

TL - TR - TP AND TG SERIES

SUBMINIATURE WASHABLE SWITCHES

Distinctive features

A

NUMBER 1 IN SEALING

T. SERIES

- TL toggle
- TR rocker
- TP pushbutton
- TG slide

WHY ?

Single piece case

means no ultrasonic welding



O-ring seal

actuator / bushing

Rubber seal on slide switches



Epoxy sealing

around terminals

Also features :

Dry circuit switching

Gold or silver plated contacts

Tin lead plated terminals

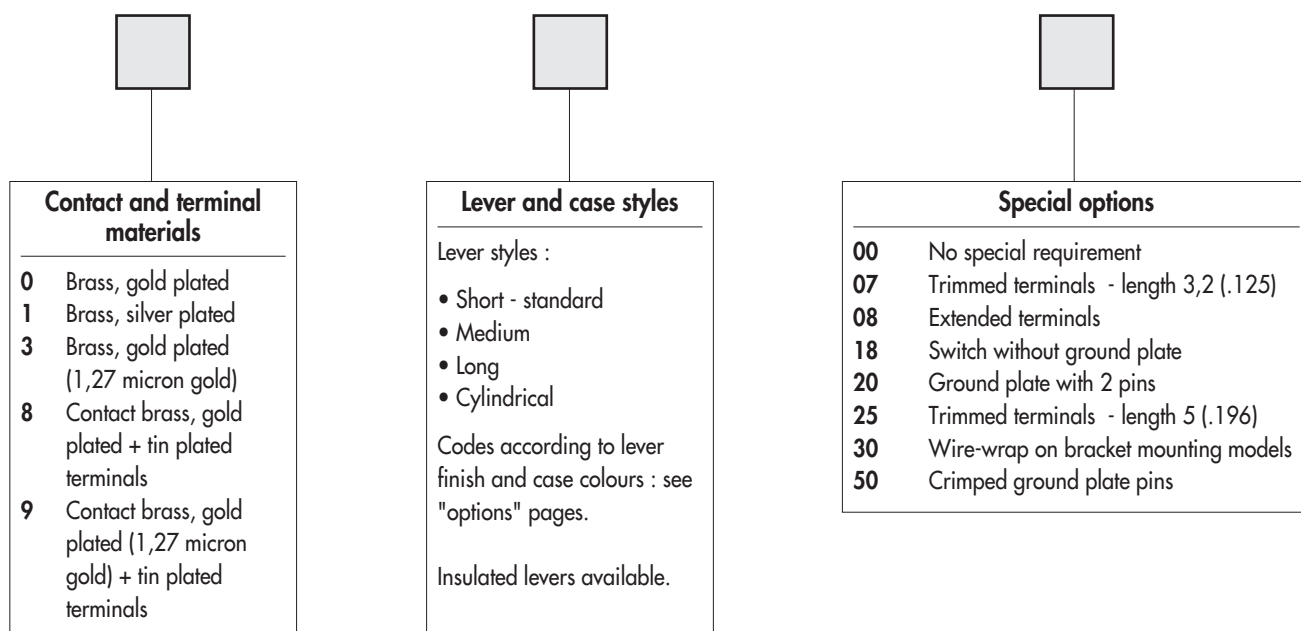
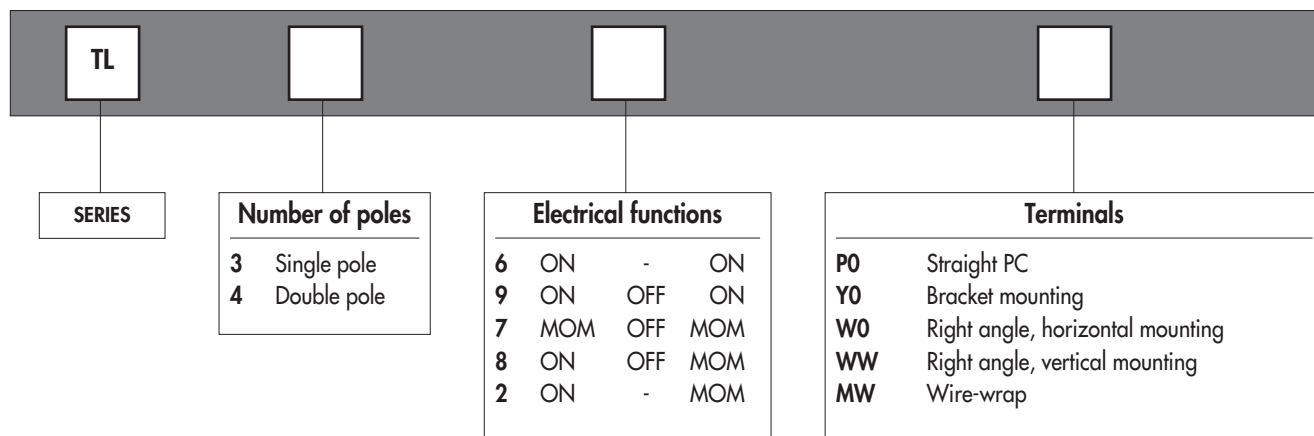
wide variety of

