

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

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- 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, EN12453, EN12978, 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 (07.04.2025)

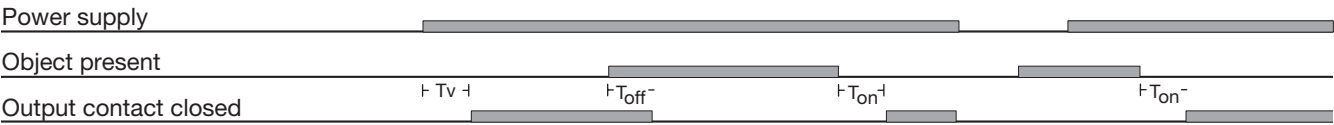
Specifications, Amplifier

Rated operational volt. AC types (U _B) Terminals 1 & 3 MPF.- 912 RSL.		12-24 VAC/DC ± 15%, 50 to 60 Hz	Environment Overvoltage category Degree of protection Pollution degree		III (IEC 66064) IP 40 (IEC 60529/60947-5-2) 3 (IEC 60664/60664A, 60947-1)
Dielectric voltage		4 kVAC (rms)	Temperature Operating Storage		-20° to +60°C (-4° to +140°F) -30° to +80°C (-22° to +176°F)
Rated impulse withstand volt.		4 kV (1.2/50 µs)	Connection		Screw terminals (max. 2.5 mm ²)
Rated operational power AC supply DC supply		3 VA 2 W	Protection output		Reverse output, transients, short-circuit
Output Specifications Resistive load			Test input MPF.- 912 RSL. Testfunction activated Testfunction deactivated		Max. 28 V@15 mA AC/DC ≥ 3.5 V AC/DC ≤ 1.0 V AC/DC
MPF.-912 RSL, RSLA, RSLI, RSLAI			MPF.- 912 RSLI. Testfunction deactivated Testfunction activated		Max. 28 V@15 mA AC/DC ≥ 3.5 V AC/DC ≤ 1.0 V AC/DC
600.000 switching 100.000 switching		0.5 A@50 VAC/30 VDC 0.5 A@125 VAC/1 A@30 VDC (UL)	Housing material		PC
Rated insulation volt. (U _i)		50 VAC (rms), 50 VDC	Weight MPF.- 912 RSL.		126 g
Operating frequency (f) Light/dark ratio 1:1 Contact output		10 Hz	CE-marking		Yes
Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})		≤ 50 ms ≤ 40 ms	ESPE category		2 (EN61496-2)
Power ON delay (t _v)		≤ 300 ms	Performance level (PL)		d (EN12453)
Output function MPF1+2 MPF3		Relay 2 x SPST Relay 2 x SPST + 2 x SPST	PFHd		9.67 x 10 ⁻⁷ Errors per hour (EN ISO 13849-1)
Indication function Supply ON Beam ON (no object present)		LED, green LED, yellow	Mission Time		20 years (EN ISO 13849-1)
			UL-Approval		UL325, CSA-C22.2 No.247 UL508

