Photoelectrics
Diffuse-reflective, Transistor Output
Type PMD

CARLO GAVAZZI

- **Range: 800 mm**
- **Modulated, infrared light**
- **Rated operational voltage: 10 to 40 VDC**
- **Output: 200 mA, NPN or PNP**
- **Make or break switching function (switch selectable)**
- **LED-indication for target detected**
- **25 x 65 x 81 mm reinforced ABS housing, IP 67**
- **Timer options (adjustable)**
- **NO and NC output**

Product Description

Diffuse-reflective photoelectric switch. Range up to 800 mm. 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 13.5 or 1/2" NPT cable gland. Timer options: Delay on operate, delay on release, one shot (triggered on leading or trailing edge).

Ordering Key

PMD 8 P G T

- **Type**
- **Range**
- **Output**
- **Cable gland type**
- **Timing function**

Type Selection

Housing W x H x D	Range S_n	Ordering no. without timer NPN	Ordering no. without timer PNP	Ordering no. with timer NPN	Ordering no. with timer PNP
25 x 65 x 81					
PG 13.5 cable gland	**800 mm**	**PMD 8N G**	**PMD 8P G**	**PMD 8N GT**	**PMD 8P GT**
1/2" NPT cable gland	**800 mm**	**PMD 8N I**	**PMD 8P I**	**PMD 8N IT**	**PMD 8P IT**

Specifications

Rated operating distance (S_n) (0 to 5000 lux)	0.8 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm
Rated operational volt. (U_B)	10 to 40 VDC
Ripple (U_{rpp})	10%
Output current	
Continuous (I_e)	≤ 200 mA
Short-time (I)	200 mA, max. load capacity 100 nF
No load supply current (I_o)	≤ 40 mA
OFF-state current (I_r)	Max. 100 µA
Voltage drop (U_d)	≤ 2.5 VDC
Transient voltage	IEC 947-5-2, level 3, 2.5 kV
Dielectric voltage	2000 VAC rms (cont./supply)
Sensing range (S_d)	0.2 - 0.8 m
Light source	GaAlAs, LED, 880 nm
Light type	infrared, modulated
Detection angle (200 x 200 mm test card)	±12°
Operating frequency	100 Hz

Response time	
OFF-ON (t_{ON})	≤ 4 ms
ON-OFF (t_{OFF})	≤ 6 ms
Time delay before avail. (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	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	
Installation category	III (IEC 60664/60664A; 60947-1)
Pollution degree	3 (IEC 60664/60664A; 60947-1)
Degree of protection	IP 67 (IEC 60529; 60947-1)
Temperature	
Operating	-25° to +55°C (-13° to +131°F)
Storage	-30° to +80°C (-22° to +176°F)
CE-marking	Yes

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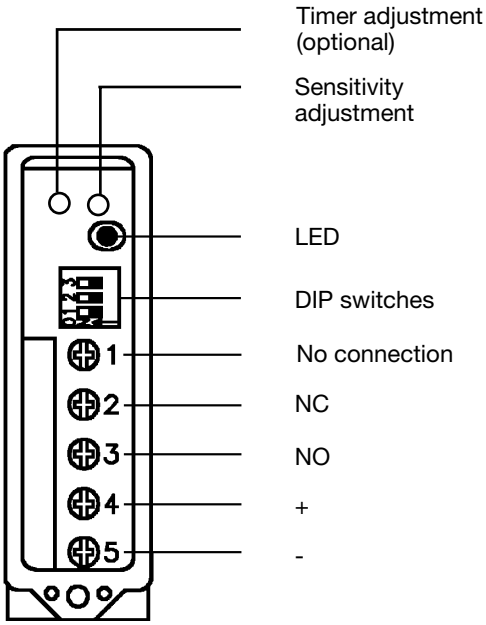
Specifications (cont.)

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	50 VAC (rms)
Housing material	
Body	ABS, grey, reinforced
Front	SAN, 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	90 g

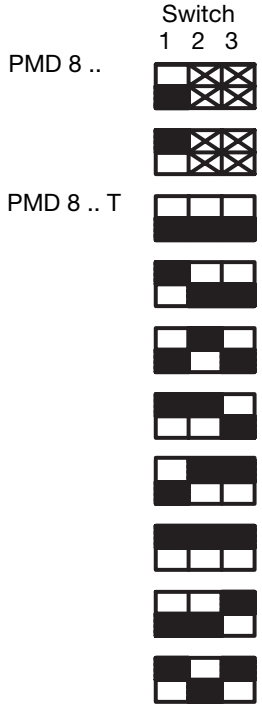
Connection Diagram



Truth Table

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

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

Delivery Contents

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

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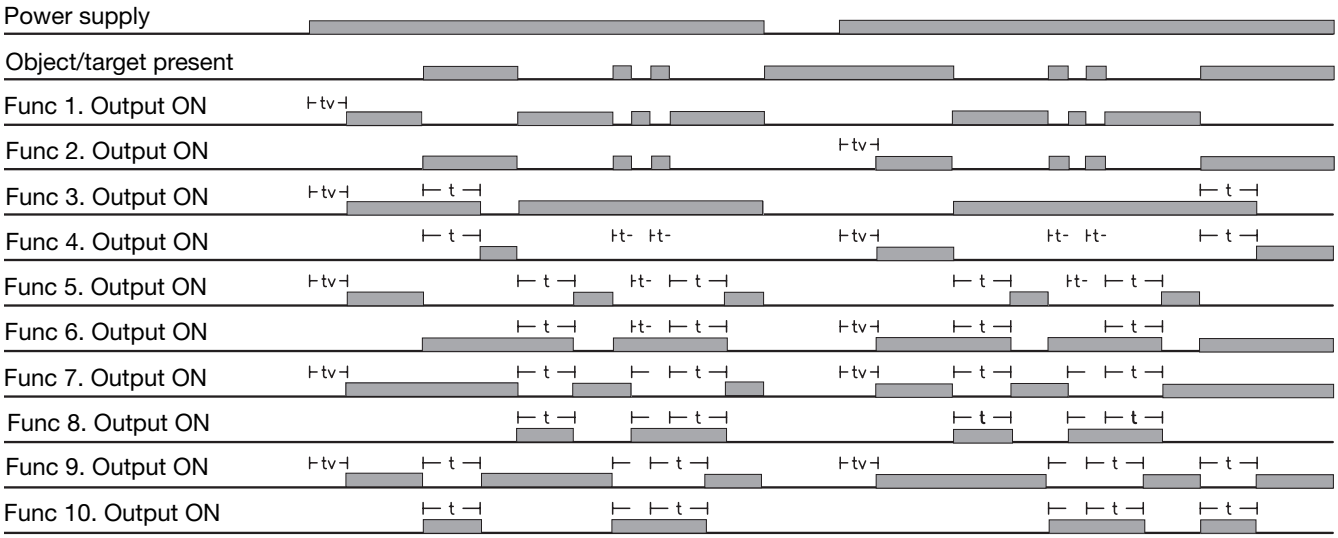
Operation Diagram

t = Time delay
tv = Power ON delay



Dimensions