



PB10, PB18, PE12 - Photoelectric sensors

Sensors

PE & PB Series

Sensors made for industrial applications

The compact through-beam sensor series from Carlo Gavazzi has been designed on the basis of customer demands as well as our own experience in industrial sensor applications during the last 25 years. Our goal has been to make the smallest and most powerful stand alone sensor on the market with focus on easy installation and safe detection.

The sensors have been developed specifically for industrial applications, including Lift & Escalators, Industrial Doors & Gates, Entrance control etc.

The sensor is based on the latest 8-bit microprocessor technology (compact 4 x 4 mm housing). This microprocessor has made it possible to implement several new detection principles. We have kept our focus on the proven high immunity towards harsh environment influence and easy installation.



Small but powerful with 15 or 20 m sensing range

Distance setup

The sensors are normally used without distance settings, just on full power which gives a high excess gain in the applications. However in some cases semi transparent objects require a need for a reduction in the emitted power. The distance can be set up via an analogue voltage input or via an external potentiometer.

Mute function

In applications such as Industrial Automatic Doors. European and North American standards require a function for muting the emitter in order to test the sensor operation.

We have implemented this function to fulfill the requirements from these markets.

Neighbour Immunity

As machinery is gradually becoming more compact and sensors are mounted closer to each other, a need for high neighbour immunity has arisen.

The small viewing angle on ± 3 or ± 3.8 degree allowing the sensors to be mounted closer together without interfering with each other (crosstalk).

Approvals

European Door Standards: EN12445, EN12453, EN12978
UL325, UL508, CSA-C22.2 No.247



Benefits

PB10CNT.. harsh environments



Based on the well known MOFTR housing used in Car-wash, Wood Industry and Industrial Door Market.

- Ø10 x 42 mm
- Adjustable sensitivity: 4 to 24 m in 19 steps
- ± 3.8 degree viewing angle



PB18 CNT.. for safety edges on automatic doors



- Fits in a standard 18 mm rubber profile
- Two built-in sealing lips
- Adjustable sensitivity: 3 to 18 m in 19 steps
- Ø 18 x 30 mm housing
- ± 3 degree viewing angle
- Size has been kept small as the length must be maximum 30 mm according to EN 2433



PE12CNT.. snap in version



- Focus on Fast mounting optimized for 0.6 to 2.25 mm wall thickness
- Four strong built-in retaining springs
- Adjustable sensitivity: 3 to 18 m in 19 steps
- Ø 12 x 26 mm housing
- ± 3 degree viewing angle



Specifications

		PB10		PB18		PE12	
		Receiver	Emitter	Receiver	Emitter	Receiver	Emitter
Cable	NPN NO	PB10CNT20NO	PB10CNT20	PB18CNT15NO	PB18CNT15	PE12CNT15NO	PE12CNT15
	NPN NC	PB10CNT20NC		PB18CNT15NC		PE12CNT15NC	
	PNP NO	PB10CNT20PO		PB18CNT15PO		PE12CNT15PO	
	PNP NC	PB10CNT20PC		PB18CNT15PC		PE12CNT15PC	
Connector	NPN NO	-	-	-	-	PE12CNT15NO-C2	PE12CNT15-C2
	NPN NC	-		-		PE12CNT15NC-C2	
	PNP NO	-		-		PE12CNT15PO-C2	
	PNP NC	-		-		PE12CNT15PC-C2	
Rated operating distance (S _n)		20 m	-	15 m	-	15 m	-
Emitter angle @ 1/2 distance		-	±3.8°@ 12 m	-	±3°@ 9 m	-	±3°@ 9 m
Rated operational voltage		10 to 30 VDC					
Sensor protection		Receiver: Short circuit (A), reverse polarity (B) and transients (C); Emitter: B + C					
Led indications		Output ON: Yellow LED (Receiver), Mute input ON and Power ON: Green LED (Emitter)					
Degree of protection		IP67 (IEC 60529; 60947-1)					
Ambient temperature		Operating: -20 to +50 °C (-4 to +122 °F), Storage: -25 to +80 °C (-13 to +176 °F)					
Installation category		III (IEC60664/60664A; 60947-1)					
Pollution degree		3(IEC60664/60664A; 60947-1)					
Material		Body: PC black		Body: PTE black Front glass: PC black		Body: PC black Front glass: PC black	
Cable		PVC, grey (emitter), black (receiver), 5 m, 3 x 0.14 mm ² , Ø2.9 mm					
Connector -C2		3-pol micro MATE-N-LOK Series, AMP/TE					
Weight		Emitter: 80 g, Receiver 80 g					

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