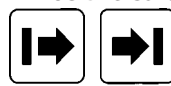


Photoelectric Through-beam System, Relay Output Type MPF.RS

CARLO GAVAZZI



- Industrial doors and gates
- Range: 15 m
- Modulated infrared light
- Amplifier with "Snap-ON" photoelectric switches
- Supply voltage: 12-24 VAC/DC, 115 VAC or 230 VAC
- Output: SPST relay
- LED indications for light ON and supply ON
- 4 module M36 DIN rail housing
- Ø12 mm "Snap-ON", Ø18 or M14 photoelectric housing
- 1, 2 or 3 multiplexed channels
- Positive safety, NF P25-362 standard



Product Description

The MPFRS.. is a family of inexpensive general purpose photoelectric sensors in 3 different types of housings with separate amplifier. They are designed to meet the requirements for industrial doors and gates. The "Snap-ON" photo switch can be mounted in material with a thickness from 0.6 mm and up to 2.25 mm. The sensor set is easy to use and no adjustments are necessary. The amplifier has a

test input designed to disable the emitters and therefore evacuate the sensor function. Multiplexed channels prevent cross-talk between each set of photosensors. The amplifiers are available with the following voltages: 12-24 VAC/DC, 115 VAC and 230 VAC. The output is made as positive security e.g. power lost, short-circuit or broken sensor cable makes the relay go to off state.

Ordering Key

Amplifier **MPF 3 230 RS**

Type _____

Number of channels _____

Voltage supply _____

Output relay _____

Safety _____

Sensor **MPF T 15 M14 4**

Type _____

Emitter _____

Range _____

Housing diameter _____

Optical angle _____

Type Selection, Amplifier

Housing W x H x D	Ordering no. Supply: 12-24 VAC/DC	Ordering no. Supply: 115 VAC	Ordering no. Supply: 230 VAC
70 x 57 x 86 mm	MPF1-912 RS MPF2-912 RS MPF3-912 RS	MPF1-115 RS MPF2-115 RS MPF3-115 RS	MPF1-230 RS MPF2-230 RS MPF3-230 RS

Type Selection, Photoelectric Switch

Housing diameter	Rated operational distance (S _n)	Optical angle	Ordering no. Emitter	Ordering no. Receiver	Ordering no. Fitting
Ø12 mm	15 m	4°	MPFT 15-4	MPFR-4	
M14	15 m	4°	MPFT 15-M14-4	MPFR-M14-4	
D18	15 m	4°	MPFT 15-D18-4	MPFR-D18-4	
Fitting for Ø12					AMPF-MB1

Specifications are subject to change without notice (20.08.01)

Specifications, Amplifier

Rated operational volt.			Power ON delay (t_v)	≤ 300 ms
AC types (U_B)			Output function	MPF1+2 MPF3
Terminals 1 & 3	230	230 VAC ± 15%, 50 to 60 Hz		Relay 2 x SPST
	115	115 VAC ± 15%, 50 to 60 Hz		Relay 2 x SPST + 2 x SPST
	912	12-24 VAC/DC ± 15%, 50 to 60 Hz	Indication function	
Dielectric voltage	230	4 kVAC (rms)	Supply ON	LED, green
Rated impulse withstand volt.		4 kV (1.2/50 μs)	Beam ON (no object present)	LED, yellow
Rated operational power	912	115/230	Environment	
AC supply	3 VA	max. 4.5 VA	Overvoltage category	III (IEC 66064)
DC supply	2 W	-	Degree of protection	IP 40 (IEC 60529, 60947-1)
			Pollution degree	3 (IEC 60664/60664A, 60947-1)
Output Specifications			Temperature	
Resistive load 600.000 switching	2 A@250 VAC/30 VDC		Operating	-20° to +60°C (-4° to +140°F)
AC15	0.75 A@240 VAC		Storage	-30° to +80°C (-22° to +176°F)
AC14	0.60 A@120 VAC		Connection	
DC13	0.22 A@125 VDC			Screw terminals (max. 2.5 mm ²)
Rated insulation volt. (U_i)			Protection output	Reverse output, transients, short-circuit
230	250 VAC (rms)		Test input	115/230 912
115	120 VAC (rms)			Potential free contact Max. 28 V@15 mA AC/DC
912	50 VAC (rms), 50 VDC		Housing material	PC
Operating frequency (f)			Weight	115/230 912
Light/dark ratio 1:1				280 g 126 g
Contact output	10 Hz		CE-marking	Yes
Response time				
OFF-ON (t _{ON})	≤ 50 ms			
ON-OFF (t _{OFF})	≤ 40 ms			

