



**Model Number**

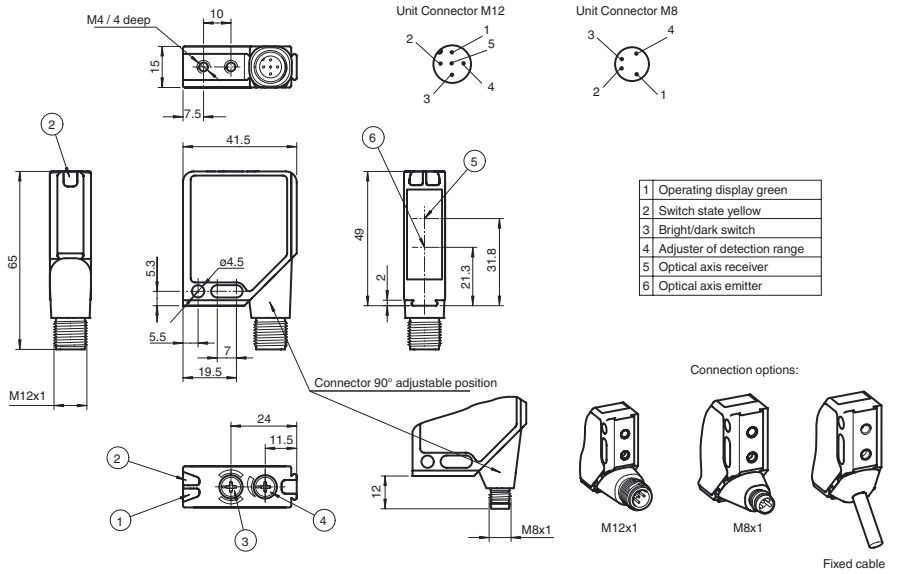
**MLV12-8-H-250-RT-2572**

Background suppression sensor with metal connector M12; 5-pin, 90° convertible

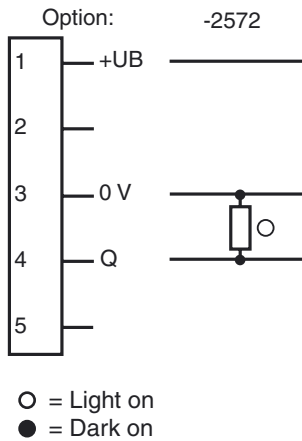
**Features**

- Reliable detection of all surfaces, independent of color and structure
- Minimal black/white difference
- Ultra bright LEDs for power on and switching state
- Flashing power on LED in case of short-circuit
- Not sensitive to ambient light, even with switched energy saving lamps
- Multiple device installation possible, no mutual interference
- Protection class II

**Dimensions**



**Electrical connection**



Release date: 2011-07-19 13:30 Date of issue: 2011-07-19 119846\_eng.xml

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

Detection range	20 ... 250 mm , adjustable
Detection range min.	20 ... 50 mm
Detection range max.	20 ... 250 mm
Adjustment range	50 ... 250 mm
Light source	LED
Light type	modulated visible red light , 660 nm
Black/White difference (6 %/90 %)	10 % at 250 mm
Diameter of the light spot	8 mm at Tw 250 mm
Angle of divergence	1.5 °
Ambient light limit	
Continuous light	30000 Lux
Modulated light	5000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	650 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Operating display	LED green, flashes in case of short-circuit
Function display	2 LEDs yellow ON: object inside the scanning range OFF: object outside the scanning range
Controls	potentiometer for light/dark, detection range adjustment

**Electrical specifications**

Operating voltage	U <sub>B</sub>	20 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	≤ 55 mA

**Output**

Switching type	light/dark on switchable	
Signal output	1 PNP output, short-circuit protected, protected from reverse polarity, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 0.25 A	
Voltage drop	U <sub>d</sub>	≤ 2.5 V DC
Switch-on delay	t <sub>on</sub>	1000 ms
Switching frequency	f	500 Hz
Response time		1 ms

