

PS Series Fork Sensors

Fork Sensor U-frame - Laser



- Rugged metal one-piece housing - always in alignment
- Easy installation
- Class 1 laser to detect small objects
- Glass optics
- High resolution
- Light / Dark operation selectable

- Adjustable sensitivity
- High switching frequency
- M8 connector with 360° LED
- Some units designed specifically for transparent objects



| PS Series Fork Sensor U-frame Selection Chart - Laser Class 1 | | | | | | | |
|---|----------|-----------------|-----------------------------|-------|--------------|-----------|------------|
| Part Number | Price | Sensing Range | Output State | Logic | Connection | Wiring | Dimensions |
| PSUL-0P-4F | \$137.00 | 30mm (1.18 in) | Light On/Dark On Selectable | PNP | M8 connector | Diagram 2 | Figure 1 |
| PSUL-0N-4F | \$137.00 | 30mm (1.18 in) | Light On/Dark On Selectable | NPN | M8 connector | Diagram 1 | Figure 1 |
| PSUL-0P-5F | \$137.00 | 50mm (1.97 in) | Light On/Dark On Selectable | PNP | M8 connector | Diagram 2 | Figure 2 |
| PSUL-0N-5F | \$137.00 | 50mm (1.97 in) | Light On/Dark On Selectable | NPN | M8 connector | Diagram 1 | Figure 2 |
| PSUL-0P-6F | \$158.00 | 80mm (3.15 in) | Light On/Dark On Selectable | PNP | M8 connector | Diagram 2 | Figure 3 |
| PSUL-0N-6F | \$158.00 | 80mm (3.15 in) | Light On/Dark On Selectable | NPN | M8 connector | Diagram 1 | Figure 3 |
| PSUL-0P-7F | \$158.00 | 120mm (4.72 in) | Light On/Dark On Selectable | PNP | M8 connector | Diagram 2 | Figure 4 |
| PSUL-0N-7F | \$158.00 | 120mm (4.72 in) | Light On/Dark On Selectable | NPN | M8 connector | Diagram 1 | Figure 4 |

Fork Sensor - Laser for Transparent Objects

| PS Series Fork Sensor U-frame Selection Chart - Laser Class 1 for Transparent Objects | | | | | | | |
|---|----------|----------------|-----------------------------|-------|--------------|-----------|------------|
| Part Number | Price | Sensing Range | Output State | Logic | Connection | Wiring | Dimensions |
| PSTL-0P-6F | \$163.00 | 80mm (3.15 in) | Light On/Dark On Selectable | PNP | M8 connector | Diagram 2 | Figure 3 |
| PSTL-0N-6F | \$163.00 | 80mm (3.15 in) | Light On/Dark On Selectable | NPN | M8 connector | Diagram 1 | Figure 3 |

Wiring diagrams

Diagram 1

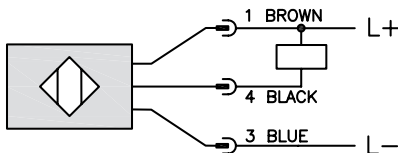
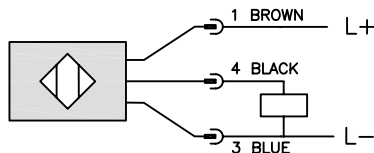
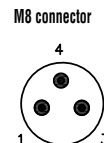


Diagram 2



Connectors



NOTE: CLASS 2 POWER SUPPLY REQUIRED

PS Series Fork Sensors

| Specifications | | |
|--|--|---|
| | Laser | Laser for Transparent Objects |
| Mounting Type | Slot | Slot |
| Sensing Distance | 30mm (1.18 in) to 120mm (4.72 in) | 80mm (3.15 in) |
| Smallest Detectable Object | PSUL 4F 0.05 mm (0.002 in) PSUL 5F 0.08 mm (0.003 in) PSUL 6F 0.10 mm (0.004 in) PSUL 7F 0.15 mm (0.006 in) | 2 mm (0.8 in) thickness and at an angle of 30 degrees |
| Emission | Class 1 Laser (650nm)* | Class 1 Laser (650nm)* |
| Sensitivity | Adjustable Potentiometer (0 to 270°) | |
| Output Type | NPN or PNP/ Light on/Dark on/ 3-wire | |
| Operating Voltage | 10 to 30 VDC | |
| No-load Supply Current | ≤ 20 mA | |
| Operating (Load) Current | 200 mA | |
| Off-state (Leakage) Current | N/A | |
| Voltage Drop | ≤ 3.0V (PNP); ≤2.5 (NPN) | |
| Switching Frequency | 5 kHz | |
| Differential Travel | N/A | |
| Repeat Accuracy | PSUL 4F-5F-6F 10 μm (0.0004 in) PSUL 7F 15 μm (0.0005 in) | 10 μm (0.0004 in) |
| Ripple | N/A | |
| Time Delay Before Availability (tv) | N/A | |
| Reverse Polarity Protection | Yes | |
| Short-Circuit Protection | Yes | |
| Operating Temperature | -10°C to +60°C (14°F to +140°F) | |
| Protection Degree (DIN 40050) | IP67 | |
| Indication/Switch Status | On Yellow LED | |
| Housing Material | GD Zn (Gadolinium-Zinc) | |
| Sensing Face Material | Glass | |
| Shock | Meets IEC 68-2-27 (See Photoelectric Sensor Terminology at the end of this section for more details) | |
| Vibration | Meets IEC 68-2-6 (See Photoelectric Sensor Terminology at the end of this section for more details) | |
| Tightening Torque | N/A | |
| Weight | PSUR 4F 66g (2.33 oz) PSUR 5F 110g (3.88 oz) PSUR 6F 135g (4.76 oz) PSUR 7F 210g (7.41 oz) | 135g (4.76 oz) |
| Connection | M8 connector | |
| Agency Approvals | UL E328811– CE | |

Note: To obtain the most current agency approval information— see the Agency Approval Checklist section on the specific part number's web page.