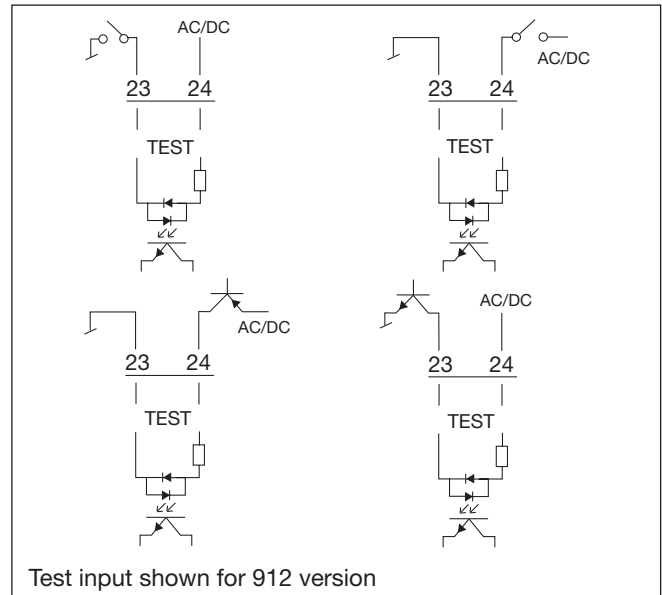
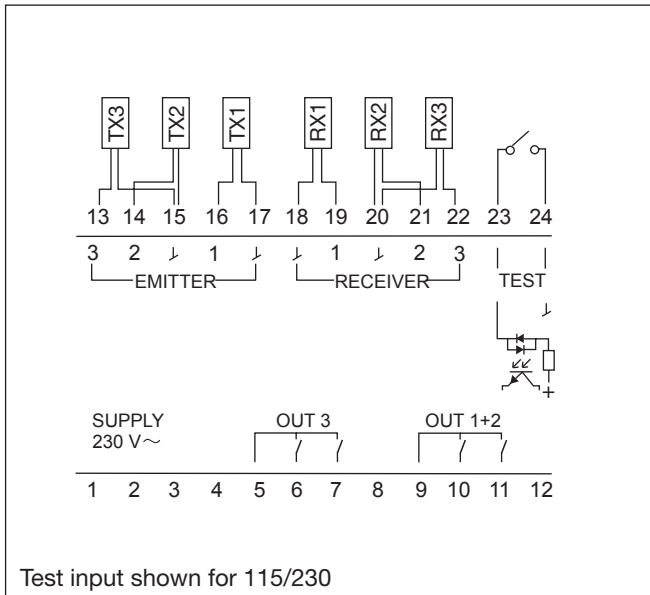
Specifications, Photoelectric Switches

Rated operation dist. (S_n)	15 m	Connection	
Light source	LED 880 nm	Cable	PVC, grey, 10 m, 2.9 mm ²
Light type	Infrared modulated	Degree of protection	IP 67 (IEC 60529-947-1)
Ambient light	> 20.000 lux	Mounting	
Housing material	Ø12/D18 M14	"Snap-ON"	Ø12 mm or fitting
House	PC	Rubber profile	D18
Backpart	ABS	Threaded barrel	M14
	Stainless steel/PC	CE-marking	Yes
	PTE		

