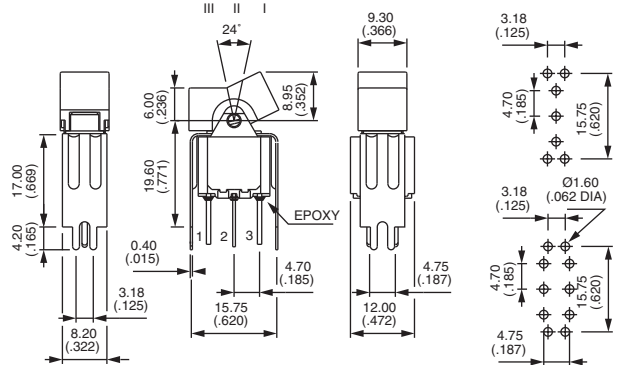
Straight PC terminals - bracket mounting : 7000Y4 - Y6 - Y7

Tall bracket - width 15,75 (.620) : 7000Y4



Single pole Double pole

Part Number	Configuration	III	II	I
7036Y4 B	7046Y4 B	2-3	-	1-2
7039Y4 B	7049Y4 B	ON	OFF	ON
7037Y4 B	7047Y4 B	MOM	OFF	MOM
7038Y4 B	7048Y4 B	ON	OFF	MOM
7032Y4 B	7042Y4 B	ON	-	MOM
	7044Y4* B	ON	ON	ON
	7044Y4 1R* B	ON	ON	MOM
	7044Y4 2R* B	MOM	ON	MOM

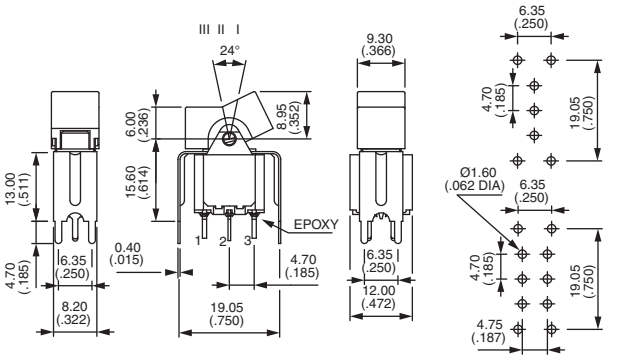


Short bracket - width 19,05 (.750) : 7000Y6



Single pole Double pole

Part Number	Configuration	III	II	I
7036Y6 B	7046Y6 B	2-3	-	1-2
7039Y6 B	7049Y6 B	ON	OFF	ON
7037Y6 B	7047Y6 B	MOM	OFF	MOM
7038Y6 B	7048Y6 B	ON	OFF	MOM
7032Y6 B	7042Y6 B	ON	-	MOM
	7044Y6* B	ON	ON	ON
	7044Y6 1R* B	ON	ON	MOM
	7044Y6 2R* B	MOM	ON	MOM

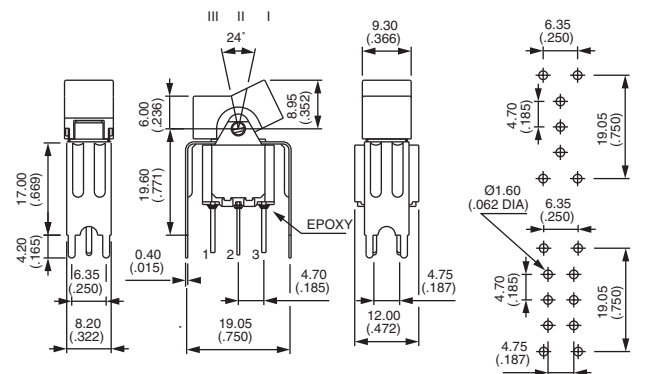


Tall bracket - width 19,05 (.750) : 7000Y7



Single pole Double pole

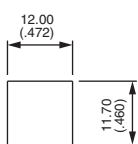
Part Number	Configuration	III	II	I
7036Y7 B	7046Y7 B	2-3	-	1-2
7039Y7 B	7049Y7 B	ON	OFF	ON
7037Y7 B	7047Y7 B	MOM	OFF	MOM
7038Y7 B	7048Y7 B	ON	OFF	MOM
7032Y7 B	7042Y7 B	ON	-	MOM
	7044Y7* B	ON	ON	ON
	7044Y7 1R* B	ON	ON	MOM
	7044Y7 2R* B	MOM	ON	MOM



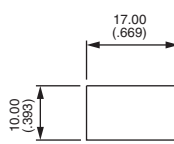
* Function 4 :SP in DP case - specify CT or TH connections, see end of catalogue.

PANEL CUT-OUT

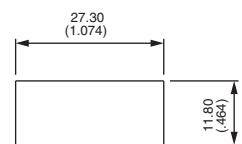
7000Y - Y4 - Y6 - Y7



With small rocker **U730**
or small paddle **U700**



With medium rocker **U620**
or medium paddle **U610**

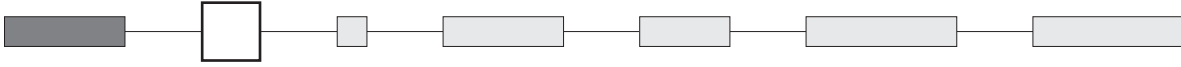


www.ermec.com

7000 series

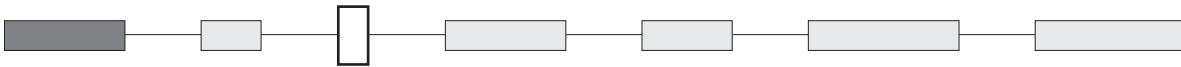
Rocker and paddle switches

CONTACT MATERIALS

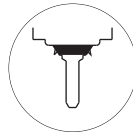


- A Silver
- AD Silver, gold plated
- CD Brass, gold plated

SEALING



- Blank No sealing
- B Epoxy sealed terminals



D

SPECIAL OPTIONS

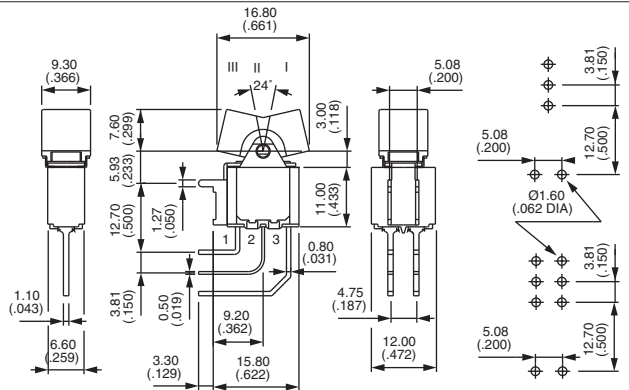


- Blank No special requirement
- X653 Vertical right angle with stand-off plate

Shown with rocker U620



	III	II	I
Single pole	2-3		1-2
7036WW X653			ON
7039WW X653			ON OFF ON
7037WW X653			MOM OFF MOM
7038WW X653			ON OFF MOM
7032WW X653			ON - MOM
Double pole			
7046WW X653			ON
7049WW X653			ON OFF ON
7047WW X653			MOM OFF MOM
7048WW X653**			ON OFF MOM
7042WW X653**			ON - MOM
7044WW X653*			ON ON ON
7044 1RWW X653*			ON ON MOM
7044 2RWW X653*			MOM ON MOM



* Function 4 : SP in DP case - specify CT or TH connections, see end of catalogue.
 ** Functions 2 and 8 : reversed connection available. Consult factory.

Actuators for X653 : small rocker U730 and medium rocker U620, broad paddle U700 and narrow paddle U610.

- X601 Silver plated brass contacts
 Current voltage rating for an electrical life of 20.000 cycles : 0,2A 250VAC - 0,4A 125VAC - 0,5A 30VDC
 Minimum quantity : 5.000 pieces per model and shipment.

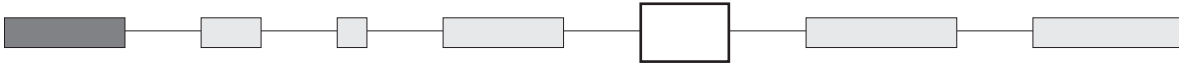




7000 series

Rocker and paddle switches

AGENCY APPROVALS



UL
CSA

All standard models

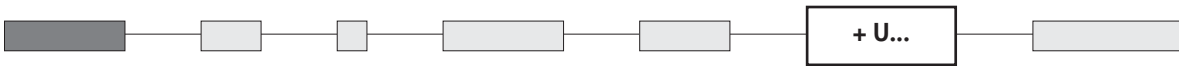
Availability : consult factory for details of approved combinations or options.

Marking : to order switches marked UL or CSA, complete above box with desired approvals in this order, without space (ex. ULCSA). Blank : no agency approval required.

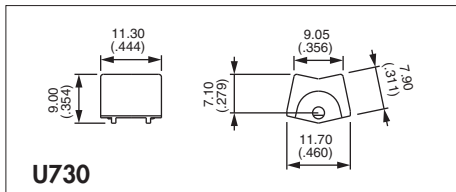
VDE (with UL & CSA)

Refer to **57000** series on the following pages.

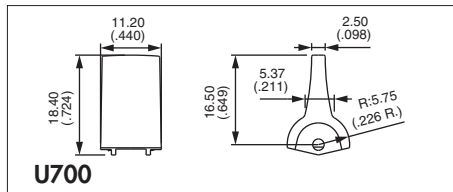
ACTUATORS



For snap-in mounting models : 7600 - 7200 - 7400 - 7200Z



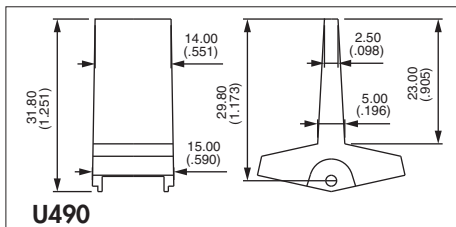
U730
Small rocker



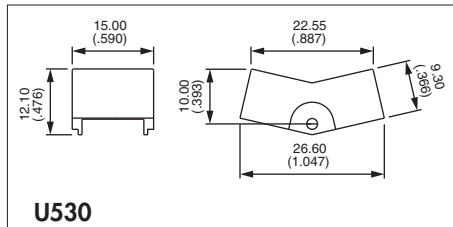
U700
Broad paddle

Actuator colours	
Replace last "0" by number	
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
6	red
7	ivory
7/1	white
9	orange

For 7700 and 7900 models

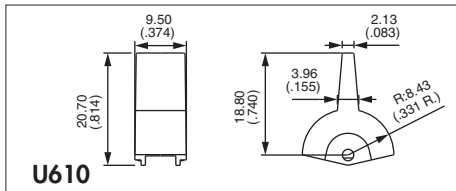


U490
Large paddle

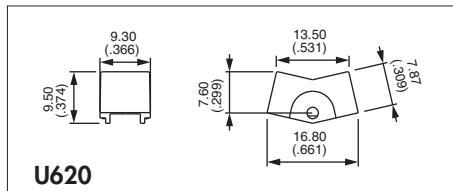


U530
Large rocker

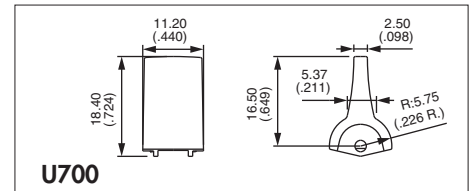
For 7700N - 7900N - 7900W - 7000WWX653 and 7000Y models



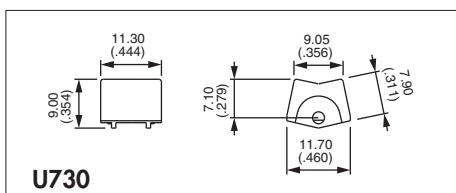
U610
Narrow paddle



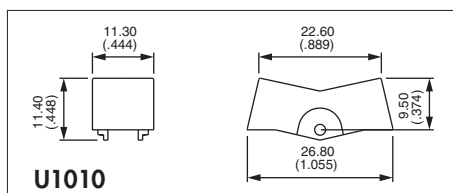
U620
Medium rocker



U700
Broad paddle



U730
Small rocker



U1010
Large rocker
For 7900W, available on DP only.



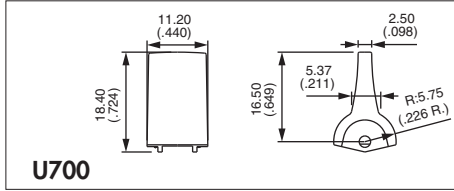
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7000 series

Rocker and paddle switches

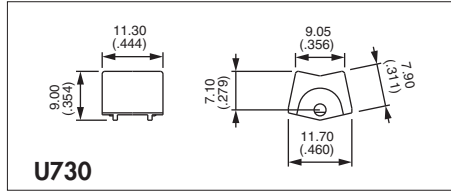
ACTUATORS (continued)

For 7000WW models



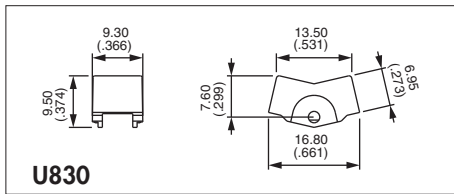
U700

Broad paddle



U730

Small rocker



U830

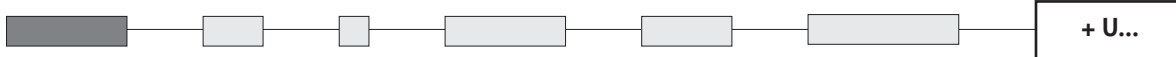
Medium rocker

Actuator colours

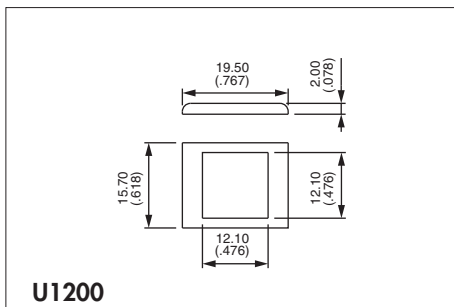
Replace last "0" by number

- 1 blue
- 1/4 dark blue
- 2 black
- 3 green
- 4 grey
- 5 yellow
- 6 red
- 7 ivory
- 7/1 white
- 9 orange

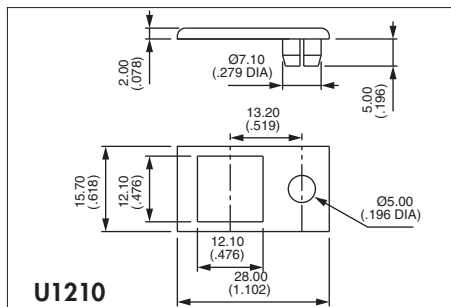
BEZELS - MOUNTING ACCESSORIES



Bezels for paddle U700 and rocker U730



U1200



U1210

For LED Ø 5 (.196) - not supplied

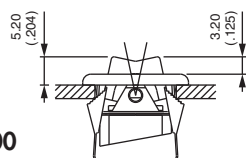
Bezel colours

Replace last "0" by number

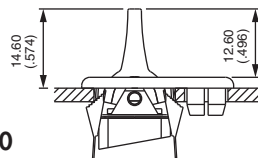
- 1 blue
- 1/4 dark blue
- 2 black
- 3 green
- 4 grey
- 5 yellow
- 6 red
- 7 ivory
- 7/1 white
- 9 orange

STANDARD PANEL MOUNTING

Panel thickness with bezel 1 to 2,5 mm (.039 to .098)

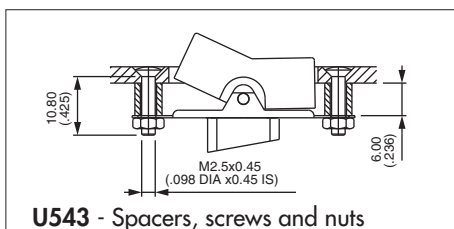


U730 + U1200



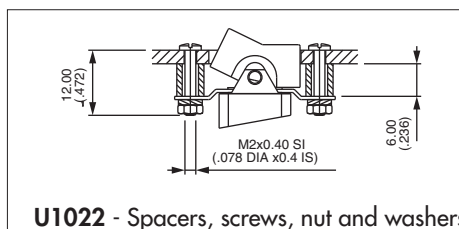
U700 + U1210

Mounting accessories



U543 - Spacers, screws and nuts

For rocker U530 or paddle U490



U1022 - Spacers, screws, nut and washers

For rockers U620 or U730
 For paddles U610 or U700





57000 series

VDE approved rocker and paddle switches



EN 61058-1



- The switches described below are standard marked VDE.
- UL and CSA agency approvals are also available. To order a switch marked UL or CSA, please complete "Other agency approvals" box.

ELECTRICAL SPECIFICATIONS

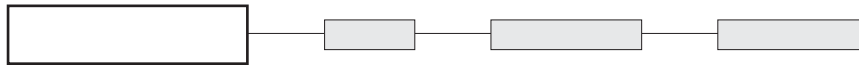
- Class I (normal insulation)
- Small contact opening : μ (< 3 mm (.118))
- Current/voltage rating with resistive load : 3A 250VAC - 6A 125 VAC
- Dielectric strength :
2.000 Vrms 50 Hz min. between poles and between terminals and frame
1.000 Vrms 50 Hz min. between terminals
- Special body for increased creepage distance and air gap : 3 mm (.118)

Further specifications, see 7000 series.

