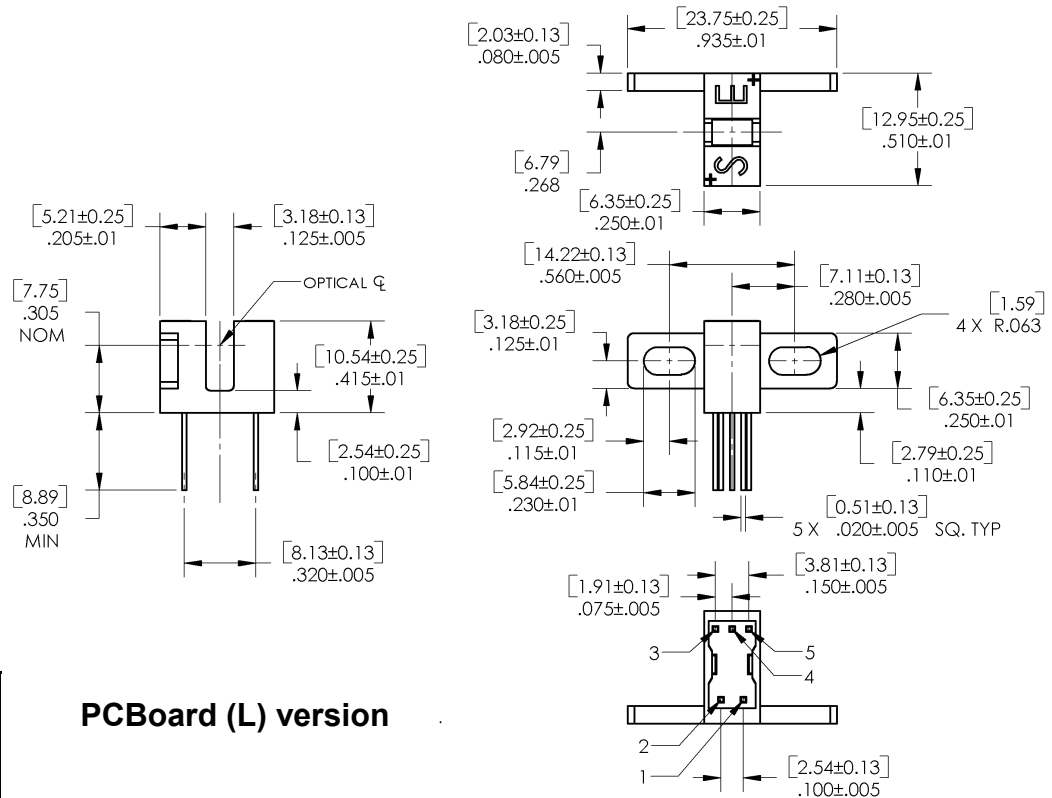


# Photologic® Slotted Optical Switch

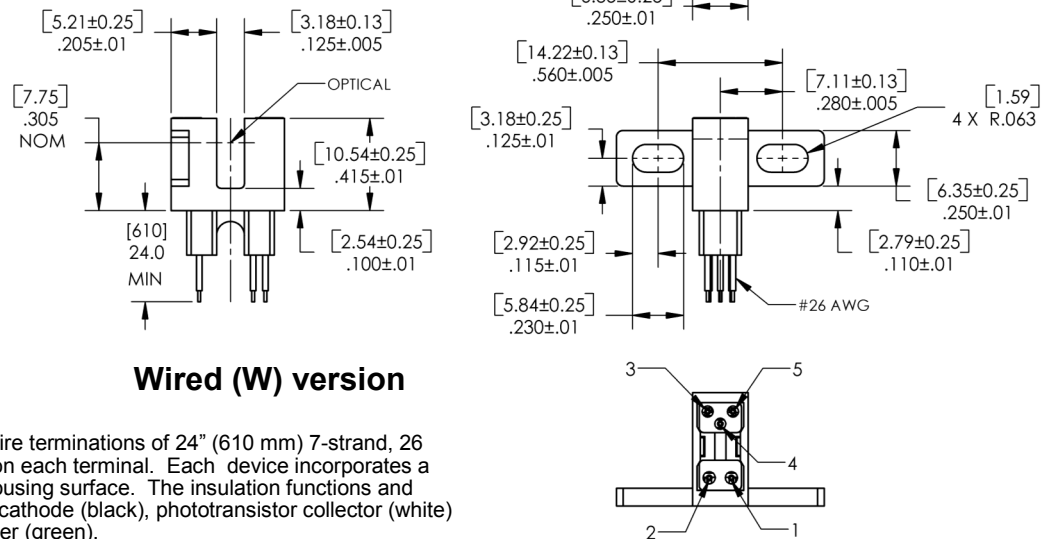
## OPB930 and OPB940 (L and W Series)



