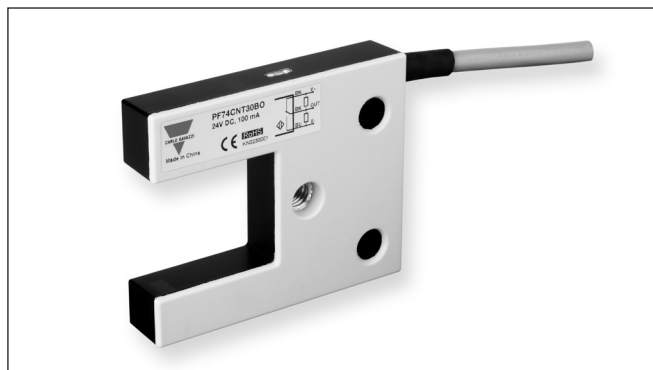


Photoelectrics Fork Sensor for Lifts Type PF74CNT30B.

CARLO GAVAZZI



- Photoelectric Fork Sensor
- Gap: 30 mm
- Modulated, infrared light 940 nm
- Supply voltage: 24 VDC $\pm$ 20%
- Output: 100 mA, NPN / PNP Push-Pull
- Make and break switching function
- LED indication for output, stability and power ON
- Protection: reverse polarity, short circuit and transients
- Cable version
- Excellent EMC performance
- High immunity against dust



Product Description

The PF74CNT30.. sensor family comes in a compact 15 x 60 x 74 mm reinforced polycarbonate housing. The sensor is designed for Elevator applications for lift car leveling, floor count, overshoot and redundancy. The sensor comes in two ver-

sions with push-pull output in either N.O. or N.C. for the NPN or PNP output state. The sensor has a high immunity to environmental conditions such as dust, ambient light and the high switching frequency makes it suitable for high speed Elevators.

Ordering Key

PF 74 CNT 30 BC

Type	PF
Housing style	74
Housing size	CNT
Housing material	30
Sensing principle	BC
Fork opening	
Output type	
Output function	

Type Selection

Housing W x H x D	Range S _n	Connection	Ordering no. PNP N.O., NPN N.C.	Ordering no. PNP N.C., NPN N.O.
15 x 74 x 60 mm	30 mm	Cable	PF 74 CNT 30 BC	PF 74 CNT 30 BO

Specifications

Sensing gap (S_n)	≤ 30 mm	Aperture emitter or receiver	2.0 x 0.4 mm
Excess gain	≥ 50 (500%)	Light spot	13 x 6 mm @ 30 mm
Blind zone	0 mm	Ambient light	≤ 100,000 lux
Sensitivity	No sensitivity control	Operating frequency (f)	≤ 1100 Hz
Temperature drift	≤ 0.7%/°C $\pm$ 20%	Response time	
Hysteresis (H)	5 to 20%	OFF-ON (t _{ON})	≤ 400 μ s
Rated operational volt. (U_B)	19.2 to 28.8 VDC (ripple included)	ON-OFF (t _{OFF})	≤ 500 μ s
Ripple (U_{ripple})	≤ 10%	Power ON delay (t_v)	≤ 100 ms
Output current		Output function	
Continuous (I _a)	≤ 100 mA	Open collector	Push-pull by sensor type
Short-time (I)	≤ 100 mA (max. load capacity 100 nF)	Output switching function	
No load supply current (I_o)	≤ 30 mA @ U _B max ≥ 25 mA @ U _B min	PF74CNT30BO	PNP N.C., NPN N.O.
Minimum operational current (I_m)	0 mA	PF74CNT30BC	PNP N.O., NPN N.C.
Voltage drop (U_d)	≤ 1.5 VDC @ I _e max	Indication	
Protection	Short-circuit, reverse polarity and transients	Light beam uninterrupted	LED, yellow
Light source	InGaAlP, LED, 940 nm	Signal stability ON and power ON	LED, green, see curve for condition of stability
Light type	Infrared, modulated	Environment	
Minimum object		Installation category	III (IEC 60664/60664A; 60947-1)
Vertical (V) single object	2 mm	Pollution degree	3 (IEC 60664/60664A; 60947-1)
Vertical (V) multiple object	See fig. 1	Degree of protection	IP 65 (IEC 60529; 60947-1)
Horizontal (H) single object	3 mm		



Specifications (cont.)

Ambient temperature		Housing material	
Operating	-25° to +60°C (-13° to +140°F)	Body	Polycarbonate (PC), black
Storage	-40° to +70°C (-40° to +158°F)	Cover	Polycarbonate (PC), grey
Vibration	10 to 150 Hz, 1.0 mm/15 G (IEC 60068-2-6)	LED window	Polycarbonate (PC), transparent
Shock	30 g / 11ms, 3 pos, 3 neg per axis (IEC 60068-2-6, 60068-2-32)	Cable outlet	TPE, black
Rated insulation voltage	≤ 50 VDC	Connection	
		Cable	PVC, grey, 5 m 3 x 0.5 mm², Ø = 5.6 mm
		Weight	≤ 225 g
		CE-marking	Yes

Wiring Diagrams

PF74CNT30BO (PNP N.C., NPN N.O.)

