

Photoelectrics Through-beam System, Relay Output Type MPF.RSL

CARLO GAVAZZI



- Industrial doors and gates
- Range: 15 m
- Modulated infrared light
- Option with individually adjustable channel sensitivity
- Amplifier with "Snap-ON" photoelectric switches
- Supply voltage: 12-24 VAC/DC
- Output: SPST relay (low voltage)
- LED indications for light ON and supply ON
- Ø12 mm "Snap-ON", Ø18 or M14 photoelectric housing
- 1, 2 or 3 multiplexed channels
- With make or break test input
- CE, UL325 and UL508 approved



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 evaluate the sensor function. Multiplexed channels prevent cross-talk between each set of photosensors. The amplifier is available with the following voltage: 12-24 VAC/DC. 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 3 912 RSL AI

Type _____
 Number of channels _____
 Voltage supply _____
 Output relay _____
 Safety _____
 Low voltage _____
 Adjustable sensitivity _____
 Inverted test input (break) _____

Sensor

MPF T 15 M14 4C

Type _____
 Emitter _____
 Range _____
 Housing diameter _____
 Optical angle _____
 Connectors on cable _____

Type Selection, Amplifier

Housing
W x H x D

70 x 57 x 86 mm

Ordering no.
Supply: 12-24 VAC/DC

MPF1-912 RSL
 MPF2-912 RSL
 MPF3-912 RSL
 MPF1-912 RSLI *)
 MPF2-912 RSLI *)
 MPF3-912 RSLI *)
 MPF1-912 RSLA *)
 MPF2-912 RSLA *)
 MPF3-912 RSLA *)
 MPF1-912 RSLAI *)
 MPF2-912 RSLAI *)
 MPF3-912 RSLAI *)

*) Products available on request

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	
D11	15 m	4°	MPF 15-D11-4	MPFR-D11-4	
D18	15 m	4°	MPFT 15-D18-4	MPFR-D18-4	
Ø12 mm	15 m	4°	MPFT 15-4C	MPFR-4C	
M14	15 m	4°	MPFT 15-M14-4C	MPFR-M14-4C	
D11	15 m	4°	MPF 15-D11-4C	MPFR-D11-4C	
D18	15 m	4°	MPFT 15-D18-4C	MPFR-D18-4C	
Fitting for Ø12					AMPF-MB1

Specifications are subject to change without notice (11.02.2010)

Rated operational volt.		
AC types (U _B)		
Terminals 1 & 3		
MPF.- 912 RSL.	12-24 VAC/DC ± 15%, 50 to 60 Hz	
Dielectric voltage	4 kVAC (rms)	
Rated impulse withstand volt.	4 kV (1.2/50 µs)	
Rated operational power		
AC supply	3 VA	
DC supply	2 W	
Output Specifications		
Resistive load		
MPF.-912 RSL, RSLA, RSLI, RSLAI		
600.000 switching	0.5 A@50 VAC/30 VDC	
100.000 switching	0.5 A@125 VAC/1 A@30 VDC (UL)	
Rated insulation volt. (U _i)	50 VAC (rms), 50 VDC	
Operating frequency (f)		
Light/dark ratio 1:1		
Contact output	10 Hz	
Response time		
OFF-ON (t _{ON})	≤ 50 ms	
ON-OFF (t _{OFF})	≤ 40 ms	
Power ON delay (t _v)	≤ 300 ms	
Output function	MPF1+2	Relay 2 x SPST
	MPF3	Relay 2 x SPST + 2 x SPST
Indication function		
Supply ON		LED, green
Beam ON (no object present)		LED, yellow

Environment		
Overvoltage category		III (IEC 66064)
Degree of protection		IP 40 (IEC 60529/60947-5-2)
Pollution degree		3 (IEC 60664/60664A, 60947-1)
Temperature		
Operating		-20° to +60°C (-4° to +140°F)
Storage		-30° to +80°C (-22° to +176°F)
Connection		Screw terminals (max. 2.5 mm ²)
Protection output		Reverse output, transients, short-circuit
Test input		
MPF.- 912 RSL.		Max. 28 V@15 mA AC/DC
Testfunction activated		≥ 3.5 V AC/DC
Testfunction deactivated		≤ 1.0 V AC/DC
MPF.- 912 RSLI.		Max. 28 V@15 mA AC/DC
Testfunction deactivated		≥ 3.5 V AC/DC
Testfunction activated		≤ 1.0 V AC/DC
Housing material		PC
Weight		
MPF.- 912 RSL.		126 g
CE-marking		Yes
UL-Approval		UL325, CSA-C22.2 No.247
		UL508
TÜV-Approval		Yes (EN 12453)