**PCBoard (L) version**

| Color- Pin # | Description     |
|--------------|-----------------|
| Red—1        | Anode           |
| Black—2      | Cathode         |
| White—3      | V <sub>CC</sub> |
| Blue—4       | Output          |
| Green—5      | Ground          |

DIMENSIONS ARE IN: [ MILLIMETERS ]  
[ INCHES ]



**Wired (W) version**

The W Series includes wire terminations of 24" (610 mm) 7-strand, 26 AWG UL insulated wire on each terminal. Each device incorporates a wire strain relief at the housing surface. The insulation functions and colors are: anode (red), cathode (black), phototransistor collector (white) and phototransistor emitter (green).

General Note  
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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# Photologic® Slotted Optical Switch

## OPB930 and OPB940 (L and W Series)



| Electrical Characteristics (T <sub>A</sub> = 25° C unless otherwise noted) |  |      |     |      |       |   |
|--|--|------|-----|------|-------|---|
| SYMBOL   | PARAMETER  | MIN  | TYP | MAX  | UNITS | TEST CONDITIONS   |
| <b>Input Diode</b>   |  |      |     |      |       |   |
| V <sub>F</sub>   | Forward Voltage  | -    | -   | 1.7  | V     | I <sub>F</sub> = 20 mA  |
| I <sub>R</sub>   | Reverse Current  | -    | -   | 100  | μA    | V <sub>R</sub> = 2.0 V  |
| <b>Output Photologic® Sensor</b>   |  |      |     |      |       |   |
| V <sub>CC</sub>  | Operating D.C. Supply Voltage                                | 4.75 | -   | 5.25 | V     | -   |
| I <sub>CCL</sub>   | Low Level Supply Current:<br>Totem Pole & Open-Collector     | -    | -   | 15   | mA    | V <sub>CC</sub> = 5.25, I <sub>F</sub> = 0 mA <sup>(1)</sup>                            |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | -    | -   | 15   | mA    | V <sub>CC</sub> = 5.25, I <sub>F</sub> = 15 mA  |
| I <sub>CCH</sub>   | High Level Supply Current:<br>Totem Pole & Open-Collector    | -    | -   | 15   | mA    | V <sub>CC</sub> = 5.25, I <sub>F</sub> = 15 mA  |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | -    | -   | 15   | mA    | V <sub>CC</sub> = 5.25, I <sub>F</sub> = 0 mA <sup>(1)</sup>                            |
| V <sub>OL</sub>  | Low Level Output Voltage:<br>Totem Pole & Open-Collector     | -    | -   | 0.4  | V     | V <sub>CC</sub> = 4.75, I <sub>OL</sub> = 12.8 mA, I <sub>F</sub> = 0 mA <sup>(1)</sup> |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | -    | -   | 0.4  | V     | V <sub>CC</sub> = 4.75, I <sub>OL</sub> = 12.8 mA, I <sub>F</sub> = 15 mA               |
| V <sub>OH</sub>  | High Level Output Voltage:<br>Totem-Pole & Open-Collector    | 2.4  | -   | -    | V     | V <sub>CC</sub> = 4.75, I <sub>OH</sub> = -800 μA, I <sub>F</sub> = 15 mA               |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | 2.4  | -   | -    | V     | V <sub>CC</sub> = 4.75, I <sub>OH</sub> = -800 μA, I <sub>F</sub> = 0 mA <sup>(1)</sup> |
| I <sub>OH</sub>  | High Level Output Current:<br>Totem Pole & Open-Collector    | -    | -   | 100  | μA    | V <sub>CC</sub> = 4.75, V <sub>OH</sub> = 30 V, I <sub>F</sub> = 15 mA,                 |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | -    | -   | 100  | μA    | V <sub>CC</sub> = 4.75, V <sub>OH</sub> = 30 V, I <sub>F</sub> = 0 mA <sup>(1)</sup>    |
| I <sub>F</sub> (+)   | LED Positive-Going Threshold Current                         | -    | -   | 15   | mA    | V <sub>CC</sub> = 5.0 V   |
| I <sub>F</sub> (+), I <sub>F</sub> (-)                                     | Hysteresis   | -    | 2.0 | -    | V     | V <sub>CC</sub> = 5.0 V   |
| I <sub>OS</sub>  | Short Circuit Output Current:<br>Totem Pole & Open-Collector | -15  | -   | -60  | mA    | V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 15 mA, Output = GND                          |
|  | Inverted Totem-Pole &<br>Inverted Open-Collector             | -15  | -   | -60  | mA    | V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 0 mA <sup>(1)</sup> , Output = GND           |

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