



**Model Number**

**MLE76150-54-G/25/92/110/123**

Retroreflective sensor

Right-angled flange mount and M12 connector

**Features**

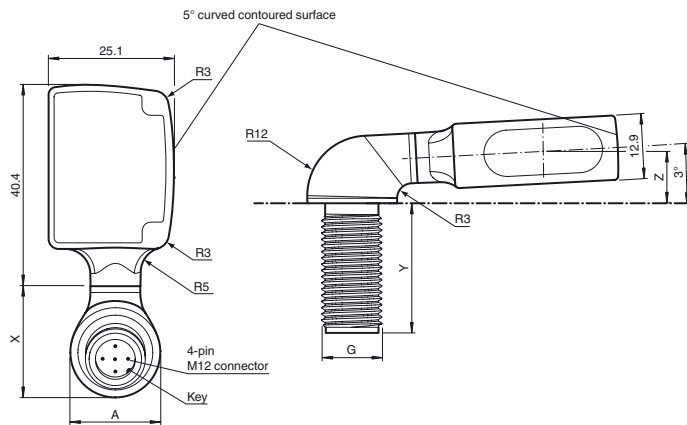
- EHEDG-certified sensors with hygienic design
- Stainless steel version, especially suitable for applications in the food industry
- Integrated mounting solution is part of the EHEDG certificate
- Pressure fitted front panel without the use of adhesives
- Reliable and leak-proof housing, even with repeated thermal shocks

**Product information**

The EHEDG certificate of compliance for the MLE76 series confirms that this sensor system is easy to clean and ensures a high degree of microbiological safety. This is possible through the integration of various mounting adapters in the overall sensor concept and through the adaptation of all sensor properties to the strict hygiene requirements in the product-contact area. All sensor materials are non-toxic, non-absorbent and highly resistant to corrosion. The rounded stainless steel housing plus mounting adapters have no edges and therefore allow more efficient cleaning without dismantling the sensor.

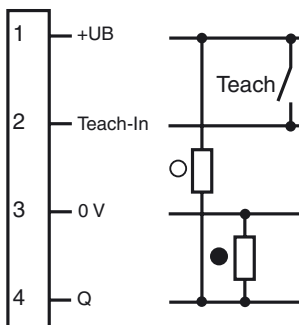
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**Dimensions**



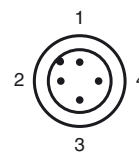
Dimensions	A	G	X	Y	Z
Standard	ø 18	M12 x 1	22.2	26	10.4

**Electrical connection**

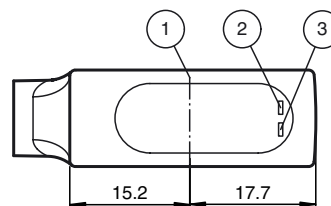


○ = Light on  
● = Dark on

**Pinout**



**Indicators/operating means**



1	Optical axis	
2	Operating display	green
3	Signal display	yellow

**Technical data****General specifications**

Effective detection range	0 ... 3.2 m in TEACH mode 0 ... 4 m by operating mode "N"
Reflector distance	0 ... 3.2 m in TEACH mode 0 ... 4 m by operating mode "N"
Threshold detection range	5.1 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 660 nm
Angle deviation	max. $\pm 1^\circ$
Diameter of the light spot	approx. 40 mm at detection range 1 m
Angle of divergence	1.7 °
Ambient light limit	40000 Lux

**Indicators/operating means**

Operating display	LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function display	LED yellow: switching state ; Stability control ; Teach-In
Controls	none
Contrast detection levels	10 % - clean, water filled PET bottles 18 % - clear glass bottles 40 % - colored glass or opaque materials adjustable by external TEACH-IN switch

**Electrical specifications**

Operating voltage	$U_B$	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	$I_0$	< 20 mA at 24 V DC

**Input**

Function input	Ext. Teach-In input (ET)
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**Output**

Switching type	light on	
Signal output	1 push-pull output, short-circuit protected, reverse polarity protected	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Switching frequency	f	1 kHz
Response time	500 $\mu$ s	

**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**

Mounting adapter	Flanged mounting right angle
Protection degree	IP67 / IP69K
Connection	connector M12 x 1, 4-pin
Material	
Housing	Stainless steel 1.4404 / AISI 316L
Optical face	PMMA
Mass	80 g

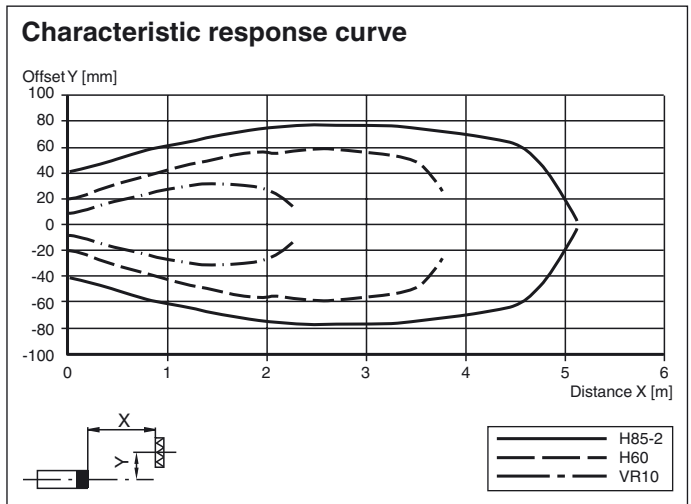
**Compliance with standards and directives**

