Photoelectrics
Diffuse-reflective
Type PMD

CARLO GAVAZZI

- **Range: 800 mm**
- **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

Diffuse-reflective photoelectric switch. Range up to 0.8 m. Adjustable 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 or 1/2" NPT cable gland. Timer options: Delay on operate, delay on release, one shot (triggered on leading or trailing edge).

Ordering Key

PMD8R G T

Type
Cable gland
Option: Timer function

Type Selection

Housing W x H x D	Ordering no. without timer	Ordering no. with timer
25 x 65 x 81 PG 13.5 cable gland 1/2" NPT cable gland	**PMD 8R G** **PMD 8R I**	**PMD 8R GT** **PMD 8R IT**

Specifications

Rated operating dist. (S_n) (0 to 5,000 lux)	800 mm Reference target: Kodak test card R27, white, 90% reflectivity, 200 x 200 mm
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)	≤ 2 W (2.5 VA)
Output Contact ratings (AgCdO) Resistive loads AC 1 DC 1 Small inductive loads AC 15 DC 13 Mechanical life (typical) Electrical life (typical)	 µ (micro gap) 3 A/250 VAC 3 A/30 VDC 2 A/250 VAC 3 A/30 VDC ≥ 40 x 10^6 operations ≥ 5 x 10^5 operations at 220 VAC - 3 A resistive load: 360 impulses/h
Dielectric voltage	2000 VAC (rms) (cont./supply)
Sensing range (S_d)	0.2 - 0.8 m
Light source **Light type**	GaAlAs, LED, 880 nm Infrared, modulated

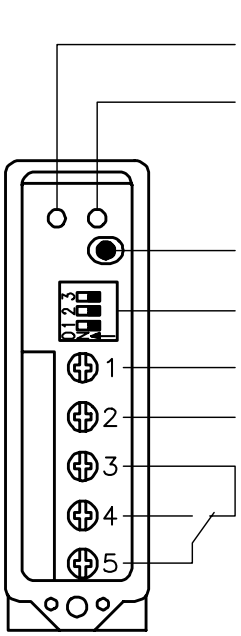
Optical angle (200 x 200 mm test card)	 ±12°
Operating frequency	20 Hz
Response time OFF-ON (t_{ON}) ON-OFF (t_{OFF})	 ≤ 20 ms ≤ 30 ms
Power ON delay (t_v)	≤ 300 ms (typ. 100 ms)
Output function	Switch selectable, make or break switching
Indication Target detected	 LED, yellow
Optional timer Delay on 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
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)
Temperature Operating Storage	 -25° to +55°C (-13° to +131°F) -30° to +80°C (-22° to +176°F)

CARLO GAVAZZI

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, reinforced
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



Time adjustment (optional)

Sensitivity adjustment

LED

DIP switches

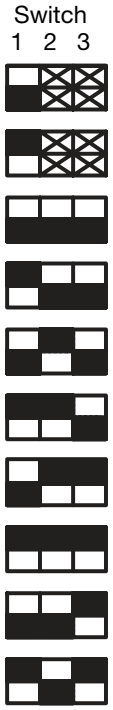
12 - 240 VDC
24 - 240 VAC
50/60 Hz

30 VDC
250 VAC
Max. 3 A

Delivery Contents

- Photoelectric switch: PMD 8R
- Cable gland
- Installation instruction
- Mounting bracket
- **Packaging:** Corrugated cardboard (environmentally friendly recycling material)

