

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

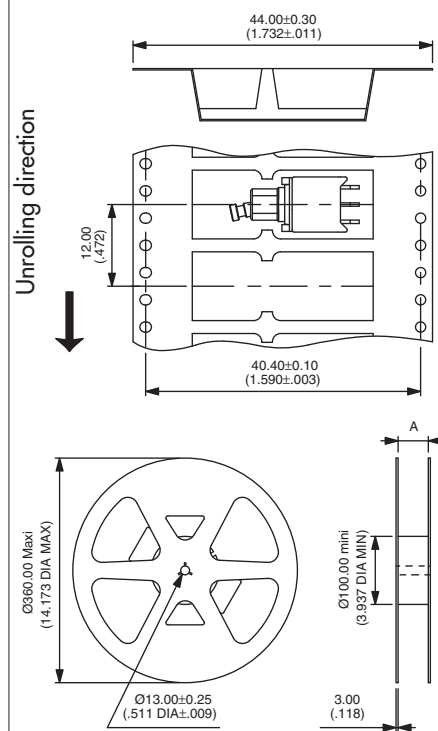
MATERIALS

- 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.

PACKAGING



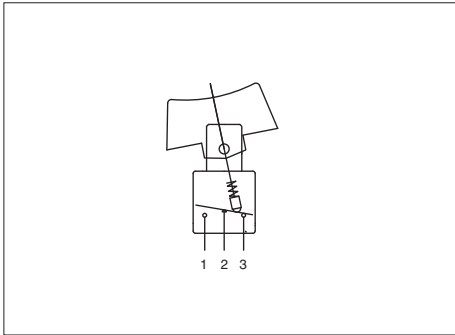
Tape width	24.00 (.944)	44.00 (1.732)
Reel (dimension A)	24.40+2.00/0.00 (.960+.078/.000)	44.40+2.00/0.00 (1.748+.078/.000)

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

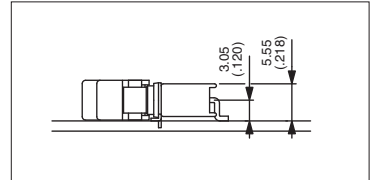
Dimensions : First dimensions are in mm while inches are shown as bracketted numbers.

SMT TR series

Surface mount tiny washable rocker switches



- With or without positioning pins
- Single pole

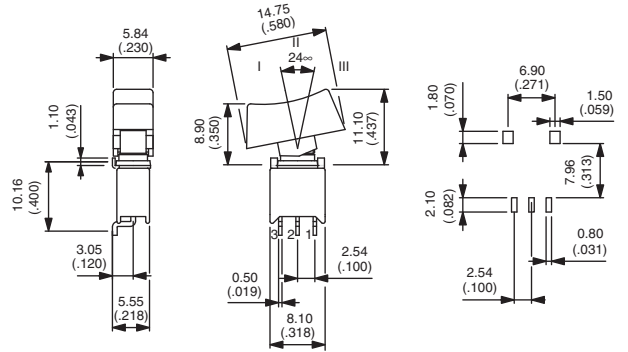


Without positioning pins



TR36WS80000
TR39WS80000
TR37WS80000
TR38WS80000
TR32WS80000

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



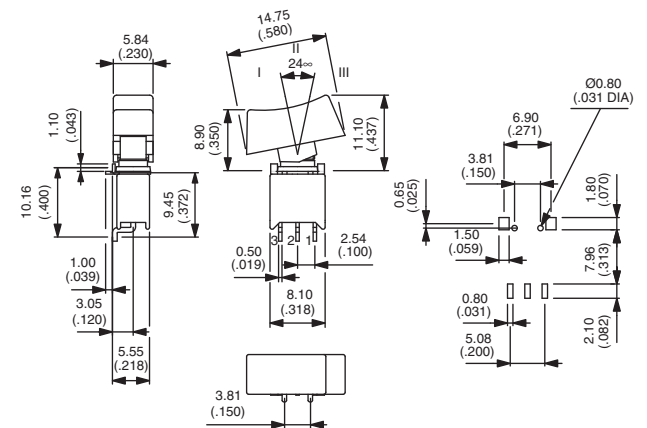
Supplied without rocker.

