

PF SERIES INSTALLATION MANUAL



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GENERAL DESCRIPTION

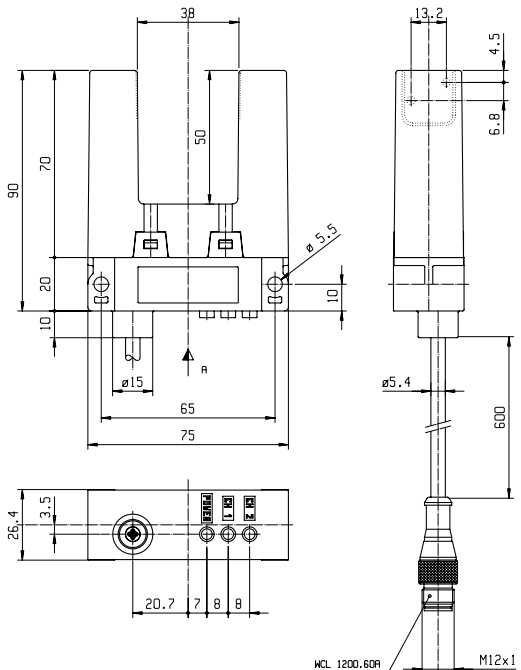
The PF dual beam photoelectric slot sensor has been specifically designed to work as edge detection for machines Capable of achieving an optical-mechanical hysteresis of 6.8 mm independently from the colour of the belt and its regularity. The output TRIAC solid state for model PFO050-A and MOSFET solid state for model PFO050-D is decoupled from the supply (10...30V d.c.) and is able to drive load (up to 110 V a.c. for model PF-A and up to 30V peak for model PF-D) up to 500mA. These features, together with high dust insensitivity, make the sensor suitable to a great number of applications. The output logic is selectable between DARK ON/LIGHT ON by supply polarity inversion: brown (POS) and blue (NEG) for the DARK ON behaviour, brown (NEG) and blue (POS) for the LIGHT ON state.

CODE DESCRIPTION

PF-A: Dual beams photoelectric slot sensor for edge detection, TRIAC output, Output state Light ON/Dark ON selectable by polarity inversion.

PF-D: Dual beams photoelectric slot sensor for edge detection, MOSFET output, Output state Light ON/Dark ON selectable by polarity inversion.

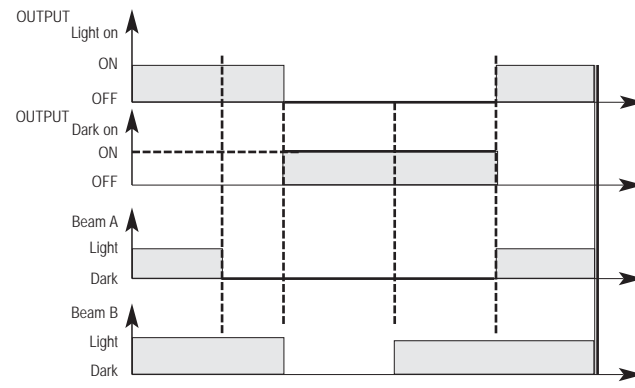
MECHANICAL DRAWINGS



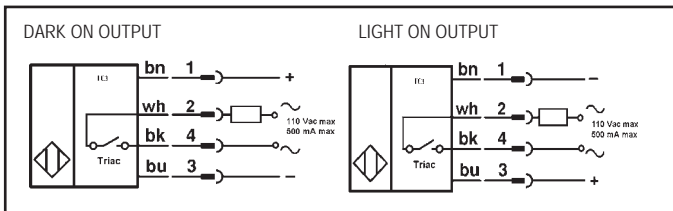
LOGICAL DIAGRAM

Taking A as the outer beam and B as the inner beam with respect to the photoelectric sensor input and the DARK ON function, the output is activated when both A and B are intercepted by the edge of the belt and, correspondingly, the output is deactivated when both A and B are uninterrupted again. The resultant hysteresis is therefore equal to the optical interaxis (6.8 mm).

