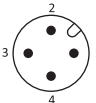


OM18 SERIES

ARTICLE PROPERTIES

|                           |   |  |
|---------------------------|---|--|
| <b>SENSOR TYPE</b>        | Photoelectric sensor  | <b>CONNECTION TYPES</b> (see table)  |
| <b>SIZE</b>               | M18x1   | <ul style="list-style-type: none"> <li>Cable PVC, 0.34 mm<sup>2</sup>, 2 m**</li> <li>M12 connector</li> </ul> |
| <b>OPERATING DISTANCE</b> | See table   |                             |
| <b>DETECTION MODE</b>     | Opposed, Retro-reflective, Polarized retro-reflective, Diffused |  |

\*\* Other cable lengths are available on request

TECHNICAL DATA

|                            |  |   |                           |
|----------------------------|--|---|---------------------------|
| <b>OPERATING VOLTAGE</b>   | 10 ... 30 V DC   | <b>HOUSING MATERIAL</b>   | Brass nickel-plated       |
| <b>RIPPLE VOLTAGE</b>      | ≤ 10 %   | <b>VOLTAGE WITHSTANDING</b>   | 1000 V/AC, 50/60 Hz, 60 s |
| <b>LASER CLASS</b>         | Red laser: 650 nm / class 1<br>Infrared light: 850 nm<br>Red light: 650 nm | <b>REVERSE POLARITY PROTECTION</b>  | Yes                       |
| <b>LIGHT SPOT SIZE</b>     | See beam pattern   | <b>OVERLOAD RESISTANCE</b>  | Yes                       |
| <b>OUTPUT</b>              | PNP / NPN  | <b>SHORT CIRCUIT PROTECTION</b>   | Yes                       |
| <b>FREQUENCY</b>           | See table  | <b>MTTF</b>   |                           |
| <b>CURRENT CONSUMPTION</b> | Opposed: ≤ 25 mA<br>Others: ≤ 15 mA  | <ul style="list-style-type: none"> <li>Red light emitter 855 years</li> <li>Red light receiver 366 years</li> </ul>             |                           |
| <b>LOAD CURRENT</b>        | ≤ 100 mA   | <ul style="list-style-type: none"> <li>Red laser light emitter 337 years</li> <li>Red laser light receiver 174 years</li> </ul> |                           |

ENVIRONMENTAL CONDITIONS

|                                       |                                   |   |  |
|---------------------------------------|-----------------------------------|---|--|
| <b>OPERATING ENVIRONMENT HUMIDITY</b> | 35 % to 85 % RH (no condensation) | <b>INSULATION IMPEDENCE</b>             | ≥20 MΩ (500 V DC)  |
| <b>PROTECTION CLASS</b>               | IP67                              | <b>SHOCK RESISTANCE (EN 60068-2-27)</b> | 500 m/s <sup>2</sup> (50 G) 3 times X, Y, Z respectively         |
| <b>STORAGE TEMPERATURE</b>            | -25 ... +65 °C                    | <b>IMPACT RESISTANCE (EN 60068-2-6)</b> | Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively) |
| <b>AMBIENT TEMPERATURE</b>            | -40 ... +70 °C                    | <b>ANTI-AMBIENT LIGHT</b>               | ≤ 5000 Lux   |

STANDARDS AND DIRECTIVES

|                                 |                  |                                  |              |
|---------------------------------|------------------|----------------------------------|--------------|
| <b>EMC DIRECTIVE 2014/30/EU</b> | EN IEC 60947-5-2 | <b>ROHS DIRECTIVE 2011/65/EU</b> | EN IEC 63000 |
|---------------------------------|------------------|----------------------------------|--------------|