With positioning pins



TR36WS80065
TR39WS80065
TR37WS80065
TR38WS80065
TR32WS80065

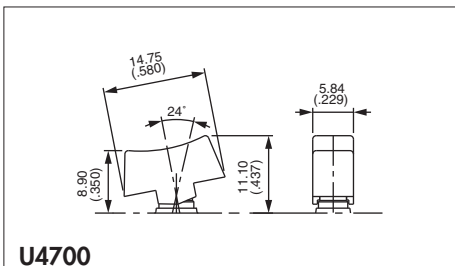
III	II	I
ON	-	ON
ON	OFF	ON
MOM	OFF	MOM
ON	OFF	MOM
ON	-	MOM



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

TR series

Tiny washable rocker switches

Distinctive features and specifications



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

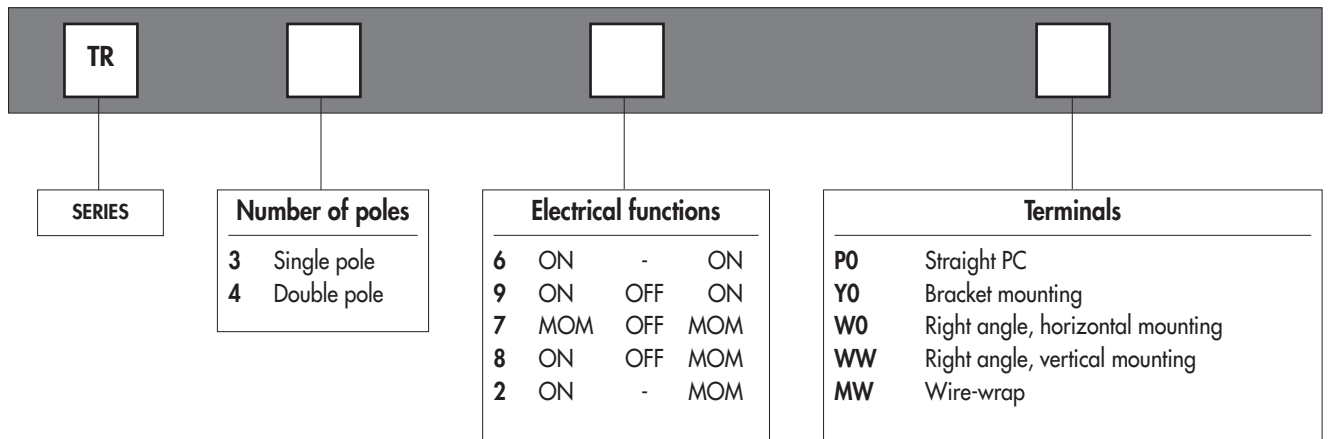
- Strength of terminals : pull-out force - 10N max.
- Operating temperature : -30°C to +85°C
- Moisture : 21 days 95 % (NFC 20-603 - IEC 68-2-3)
- Cleaning : solvents or water + detergent
- Wave soldering : 260°C - 5 sec.

