



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... $\pm 20\%$
 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.
 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
 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
 Slider Noise 200 mV max.

Environmental Characteristics

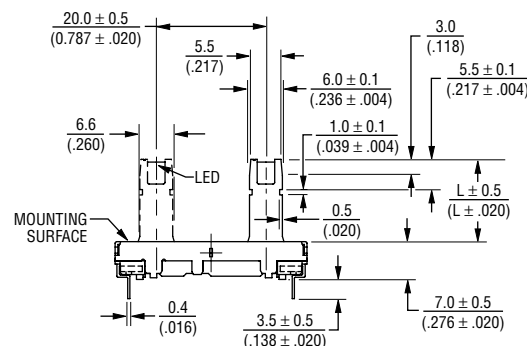
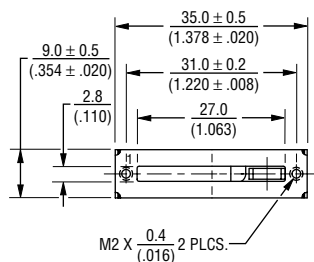
Operational Life 15,000 cycles
 TR Shift $\pm 15\%$
 Operating Temperature Range
 -10°C to $+55^\circ\text{C}$
 Resistance to Solder Heat..... $\pm 5\%$

Mechanical Characteristics

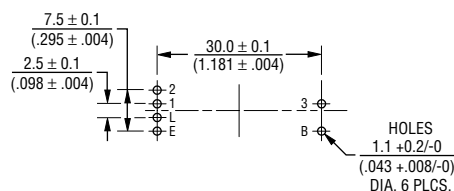
Mechanical Travel..... Length ± 0.5 mm
 Operating Force 30 gf to 250 gf
 Center Detent Force..... 20 gf to 200 gf
 Stop Strength 5 kgf min.
 Shaft Axial Force 5 kgf min.
 Shaft Wobble.. $2(2 \times L/20)$ mm p-p max.
 Soldering Condition
 Manual $300^\circ\text{C} \pm 5^\circ\text{C}$ for 3 sec.
 Wave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

Product Dimensions

20 mm Length of Travel

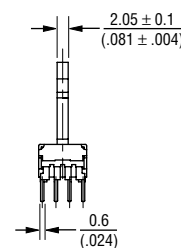


Mounting Hole Detail



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

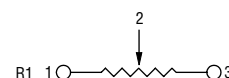
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$



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



Applications

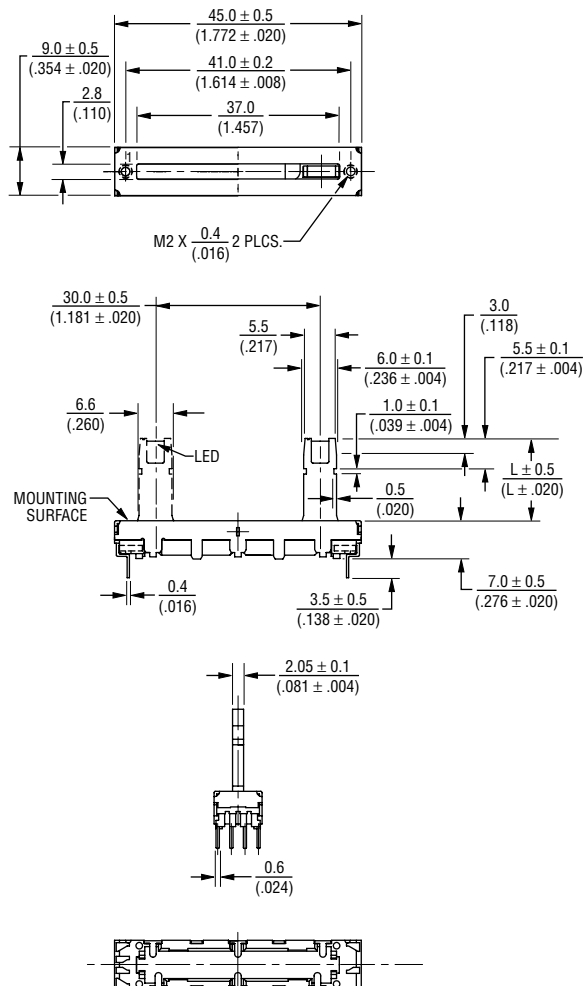
- Mixing consoles
- Drum machines
- Keyboards and synthesizers
- Equalizers

