



# MHL15-P2238

MH15

CYLINDRICAL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
MHL15-P2238	1026134

Other models and accessories → [www.sick.com/MH15](http://www.sick.com/MH15)

## Detailed technical data

### Features

<b>Sensor/ detection principle</b>	Photoelectric retro-reflective sensor
<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 49.3 mm
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	49.3 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Radial
<b>Sensing range max.</b>	0.035 m ... 4.5 m <sup>1)</sup>
<b>Sensing range</b>	0.035 m ... 2.6 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 60 mm (2.6 m)
<b>Angle of dispersion</b>	Approx. 1.5°
<b>Wave length</b>	650 nm
<b>Adjustment</b>	None

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub> <sup>2)</sup>

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

<b>Power consumption</b>	30 <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Dark switching
<b>Signal voltage PNP HIGH/LOW</b>	U <sub>v</sub> - (< 2,9 V) / ca. 0 V
<b>Output current I<sub>max.</sub></b>	100
<b>Response time</b>	≤ 1.25 ms <sup>4)</sup>
<b>Switching frequency</b>	400 Hz <sup>5)</sup>
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>6)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	0.14 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 3.7 mm
<b>Circuit protection</b>	A <sup>7)</sup> C <sup>8)</sup> D <sup>9)</sup>
<b>Protection class</b>	III
<b>Weight</b>	91 g
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67 IP69K
<b>Ambient operating temperature</b>	-25 ... +55 °C
<b>Ambient storage temperature</b>	-25 ... +70 °C
<b>UL File No.</b>	NRKH.E189383 & NRKH7.E189383

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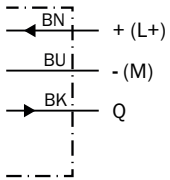
## Classifications

<b>ECl@ss 5.0</b>	27270902
<b>ECl@ss 5.1.4</b>	27270902
<b>ECl@ss 6.0</b>	27270902
<b>ECl@ss 6.2</b>	27270902
<b>ECl@ss 7.0</b>	27270902
<b>ECl@ss 8.0</b>	27270902
<b>ECl@ss 8.1</b>	27270902
<b>ECl@ss 9.0</b>	27270902
<b>ECl@ss 10.0</b>	27270902

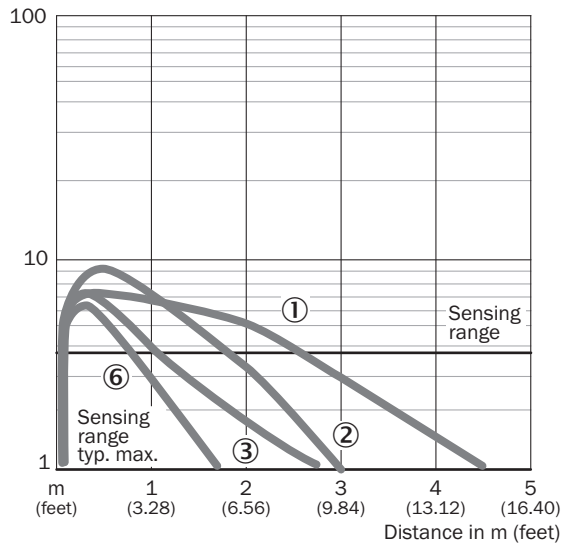
<b>ECl@ss 11.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

## Connection diagram

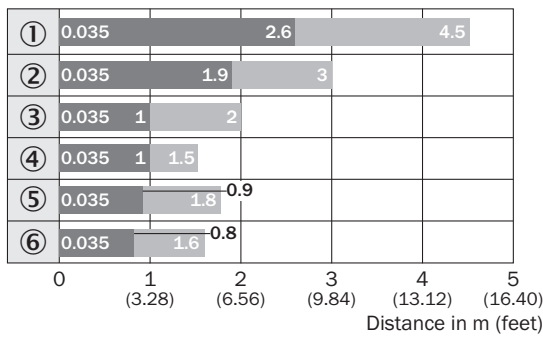
Cd-043



## Characteristic curve



### Sensing range diagram

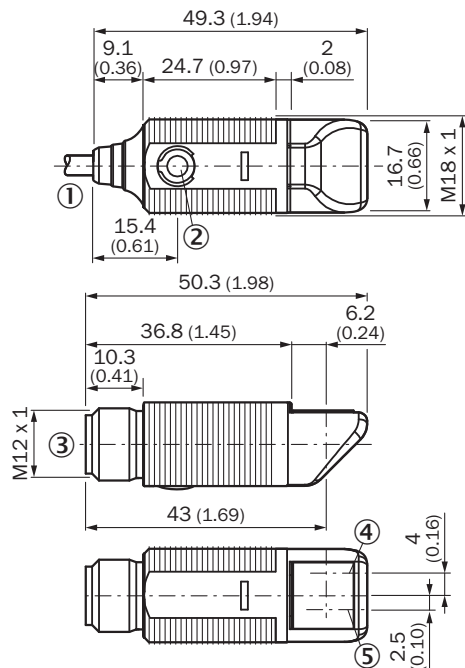


■ Sensing range      ■ Sensing range typ. max.

### Reflector type

- ① PL80A
- ② P250
- ③ PL50A/PL40A
- ④ C110
- ⑤ PL30A/PL31A
- ⑥ PL20A




### Dimensional drawing (Dimensions in mm (inch))



- ① Connection cable 2 m
- ② Yellow LED indicator:- lights continuously:Light reception> reserve factor 1.5- blinks: Light reception < reserve factor 1.5 but > switching threshold 1
- ③ M12 male device connector, 3-pin

Recommended accessories

Other models and accessories → [www.sick.com/MH15](http://www.sick.com/MH15)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
<b>Plug connectors and cables</b>			
	Head A: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322
<b>Reflectors</b>			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)