



## 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.        |
| 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

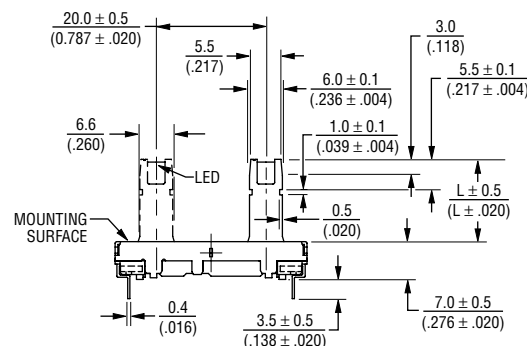
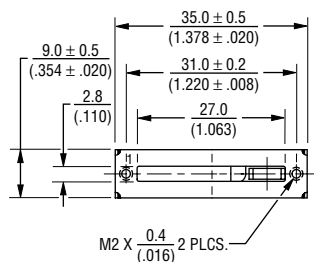
|                             |                        |
|-----------------------------|------------------------|
| Operational Life            | ..... 15,000 cycles    |
| TR Shift                    | ..... ±15 %            |
| Operating Temperature Range | ..... -10 °C to +55 °C |
| Resistance to Solder Heat   | ..... ±5 %             |

### Mechanical Characteristics

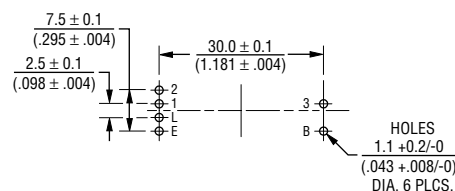
|                     |                               |
|---------------------|-------------------------------|
| Mechanical Travel   | ..... Length ±0.5 mm          |
| Operating Force     | ..... 30 gf to 250 gf         |
| Center Detent Force | ..... 20 gf to 200 gf         |
| Stop Strength       | ..... 5 kgf min.              |
| Shaft Axial Force   | ..... 5 kgf min.              |
| Shaft Wobble        | ..... 2(2 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

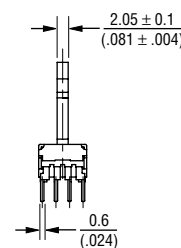


#### Mounting Hole Detail



| Lever Length   |
|----------------|
| 10.0<br>(.394) |
| 15.0<br>(.591) |
| 19.0<br>(.748) |

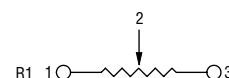
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$



### 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

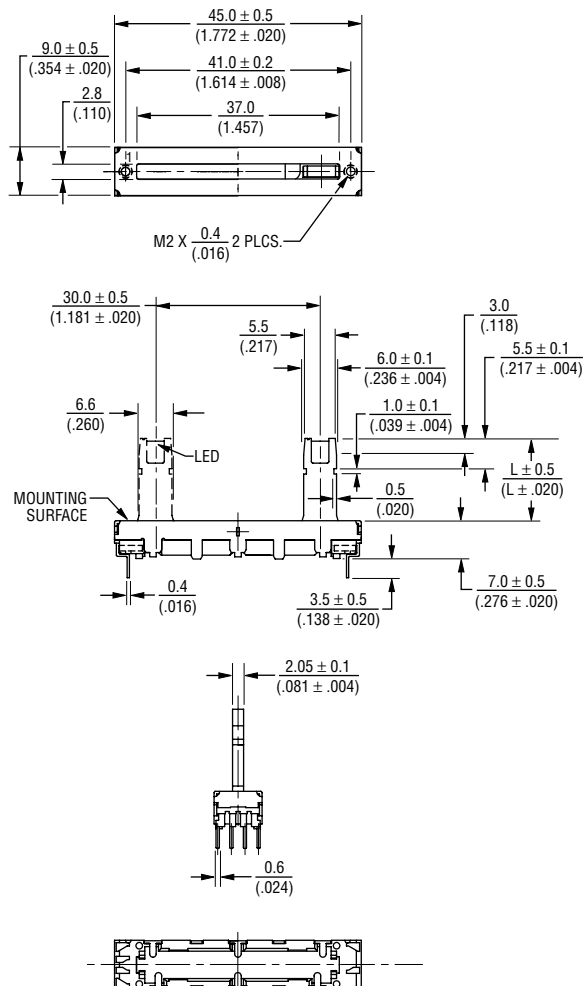
- Mixing consoles
- Drum machines
- Keyboards and synthesizers
- Equalizers

