

# 4600 and 4400 series ermec@ermec.com

## Toggle switches

*Distinctive features and specifications*



- High current/voltage rating in a small case
- Butt action contacts
- Insulated or metal lever
- UL, CSA and VDE (EN 61058-1) approved

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load (silver contacts A) : 4A 250VAC - 6A 125VAC
- Approved electrical ratings : see table below
- Initial contact resistance : 10 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength :
  - 2.000 Vrms 50 Hz min. between terminals
  - 2.500 Vrms 50 Hz min. between poles and between terminals and frame
- Electrical life : 10.000 cycles at full load

APPROVALS	MODELS	POLES	FUNCTIONS	APPROVED RATINGS
UL/CSA	4600A	1-2	1-6-9	3A 250VAC - 6A 125VAC
VDE (EN 61058-1)	4400A	1-2	1-6	4(2)A 250VAC
	4600A	1-2-3	1-6	4(2)A 250VAC

### MATERIALS

- Case : melamine phenolic
- Actuator :
  - insulated : polyamide ,6-6
  - non-insulated : brass, nickel plated
- Bushing :
  - insulated : polyamide 6-6
  - non-insulated : brass, nickel plated
- Contacts : silver

### GENERAL SPECIFICATIONS

- Torque : 0,95 Nm (.70 Ft.lb) max. applied to nut
- Panel thickness : 5 mm (.196) between 2 nuts
- Operating temperature : -20°C to +55°C
- Hand soldering : 270°C max. for 10 seconds max. - iron Ø3 (.118)

### AGENCY APPROVALS



EN 61058-1

**Availability** : see above chart.

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

To order switches marked UL-CSA, complete appropriate box of ordering format.



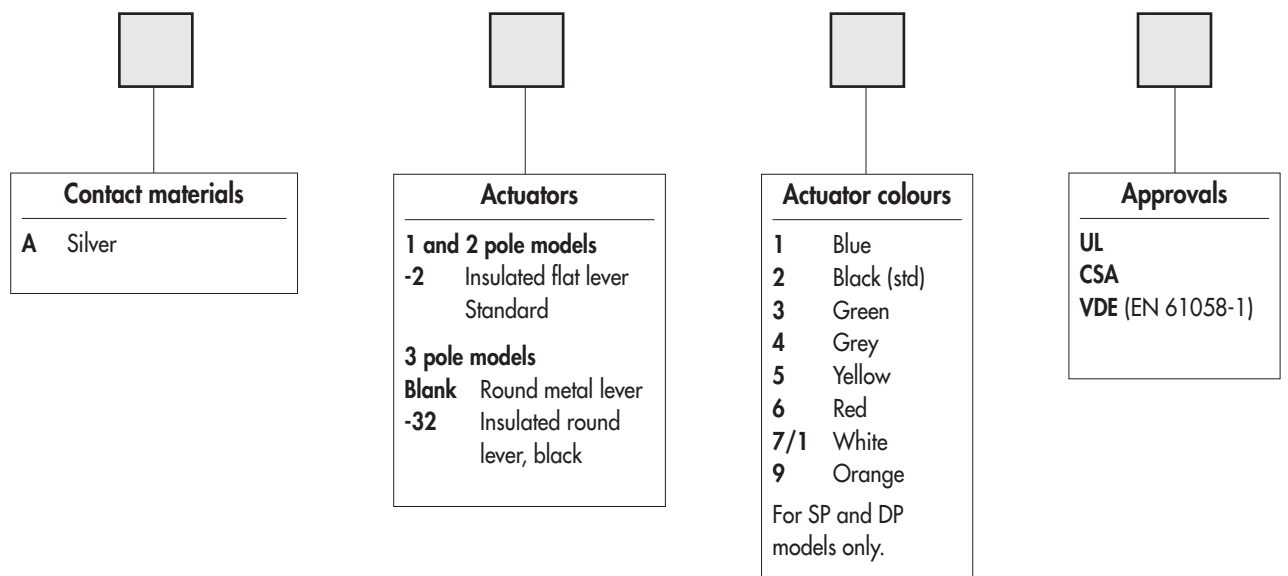
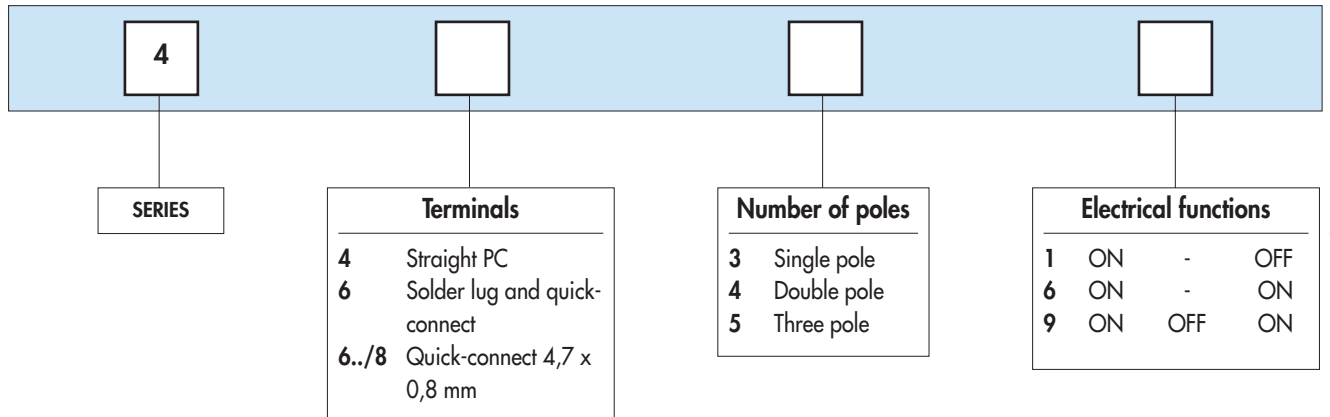
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## Toggle switches

