Photoelectrics Diffuse-reflective Type PMD





- 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	
7.	
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:	Optical angle (200 x 200 mm test card)	±12°
	Kodak test card R27,	Operating frequency	20 Hz
	white, 90% reflectivity, 200 x 200 mm	Response time OFF-ON (t _{ON})	≤ 20 ms
Rated operational volt. (U _B)	10.8 to 264 VDC 21.6 to 264 VAC	ON-OFF (t _{OFF})	≤ 30 ms
AC: 45 to 65 Hz	21.0 to 204 VAC	Power ON delay (t _v)	≤ 300 ms (typ. 100 ms)
Rated operational power (relay ON)	≤ 2 W (2.5 VA)	Output function	Switch selectable, make obreak switching
Output Contact ratings (AgCdO) Resistive loads AC 1	μ (micro gap) 3 A/250 VAC	Indication Target detected	LED, yellow
DC 1 3 A/30 VDC Small inductive loadsAC 15 2 A/250 VA DC 13 3 A/30 VDC	3 A/30 VDC 2 A/250 VAC 3 A/30 VDC ≥ 40 x 10 ⁶ operations	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
Electrical life (typical)	≥ 5 x 10 ⁵ operations at 220 VAC - 3 A resistive load: 360 impulses/h	Environment Overvoltage category	III (IEC 60664/60664A; 60947-1)
Dielectric voltage	2000 VAC (rms) (cont./supply)	Pollution degree	3 (IEC 60664/60664A;
Sensing range (S _d)	0.2 - 0.8 m	Degree of protection	60947-1) IP 67 (IEC 60529; 60947-
Light source Light type	GaAlAs, LED, 880 nm Infrared, modulated	Temperature Operating Storage	-25° to +55°C (-13° to +131 -30° to +80°C (-22° to +176

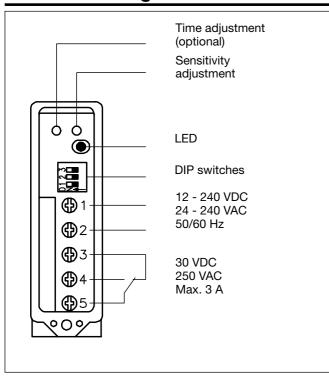
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Specifications (cont.)

Vibration Shock	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6) 2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Rated insulation voltage	250 VAC (rms)
Housing material Body Front Cover Cable gland Mounting bracket	PC, grey, reinforced PC, black PC, black PA, black, reinforced Steel, black
Connection Screw terminal Cable gland	5 x 2 x 1 mm ² PG 13.5 or 1/2" NPT for cable 6 to 10 mm
Weight	110 g
Approvals CE-marking	UL, CSA Yes

Connection Diagram



Selection of Function

Switch 1 2 3

PMD 8R.

PMD 8R.T

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

Truth Table

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

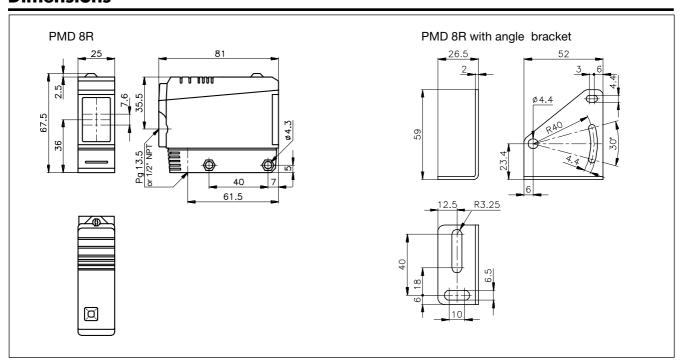


Operation Diagram

t = Time delay tv = Power ON delay

Power supply						
Object/target present	,					
Func 1. Output ON	⊢tv⊣			1		
Func 2. Output ON				⊢tv-l		
Func 3. Output ON	⊢tv-	⊢ t ⊣				⊢ t ⊣
Func 4. Output ON		⊢ t -	Ht- Ht-	⊢tv⊣	+t- +t-	⊢ t ⊣
Func 5. Output ON	⊢tv⊣		⊢ t →	1	⊢ t →	
Func 6. Output ON	•		⊢ t →	⊢tv-l	⊢ t →	
Func 7. Output ON	⊢tv⊣		⊢t → ⊢ + +	⊢tv⊣	⊢t → ⊢	
Func 8. Output ON	·		⊢t → ⊢ t →		⊢t	
Func 9. Output ON	⊢tv⊣	<u></u> ⊢ t ⊣	⊢ ⊢ t ⊢	⊢tv⊣	⊢ ⊢ t ⊢	⊢ t ⊣
Func 10. Output ON	·	⊢ t	⊢ ⊢ t →		⊢ ⊢ t →	⊢ t

Dimensions



Accessories

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