TR series

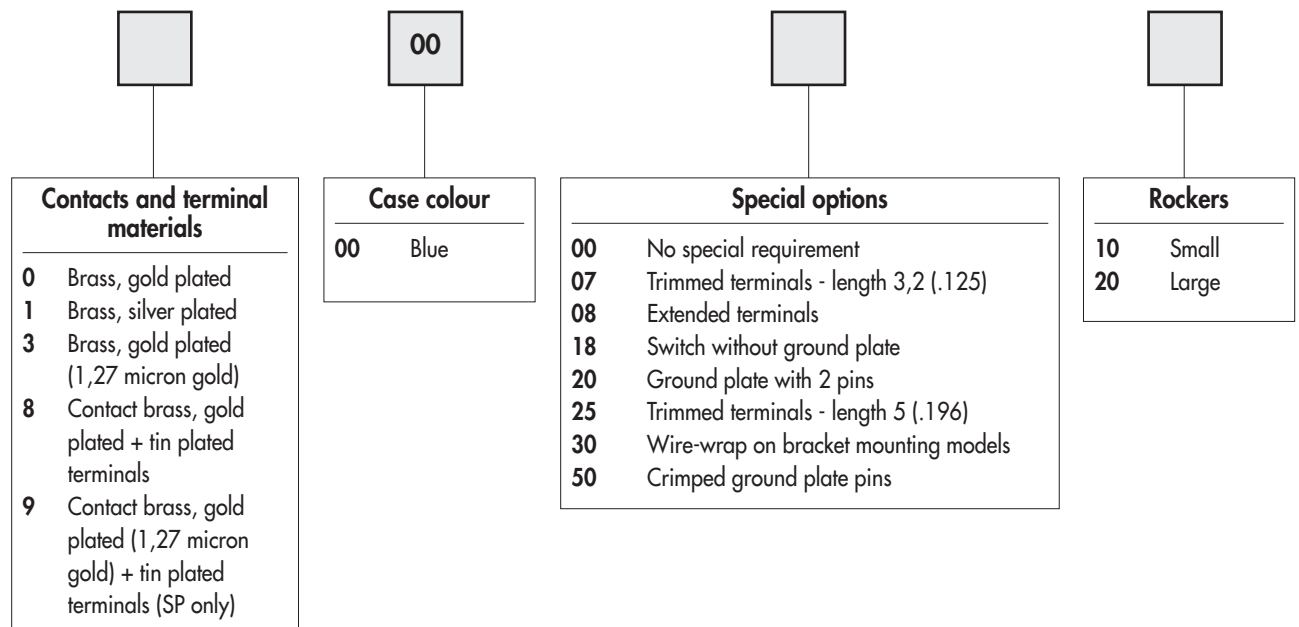
Tiny washable rocker switches

Overview

MODEL
STRUCTURE



OPTIONS



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.

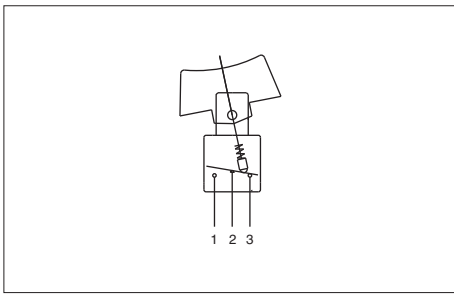


Packaging unit : 50 pieces.

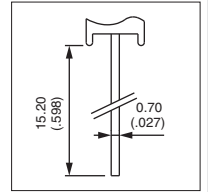
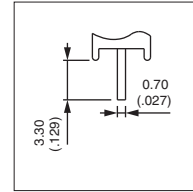


TR series

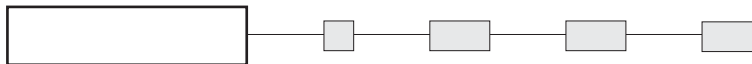
Tiny washable rocker switches



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



MODEL STRUCTURE



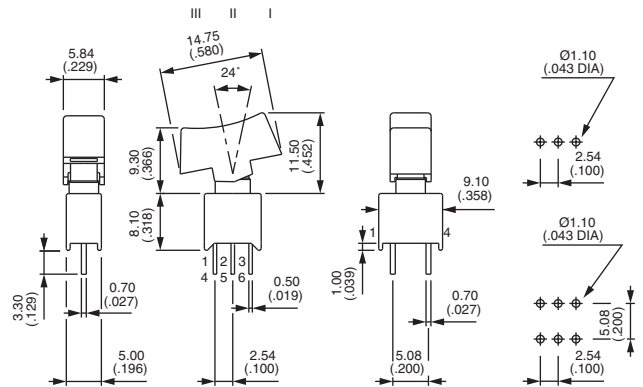
Shown with small rocker (code 10)

