Type 51 Series

Key Features

- Choice of Shafts and Edgewheels
- SPST Switch Style
- Available in Distribution
- Automatic Machine Insertable Modules
- Eyelet or PC Terminations
- Linear and Non-Linear Laws
- Multi Gang Versions Available

The Type 51 Series from TE Connectivity offers a small, high quality potentiometer system. You can choose a standalone module or a conventional bush potentiometer with shaft. Advanced carbon polymer element technology potentiometers with or without switches are available to meet your every requirements.

Characteristics - Electrical

Resistance Range	**Linear Law:**	470 Ohm to 4.7 Megohm
	Log Law:	2.2K Ohm to 470K Ohm
Resistance Values:		1.0, 2.2, 4.7 per decade
Tolerance:		± 20% (tighter by selection)
Power Rating	**Linear Law:**	0.2 Watt @ 40°C
	Log Law:	0.1 Watt @ 40°C
Operating Voltage	**Linear Law:**	350 VAC or 500 VDC maximum
	Log Law:	P maximum x R nominal
Load Life:		ΔR< 10% after 1000 hours @ 70°C
Rotational Life:		√ΔR< 10% @ 15,000 cycles
CRV (Linear Law):		ΔR< 1%
Isolation Voltage:		500 V dc
Insulation Resistance:		> 100 Megohm

Characteristics - Mechanical

Angle of Rotation:	300° ± 2°
Rotational Torque:	10 mNm maximum
Stop Strength:	400 mNm maximum
Rotational Life:	25,000 cycles

Characteristics - Environmental

Storage Temperature:	- 40°C to 85°C
Operating Temperature:	- 25°C to 70°C
Humidity:	< 15% ΔR RH 75% @ 35°C
Temperature Coefficient:	± 500 PPM/°C @ -25 to 70°C
Climatic Category:	25/070/10

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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Characteristics - Switch

Load Life:	1000 Hours at 0.5 W
Contact Resistance:	< 20 milliohm initial
Rating:	3.5 Amp @ 14.4 VDC
Contact Configuration:	SPST Off @ CCW E
On/Off Torque:	30 mNm maximum
Operational Angle:	30° maximum
Electrical Rotation:	50° to 295°

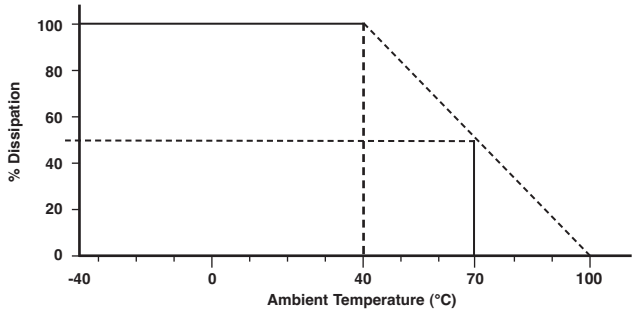
Soldering Condition

This product has been designed for flow solder only.
SOLDER BATH: 235°C +0°C/-5°C
IMMERSION TIME: 2 ±0.5 seconds
TEST CONDITIONS: IEC 391-1 clause 6.22.3
TEST METHOD: IEC 68-2

The Type 51 Series is designed for flow soldering only. If Hand Soldering is essential please take extreme care when applying solder.

Do not overheat the terminal by prolonged exposure to heat otherwise intermittent operation could result.

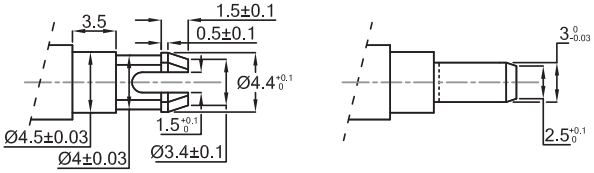
Derating Curve



Dissipation as a function of temperature.
Potentiometers covered by this specification are derated from 100% rated dissipation at 40°C to zero dissipation at 100°C.

Linear Law 100% - 0.2W
Non-Linear Law 100% - 0.1W

Snap-In Shafts and Edgewheels - For Standalone Modules



The diagram illustrates the snap-in part of a plastic actuator which can be used to rotate the Series 51 Standalone module.

Accessory Options - For Standalone Modules

At the date of publication the following mould tools exist for plug in accessories:

Shafts 60 mm long x 6 mm diameter	with knurl end and screwdriver slot colour black
Shafts 30 mm long x 6 mm diameter	with knurl end and screwdriver slot colour black
Shafts 20 mm long x 6 mm diameter	with knurl end and screwdriver slot colour black
Shafts 10 mm long x 6 mm diameter	with knurl end and screwdriver slot colour black
Edgewheel for horizontal modules 25mm diameter	colour black.