Rated operation dist. (S_n)	15 m - 8 m (UL 325)	MPFT15-XXX-4C MPFR15-XXX-4C <i>Connector is placed 15 cm from sensorhead</i> Cable	Red connector pair White connector pair	
Light source	LED 880 nm		Degree of protection IP 67 (IEC 60529/60947-5-2)	PVC, grey, 10 m, Ø 2.9 mm ²
Light type	Infrared modulated			
Ambient light	> 20.000 lux			
Housing material				
MPFT15-4/C MPFT15-D18-4/C MPFR-4/C MPFR-D11-4/C MPFR-D18-4/C Housing Backpart	PA6 Glass filled PC ABS	Mounting “Snap-ON” MPFT15-4/C MPFR-4/C Rubber profile MPFT15-D11-4/C MPFR-D11-4/C Rubber profile MPFT15-D18-4/C MPFR-D18-4/C Threaded barrel MPFT15-M14-4/C MPFR-M14-4/C	Ø12 mm or fitting D11 D18 M14	
MPFT15-M14-4/C MPFR15-M14-4/C House Backpart	Stainless steel/PC PTE			
Connection		CE-marking UL-Approval 	Yes UL325, CSA-C22.2 No.247 UL508 Yes (EN 12453)	
MPFT15-XXX-4 MPFR15-XXX-4 Cable	Max. 10 m cable length Max. 25 m cable length PVC, grey, 10 m, Ø 2.9 mm ²	TÜV-Approval		