Overview



### ABOUT THIS SERIES

**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.



**Sealing boots** are available on 3 pole models to protect the switches against dust and water. They are presented in section H.



**Mounting accessories** : standard hardware supplied with all models : 1 hex nut U166 and 1 knurled nut U520 in the same colour as the lever (insulated models) or U411 nickel plated (metal lever models). Standard and special hardware available are presented in section I.



**Packaging unit** : 20 pieces.



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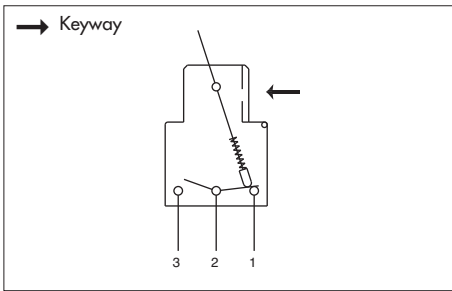
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STRUCTURE

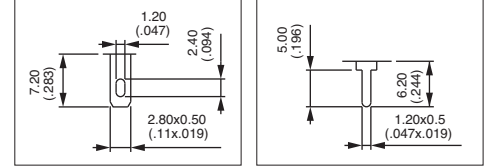
## Toggle switches

Insulated flat lever

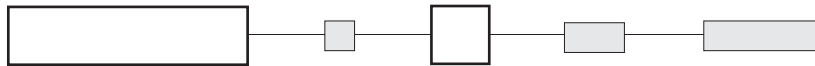
A



- Solder lug/quick-connect terminals 2,8 x 0,5 (.110 x .019)
- Straight PC terminals or quick-connect terminals 4,7 x 0,8 (.185 x .031)
- 2 and 3 maintained positions
- 1 and 2 pole configurations



MODEL  
STRUCTURE



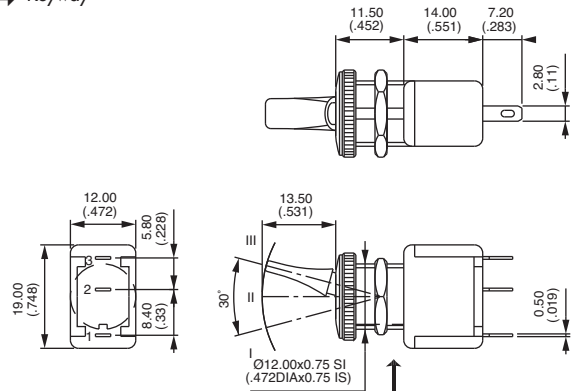
### Solder lug/quick-connect terminals - single pole

→ Keyway



4631 -2  
4636 -2  
4639 -2

	III	II	I
4631 -2	ON	-	OFF
4636 -2	ON	-	ON
4639 -2	ON	OFF	ON



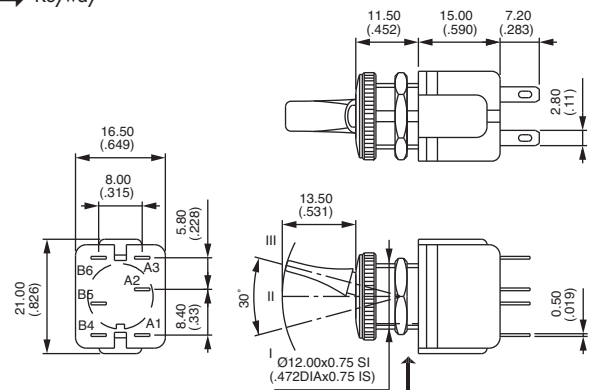
### Solder lug/quick-connect terminals - double pole