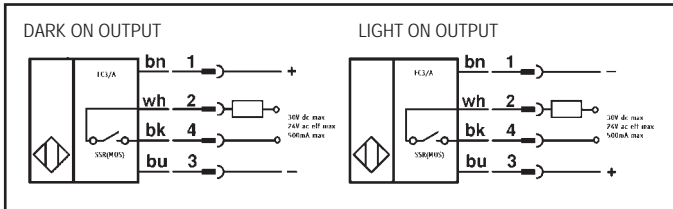
A: outer beam referring to the fork input
B: inner beam referring to the fork input



PFO050-A WIRING DIAGRAMS



PFO050-D WIRING DIAGRAMS



WIRING COLOR

1/Bn : Brown
2/Wh : White
3/Bu : Blue
4/Bk : Black



WARNING These products are **NOT** safety sensors and are **NOT** suitable for use in personal safety application

SPECIFICATIONS

Model	Dual beams photoelectric slot sensor for edge detection PF-A	Dual beams photoelectric slot sensor for edge detection PF-D
Optical axial distance	6.8 mm	6.8 mm
Optics diameter	3 mm	3 mm
Operating voltage	10 .. 30 V d.c.	10 .. 30 V d.c.
Ripple	10 %	10 %
No load supply current	30 mA	30 mA
Load current	Max 500 mA (V=110 V a.c.)	Max 500 mA V=30 Vd.c./24 V a.c. eff
Leakage current	250 µA (V = 250 V max)	250 µA (V = 30 V max)
Inrush current	5 A (T=10µs)	5 A (T=10µs)
Output voltage drop	1.2 V max (500 mA)	1.2 V max (500 mA)
Output type	Solid state, TRIAC type, Lon / Don selectable	Solid state, MOSFET type, Lon / Don selectable
Operating voltage / Blocking Voltage	110 Veff. / ± 400 V	30 V d.c. o 24 V a.c. eff. / ± 40 V
Zero-Voltage-Switching	YES	NO
Emission	Infrared (880 nm)	Infrared (880 nm)
Sampling frequency	3.7 kHz	3.7 kHz
Switching frequency	25 Hz	25 Hz
Supply electrical protection	Transient overvoltage	Transient overvoltage
Protection degree	IP64 (EN60529)	IP64 (EN60529)
Led indicator	Green (supply) Red (Output)	Green (supply) Red (Output)
Housing material	PC	PC
Weight (approx.)	0.12 kg	0.12 kg

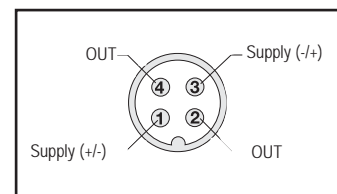
CONNECTIONS

- Make sure that the operating voltage is properly correctly stabilized with a maximum ripple being within the specification.
- When using a "switching" regulator for the power source, be sure to earth both the frame round terminal and the sensor.
- In the event that the noise induced by the power lines is greater than that specified by the EC regulation (interference immunity), detach the sensor cables from the power and high voltage lines and insert the cable in an earthed metal conduit. Furthermore, it is advisable to connect the sensor directly to the supply source and not downstream of other devices.
- Install the fork and arrange the target edge obscuring both the beams so that the belt's movement corresponds to the hysteresis of the sensor. Take care that, when it moves, the belt does not damage the sensor coming into contact with its edges.
- Fix the sensor and, to avoid that the accumulation of electrostatic charge caused by the dragging of the belt produces discharge phenomena, protect it with earthed metal edges or brackets.
- Connect pin 1 (brown) to the positive and pin 3 (blue) to the negative of the power supply (10...30VDC) for the DARK ON operating mode, or pin 1 (brown) to the negative and pin 3 (blue) to the positive of the power supply for the LIGHT ON operating mode.

INSTALLATION

Declaration of conformity INPROX CORPORATION
Declare under our sole responsibility that this products are in conformity with the following EEC directive: 89/336 and 73/23 and emendment.

CONNECTOR



Warranty - INPROX CORPORATION
warrants for a period of three (3) years from the date of manufacturing that all products will be free from defects and commits oneself to repairing and replacing the goods that INPROX considers defective. Such warranty satisfaction is available only if any alleged defect has not been caused by misuse or improper installation.