

# HE Series Photoelectric Sensors

## M8 (8 mm) thru-beam series



M8 miniaturized HEE and HER series thru-beam sensors are available with NPN or PNP, and NO or NC outputs.

In the PNP models, the load is connected between the output (black wire) and the negative (blue wire).

In the NPN models, the load is connected between the output (black wire) and the positive (brown wire).

In the Normally Open models, the output is ON when the target is present (beam interrupted); in the Normally Closed models, the output is On when the target is absent (beam free).

### Features

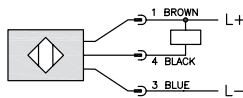
- M8 small dimension housing
- LED status indicator for all models
- Complete protection against electrical damage
- IP67 protection
- Strong stainless steel housing
- Fast switching frequency 10 kHz
- Sensing distance: 1 meter
- Supply voltage: 10 - 30 VDC
- NPN or PNP, NO or NC models



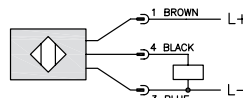
8mm diameter Thru-beam Photoelectric Sensors Selection Chart									
Part Number	Price	Voltage Range	Sensing Range	Switching Frequency	Sensing Beam	Thru-Beam Component	Output Type	Connection Type	Wiring
HEE-00-3A	\$32.50	10 to 30 VDC	3.28 ft. (1 m)	10 kHz	Infrared	Emitter		1 meter cable	Diagram 3
HER-AP-3A	\$48.00					Receiver	PNP NO		Diagram 2
HER-CP-3A	\$52.00					Receiver	PNP NC		Diagram 2
HER-AN-3A	\$52.00					Receiver	NPN NO		Diagram 1
HER-CN-3A	\$52.00					Receiver	NPN NC		Diagram 1
HEE-00-3F	\$33.50					Emitter		M8 quick disconnect (purchase separately)	Diagram 3
HER-AP-3F	\$49.50					Receiver	PNP NO		Diagram 2
HER-CP-3F	\$52.00					Receiver	PNP NC		Diagram 2
HER-AN-3F	\$49.50					Receiver	NPN NO		Diagram 1
HER-CN-3F	\$52.00					Receiver	NPN NC		Diagram 1

### Wiring diagram

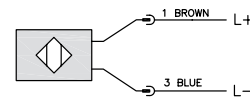
**Diagram 1**  
NPN output



**Diagram 2**  
PNP output

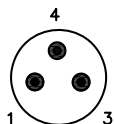


**Diagram 3**  
Emitter



### Connector

M8 Connector



Switching Element Function		
	Thru-beam and Reflective Models	Diffuse Reflective Models
<b>Light on</b>	N.C.	N.O.
<b>Dark on</b>	N.O.	N.C.

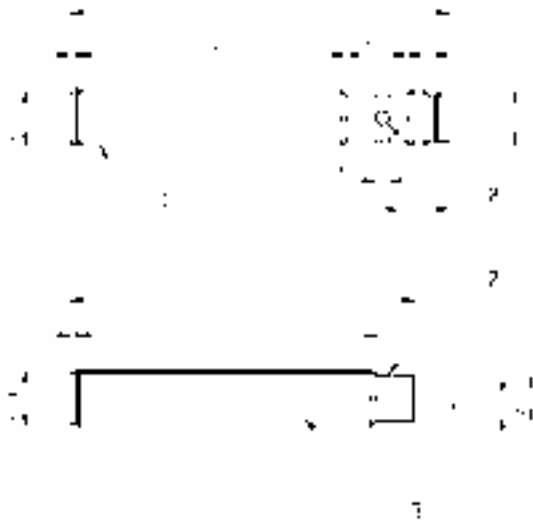
**Warning: These products are not safety sensors and are not suitable for use in personal safety applications.**

# HE Series Photoelectric Sensors

HEE/HER Series Photoelectric Sensors Specifications	
Type	Through-Beam
Sensing Distance	1 m (3.28 ft) / Ex. Gain = 2
Light Spot Diameter	See chart
Emission	Infrared
Sensitivity	Fixed
Output Types	PNP/NPN NO/ NC
Operating Voltage	10 - 30 VDC
No Load Supply Current	25 mA
Operating (Load) Current	100 mA
Off-state (Leakage) Current (max)	<10 $\mu$ A @ 30 VDC
Voltage Drop	1 Volt
Switching Frequency	10 kHz
Ripple	$\leq$ 10%
Time Delay Before Availability (tv)	100 ms
Short-circuit Protection	Yes
Operating Temperature	13°F to 122°F (-25°C to +50°C)
Protection Degree	IP67
LED Indicators - Switching Status	Yellow Output State
Housing Material	Stainless Steel
Lens Material	Poly methyl methacrylate (PMMA)
Shock/Vibration	See terminology section
Tightening Torque	5 Nm (3.69 lb-ft)
Weight	30.9 g (1.09 oz)
Connectors	1 meter cable; 8 mm quick disconnect
Agency Approvals	CE