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

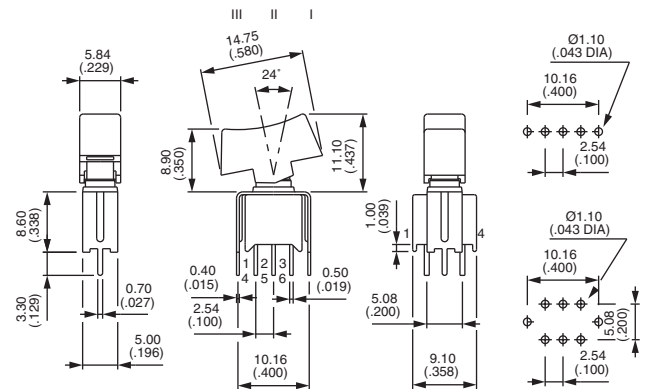


Straight terminals - bracket mounting : TR..YO



	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

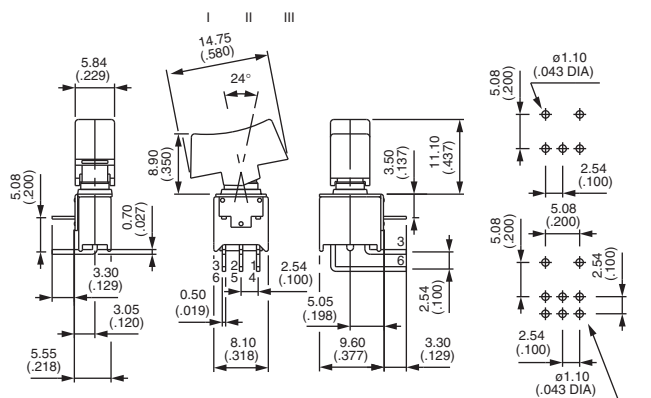


Right angle terminals - horizontal mounting : TR..WO



	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



TR series

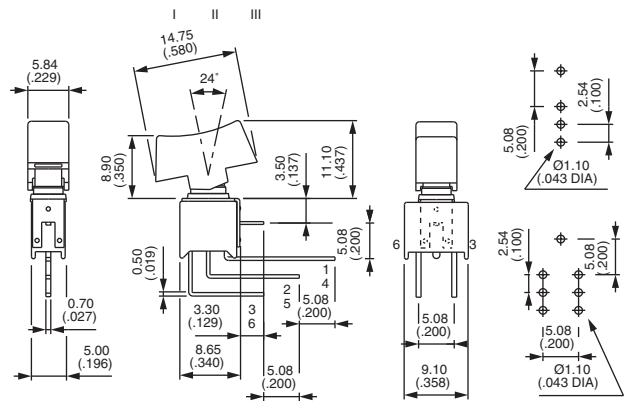
Tiny washable rocker switches

MODEL
STRUCTURE

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

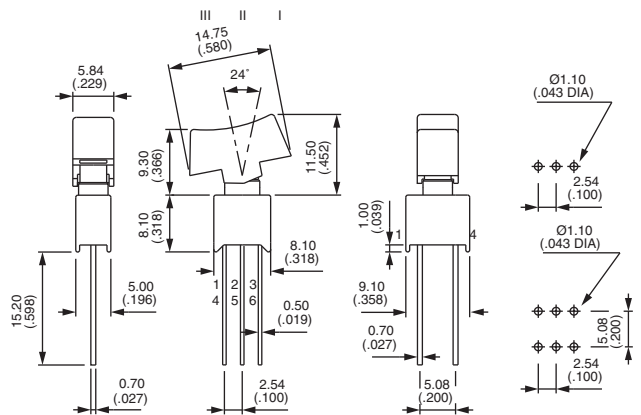


* Functions 2 and 8 : reversed connection available . Consult factory.