→ Keyway



4641 -2  
4646 -2  
4649 -2

	III	II	I
4641 -2	ON	-	OFF
4646 -2	ON	-	ON
4649 -2	ON	OFF	ON



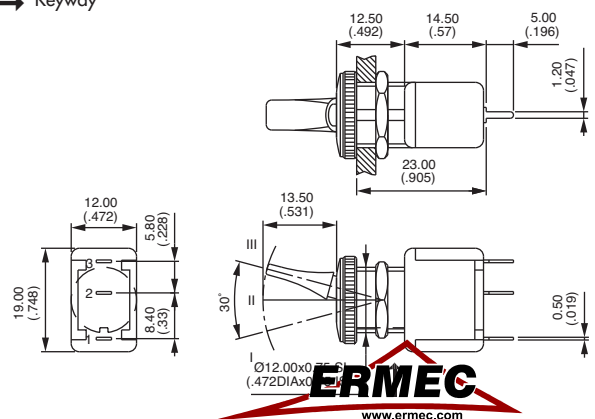
### Straight PC terminals - single pole

→ Keyway



4431 -2  
4436 -2  
4439 -2

	III	II	I
4431 -2	ON	-	OFF
4436 -2	ON	-	ON
4439 -2	ON	OFF	ON



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Toggle switches

Insulated flat lever

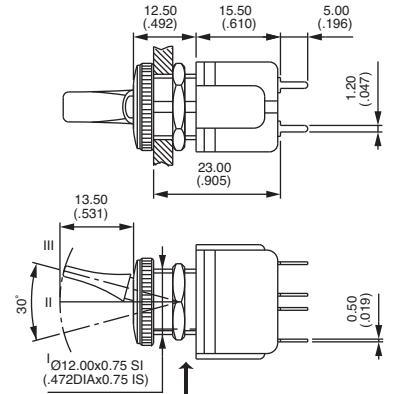
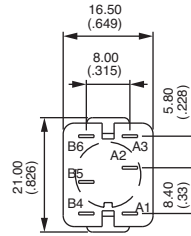
## Straight PC terminals - double pole

→ Keyway



4441 -2  
4446 -2  
4449 -2

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



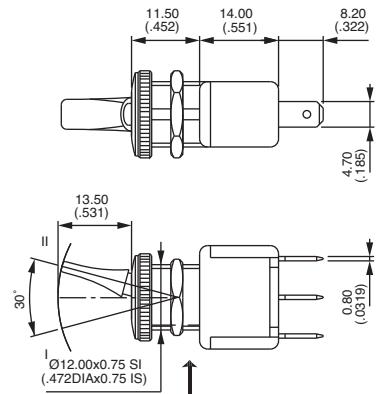
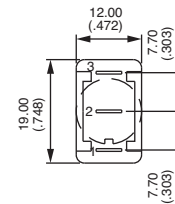
## Quick-connect terminals 4,7 x 0,8 (.185 x .031) - single pole

→ Keyway

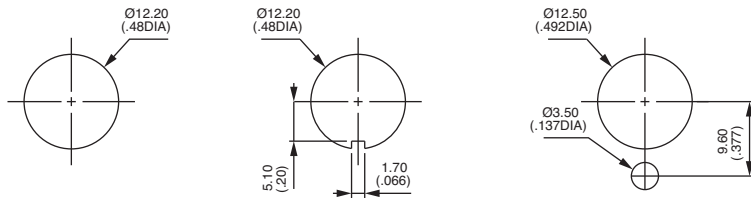


4631/8 -2  
4636/8 -2

I	II	
ON	-	OFF
ON	-	ON



## PANEL CUT-OUT



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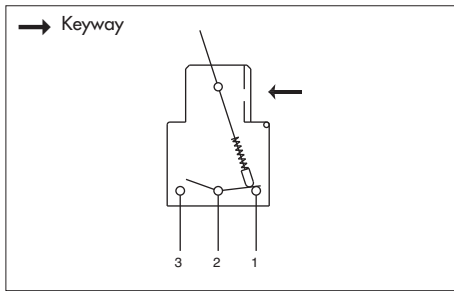
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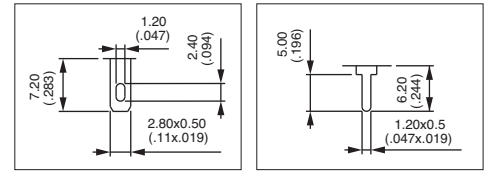
## Toggle switches