- actuators
- PCB terminals
- 2,54 (.100) PCB layout

TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

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

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 : 100 pieces, except for models with WW terminals (50 pieces)

TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

Specifications

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 : brass, nickel plated
- 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.

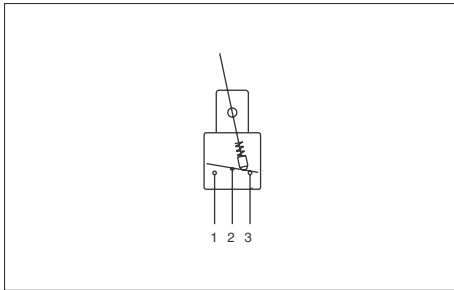
SOLDERING

Compatible wave soldering processes : see specifications S and SF, section B.

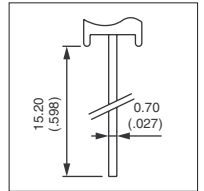
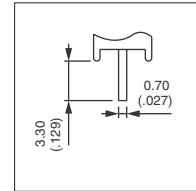
TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

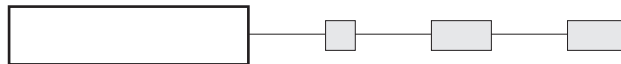
MODEL
STRUCTURE



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



MODEL
STRUCTURE



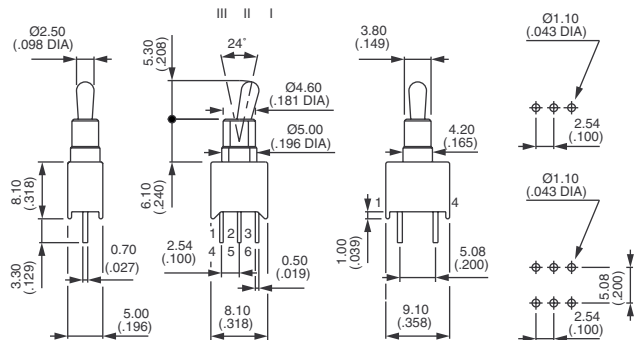
Shown with standard lever

Straight PC terminals : TL..P0



Single pole	Double pole
TL36P0	TL46P0
TL39P0	TL49P0
TL37P0	TL47P0
TL38P0	TL48P0
TL32P0	TL42P0

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

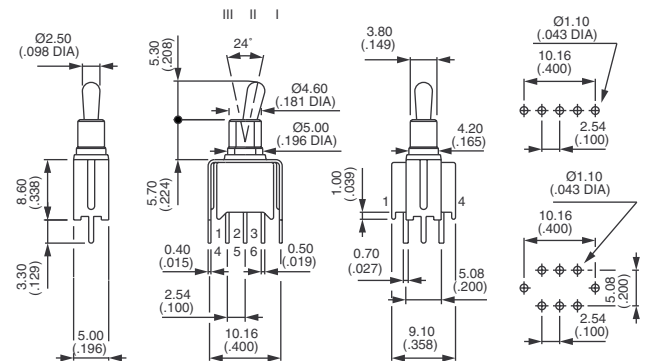


Straight PC terminals - bracket mounting : TL..Y0



Single pole	Double pole
TL36Y0	TL46Y0
TL39Y0	TL49Y0
TL37Y0	TL47Y0
TL38Y0	TL48Y0
TL32Y0	TL42Y0