MATERIALS

- Contacts : silver
- Case : diallylphthalate (DAP)
- Actuators : polyamide
- Housing : stainless steel or steel tin plated
- Terminal seal : epoxy

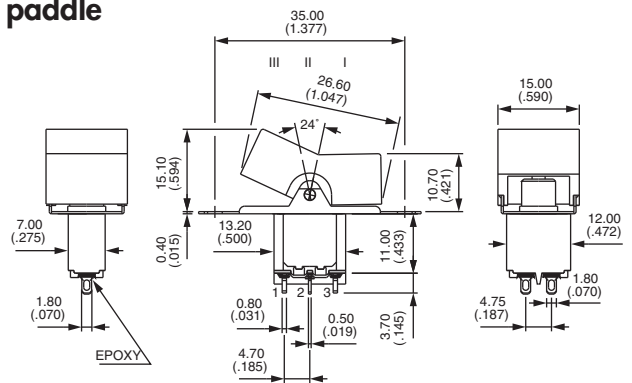
MODEL STRUCTURE



Shown with rocker U530

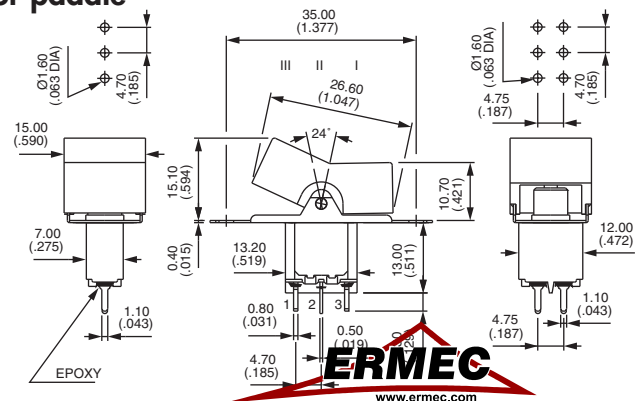
Panel mounting - solder lug terminals - large rocker or paddle

	III	II	I
	2-3		1-2
	5-6		4-5
Single pole			
57736A	ON	-	ON
57739A	ON	OFF	ON
Double pole			
57746A			
57749A			



Panel mounting - straight PC terminals - large rocker or paddle

	III	II	I
	2-3		1-2
	5-6		4-5
Single pole			
57936A	ON	-	ON
57939A	ON	OFF	ON
Double pole			
57946A			
57949A			



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57000 series

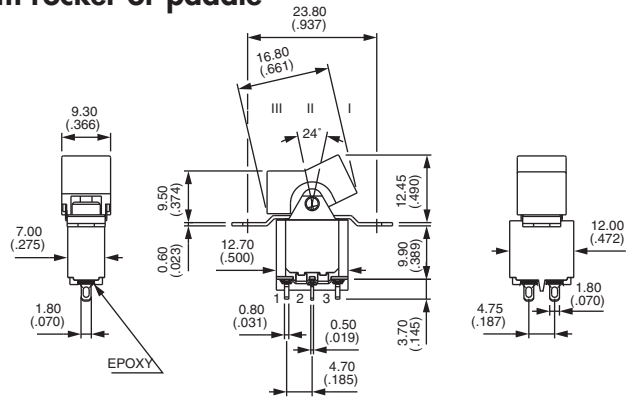
VDE approved rocker and paddle switches



Shown with rocker U620

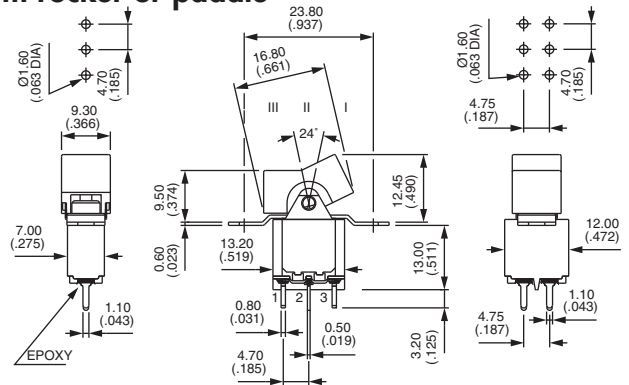
Panel mounting - solder lug terminals - small or medium rocker or paddle

		III	II	I
		2-3		1-2
		5-6		4-5
Single pole	Double pole	ON	-	ON
57736NA	57746NA	ON	OFF	ON
57739NA	57749NA	ON	OFF	ON



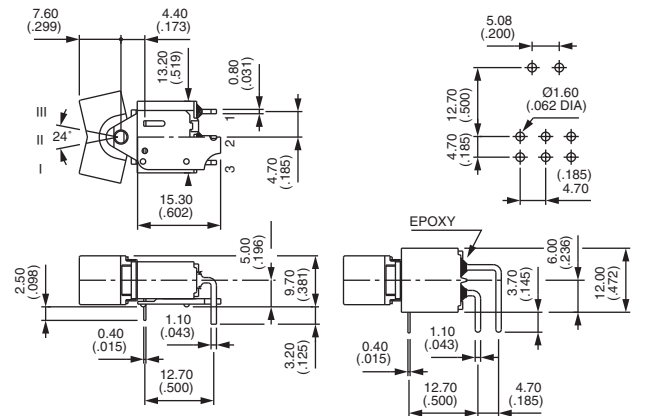
Panel mounting - straight PC terminals - small or medium rocker or paddle

		III	II	I
		2-3		1-2
		5-6		4-5
Single pole	Double pole	ON	-	ON
57936NA	57946NA	ON	OFF	ON
57939NA	57949NA	ON	OFF	ON



Right angle terminals - horizontal

		III	II	I
		2-3		1-2
		5-6		4-5
Single pole	Double pole *	ON	-	ON
57936WA	57946WAX433	ON	OFF	ON
57939WA	57949WAX433	ON	OFF	ON



Also available for VERTICAL mounting (on request).

PANEL CUT-OUT : Refer to 7000 series

* In double pole W models, spacing between poles on PCB is different from standard : 4,70 mm (.185) instead of 3,81 mm (.150). Part number X433.



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57000 series

VDE approved rocker and paddle switches

OTHER AGENCY APPROVALS



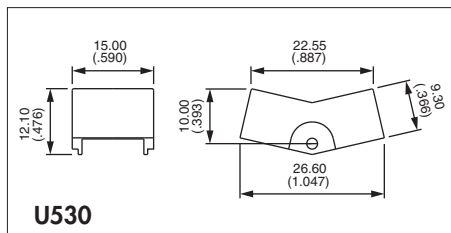
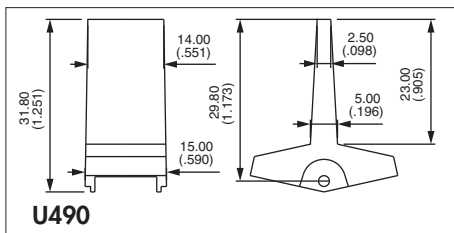
UL
CSA

To order a switch additionally marked UL and/or CSA, complete above box with desired approvals (ex. ULCSA).

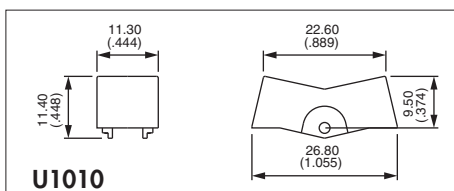
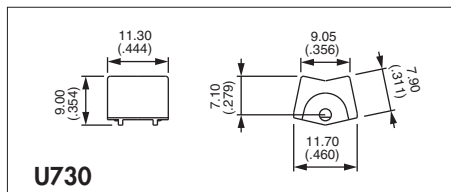
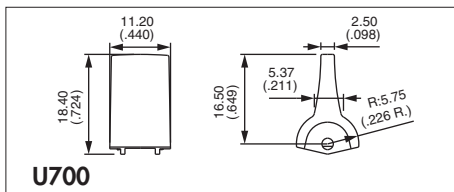
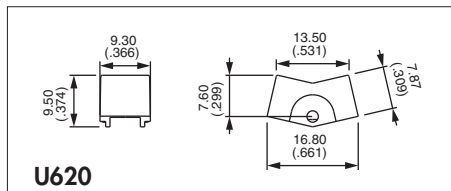
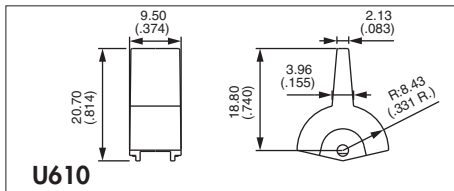
ACTUATORS



For 57000A models



For 57000NA and 57000WA models



For 57000WA, available on double pole only

Actuator colours	
Replace last "0" by number	
1	blue
1/4	dark blue
2	black
3	green
4	grey
5	yellow
7	ivory
7/1	white
9	orange

D

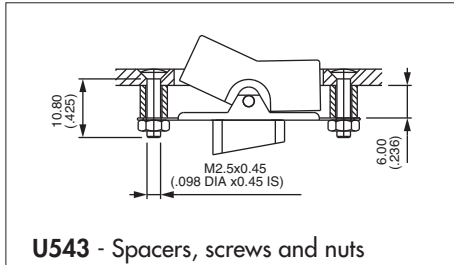
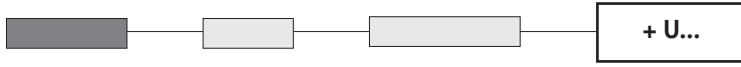


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57000 series

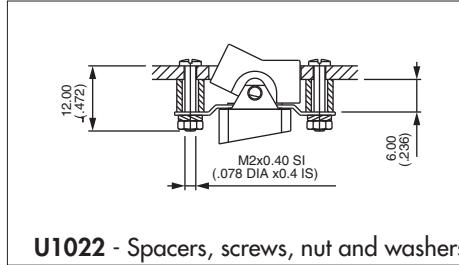
VDE approved rocker and paddle switches

MOUNTING ACCESSORIES



U543 - Spacers, screws and nuts

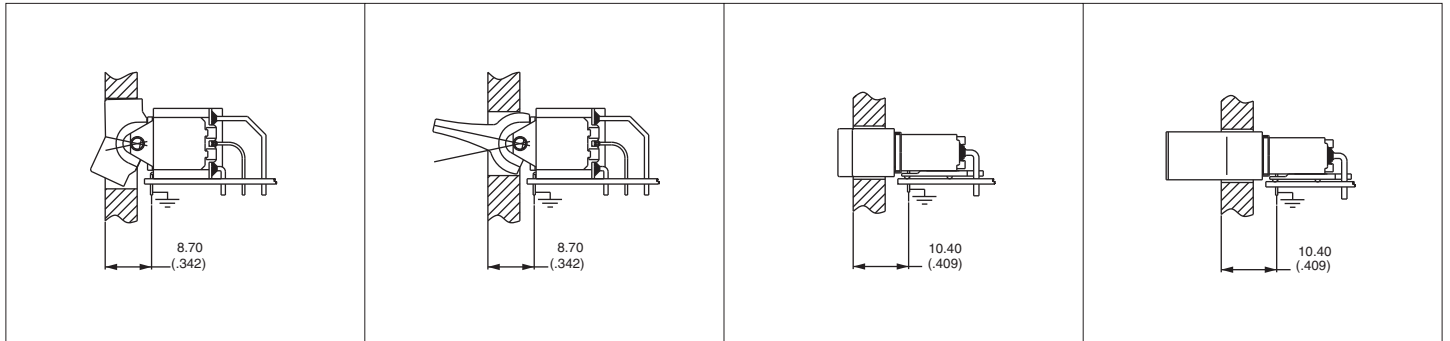
For rocker U530 or paddle U490



U1022 - Spacers, screws, nut and washers

For rockers U620 or U730
 For paddles U610 or U700

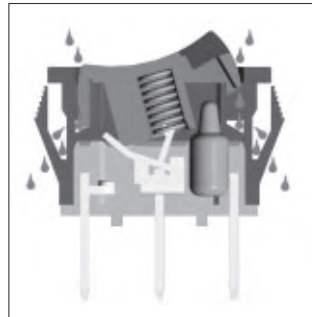
MOUNTING RECOMMENDATIONS



D

- Illuminated and non-illuminated
- For class II appliances
- VDE and UL approved
- Protection against moisture by double-shell case

When the switch is submitted to moisture (drops, condensation), the double-shell case conducts the liquid outside, thus protecting the contact area and terminals. The light dripping inside the equipment resulting from this should be evacuated by adequate arrangement on back of panel.



- Protection by boot

In case of sand or splashing water, the best protection consists of insulating the rocker from these aggressive elements. This can be achieved with transparent PVC boot **U5720**. Order separately, see section H.

AGENCY APPROVALS



EN 61058-1



Availability : functions 1 and 6

Marking : approved models are standard marked.

Dimensions : first dimensions are in mm while inches are shown as bracketted numbers.



Packaging unit : 150 pieces.



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FM series

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Snap-in rocker switches - panel cut-out 19 x 13 (.750 x .508)

Single pole - non-illuminated

- Approved ratings (functions 1 and 6) :
VDE : 10(4)A 250VAC T85°C - UL : 6A 250VAC & 125VAC T65°C
- Max. contact rating :
- functions 1 and 6 : see above.
- function 3 : 4A 250VAC
- functions 8 and 9 : 6A 250VAC
- Initial contact resistance : 20mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : - functions 1 and 6 : 2.500 Vrms between terminals
- functions 3, 8 and 9 : 1.500 Vrms between terminals
- Electrical life at full load : 10 000 cycles

- Operating temperature :
-20°C to +85°C
- Case, frame, rocker : PA6/6
- Contacts : silver
- Terminals : silver plated
- Panel cut-out :

Panel thickness	Dim. Y	Dim. Z
0,75 to 1,25 mm	19,2 +0/-0,1	12,9 +0,15/-0
1,25 to 2 mm	19,4 +0/-0,1	12,9 +0,15/-0
2 to 3 mm	19,8 +0/-0,1	12,9 +0,15/-0

FM	C			A			0	0	
----	---	--	--	---	--	--	---	---	--

SERIES

Electrical functions

1	ON	-	OFF
3	MOM	-	OFF
6	ON	-	ON
8	ON	OFF	MOM
9	ON	OFF	ON

Contacts

A Silver

Frame colour

2 Black

Others : on request.

Rocker colours

1 Blue
2 Black (std)
3 Green
4 Grey
5 Yellow
6 Red (std)
7 Ivory
7/1 White
9 Orange

Lamp

0 None

Rocker

C Non illum.
Concave

Terminals

2 Solder lug
8 Quick-conn.
9 Straight PC (funct. 1 & 6)

Lens colour

0 No lens

Marking *

000	None
001	0
002	0 -
003	0 I
004	I 0 II
005	#0 2

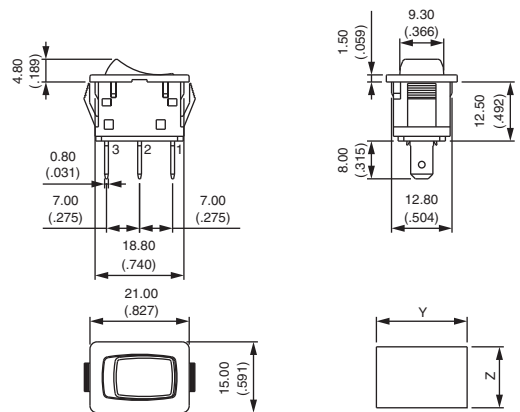
* Colour of marking : white for black rockers - black for other colours - Other : on request.

Single throw and double throw switch



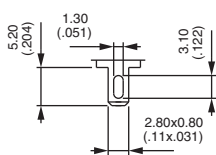
FMC1
FMC3
FMC6
FMC8
FMC9

1-2	ON	-	OFF
	MOM	-	OFF
	ON	-	ON
	ON	OFF	MOM
	ON	OFF	ON



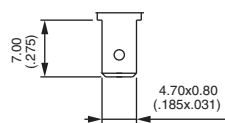
Shown with quick-connect terminals

TERMINALS



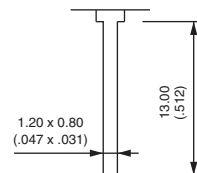
2

Solder lug



8

Quick-connect



9

Straight PC (Lead 6 only)

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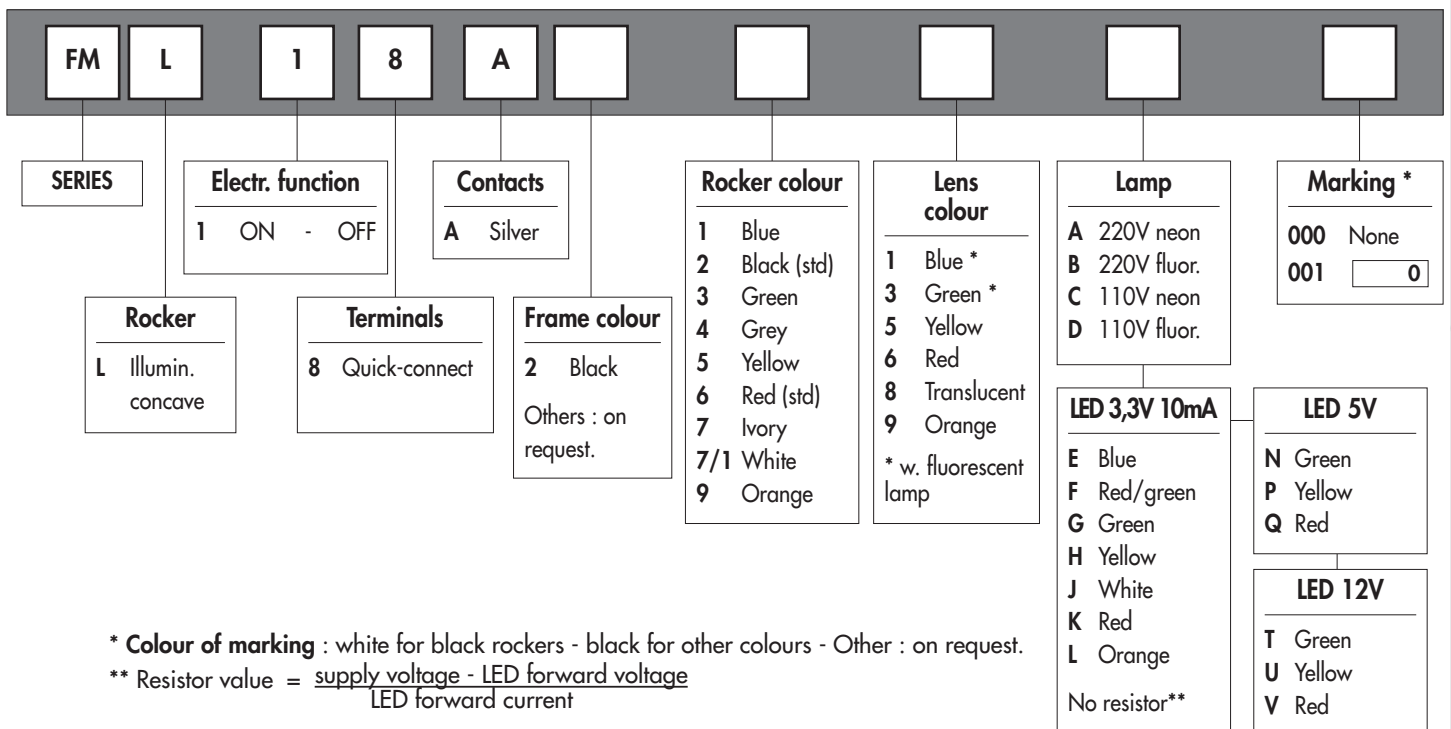
Snap-in rocker switches - panel cut-out 19 x 13 (.750 x .508)

Single pole - illuminated

- Approved ratings :
VDE : 10(4)A 250VAC T85°C - **UL** : 6A 250VAC & 125VAC T65°C
- LED types available :
 3,3V (4V max.) 10mA LED (resistor to be series connected by the user)
 5V or 12V LED with integrated resistor
- Initial contact resistance : 20mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.500 Vrms between terminals
- Electrical life at full load : 10 000 cycles
- Operating temperature: - 20°C to + 85°C
- Case, frame and rocker : PA6/6

- Lens : PC
- Contacts : silver
- Terminals : silver plated
- Lamp terminal : no plating
- Fluorescent lamp for blue or green lens, neon lamp for other colours
- Panel cut-out :

Panel thickness	Dim. Y	Dim. Z
0,75 to 1,25 mm	19,2 +0/-0,1	12,9 +0,15/-0
1,25 to 2 mm	19,4 +0/-0,1	12,9 +0,15/-0
2 to 3 mm	19,8 +0/-0,1	12,9 +0,15/-0



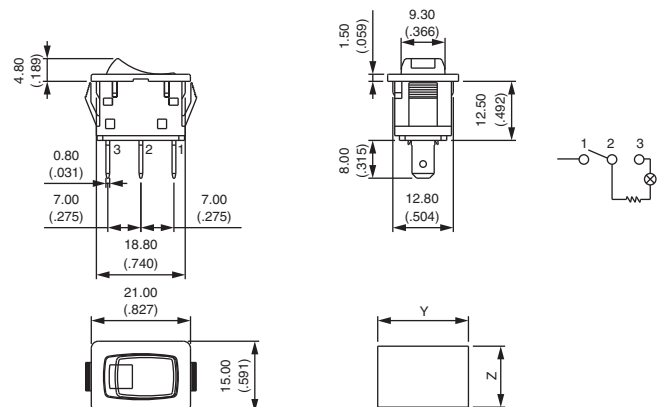
Illuminated switches - quick-connect terminals