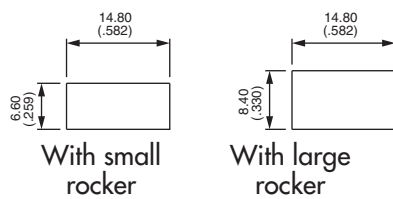
Wire-wrap terminals : TR..MW



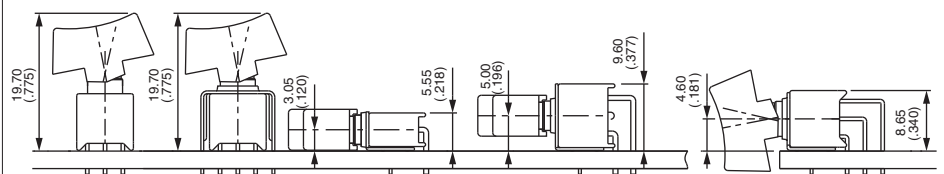
	Single pole	Double pole	III	II	I
TR36MW	ON	-	ON		
TR39MW	ON	OFF	ON		
TR37MW	MOM	OFF	MOM		
TR38MW	ON	OFF	MOM		
TR32MW	ON	-	MOM		
TR46MW				ON	
TR49MW				OFF	ON
TR47MW				MOM	MOM
TR48MW				ON	MOM
TR42MW				-	MOM



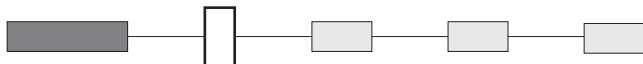
PANEL CUT-OUT



PCB MOUNTING

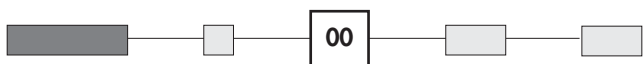


CONTACT AND TERMINAL MATERIALS



- 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



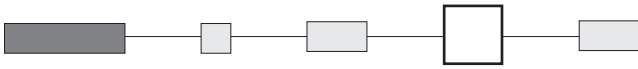
- 00 Blue



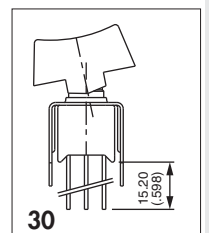
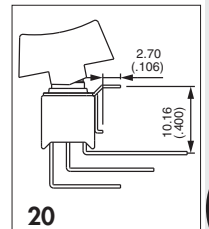
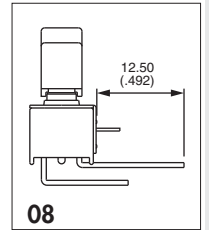
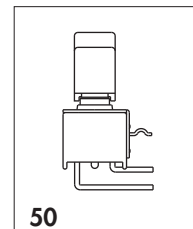
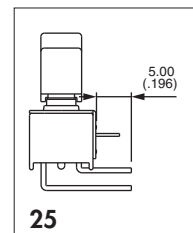
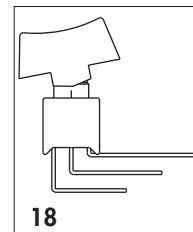
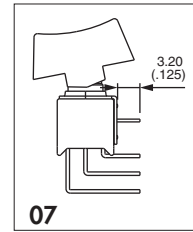
TR series

Tiny washable rocker switches

SPECIAL OPTIONS

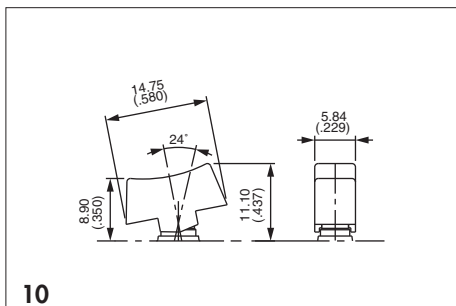
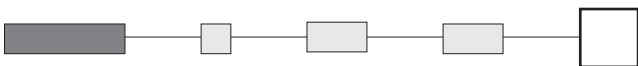


- 00 No special requirement
- 07 **Trimmed terminals** - length 3,2 mm (.125) for TR..WW models only
- 08 **Extended terminals** for TR..WO models only
- 18 Switch **without ground plate** for TR..WW models only
- 20 **Ground plate with 2 pins** for TR..WW models only
- 25 **Trimmed terminals** - length 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.

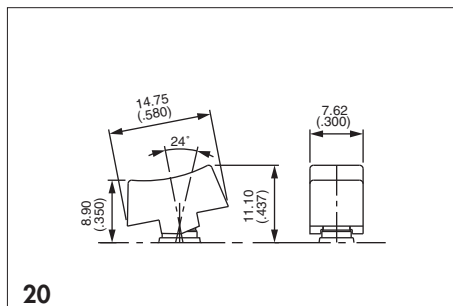


Marking on rocker : consult factory.

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