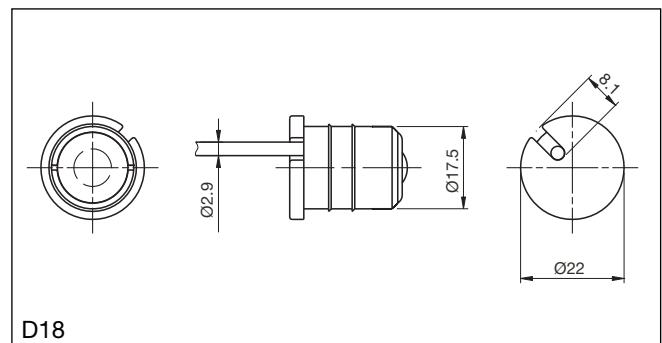
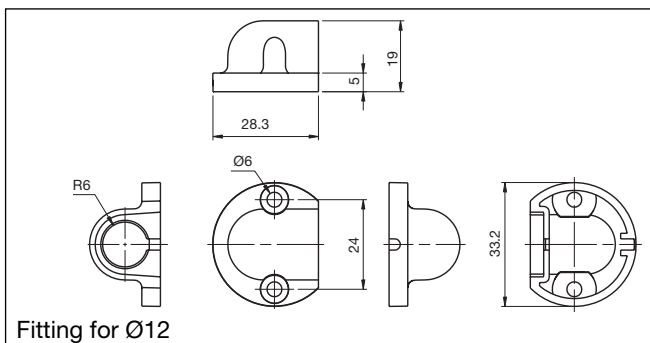
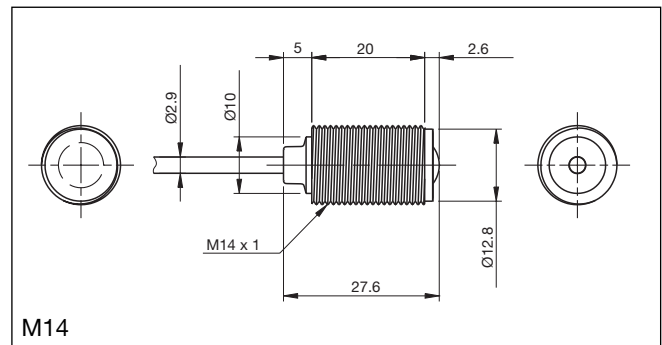
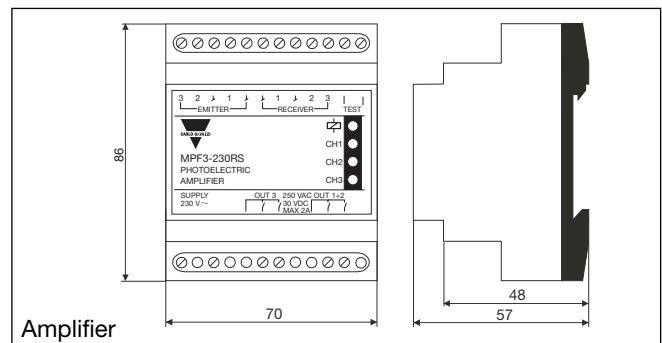
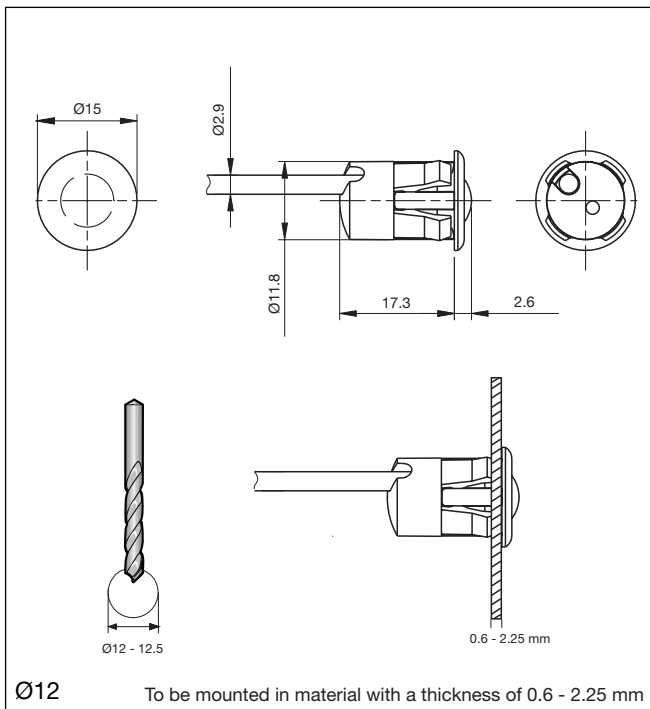
Operation Diagram



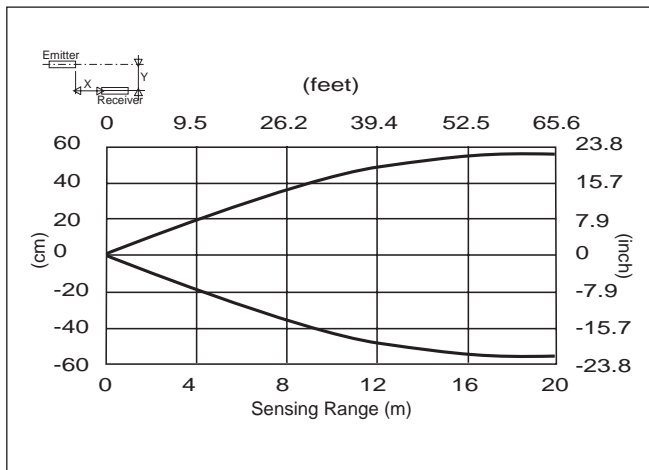
Wiring Diagrams



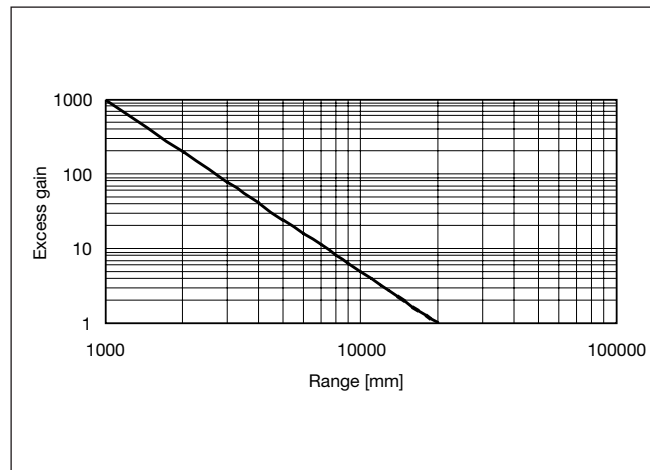
Dimensions



Detection Diagram



Excess Gain



Installation Hints

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

- Amplifier, MPF..
- Installation instruction
- **Packaging:** cardboard box