

C5 Series Stainless Steel Photoelectric Sensors

M5 (5 mm) stainless steel - DC



- 14 models available
- Diffuse and through-beam styles
- Long operating distances
- Compact stainless steel housing
- Scratch resistant and easy to clean glass lens
- Axial cable or M8 quick-disconnect models
- Complete overload protection
- IP67 rated



C5 Series M5 Photoelectric Sensors Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions	Characteristic Curves
Diffuse								
C5D-AN-1A	\$77.00	50 mm, (1.97 in) ¹	N.O.	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1	Chart 1
C5D-AP-1A	\$77.00			PNP	2 m (6.5') axial cable	Diagram 2	Figure 1	Chart 1
C5D-AN-1F	\$77.00			NPN	M8 (8 mm) connector	Diagram 1	Figure 2	Chart 1
C5D-AP-1F	\$77.00			PNP	M8 (8 mm) connector	Diagram 2	Figure 2	Chart 1
C5D-AN-2A	\$105.00	10 mm (0.40 in)		NPN	2 m (6.5') axial cable	Diagram 1	Figure 1	Chart 3
C5D-AP-2A	\$105.00			PNP	2 m (6.5') axial cable	Diagram 2	Figure 1	Chart 3
C5D-AN-3A	\$105.00	20 mm, ¹ (0.79 in)		NPN	2 m (6.5') axial cable	Diagram 1	Figure 1	Chart 4
C5D-AP-3A	\$105.00			PNP	2 m (6.5') axial cable	Diagram 2	Figure 1	Chart 4
Through-beam*								
C5R-AN-1A Receiver	\$58.00	250 mm (9.84 in)	N.O.	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1	Chart 2
C5R-AP-1A Receiver	\$58.00			PNP	2 m (6.5') axial cable	Diagram 2	Figure 1	Chart 2
C5R-AN-1F Receiver	\$58.00			NPN	M8 (8 mm) connector	Diagram 1	Figure 2	Chart 2
C5R-AP-1F Receiver	\$58.00			PNP	M8 (8 mm) connector	Diagram 2	Figure 2	Chart 2
C5E-ON-1A Emitter	\$46.50		Receiver dependent	Receiver dependent		2 m (6.5') axial cable	Diagram 3	Figure 1
C5E-ON-1F Emitter	\$46.50				M8 (8 mm) connector	Diagram 3	Figure 2	Chart 2

¹With 100x100mm white matte paper

*Purchase one receiver and one emitter for a complete set.

Wiring diagrams

Diagram 1

NPN output

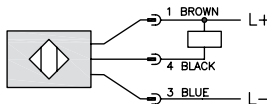


Diagram 2

PNP output

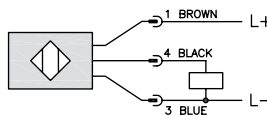
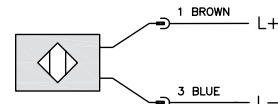


Diagram 3

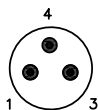
Emitter



Emitter test input (<4V: OFF/ >8V or open: ON) 0.5mA

Connector

M8 Connector



Warning: These products are not safety sensors and are not suitable for use in personal safety applications.

Switching Element Function

	Thru-beam and Reflective Models	Diffuse Reflective Models
Light on	N.C.	N.O.
Dark on	N.O.	N.C.

C5 Series Stainless Steel Photoelectric Sensors

Specifications	Diffuse and Through-beam Models	
Type	Diffuse	Through-beam
Sensing Distance	10 to 50 mm (0.39 to 1.97 in)	250 mm (9.84 in)
Light Spot Diameter	See charts	
Emission	Infrared (880nm)	
Sensitivity	Fixed	
Output Type	NPN or PNP; N.O. only	
Operating Voltage	10-30VDC	
No-load Supply Current	Emitter: 10mA Receiver: 5mA	
Operating (Load) Current	≤100mA	
Off-state (Leakage) Current	≤10μA	
Voltage Drop	≤2.0V	
Switching Frequency	250Hz	
Ripple	≤20%	
Time Delay Before Availability (tv)	20ms	
Short-Circuit Protection	Yes (switch autoresets after overload is removed)	
Operating Temperature	0° to +55° C (32° to 131° F)	
Protection Degree (DIN 40050)	IEC IP67	
LED Indicators - Switching Status	Yellow (output energized), yellow flashing (excess light indication)	
Housing Material	Stainless steel	
Lens Material	Glass	
Shock/Vibration	See terminology section	
Tightening Torque	1.5 Nm (13.3 lb-in)	
Weight (cable/connector)	76g (2.68 oz)/18g (0.63 oz)	
Connectors	2m (6.5') axial cable; M12 (12mm) connector	
Agency Approvals	UL file E328811	