FML1

ON - OFF

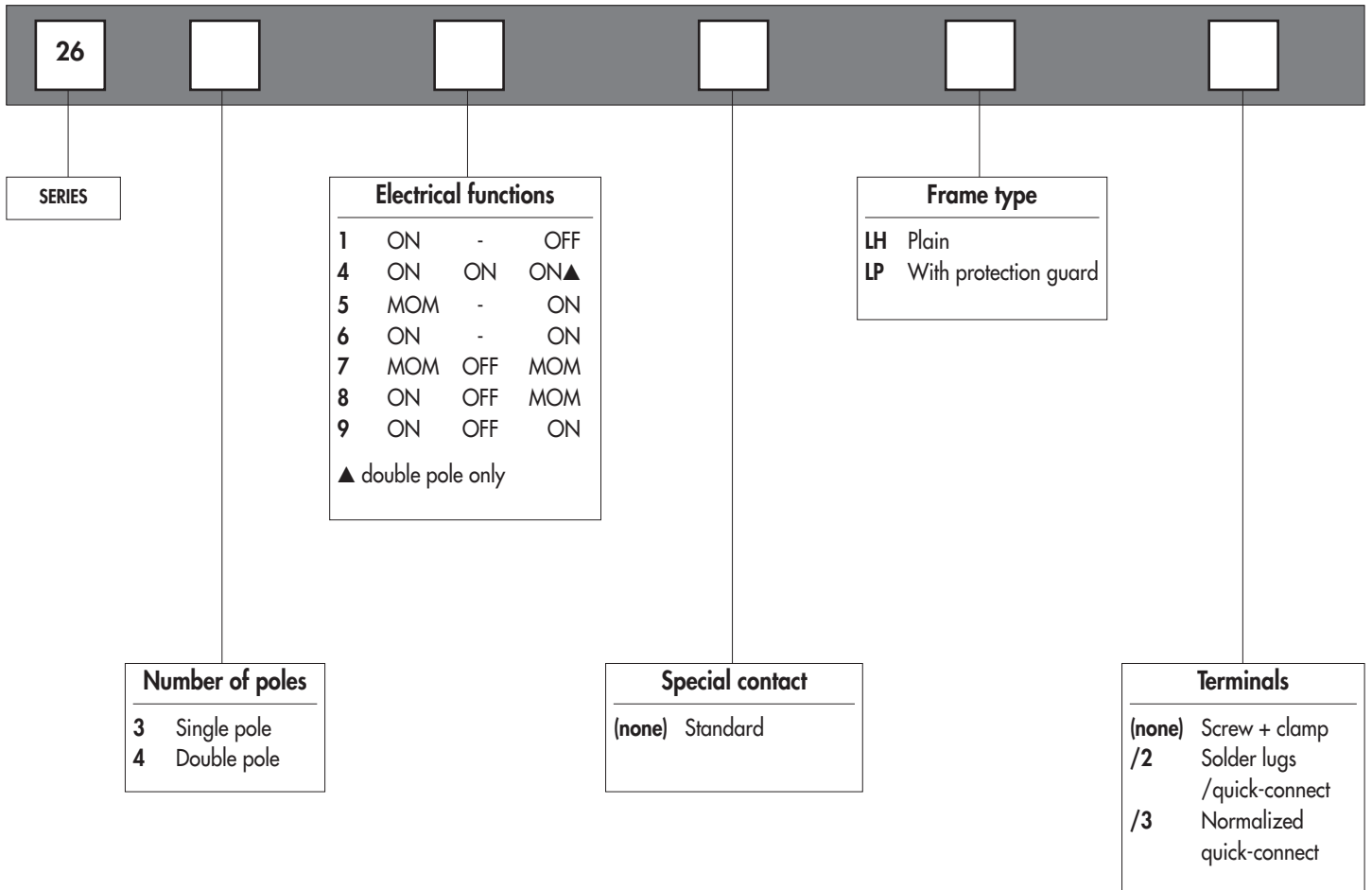
For LED models, terminal 2 = cathode (-), terminal 3 = anode (+)



2600 series

Power rocker switches

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

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



Sealing boot U21 50 available to protect the switches against dust and water. See section H.



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



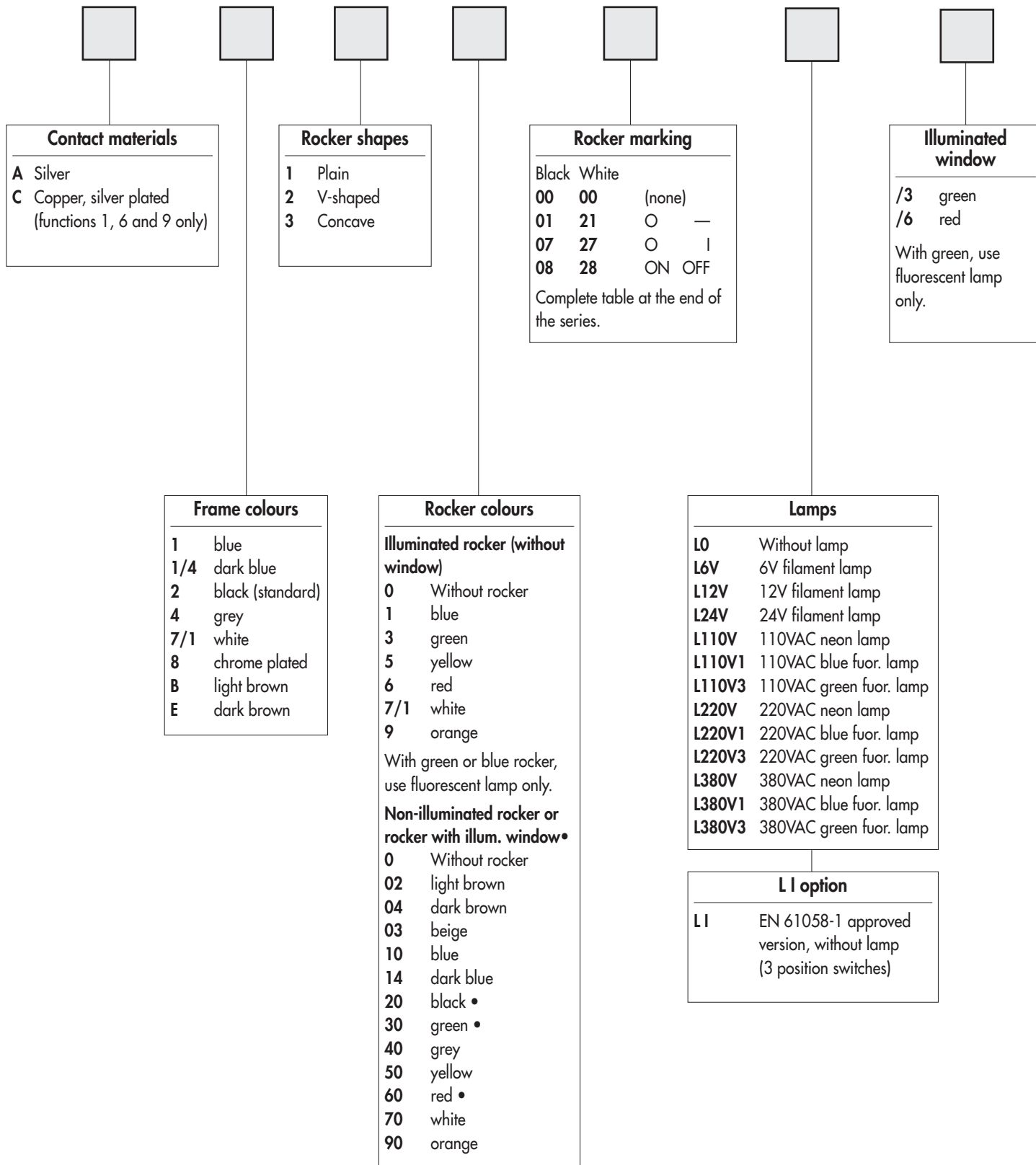
www.ermec.com



2600 series

Power rocker switches

Overview



Packaging unit : 20 pieces per type and colour.



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2600 series

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Power rocker switches

Distinctive features and specifications



- Three rocker shapes : plain, V-shaped or concave
- Various rocker colours
- Frame with protection guard on 2600LP models
- Illuminated or non-illuminated
- UL, CSA, VDE and NF (EN 61058-1) approved

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load and approved ratings : see table below.
- Initial contact resistance : 10mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.500 Vrms 50 Hz min. between terminals
3.000 Vrms 50 Hz min. between terminals and metal panel
- Electrical life : 10.000 cycles at full load

FUNCTIONS	APPROVED RATINGS				DIRECT CURRENT	
	CSA (double pole) CSA 22-2	UL (double pole) UL 1054	VDE EN 61058-1	NF EN 61058-1	24 VDC	12 VDC
ON - OFF ON - ON	1/6 HP 125VAC 16A 125VAC 16A 250VAC 1/3 HP 250VAC	1/6 HP 125VAC 16A 125VAC 16A 250VAC 1/3 HP 250VAC	10(4)A 250VAC T 85/55	-	10A	15A
ON - OFF - ON	10A 125VAC 10A 250VAC 1/6 HP 125/250VAC	10A 125VAC 10A 250VAC 1/6 HP 125/250VAC	L1 option 10(4)A 250VAC	L1 option 10(4)A 250VAC	8A	10A
ON - ON - ON	-	-	-	-	5A	8A
OTHERS	10A 125VAC 10A 250VAC 1/6 HP 250VAC	-	L1 option 10(4)A 250VAC	L1 option 10(4)A 250VAC	8A	10A

MATERIALS

- Case : melamine/polyester
- Frame : polyamide
- Actuator : polyamide
- Contacts :
- A : silver
- C : copper, silver plated

GENERAL SPECIFICATIONS

- Panel thickness : 0,8 mm to 4 mm (.031 to .157)
- Operating temperature :
 - silver contacts (A) : -20°C to +125°C
 - silver plated contacts (C) : -10°C to +55°C

AGENCY APPROVALS



Availability : consult factory for details of approved models.

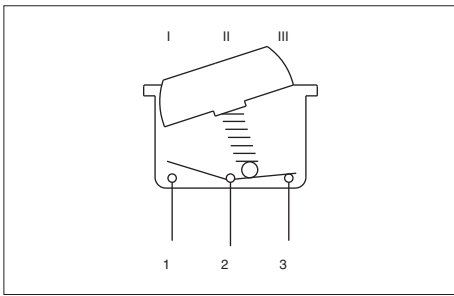
Marking : approved models are standard marked. **ERMEC**

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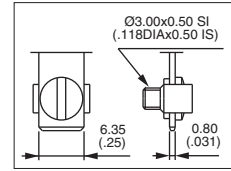
2600 series

Power rocker switches

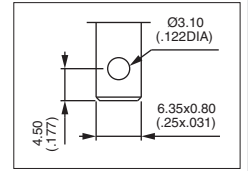


- Model 2600LP with protection guard
- 1 and 2 pole configurations

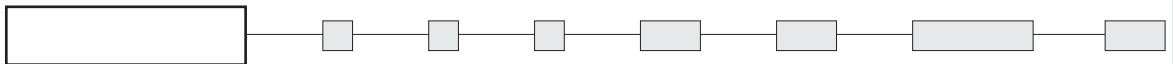
2640LH



2640LH/2



MODEL STRUCTURE

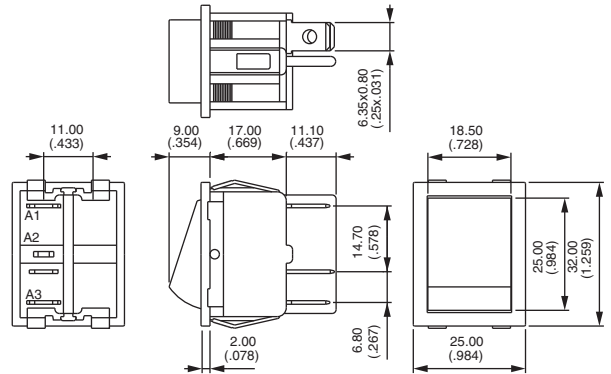


2600LH - single pole

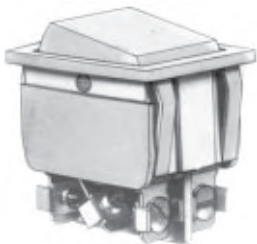


Screw term. + clamp Solder lug/ quick-connect

	III A2-A1	II A2-A3	I
2631LH	ON	-	OFF
2645LH	MOM	-	ON
2636LH	ON	-	ON
2637LH	MOM	OFF	MOM
2638LH	ON	OFF	MOM
2639LH	ON	OFF	ON



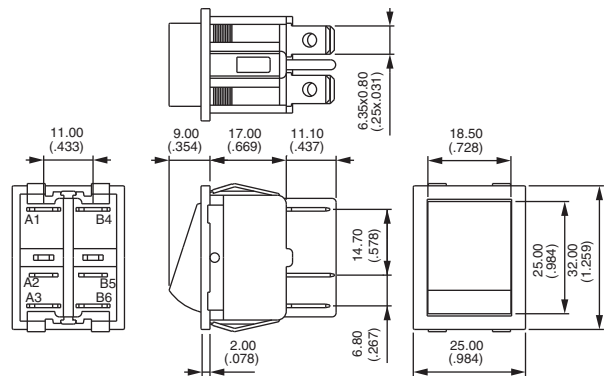
2600LH - double pole



Screw term. + clamp Solder lug/ quick-connect

	III A2-A1 B5-B4	II A2-A3 B5-B6	I
2641LH	ON	-	OFF
2644LH*	ON	ON	ON
2645LH	MOM	-	ON
2646LH	ON	-	ON
2647LH	MOM	OFF	MOM
2648LH	ON	OFF	MOM
2649LH	ON	OFF	ON

* Function 4 : SP in DP case, see end of catalogue.

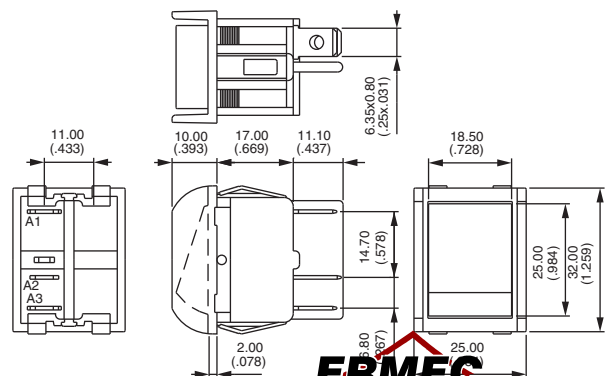


2600LP - with protection guard - single pole



Screw term. + clamp Solder lug/ quick-connect

	III A2-A1	II A2-A3	I
2631LP	ON	-	OFF
2635LP	MOM	-	ON
2636LP	ON	-	ON
2637LP	MOM	OFF	MOM
2638LP	ON	OFF	MOM
2639LP	ON	OFF	ON



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2600 series

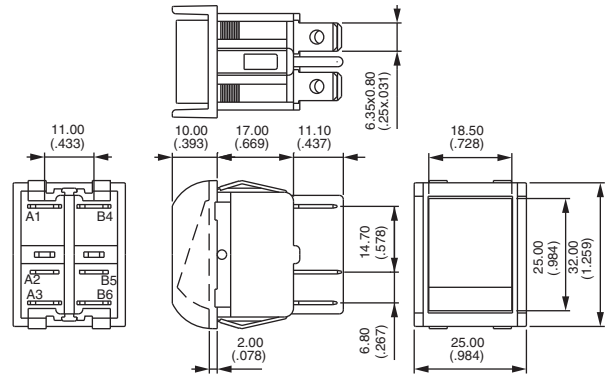
Power rocker switches

2600LP - with protection guard - double pole

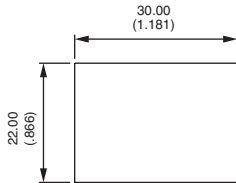


	III	II	I
	A2-A1	A2-A3	
	B5-B4	B5-B6	
Screw term. + clamp			
Solder lug/ quick-connect			
2641LP	2641LP/2	ON -	OFF
2644LP*	2644LP/2*	ON ON	ON
2645LP	2645LP/2	MOM -	ON
2646LP	2646LP/2	ON -	ON
2647LP	2647LP/2	MOM OFF	MOM
2648LP	2648LP/2	ON OFF	MOM
2649LP	2649LP/2	ON OFF	ON

* Function 4 : SP in DP case, see end of catalogue.



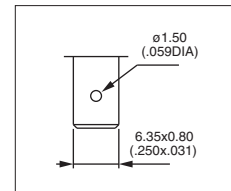
PANEL CUT-OUT



TERMINAL OPTION

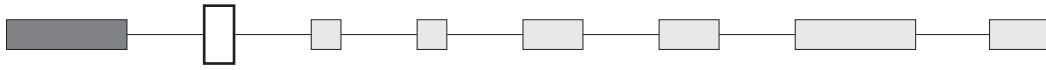
Specify after LH or LP.

/3 Normalized quick-connect terminals 6,35 x 0,8 (.250 x .031)



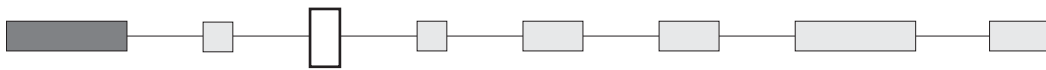


CONTACT MATERIALS



- A Silver
- C Copper, silver plated (available with functions 1, 6 and 9 only)

FRAME COLOURS

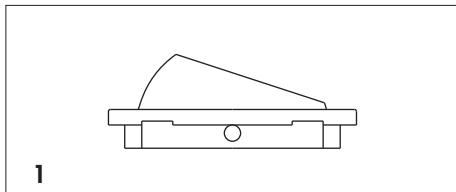
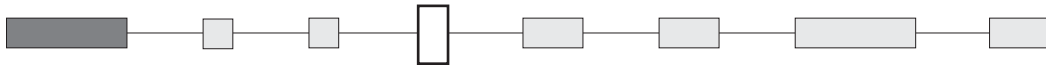


- 1 Blue
- 1/4 Dark blue
- 2 Black (standard)
- 4 Grey
- 7/1 White
- 8 Chrome plated
- B Light brown
- E Dark brown

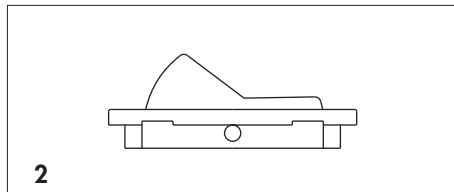


This option has UL approval only.

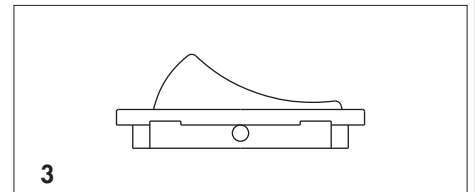
ROCKER SHAPES



1 Plain



2 V-shaped



3 Concave

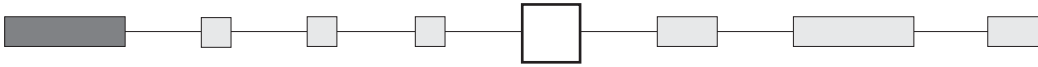


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2600 series

Power rocker switches

ROCKER COLOURS



For illuminated switches

	Without rocker	Blue*	Green*	Yellow	Red	White	Orange
Plain rocker P/N	-	U881	U883	U885	U886	U887	U889
V-shaped rocker P/N	-	U861	U863	U865	U866	U867	U869
Concave rocker P/N	-	U871	U873	U875	U876	U877	U879
Colour code	0	1	3	5	6	7/1	9

* With green or blue rocker, use fluorescent lamp only.

