

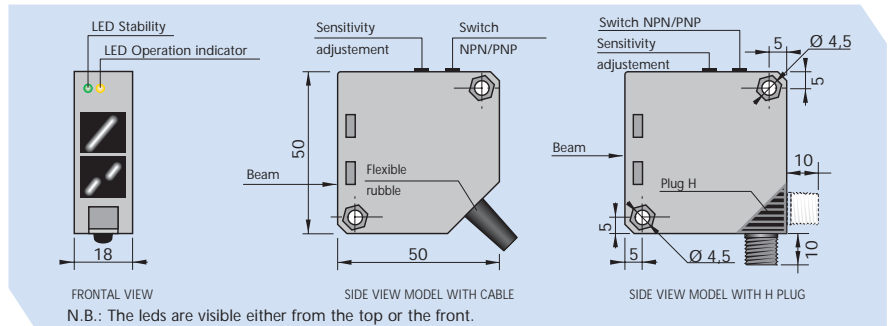
FTQ Series NPN/PNP

PHOTOELECTRIC SENSORS

10 ÷ 30 VDC



COMPACT SIZE 50 x 50 x 18 mm
 PROGRAMMABLE OUTPUT NPN/PNP
 OUTPUT FUNCTION NO + NC
 SENSITIVITY ADJUSTMENT

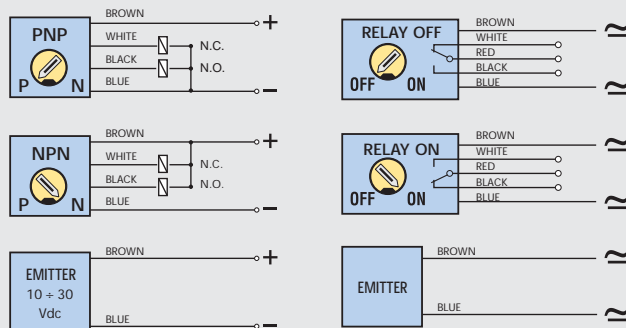


TECHNICAL CHARACTERISTICS

Dimensions mm

| TYPE | | DIRECT REFLECTION | REFLECTION WITH REFLECTOR | POLARIZED REFLECTION WITH REFLECTOR | RECEIVER | THRU BEAM | EMITTER | |
|---------------------------------------|--------|---|---------------------------|-------------------------------------|-----------|--------------------------|------------------------|--|
| | | FTQ-CP | FTQ-CR | FTQ-CAR | FTQ-CBR | FTQ-CBE | | |
| MODEL WITH CABLE | | FTQ-CP | FTQ-CR | FTQ-CAR | FTQ-CBR | | FTQ-CBE | |
| MODEL WITH H PLUG | | FTQ-CP-H | FTQ-CR-H | FTQ-CAR-H | FTQ-CBR-H | | FTQ-CBE-H | |
| Sensing range (Sn) | cm | 80* | 500** | 300** | 2000 | | | |
| Programmable output | | NPN/PNP | | NO + NC | | | | |
| Light source | Led | Infrared | | Red | Infrared | | | |
| Power on delay | mSec | ≤ 80 | | | | | | |
| Switching frequency | Hz | 700 | | | 250 | | | |
| Continuous voltage (Res. ripple ≤10%) | V | 10 ÷ 30 | | | | | | |
| Multivoltage AC/DC | V | | | | | | | |
| Max output current | mA | 200 | | | | | | |
| Max current consumption at 24 Vdc | mA | ≤ 50 | | | ≤ 20 | ≤ 50 | | |
| Voltage drop (I out = 200 mA) | V | ≤ 3 | | | | | | |
| Short circuit protection | | Incorporated | | | | | | |
| Light immunity | | >10.000 Lux | | | | | | |
| Led | Yellow | Operation indicator | | | | | Power supply (Red Led) | |
| | Green | Stability control | | | | | | |
| Temperature limits | °C | Working temperature: -20 ÷ +50 / Storage temperature: -20 ÷ +65 | | | | | | |
| IP rating | IP | 65 | | | | | | |
| Plastic housing | | Gray ABS | | | | | | |
| Cable | 2m | 4 x 0.25 mm ² | | | | 2 x 0.50 mm ² | | |
| Connector plug | | H | | | | | | |

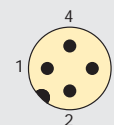
WIRING DIAGRAMS



N.B.: Upon request cable for sensors with different lengths 3.5 - 5 - 7.5 - 10 metres is available.

CONNECTION WITH H PLUG

FOR THE CONNECTORS SEE PAGE 85



VIEW OF MALE CONNECTOR PLUG H

MODELS NPN/PNP

2 WIRES (EMITTER)
 1 = Brown / +
 3 = Blue / -

4 WIRES (OTHER MODELS)

1 = Brown / +
 3 = Blue / -
 4 = Black / output NPN-PNP/N.O.
 2 = White / output NPN-PNP/N.C.

MODELS RELAY

2 WIRES (EMITTER)
 1 = Brown / +
 3 = Blue / -

4 WIRES (OTHER MODELS)
 1 = Brown / +
 3 = Blue / -
 2-4 = Relay contact

N.B. With relay in OFF position the contact 2-4 is open. With connectors with cable the contact 2-4 corresponds to the Black-White wiring.

*The sensing distance is related to matt white paper dim. 20 x 20 cm. **The sensing distance is related to CT80 reflector.

