



Features

- Carbon element
- Red, orange, green, amber and white LED colors
- Center detent option
- Assortment of resistance tapers
- Various travel lengths
- Various lever sizes



PTL Series Slide Potentiometer w/LED

Electrical Characteristics

Standard Resistance Range	1K ohms to 1 megohm
Standard Resistance Tolerance	±20 %
End Resistance	
20 mm Travel	 10 ohms max.
30 mm Travel	 20 ohms max.
45 mm Travel	 20 ohms max.
60 mm Travel	 30 ohms max.
100 mm Travel	 30 ohms max.
Insulation Resistance @ 250 VDC	 100 megohms min.
Dielectric Withstanding Voltage	300 VAC
Standard Taper	 Linear, Audio
Power Rating - Linear	
20 mm Travel	 0.05 watt
30 mm Travel	 0.1 watt
45 mm Travel	 0.125 watt
60 mm Travel	 0.2 watt
100 mm Travel	 0.2 watt
Power Rating - Audio	
20 mm Travel	 0.025 watt
30 mm Travel	 0.05 watt
45 mm Travel	 0.06 watt
60 mm Travel	 0.1 watt
100 mm Travel	 0.1 watt
Slider Noise	200 mV max.

Environmental Characteristics

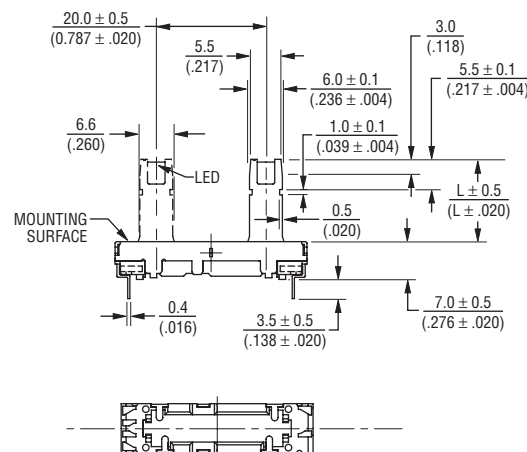
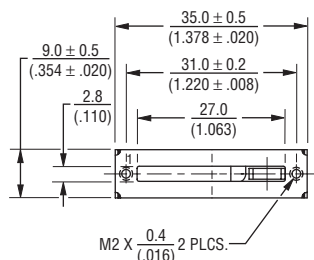
Operational Life	 15,000 cycles
TR Shift	±15 %
Operating Temperature Range	-10 °C to +55 °C
Resistance to Solder Heat	±5 %
Moisture Sensitivity Level	 1
ESD Classification (HBM)	 N/A

Mechanical Characteristics

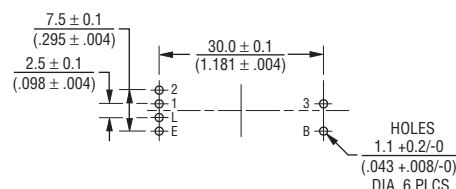
Mechanical Travel	 Length ±0.5 mm
Operating Force	30 gf to 250 gf
Center Detent Force	20 gf to 200 gf
Stop Strength	 5 kgf min.
Shaft Axial Force	 5 kgf min.
Shaft Wobble	2(2 x L/20) mm p-p max.
Soldering Condition	
Manual	300 °C ±5 °C for 3 sec.
Wave	260 °C ±5 °C for 5 sec.
Wash	 Not recommended

Product Dimensions

20 mm Length of Travel

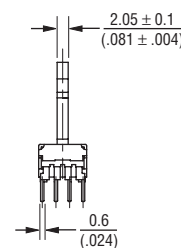


Mounting Hole Detail



Lever Length
10.0 (.394)
15.0 (.591)
19.0 (.748)

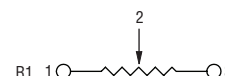
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$



Standard Resistance Table

Resistance (Ohms)	Resistance Code
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
50,000	503
100,000	104
200,000	204
500,000	504
1,000,000	105