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

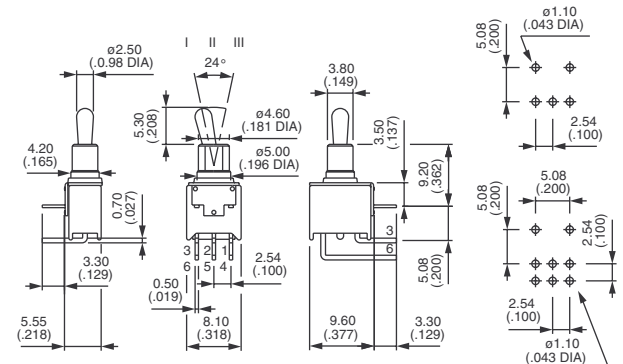


Right angle terminals - horizontal mounting : TL..W0



Single pole	Double pole
TL36W0	TL46W0
TL39W0	TL49W0
TL37W0	TL47W0
TL38W0	TL48W0
TL32W0	TL42W0

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



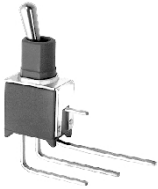
TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

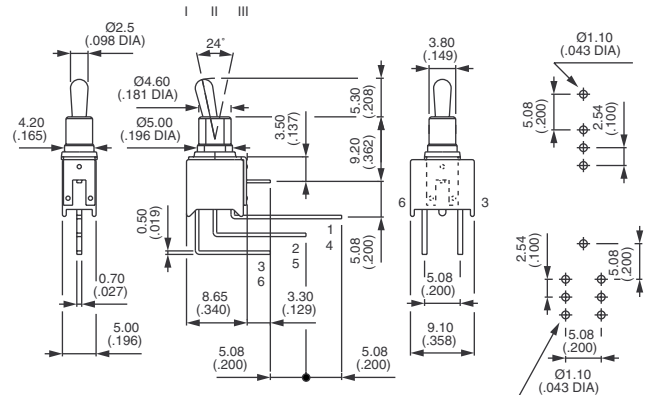
MODEL
STRUCTURE

A

Right angle terminals - vertical mounting : TL..WW



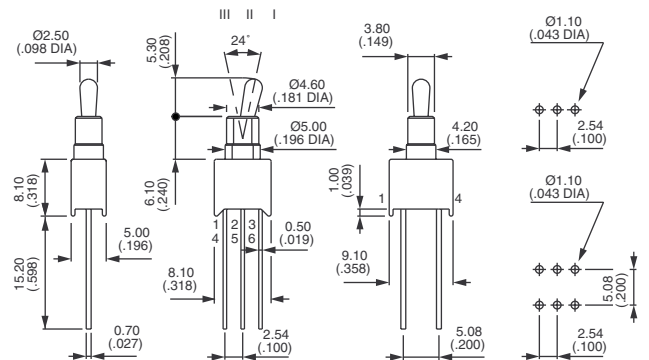
Single pole	Double pole	III	II	I
TL36WW	TL46WW	ON	-	ON
TL39WW	TL49WW	ON	OFF	ON
TL37WW	TL47WW	MOM	OFF	MOM
TL38WW*	TL48WW*	ON	OFF	MOM
TL32WW*	TL42WW*	ON	-	MOM



Wire-wrap terminals : TL..MW

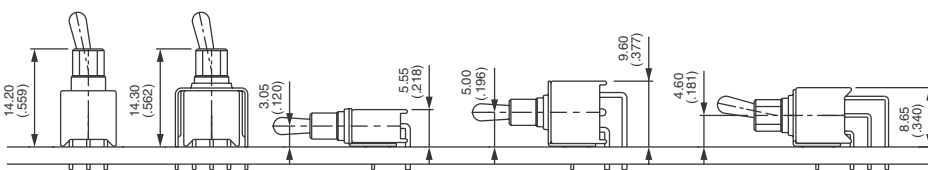


Single pole	Double pole	III	II	I
TL36MW	TL46MW	ON	-	ON
TL39MW	TL49MW	ON	OFF	ON
TL37MW	TL47MW	MOM	OFF	MOM
TL38MW	TL48MW	ON	OFF	MOM
TL32MW	TL42MW	ON	-	MOM