APPROVALS



OM18 SERIES

**DETECTION MODE OPPOSED**

| Article number           | Operating distance | Light source   | Frequency | Output (wiring diagram) | Switching mode | Connection    | Dimensions |
|--------------------------|--------------------|----------------|-----------|-------------------------|----------------|---------------|------------|
| OM18-S6 (emitter)        | 10 m               | Infrared light | — —       | — — (WD1)               | — —            | 2 m cable     | see Fig. 1 |
| OM18-EVP6 (receiver)     | 10 m               | — —            | 100 Hz    | PNP (WD7)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-EVN6 (receiver)     | 10 m               | — —            | 100 Hz    | NPN (WD8)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-S6Q (emitter)       | 10 m               | Infrared light | — —       | — — (WD2)               | — —            | M12 connector | see Fig. 2 |
| OM18-EVP6Q (receiver)    | 10 m               | — —            | 100 Hz    | PNP (WD9)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-EVN6Q (receiver)    | 10 m               | — —            | 100 Hz    | NPN (WD10)              | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-SL306 (emitter)     | 30 m               | Red laser      | — —       | — — (WD2)               | — —            | 2 m cable     | see Fig. 1 |
| OM18-EL30VP6 (receiver)  | 30 m               | — —            | 800 Hz    | PNP (WD9)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-EL30VN6 (receiver)  | 30 m               | — —            | 800 Hz    | NPN (WD10)              | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-SL306Q (emitter)    | 30 m               | Red laser      | — —       | — — (WD2)               | — —            | M12 connector | see Fig. 2 |
| OM18-EL30VP6Q (receiver) | 30 m               | — —            | 800 Hz    | PNP (WD9)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-EL30VN6Q (receiver) | 30 m               | — —            | 800 Hz    | NPN (WD10)              | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-SL606 (emitter)     | 60 m               | Red laser      | — —       | — — (WD2)               | — —            | 2 m cable     | see Fig. 1 |
| OM18-EL60VP6 (receiver)  | 60 m               | — —            | 800 Hz    | PNP (WD9)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-EL60VN6 (receiver)  | 60 m               | — —            | 800 Hz    | NPN (WD10)              | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-SL606Q (emitter)    | 60 m               | Red laser      | — —       | — — (WD2)               | — —            | M12 connector | see Fig. 2 |
| OM18-EL60VP6Q (receiver) | 60 m               | — —            | 800 Hz    | PNP (WD9)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-EL60VN6Q (receiver) | 60 m               | — —            | 800 Hz    | NPN (WD10)              | L.O + D.O      | M12 connector | see Fig. 2 |

## OM18 SERIES

**DETECTION MODE RETRO-REFLECTIVE**

(The detection distance corresponds to the reflector RB50\*50-1 (purchased separately))

| Article number | Operating distance | Light source | Frequency | Output (wiring diagram) | Switching mode | Connection    | Dimensions |
|----------------|--------------------|--------------|-----------|-------------------------|----------------|---------------|------------|
| OM18-RVP6      | 3 m                | Infrared     | 100 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-RVN6      | 3 m                | Infrared     | 100 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-RVP6Q     | 3 m                | Infrared     | 100 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-RVN6Q     | 3 m                | Infrared     | 100 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |

**DETECTION MODE POLARIZED RETRO-REFLECTIVE**

(The detection distance corresponds to the reflector RB50\*50-1 (purchased separately))

| Article number | Operating distance | Light source | Frequency | Output (wiring diagram) | Switching mode | Connection    | Dimensions |
|----------------|--------------------|--------------|-----------|-------------------------|----------------|---------------|------------|
| OM18-RPVP6     | 3 m                | Red          | 800 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-RPVN6     | 3 m                | Red          | 800 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-RPVP6Q    | 3 m                | Red          | 800 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-RPVN6Q    | 3 m                | Red          | 800 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |

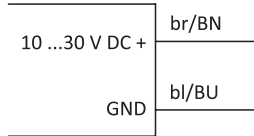
**DETECTION MODE DIFFUSED**

| Article number | Operating distance | Light source | Frequency | Output (wiring diagram) | Switching mode | Connection    | Dimensions |
|----------------|--------------------|--------------|-----------|-------------------------|----------------|---------------|------------|
| OM18-K100VP6   | 100 mm             | Infrared     | 100 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K100VN6   | 100 mm             | Infrared     | 100 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K100VP6Q  | 100 mm             | Infrared     | 100 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K100VN6Q  | 100 mm             | Infrared     | 100 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K200VP6   | 200 mm             | Infrared     | 100 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K200VN6   | 200 mm             | Infrared     | 100 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K200VP6Q  | 200 mm             | Infrared     | 100 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K200VN6Q  | 200 mm             | Infrared     | 100 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K400VP6   | 400 mm             | Infrared     | 100 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K400VN6   | 400 mm             | Infrared     | 100 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K400VP6Q  | 400 mm             | Infrared     | 100 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K400VN6Q  | 400 mm             | Infrared     | 100 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K600VP6   | 600 mm             | Infrared     | 100 Hz    | PNP (WD3)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K600VN6   | 600 mm             | Infrared     | 100 Hz    | NPN (WD4)               | L.O + D.O      | 2 m cable     | see Fig. 1 |
| OM18-K600VP6Q  | 600 mm             | Infrared     | 100 Hz    | PNP (WD5)               | L.O + D.O      | M12 connector | see Fig. 2 |
| OM18-K600VN6Q  | 600 mm             | Infrared     | 100 Hz    | NPN (WD6)               | L.O + D.O      | M12 connector | see Fig. 2 |