PTL Series Slide Potentiometer w/LED

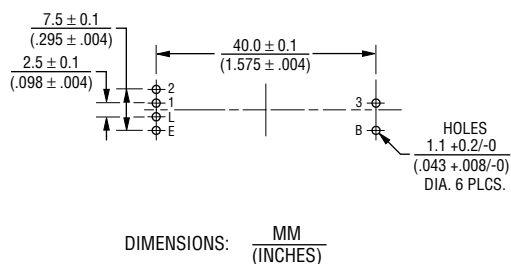
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Product Dimensions

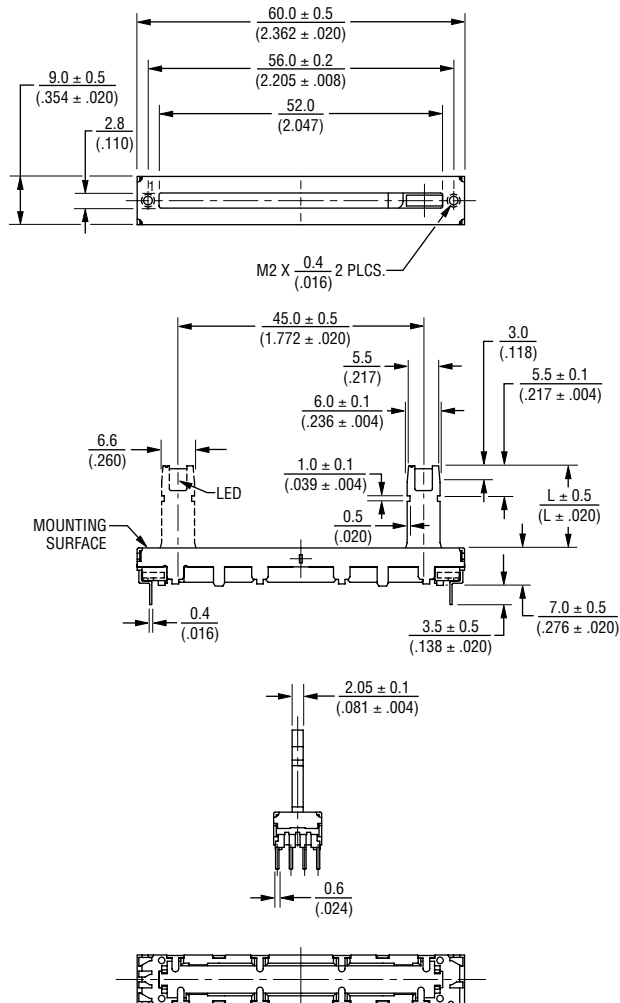
30 mm Length of Travel



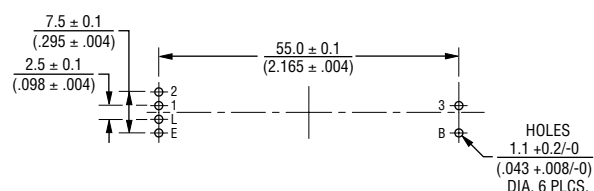
Mounting Hole Detail



45 mm Length of Travel



Mounting Hole Detail



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Tapers

Technical drawing of the LED module showing dimensions in millimeters (mm) and inches (in).

Top View Dimensions:

- Overall length: 75.0 ± 0.5 mm ($2.953 \pm .020$ in)
- Length to first LED: 9.0 ± 0.5 mm ($.354 \pm .020$ in)
- Length to last LED: 71.0 ± 0.2 mm ($2.795 \pm .008$ in)
- Distance between LEDs: 67.0 mm (2.638 in)
- Mounting tab width: 2.8 mm ($.110$ in)
- Mounting hole diameter: $M2 \times \frac{0.4}{(.016)}$ 2 PLCS.

Side View Dimensions:

- Overall height: 6.6 mm ($.260$ in)
- LED height: 5.5 mm ($.217$ in)
- LED to mounting surface distance: 6.0 ± 0.1 mm ($.236 \pm .004$ in)
- Mounting surface to LED distance: 1.0 ± 0.1 mm ($.039 \pm .004$ in)
- Mounting surface to LED distance (alternative): 0.5 mm ($.020$ in)
- LED to mounting surface distance (alternative): 3.5 ± 0.5 mm ($.138 \pm .020$ in)
- LED to mounting surface distance (alternative): 7.0 ± 0.5 mm ($.276 \pm .020$ in)
- LED to mounting surface distance (alternative): $L \pm 0.5$ mm ($L \pm .020$ in)
- LED to mounting surface distance (alternative): 5.5 ± 0.1 mm ($.217 \pm .004$ in)
- LED to mounting surface distance (alternative): 3.0 mm ($.118$ in)
- LED to mounting surface distance (alternative): 2.05 ± 0.1 mm ($.081 \pm .004$ in)
- LED to mounting surface distance (alternative): 0.6 mm ($.024$ in)

Detail View Dimensions:

- LED to mounting surface distance: 0.4 mm ($.016$ in)

Technical drawing of a mechanical part showing dimensions and hole specifications.