Dimensions

(mm)

Figure 1

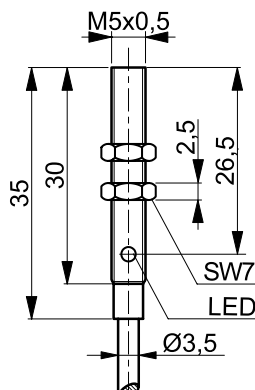
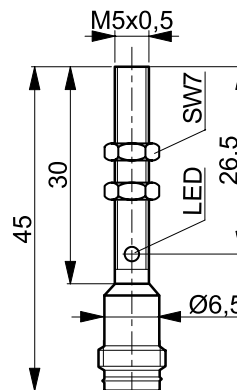


Figure 2



Characteristic curves

Chart 1 (Diffuse C50*-1*)

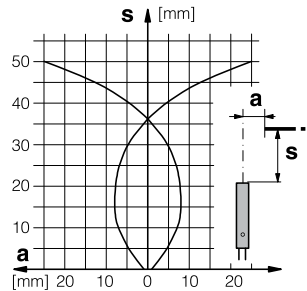


Chart 2 (Through-Beam)

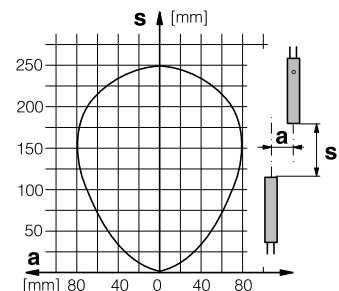


Chart 3 (Diffuse c5D-*-2*)

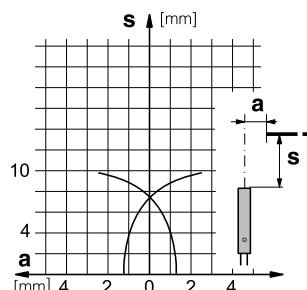
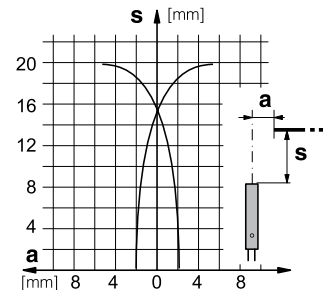


Chart 4 (Diffuse C5D-X-3*)



Accessories for 5mm Sensors

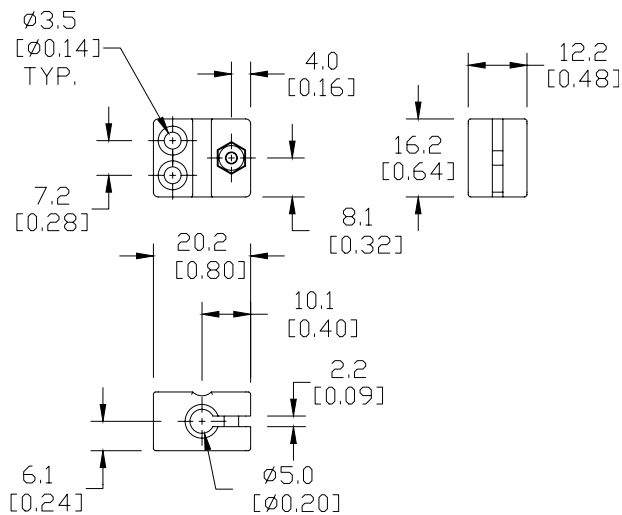
Right-angle Mounting Bracket

Mounting bracket, right-angle, plastic. For use with 5mm sensors.

Accessories for 5mm Sensors			
Part Number	Price	Description	Weight [lb]
OPT2100	\$6.25	Mounting bracket, right-angle, plastic. For use with 5mm sensors.	0.02

Dimensions

mm [inches]



OPT2100

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