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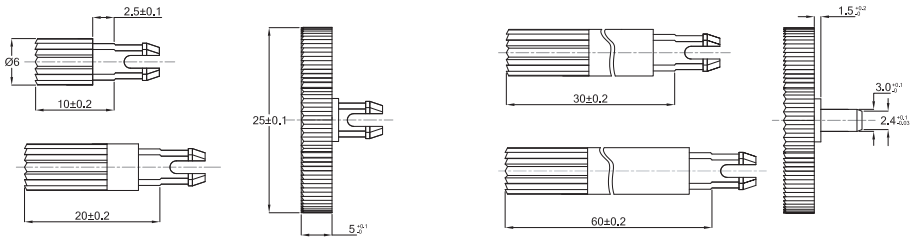
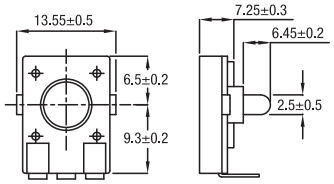
Type 51 Series

Thumbwheel Actuating Devices

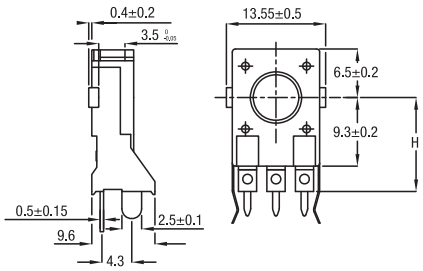


Dimensions - Single Module

Type 51 Horizontal

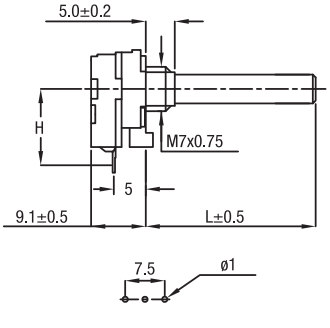


Type 53 Vertical

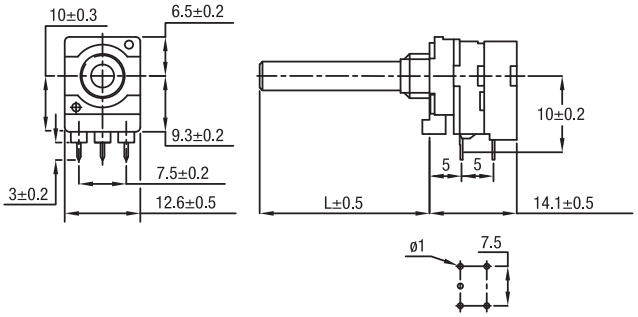


Dimensions - Potentiometer

Type 54 No Switch

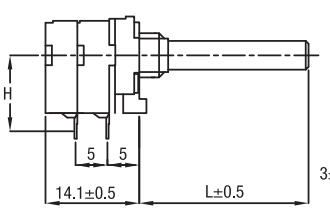


Type 56 with Switch

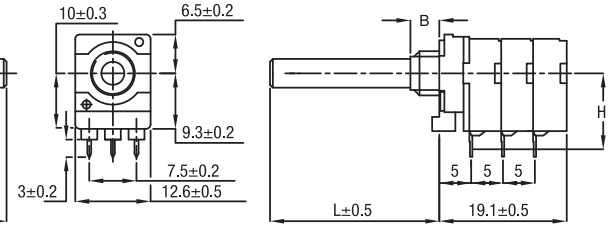


H - 10mm or 12.5mm to choice

Type 55 Dual Section



Type 61 Triple Section



H - 10mm or 12.5mm to choice

B - 5mm or 8mm

Type 61 has the same general dimensions as Type 55

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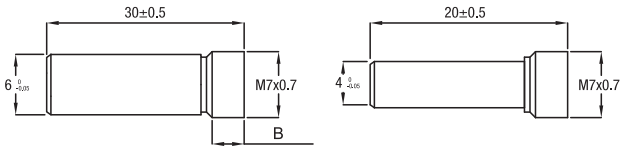
Spindle Options - Potentiometers with Bush

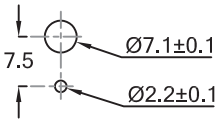


B - 5mm or 8mm

Panel Hole Data - Potentiometers with Bushes
Required Mounting Holes in Chassis

For Single and Dual Gang Potentiometers with Mounting Bush M7 x 0.75mm.

Fix Potentiometer with Mounting Nut Supplied.
Max. Torque for tightening - 1 Nm
Tickness of Mounting Plate - 1mm



How to Order

51	102	A	4	20	PL
Common Part	**Value**	**Resistance Law**	**Shaft Diameter**	**Shaft Length**	**Spindle Style**
51 53 54 55 56 61	The first two digits are significant figures of the resistance value and the third one denotes the number of zeros following. e.g. 4K7: 472 47K: 473 470K: 474	A - Linear B - Log C - Inverse Log	4 - 4mm 6 - 6 mm	20 - 20mm 30 - 30mm	PL - Plain FL - Flatted