

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

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- Industrial doors and gates
- Range: 15 m
- Modulated infrared light
- 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
- 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 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 3 230 RSL**

Type \_\_\_\_\_  
Number of channels \_\_\_\_\_  
Voltage supply \_\_\_\_\_  
Output relay \_\_\_\_\_  
Safety \_\_\_\_\_  
Low voltage \_\_\_\_\_

### Sensor

**MPF T 15 M14 4**

Type \_\_\_\_\_  
Emitter \_\_\_\_\_  
Range \_\_\_\_\_  
Housing diameter \_\_\_\_\_  
Optical angle \_\_\_\_\_

## 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

## Type Selection, Photoelectric Switch

Housing diameter	Rated operational distance (S <sub>n</sub> )	Optical angle	Ordering no. Emitter	Ordering no. Receiver	Ordering no. Fitting
Ø12 mm	15 m	4°	MPFT 15-4	MPFR-4	AMPF-MB1
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					

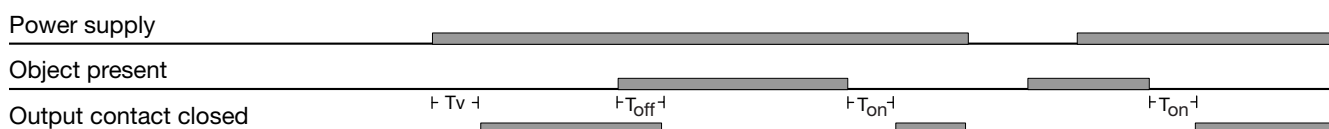
## Specifications, Amplifier

<b>Rated operational volt.</b> <b>AC types</b> ( $U_B$ ) Terminals 1 & 3	12-24 VAC/DC $\pm 15\%$ , 50 to 60 Hz	<b>Output function</b>	MPF1+2 MPF3	Relay 2 x SPST Relay 2 x SPST + 2 x SPST
<b>Dielectric voltage</b>	4 kVAC (rms)	<b>Indication function</b>	Supply ON Beam ON (no object present)	LED, green LED, yellow
<b>Rated impulse withstand volt.</b>	4 kV (1.2/50 $\mu$ s)	<b>Environment</b>	Overvoltage category Degree of protection Pollution degree	III (IEC 66064) IP 40 (IEC 60529/60947-5-2) 3 (IEC 60664/60664A, 60947-1)
<b>Rated operational power</b> AC supply DC supply	3 VA 2 W	<b>Temperature</b>	Operating Storage	-20° to +60°C (-4° to +140°F) -30° to +80°C (-22° to +176°F)
<b>Output Specifications</b> Resistive load 600.000 switching Max. switching power	0.5 A@50 VAC/30 VDC 30 W/62.5 VA	<b>Connection</b>		Screw terminals (max. 2.5 mm <sup>2</sup> )
<b>Rated insulation volt.</b> ( $U_i$ )	50 VAC (rms), 50 VDC	<b>Protection output</b>		Reverse output, transients, short-circuit
<b>Operating frequency</b> (f) Light/dark ratio 1:1 Contact output	10 Hz	<b>Test input</b>		Max. 28 V@15 mA AC/DC
<b>Response time</b> OFF-ON ( $t_{ON}$ ) ON-OFF ( $t_{OFF}$ )	$\leq 50$ ms $\leq 40$ ms	<b>Housing material</b>		PC
<b>Power ON delay</b> ( $t_v$ )	$\leq 300$ ms	<b>Weight</b>		126 g
		<b>CE-marking</b>		Yes

