

Photoelectrics

Retro-reflective, Relay Output

Type PMR

CARLO GAVAZZI



- Range: 10 m
- Modulated, infrared light
- Make or break switching function (switch selectable)
- LED-indication for target detected
- Multi supply voltage:
12 to 240 VDC and
24 to 240 VAC, 50/60 Hz
- 25 x 65 x 81 mm reinforced PC housing, IP 67
- Timer options (adjustable)
- NO and NC output



Product Description

Retro-reflective photoelectric switch. Range up to 10 m. Fixed sensitivity. Immune to ambient light. Output function switch selectable. Protection degree IP 67. Screw terminal connection. 25 x 65 x 81 mm

plastic housing. PG 13.5 or 1/2" NPT cable gland. Timer options: Delay on operate, delay on release, one shot (triggered on leading or trailing edge).

Ordering Key

PMR10R G T

Type _____
 PG 13.5 cable gland _____
 Option: Timer function _____

Type Selection

Housing W x H x D	Range S _n	Ordering no. without timer	Ordering no. with timer
25 x 65 x 81 PG 13.5 cable gland	10 m	PMR 10R G	PMR 10R GT
1/2" NPT cable gland	10 m	PMR 10R I	PMR 10R IT

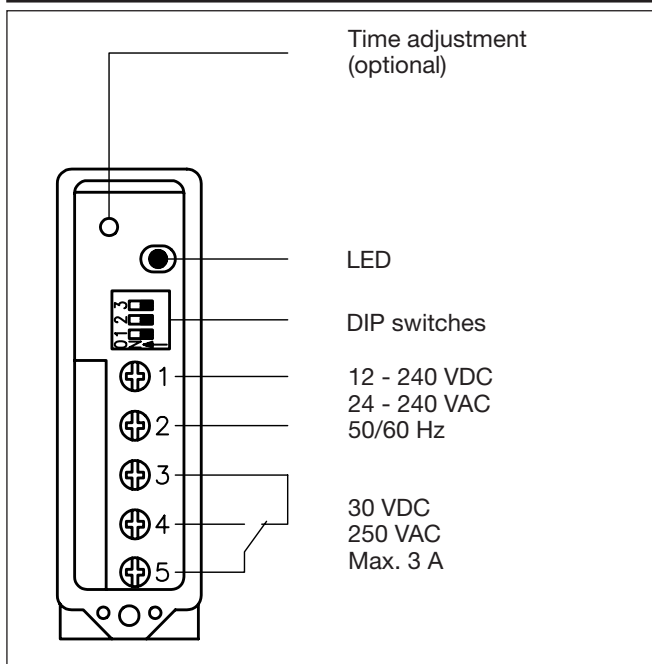
Specifications

Rated operating dist. (S _n) (0 to 5,000 lux)	PMR10.. 10 m with reflector type ER 4, ref. target	Operating frequency (f)	20 Hz
Rated operational volt. (U _B) (AC: 45 to 65 Hz)	10.8 to 264 VDC 21.6 to 264 VAC	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 20 ms ≤ 30 ms
Rated operational power (Relay ON)	≤ 1.5 W (2.0 VA)	Power ON delay (t _v)	≤ 300 ms (typ. 100 ms)
Output Contact ratings (AgCdO) Resistive loads AC 1 DC 1 Small inductive loads AC 15 DC 13	μ (micro gap) 3 A/250 VAC 3 A/30 VDC 2 A/250 VAC 3 A/30 VDC	Output function	Switch selectable, make or break switching
Mechanical life Electrical life	≥ 40 x 10 ⁶ operations ≥ 5 x 10 ⁵ operations at 220 VAC - 3 A resistive load: 360 impulses/h	Indication Target detected	LED, yellow
Dielectric voltage	2000 VAC rms (cont./supply)	Optional timer Delay on operate Delay on release One shot	0.1 to 7 s ± 2 s 0.1 to 7 s ± 2 s 0.1 to 7 s ± 2 s
Sensitivity	Fixed	Environment Overvoltage category Pollution degree Degree of protection	III (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)
Light source Light type Optical angle Light spot size	GaAlAs, LED, 880 nm Infrared, modulated ±2° 280 mm at 4 m	Temperature Operating Storage	-25° to +55°C (-13° to +131°F) -30° to +80°C (-22° to +176°F)

Specifications (cont.)

Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Rated insulation voltage	250 VAC (rms)
Housing material	
Body	PC, grey
Front	PC, black
Cover	PC, black
Cable gland	PA, black, reinforced
Mounting bracket	Steel, black
Connection	
Screw terminal	5 x 2 x 1 mm ²
Cable gland	PG 13.5 or 1/2" NPT for cable 6 to 10 mm
Weight	110 g
Approvals	UL, CSA
CE-marking	Yes

Connection Diagram



Selection of Function

Switch
1 2 3

PMR 10R .

PMR 10R .T

- 1 Break switching
- 2 Make switching
- 3 Delay on operate - Break switching
- 4 Delay on operate - Make switching
- 5 Delay on release - Break switching
- 6 Delay on release - Make switching
- 7 One shot, trailing edge - Break switching
- 8 One shot, trailing edge - Make switching
- 9 One shot, leading edge - Break switching
- 10 One shot, leading edge - Make switching

☒ Don't care

Upper position ON (Mode 1)
Lower position OFF (Mode 0)

Truth Table

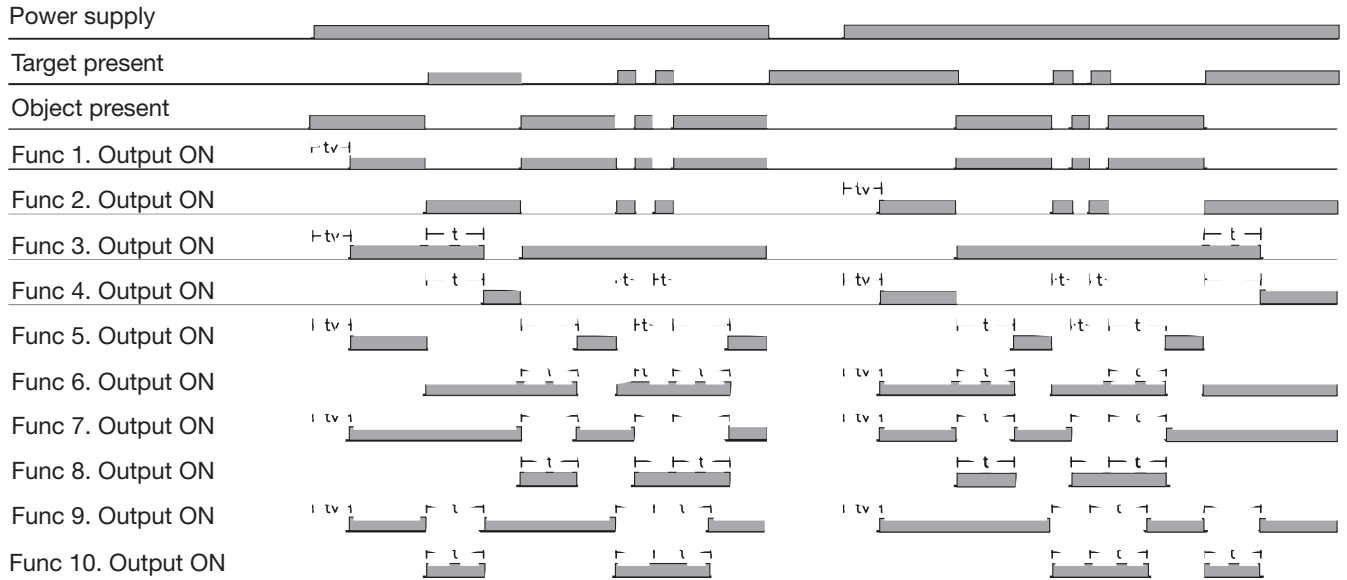
	Make switching		Break switching	
Object present	Yes	No	Yes	No
LED	OFF	ON	OFF	ON
Load	Non-active	Active	Active	Non-active

