

TL series

Subminiature washable toggle switches



DISTINCTIVE FEATURES

- Process sealed
- Single piece case
- Front and rear sealing
- Wide variety of contact materials
- Same PCB layout as TP, TR and TG subminiature switches



ENVIRONMENTAL SPECIFICATIONS

- Operating temperature : -30 °C to +85 °C (-22 °F to +185 °F)
- Moisture : 21 days 95 % (NFC 20-603 - IEC 68-2-3)



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - gold plated contacts : 0.4 VA 20 V max. AC or DC
 - silver plated contacts : 0.5 A 48 V max. AC or DC
- Minimum load : 10 mA 50 mV - 10 μ A 5 VDC
- Contact resistance : 20 m Ω max.
- Insulation resistance : 1,000 M Ω min. at 500 VDC
- 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



GENERAL SPECIFICATIONS

- Strength of terminals : pull-out force - 10 N max.
- Cleaning : solvents or water + detergent
- Wave soldering : 260 °C (500 °F) - 5 sec.

The company reserves the right to change specifications without notice.



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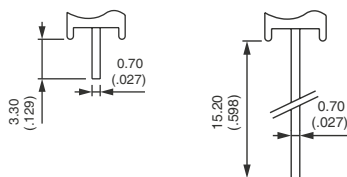
MATERIALS

- 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

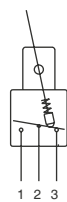
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.



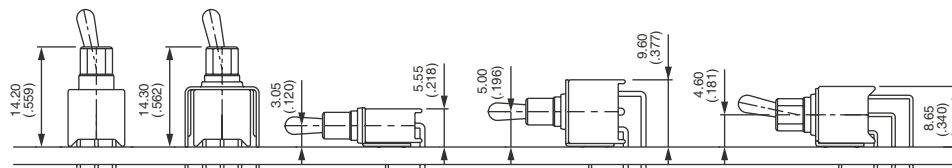
TERMINALS



ELECTRICAL FUNCTIONS



PCB MOUNTING





BUILD YOUR PART NUMBER

BASIC PART NUMBER			
SERIES	NUMBER OF POLES	ELECTRICAL FUNCTIONS	TERMINALS
TL	3 Single pole 4 Double pole	6 ON - ON 9 ON OFF ON 7 MOM OFF MOM 8 ON OFF MOM 2 ON - MOM	P0 Straight PC Y0 Bracket mounting W0 Right angle, horizontal mounting WW Right angle, vertical mounting
OPTIONS			
CONTACT AND TERMINAL MATERIALS	LEVER STYLES / CASE COLORS		SPECIAL OPTIONS
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 (SP only)	With blue case 00 Short lever, nickel plated 01 Short lever, black 02 Long lever, nickel plated 03 Long lever, black 04 Medium lever, nickel plated 05 Medium lever, black 40 Short insulated lever 30 Long insulated lever	With black case 50 Short lever, nickel plated 51 Short lever, black 52 Long lever, nickel plated 53 Long lever, black 54 Medium lever, nickel plated 55 Medium lever, black 56 Cylindrical lever, nickel plated 94 Short insulated lever 90 Long insulated lever	00 No special requirement 07 Trimmed terminals - length 3.2 (.125) 08 Extended terminals 18 Switch without ground plate 20 Ground plate with 2 pins 25 Trimmed terminals - length 5 (.196) 50 Crimped ground plate pins



ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.



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

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STRAIGHT PC TERMINALS : TL..P0



Single pole	Double pole	III	II	I
TL36P0	TL46P0	ON	-	ON
TL39P0	TL49P0	ON	OFF	ON
TL37P0	TL47P0	MOM	OFF	MOM
TL38P0	TL48P0	ON	OFF	MOM
TL32P0	TL42P0	ON	-	MOM

STRAIGHT PC TERMINALS BRACKET MOUNTING : TL..Y0



Single pole	Double pole	III	II	I
TL36Y0	TL46Y0	ON	-	ON
TL39Y0	TL49Y0	ON	OFF	ON
TL37Y0	TL47Y0	MOM	OFF	MOM
TL38Y0	TL48Y0	ON	OFF	MOM
TL32Y0	TL42Y0	ON	-	MOM

RIGHT ANGLE TERMINALS HORIZONTAL MOUNTING : TL..W0



Single pole	Double pole	III	II	I
TL36W0	TL46W0	ON	-	ON
TL39W0	TL49W0	ON	OFF	ON
TL37W0	TL47W0	MOM	OFF	MOM
TL38W0	TL48W0	ON	OFF	MOM
TL32W0	TL42W0	ON	-	MOM

