

Photoelectric sensors

Through-beam for Separate Amplifier MOFT, MOFR



- Built-in lens: 2°, 5° or 8°
- Rated operating distance: 20 m or 50 m
- Modulated infrared light
- High immunity to ambient light
- For amplifier series S142... and PAM03...
- 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 housing



Description

Small through beam photoelectric sensors. To be used with amplifiers series S142... and PAM03...
Rated operating distance up to 50 m. 3 beam angles. 15 m shielded cable, PVC. Ø 10 x 42 mm polycarbonate or M12 or M14 stainless steel housing. Straight optical axis. Waterproof, for dirty environment, i.e. water, dust, steam etc.

Part selection key

MOF	-	Photoelectric sensor
X	T	Emitter
	R	Receiver
X	20	Rated operating distance: 20 m
	50	Rated operating distance: 50 m
X	-	Housing diameter: Ø10
	M12	Housing diameter: M12
	M14	Housing diameter: M14
X	-/2	Optical angle: 2°
	5	Optical angle: 5°
	8	Optical angle: 8°
PAM03	-	For the PAM03... amplifier

Part selection

Housing diameter	Rated operating distance (S _n)	Optical angle	Part number (Emitter)	Part number (Receiver)
Ø 10 mm	20 m	2°	MOFT 20	MOFR
	20 m	5°	MOFT 20-5	MOFR-5
	20 m	8°	MOFT 20-8 *	MOFR-8
	20 m	8°	MOFT 20-8-PAM03	MOFR-8
	50 m	2°	MOFT 50	MOFR
M12	20 m	2°	MOFT 20-M12-2	MOFR-M12-2
	20 m	5°	MOFT 20-M12-5	MOFR-M12-5
	20 m	8°	MOFT 20-M12-8 *	MOFR-M12-8
	20 m	8°	MOFT 20-M12-8-PAM03	MOFR-M12-8
	50 m	2°	MOFT 50	MOFR-M12-2
M14	20 m	8°	MOFT 20-M14-8 *	MOFR-M14-8
	20 m	8°	MOFT 20-M14-8-PAM03	MOFR-M14-8

* Not for PAM03...

Features

Main operational data Emitter

Functional principle	Photoelectric emitter
Sensing	
Rated operating distance (S_r)	20 m 50 m
Optical information	
Light source	GaAlAs LED, 880 nm
Light type	Infrared, modulated
Optical angle	$\pm 2^\circ$, $\pm 5^\circ$, $\pm 8^\circ$

Main operational data Receiver

Functional principle	Photoelectric receiver
Sensing	
Sensitivity adjustment	Adjustable on amplifier
Operating frequency (f)	See amplifier data
Response time (t_{OFF} and t_{ON})	See amplifier data
Optical information	
Optical angle	$\pm 2^\circ$, $\pm 5^\circ$, $\pm 8^\circ$

Electrical data

Power supply	
Rated operational voltage (U_e)	Supplied by amplifier
Power-ON delay (t_v)	See amplifier data

Environmental data

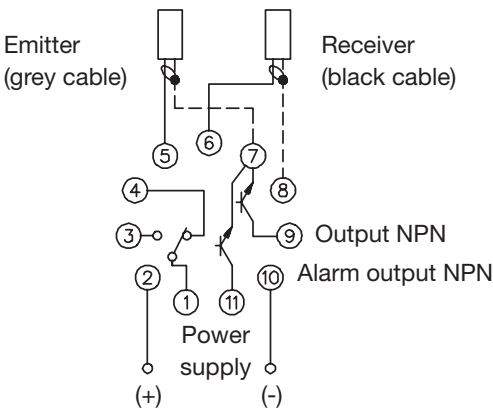
Ambient temperatures	
Operating	$-20^\circ \dots +60^\circ\text{C}$ ($-4^\circ \dots +140^\circ\text{F}$)*
Storage	$-40^\circ \dots +80^\circ\text{C}$ ($-40^\circ \dots +176^\circ\text{F}$)*
Ambient light	10,000 lux (sensitivity $\pm 5\%$) Note: The actual range will be within $\pm 5\%$ of the set range at an ambient light of 10,000 lux
Mechanical influences	
Vibration	10...150 Hz, 0.5 mm/7.5 g (EN IEC 60068-2-6)
Drop test	2 x 1 m and 100 x 0.5 m (EN IEC 60068-2-31)
Categorization	
Pollution degree	3 (EN IEC 60664, 60664A; EN IEC 60947-1)
Overvoltage category	III (EN IEC 60664; EN IEC 60947-1)
Degree of protection	IP66/IP67 (EN IEC 60539; EN IEC 60947-1)
Safety (electrical)	
Protections	Short circuits, reverse polarity
Dielectric insulation voltage	500 VAC (rms)

Structure

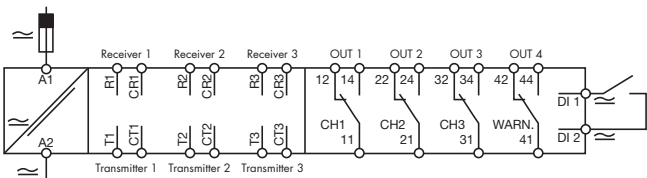
Housing

Housing	
Housing	Cylindrical
Body	Ø10: Polycarbonate, black M12 or M14: Stainless steel
Dimensions	
Optical angle 2°	Ø10 x 42 mm
Optical angle 5°	M12 x 42 mm
Optical angle 8°	Ø10 x 39.5 mm M12 x 39.5 mm M14 x 39.5 mm
Weight	
Emitter	347 g (Cable incl.)
Receiver	347 g (Cable incl.)
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

Wiring



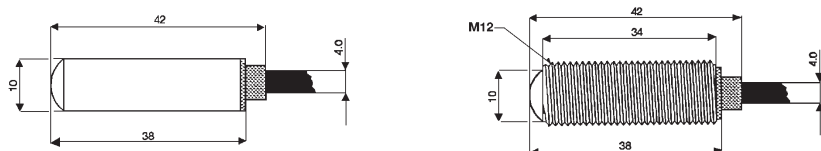
S142...



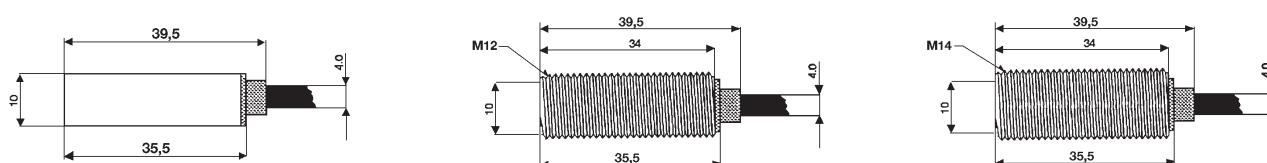
PAM03...

Dimensions in mm

2° and 5° types



8° types



LED indication

Indications	On amplifier
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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, or use PAM03...
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... or PAM03... system.

Delivery contents and accessories

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

Further informations

Carlo Gavazzi website

www.gavazziautomation.com

