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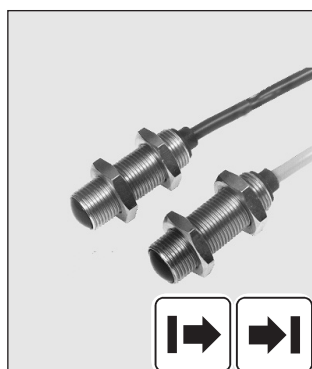
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# Photoelectrics Through-beam for Separate Amplifier Types MOFT, MOFR

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 <sub>n</sub> )	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 <sub>e</sub> )	3 V, (square wave) supplied by amplifier	Light source	GaAlAs LED, 880 nm
Supply current (I <sub>o</sub> )	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

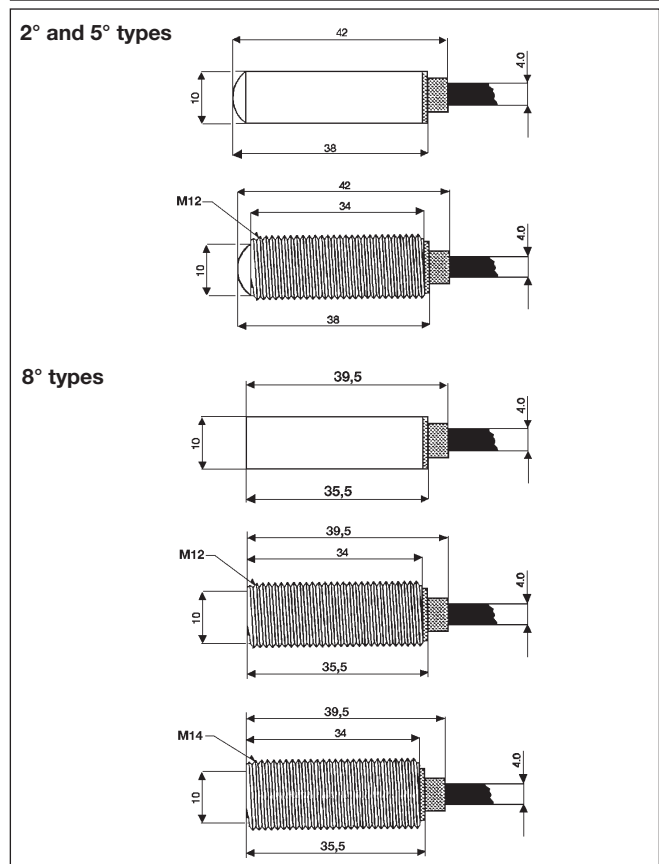
Rated operational volt. ( $U_e$ )	8 VDC supplied by amplifier $R_{source} 470\Omega$
Supply current ( $I_o$ )	$\leq 11$ mA
Sensitivity	Adjustable on amplifier
Optical angle	$\pm 2^\circ, \pm 5^\circ, \pm 8^\circ$
Ambient light	10,000 lux (sensitivity $\pm 5\%$ ) <b>Note:</b> The actual range will be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

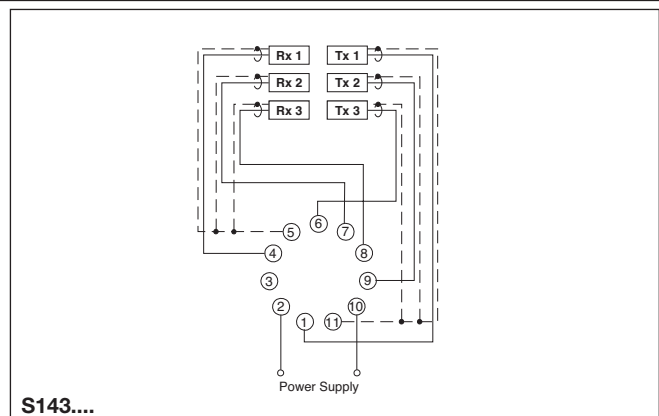
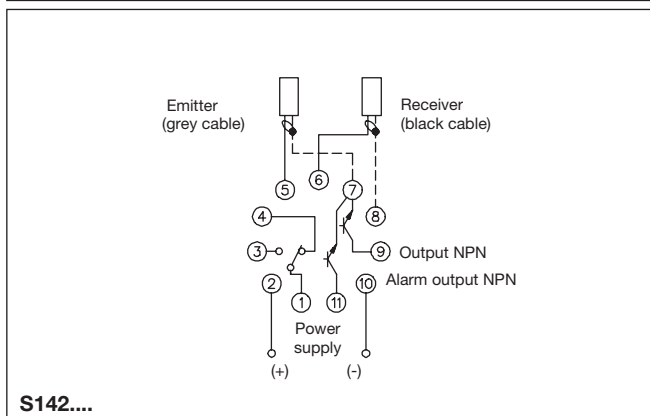
## General Specifications

<b>Environment</b>	
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)
<b>Temperature</b>	
Operating	$-20^\circ$ to $+60^\circ\text{C}$ ( $-4^\circ$ to $+140^\circ\text{F}$ )
Storage	$-40^\circ$ to $+80^\circ\text{C}$ ( $-40^\circ$ to $+176^\circ\text{F}$ )
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6)
<b>Dielectric voltage</b>	500 VAC (rms)
<b>Housing material</b>	Polycarbonate, black
<b>Connection cable</b>	
Emitter	Grey, 15 m oilproof PVC, $\varnothing 4$ mm, 1 x 0.25 mm <sup>2</sup> , shielded
Receiver	Black, 15 m oilproof PVC, $\varnothing 4$ mm, 1 x 0.25 mm <sup>2</sup> , shielded
<b>Weight (cable incl.)</b>	347 g emitter 347 g receiver
<b>CE-marking</b>	Yes

## Dimensions



## Wiring Diagrams



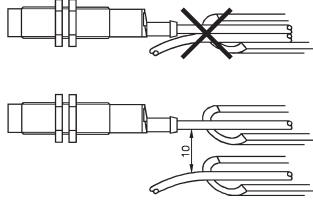
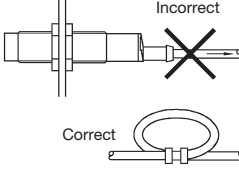
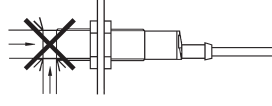
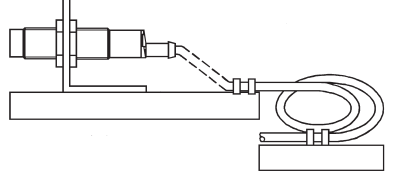


## Installation

### 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>
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## 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