PF74CNT30BC (PNP N.O., NPN N.C.)

Contacts shown when light beam is interrupted

Operation Diagram

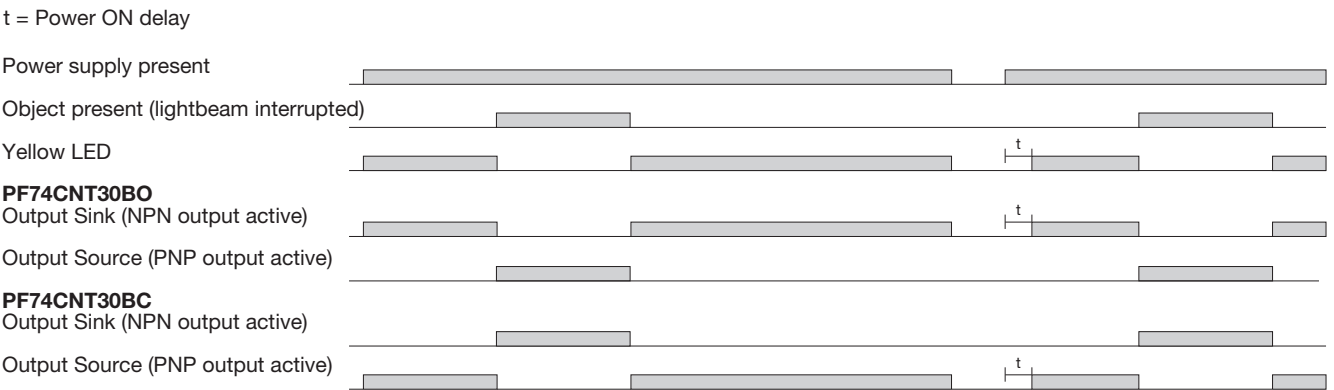
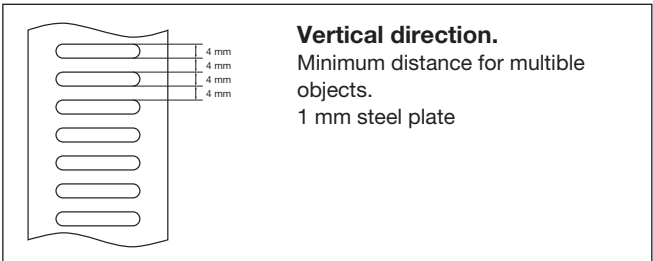
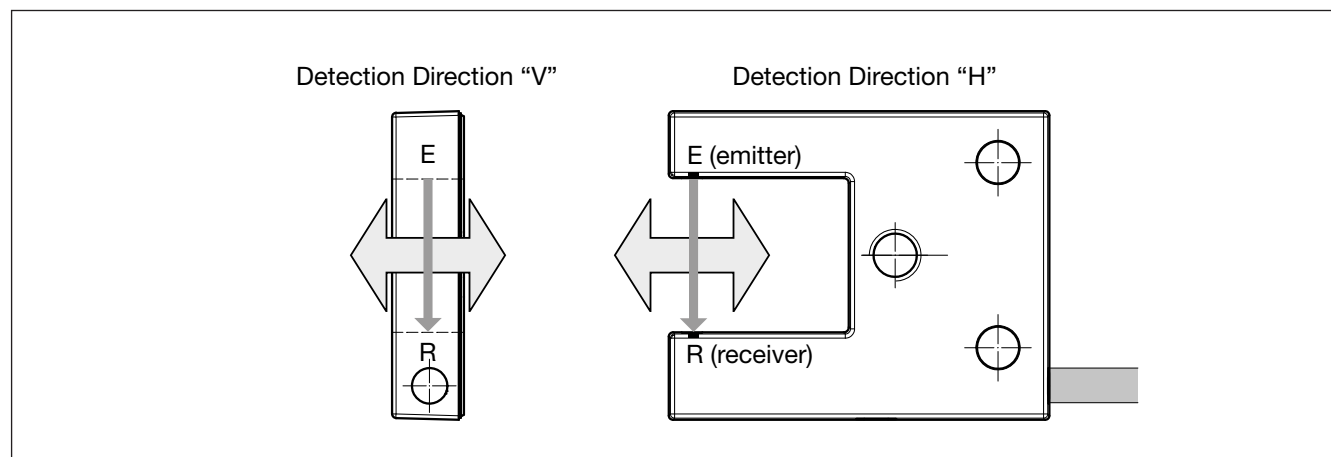


