

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 1/2" NPT cable gland	800 mm 800 mm	PMD 8N G PMD 8N I	PMD 8P G PMD 8P I	PMD 8N GT PMD 8N IT	PMD 8P GT PMD 8P IT

Specifications

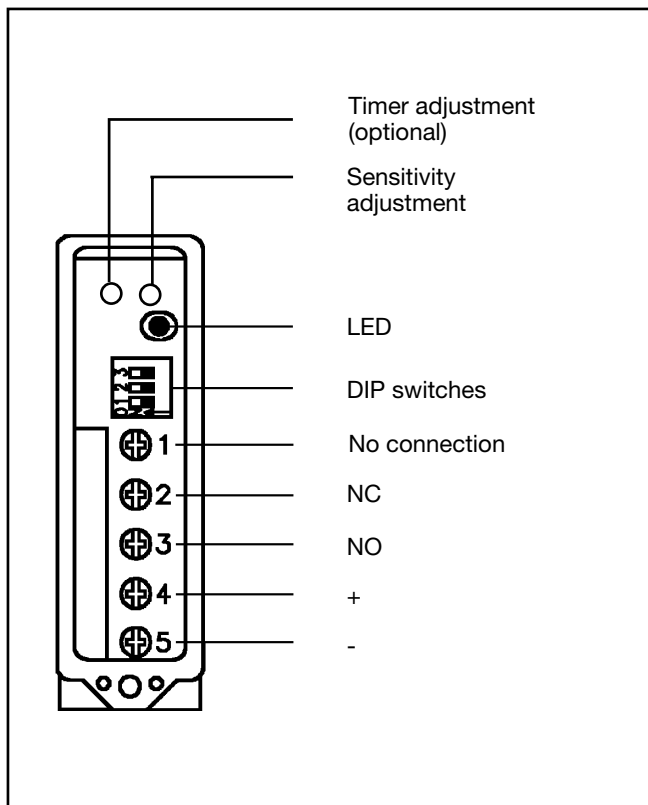
Rated operating distance (S_n) (0 to 5000 lux)	0.8 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm
Rated operational volt. (U_B)	10 to 40 VDC
Ripple (U_{rpp})	10%
Output current Continuous (I _a) Short-time (I)	≤ 200 mA 200 mA, max. load capacity 100 nF
No load supply 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}) ON-OFF (t _{OFF})	≤ 4 ms ≤ 6 ms
Time delay before avail. (t_r)	≤ 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 Installation category Pollution degree Degree of protection	III (IEC 664/664A; 947-1) 3 (IEC 664/664A; 947-1) IP 67 (IEC 529; 947-1)
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 68-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 68-2-32)
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

	Switch 1 2 3	
PMD 8 ..		1 Break switching
		2 Make switching
PMD 8 .. 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 position ON (Mode 1) Lower position OFF (Mode 0)	

Reduction Factors

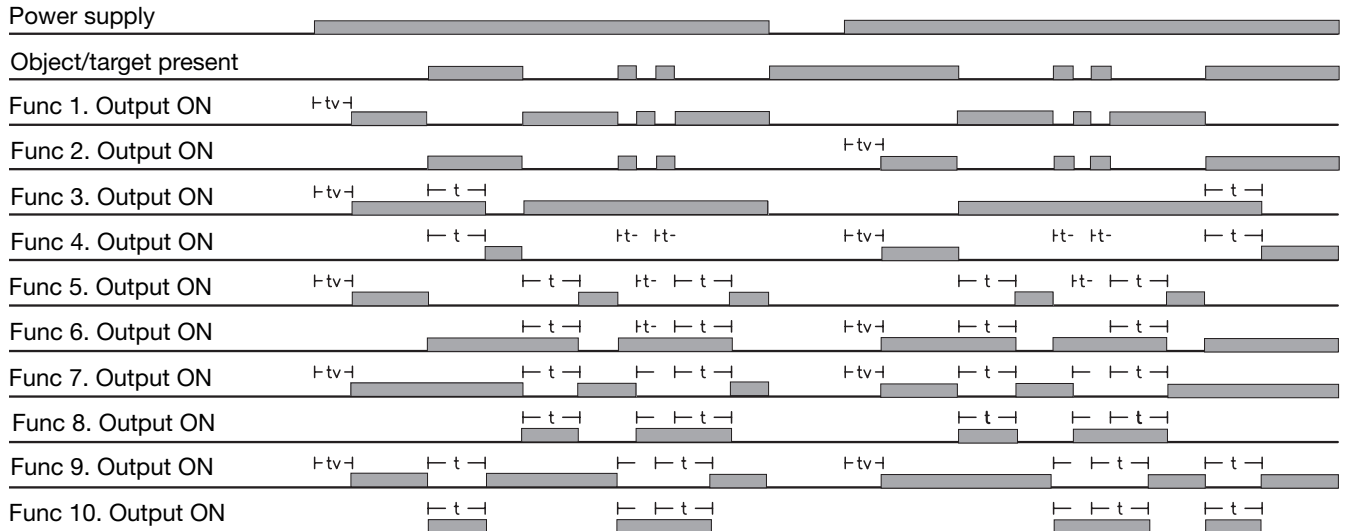
Reduction factors photoelectric switches		
Note: Real sensing distance = rated operating distance (S _n) x reduction factor		
Kodak test card, white, type R 27, 90% reflectivity	1.0	
Dead black cardboard	0.1 - 0.4	
Kodak test card, grey, type R 27	0.41 - 0.45	
White Styropack	1.0 - 1.2	
Bright metal	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)

Operation Diagram

t = Time delay
tv = Power ON delay



Dimensions

