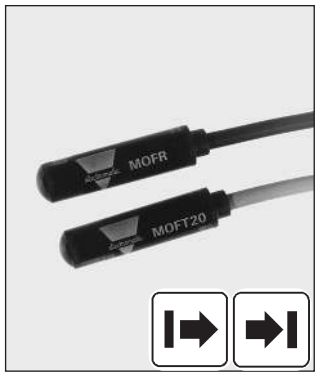
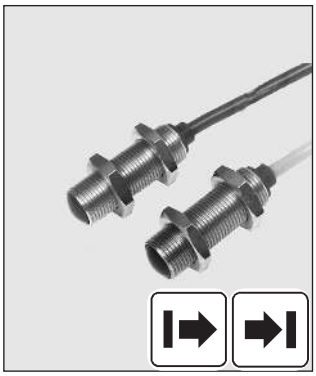
# Photoelectrics
# Through-beam for Separate Amplifier
# Types MOFT, MOFR



- **Built-in lens: 2°, 5° or 8°**
- **Range: 20 m or 50 m**
- **Modulated infrared light**
- **High immunity to ambient light**
- **For amplifier series S142. and S143.**
- **Degree of protection IP 66/IP 67**
- **For harsh environment**
- **High penetration power**
- **15 m shielded PVC cable**
- **Ø 10 mm polycarbonate housing or M12 or M14 stainless steel**

CE

## Product Description

Small through beam photoelectric switch. Range up to 50 m. 3 beam angles. Waterproof, for dirty environment, i.e. water, dust, steam etc. To be used with amplifiers series S142. - S143. 15 m shielded cable, PVC. Ø 10 x 42 mm polycarbonate or M12 or M14 stainless steel housing. Straight optical axis.

## Ordering Key

**MOF T 20-M12-2**

- **Type**
- **Emitter**
- **Range**
- **Housing diameter**
- **Optical angle**

## Type Selection

| Housing diameter | Rated operating dist. ($S_n$) | Optical angle | Ordering no.: Emitter | Ordering no.: Receiver |
|---|---|---|---|---|
| Ø 10 mm | | 2° | | **MOFR** |
| | | 5° | | **MOFR-5** |
| | | 8° | | **MOFR-8** |
| | 20 m | 2° | **MOFT 20** | |
| | 20 m | 5° | **MOFT 20-5** | |
| | 20 m | 8° | **MOFT 20-8** | |
| | 50 m | 2° | **MOFT 50** | |
| M12 | | 2° | | **MOFR-M12-2** |
| | | 5° | | **MOFR-M12-5** |
| | | 8° | | **MOFR-M12-8** |
| | 20 m | 2° | **MOFT 20-M12-2** | |
| | 20 m | 5° | **MOFT 20-M12-5** | |
| | 20 m | 8° | **MOFT 20-M12-8** | |
| | 50 m | 2° | **MOFT 50-M12-2** | |
| M14 | | 8° | | **MOFR-M14-8** |
| | 20 m | 8° | **MOFT 20-M14-8** | |

## Specifications Emitter

| | |
|---|---|
| **Rated operational volt.** ($U_e$) | 3 V, (square wave) supplied by amplifier |
| **Supply current** ($I_O$) | MOFT 20 ≤ 15 mA<br>MOFT 20-5 ≤ 50 mA<br>MOFT 20-8 ≤ 50 mA<br>MOFT 50 ≤ 50 mA |

| | |
|---|---|
| **Light source** | GaAlAs LED, 880 nm |
| **Light type** | Infrared, modulated |
| **Optical angle** | ± 2°, ± 5°, ± 8° |
| **Indications** | On amplifier |
| **Protection** | Short-circuit, reverse polarity |

## Specifications Receiver

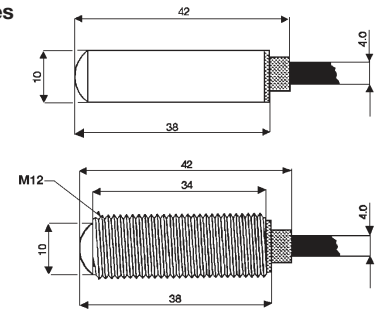
| | |
|---|---|
| **Rated operational volt.** ($U_e$) | 8 VDC supplied by amplifier $R_{source}$ 470Ω |
| **Supply current** ($I_O$) | ≤ 11 mA |
| **Sensitivity** | Adjustable on amplifier |
| **Optical angle** | ± 2°,± 5°, ± 8° |
| **Ambient light** | 10,000 lux (sensitivity ±5%)<br>**Note:** The actual range will be within ±5% of the set range at an ambient light of 10,000 lux |
| **Operating frequency** (f) | See amplifier data |
| **Response time** ($t_{OFF}$ & $t_{ON}$) | See amplifier data |
| **Power ON delay** ($t_v$) | See amplifier data |
| **Indications** | On amplifier |
| **Protection** | Short-circuit, reverse polarity |