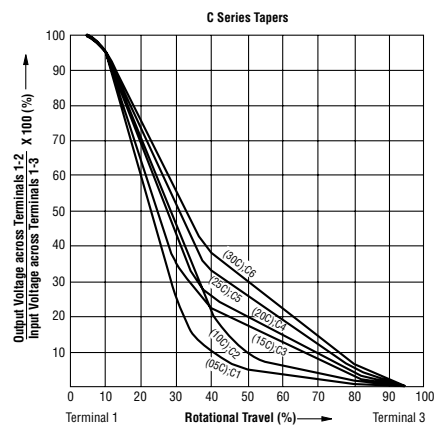
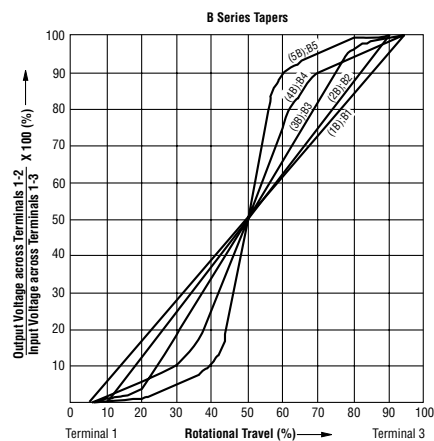
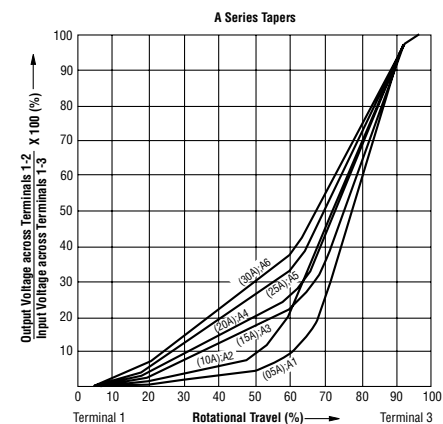
Dimensions:

- Top horizontal dimension: 7.5 ± 0.1 ($.295 \pm .004$)
- Left vertical dimension: 2.5 ± 0.1 ($.098 \pm .004$)
- Bottom horizontal dimension: 70.0 ± 0.1 ($2.756 \pm .004$)

Holes:

- Holes 1, 2, and E are located on the left side.
- Holes 3 and B are located on the right side.
- General hole specification: HOLES $1.1 \pm 0.2/-0$ ($.043 \pm .008/-0$) DIA. 6 PLCS.

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



Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

PTL Series Slide Potentiometer w/LED

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LED Characteristics

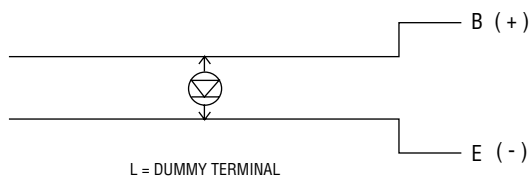
Emitter Color	Item	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Red	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		2.1	2.5	V
	Luminous Intensity	I_V		0.3	0.6		mcd
	Peak Emission Wavelength	λ_p			660		nm
	Dominant Wavelength	λ_d			643		nm
	Spectral Line Half Width	$\Delta\lambda$			20		nm
Orange	Forward Voltage	V_F	$I_F = 20 \text{ mA}$		2.2	2.5	V
	Luminous Intensity	I_V		1.5	3.0		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	$I_F = 20 \text{ mA}$		2.1	2.5	V
	Luminous Intensity	I_V		0.6	1.2		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	$I_F = 20 \text{ mA}$		3.5	4	V
	Luminous Intensity	I_V			300.0		mcd
	Peak Emission Wavelength	λ_p			520		nm
	Dominant Wavelength	λ_d		460	–	470	nm
	Spectral Line Half Width	$\Delta\lambda$			35		nm

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
 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

Circuit



REV. 09/11

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