# PTL Series Slide Potentiometer w/LED

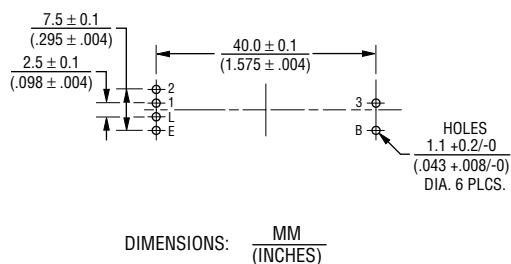
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## Product Dimensions

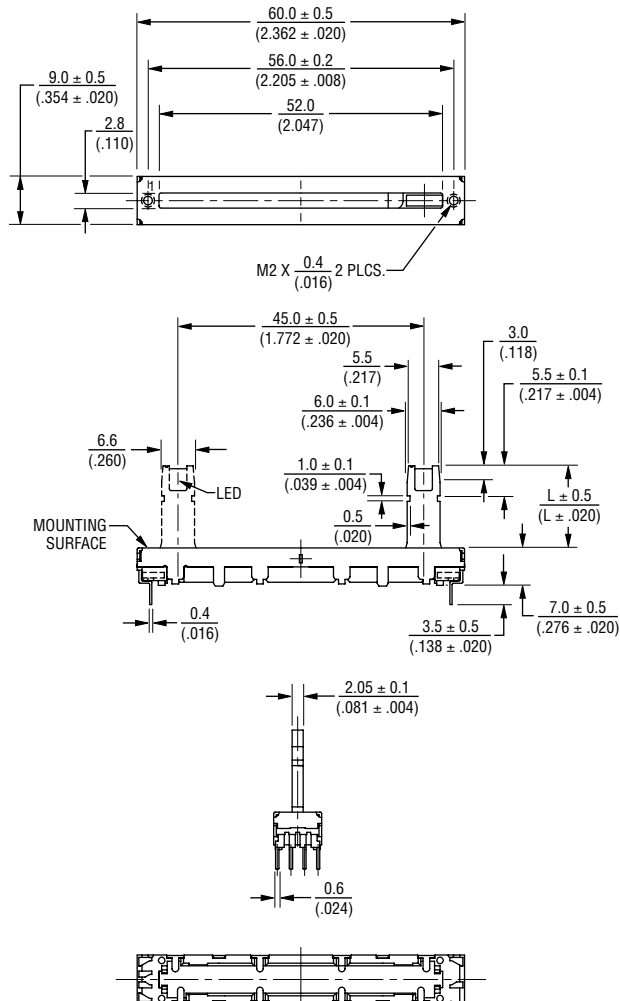
### 30 mm Length of Travel



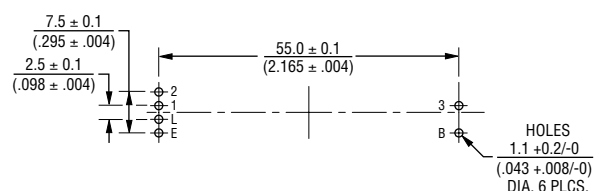
### Mounting Hole Detail



### 45 mm Length of Travel



### Mounting Hole Detail



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

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## Tapers

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

**Top View Dimensions:**

- Overall length:  $75.0 \pm 0.5$  (2.953  $\pm$  .020)
- Length to first LED:  $71.0 \pm 0.2$  (2.795  $\pm$  .008)
- Length to last LED:  $67.0$  (2.638)
- Distance from mounting surface to first LED:  $9.0 \pm 0.5$  (.354  $\pm$  .020)
- Distance from mounting surface to last LED:  $2.8$  (.110)
- Mounting holes: M2 X  $\frac{.04}{(.016)}$  2 PLCS.