For non-illuminated switches or switches with illuminated window (•)

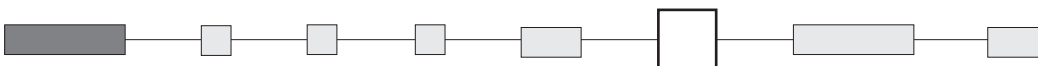
	Without rocker	Light brown	Dark brown	Beige	Blue	Dark blue	Black	Green	Grey	Yellow	Red	White	Orange
Plain rocker P/N	-	U1250B	U1250BF	U1250	U1251	U1251/4	U1252	U1253	U1254	U1255	U1256	U1257	U1259
V-shaped rocker P/N	-	U1270B	U1270BF	U1270	U1271	U1271/4	U1272	U1273	U1274	U1275	U1276	U1277	U1279
Concave rocker P/N	-	U1260B	U1260BF	U1260	U1261	U1261/4	U1262	U1263	U1264	U1265	U1266	U1267	U1269
Colour code	0	02	04	03	10	14	20•	30•	40	50	60•	70	90

Complete box with one of above colour codes.

To order rockers separately, use their P/N (U....) and complete box with code 0.

Rockers with illuminated windows (codes 20, 30, 60) : part numbers on request.

ROCKER MARKING



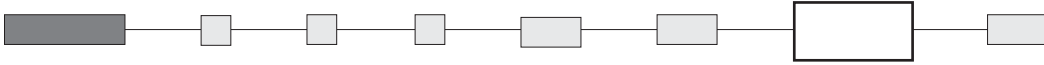
MARKING		4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	3 6 2 5 1 4	4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	4 1 5 2 6 3	
COLOUR	-												
Black	00	01	02	06	07	08	03	04	05*	40	43*	46	
Red	00	11	12	16	17	18	13	14	15*	41	44*	47	
White	00	21	22	26	27	28	23	24	25*	42	45*	48	

* Not available on V-shaped rockers

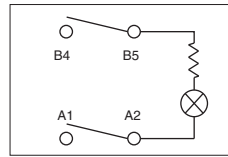
Special markings and marking on rockers with illuminated window : consult factory.



LAMP



L0	Non-illuminated switch
L6V	Filament lamp 6V
L12V	Filament lamp 12V
L24V	Filament lamp 24V
L110V	Neon lamp 110VAC
L110V1	BLUE fluorescent lamp 110VAC
L110V3	Green fluorescent lamp 110VAC
L220V	Neon lamp 220VAC
L220V1	BLUE fluorescent lamp 220VAC
L220V3	Green fluorescent lamp 220VAC
L380V	Neon lamp 380VAC
L380V1	BLUE fluorescent lamp 380VAC
L380V3	Green fluorescent lamp 380VAC
L1	EN61058-1 approved version without lamp (3 position switches)

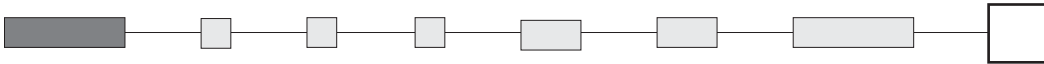


For illuminated models, the lamp is always connected between center terminals 2 and 5.



Lamps L380V, L380V1 and L380V3 are not UL/CSA approved.

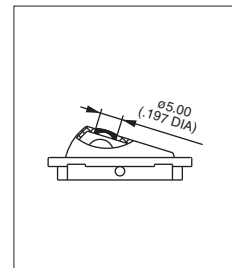
ILLUMINATED WINDOW



For black, green and red rockers only

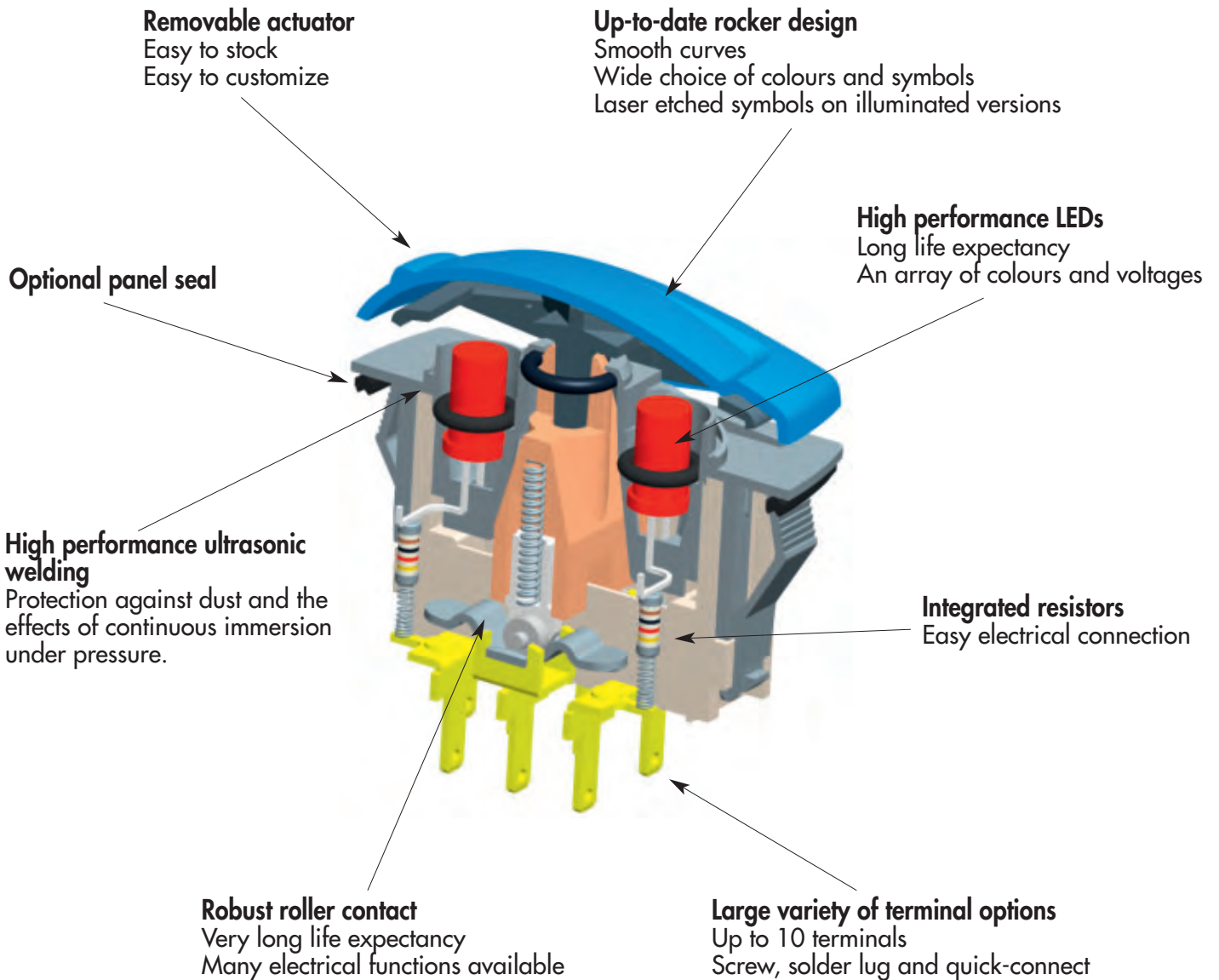
/3 Green
/6 Red

With green, use fluorescent lamp only.
No marking available on illuminated windows.



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Attractive rugged rocker switch



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



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New!

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

ENVIRONMENTAL SPECIFICATIONS

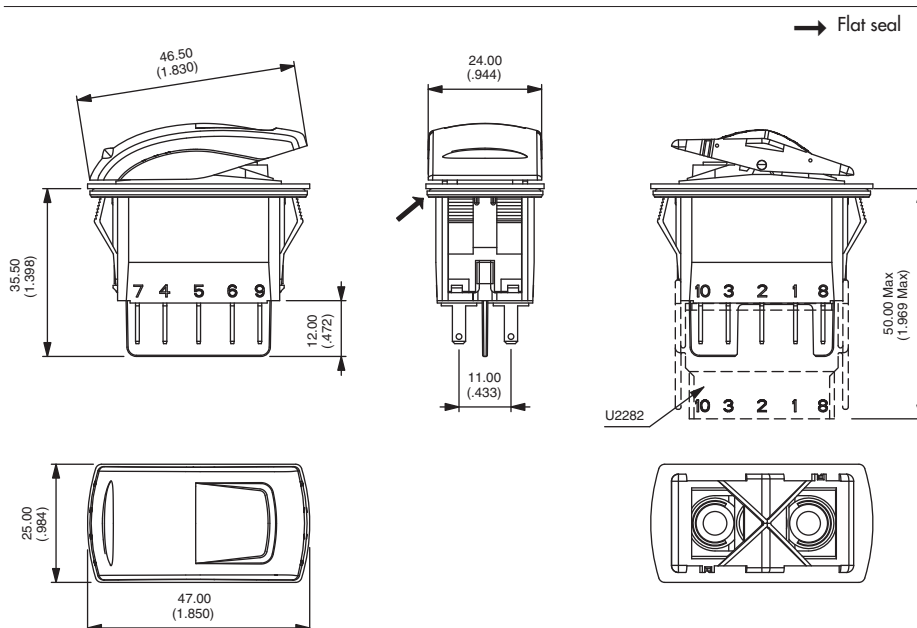
- Degree of protection of sealed versions : frontal sealing to IP68 according to IEC 60529 (submersion under 1 meter of water for more than 30 minutes)
- Salt spray resistance : 96 hours according to IEC 512-6, test 11f
- Vibration resistance : 10-500 Hz / 10 g per IEC 60068-2-6
- Operating temperature : -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



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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

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

Type	Colour																								
<table border="0"> <tr> <td>1</td><td>For non-illuminated application</td> </tr> <tr> <td>2</td><td>For illuminated application</td> </tr> </table>	1	For non-illuminated application	2	For illuminated application	<table border="0"> <tr> <td>1</td><td>Blue</td> </tr> <tr> <td>1/4</td><td>Dark blue</td> </tr> <tr> <td>2</td><td>Black</td> </tr> <tr> <td>3</td><td>Green</td> </tr> <tr> <td>4</td><td>Grey</td> </tr> <tr> <td>5</td><td>Yellow</td> </tr> <tr> <td>6</td><td>Red</td> </tr> <tr> <td>7</td><td>Ivory</td> </tr> <tr> <td>9</td><td>Orange</td> </tr> <tr> <td>A</td><td>Aluminium bright</td> </tr> </table>	1	Blue	1/4	Dark blue	2	Black	3	Green	4	Grey	5	Yellow	6	Red	7	Ivory	9	Orange	A	Aluminium bright
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4	Grey																								
5	Yellow																								
6	Red																								
7	Ivory																								
9	Orange																								
A	Aluminium bright																								

ACTUATOR MARKING

	Area A	Area M	Area B									
Orientation	Symbols											
<table border="0"> <tr> <td>N</td> <td></td> </tr> <tr> <td>O</td> <td></td> </tr> <tr> <td>S</td> <td></td> </tr> <tr> <td>E</td> <td></td> </tr> </table>	N		O		S		E		<table border="0"> <tr> <td></td> </tr> </table>			
N												
O												
S												
E												

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.

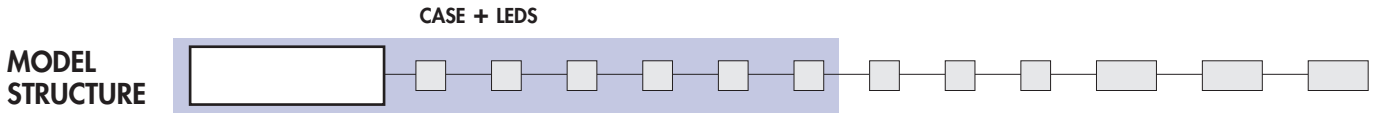



New!

Power rocker switches

Case

- To order case only (without rocker), finish your order number with the LED wiring code.



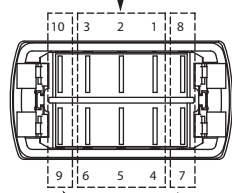


	2-3	1-2	
	5-6	4-5	
Single pole	Double pole		
KR31	KR41	ON - OFF	
	KR44*	ON ON ON	
	KR44-1R*	ON ON MOM	
KR35	KR45	MOM - ON	
KR36	KR46	ON - ON	
KR37	KR47	MOM OFF MOM	
KR38	KR48	ON OFF MOM	
KR39	KR49	ON OFF ON	

* Function 4 : single pole in double pole case

Bottom view

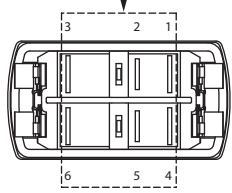
Contact area



LED area

10 terminal version

Contact & LED area

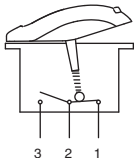
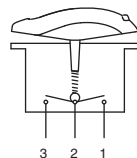
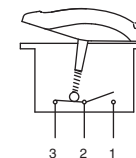
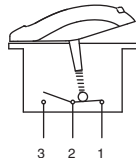
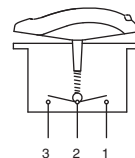
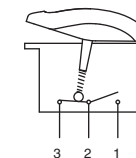

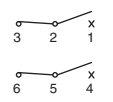
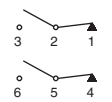
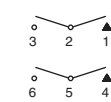
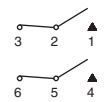


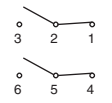
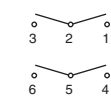
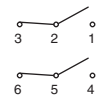


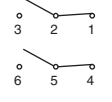
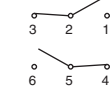
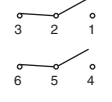

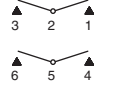

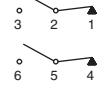

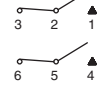


6 terminal version

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 terminals 6, 5, 4).

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

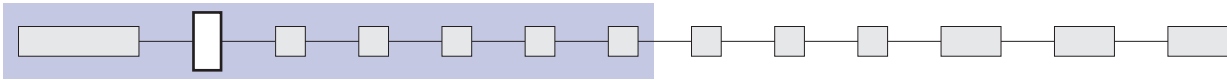
	Positions				Positions		
							
Function 1 * KR31-KR41				Function 8 KR38-KR48			
Function 5 KR35-KR45				Function 9 KR39-KR49			
Function 6 KR36-KR46				Function 4 KR44			
Function 7 KR37-KR47				Function 4-1R KR44-1R			

* Function 1 only available for 6 terminal versions.

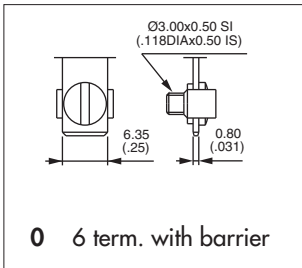


TERMINALS

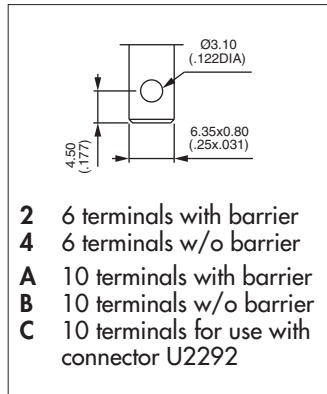
CASE + LEDS



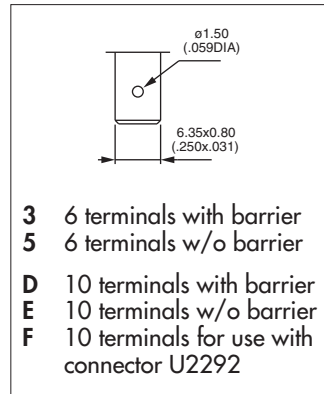
Screw



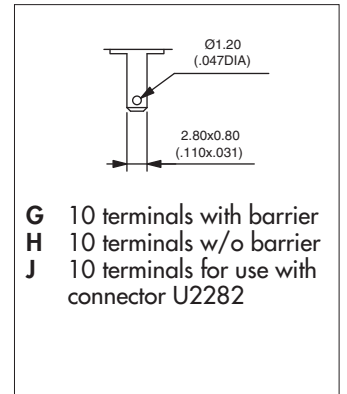
Solder lug / quick-connect



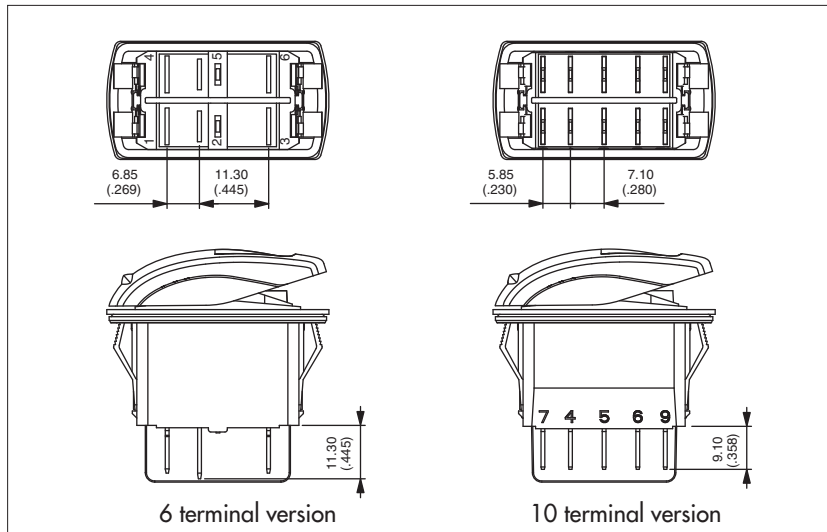
Normalized quick-connect 6,35x0,8



Normalized quick-connect 2,8x0,8



D

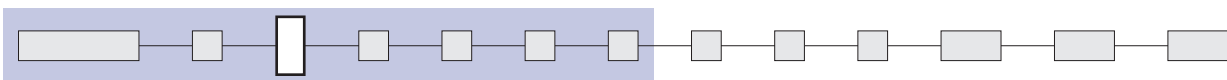


Terminals are marked on the case.

The drawings show the maximum possible number of terminals.

CONTACT MATERIALS

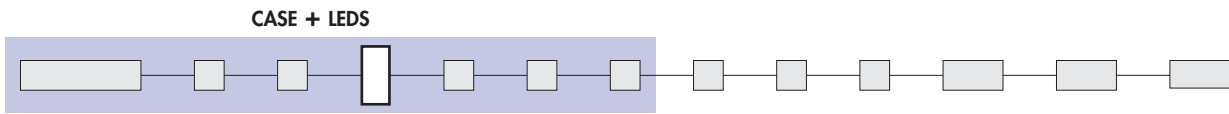
CASE + LEDS



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

New!

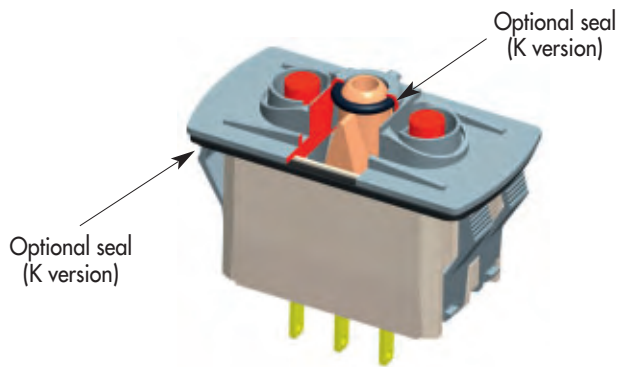
SEALING



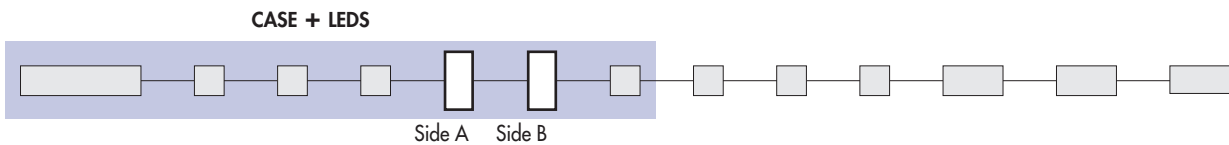
- X** No sealing
- K** IP68 (switch assembled on panel)

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.*



LEDS



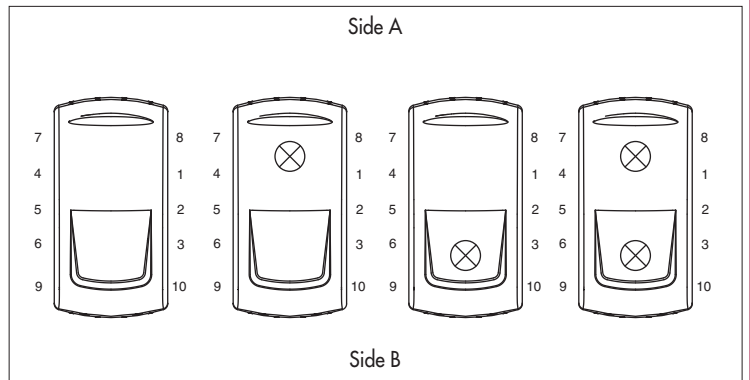
Complete each enlarged box with one of the codes listed below.

