Photoelectrics
Retro-reflective
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
Rated operational volt. (U_B) (AC: 45 to 65 Hz)	10.8 to 264 VDC 21.6 to 264 VAC
Rated operational power (Relay ON)	$\leq$ 1.5 W (2.0 VA)
Output	
Contact ratings (AgCdO)	μ (micro gap)
Resistive loads AC 1	3 A/250 VAC
DC 1	3 A/30 VDC
Small inductive loads AC 15	2 A/250 VAC
DC 13	3 A/30 VDC
Mechanical life	$\geq 40 \times 10^6$ operations
Electrical life	$\geq 5 \times 10^5$ operations at 220 VAC - 3 A resistive load: 360 impulses/h
Dielectric voltage	2000 VAC rms (cont./supply)
Sensitivity	Fixed
Light source	GaAlAs, LED, 880 nm
Light type	infrared, modulated
Optical angle	±2°
Light spot size	280 mm at 4 m

Operating frequency (f)	20 Hz
Response time	
OFF-ON (t_{ON})	$\leq$ 20 ms
ON-OFF (t_{OFF})	$\leq$ 30 ms
Power ON delay (t_v)	$\leq$ 300 ms (typ. 100 ms)
Output function	Switch selectable, make or break switching
Indication	
Target detected	LED, yellow
Optional timer	
Delay on operate	0.1 to 7 s ± 2 s
Delay on release	0.1 to 7 s ± 2 s
One shot	0.1 to 7 s ± 2 s
Environment	
Overvoltage category	III (IEC 664/664A; 947-1)
Pollution degree	3 (IEC 664/664A; 947-1)
Degree of protection	IP 67 (IEC 529; 947-1)
Temperature	
Operating	-25° to +55°C (-13° to +131°F)
Storage	-30° to +80°C (-22° to +176°F)

Specifications are subject to change without notice

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Specifications (cont.)

Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 68-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 68-2-32)
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

Connection Diagram

Time adjustment (optional)

LED

DIP switches

1
2

12 - 240 VDC
24 - 240 VAC
50/60 Hz

3
4
5

30 VDC
250 VAC
Max. 3 A
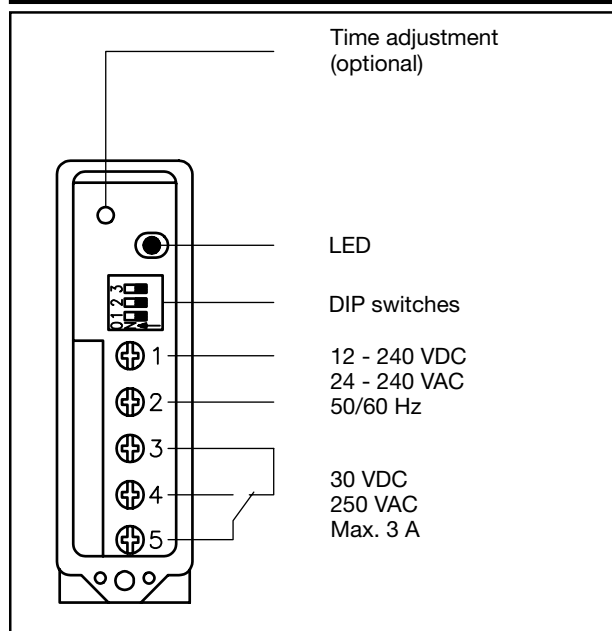
Accessories

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

For further information refer to "Accessories"

Selection of Function

Switch
1 2 3

PMR 10R .

1 Break switching

2 Make switching

PMR 10R .T

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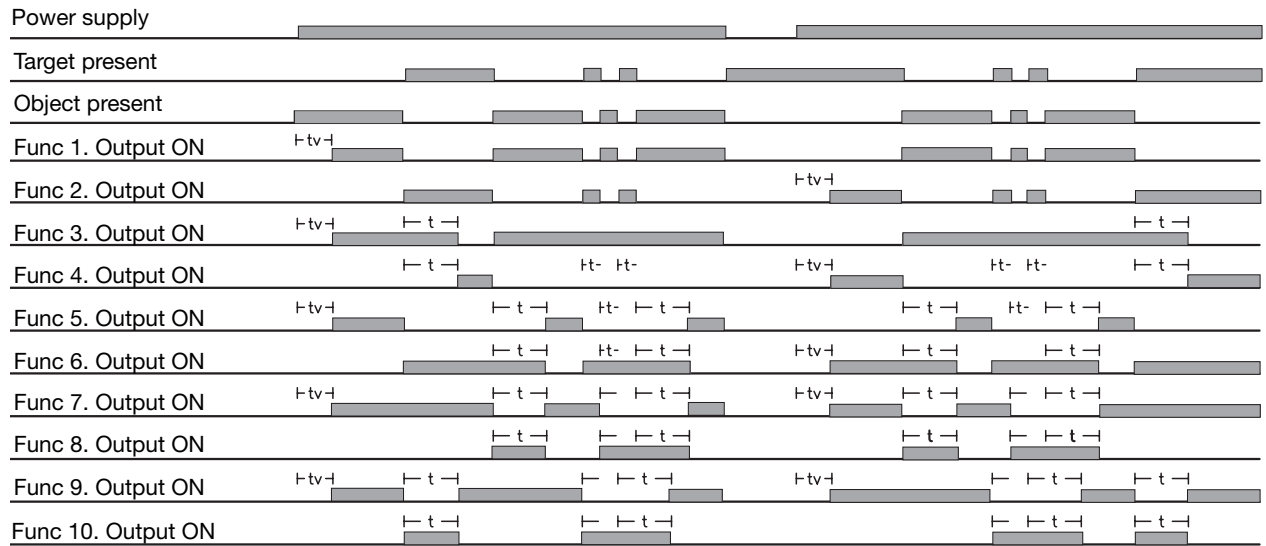Lower position OFF (Mode 0)

Truth Table

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

Delivery Contents

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

Specifications are subject to change without notice

PMR

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Operation Diagram

t = Time delay
tv = Power ON delay

Power supply

Target present

Object present

Func 1. Output ON

Func 2. Output ON

Func 3. Output ON

Func 4. Output ON

Func 5. Output ON

Func 6. Output ON

Func 7. Output ON

Func 8. Output ON

Func 9. Output ON

Func 10. Output ON

Dimensions

PMR

PMR with angle bracket

Specifications are subject to change without notice

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