**Side View Dimensions:**

- Overall height:  $60.0 \pm 0.5$  (2.362  $\pm$  .020)
- LED height:  $6.6$  (.260)
- LED width:  $5.5$  (.217)
- LED mounting pad width:  $6.0 \pm 0.1$  (.236  $\pm$  .004)
- LED mounting pad height:  $1.0 \pm 0.1$  (.039  $\pm$  .004)
- LED mounting pad thickness:  $0.5$  (.020)
- LED mounting pad diameter:  $3.0$  (.118)
- LED mounting pad height:  $5.5 \pm 0.1$  (.217  $\pm$  .004)
- LED mounting pad diameter:  $L \pm 0.5$  (L  $\pm$  .020)
- LED mounting pad height:  $7.0 \pm 0.5$  (.276  $\pm$  .020)
- LED mounting pad diameter:  $3.5 \pm 0.5$  (.138  $\pm$  .020)
- LED mounting pad height:  $0.4$  (.016)

**Detail View Dimensions:**

- LED mounting pad height:  $2.05 \pm 0.1$  (.081  $\pm$  .004)
- LED mounting pad diameter:  $0.6$  (.024)

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

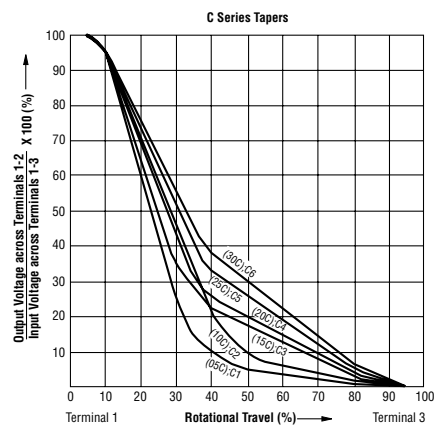
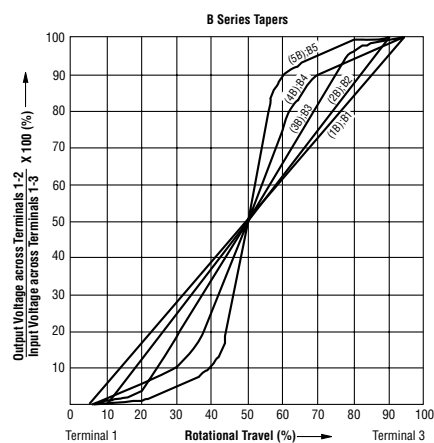
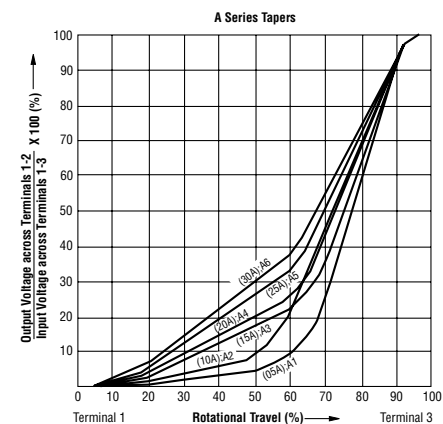
Dimensions:

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

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



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# PTL Series Slide Potentiometer w/LED

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## LED Characteristics

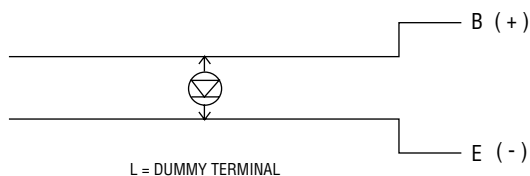
| Emitter Color | Item                     | Symbol          | Test Conditions       | Min. | Typ.  | Max. | Unit |
|---------------|--------------------------|-----------------|-----------------------|------|-------|------|------|
| Red           | Forward Voltage          | $V_F$           | $I_F = 20 \text{ mA}$ |      | 2.1   | 2.5  | V    |
|               | Luminous Intensity       | $I_V$           |                       | 0.3  | 0.6   |      | mcd  |
|               | Peak Emission Wavelength | $\lambda_p$     |                       |      | 660   |      | nm   |
|               | Dominant Wavelength      | $\lambda_d$     |                       |      | 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 | $\lambda_p$     |                       |      | 610   |      | nm   |
|               | Dominant Wavelength      | $\lambda_d$     |                       |      | 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 | $\lambda_p$     |                       |      | 530   |      | nm   |
|               | Dominant Wavelength      | $\lambda_d$     |                       |      | 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 | $\lambda_p$     |                       |      | 585   |      | nm   |
|               | Dominant Wavelength      | $\lambda_d$     |                       | 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 | $\lambda_p$     |                       |      | 520   |      | nm   |
|               | Dominant Wavelength      | $\lambda_d$     |                       | 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

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

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