- 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)

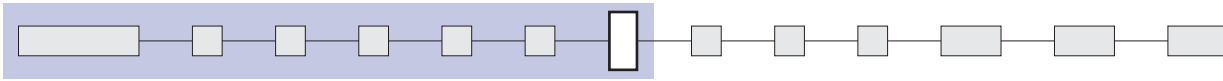
Other illumination solutions : on request.



WIRING

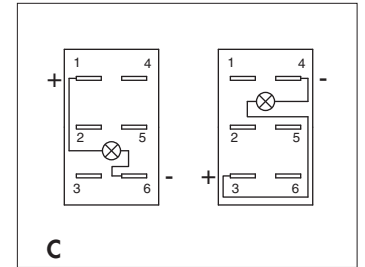
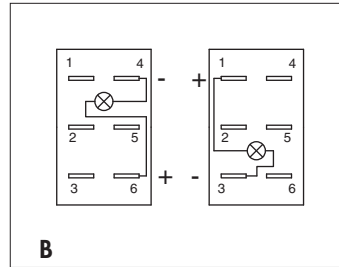
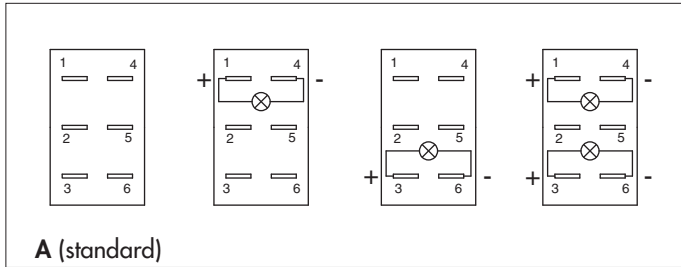
The LED wiring diagram is shown on the case.

CASE + LEDs

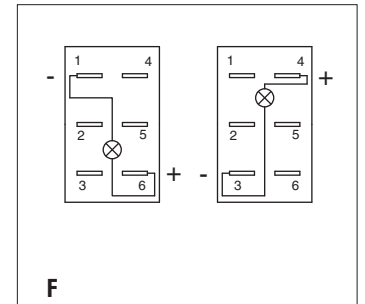
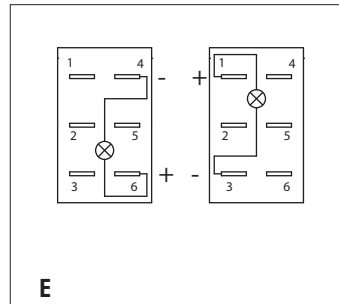
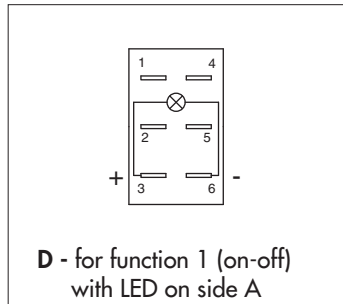


• For 6 terminal versions

LED connected to the load

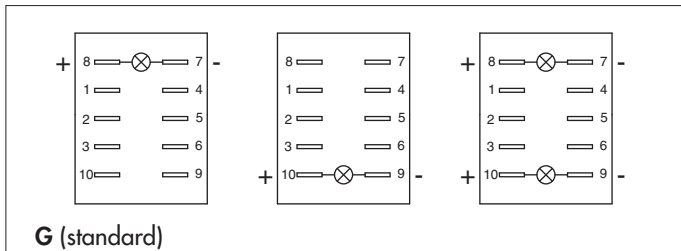


Note : If not available, terminals are added to connect the LED.

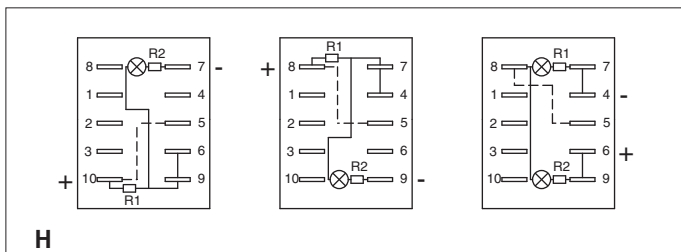


• For 10 terminal versions

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.

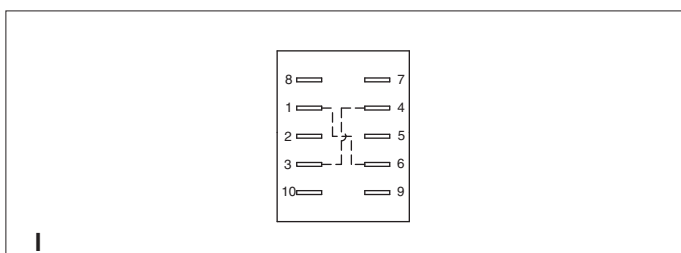
H wiring with LED on side B available with functions 5, 6 and 9.

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.

www.ermec.com

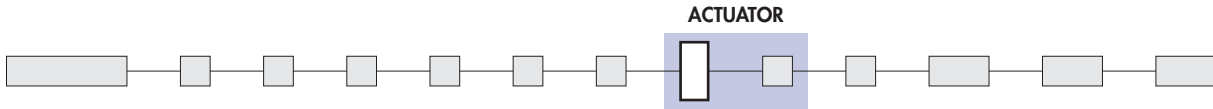
New!

Power rocker switches

Actuator - Marking

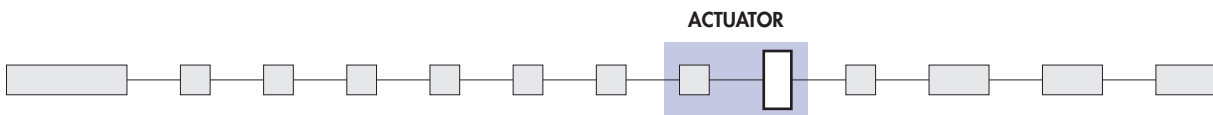
To order actuator only (without case), begin the order number with code KRR, then follow the order format from "actuator type" until the end of the options.

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

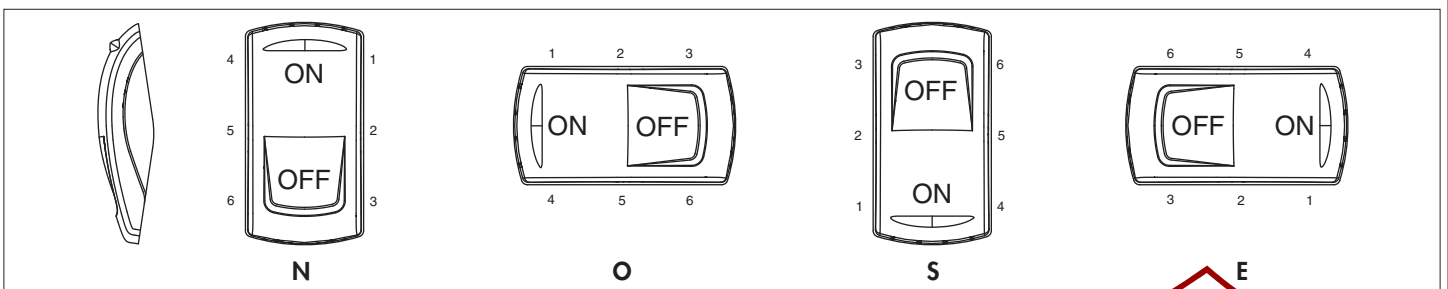
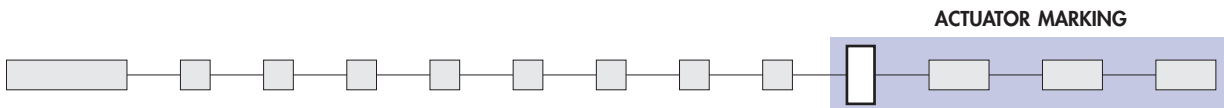
Note : colours 7 and 7/1 not available on illuminated versions.

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



MARKING ORIENTATION

If no marking required, leave box blank.

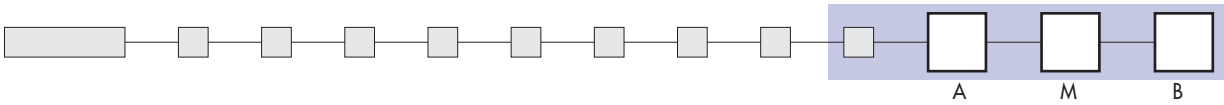


Other orientations : on request



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SYMBOLS



XX No symbol

Available symbols : see end of section D.

Marking colour

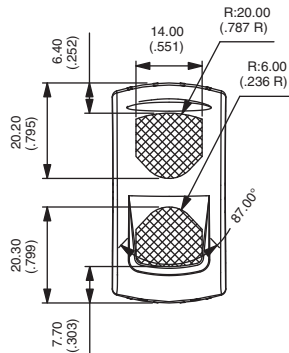
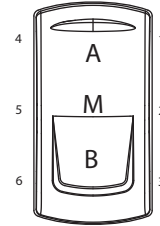
White marking for illuminated rockers (laser etching) and non-illuminated black rockers (pad printing). Black marking for non-illuminated colour rockers (pad printing). Other : on request.

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

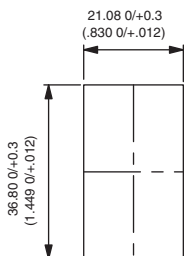
Marking area

For illuminated versions. The symbol will be included in the hatched area. Marking in M are : on request.

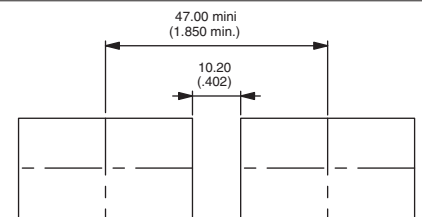
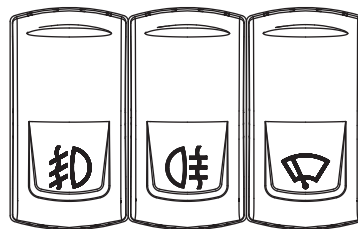
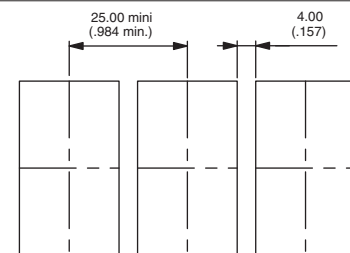


SWITCH PANEL CUT-OUT

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



MATRIX MOUNTING



New!

Unlocking actuator

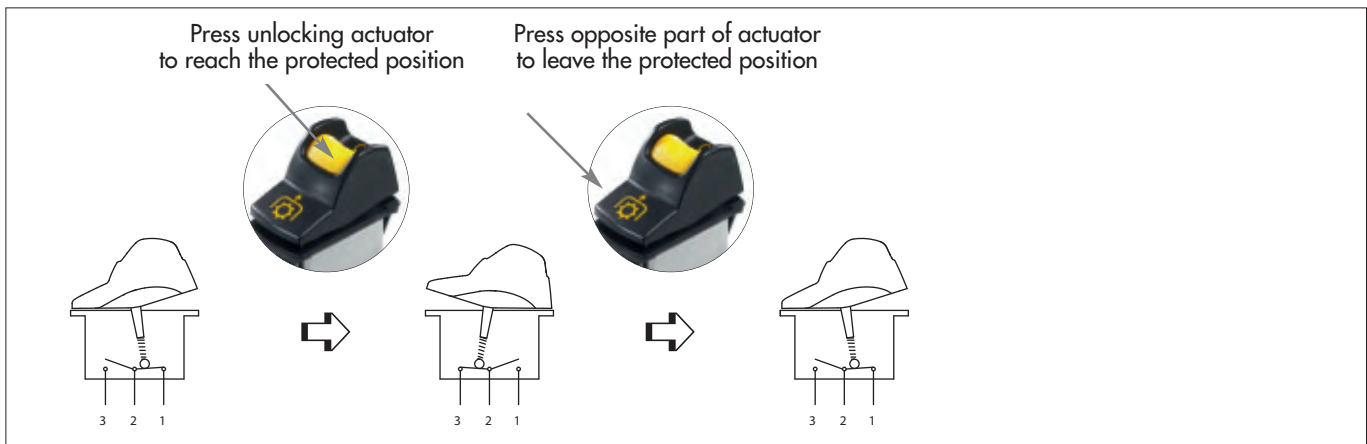
Each KL rocker switch includes an unlocking actuator.

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

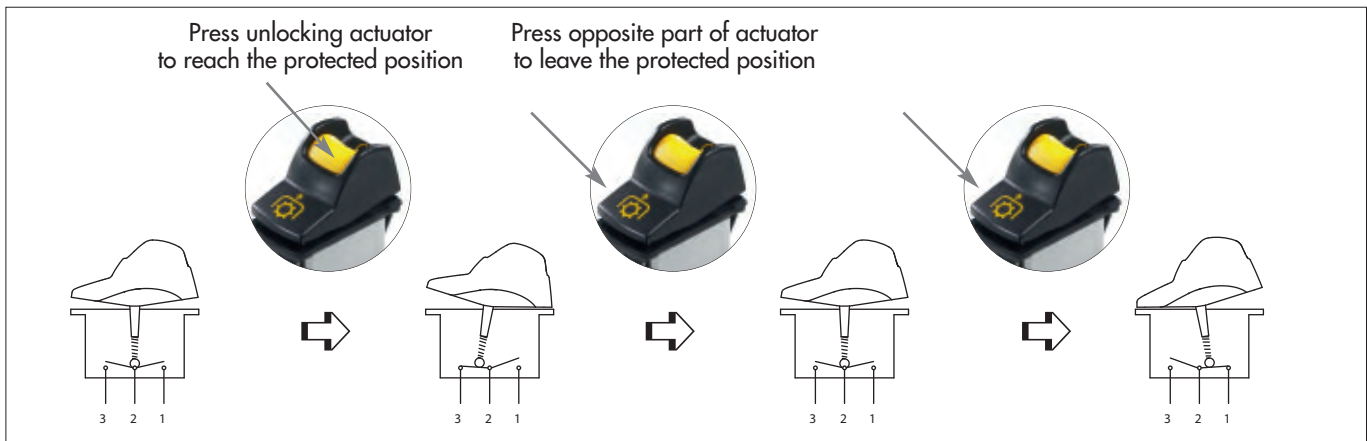
This intuitive and secured ergonomics is patented by APEM.



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



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



KL series

Locking power rocker switches

Specifications

ermec@ermec.com

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

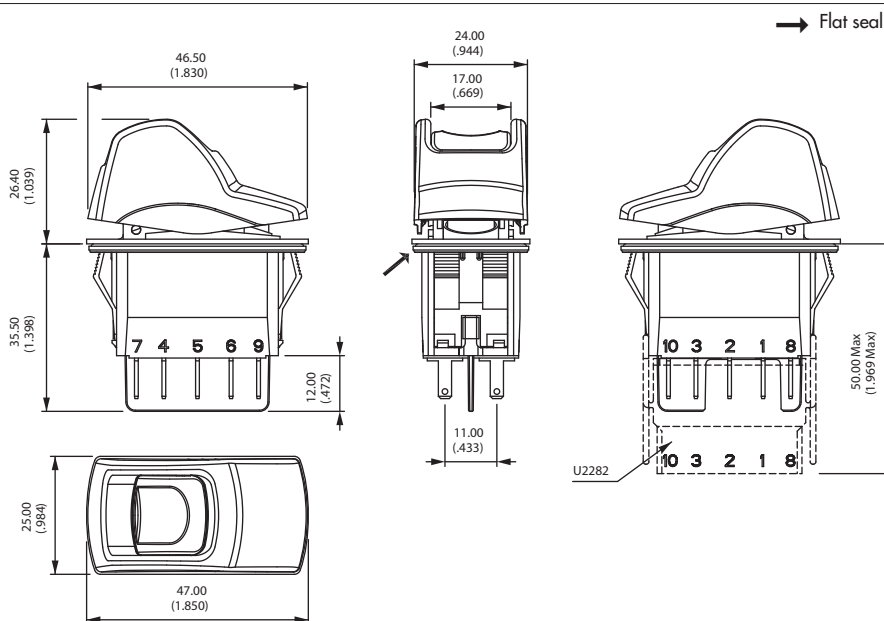
ENVIRONMENTAL SPECIFICATIONS

- 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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• 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	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">1</td><td style="width: 20%;">ON</td><td style="width: 20%;">-</td><td style="width: 20%;">OFF</td></tr> <tr> <td>4</td><td>ON</td><td>ON</td><td>ON</td></tr> <tr> <td>4-1R</td><td>ON</td><td>ON</td><td>MOM</td></tr> <tr> <td>5</td><td>MOM</td><td>-</td><td>ON</td></tr> <tr> <td>6</td><td>ON</td><td>-</td><td>ON</td></tr> <tr> <td>7</td><td>MOM</td><td>OFF</td><td>MOM</td></tr> <tr> <td>8</td><td>ON</td><td>OFF</td><td>MOM</td></tr> <tr> <td>9</td><td>ON</td><td>OFF</td><td>ON</td></tr> </table> <p>Function 1 only for 6-terminal versions. Functions 5 and 6 cannot be combined with "H" wiring.</p>			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	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">A Silver</td> <td style="width: 50%;">X No</td> </tr> <tr> <td>D Gold plated</td> <td>K Yes</td> </tr> </table>	A Silver	X No	D Gold plated	K Yes	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">X None</td> <td style="width: 50%;">A LED 6V red</td> </tr> <tr> <td>B LED 6V green</td> <td>C LED 6V yellow</td> </tr> <tr> <td>M LED 6V blue</td> <td>R LED 6V white</td> </tr> <tr> <td>D LED 12V red</td> <td>E LED 12V green</td> </tr> <tr> <td>F LED 12V yellow</td> <td>N LED 12V blue</td> </tr> <tr> <td>S LED 12V white</td> <td>J LED 24V red</td> </tr> <tr> <td>K LED 24V green</td> <td>L LED 24V yellow</td> </tr> <tr> <td>P LED 24V blue</td> <td>T LED 24V white</td> </tr> </table>	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.
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																																																							
A Silver	X No																																																									
D Gold plated	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																																																									
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K LED 24V green	L LED 24V yellow																																																									
P LED 24V blue	T LED 24V white																																																									
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">3 Single pole</td> <td style="width: 50%;">4 Double pole</td> </tr> </table>	3 Single pole	4 Double pole	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Terminals</td> <td style="width: 50%;">Terminals (continued)</td> </tr> <tr> <td style="border: 1px solid black;"> 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 </td> <td style="border: 1px solid black;"> 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 </td> </tr> </table>			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																																																	
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ACTUATOR

Type	Rocker colour	Unlocking actuator colour																						
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1 For non-illum. application</td> <td style="width: 50%;">2 For illuminated application</td> </tr> </table>	1 For non-illum. application	2 For illuminated application	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1 Blue</td> <td style="width: 50%;">1/4 Dark blue</td> </tr> <tr> <td>2 Black</td> <td>3 Green</td> </tr> <tr> <td>4 Grey</td> <td>5 Yellow</td> </tr> <tr> <td>6 Red</td> <td>7 Ivory</td> </tr> <tr> <td>9 Orange</td> <td></td> </tr> </table>	1 Blue	1/4 Dark blue	2 Black	3 Green	4 Grey	5 Yellow	6 Red	7 Ivory	9 Orange		<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1 Blue</td> <td style="width: 50%;">1/4 Dark blue</td> </tr> <tr> <td>2 Black</td> <td>3 Green</td> </tr> <tr> <td>4 Grey</td> <td>5 Yellow</td> </tr> <tr> <td>6 Red</td> <td>7 Ivory</td> </tr> <tr> <td>9 Orange</td> <td></td> </tr> </table>	1 Blue	1/4 Dark blue	2 Black	3 Green	4 Grey	5 Yellow	6 Red	7 Ivory	9 Orange	
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																							
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1 Blue	1/4 Dark blue																							
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4 Grey	5 Yellow																							
6 Red	7 Ivory																							
9 Orange																								

ACTUATOR MARKING

	Area A	Area B																						
Orientation	Symbols	Marking colour																						
		<table style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Illuminated models</td> </tr> <tr> <td>Blank</td> <td>White</td> </tr> <tr> <td colspan="2">Non-illuminated</td> </tr> <tr> <td>1</td> <td>Blue</td> </tr> <tr> <td>2</td> <td>Black</td> </tr> <tr> <td>3</td> <td>Green</td> </tr> <tr> <td>4</td> <td>Grey</td> </tr> <tr> <td>5</td> <td>Yellow</td> </tr> <tr> <td>6</td> <td>Red</td> </tr> <tr> <td>7</td> <td>White</td> </tr> <tr> <td>9</td> <td>Orange</td> </tr> </table>	Illuminated models		Blank	White	Non-illuminated		1	Blue	2	Black	3	Green	4	Grey	5	Yellow	6	Red	7	White	9	Orange
Illuminated models																								
Blank	White																							
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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

ermec@ermec.com

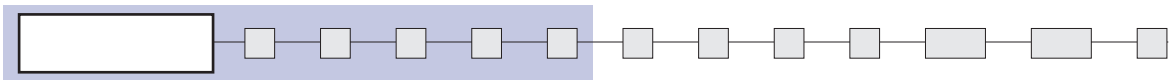
Locking power rocker switches

New!