Selection of Function



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

Reduction Factors

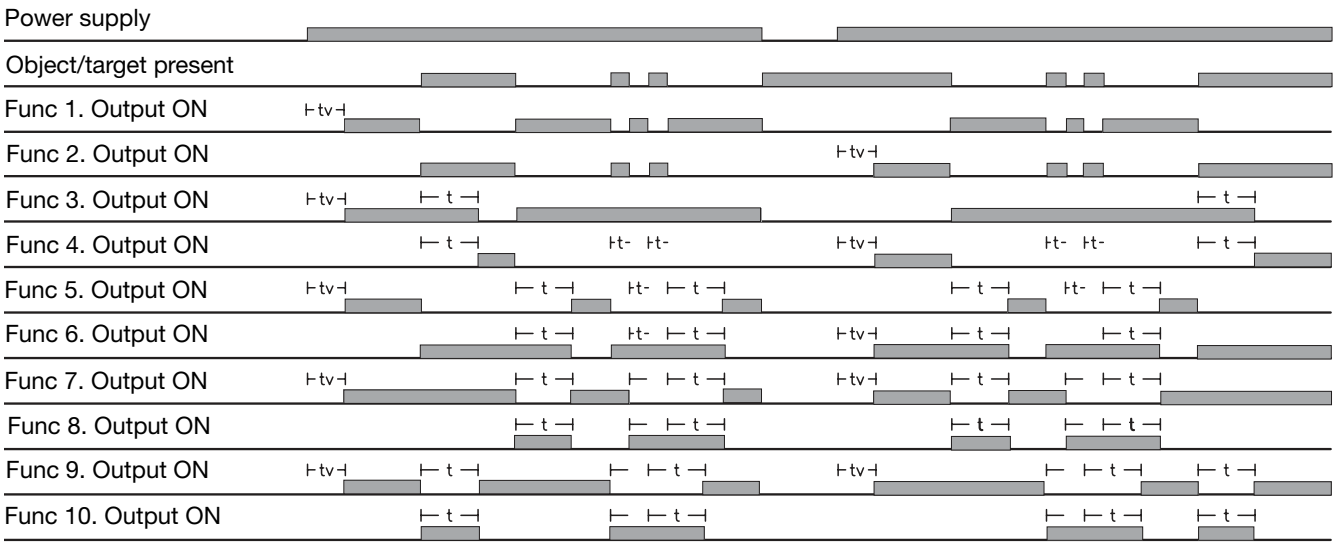
Reduction factors photoelectric switches	
Note: Real sensing distance = rated operating distance (S_n) x reduction factor	
Kodak test card, white, type R 27, 90% reflectivity	1.0
Dead black cardboard	0.1 - 0.4
Kodak test card, grey, type R 27	0.41 - 0.45
White Styropack	1.0 - 1.2
Bright metal	1.2 - 2.0
White cotton	0.5 - 0.8
Grey PVC	0.4 - 0.8
Raw wood	0.4 - 0.8
ER 1, reflector	0.3

Truth Table

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

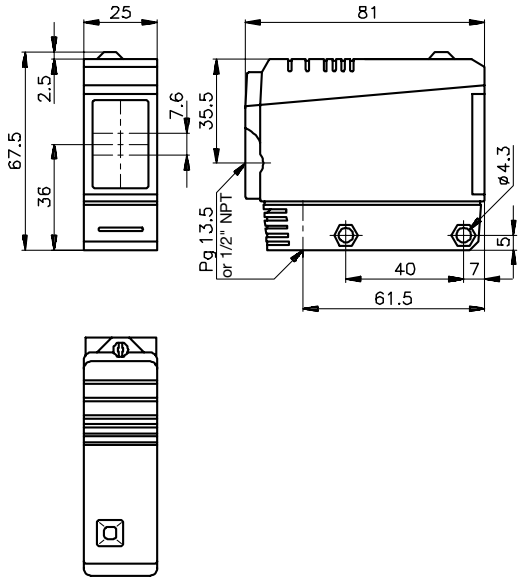
Operation Diagram

t = Time delay
tv = Power ON delay

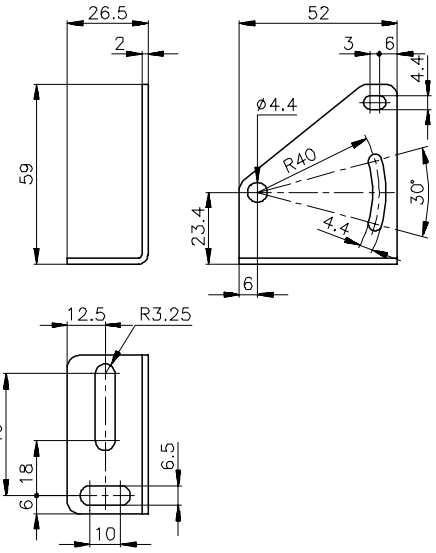


Dimensions

PMD 8R



PMD 8R with angle bracket



Accessories

- MB02 (longer mounting bracket), please refer to "Accessories"