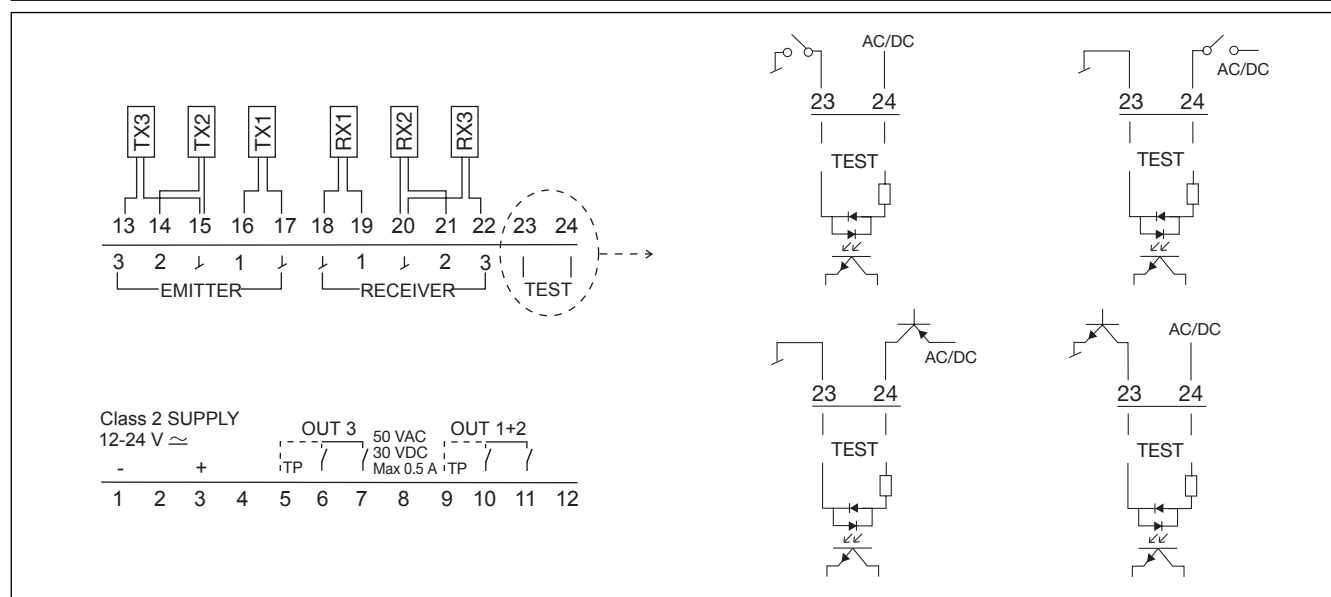
## Specifications, Photoelectric Switches

<b>Rated operation dist.</b> ( $S_n$ )	15 m	<b>Connection</b>	Cable	PVC, grey, 10 m, $\varnothing 2.9$ mm <sup>2</sup>
<b>Light source</b> <b>Light type</b>	LED 880 nm Infrared modulated	<b>Degree of protection</b>		IP 67 (IEC 60529/60947-5-2)
<b>Ambient light</b>	> 20.000 lux	<b>Mounting</b>	"Snap-ON" Rubber profile Threaded barrel	$\varnothing 12$ mm or fitting D18 M14
<b>Housing material</b> House Backpart	<b>Ø12/D18 M14</b> PC Stainless steel/PC ABS PTE	<b>CE-marking</b>		Yes