Schematic



*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

Applications

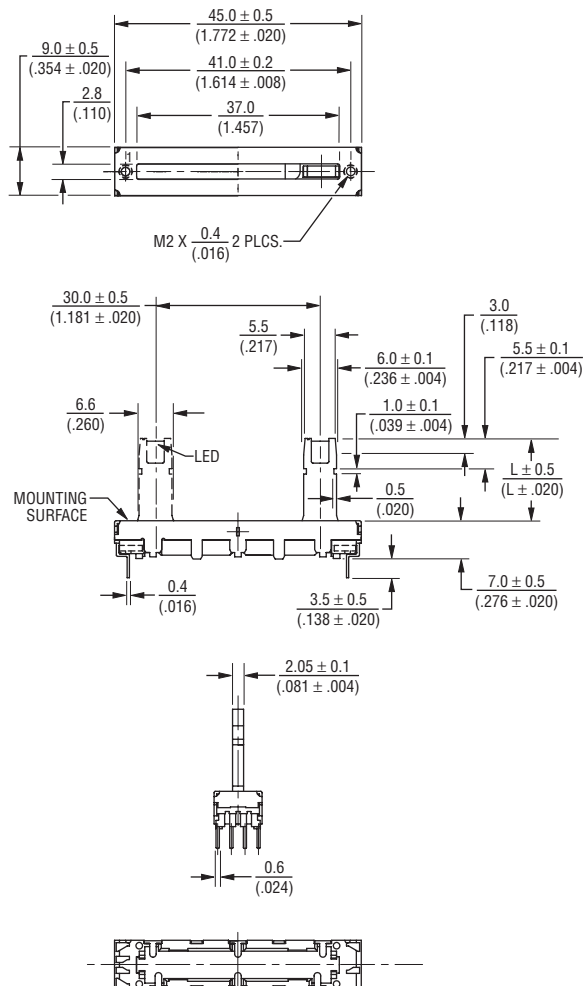
- Mixing consoles
- Drum machines
- Keyboards and synthesizers
- Equalizers

PTL Series Slide Potentiometer w/LED

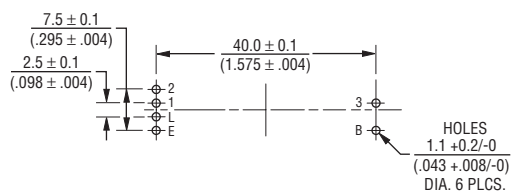
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Product Dimensions

