

Photoelectrics Through-beam for Separate Amplifier Types MOFT, MOFR

CARLO GAVAZZI



- 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



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 ampli-

fiers 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 | 20 m | 2° | MOFT 20 MOFT 20-5 MOFT 20-8 MOFT 50 | MOFR MOFR-5 MOFR-8 |
| | | 5° | | |
| | | 8° | | |
| | 20 m | 2° | | |
| | 50 m | 2° | | |
| M12 | 20 m | 2° | MOFT 20-M12-2 MOFT 20-M12-5 MOFT 20-M12-8 MOFT 50-M12-2 | MOFR-M12-2 MOFR-M12-5 MOFR-M12-8 |
| | | 5° | | |
| | | 8° | | |
| | 20 m | 2° | | |
| | 50 m | 2° | | |
| M14 | 20 m | 8° | MOFT 20-M14-8 | MOFR-M14-8 |
| | | 8° | | |

Specifications Emitter

| | | | |
|-------------------------------------------|------------------------------------------------------------------------------|---------------|---------------------------------|
| Rated operational volt. (U _e) | 3 V, (square wave) supplied by amplifier | Light source | GaAlAs LED, 880 nm |
| Supply current (I _o) | MOFT 20 ≤ 15 mA MOFT 20-5 ≤ 50 mA MOFT 20-8 ≤ 50 mA MOFT 50 ≤ 50 mA | Light type | Infrared, modulated |
| | | Optical angle | ± 2°, ± 5°, ± 8° |
| | | Indications | On amplifier |
| | | Protection | Short-circuit, reverse polarity |

Specifications Receiver

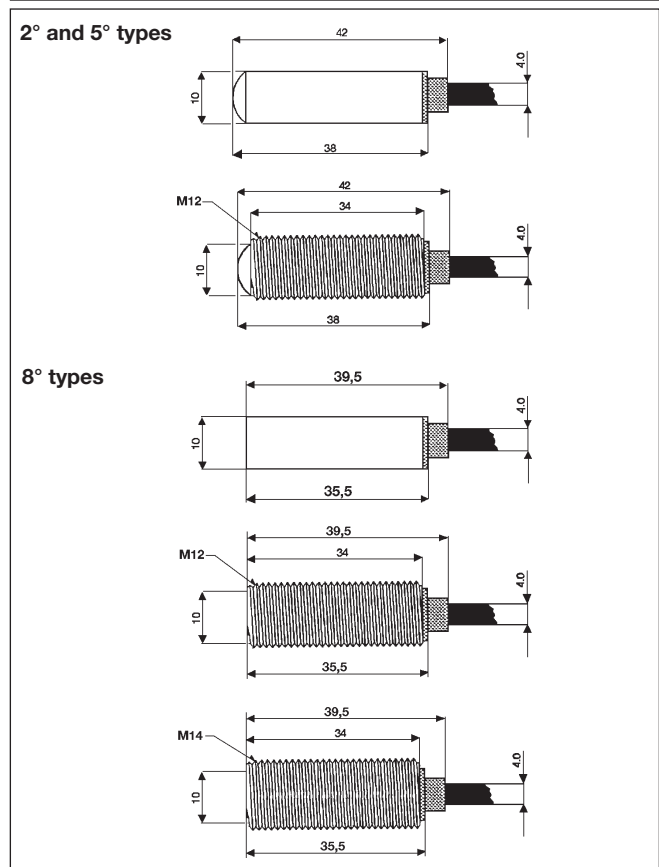
| | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated operational volt. (U_e) | 8 VDC supplied by amplifier $R_{source} 470\Omega$ |
| Supply current (I_o) | ≤ 11 mA |
| Sensitivity | Adjustable on amplifier |
| Optical angle | $\pm 2^\circ, \pm 5^\circ, \pm 8^\circ$ |
| Ambient light | 10,000 lux (sensitivity $\pm 5\%$) Note: The actual range will be within $\pm 5\%$ 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 |

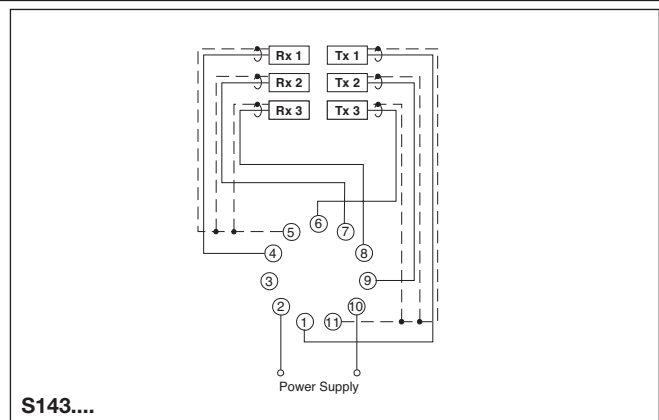
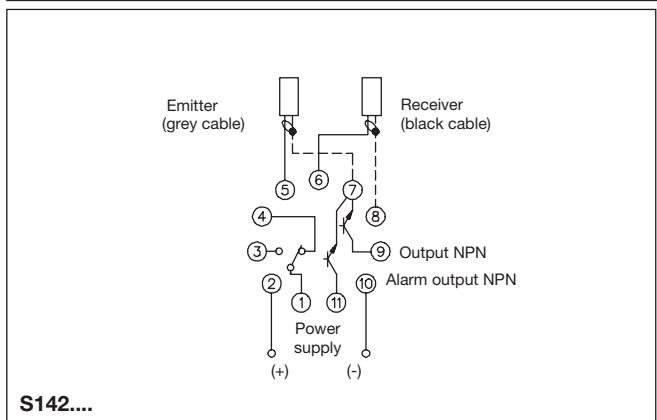
General Specifications

| | |
|-----------------------------|-----------------------------------------------------------------------------------------|
| 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 $+60^\circ\text{C}$ (-4° to $+140^\circ\text{F}$) |
| Storage | -40° to $+80^\circ\text{C}$ (-40° to $+176^\circ\text{F}$) |
| 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, $\varnothing 4$ mm, 1 x 0.25 mm ² , shielded |
| Receiver | Black, 15 m oilproof PVC, $\varnothing 4$ mm, 1 x 0.25 mm ² , shielded |
| Weight (cable incl.) | 347 g emitter 347 g receiver |
| CE-marking | Yes |

Dimensions



Wiring Diagrams

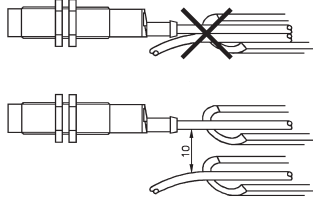
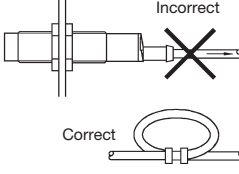
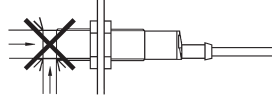
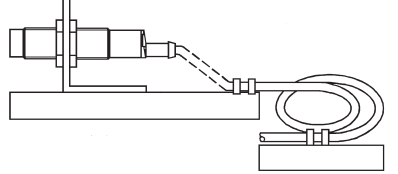


Installation

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

| | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>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</i></p>  | <p><i>Relief of cable strain</i></p>  <p>Incorrect</p> <p>Correct</p> <p>The cable should not be pulled</p> | <p><i>Protection of the sensing face</i></p>  <p>A proximity switch should not serve as mechanical stop</p> | <p><i>Switch mounted on mobile carrier</i></p>  <p>Any repetitive flexing of the cable should be avoided</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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