

# 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, UL325 and UL508 approved

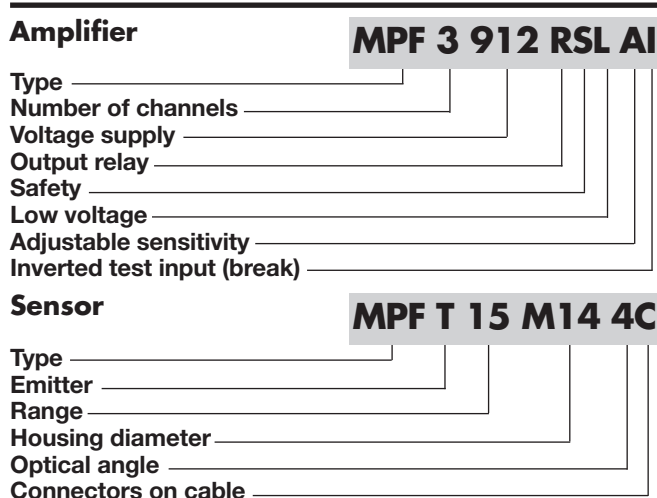


## Product Description

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



## Type Selection, Amplifier

Housing W x H x D	Ordering no. Supply: 12-24 VAC/DC
70 x 57 x 86 mm	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 <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	
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					

Specifications are subject to change without notice (11.02.2010)

## Specifications, Amplifier

<b>Rated operational volt.</b> <b>AC types</b> ( $U_B$ ) Terminals 1 & 3 MPF.- 912 RSL.	12-24 VAC/DC $\pm$ 15%, 50 to 60 Hz	<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>Dielectric voltage</b>	4 kVAC (rms)	<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to +140°F) -30° to +80°C (-22° to +176°F)
<b>Rated impulse withstand volt.</b>	4 kV (1.2/50 $\mu$ s)	<b>Connection</b>	Screw terminals (max. 2.5 mm <sup>2</sup> )
<b>Rated operational power</b> AC supply DC supply	3 VA 2 W	<b>Protection output</b>	Reverse output, transients, short-circuit
<b>Output Specifications</b> Resistive load MPF.-912 RSL, RSLA, RSLI, RSLAI 600.000 switching 100.000 switching	0.5 A@50 VAC/30 VDC 0.5 A@125 VAC/1 A@30 VDC (UL)	<b>Test input</b> MPF.- 912 RSL. Testfunction activated Testfunction deactivated	Max. 28 V@15 mA AC/DC $\geq$ 3.5 V AC/DC $\leq$ 1.0 V AC/DC
<b>Rated insulation volt.</b> ( $U_i$ )	50 VAC (rms), 50 VDC	MPF.- 912 RSLI. Testfunction deactivated Testfunction activated	Max. 28 V@15 mA AC/DC $\geq$ 3.5 V AC/DC $\leq$ 1.0 V AC/DC
<b>Operating frequency</b> (f) Light/dark ratio 1:1 Contact output	10 Hz	<b>Housing material</b>	PC
<b>Response time</b> OFF-ON ( $t_{ON}$ ) ON-OFF ( $t_{OFF}$ )	$\leq$ 50 ms $\leq$ 40 ms	<b>Weight</b> MPF.- 912 RSL.	126 g
<b>Power ON delay</b> ( $t_v$ )	$\leq$ 300 ms	<b>CE-marking</b> <b>UL-Approval</b>	Yes UL325, CSA-C22.2 No.247 UL508 Yes (EN 12453)
<b>Output function</b> MPF1+2 MPF3	Relay 2 x SPST Relay 2 x SPST + 2 x SPST	<b>TÜV-Approval</b>	
<b>Indication function</b> Supply ON Beam ON (no object present)	LED, green LED, yellow		