## Dimensions

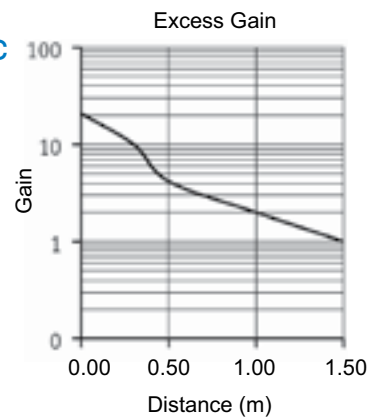
(mm)



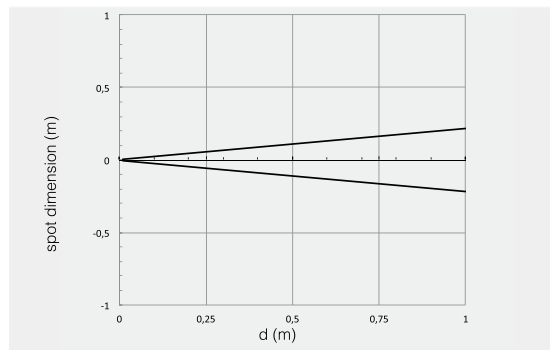
- ① M8 x 0.75 threaded cylindrical housing M8 connector exit
- ② Yellow LED (output state indicator HER - Supply Indicator HEE)
- ③ M8 x 0.75 threaded cylindrical housing cable exit

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

## Characteristic curve chart



## Spot dimension chart



# Accessories for 8mm Sensors

## Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3 mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

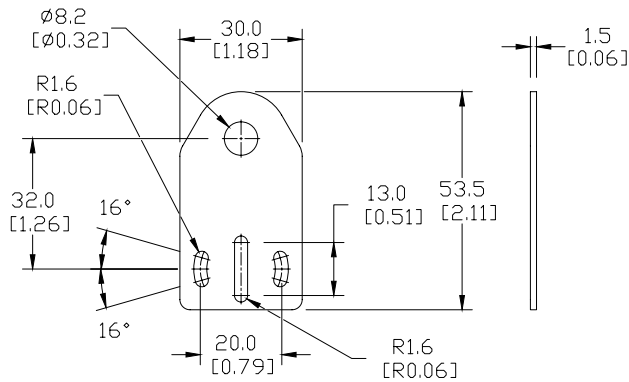


**ST08A**

Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>ST08A</b>	\$1.00	Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. 1/pk.	0.04

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

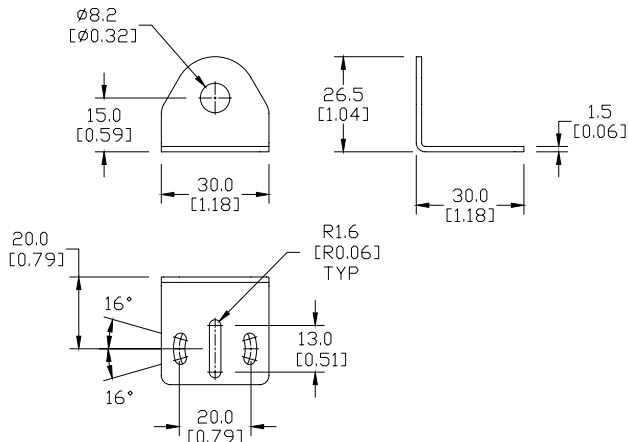


**ST08C**

Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>ST08C</b>	\$1.00	Mounting bracket, right angle, zinc-plated steel for 8mm sensors. 1/pk.	0.04

## Dimensions

mm [inches]



See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings

# Accessories for 8mm Sensors

## Right-angle Mounting Bracket

Mounting bracket, right-angle, plastic. For use with 8mm sensors.