Power supply

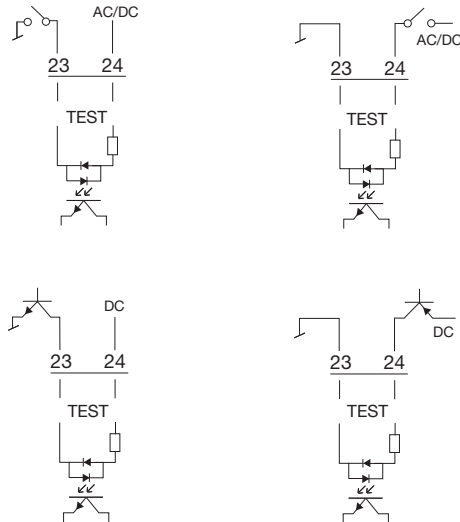
Object present

Output contact closed

t_{Tv} t_{Off} t_{Ton} t_{Ton}

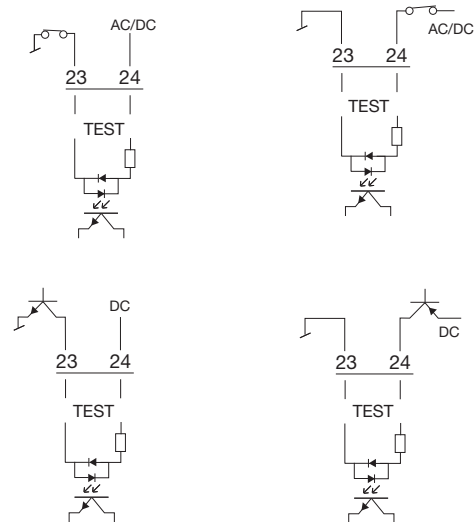
Wiring Diagrams

Fig. 1

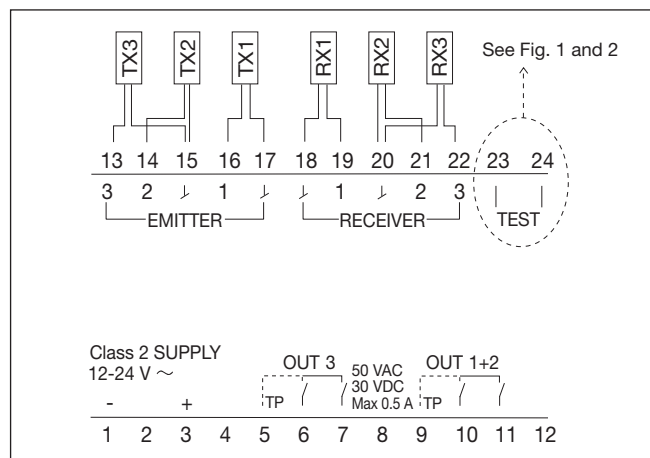


Test input make, shown for 912 version

Fig. 2



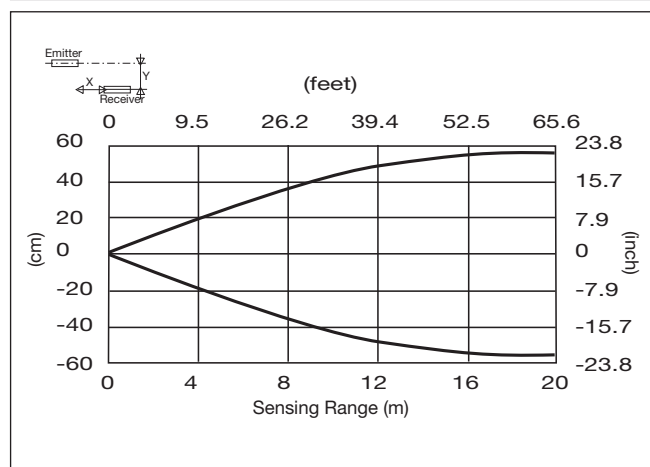
Test input break, shown for 912 version



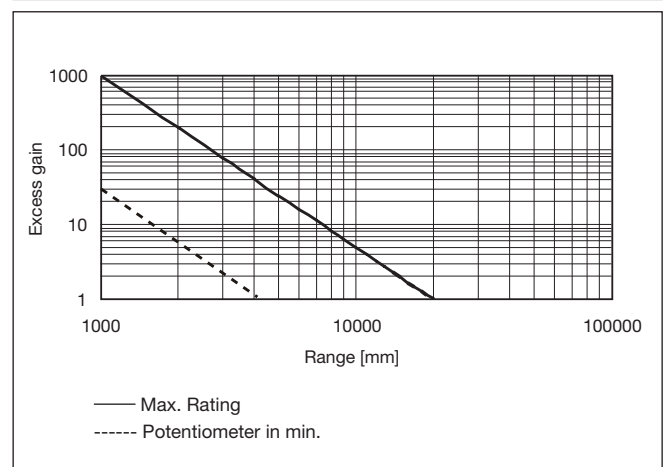
Delivery Contents

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

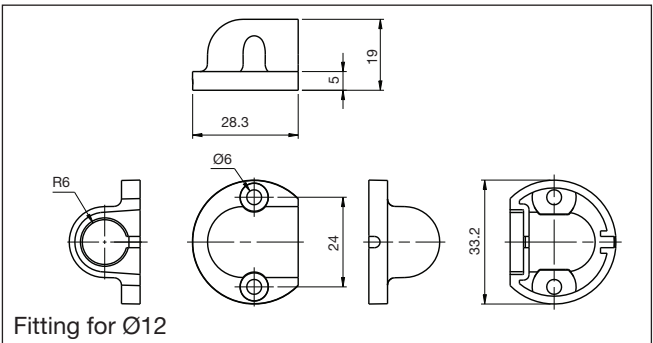
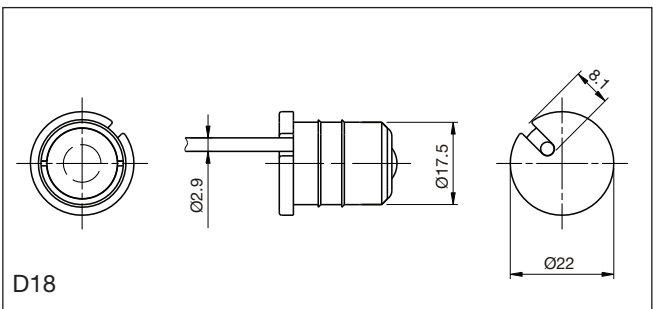
