

# Photoelectrics

## Through-beam, Industrial Door Market

### Type PMT20.M, Mute Input

CARLO GAVAZZI



- Range: 20 m
- Modulated, infrared light
- LED-indication for power supply ON (emitter) and target detected (receiver)
- Multi supply voltage:  
24 VDC and 24 VAC, 50/60 Hz
- 25 x 65 x 81 mm reinforced PC housing, IP 67
- CE, UL325 and UL508 approved



## Product Description

Through-beam photoelectric switch. Range up to 20 m. Immune to ambient light. Precise detection through narrow beam. LED-indication. Protection degree IP 67. Screw terminal connection. 25 x 65 x 81 mm plastic

housing. PG 13.5 or 1/2" NPT cable gland. With Mute Input on the transmitter the sensor fulfill EN12978

## Ordering Key

**PMT20 R G M**

Type \_\_\_\_\_  
Receiver \_\_\_\_\_  
Cable gland \_\_\_\_\_  
Mute Input \_\_\_\_\_

## Type Selection

Housing W x H x D	Ordering no. Receiver without timer	Ordering no. Emitter
25 x 65 x 81 PG 13.5 cable gland 1/2" NPT cable gland	PMT 20R GM PMT 20R IM	PMT 20 GM PMT 20 IM

## Specifications Emitter

<b>Rated operational volt. (U<sub>B</sub>)</b> AC: 45 to 65 Hz	24 VDC ± 20% 24 VAC ± 20%
<b>Rated operational power</b>	≤ 1 W (1.2 VA)
<b>Light source</b>	GaAlAs LED, 880 nm
<b>Light type</b>	Infrared, modulated
<b>Optical angle</b>	± 2°
<b>Indication</b> Power supply ON	LED, green
<b>Output function</b>	Switch selectable, make or break switching

## Specifications Receiver

<b>Rated operational volt. (U<sub>B</sub>)</b> AC: 45 to 65 Hz	24 VDC ± 20% 24 VAC ± 20%
<b>Rated operational power</b> (Relay ON)	≤ 2 W (2.5 VA)
<b>Output</b> Contact ratings (AgCdO) Resistive loads Small inductive loads Mechanical life Electrical life	μ (micro gap) AC 1 3 A/250 VAC DC 1 3 A/30 VDC AC 15 2 A/250 VAC DC 13 3 A/30 VDC ≥ 40 x 10 <sup>6</sup> operations ≥ 5 x 10 <sup>5</sup> operations at 220 VAC - 3 A resistive load: 360 impulses/h
<b>Dielectric voltage</b>	2 kVAC (rms) (cont./supply)
<b>Sensitivity</b>	Adjustable, single turn pot.
<b>Optical angle</b>	± 2°
<b>Rated operating dist. (S<sub>n</sub>)</b> (0 to 5,000 lux)	20 m
<b>Operating frequency (f)</b>	20 Hz
<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 20 ms ≤ 20 ms
<b>Power ON delay (t<sub>v</sub>)</b>	≤ 300 ms (typ. 100 ms)
<b>Output function</b>	Mute function



General Specifications

<b>Environment</b>	
Overvoltage category	III (IEC 60664/60664A, 60947-1)
Pollution degree	3 (IEC 60664/60664A, 60947-1)
Degree of protection	IP 67 (IEC 60529, 60947-1)
<b>Temperature</b>	
Operating	-25° to +55°C (-13° to +131°F)
Storage	-30° to +80°C (-22° to +176°F)
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
<b>Housing material</b>	
Body	PC, grey, reinforced
Front	PC, black
Cover	PC, black
Cable gland	PA, black, reinforced
Mounting bracket	Steel, black
<b>Connection</b>	
Screw terminal	5 x 2 x 1 mm <sup>2</sup>
Cable gland	PG 13.5 or 1/2" NPT for cable 6 to 10 mm
<b>Weight</b>	
Emitter	110 g
Receiver	115 g
<b>UL-Approval</b>	cULus
	UL325, CSA-C22.2 No.247
	cULus
	UL508
<b>CE-marking</b>	Yes

Selection of Function

PMT 20R.M

Switch

1 2 3

1 Break switching

2 Make switching

Don't care

Upper position ON (Mode 1)

Lower position OFF (Mode 0)

Connection Diagram

Time adjustment (optional)