Standard conformity	
Product standard	EN 60947-5-2:2007

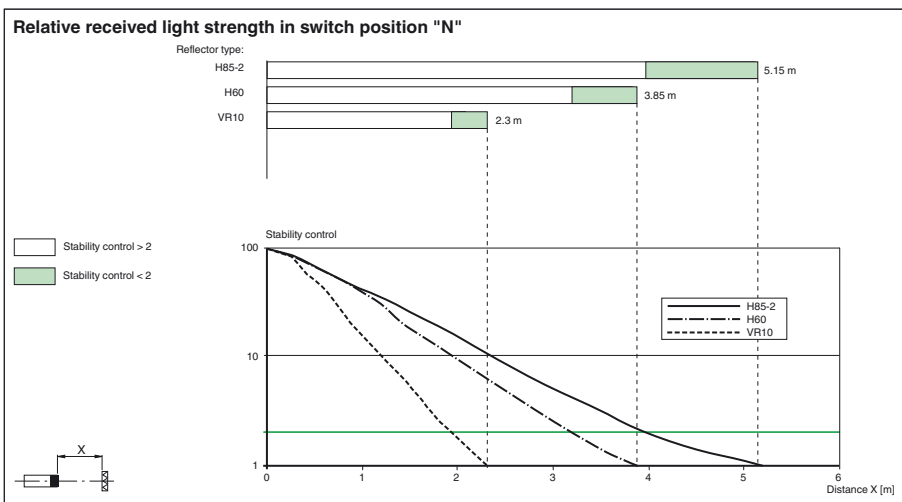
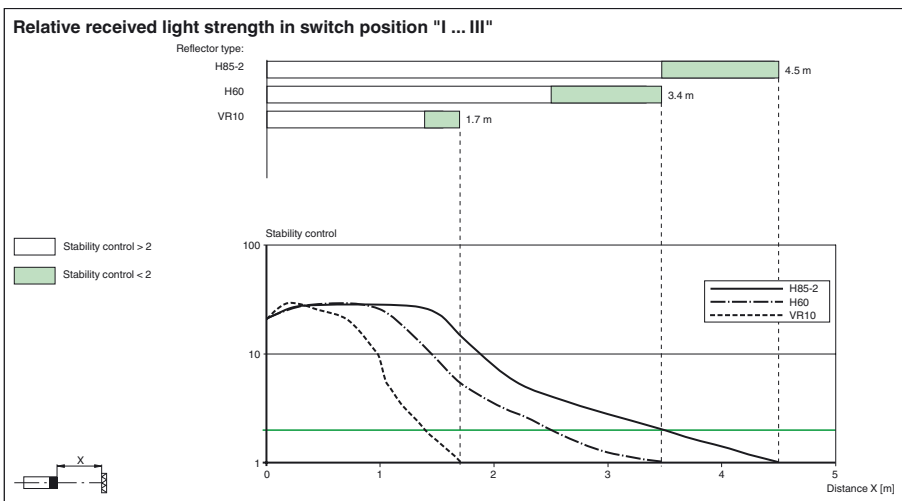
**Approvals and certificates**

UL approval	cULus
CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.

**Curves/Diagrams**



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**Additional information**

**Ext. TEACH input:**

It is possible to trigger a TEACH-IN process and to select the operating mode by the external connecting of a High pulse of a certain width:

- I: 50 ms (30 ms - 80 ms)
- II: 150 ms (120 ms - 180 ms)
- III: 250 ms (220 ms - 280 ms)
- N: 350 ms (320 ms - 380 ms)

**Instructions for the TEACH-IN mode:**

Operating mode	LED green	LED yellow	Time/ Frequency	Explanations/ Remarks
Teach-In	flashes	flashes	2/s	Slow equiphase flashing: TEACH-IN process is being executed. Max. duration of the TEACH-IN process: 2 s
	off	on	250 ms	TEACH-IN process correctly finished. Operating mode is changed.
	flashes	flashes	8/s	Rapid alternating flashing: TEACH-IN process not correctly executed.(e.g. receiver signal not sufficient, sensor not correctly aligned with reflector) Status is terminated by turning switch to position N.
N	on	flashes	4/s	In operating mode "N" aligned with reflector. Reflector detected without functional reserve.
	on	on	-	In operating mode "N" aligned with reflector. Reflector detected with functional reserve (recommended).
I	on	on	-	Contrast detection 10 % is activated. (e.g. clean PET bottles filled with water)
II	on	on	-	Contrast detection 18 % is activated. (e.g. bottles made of clear glass)
III	on	on	-	Contrast detection 40 % is activated. (e.g. tinted glass or intransparent materials)