



Retroreflective sensor ML300-55-2m-RT/59/98/102



- Miniature design
- Easy to use
- Visible red light
- 45° connector

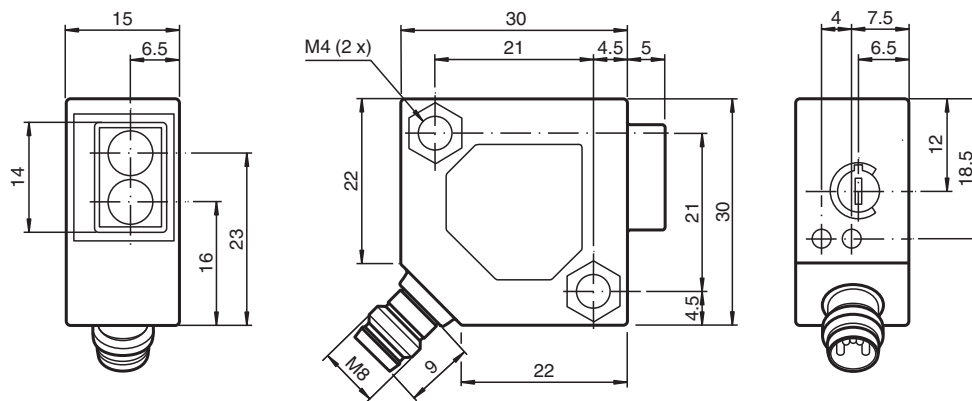
Retroreflective sensor for standard applications, miniature design, polarization filter, 3.5 m detection range, red light, dark on, NPN output, M8 plug



Function

The ML300 series has a robust miniature housing and all the standard functional principles. Of particular note are the sensors with analog output, which return a value proportional to the distance. The 45° plug/cable connection ensures flexible mounting. An LED indicates a weak signal, e.g. due to dirt.

Dimensions



Technical Data

General specifications

Effective detection range	0 ... 2 m
Reflector distance	0.02 ... 2 m
Threshold detection range	3.5 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 660 nm
Polarization filter	yes
Diameter of the light spot	approx. 200 mm at 2 m
Opening angle	approx. 6 °
Ambient light limit	
Continuous light	10000 Lux
Modulated light	5000 Lux

Indicators/operating means

Function indicator	LED yellow: lights up when output is active LED green: Sufficient stability control
Control elements	sensitivity adjustment

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I_0	max. 20 mA

Output

Switching type	dark-on	
Signal output		1 NPN output, short-circuit protected, reverse polarity protected, open collector
Switching voltage	max. 30 V DC	
Switching current		max. 0.1 A
Voltage drop	U _d	≤ 2 V DC
Switching frequency	f	1000 Hz
Response time	0.5 ms	

Conformity

Product standard	EN 60947-5-2
------------------	--------------

Compliance with standards and directives

Standard conformity	
Shock and impact resistance	EN 60947-5-7 30 g, 11 ms, all axes
Vibration resistance	EN 60947-5-7, 10-55 Hz/1.5 mm amplitude, all axes

Approvals and certificates

CCC approval	CCC approval / marking not required for products rated ≤ 36 V
--------------	--

Ambient conditions

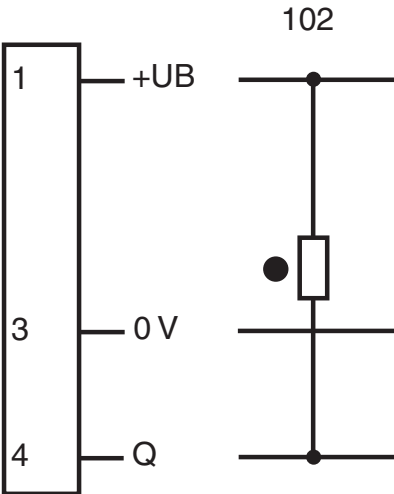
Ambient temperature	-25 ... 55 °C (-13 ... 131 °F)
---------------------	--------------------------------

Mechanical specifications

Housing width	30 mm
Housing height	30 mm
Housing depth	15 mm
Degree of protection	IP65
Connection	M8 x 1 connector, 3-pin
Material	
Housing	ABS
Optical face	plastic
Connector	metal
Mass	18 g

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 238190_eng.pdf

Connection Assignment



○ = Light on
● = Dark on

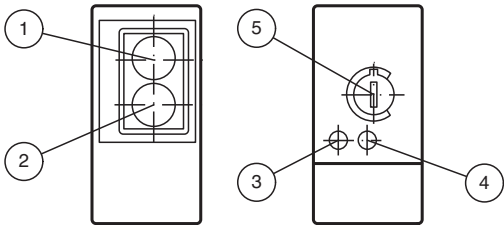
Connection Assignment



Wire colors in accordance with EN 60947-5-2

- | | | |
|---|----|---------|
| 1 | BN | (brown) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

