

HE Series Photoelectric Sensors

M8 (8mm) Through-beam Features



M8 miniaturized HEE and HER series through-beam sensors are available with NPN or PNP, and N.O. or N.C. 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).

- 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, N.O. or N.C. models



HE Series Through-beam Photoelectric Sensors Selection Chart

| Part Number | Price | Voltage Range | Sensing Range | Switching Frequency | Sensing Beam | Through-Beam Component | Output Type | Connection Type | Wiring |
|---------------------------|---------|---------------|---------------|---------------------|--------------|------------------------|-------------|---|-----------|
| HEE-00-3A | \$38.50 | 10 to 30 VDC | 3.28 ft [1m] | 10 kHz | Infrared | Emitter | — | 1 meter cable | Diagram 3 |
| HER-AP-3A | \$55.00 | | | | | Receiver | PNP N.O. | | Diagram 2 |
| HER-CP-3A | \$60.00 | | | | | Receiver | PNP N.C. | | Diagram 2 |
| HER-AN-3A | Retired | | | | | Receiver | NPN N.O. | | Diagram 1 |
| HER-CN-3A | Retired | | | | | Receiver | NPN N.C. | | Diagram 1 |
| HEE-00-3F | \$39.50 | | | | | Emitter | — | M8 quick-disconnect (purchase separately) | Diagram 3 |
| HER-AP-3F | \$58.00 | | | | | Receiver | PNP N.O. | | Diagram 2 |
| HER-CP-3F | \$60.00 | | | | | Receiver | PNP N.C. | | Diagram 2 |
| HER-AN-3F | \$58.00 | | | | | Receiver | NPN N.O. | | Diagram 1 |
| HER-CN-3F | \$60.00 | | | | | Receiver | NPN N.C. | | Diagram 1 |

Wiring Diagrams

Diagram 1
NPN output

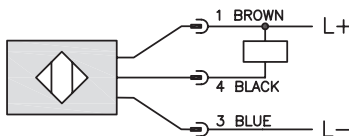


Diagram 2
PNP output

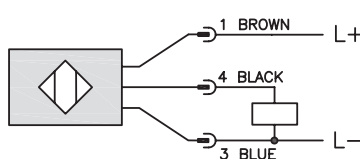
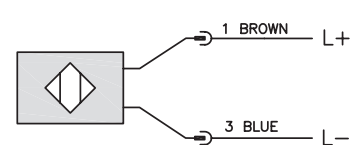
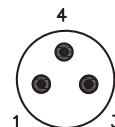


Diagram 3
Emitter



Connector
M8 Connector



Switching Element Function

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

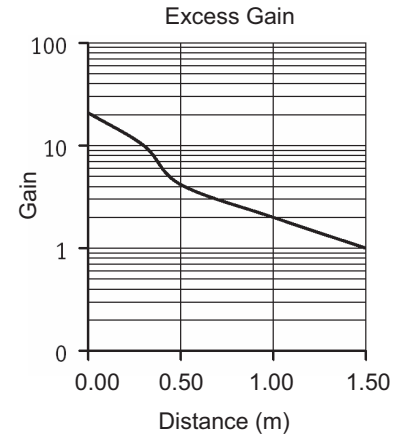
Warning: These products are not safety sensors and are not suitable for use in personal safety applications.

HE Series Photoelectric Sensors

HEE/HER Series Photoelectric Sensors Specifications

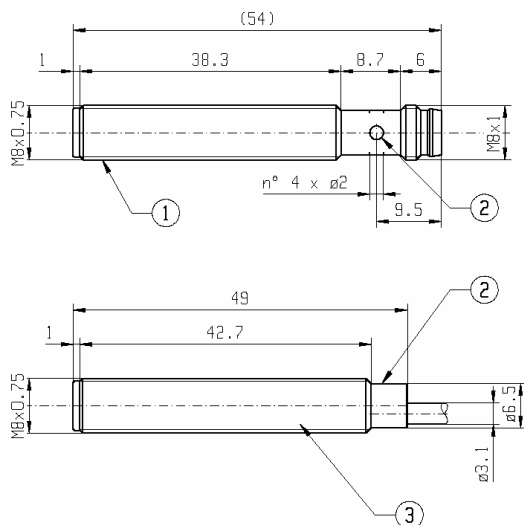
| Type | Through-Beam |
|-------------------------------------|---|
| Sensing Distance | 1m [3.28 ft] / Ex. Gain = 2 |
| Light Spot Diameter | See chart |
| Emission | Infrared |
| Sensitivity | Fixed |
| Output Types | PNP/NPN N.O./N.C. |
| Operating Voltage | 10 - 30 VDC |
| No Load Supply Current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

Characteristic curves chart



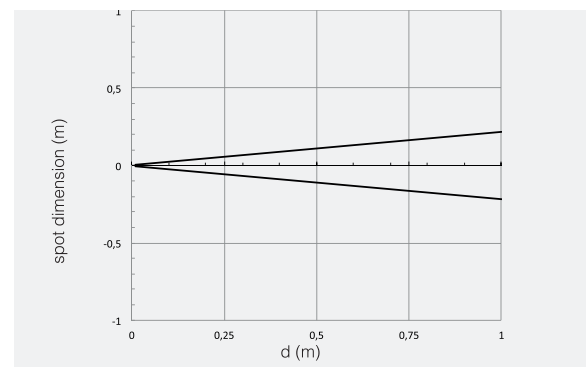
Dimensions

(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

Spot dimension chart



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

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.

| Accessories for 8mm Sensors | | | | |
|------------------------------|--------|--|----------------------------|-------------|
| Part Number | Price | Description | Drawing Link | Weight [lb] |
| <u>ST08A</u> | \$2.00 | Micro Detectors mounting bracket, axial, zinc plated steel. For use with 8mm sensors. | <u>PDF</u> | 0.04 |



[ST08A](#)

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.

| Accessories for 8mm Sensors | | | | |
|------------------------------|--------|--|----------------------------|-------------|
| Part Number | Price | Description | Drawing Link | Weight [lb] |
| <u>ST08C</u> | \$2.00 | Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 8mm sensors. | <u>PDF</u> | 0.04 |



[ST08C](#)

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 | Drawing Link | Weight [lb] |
| <u>OPT2101</u> | \$8.00 | Wenglor mounting bracket, right-angle, plastic. For use with 8mm sensors. | <u>PDF</u> | 0.02 |



[OPT2101](#)

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 | Drawing Link | Weight [lb] |
| <u>OPT2112</u> | \$11.50 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors. | Aluminum | 304 Stainless Steel | <u>PDF</u> | 0.14 |
| <u>OPT2113</u> | \$21.00 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors. | 304 Stainless Steel | 304 Stainless Steel | <u>PDF</u> | 0.26 |



[OPT2112 & OPT2113](#)

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

Mounting Rods and Brackets

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 | Drawing Link | Weight lb (g) |
| OPT2109 | \$13.00 | Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | PDF | 0.41 [185.97] |
| OPT2110 | \$16.00 | Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | PDF | 0.60 [272.16] |
| OPT2111 | \$21.00 | Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel. | PDF | 0.98 [444.52] |



Right-angle Mounting Bracket

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

| Right-angle Mounting Brackets for 12mm Sensors | | | | |
|--|---------|---|---------------------|----------------|
| Part Number | Price | Description | Drawing Link | Weight lb [g] |
| OPT2108 | \$16.00 | Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | PDF | 0.07 [31.8] |