30 mm Length of Travel

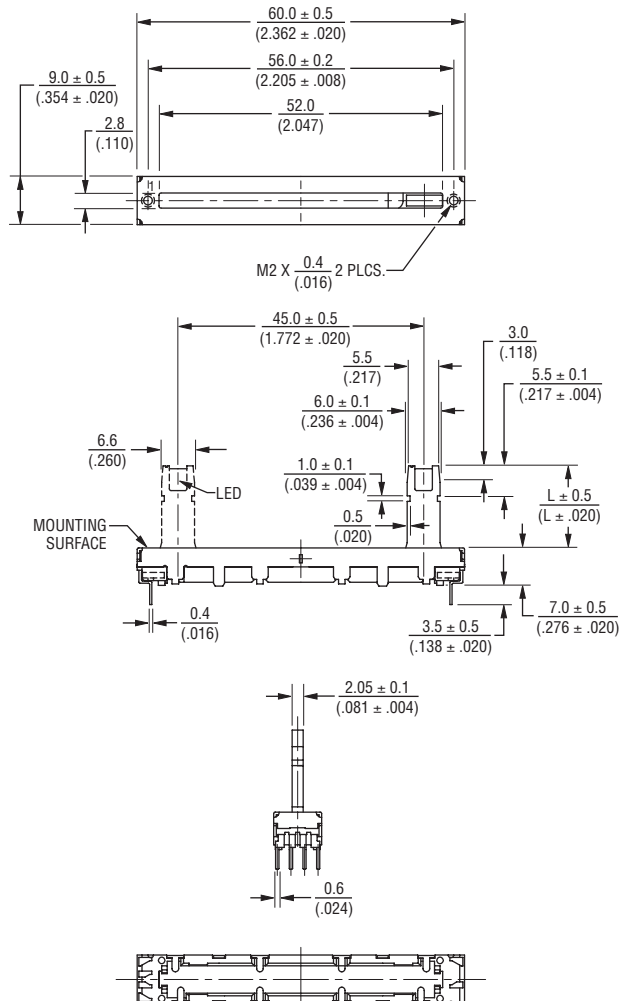


Mounting Hole Detail

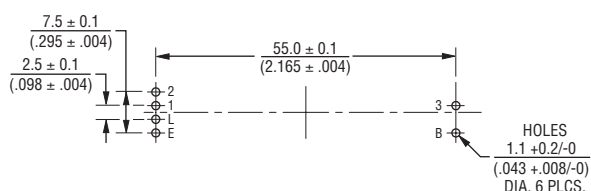


DIMENSIONS: $\frac{MM}{(INCHES)}$

45 mm Length of Travel



Mounting Hole Detail

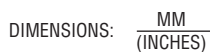


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60 mm Length of Travel



The technical drawing illustrates the dimensions for the LED strip light assembly across three views:

- Top View:** Shows the overall length and mounting hole placement. Key dimensions include:
 - Total length: 128.0 ± 0.5 (5.039 ± .020)
 - Distance between mounting holes: 120.0 ± 0.2 (4.724 ± .008)
 - Distance from end to first mounting hole: 107.6 (4.236)
 - Mounting hole diameter: 2.8 (.110)
 - End flange thickness: 9.3 ± 0.5 (.366 ± .020)
 - Thread specification: M3 X $\frac{0.5}{(.020)}$ 2 PLCS.
- Side View:** Details the profile height and internal component spacing. Key dimensions include:
 - Overall height: 100.0 ± 0.5 (3.937 ± .020)
 - LED chip pitch: 6.6 (.260)
 - LED chip width: 5.5 (.217)
 - Chip-to-chip gap: 6.0 ± 0.1 (.236 ± .004)
 - Substrate thickness: 1.0 ± 0.1 (.039 ± .004)
 - Chip height: 0.5 (.020)
 - Mounting tab height: 3.0 (.118)
 - Tab width: 5.5 ± 0.1 (.217 ± .004)
 - Tab thickness: $L \pm 0.5$ (L ± .020)
 - Mounting surface offset: 0.4 (.016)
 - Internal cavity depth: 3.5 ± 0.5 (.138 ± .020)
 - Bottom flange height: 7.0 ± 0.5 (.276 ± .020)
 - Bottom flange width: 2.05 ± 0.1 (.081 ± .004)
- End View:** Shows the cross-section of the mounting tabs and their alignment.

