

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



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	\$204.00	30mm [1.18 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 1
PSUL-0N-4F	\$204.00	30mm [1.18 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 1
PSUL-0P-5F	\$204.00	50mm [1.97 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 2
PSUL-0N-5F	\$204.00	50mm [1.97 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 2
PSUL-0P-6F	\$236.00	80mm [3.15 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 3
PSUL-0N-6F	\$236.00	80mm [3.15 in]	Light-on/Dark-on Selectable	NPN	M8 connector	Diagram 1	Figure 3
PSUL-0P-7F	\$236.00	120mm [4.72 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 4
PSUL-0N-7F	\$236.00	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	\$242.00	80mm [3.15 in]	Light-on/Dark-on Selectable	PNP	M8 connector	Diagram 2	Figure 3

Wiring Diagrams

Diagram 1

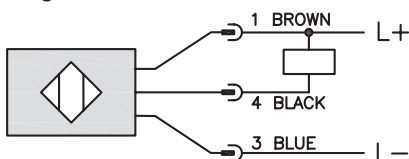
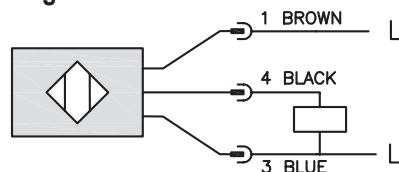
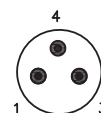


Diagram 2



Connectors

M8 connector



Note: Class 2 power supply required

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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°]	
Output Type	NPN or PNP/ Light-on/Dark-on/ 3-wire	
Operating Voltage	10 to 30 VDC	
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.

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Dimensions

mm [inches]

Figure 1

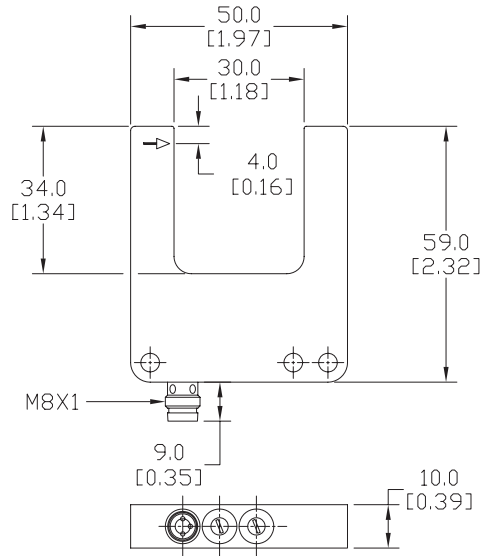


Figure 2

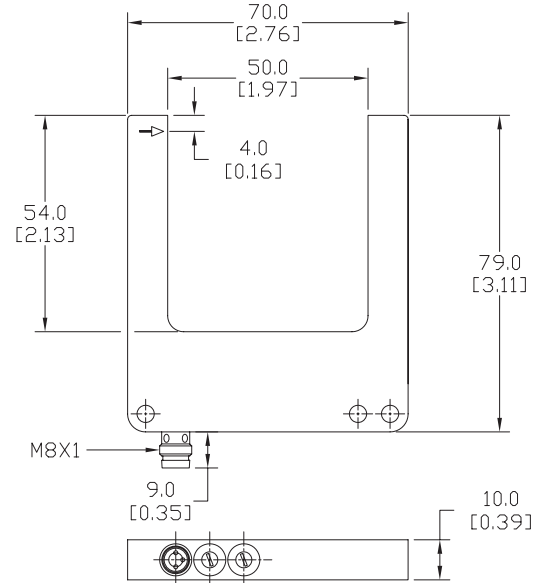


Figure 3

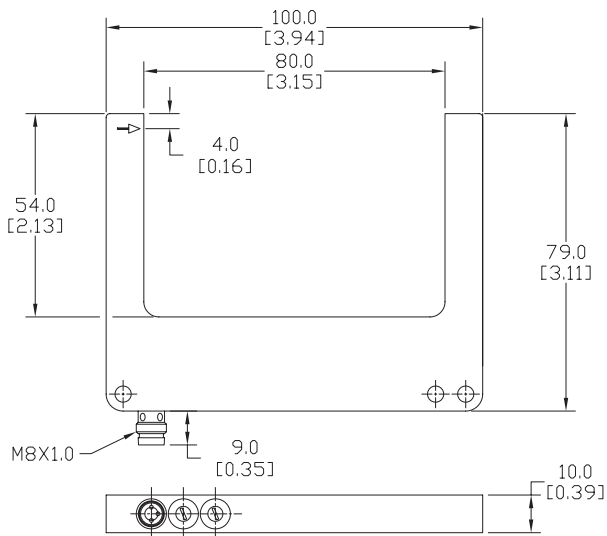
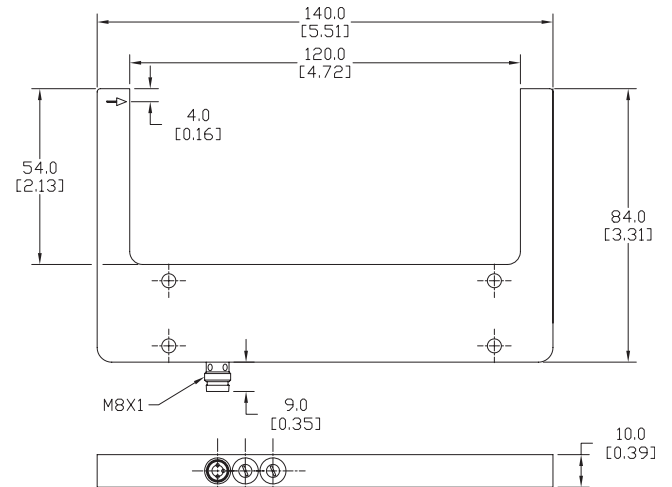


Figure 4



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