Case

MODEL
STRUCTURE

CASE + LEDS



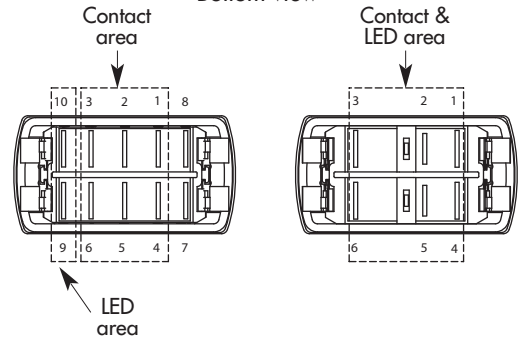
Single pole
KL31

Double pole
KL41
KL44*
KL44-1R*
KL45
KL46
KL47
KL48
KL49

2-3 1-2
5-6 4-5

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

Bottom view



10 terminal version

6 terminal version

* Function 4 : single pole in double pole case

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	
	Press unlocking actuator to unlock.	
Function 1 * KL31-KL41		
Function 5 KL35 - KL45		
Function 6 KL36-KL46		

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

*** Function 1**

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



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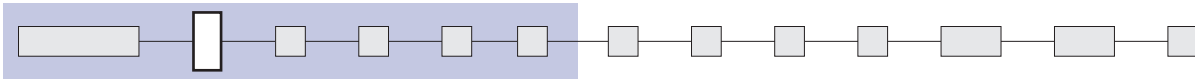
New!

Locking power rocker switches

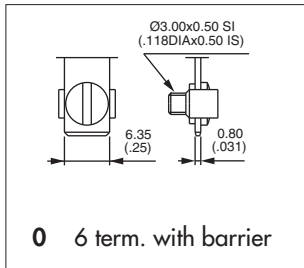
Case

TERMINALS

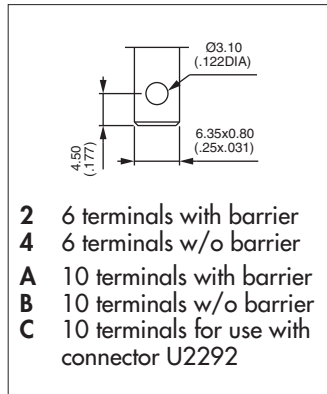
CASE + LEDS



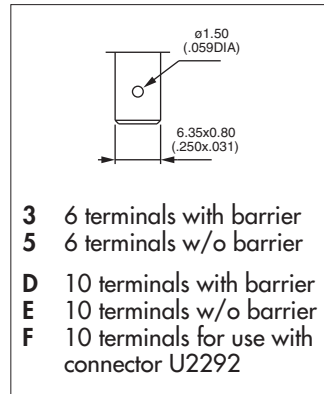
Screw



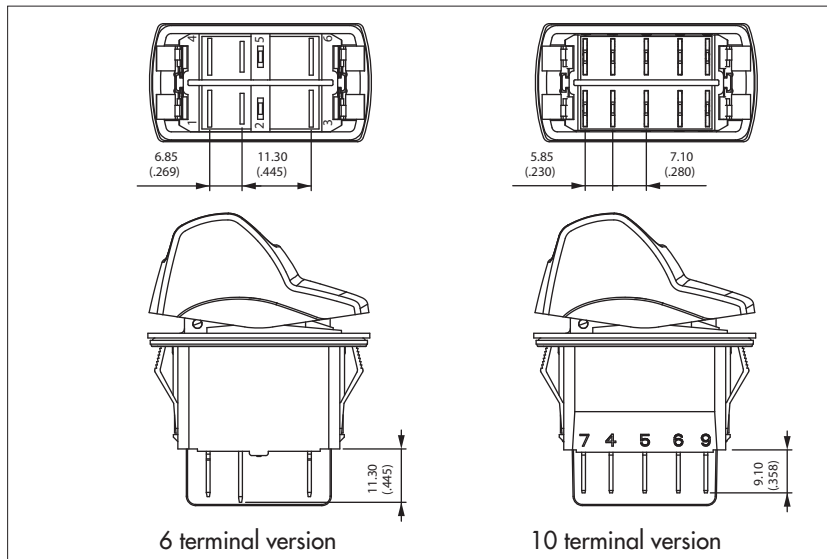
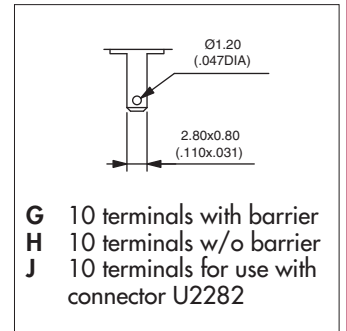
Solder lug / quick-connect



Normalized quick-connect 6,35x0,8



Normalized quick-connect 2,8x0,8

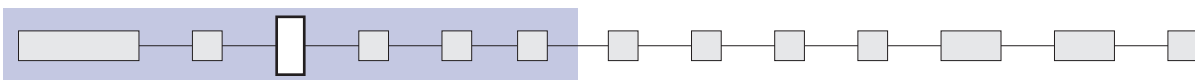


Terminals are marked on the case.

The drawings show the maximum possible number of terminals.

CONTACT MATERIALS

CASE + LEDS



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



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KL series

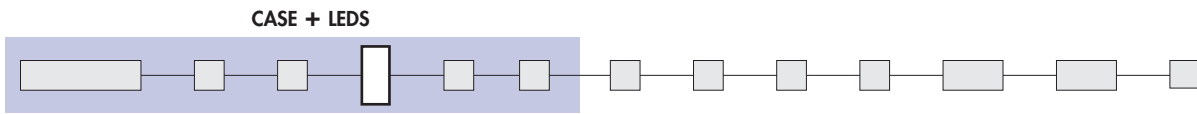
ermec@ermec.com

Locking power rocker switches

New!

Case - LEDs

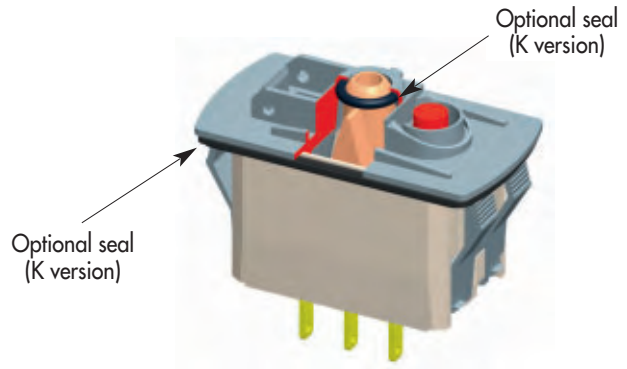
SEALING



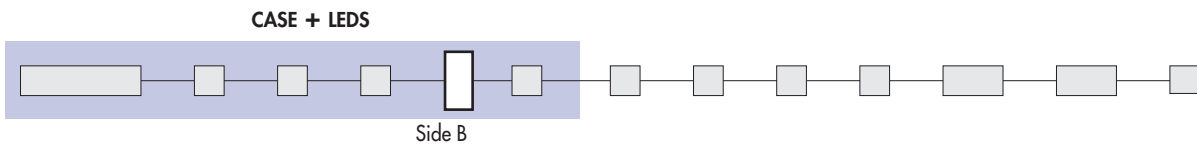
- X No sealing
- K IP68 (switch assembled on panel)

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.*



LEDS



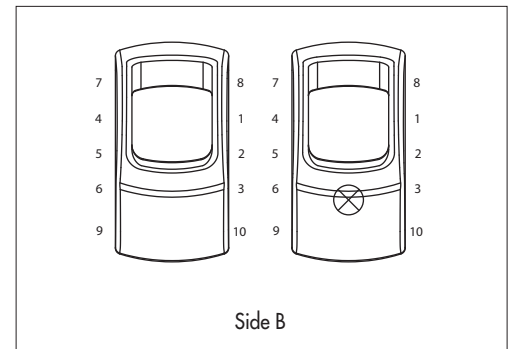
Complete enlarged box with one of the codes listed below.

- 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.



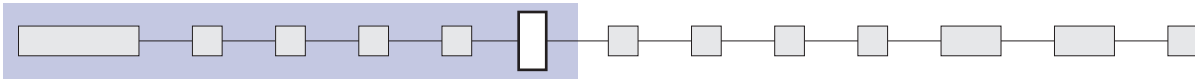
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New!

WIRING

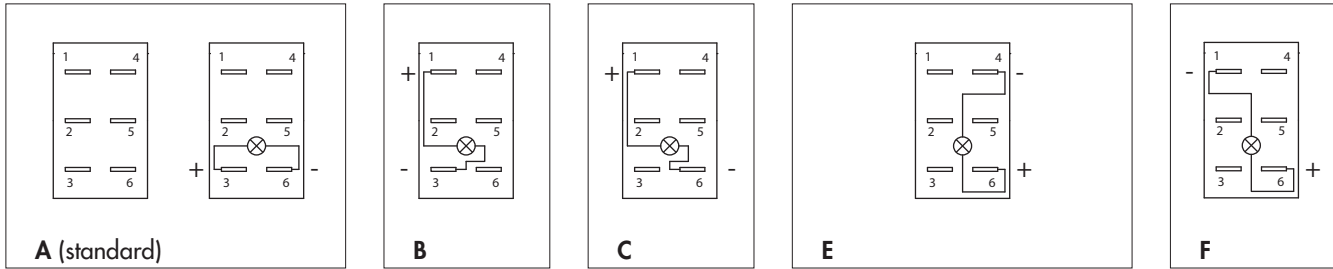
The LED wiring diagram is shown on the case.

CASE + LED



• For 6 terminal versions

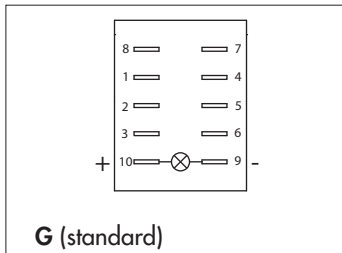
LED connected to the load



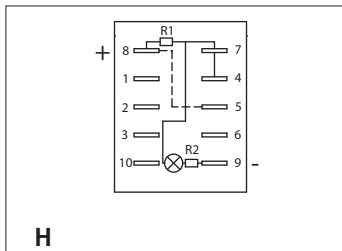
Note : If not available, terminals are added to connect the LED.

• For 10 terminal versions

Independent LED or integrated functions

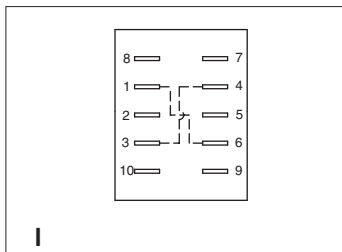


To have independent LED.



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.



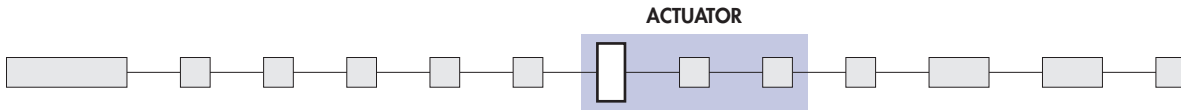
To have a polarity inversion (typical application : fan motor).
Dotted line = external wiring

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.

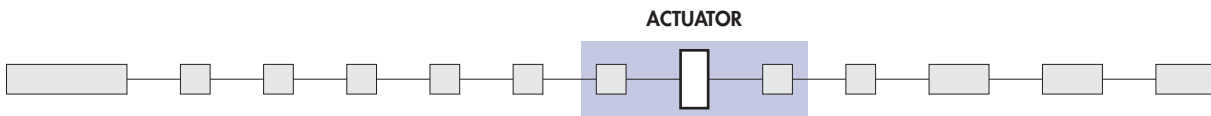


ACTUATOR TYPE



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

ROCKER COLOUR



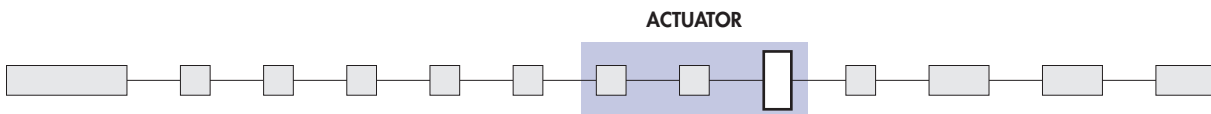
Code	Colour
1	Blue
1/4	Dark blue
2	Black

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



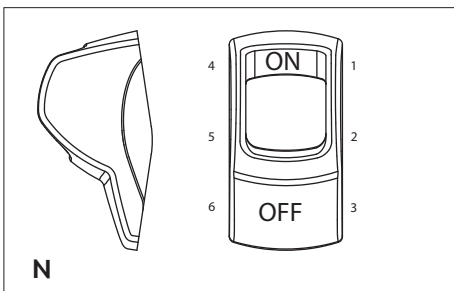
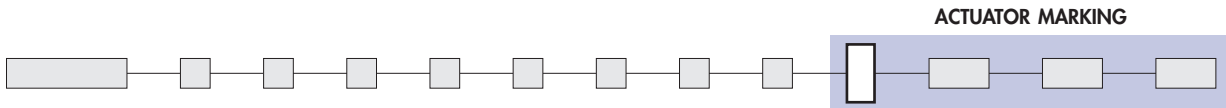
Code	Colour
1	Blue
1/4	Dark blue
2	Black

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.



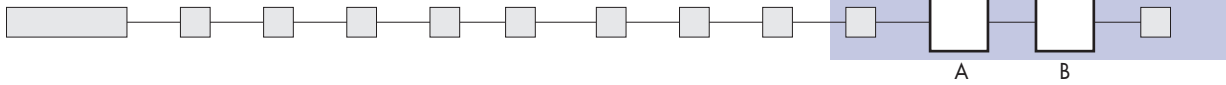
Other orientations : on request

New!

Locking power rocker switches

Marking - Mounting

SYMBOLS



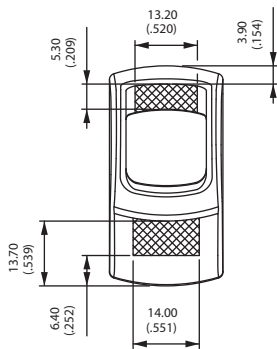
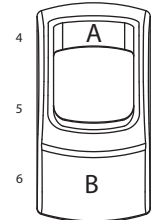
XX No symbol

Available symbols : see end of section D.

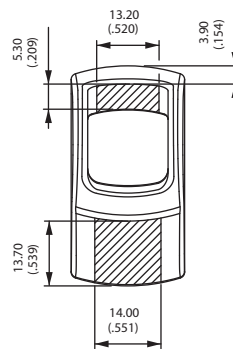
Laser etching resistance

- 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.

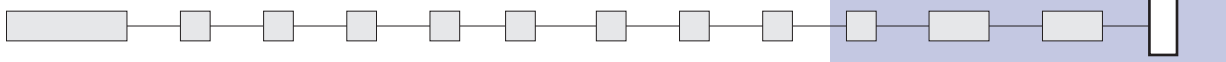


For illuminated versions



For non-illuminated versions

MARKING COLOUR



Illuminated models (laser etching)

Blank White

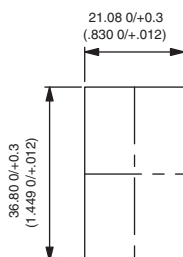
Non-illuminated models (pad printing)

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

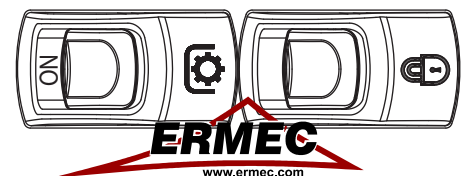
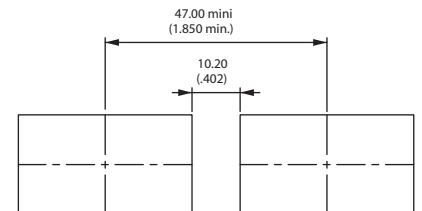
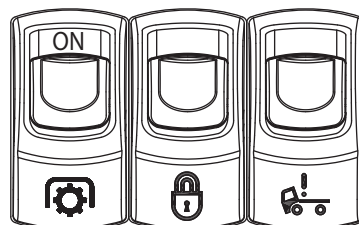
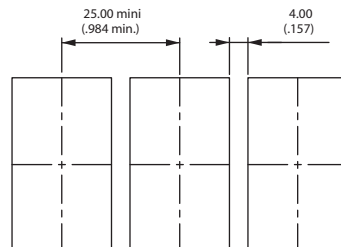
SWITCH PANEL CUT-OUT

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

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



MATRIX MOUNTING



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- Wide choice of bezel colours
- Wide choice of LEDs
- Laser etched symbols
- Long life expectancy
- 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

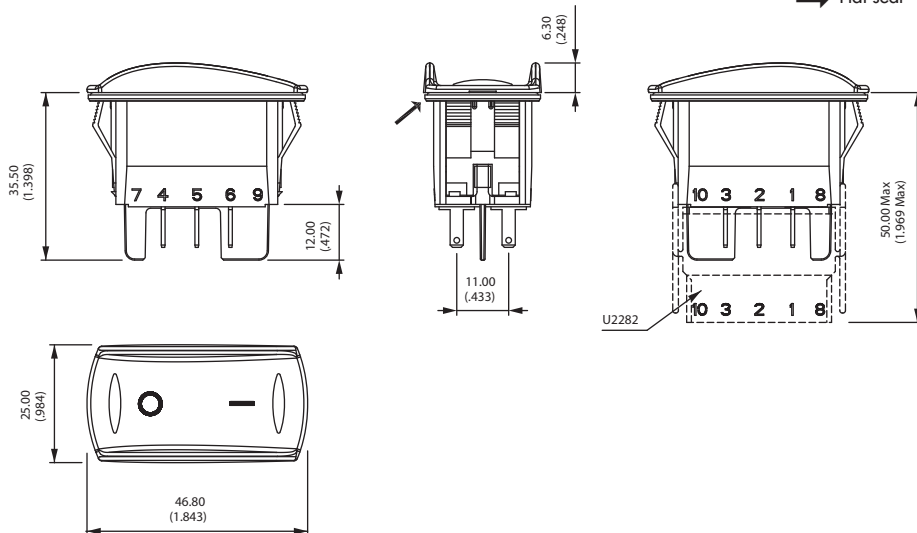
- Case : ABS
- Bezel : ABS
- Terminals : brass, silver plated

SEALING

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

DIMENSIONS

→ Flat seal



Packaging unit : 40 pieces

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

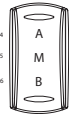
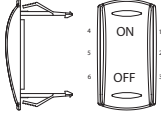
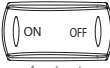
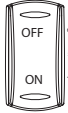
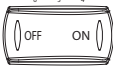


www.ermec.com

New!


