

Photoelectrics

Diffuse-reflective, Transistor Output

Type PMD



- 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

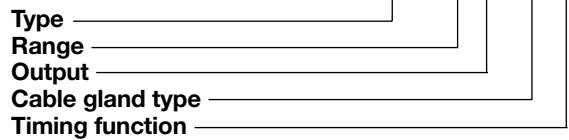


Product Description

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 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

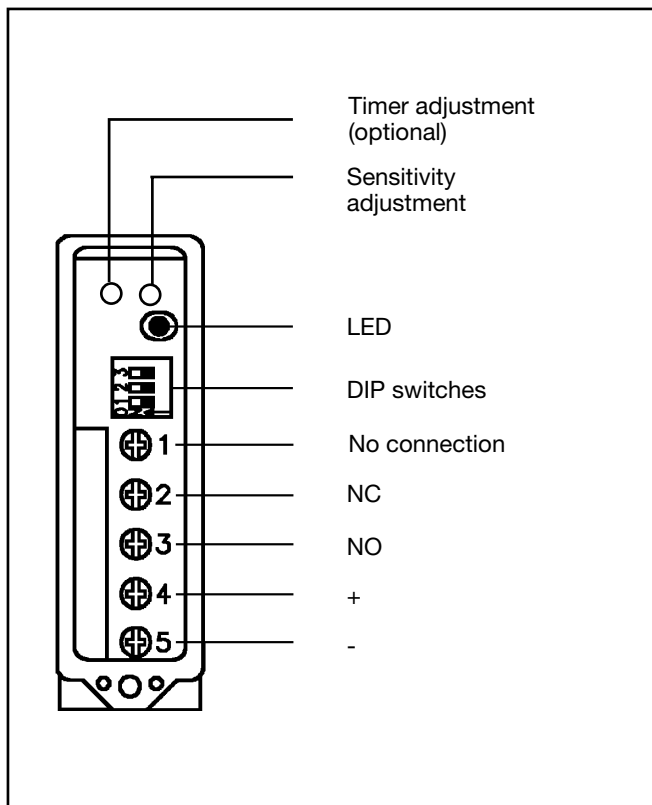
Rated operating distance (S_n) (0 to 5000 lux)	0.8 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm	Response time	OFF-ON (t _{ON}) ≤ 4 ms ON-OFF (t _{OFF}) ≤ 6 ms
Rated operational volt. (U_B)	10 to 40 VDC	Time delay before avail. (t_d)	≤ 300 ms (typ. 100 ms)
Ripple (U_{ripple})	10%	Output function	switch selectable, make or break switching
Output current	Continuous (I _a) ≤ 200 mA Short-time (I) 200 mA, max. load capacity 100 nF	Indication	Target detected LED, yellow
No load supply current (I_o)	≤ 40 mA	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
OFF-state current (I_r)	Max. 100 μA	Environment	Installation category III (IEC 664/664A; 947-1) Pollution degree 3 (IEC 664/664A; 947-1) Degree of protection IP 67 (IEC 529; 947-1)
Voltage drop (U_d)	≤ 2.5 VDC	Temperature	Operating -25° to +55°C (-13° to +131°F) Storage -30° to +80°C (-22° to +176°F)
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		



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



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

Truth Table

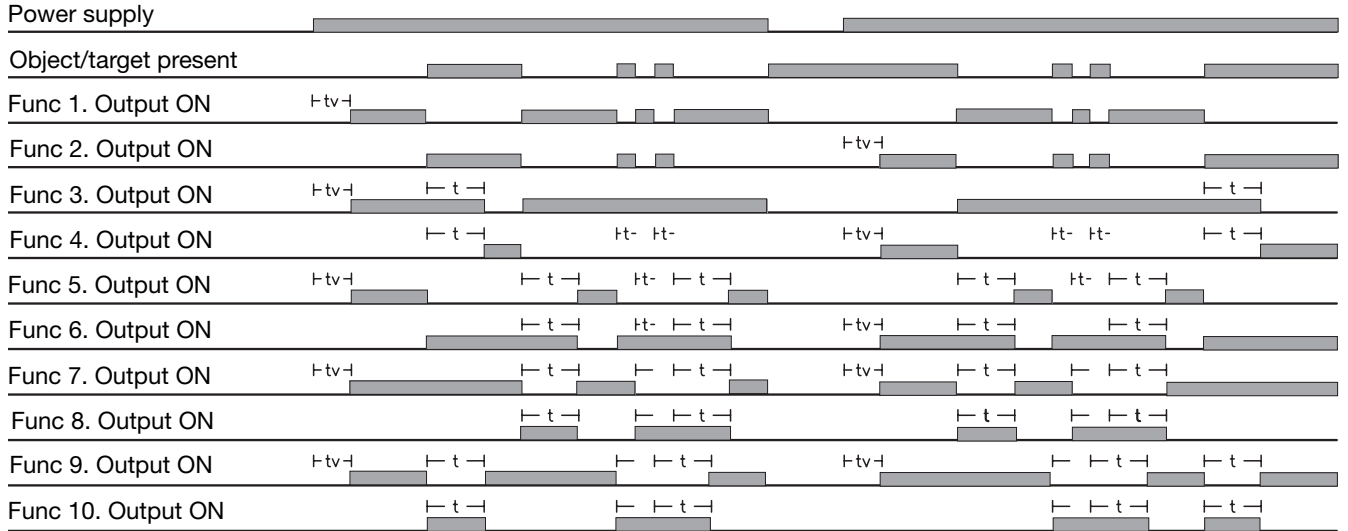
	Make switching		Break switching	
	No	Yes	No	Yes
Object present	No	Yes	No	Yes
LED	OFF	ON	OFF	ON
Load	Non-active	Active	Active	Non-active

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