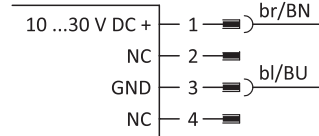
OM18 SERIES

WIRING DIAGRAMS

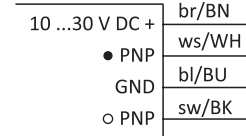
**WD1 Emitter**



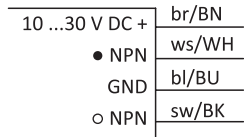
**WD2 Emitter**



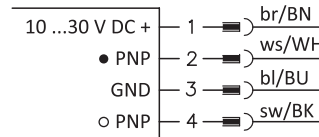
**WD3 PNP / Light on | Dark on**



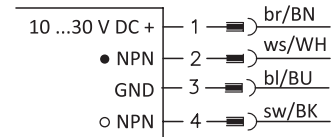
**WD4 NPN / Light on | Dark on**



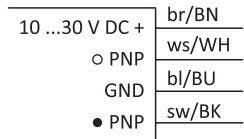
**WD5 PNP / Light on | Dark on**



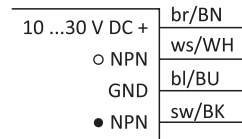
**WD6 NPN / Light on | Dark on**



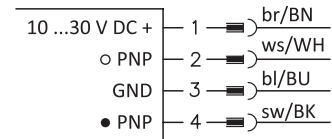