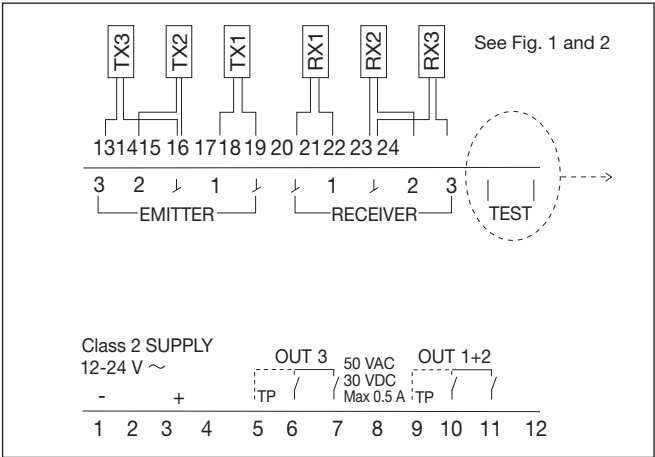
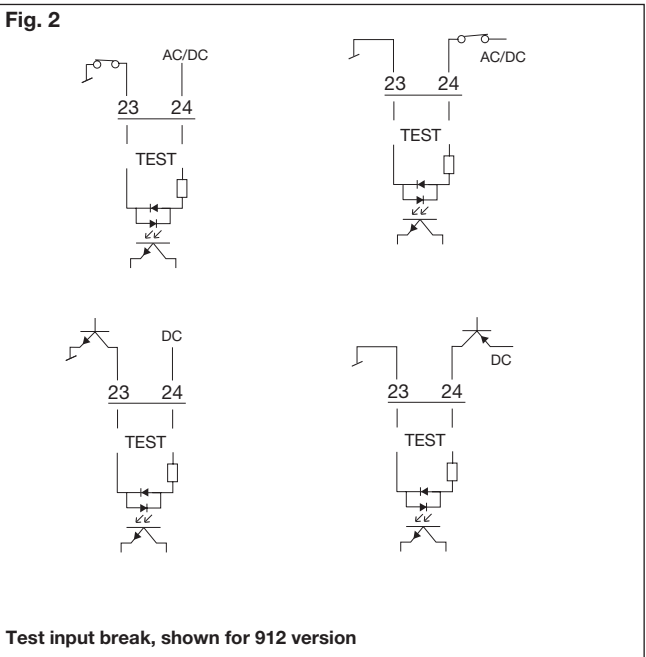
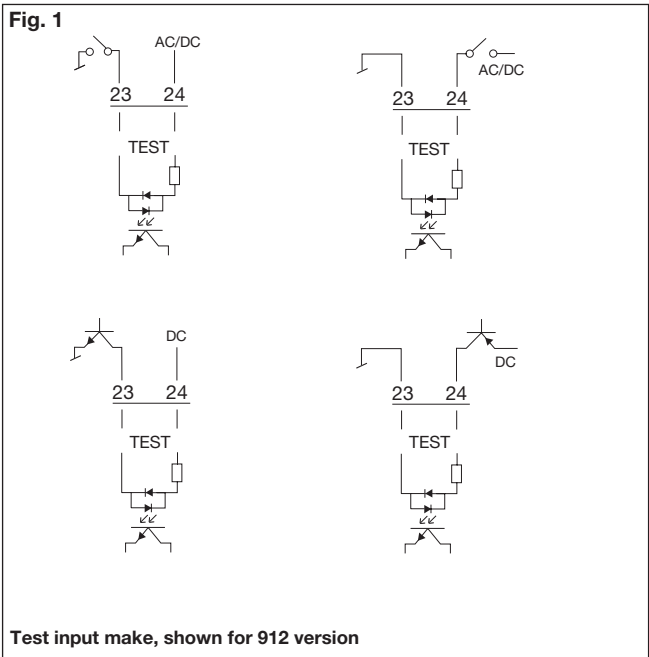
Specifications, Photoelectric Switches

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 PVC, grey, 10 m, Ø 2.9 mm ²
Light source Light type		LED 880 nm Infrared modulated	Degree of protection		IP 67 (IEC 60529/60947-5-2)
Ambient light		> 20.000 lux	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
Housing material MPFT15-4/C MPFT15-D18-4/C MPFR-4/C MPFR-D11-4/C MPFR-D18-4/C Housing Backpart MPFT15-M14-4/C MPFR15-M14-4/C House Backpart		PA6 Glass filled PC ABS Stainless steel/PC PTE	CE-marking		Yes
Connection 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	UL-Approval		UL325, CSA-C22.2 No.247 UL508