LED indicators

Selection guide

KI		Side A	Side M	Side B			Side A	Side M	Side B		
SERIES	Colours	LEDS			Type of illumination	Symbols				Sealing	
1 Blue 1/4 Dark blue 2 Black 3 Green 4 Grey 5 Yellow 6 Red 9 Orange		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			X Standard S Super bright					X No K Yes	
		DC voltage standard					Marking orientation			Terminals with barrier	
							<p>N </p> <p>O </p> <p>S </p> <p>E </p>			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.

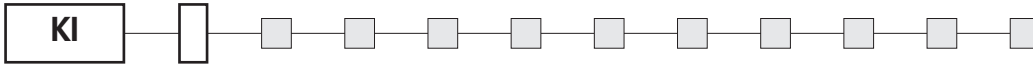


LED indicators

New!

Case - LEDs - Marking

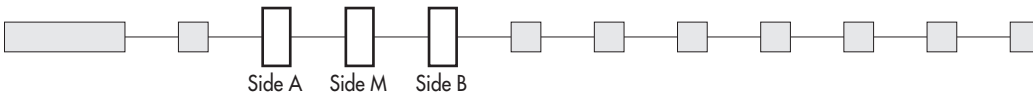
BEZEL COLOUR



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

Code	Colour
4	Grey
5	Yellow
6	Red
9	Orange

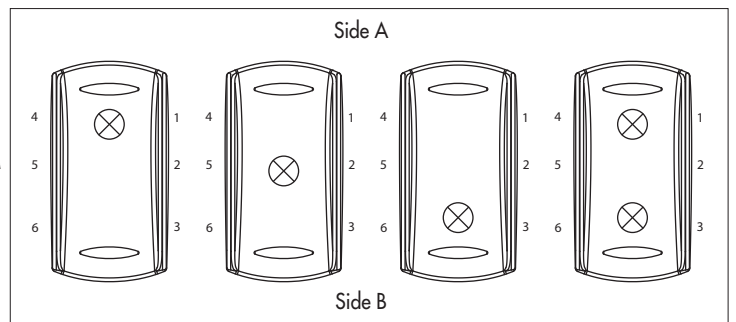
LEDS



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

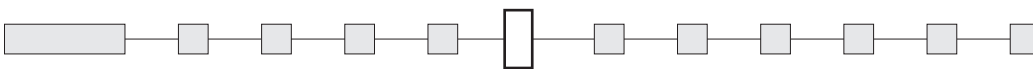
X Without LED

	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.

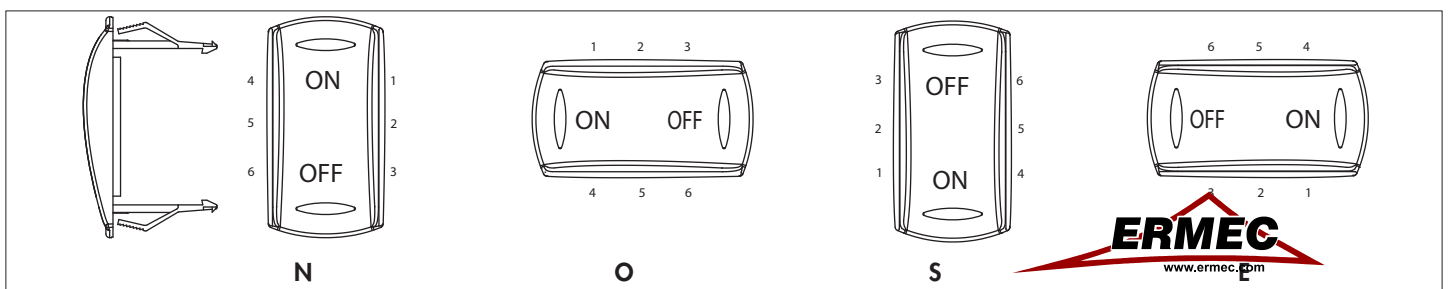
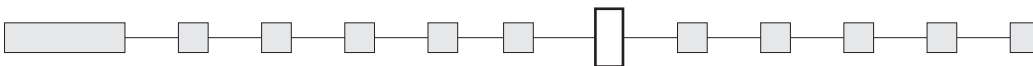
TYPE OF ILLUMINATION



X Standard
S Super bright

MARKING ORIENTATION

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



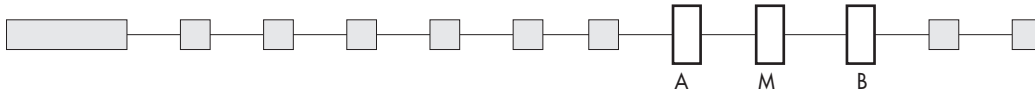
www.ermec.com

New!

LED indicators

Marking - Terminals

SYMBOLS



XX No symbol

Available symbols : see end of section D.

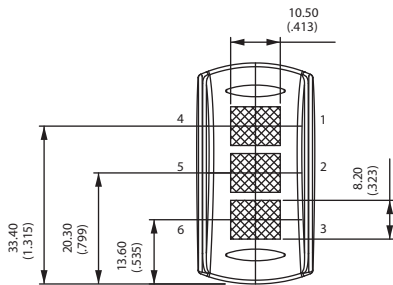
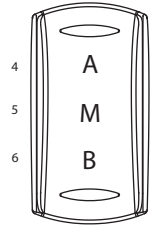
Marking colour

White (laser etching)

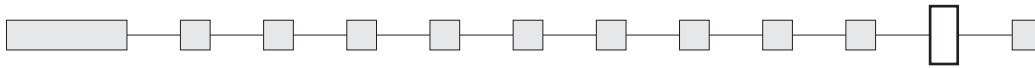
Laser etching resistance

- Water and petrol resistant 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.



TERMINALS (WITH BARRIER)



Solder lug / quick-connect

Normalized quick-connect 6,35x0,8

Normalized quick-connect 2,8x0,8

C 10 terminals for use with connector U2292

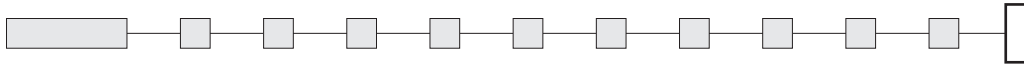
F 10 terminals for use with connector U2292

J 10 terminals for use with connector U2282

Terminals are marked on the case.



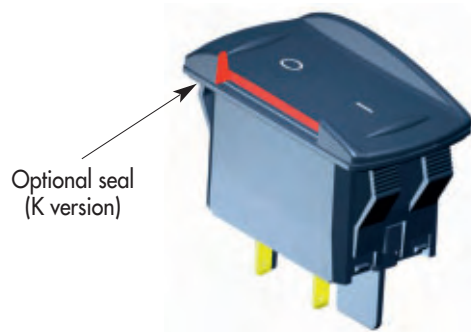
SEALING



- X No sealing
- K IP68 (switch assembled on panel)

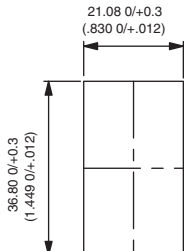
Ultrasonic welding of frame to case is standard on all versions.
The ultrasonic welding and the optional panel seal prevent water and dust from introducing into the switch housing.

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

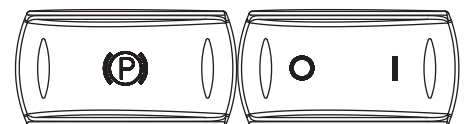
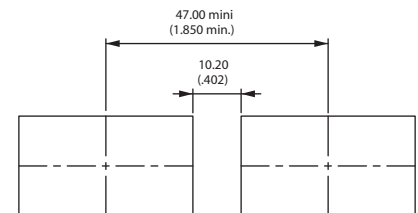
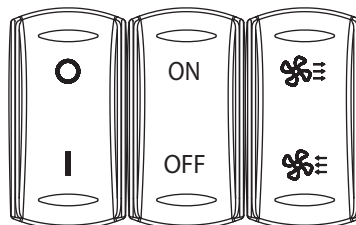
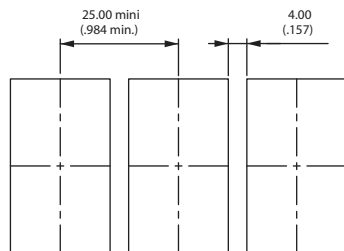


SWITCH PANEL CUT-OUT

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



MATRIX MOUNTING





- Protected rocker
- Illuminated or non-illuminated
- VDE (EN 61058-1) approved
- Sealed to IP65

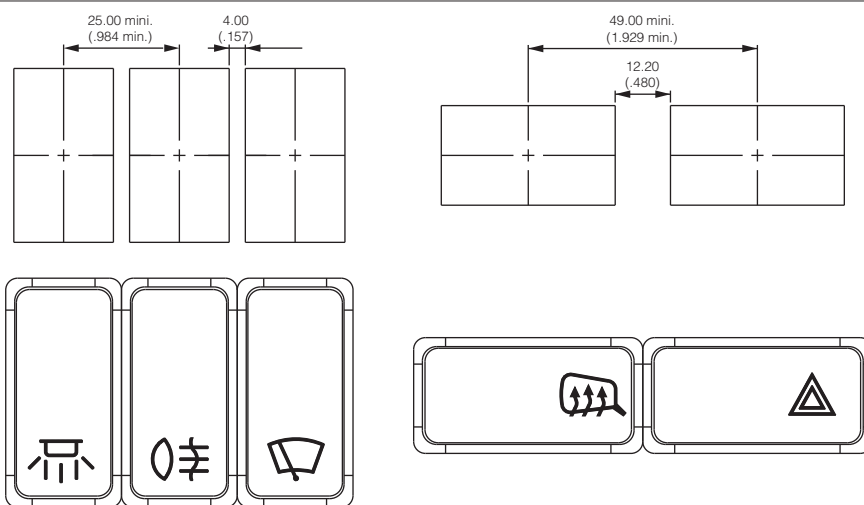
ELECTRICAL SPECIFICATIONS

- Current/voltage rating :
 - functions 1 (ON-OFF) and 6 (ON-ON) : 15A 12VDC, 10A 24VDC, 15A 250VAC max., 10mA 14VDC min.
 - functions 4 (ON ON ON) and 4-1R (ON ON MOM) : 8A 12VDC, 5A 24VDC, 8A 250VAC max.
 - other functions : 10A 12VDC, 8A 24VDC, 10A 250VAC max.
- VDE approved ratings : 12(4)A 250VAC, T85/55°C
- Initial contact resistance : 10 mΩ max. at 1A 2VDC
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals
- Electrical life : 10.000 cycles min.
- Mechanical life : 2 position models : 100.000 cycles min.
3 position models : 30.000 cycles min.

ENVIRONMENTAL SPECIFICATIONS

- Degree of protection : IP65 according to IEC 60529
- Shock resistance : 100 g according to IEC 512-4, test 6c
- Vibration resistance : 10-500 Hz - 10 g according to IEC 512-4, test 6d
- Salt spray resistance : 96 hours according to IEC 512-6, test 11f
- Operating temperature : 2 position models : -40°C to + 85°C
3 position models : -10°C to + 65°C

MATRIX MOUNTING



MATERIALS

- Case : thermoplastic UL94-V0
- Terminals : brass, silver plated
- Contacts : silver grain
- Contact roller : brass, nickel plated

AGENCY APPROVAL



EN 61058-1

Availability : double pole models, functions ON-OFF and ON-ON.

Marking : to order switches marked VDE, add "VDE" at the end of model number.



Packaging unit : 40 pieces



Sealing boots are available to protect the switches against dust and water. They are presented in section H.

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



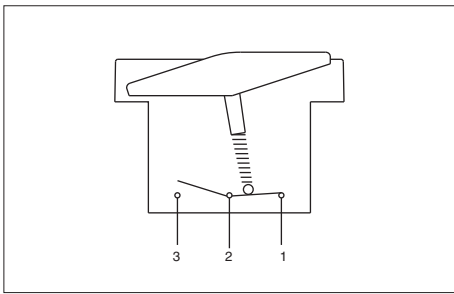
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KG series

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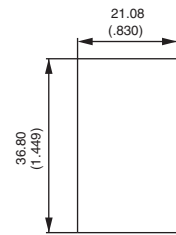
Power rocker switches

Case

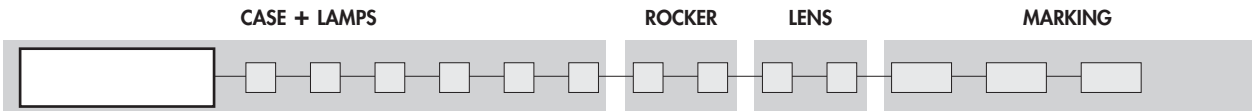


PANEL CUT-OUT

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

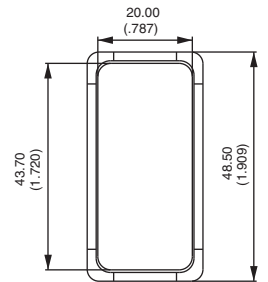
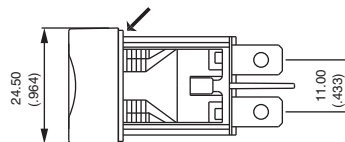


MODEL STRUCTURE



Single pole	Double pole	2-3	1-2
KG31	KG41	ON - OFF	
	KG44*	ON ON ON	
	KG44-1R*	ON ON MOM	
KG35	KG45	MOM - ON	
KG36	KG46	ON - ON	
KG37	KG47	MOM OFF MOM	
KG38	KG48	ON OFF MOM	
KG39	KG49	ON OFF ON	

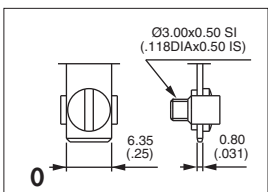
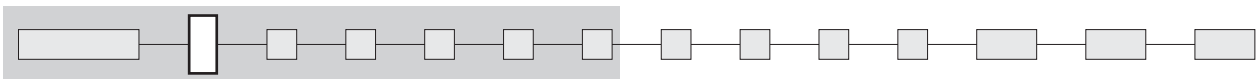
2-3	1-2
5-6	4-5



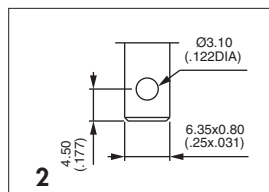
→ Flat seal

* Function 4 : single pole in double pole case

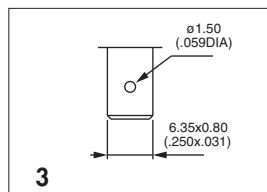
TERMINALS



Screw



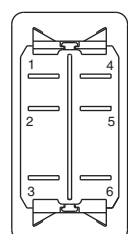
Solder lug / quick-connect



Quick-connect

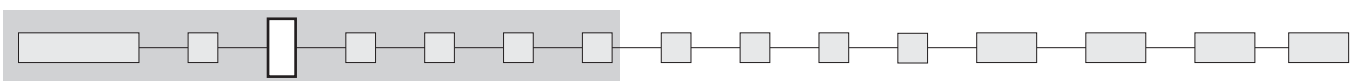
Terminals 1 to 6 are marked on the case.

Side A : terminals 1 and 4
Side B : terminals 3 and 6



Side B

CONTACT MATERIALS

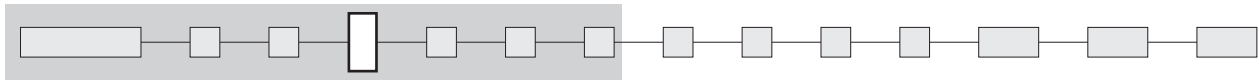


A Silver grain
Functions ON-OFF and ON-ON : 15A 12VDC , 10A 24VDC , 15A 250VAC max. - 10mA 1 VDC min.
Other functions : 10A 12VDC , 8A 24VDC , 10A 250VAC max.