Installation Hints

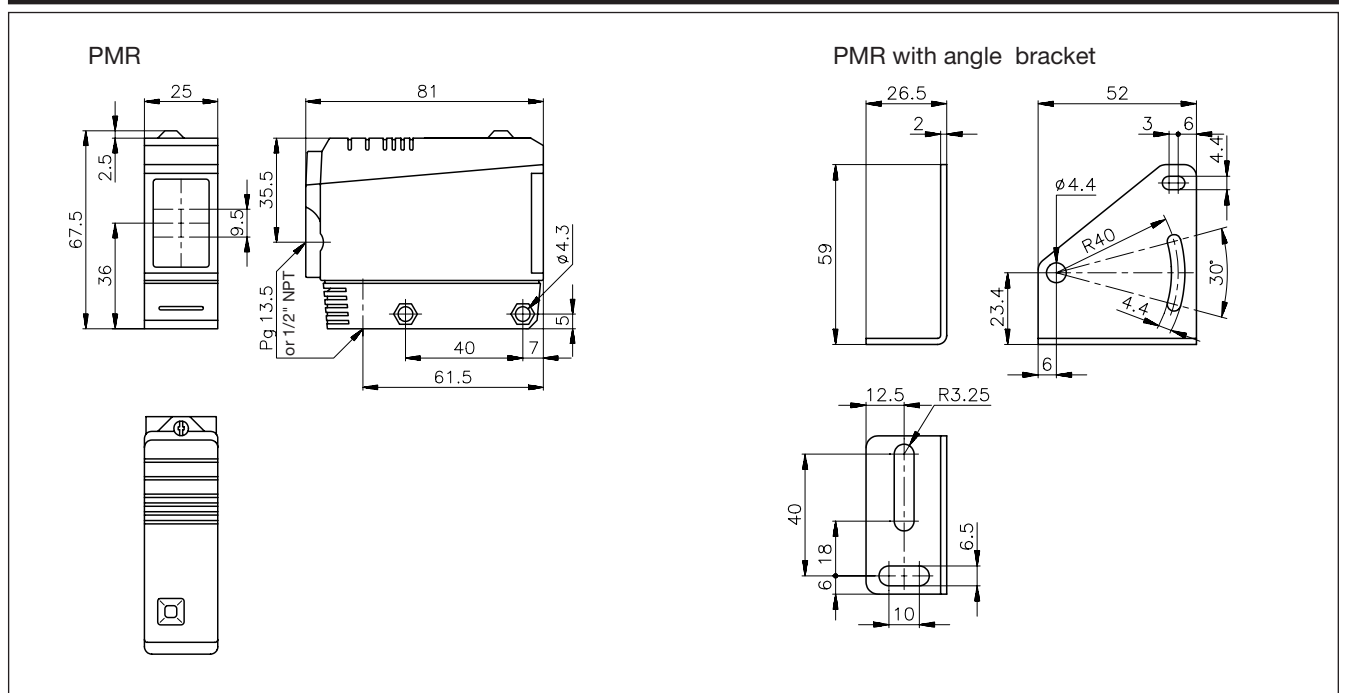
<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p>	<p>Relief of cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch 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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Operation Diagram

t = Time delay
tv = Power ON delay



Dimensions



Accessories

- Reflectors: ER series
- MB02 (longer mounting bracket)

For further information refer to "Accessories"

Delivery Contents

- Photoelectric switch: PMR
- Cable gland
- Installation instruction
- Mounting bracket
- **Packaging:** Corrugated cardboard (environmentally friendly recycling material)