**WD7 PNP / Light on | Dark on**



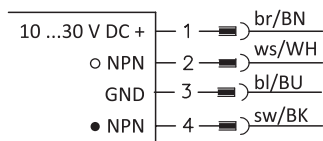
**WD8 NPN / Light on | Dark on**



**WD9 PNP / Light on | Dark on**



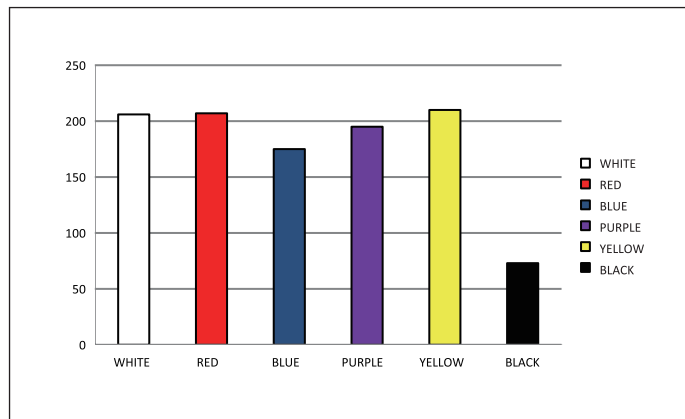
**WD10 NPN / Light on | Dark on**



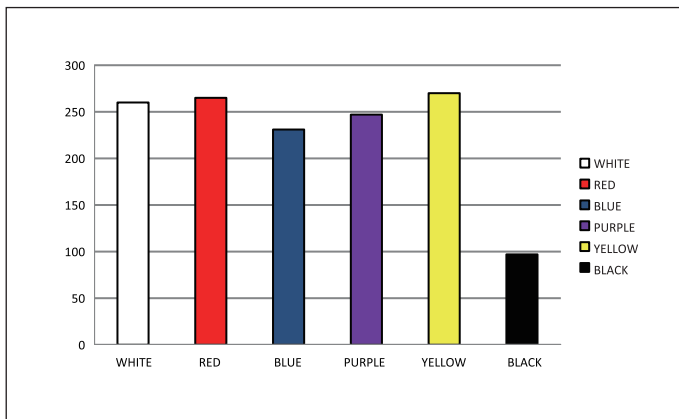
OM18 SERIES

ATTENUATION FIGURE

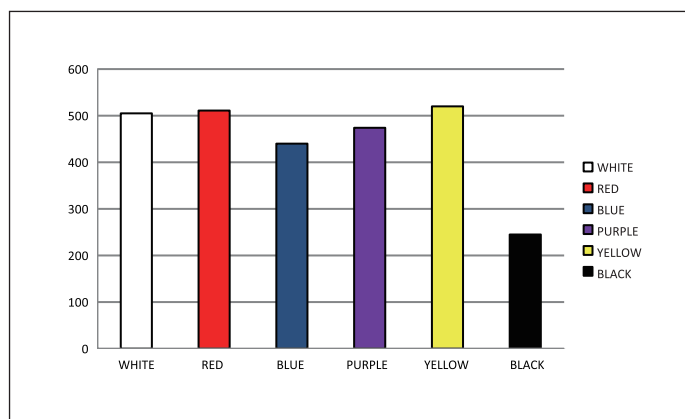
OM18-K100VP6



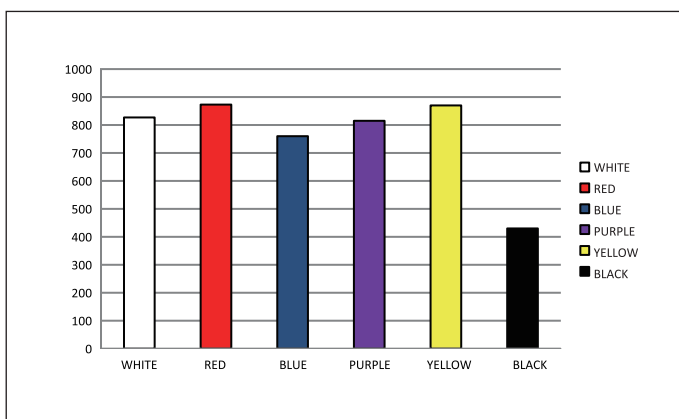
OM18-K200VP6



OM18-K400VP6

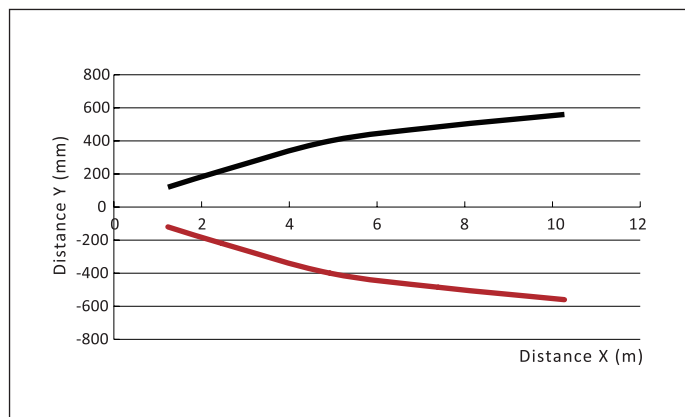


OM18-K600VP6

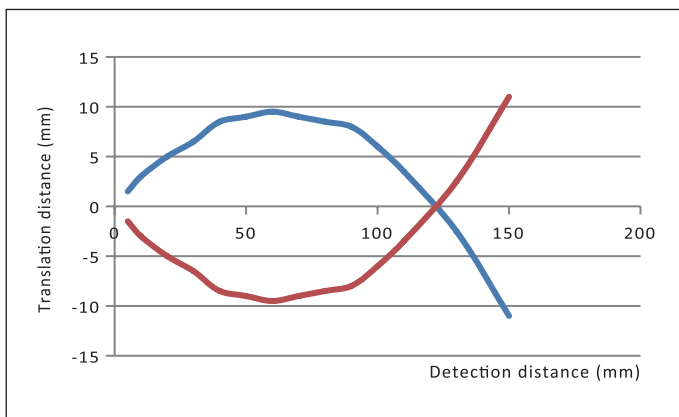


TRANSLATION CHARACTERISTIC CURVE

OM18 Opposed characteristic curve (OM18-S6)