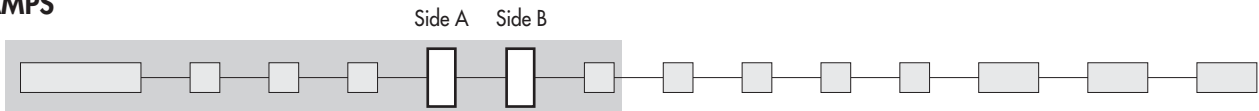
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BEZEL



2 Black, sealed to IP65

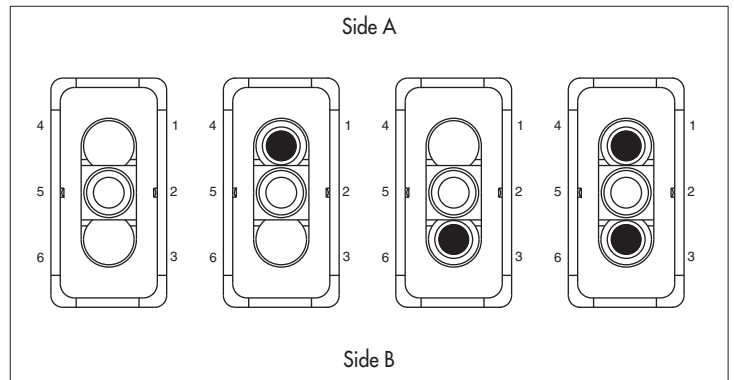
LAMPS



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

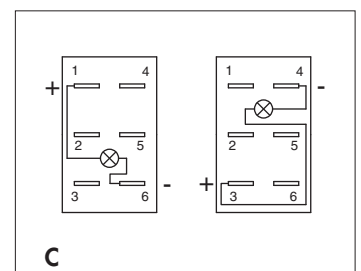
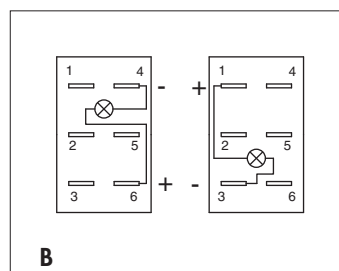
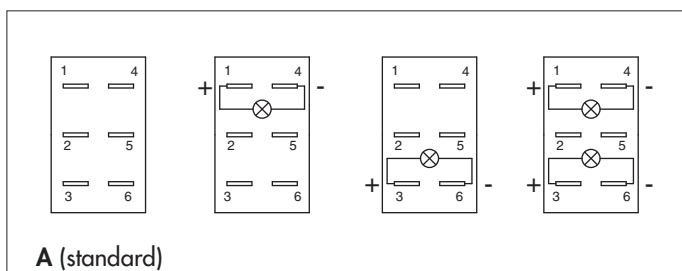
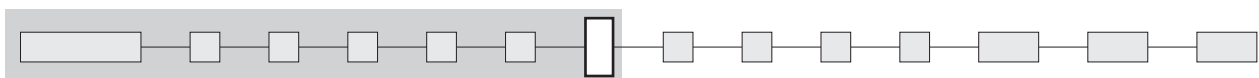
X	Without lamp
A	6V LED red
B	6V LED green
C	6V LED yellow
D	12V LED red
E	12V LED green
F	12V LED yellow
G	18V LED red
H	18V LED green
I	18V LED yellow

J	24V LED red
K	24V LED green
L	24V LED yellow
M	Neon 125V
N	Neon 250V
O	Filament 6V
P	Filament 12V
R	Filament 24V
S	Fluorescent 220V
T	Fluorescent 110V

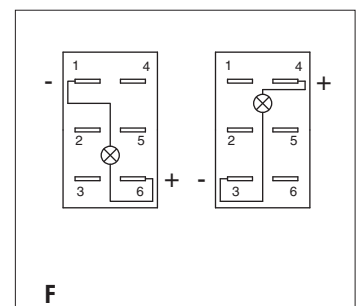
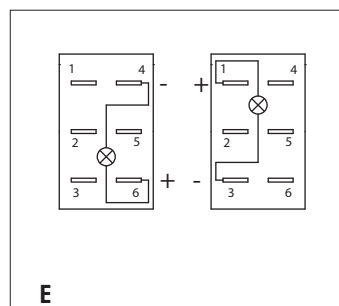
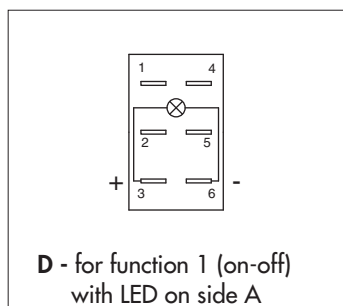


LAMP WIRING

The lamp wiring diagram is shown on the case.



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



To order case only (without rocker), finish your order number with the lamp wiring code.

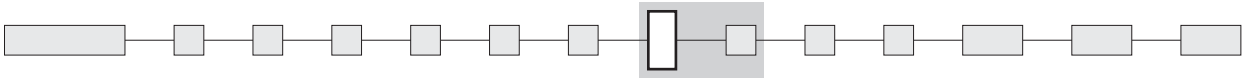


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Power rocker switches

Rocker - Lenses

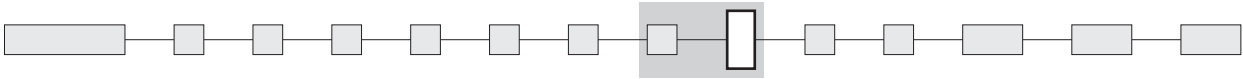
ROCKER COLOUR



1	Blue
1/4	Dark blue
2	Black
3	Green
4	Grey

5	Yellow
6	Red
7	Ivory
9	Orange

ROCKER SHAPE



1
Full rocker



4
Opening on side A



6
Opening on side B

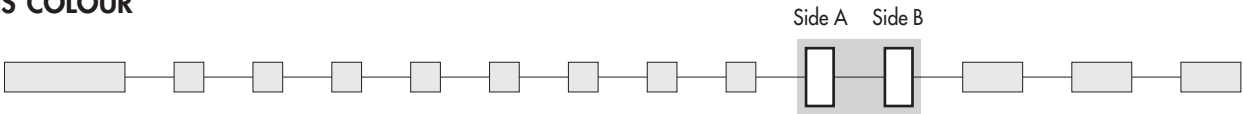


8
Opening on sides A and B

Other rocker shapes on customer specifications : on request.

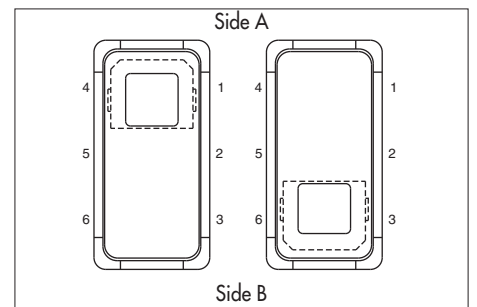
To order rocker only (without case), begin the order number with code KGR, then follow the order format from "rocker colour" until the end of the options.

LENS COLOUR



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

X	No lens
1	Blue *
3	Green *
6	Red
9	Orange
B	White
T	Translucent



* Blue or green lens recommended with fluorescent lamp.

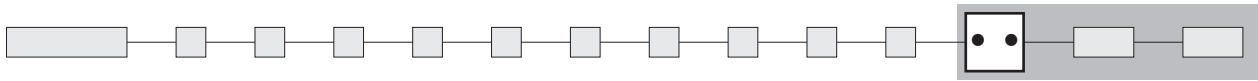
To order lenses only, begin the order number with the codes :
KGLA for lens A and KGLB for lens B,
then follow the order format from "lens colour" until the end of the options.



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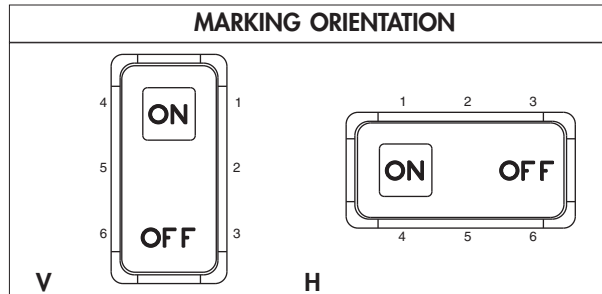
MARKING

If no marking required, leave all boxes blank.



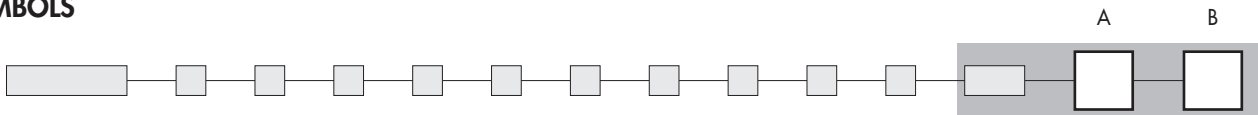
Select one option from each of the tables below.

MARKING METHOD	
C	Hot stamping



Other orientations :
on request

SYMBOLS



XX No symbol

Available symbols : see end of section D.

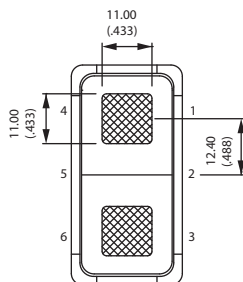
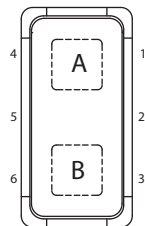
Marking colour

White marking for black rockers - Black marking for colour rockers

Other : on request.

Marking area

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



K range

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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
XX	None	-
01	ON	-
02	OFF	-
03	○	-
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	☀	-

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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		-	66		Baggage room left door	82		Radiator fan
51		-	67		Baggage room right door	83		Remove retarder
52		-	68		Power blinds	84		Restricted speed
53	N	-	69		Engine idle control	85		Preheater
54		Rear window wiper (0097)	70	CRUISE RES/SET	Cruise res/set	86		ABS detection
55		Rear window washer (0099)	71		Driver windows up/down	87		ECAS detection
56		Lower load (2223)	72		Middle door opening	88		Engine stop
57		Cab lock (1560)	73		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		Toilet decontamination	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		-

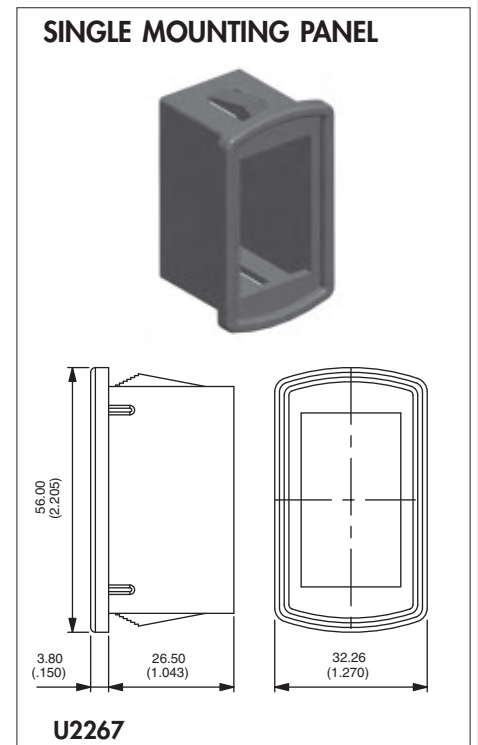
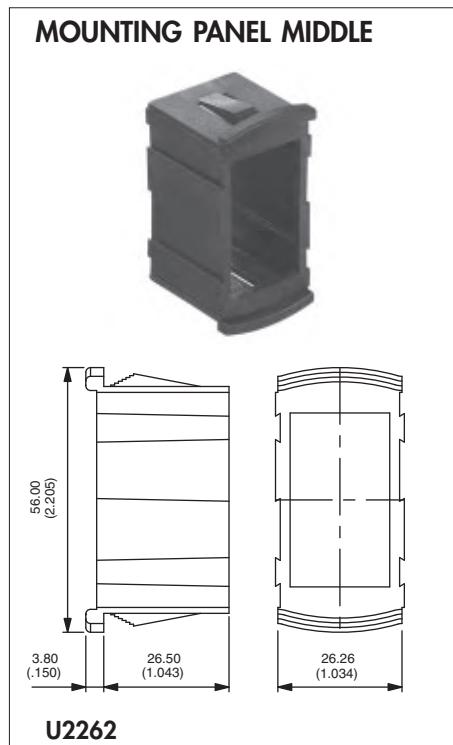
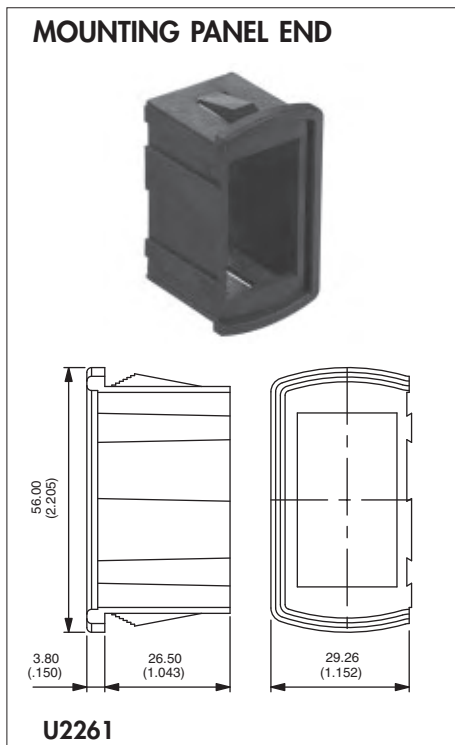
CODE	SYMBOL	DESCRIPTION
AD		-
AE		-
AF		-
AG		Battery charging condition (0247)
AH		Turn signals (0084)
AJ		High beam (0082)
AK		Differential lock, bogie (2600)
AL		Brushing with a rotating brush (0070)
AM		Differential lock, transfer case 4x4 (2475)
AN		Loader bucket, float (1441)
AP		Loader bucket (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		-

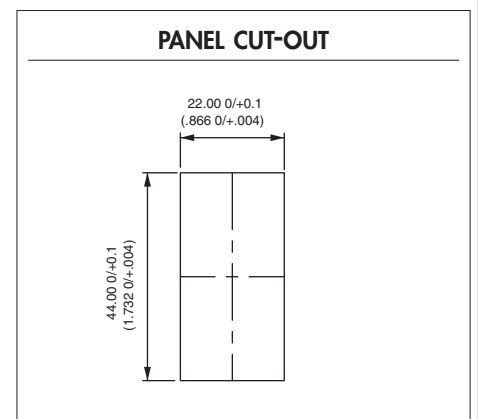
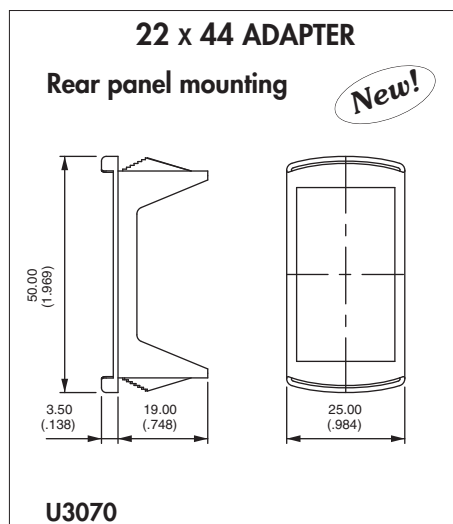
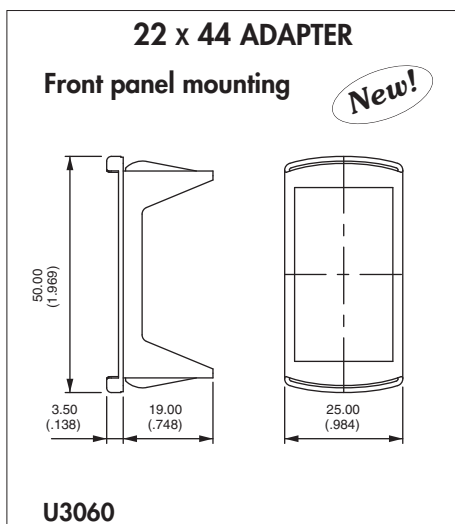
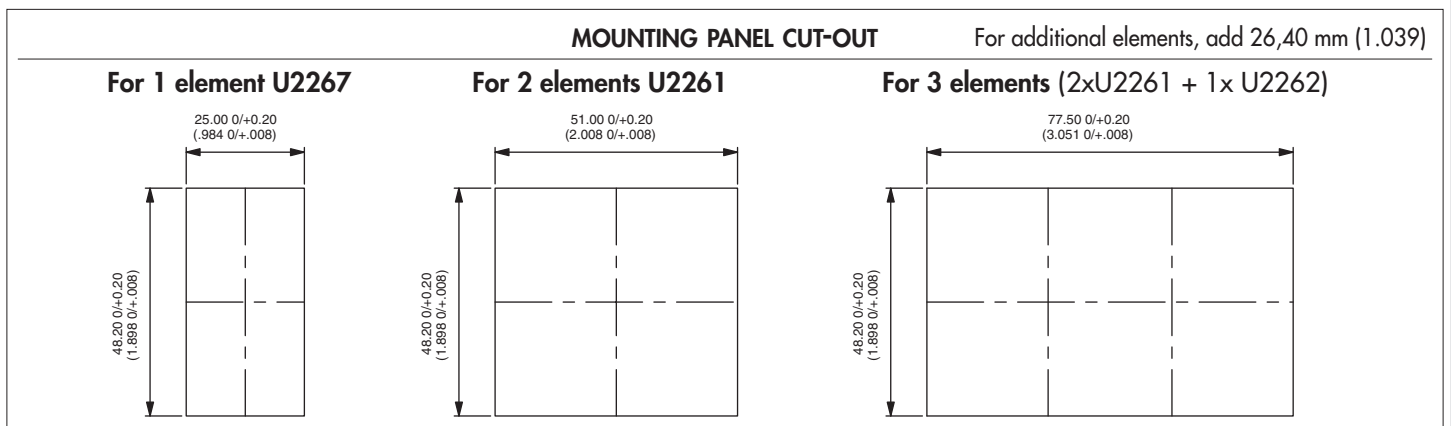


Power rocker switches and indicators

Accessories for KR, KL and KI series



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



Adapter colours (replace 0 with code)
1/4 : dark blue - 2 : black - 4 : grey
5 : yellow - **ERMEC** White

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K range

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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

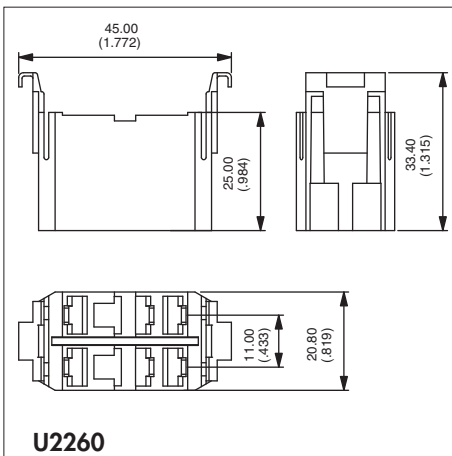
Standard colour : black. Other colours : on request.
Connectors cannot be combined with wiring types H and I.



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 : AMP/Tyco 0-0141013-2).
Can be used for the KG series.



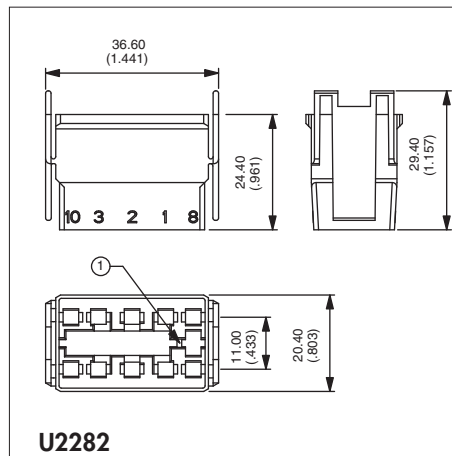
U2260



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).



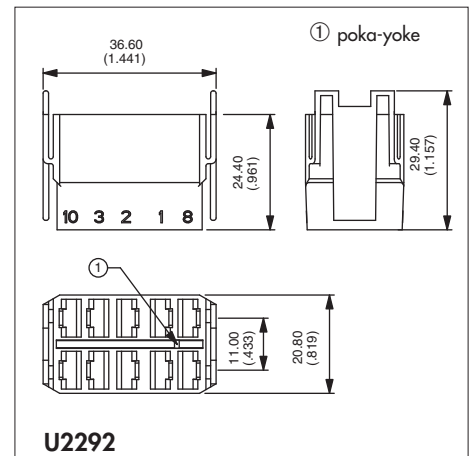
U2282



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 : AMP/Tyco 0-0141013-2).



U2292



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Power rocker switches and indicators

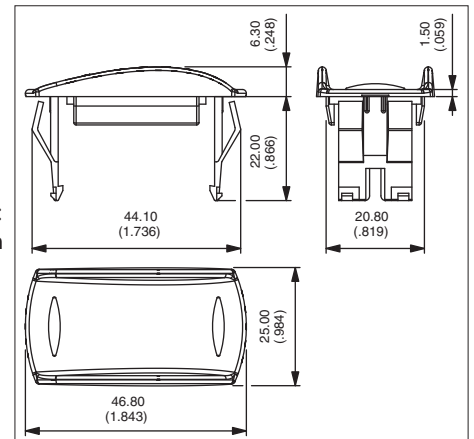
Accessories for KR, KL and KI series

HOLE PLUGS

Usefull for future extensions.

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

Recommended panel thickness :
1,50 mm to 6 mm



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

D



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