

Fork Sensors PS Series



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



Fork Sensor U-frame - Laser Class 1 PS Series Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
<u>PSUL-0P-4F</u>	\$-011ld:	30mm [1.18 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 1
<u>PSUL-0N-4F</u>	\$-011le:	30mm [1.18 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 1
<u>PSUL-0P-5F</u>	\$-011lf:	50mm [1.97 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 2
<u>PSUL-0N-5F</u>	\$-011lg:	50mm [1.97 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 2
<u>PSUL-0P-6F</u>	\$-011lh:	80mm [3.15 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 3
<u>PSUL-0N-6F</u>	\$-011li:	80mm [3.15 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 3
<u>PSUL-0P-7F</u>	\$-011lj:	120mm [4.72 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 4
<u>PSUL-0N-7F</u>	\$-011lk:	120mm [4.72 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 4

Fork Sensor - Laser for Transparent Objects

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

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
<u>PSTL-0P-6F</u>	\$-011ll:	80mm [3.15 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 3

Wiring Diagrams

Diagram 1

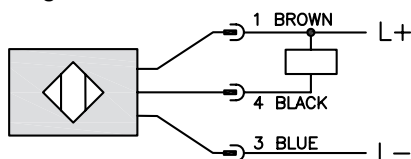
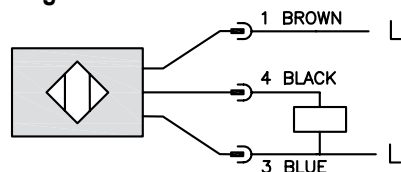
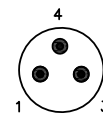


Diagram 2



Connectors

M8 connector



Note: Class 2 power supply required

Fork Sensors PS Series

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]*	
Sensitivity	Adjustable Potentiometer [0 to 270°] NPN or PNP/ Light-on/Dark-on/ 3-wire 10 to 30 VDC	
Output Type		
Operating Voltage		
No-load Supply Current	≤ 20mA	
Operating (Load) Current	200mA	
Off-state (Leakage) Current	N/A	
Voltage Drop	≤ 3.0V (PNP); ≤2.5 (NPN)	
Switching Frequency	5kHz	
Differential Travel	N/A	
Repeat Accuracy	PSUL 4F–5F–6F 10μm [0.0004 in] PSUL 7F 15μm [0.0005 in]	10μm [0.0004 in]
Ripple	N/A	
Time Delay Before Availability (tv)	N/A	
Reverse Polarity Protection	Yes	
Short-Circuit Protection	Yes	
Operating Temperature	-10 to 60°C [14 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 at the end of this section for more details)	
Vibration	Meets IEC 68-2-6 (See Photoelectric Sensor 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.

Fork Sensors PS Series

Dimensions

mm [inches]

Figure 1

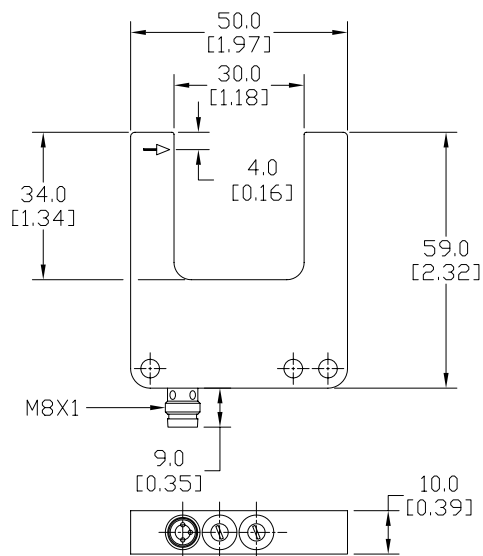


Figure 2

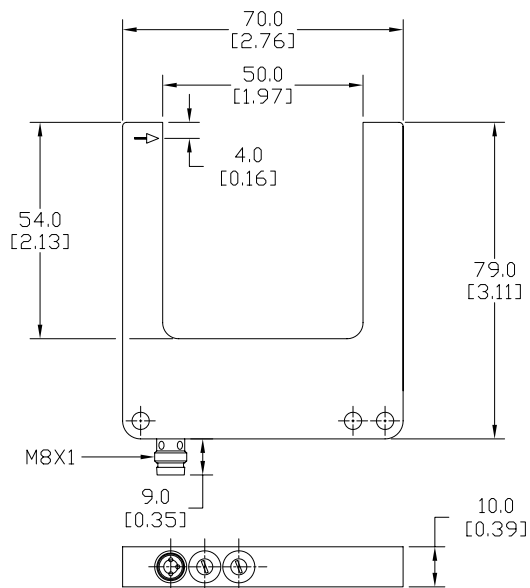


Figure 3

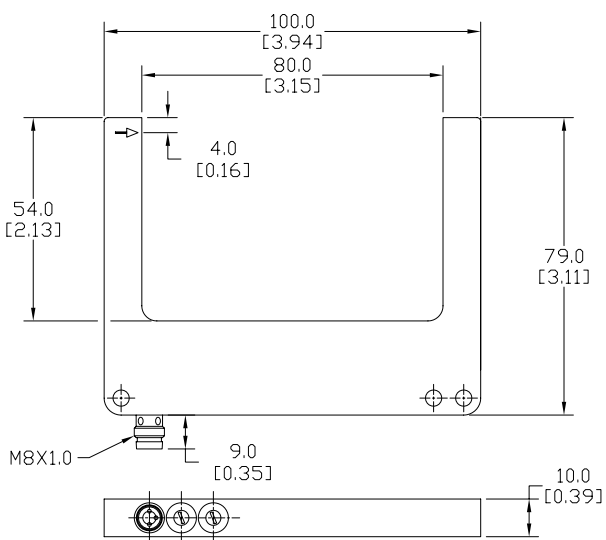
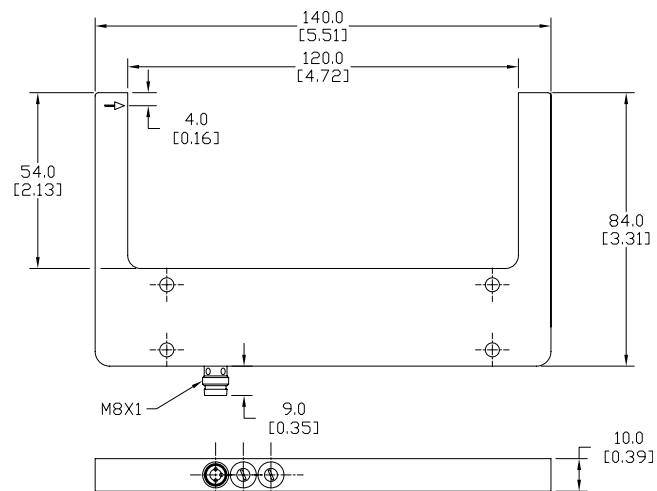


Figure 4

See our website: www.AutomationDirect.com for complete Engineering drawings.