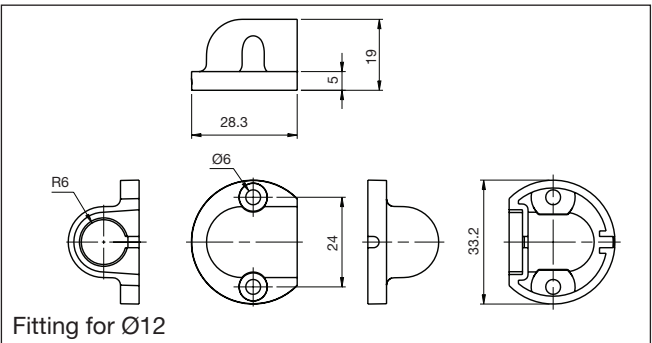
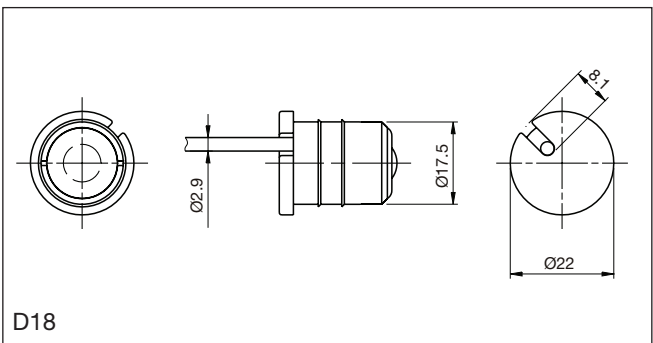
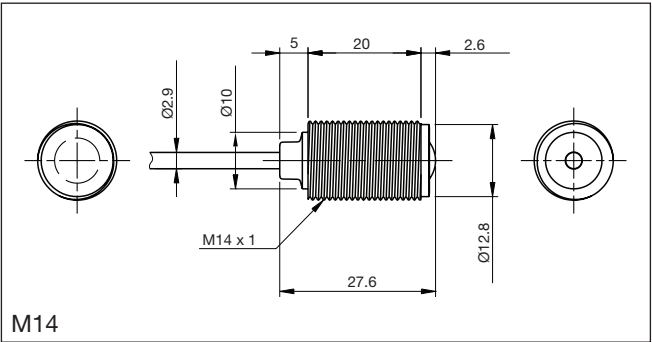
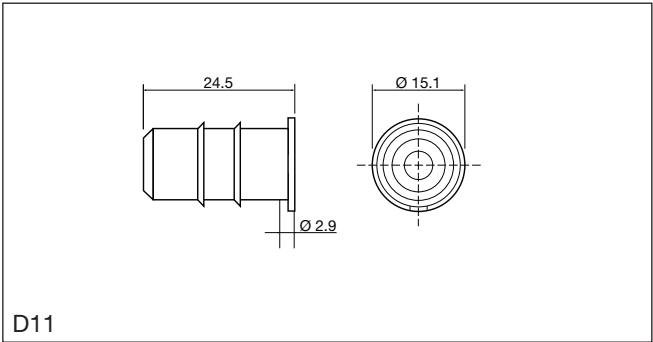
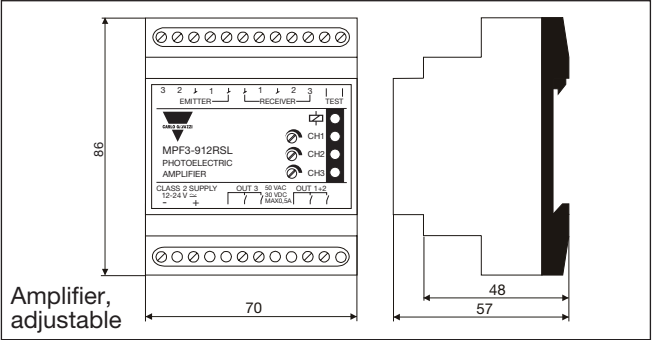
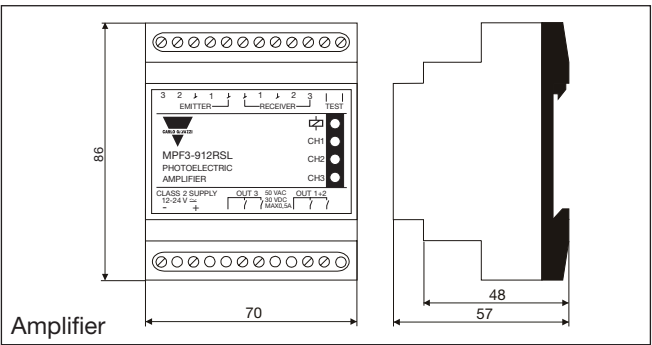
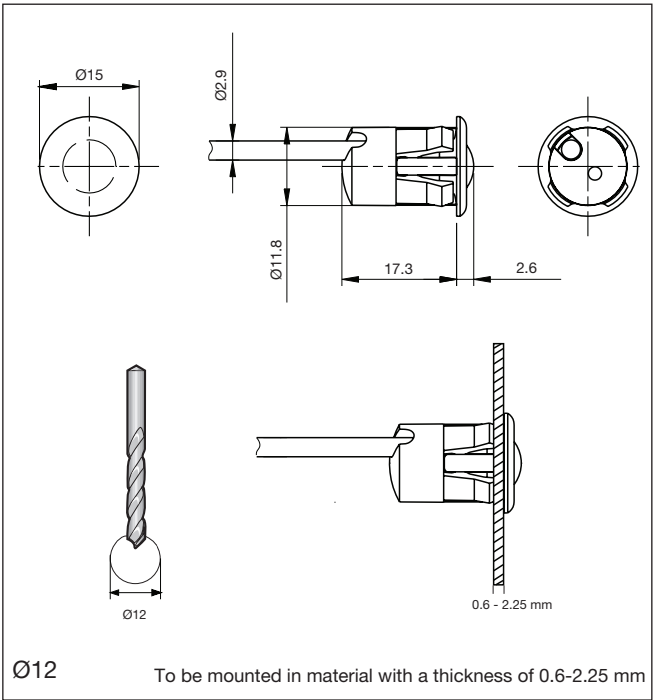
Operation Diagram