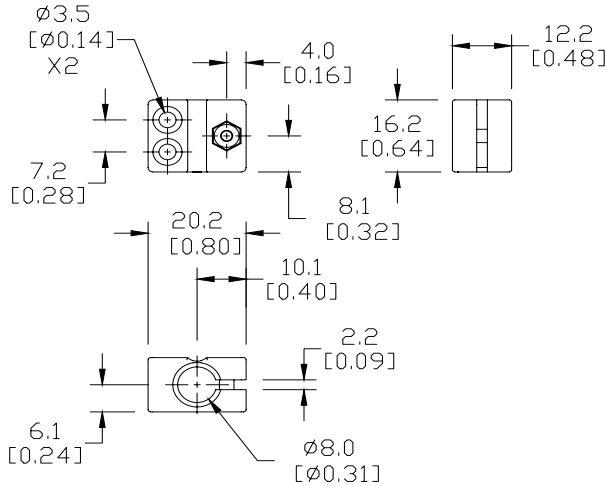
Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2101</b>	\$6.00	Mounting bracket, right-angle, plastic. For use with 8mm sensors.	0.02



**OPT2101**

### Dimensions

mm [inches]



## Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment. For use with 8mm sensors. Available in all stainless steel or with an aluminum head and stainless steel mounting plate.

Accessories for 8mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2112</b>	\$9.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors.	Aluminum	304 Stainless Steel	0.14
<b>OPT2113</b>	\$16.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors.	304 Stainless Steel	304 Stainless Steel	0.26

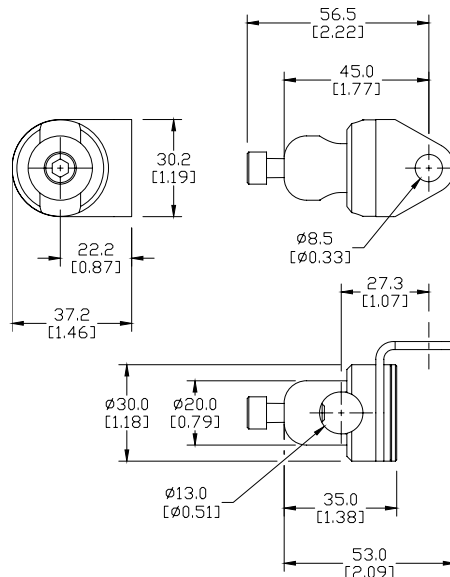
**Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).**



**OPT2112 & OPT2113**

### Dimensions

mm [inches]



See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings

# Mounting Rods

## Mounting Rods

304 Stainless steel rods for mounting swivel brackets OPT2112 - OPT2127. Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

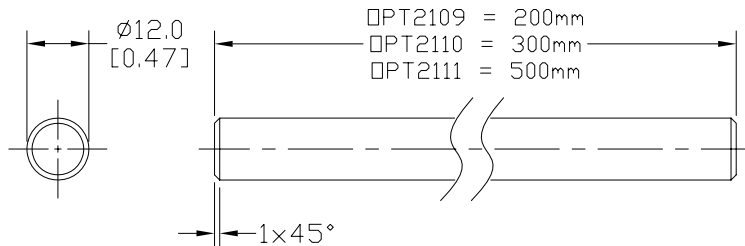
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
<b>OPT2109</b>	\$10.00	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
<b>OPT2110</b>	\$12.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
<b>OPT2111</b>	\$16.00	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98



**OPT2109, OPT2110, OPT2111**

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.

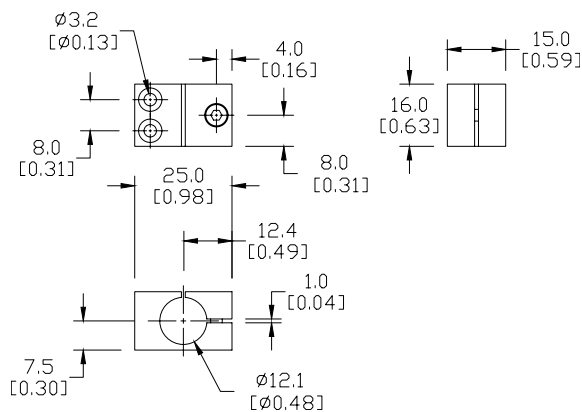
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2108</b>	\$12.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



**OPT2108**

## Dimensions

mm [inches]



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