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

PCB MOUNTING



TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

OPTIONS

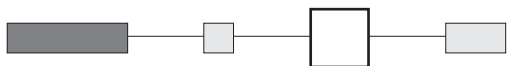


CONTACT AND TERMINAL MATERIALS



- 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

LEVER AND CASE STYLES



Short - standard			
LEVER \ CASE	Blue	Black	
Nickel plated	00	50	
Matt black	01	51	

Long			
LEVER \ CASE	Blue	Black	
Nickel plated	02	52	
Matt black	03	53	

Medium			
LEVER \ CASE	Blue	Black	
Nickel plated	04	54	
Matt black	05	55	

Cylindrical			
LEVER \ CASE	Blue	Black	
Nickel plated	-	56	

TL SERIES

SUBMINIATURE WASHABLE TOGGLE SWITCHES

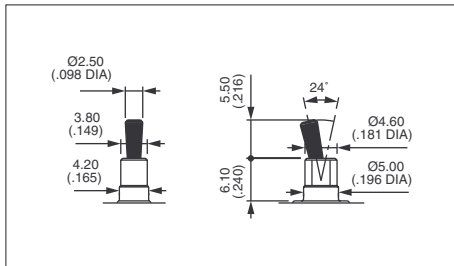
OPTIONS

A

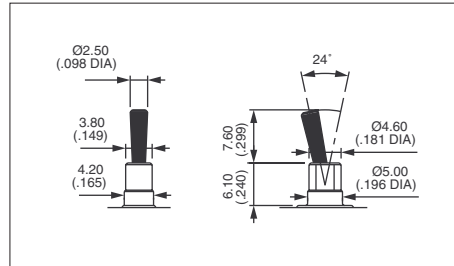
LEVER AND CASE STYLES (continued)

Insulated levers

Protected against electrostatic discharges (ESD) up to 10KV. Black colour.

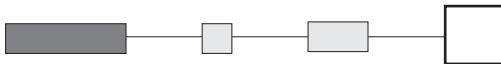


40
94 With blue case
With black case



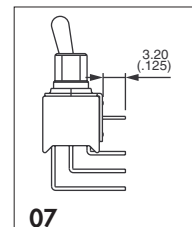
30
90 With blue case
With black case

SPECIAL OPTIONS

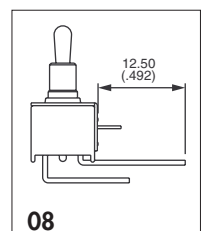


00 No special requirement

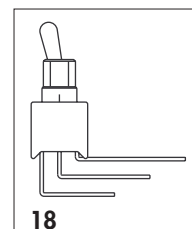
07 Trimmed terminals - length 3,2 mm (.125) for TL..WW models only



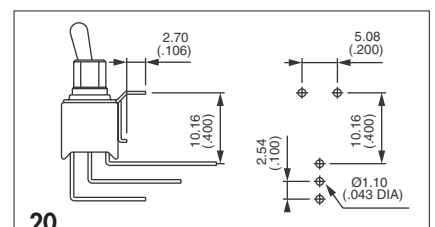
08 Extended terminals for TL..W0 models only



18 Switch without ground plate for TL..WW models only



20 Ground plate with 2 pins for TL..WW models only



TL SERIES

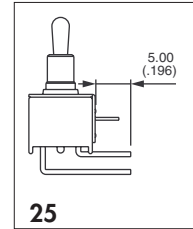
SUBMINIATURE WASHABLE TOGGLE SWITCHES

OPTIONS

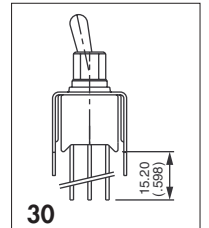


SPECIAL OPTIONS (continued)

25 **Trimmed terminals** - length 5 mm (.196) for all models, except TL..WW



30 **Wire-wrap terminals** on models with mounting **bracket**



50 **Crimped ground plate pins.**
Retains switch on PCB during handling and wave soldering.
For models TL..W0, TL..WW and TL..Y0 single and double pole.