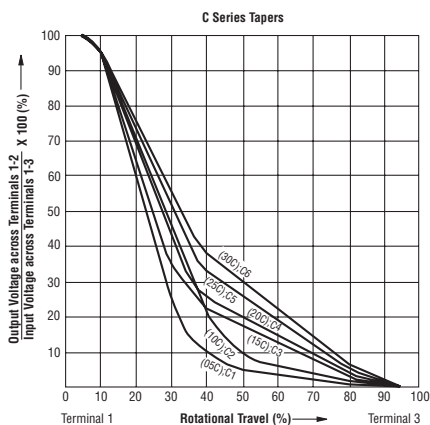
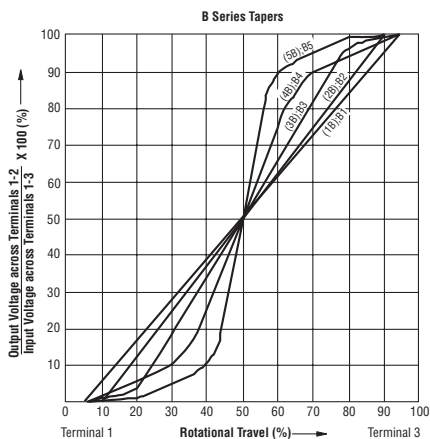
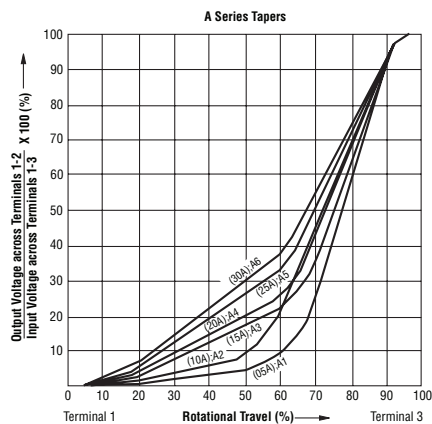
Figure 1 is a dimensioned drawing of a shaft with three holes. The shaft has a diameter of 2.5 ± 0.1 inches. The first hole is 7.5 ± 0.1 inches from the left end, with a diameter of 2.0 ± 0.2 inches. The second hole is 123.0 ± 0.1 inches from the first hole, with a diameter of 1.1 ± 0.2 inches. The third hole is 96.3 ± 0.3 inches from the second hole, with a diameter of 1.1 ± 0.2 inches. The shaft is labeled with "HOLES" and "DIA. 2 PLCS." for the first two holes, and "HOLES" and "DIA. 6 PLCS." for the third hole. The shaft is also labeled with "2" and "3" for the first and third holes, and "1" for the second hole. The shaft is shown with a cross-section at the right end, labeled "X".

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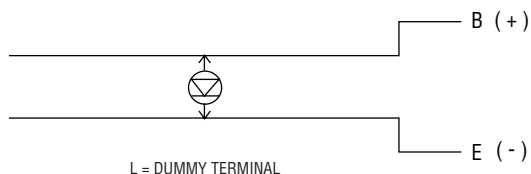
PTL Series Slide Potentiometer w/LED

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Tapers



Circuit



How To Order

PTL 30 - 10 R 0 - 103 B2

Model Number

Designator
PTL = Slide
Potentiometer
w/LED

Length of Travel

20 = 20 mm 45 = 45 mm 01 = 100 mm
30 = 30 mm 60 = 60 mm

Lever Length

10 = 10 mm
15 = 15 mm
19 = 19 mm

LED Color

R = Red A = Amber
O = Orange W = White
G = Green

Detent Option

0 = No Detent
1 = Center Detent

Resistance Code

(See Standard Resistance Table)

Resistance Taper (See Taper Charts)

Taper Series followed by Curve Number

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PTL Series Slide Potentiometer w/LED

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LED Characteristics

Emitter Color	Item	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Red	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		1.8	2.0	V
	Luminous Intensity	I_V		12	20		mcd
	Peak Emission Wavelength	λ_p			660		nm
	Dominant Wavelength	λ_d			643		nm
	Spectral Line Half Width	$\Delta\lambda$			20		nm
Orange	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		2.0	2.7	V
	Luminous Intensity	I_V		9	15		mcd
	Peak Emission Wavelength	λ_p			610		nm
	Dominant Wavelength	λ_d			605		nm
	Spectral Line Half Width	$\Delta\lambda$			35		nm
Green	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		3.3	4.0	V
	Luminous Intensity	I_V		105	175		mcd
	Peak Emission Wavelength	λ_p			530		nm
	Dominant Wavelength	λ_d			35		nm
	Spectral Line Half Width	$\Delta\lambda$			160		nm
Amber	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		2.1	2.6	V
	Luminous Intensity	I_V			5.0		mcd
	Peak Emission Wavelength	λ_p			585		nm
	Dominant Wavelength	λ_d		582	—	595	nm
	Spectral Line Half Width	$\Delta\lambda$			35		nm
White	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		3.2	3.6	V
	Luminous Intensity	I_V			1000		mcd
	Peak Emission Wavelength	λ_p			—		nm
	Dominant Wavelength	λ_d		460	—	470	nm
	Spectral Line Half Width	$\Delta\lambda$			35		nm

REV. 05/18

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