

# 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
<b>PSUL-0P-4F</b>	\$140.00	30mm (1.18 in)	Light On/Dark On Selectable	PNP	M8 connector	Diagram 2	Figure 1
<b>PSUL-0N-4F</b>	\$140.00	30mm (1.18 in)	Light On/Dark On Selectable	NPN	M8 connector	Diagram 1	Figure 1
<b>PSUL-0P-5F</b>	\$140.00	50mm (1.97 in)	Light On/Dark On Selectable	PNP	M8 connector	Diagram 2	Figure 2
<b>PSUL-0N-5F</b>	\$140.00	50mm (1.97 in)	Light On/Dark On Selectable	NPN	M8 connector	Diagram 1	Figure 2
<b>PSUL-0P-6F</b>	\$162.00	80mm (3.15 in)	Light On/Dark On Selectable	PNP	M8 connector	Diagram 2	Figure 3
<b>PSUL-0N-6F</b>	\$162.00	80mm (3.15 in)	Light On/Dark On Selectable	NPN	M8 connector	Diagram 1	Figure 3
<b>PSUL-0P-7F</b>	\$162.00	120mm (4.72 in)	Light On/Dark On Selectable	PNP	M8 connector	Diagram 2	Figure 4
<b>PSUL-0N-7F</b>	\$162.00	120mm (4.72 in)	Light On/Dark On Selectable	NPN	M8 connector	Diagram 1	Figure 4

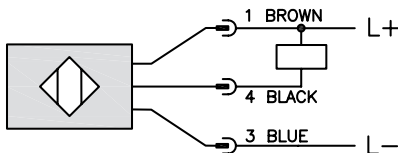
## Fork Sensor - Laser for Transparent Objects

**PS Series Fork Sensor U-frame Selection Chart - Laser Class 1 for Transparent Objects**

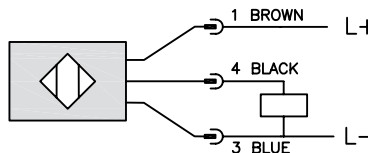
Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
<b>PSTL-0P-6F</b>	\$167.00	80mm (3.15 in)	Light On/Dark On Selectable	PNP	M8 connector	Diagram 2	Figure 3
<b>PSTL-0N-6F</b>	\$167.00	80mm (3.15 in)	Light On/Dark On Selectable	NPN	M8 connector	Diagram 1	Figure 3

## Wiring diagrams

**Diagram 1**



**Diagram 2**



**Connectors**



*NOTE: CLASS 2 POWER SUPPLY REQUIRED*

# PS Series Fork Sensors

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

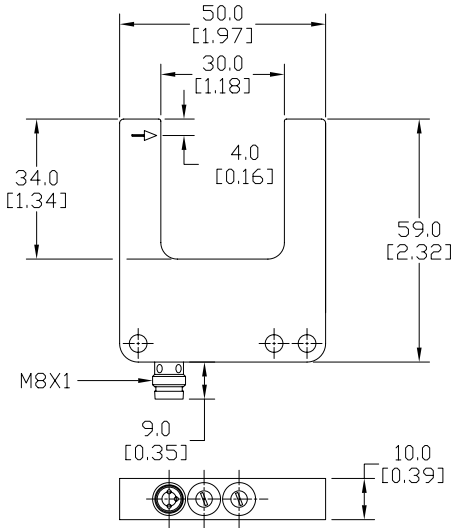


Figure 2

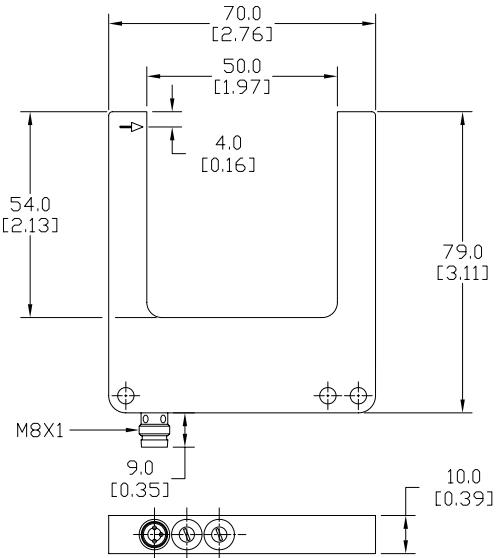


Figure 3

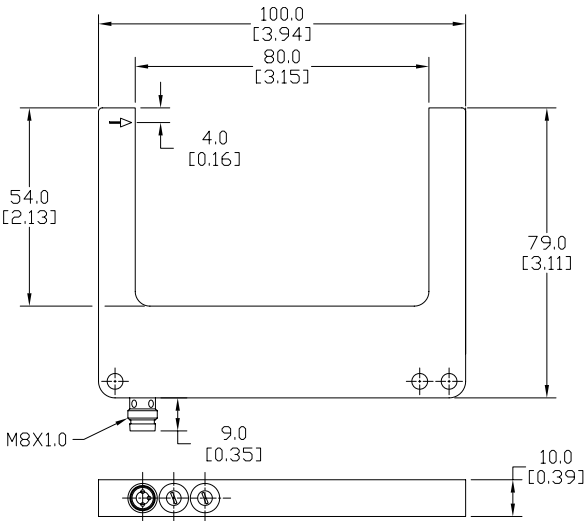
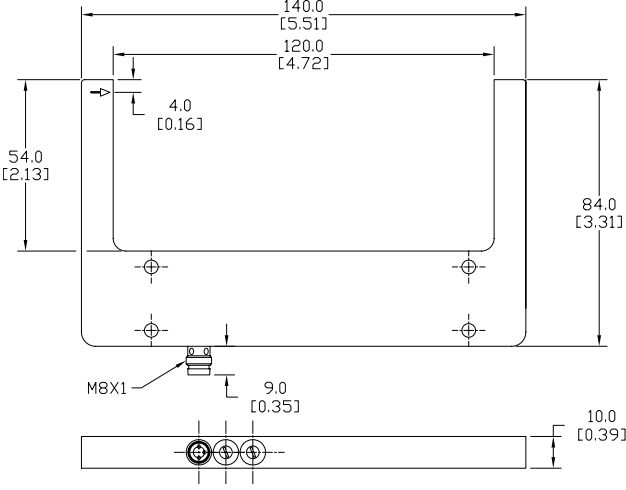


Figure 4



SEE OUR WEBSITE: [WWW.AUTOMATIONDIRECT.COM](http://WWW.AUTOMATIONDIRECT.COM) FOR COMPLETE ENGINEERING DRAWINGS.