

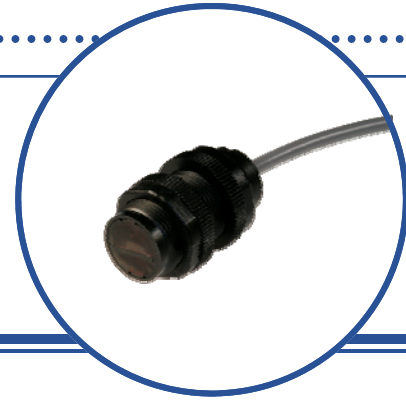
Long Distance Reflective Switch

OPB725



Features:

- Remote mounting in 18 mm hole
- 48" (122 cm) 26 AWG wired with mounting nuts
- Non-contact infrared switch
- Up to 24" or more reflective distance depending on object



Description:

OPB725 uses an Infrared LED and Photologic® sensor in a reflective switch configuration. The assembly is offered with a standard wire length of 48" [122 cm], and uses an opaque housing to reduce the sensor's ambient light sensitivity. The emitter and sensor are protected by a window clear to near infrared wavelengths, providing a device that can operate in a dusty environment. The Photologic® sensor has an NPN Open-Collector output providing the user a device that can be used in a variety of applications.

While an object is in the reflective path of the device, light from the LED will be reflected back to the housing irradiating the surface of the Photologic® sensor causing the output NPN transistor to turn "ON" to provide a "low" voltage output when connected to appropriate value pull-up resistor. When the Infrared light from the LED is not being reflected to the Photologic sensor, the output transistor turns "OFF," minimizing the $I_{C(ON)}$ current, providing a "High" output.

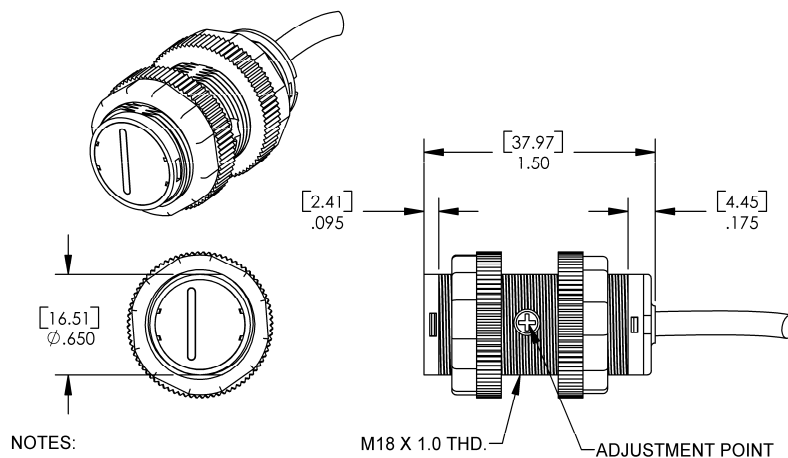
Custom electrical, cabling and connectors are available. Contact your local representative or OPTEK for more information.

Applications:

- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Equipment security
- Door sensor
- Machine safety
- End of travel sensor

Ordering Information

Part Number	LED Peak Wavelength	Wire Length / Size
OPB725A-18Z	850 nm	48" / 26 AWG Wire



Pin Out	
Wire Color	Function
Red	Vcc
Black	Ground
White	Inverted Open Collector



RoHS

DIMENSIONS ARE IN: [MILLIMETERS]
INCHES

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Operating Temperature Range	0° C to + 50° C
Storage Temperature Range	-40° C to + 80° C
Lead Soldering Temperature (1/16" (1.6 mm) from case for 5 seconds with soldering iron)	260° C ^(1, 2)
Supply Voltage (V_{CC})	18 V to 24 V
Maximum Collector Voltage	30 V
Collector DC Current (Sink)	50 mA
Power Dissipation	250 mW

Electrical Characteristics ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
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Output Photologic®