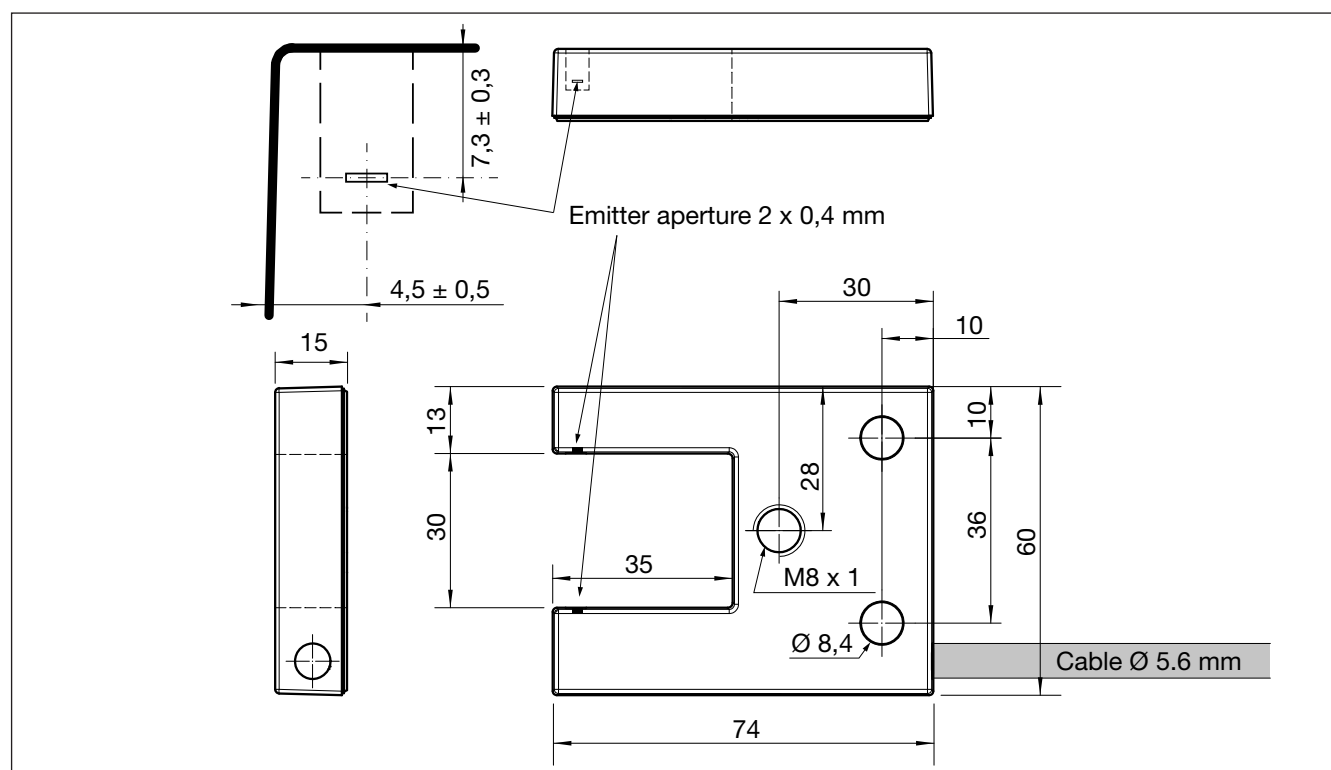
Fig. 1



Detection Direction

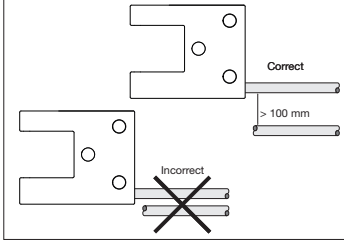
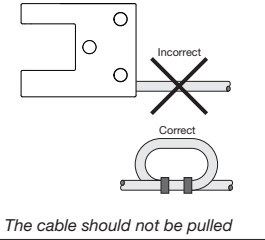
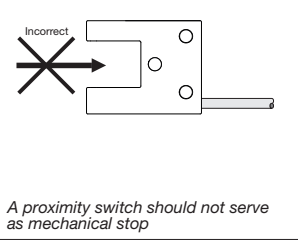
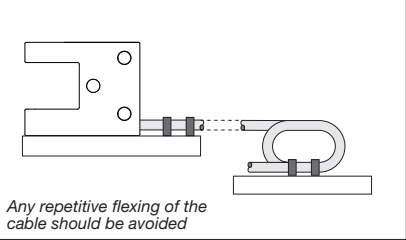


Dimensions





Installation Hints

To avoid interference from inductive voltage / current peaks, separate the proximity switch cables from any other power cables. E.g. Engine, contactor or solenoid cables  Correct > 100 mm Incorrect	Relief of the cable strain  Incorrect Correct The cable should not be pulled	Protection of the sensing face  Incorrect A proximity switch should not serve as mechanical stop	Sensor mounted on a mobile carrier  Any repetitive flexing of the cable should be avoided
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Delivery Contents

- Photoelectric switch: PF74CNT30B.
- Installation instruction: Print on plastic bag
- **Packaging:** Plastic bag