## General Specifications

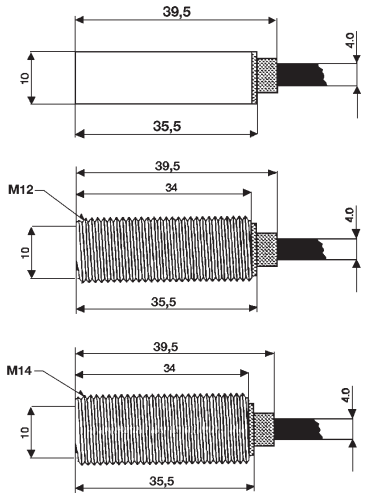
| | |
|---|---|
| **Environment** | |
| Overvoltage category | III (IEC 60664/60664A; 60947-1) |
| Pollution degree | 3 (IEC 60664/60664A; 60947-1) |
| Degree of protection | IP 66/IP 67 (IEC 60529; 60947-1) |
| **Temperature** | |
| Operating | -20° to +60°C (-4° to +140°F) |
| Storage | -40° to +80°C (-40° to +176°F) |
| **Vibration** | 10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6) |
| **Shock** | 2 x 1 m & 100 x 0.5 m (IEC 60068-2-6) |
| **Dielectric voltage** | 500 VAC (rms) |
| **Housing material** | Polycarbonate, black |
| **Connection cable** | |
| Emitter | Grey, 15 m oilproof PVC, Ø 4 mm, 1 x 0.25 mm², shielded |
| Receiver | Black, 15 m oilproof PVC, Ø 4 mm, 1 x 0.25 mm², shielded |
| **Weight (cable incl.)** | 347 g emitter<br>347 g receiver |
| **CE-marking** | Yes |

## Dimensions

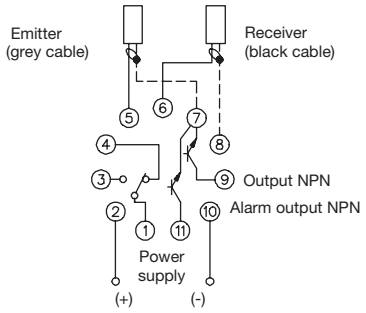
**2° and 5° types**



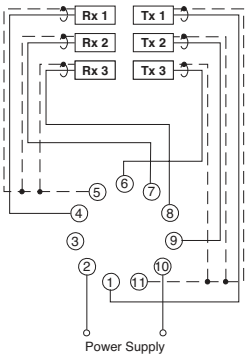

**8° types**




## Wiring Diagrams




**S142....**




**S143....**

CARLO GAVAZZI

# Installation

**Mounting**

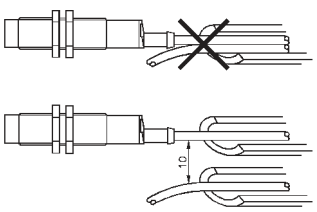
**1)** When installing the sensors, make sure that the maximum range is not exceeded and - if two separate systems are mounted close to each other - place the sensors so cross-talk is avoided.

**2)** To protect the receiver and the transmitter from damage, proper fittings must be used in the installation.

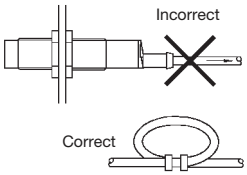
**3)** Connect the receiver and the emitter to the dedicated terminals on the S142... system.

# Installation Hints

*To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables*

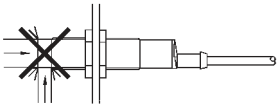



*Relief of cable strain*



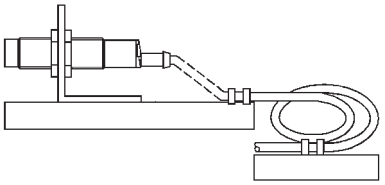

The cable should not be pulled

*Protection of the sensing face*



A proximity switch should not serve as mechanical stop

*Switch mounted on mobile carrier*



Any repetitive flexing of the cable should be avoided

# Delivery Contents

- MOFT.. and MOFR
- All M12-types: 2 pcs. M12 nuts
- All M14-types: 2 pcs. M14 nuts
- **Packaging**: Plastic bag, emitter and receiver packed separately

# Accessories

- Mounting bracket MB-M01