V_{OH}	High Level Output Voltage	22	-	-	V	$V_{CC} = 24 \text{ V}$, $R_L = 10 \text{ K}$, (No Target)
V_{OL}	Low Level Output Voltage	-	-	0.8	V	$V_{CC} = 24 \text{ V}$, $R_L = 10 \text{ K}$, $D = 12"$ (90% Reflective Surface Kodak—EK E 152 7798)

Combined

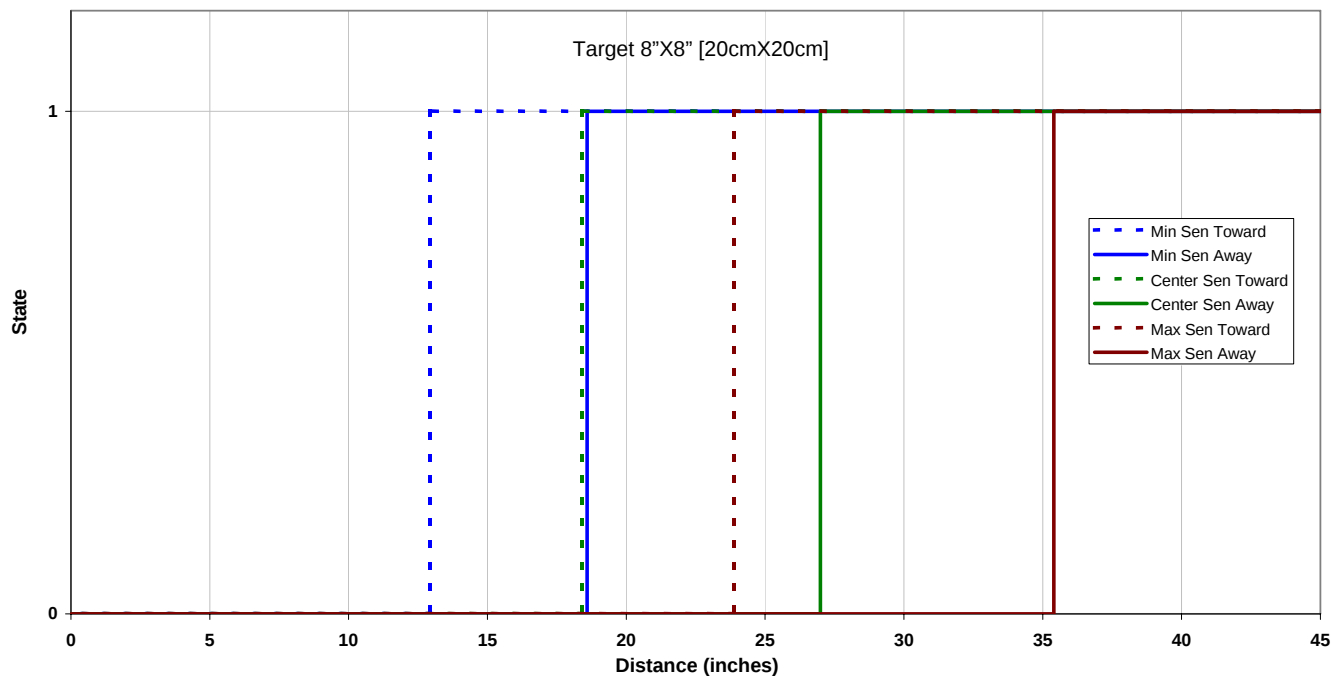
Trip Point Distance	Typical distance with Gain at minimal value (Counter-Clockwise)	-	13	-	inches	Target size 8"X8" [20cmX20cm]
	Typical distance with Gain in center position.	-	18	-		
	Typical distance with Gain at maximum value (Clockwise)	-	23	-		

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Methanol or isopropanol are recommended as cleaning agents. The plastic housing is soluble in chlorinated hydrocarbons and ketones.

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Typical Switching Characteristics



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