**Ambient conditions**

Ambient temperature	-40 ... 50 °C (-40 ... 122 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

**Mechanical specifications**

Protection degree	IP67
Connection	Metal connector, M12, 5-pin, 90° rotatable
Material	
Housing	Frame: nickel plated, die cast zinc, Laterals: glass-fiber reinforced plastic PC
Optical face	Plastic pane
Mass	60 g

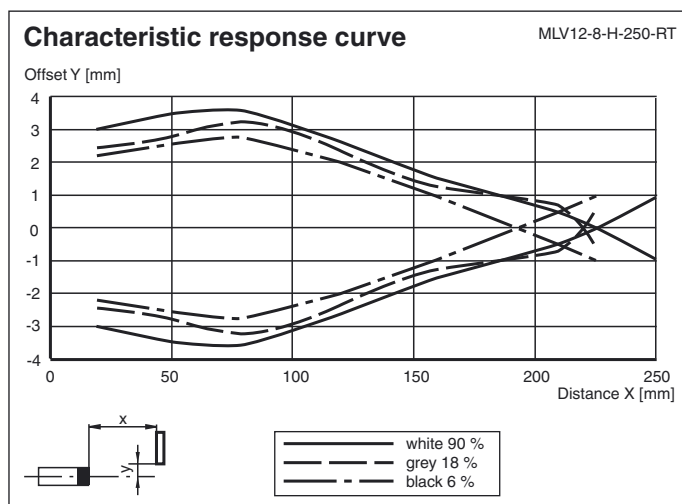
**Compliance with standards and directives**

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -150 Hz, 5 g in each X, Y and Z directions

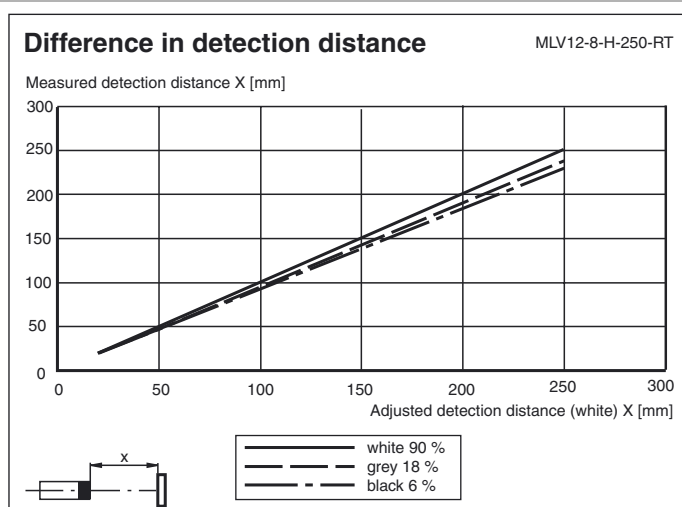
**Approvals and certificates**

Protection class	II, rated voltage ≤ 300 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

## Curves/Diagrams



## Curves/Diagrams



## Additional information

**Intended use:**

The transmitter and receiver are located in the same housing for direct detection sensors with background masking. Marking of objects outside the detection range is achieved by arranging the angle between the transmitter and receiver (2 receiver elements).

Objects are detected independently of their surface structures, brightness and colour, as well as the brightness of the background.

**Mounting instructions:**

The sensors can be fastened directly with fixing screws or with a support bracket (not included with delivery).

The surface underneath must be flat to prevent the housing from moving when it is tightened into position. We recommend securing the nut and screw in place with spring washers to prevent the sensor from going out of adjustment.

**Adjustment:**

After the operating voltage is applied, the LED is lit green.

Align the sensor to the object. If the object is within the detection range, the yellow LED lights up.

**Object motion direction:**

For a reliable detection, the object's motion direction must be either towards the sensor or away from it. In case of transversal motion, the motion direction must be transversal to the emitter/receiver orientation.

**Maintenance:**

We recommend cleaning the optical surface and checking the fixation/alignment and electrical connections at regular intervals.