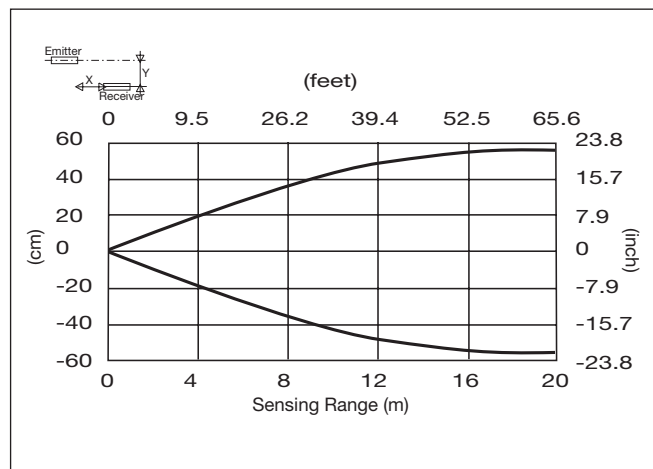
Wiring Diagrams



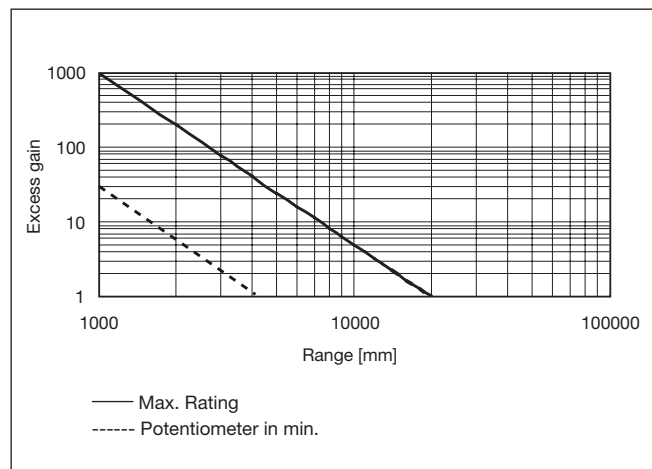
Dimensions



Detection Diagram



Excess Gain



Installation Hints

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

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