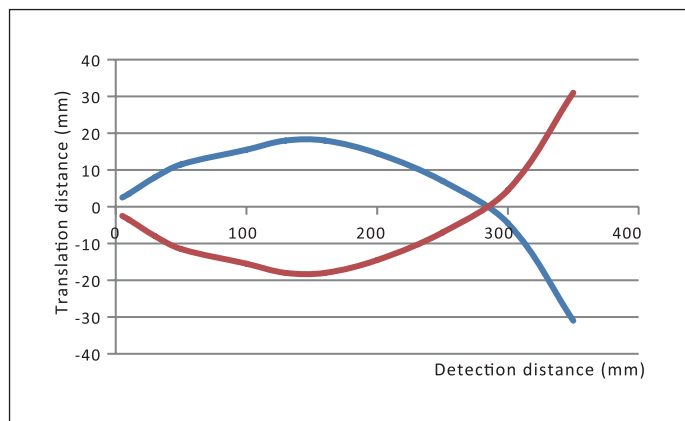
OM18-K100



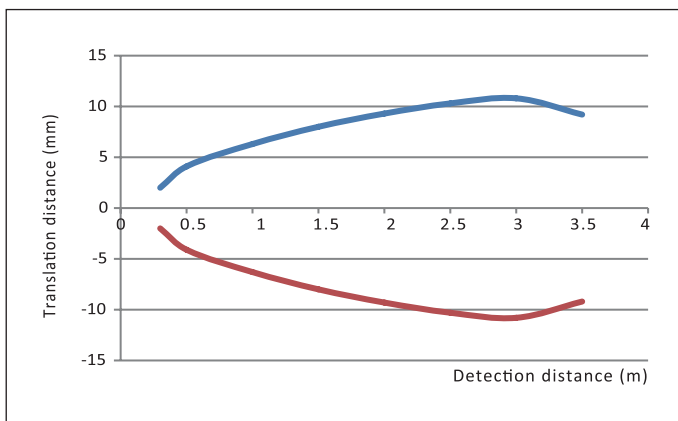
OM18 SERIES

TRANSLATION CHARACTERISTIC CURVE

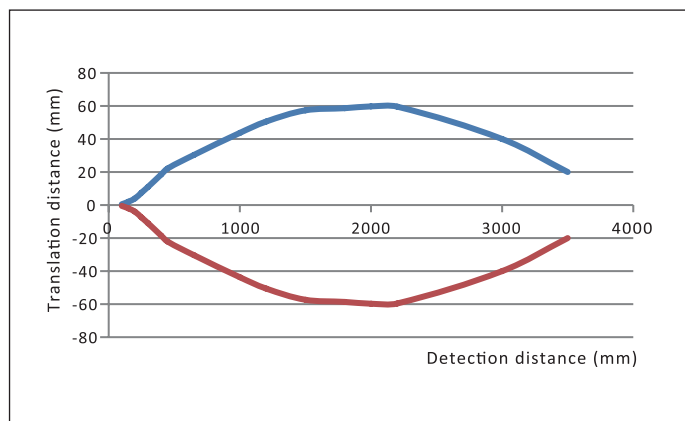
OM18-K200



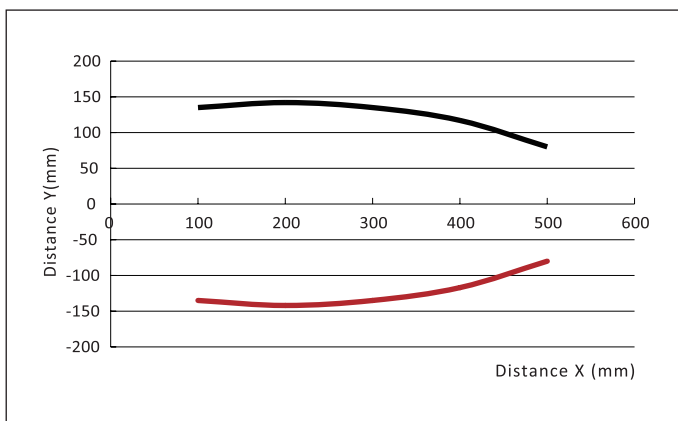
OM18 Polarized retro-reflective



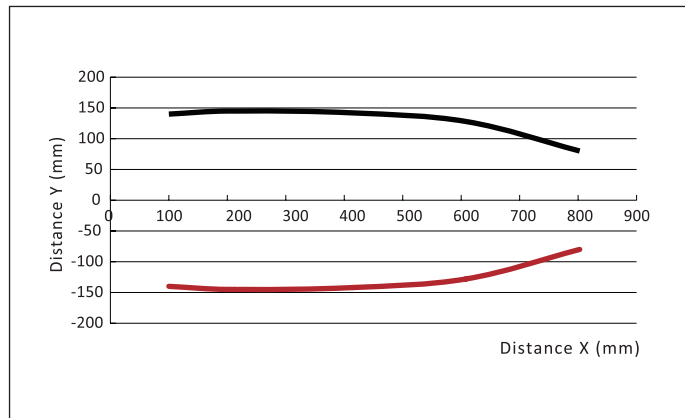
OM18 Retro-reflective



OM18 Diffused characteristic curve (OM18-K400)



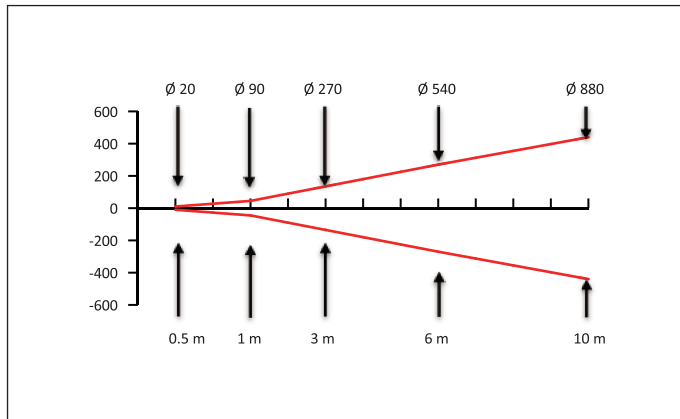
OM18 Diffused characteristic curve (OM18-K600)



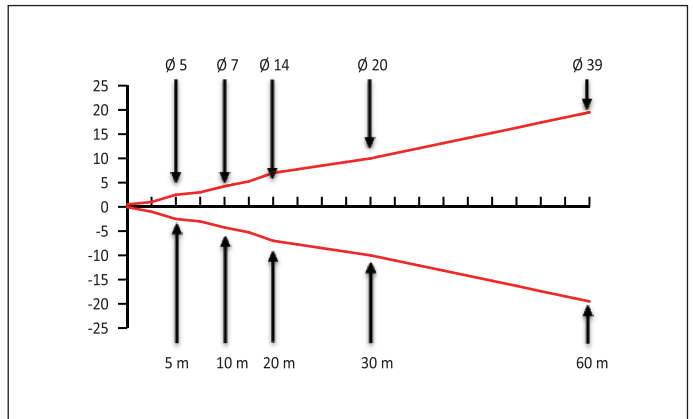
OM18 SERIES

BEAM PATTERN (mm)