Round lever - three pole

A



- Solder lug or straight PC terminals
- 2 and 3 maintained positions



MODEL STRUCTURE



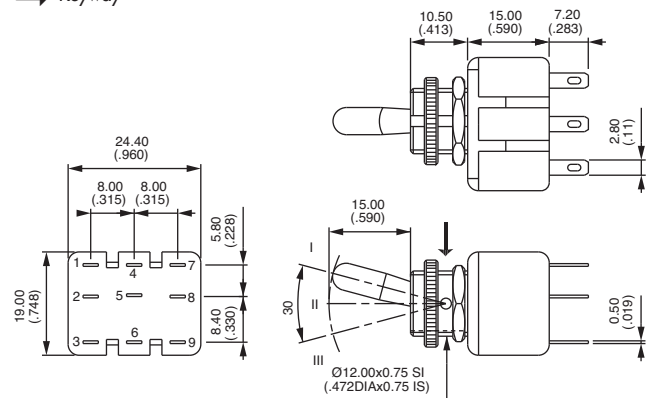
### Solder lug terminals - metal lever

→ Keyway



4651  
4656  
4659

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



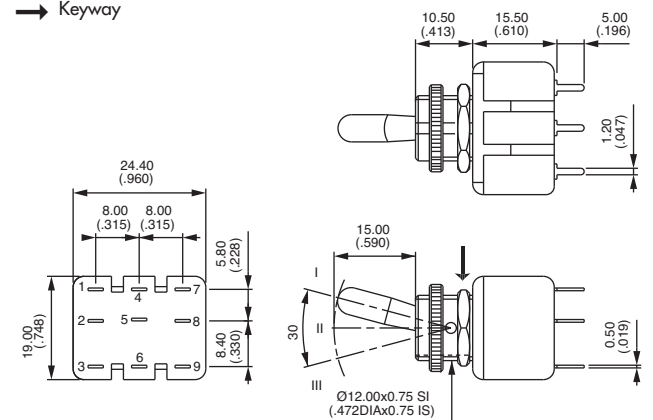
### Straight PC terminals - metal lever

→ Keyway



4451  
4456  
4459

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



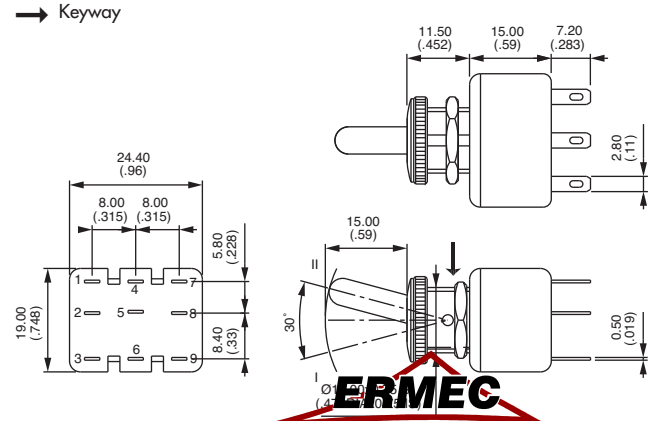
### Solder lug terminals - insulated lever - silver contacts

→ Keyway



4651A-32  
4656A-32

I	II	
ON	-	OFF
ON	-	ON



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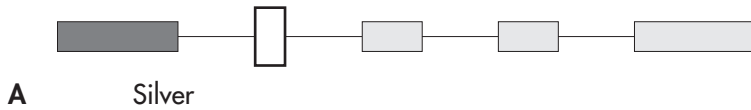


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## Toggle switches

### CONTACT MATERIAL

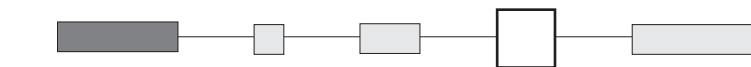


### ACTUATORS



- Blank** Round, metal lever for 3 pole only
- 2** Insulated flat lever (for single and double pole only)
- 32** Black insulated round lever (for 3 pole only)

### ACTUATOR COLOURS

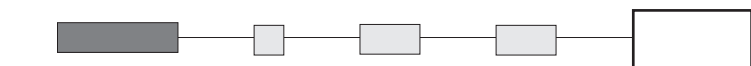


- 1** Blue
- 2** Black (standard)
- 3** Green
- 4** Grey
- 5** Yellow
- 6** Red
- 7/1** White
- 9** Orange



For insulated flat lever  
 Black : standard colour - reduced delivery time  
 Minimum order of 500 pieces for non-standard colours.

### APPROVALS



**UU (UL-CSA)** Single and double pole only

**Availability** : see specifications for details of approved models.

**Marking** : to order switches marked UL-CSA, complete above box with 'UU'.  
 Other approvals available as standard, see specifications.



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