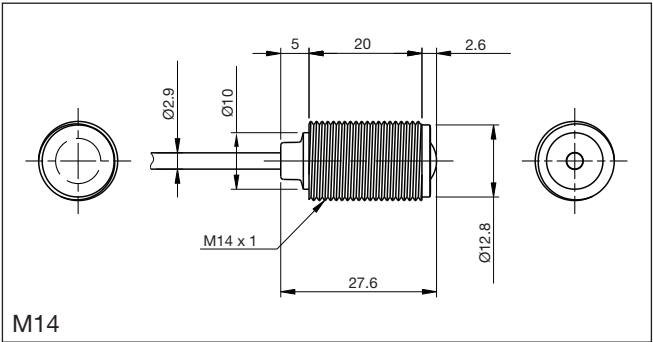
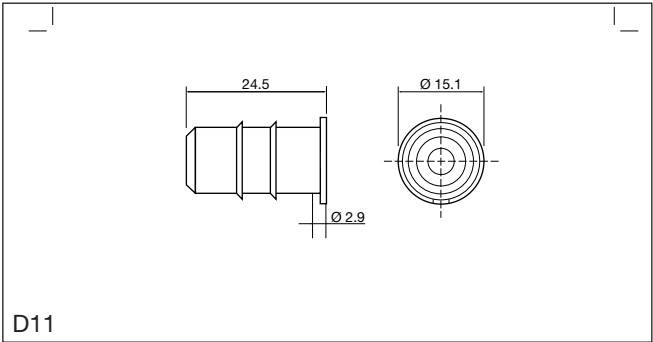
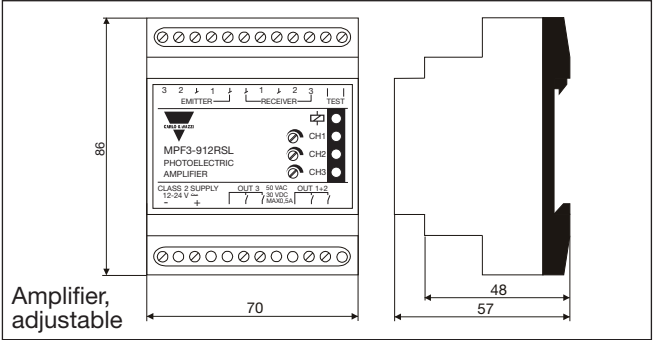
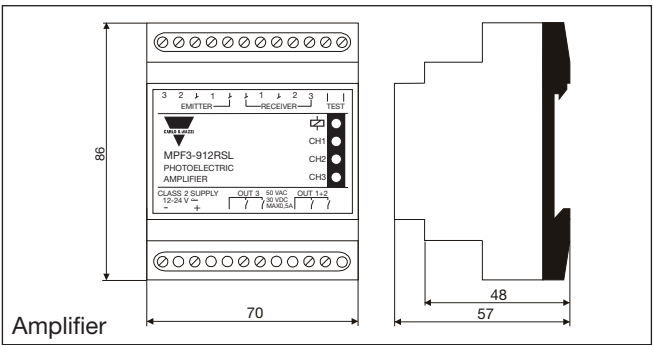
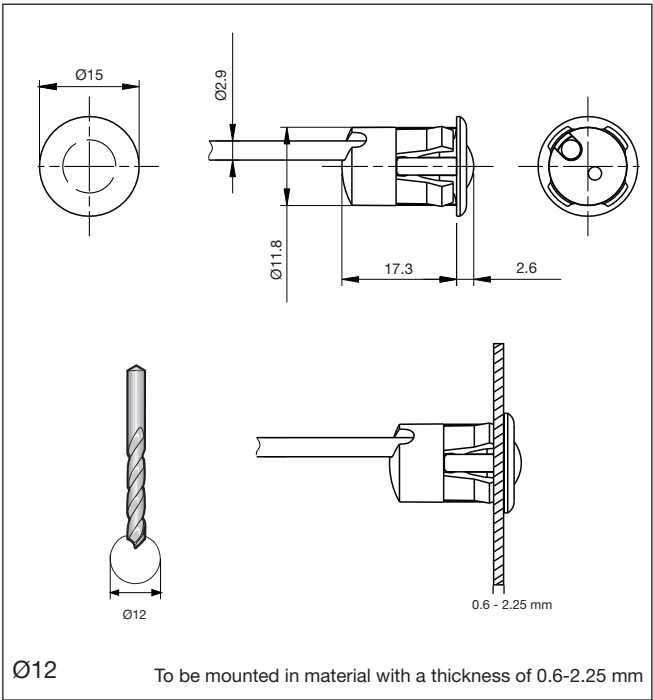
Detection Diagram



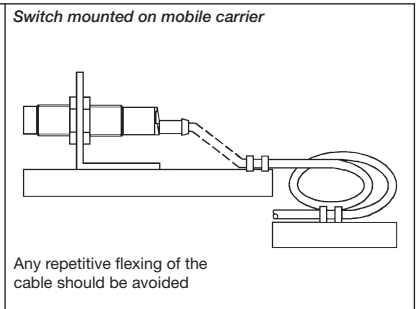
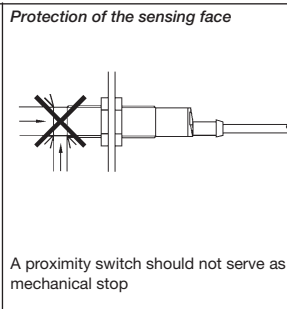
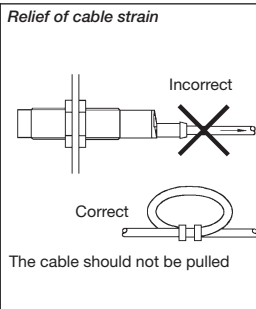
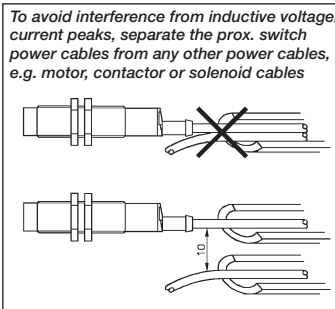
Excess Gain



Dimensions



Installation Hints



Mouser Electronics

Authorized Distributor

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