

# Mute R2

## Muting sensor for the Orion light guards

[EN] This document can be downloaded from [www.abb.com/jokabsafety](http://www.abb.com/jokabsafety)

Mute R2 is a retro-reflective photoelectric sensor with polarizing filters.

Mute R2 can be used as muting sensor for the Orion light guards.

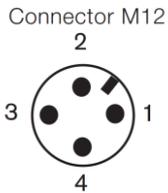
Mute R2 has a tubular M18 plastic housing and a PNP output, is equipped with a sensitivity adjustment trimmer and offers the possibility to choose between Dark-on and Light-on modes.



### Mounting

The sensor can be fixed by means of the M18x1 threaded body using the provided hexagonal nuts (spanner width 24, 1.5 Nm maximum tightening torque) and/or low profile flare nut.

### Connections



- 1 (Brown): +12...30 VDC
- 2 (White): Mode selection  
Dark-on: connection to 0 V (pin 3) or not connected  
Light-on: connection to supply (pin 1)
- 3 (Blue): 0 V
- 4 (Black): PNP output

Colors according to ABB Jokab Safety standard cables

Note: If pin 2 is not connected, Mute R2 operates in Dark-on mode.

#### Dark-on mode:

**(to be used when Mute R2 is used as muting sensor)**

The output (pin 4) is activated when an object interrupts the light beam.

#### Light-on mode:

The output (pin 4) is activated when the light beam is not interrupted (no object).

### Setting

Place the sensor and the reflector on opposite sides within the maximum operating distance. The operating distance is measured from the front surface of the sensor lens.

Turn the trimmer completely clockwise.

Move the sensor vertically and horizontally, define the points of switch-off and switch-on of the yellow LED (Output). Mount the sensor in the middle of the defined points and check that the green LED (Stability) is ON.

### Controls

#### Output LED (yellow)

The yellow LED should be permanently ON or OFF: it indicates the status of the output. If the yellow LED is blinking, the short circuit protection of the output is activated.

#### Stability LED (green)

The green LED should be permanently ON: it indicates that the signal received has an acceptable safety margin in relation to the switching value of the output and the sensor is ready to function in a stable operating condition.

#### Sensitivity trimmer adjustment

Mono-turn trimmer to adjust the operating distance of the sensor. Turn the trimmer completely clockwise for maximum sensitivity/longest operating distance.

If the object to be detected has a reflecting surface (e.g. a shiny surface), reduce the sensitivity in order to detect the object. This also reduces the operating distance and you have to make sure that the reflector is still within the operating distance and that the green light is ON.

**⚠ Warning!** The trimmer rotation is limited to 270° by a mechanical stop. Do not apply excessive torque when adjusting (max 40 Nmm).

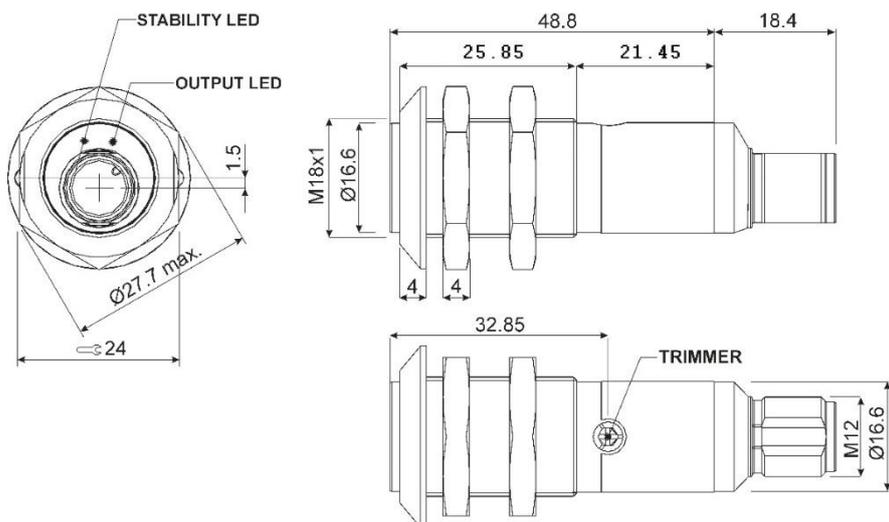
## Technical data

<b>Power supply</b>	+12...+30 VDC Class 2 UL508
<b>Ripple</b>	2 Vpp max
<b>Current consumption</b>	30 mA max (output current excluded)
<b>Outputs</b>	PNP open collector (overload and short circuit protection, indicated with LED indicators and LED emission blinking)
<b>Output current</b>	100 mA max
<b>Output saturation voltage</b>	2 V max
<b>Response time</b>	1 ms
<b>Switching frequency</b>	500 Hz
<b>Settings</b>	Mono-turn sensitivity adjustment trimmer
<b>Operating temperature</b>	-25 ... +55 °C
<b>Storage temperature</b>	-25 ... +70 °C
<b>Insulating strength</b>	500 VAC during 1 min between electronics and housing
<b>Insulating resistance</b>	>20 MΩ 500 VDC between electronics and housing
<b>Operating distance (typical values)</b>	0.1...4 m on REFLECT 1 (Ø 63 mm reflector) 0.1...5 m on REFLECT 2 (Ø 82 mm reflector)
<b>Emission type</b>	Red (660 nm)
<b>Ambient light rejection</b>	According to EN 60947-5-2
<b>Vibrations</b>	0.5 mm amplitude, 10 ... 55 Hz frequency for every axis (EN60068-2-6)
<b>Shock resistance</b>	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
<b>Housing material</b>	ABS TERLURAN
<b>Lens material</b>	PMMA
<b>Mechanical protection</b>	IP67, IP69K
<b>Connections</b>	M12-4 pole male connector (compatible with M12-5 pole female connector)
<b>Weight</b>	40 g max

## Ordering information

Type	Order code	Description
Mute R2	2TLA022044R0500	Retro-reflective photoelectric sensor, PNP output
REFLECT 1	2TLA022044R2000	Reflector diameter 63 mm
REFLECT 2	2TLA022044R3000	Reflector diameter 82 mm
JSM 64	2TLA040007R0200	Bracket with angle possibility for M18

## Dimensions



All dimensions in millimeters

### Note

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