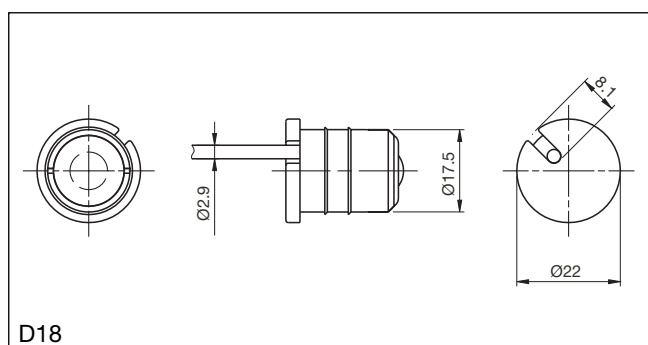
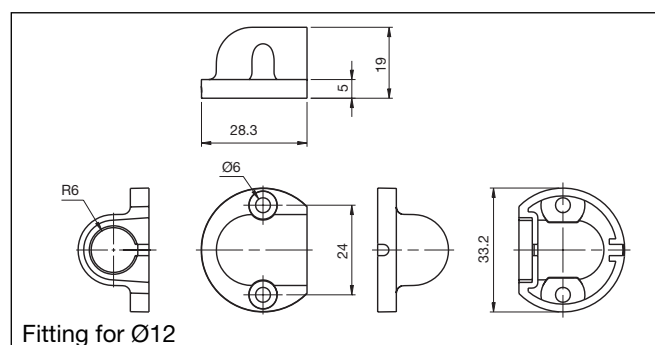
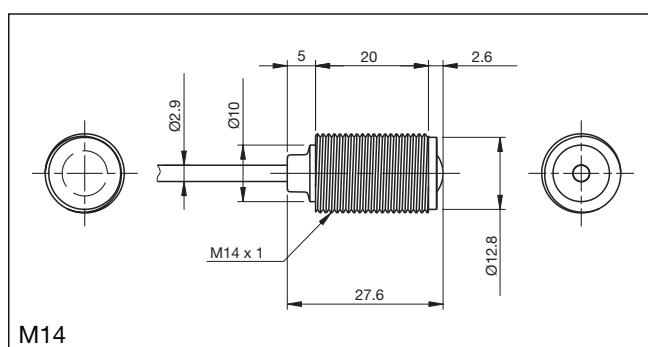
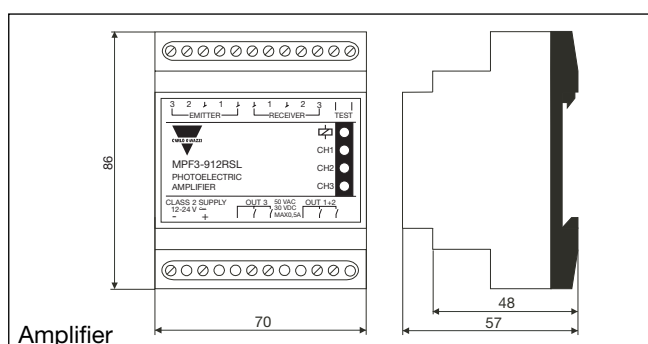
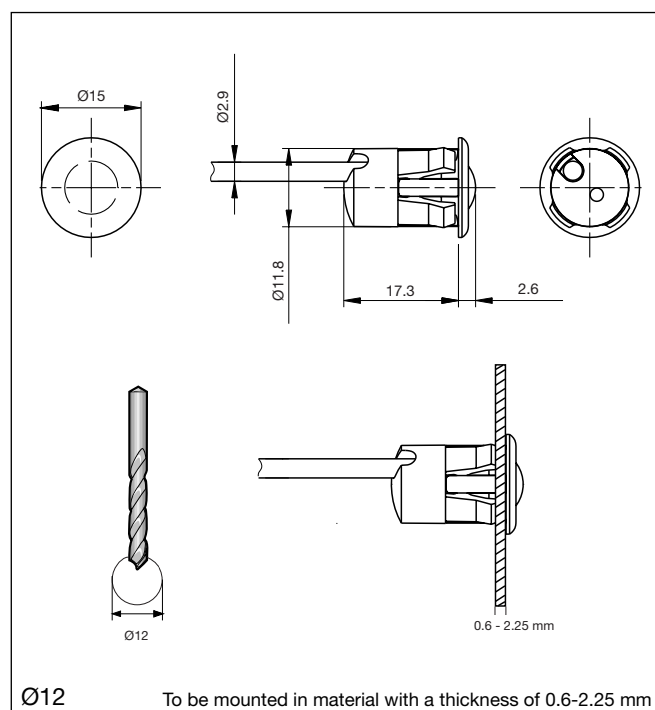
## Operation Diagram



## Wiring Diagrams

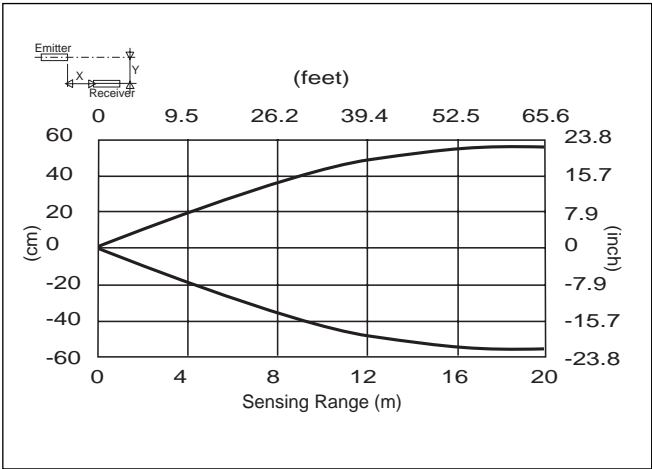


## Dimensions

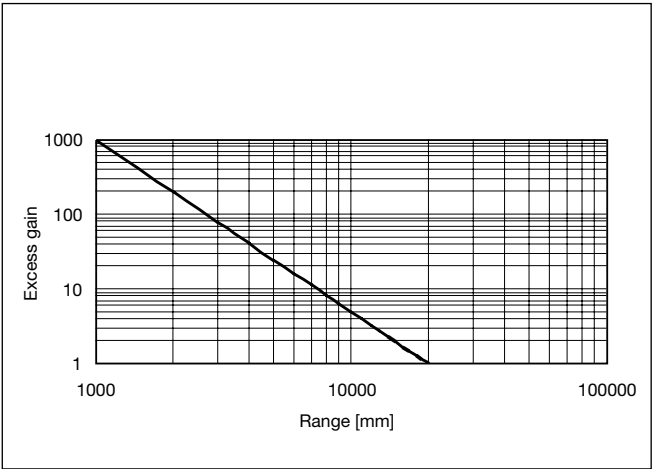




Detection Diagram



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