Assembly

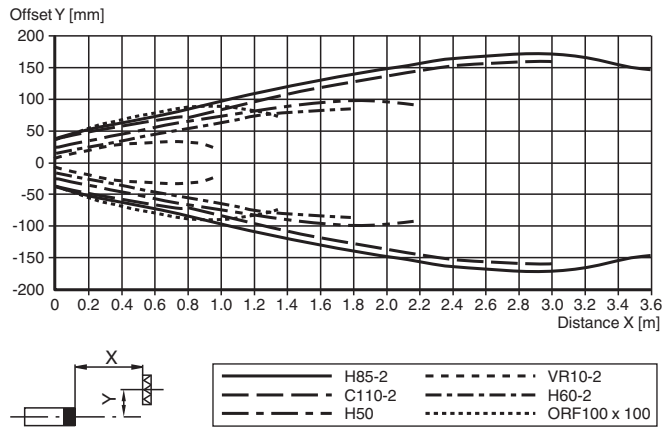


1	Receiver	
2	Emitter	
3	Switching state	yellow
4	Stability control	green
5	Sensitivity adjustment	

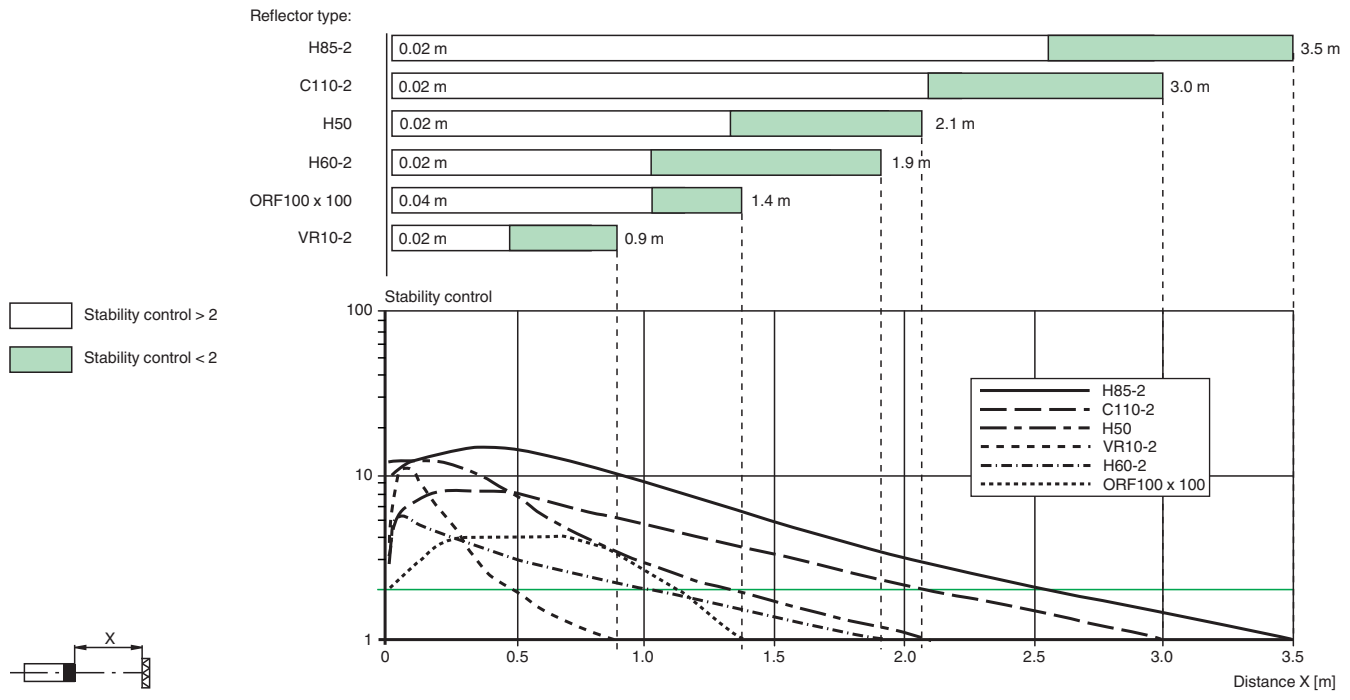
Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 238190_eng.pdf

Characteristic Curve

Characteristic response curve



Relative received light strength



Accessories

	OMH-ML300-01	Bracket for mounting ML300 series sensors
	V3-GM-2M-PVC	Female cordset single-ended M8 straight A-coded, 3-pin, PVC cable grey
	V3-WM-2M-PVC	Female cordset single-ended M8 angled A-coded, 3-pin, PVC cable grey
	V3-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey
	REF-H85-2	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

Accessories

	REF-C110-2	Reflector, round ø 84 mm, central mounting hole
	REF-H50	Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap
	REF-H60-2	Reflector with mounting holes
	OFR-100/100	Reflective tape 100 mm x 100 mm

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 238190_eng.pdf