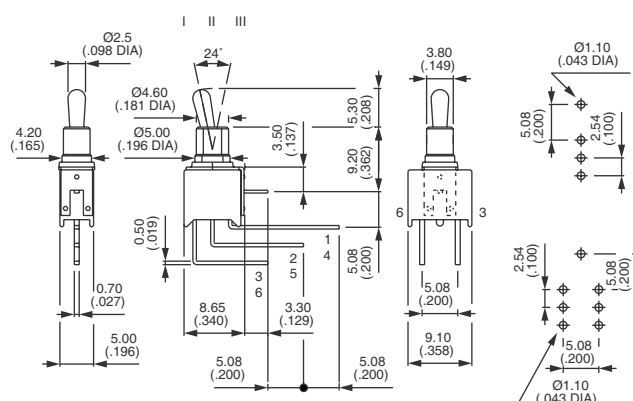
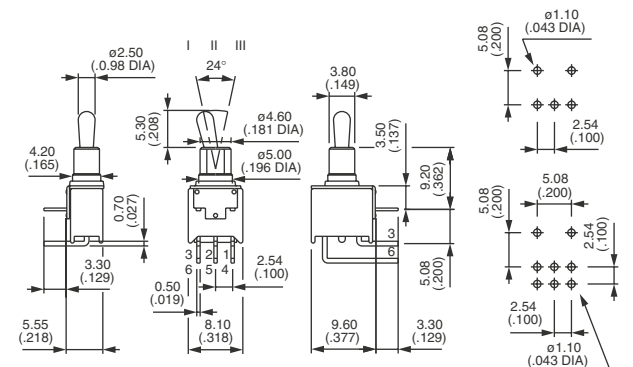
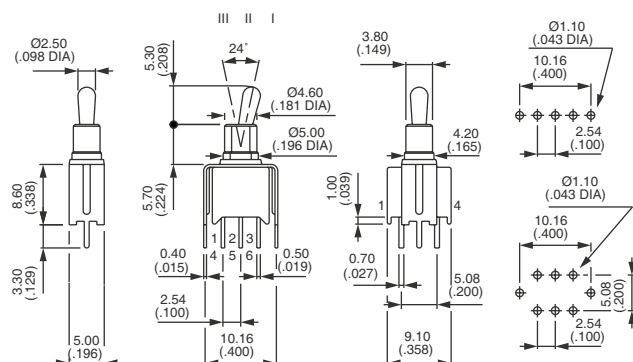
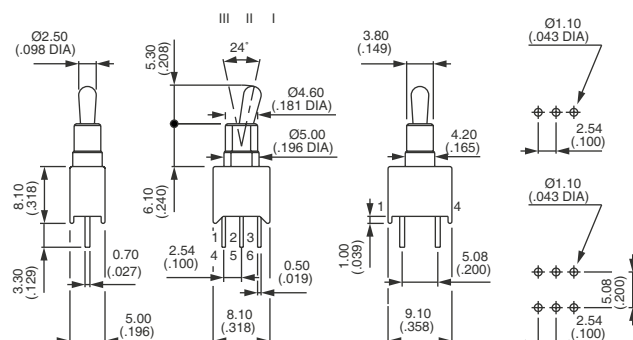
RIGHT ANGLE TERMINALS VERTICAL MOUNTING : TL..WW



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

*Functions 2 and 8 : reversed connection available. On request.

Shown with standard lever

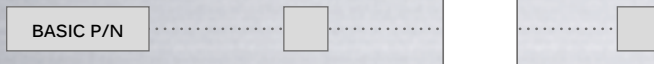


CONTACT AND TERMINAL MATERIALS

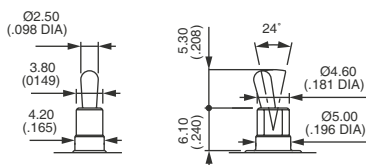


- 0 Brass, gold plated
- 1 Brass, silver plated
- 3 Brass, gold plated (1.27 micron gold)
- 8 Contact brass, gold plated + tin plated terminals
- 9 Contact brass, gold plated (1.27 micron gold) + tin plated terminals (single pole only)

LEVER AND CASE STYLES

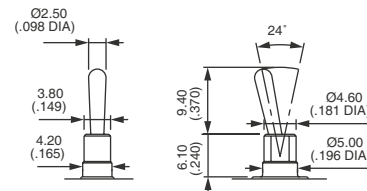


SHORT - STANDARD



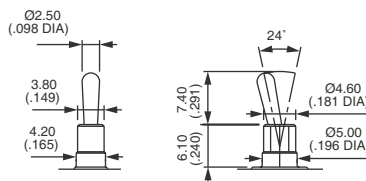
CASE	Blue	Black
LEVER		
Nickel plated	00	50
Black	01	51