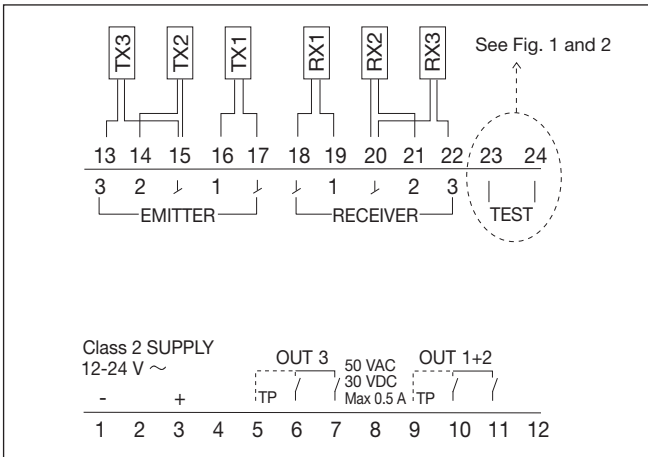
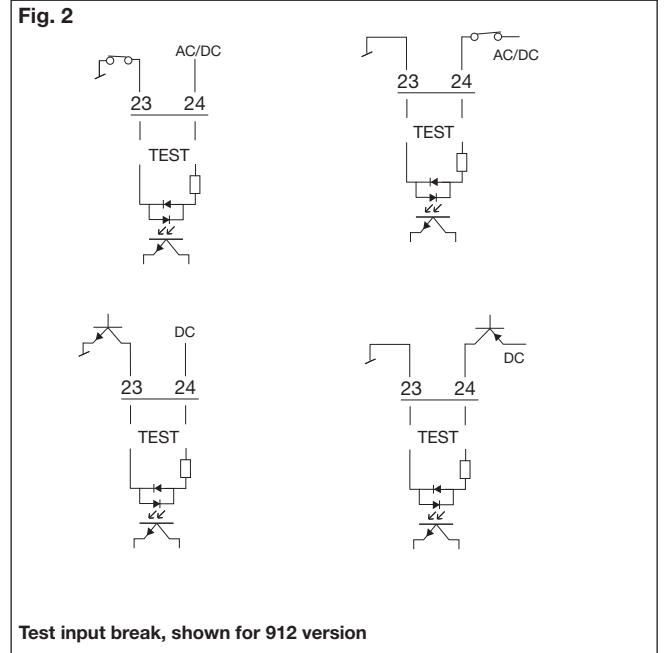
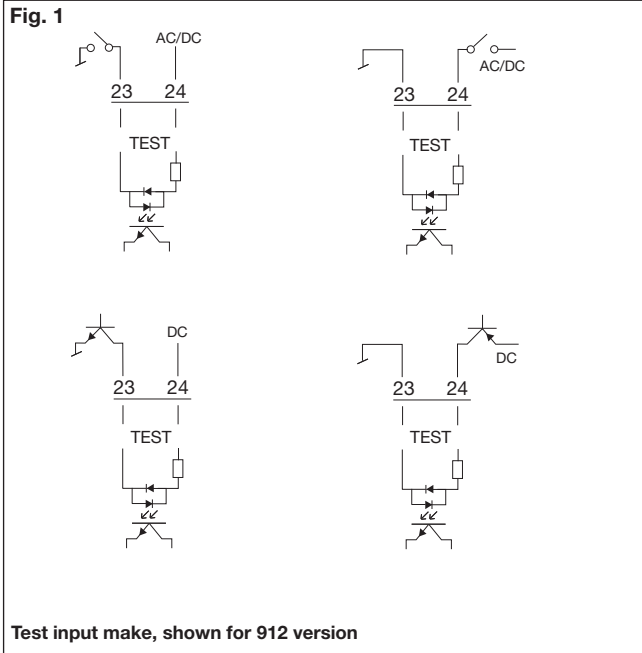
## Specifications, Photoelectric Switches

<b>Rated operation dist.</b> ( $S_n$ )	15 m - 8 m (UL 325)	MPFT15-XXX-4C MPFR15-XXX-4C <i>Connector is placed 15 cm from sensorhead</i>	Red connector pair White connector pair
<b>Light source</b>	LED 880 nm	<i>Cable</i>	PVC, grey, 10 m, $\varnothing$ 2.9 mm <sup>2</sup>
<b>Light type</b>	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" 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	$\varnothing$ 12 mm or fitting D11 D18 M14
<b>Housing material</b> 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	<b>CE-marking</b> <b>UL-Approval</b>	Yes UL325, CSA-C22.2 No.247 UL508 Yes (EN 12453)
MPFT15-M14-4/C MPFR15-M14-4/C House Backpart	Stainless steel/PC PTE	<b>TÜV-Approval</b>	
<b>Connection</b> MPFT15-XXX-4 MPFR15-XXX-4 Cable	Max. 10 m cable length Max. 25 m cable length PVC, grey, 10 m, $\varnothing$ 2.9 mm <sup>2</sup>		

## Operation Diagram



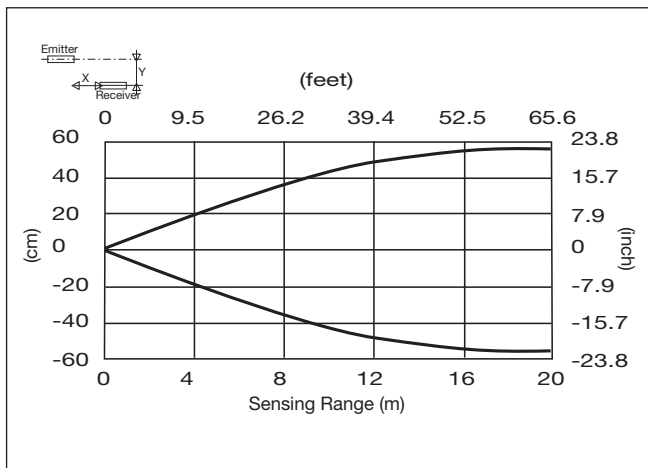
# Wiring Diagrams



## Delivery Contents

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

## Detection Diagram



## Excess Gain