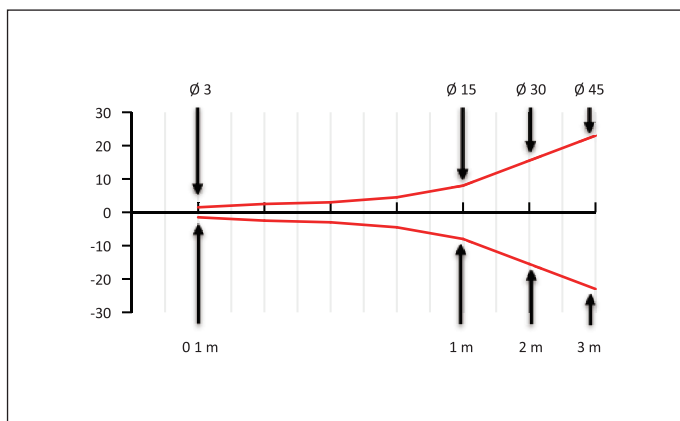
OM18-S6 (mm)



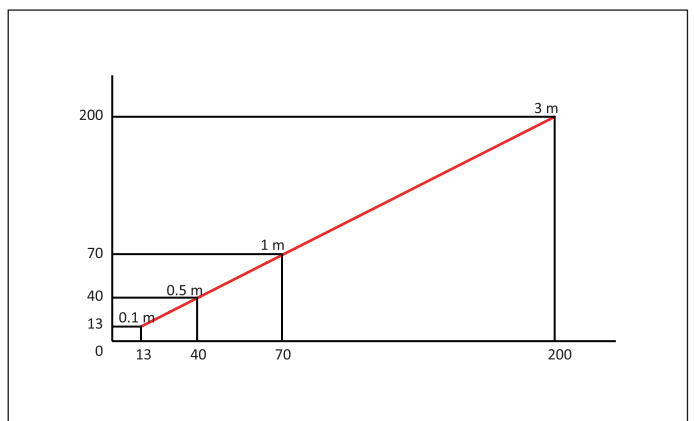
OM18-SL (mm)



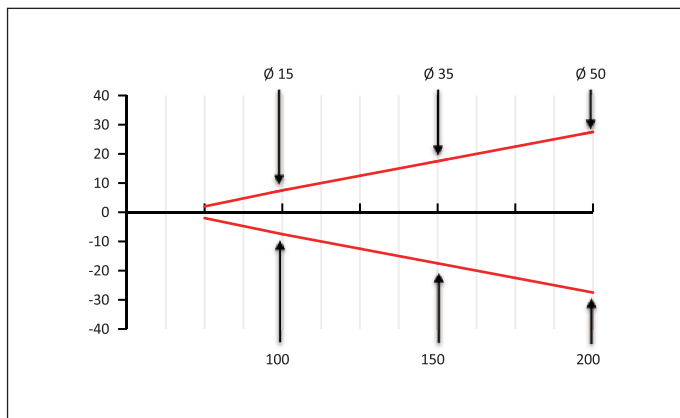
OM18-R (mm)