IMPORTANT NOTE

The Laser Classification Systems for the standards IEC (EN) 60825-1 defines the following safety classes:

Class 1

This class is eye-safe under all operating conditions.

Class 2

These are visible lasers. This class is safe for accidental viewing under all operating conditions. However, it may not be safe for a person who deliberately stares into the laser beam for longer than 0.25 seconds, by overcoming their natural aversion response to the very bright light.

PS Series Fork Sensors

Dimensions

mm
[inch]

Figure 1

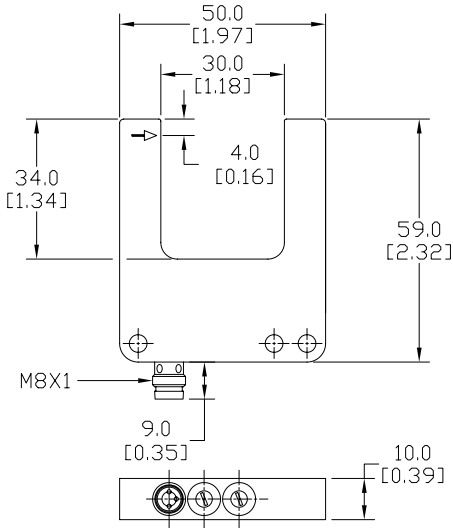


Figure 2

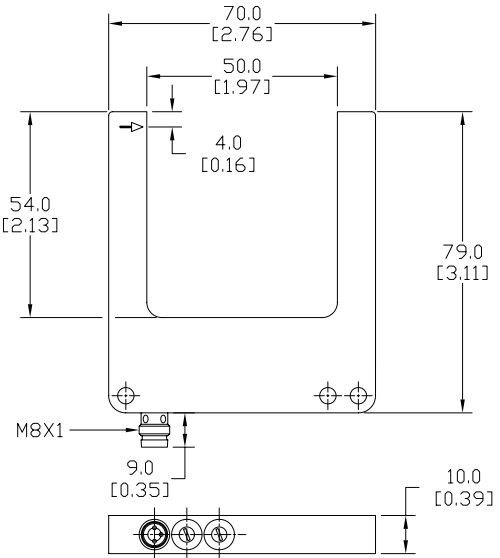


Figure 3

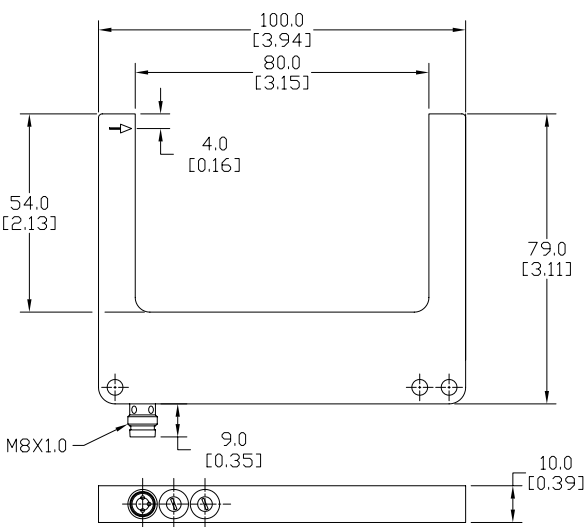
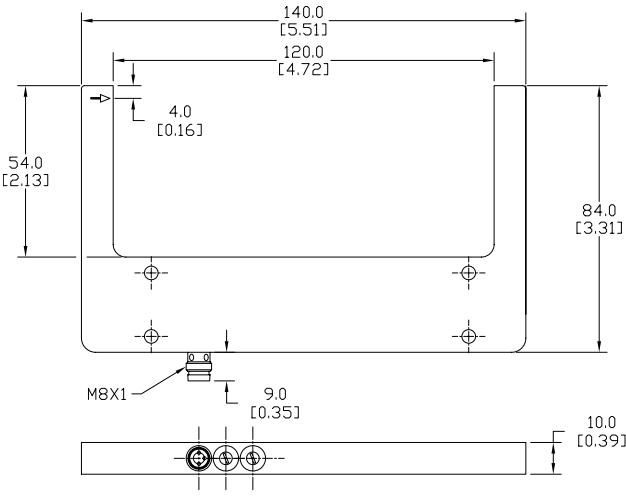


Figure 4



SEE OUR WEBSITE: WWW.AUTOMATIONDIRECT.COM FOR COMPLETE ENGINEERING DRAWINGS.