Sensitivity adjustment

LED

DIP switches

24 VDC

24 VAC

50/60 Hz

30 VDC

250 VAC

Max. 3 A

PMT20 Emitter

LED

Mute input MAKE/BREAKE

L

N

M

Break

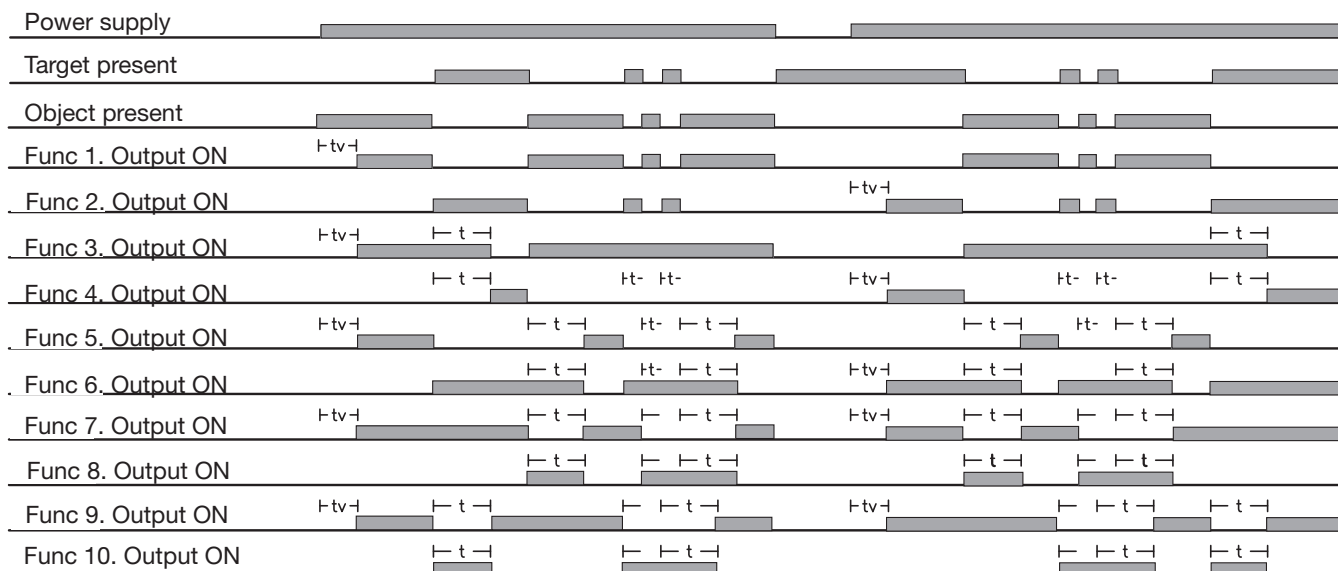
Make

Power supply: 24 VDC or 24 AC, 50/60 Hz

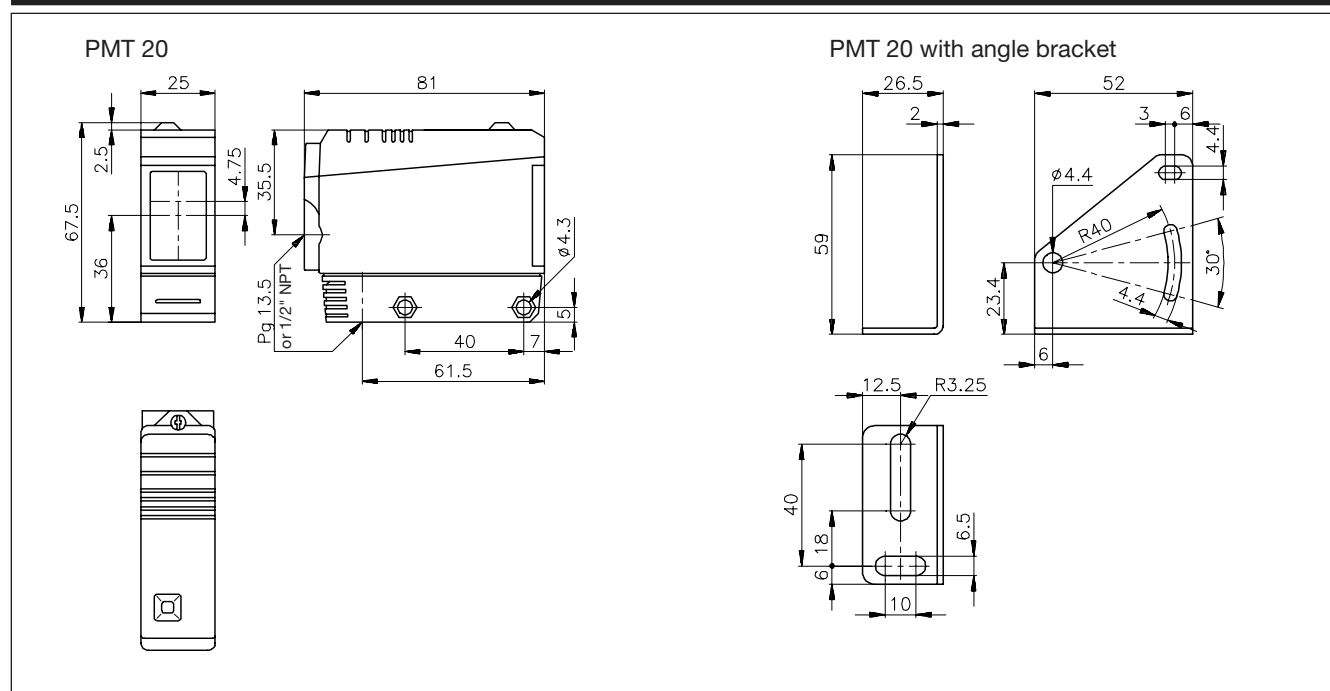
Mute input voltage: 24 VDC or 24 AC, 50/60 Hz

## Operation Diagram

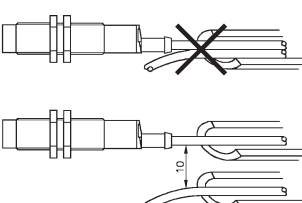
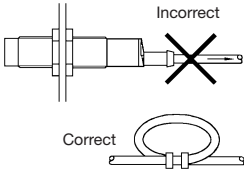
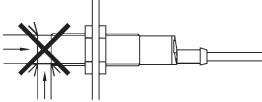
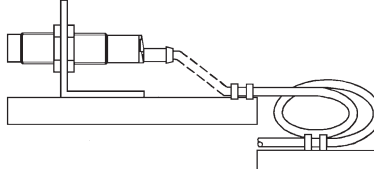
t = Time delay  
tv = Power ON delay



## Dimensions



## Installation Hints

<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p> 	<p>Relief of cable strain</p>  <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p>  <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p>
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## Delivery Contents

- Photoelectric switch: PMT 20
- Cable gland
- Installation instruction
- Mounting bracket
- **Packaging:** Corrugated cardboard (environmentally friendly recycling material)

## Accessories

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