LONG



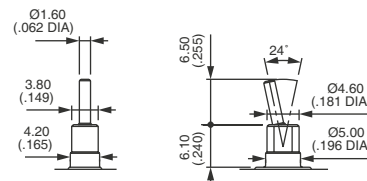
CASE	Blue	Black
LEVER		
Nickel plated	02	52
Black	03	53

MEDIUM



CASE	Blue	Black
LEVER		
Nickel plated	04	54
Black	05	55

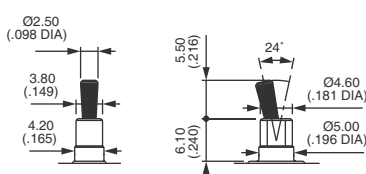
CYLINDRICAL



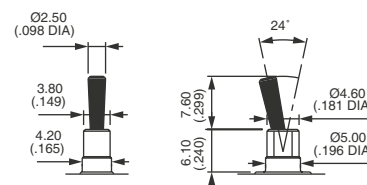
CASE	Blue	Black
LEVER		
Nickel plated	-	56

INSULATED LEVERS

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



CASE	Blue	Black
LEVER		
Black	40	94



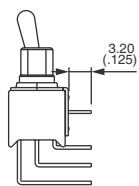
CASE	Blue	Black
LEVER		
Black	30	90

TL series

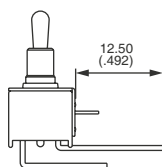
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SPECIAL OPTIONS

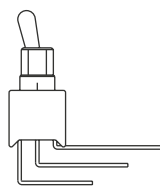
- BASIC P/N
- 00 No special requirement
 - 07 **Trimmed terminals** - length 3,2 mm (.125) for TL..WW models only
 - 08 **Extended terminals** for TL..W0 models only
 - 18 **Switch without ground plate** for TL..WW models only
 - 20 **Ground plate with 2 pins** for TL..WW models only
 - 25 **Trimmed terminals** - length 5 mm (.196) for all models, except TL..WW
 - 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.



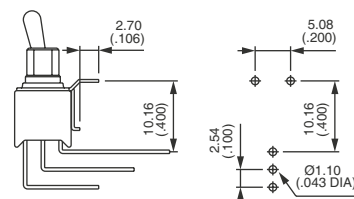
07



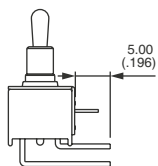
08



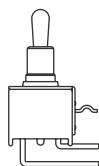
18



20



25



50

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Apem:

TL36P000200	TL37W000050	TL32W005000	TL32WW05000	TL36P019400	TL36W000000	TL36W005000
TL36W005200	TL36WW00000	TL36WW05000	TL37W000000	TL38W009000	TL39P000200	TL39P005000
TL39W005000	TL39WW00000	TL39WW05000	TL42P005000	TL42W005000	TL42WW05000	TL46P005000
TL46W005000	TL46W005200	TL49P000200	TL49P080400	TL49W000000	TL49W000250	TL49W005000
TL49WW05000	TL32W000000	TL32Y000000	TL37WW00000	TL37Y000000	TL38W000000	TL38Y000000
TL39Y000000	TL42W000000	TL42WW00000	TL46W000000	TL46WW00000	TL46Y000000	TL47WW00000
TL48WW00000	TL48Y000000	TL49Y000000	TL32P000000	TL32P005000	TL32W000050	TL32WW00050
TL32Y000050	TL36P000000	TL36P005000	TL36W000050	TL36W004050	TL36W019400	TL36WW00050
TL36Y000050	TL37MW05000	TL37P000000	TL37P005000	TL37WW00050	TL37Y000050	TL38P000000
TL38W000050	TL38W005050	TL38WW00050	TL39P000000	TL39W000000	TL39W000050	TL39W005050
TL39WW00050	TL39WW05050	TL39Y000050	TL39Y081650	TL42P000000	TL46MW00000	TL46P000000
TL46W000050	TL46WW00050	TL46Y000050	TL49P000000	TL49W000050	TL49Y000050	TL39W005018
TL36W005050	TL37WW05100	TL36WW05200	TL46P010000	TL46W015050	TL36W004000	TL47W000400
TL46WW05000	TL36Y000200	TL49P005000	TL46W000400	TL39W004000	TL36W000200	TL36Y004000
TL37W004050	TL46WW04000					