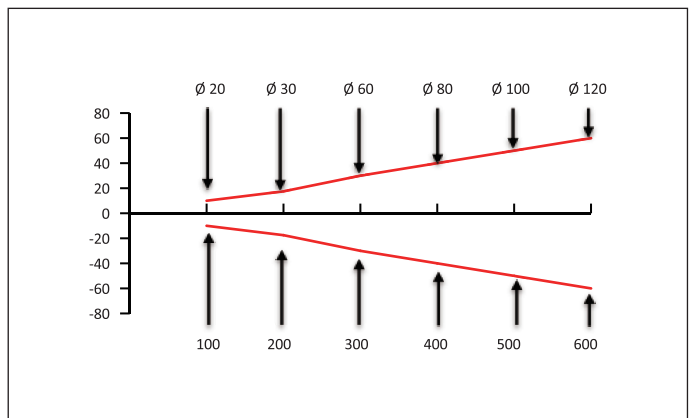
OM18-RP (mm)



OM18-K100/200 (mm)



OM18-K400/600 (mm)



OM18 SERIES

DIMENSIONS

Fig. 1 OM18 with cable

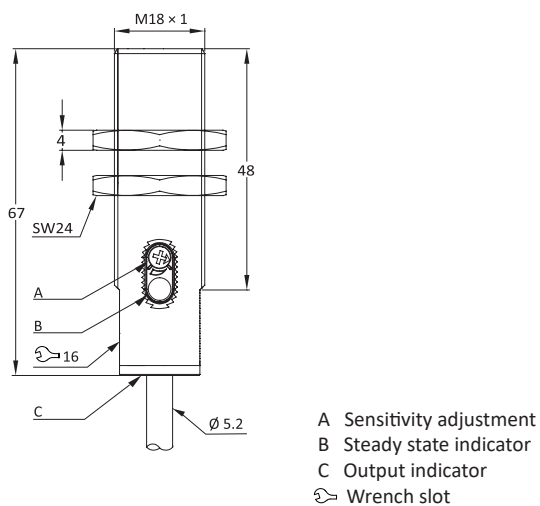
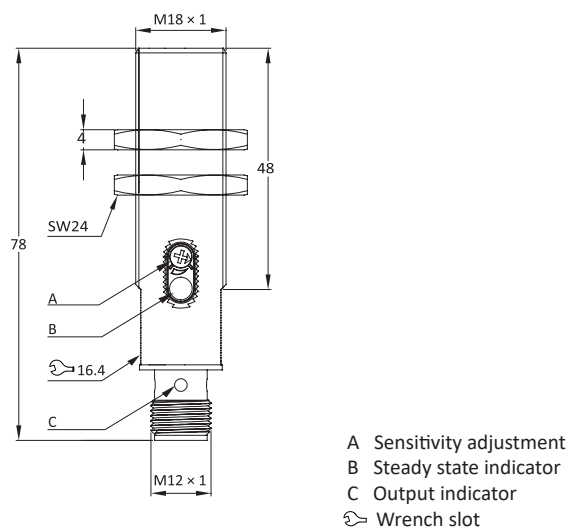
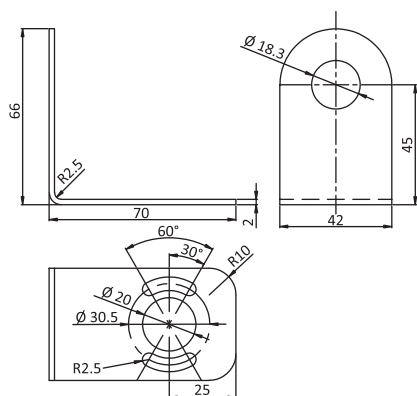


Fig. 2 OM18 with M12 connector



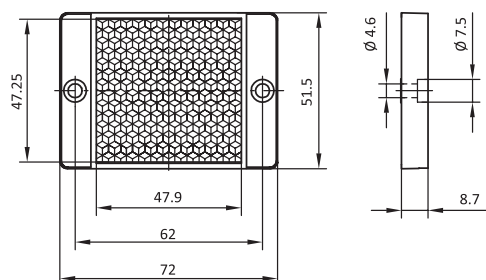
MOUNTING BRACKET (OPTIONAL)

EOM18-1



REFLECTOR (OPTIONAL)

RB50x50-1



## OM18 SERIES

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### SALES AND SERVICE

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