FTQ Series - Relay

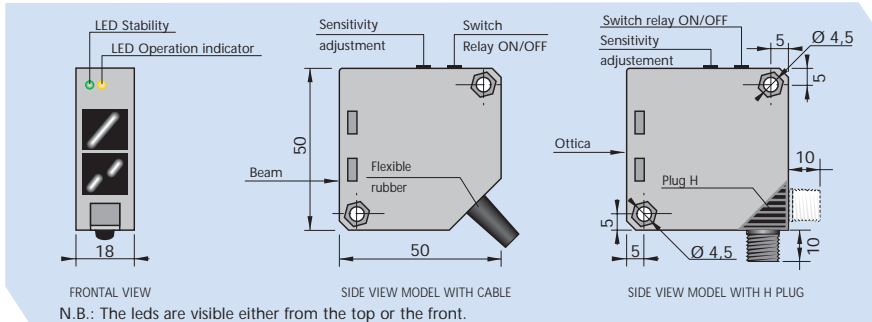
PHOTOELECTRIC SENSORS

12 ÷ 240 VAC/DC

COMPACT SIZE 50 x 50 x 18 mm
RELAY OUTPUT
PROGRAMMABLE RELAY ON/OFF
SENSITIVITY ADJUSTMENT



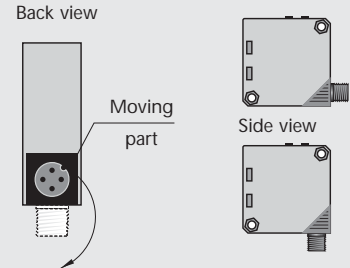
FotoStar



FRONTAL VIEW
SIDE VIEW MODEL WITH CABLE
SIDE VIEW MODEL WITH H PLUG
N.B.: The leds are visible either from the top or the front.

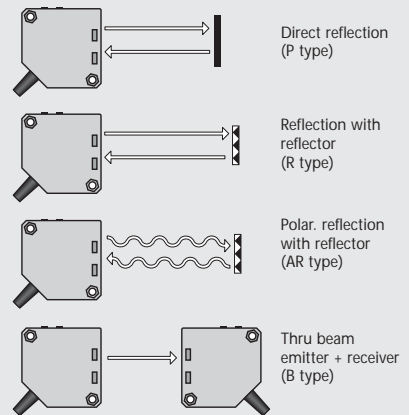
| DIRECT REFLECTION | REFLECTION WITH REFLECTOR | POLARIZED REFLECTION WITH REFLECTOR | THRU BEAM RECEIVER | THRU BEAM EMITTER |
|---|---------------------------|-------------------------------------|--------------------|--------------------------|
| FTQ-P-R | FTQ-R-R | FTQ-AR-R | FTQ-BR-R | FTQ-BE-R |
| FTQ-P-R-H | FTQ-R-R-H | FTQ-AR-R-H | FTQ-BR-R-H | FTQ-BE-R-H |
| 80* | 500** | 300** | 2000 | |
| RELAY ON/OFF (Programmable) | | | | |
| Infrared | | Red | Infrared | |
| ≤ 100 | | | | |
| 10 | | | | |
| 12 ÷ 240 | | | | |
| 12 ÷ 240 | | | | |
| Contact relay 1A 220Vac | | | | - |
| 1.8 VA | | | | 1 VA |
| >10.000 Lux | | | | |
| Operation indicator | | | | Power supply |
| Stability control | | | | (Red Led) |
| Working temperature: -20 ÷ +50 / Storage temperature: -20 ÷ +65 | | | | |
| 65 | | | | |
| Gray ABS | | | | |
| 5 x 0.35 mm ² | | | | 2 x 0.50 mm ² |
| H | | | | |

H PLUG - M12 CONNECTOR

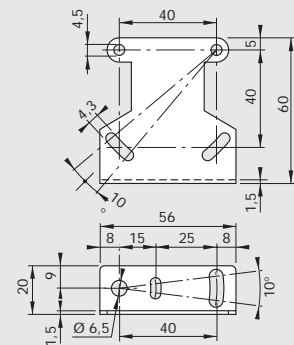


Turn in the clockwise to choose the direction of the connector exit.

TYPES

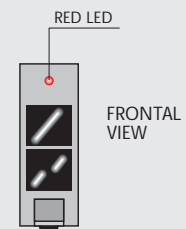


MOUNTING BRACKET ST2



EMITTER FTQ - CBE/FTQ - BE - R

POSITION OF POWER SUPPLY LED



INSTRUCTIONS FOR THE PROGRAMMING AND ADJUSTMENT

FTQ MODELS (NPN/PNP)

- GREEN LED - STABILITY INDICATOR:** This led is on when the level of the output signal and the alignment of the photoelectric sensors are in the optimum position. In the case that the led is off this indicates that the lens is obscured or for the types with direct reflection a possible alteration of the dimension or color of the object to be detected.
- YELLOW LED - OPERATION INDICATOR:** This led is on when the object to be detected enters the sensing range of the photocell giving output signals.
- TRIMMER FOR THE SENSING RANGE ADJUSTMENT:** The photocell is supplied with max. sensing range with the trimmer totally rotated in the clockwise direction. The sensitivity reduces by rotating the trimmer in the anti-clockwise direction.
- SWITCH NPN/PNP:** The photocell is supplied with the switch in P (PNP output). To change to NPN turn the switch to N in the clockwise direction.

FTQ MODELS (RELAY)

- SWITCH RELAY ON/OFF:** The photocell is supplied with the switch in OFF (relay de-energized without object). To change to ON (relay energized without object) turn the switch to ON in the clockwise direction.

NOTE! Before giving a power supply to the photocell it is recommended that the same unit be programmed by using the switch in the required function NPN or PNP and NO or NC.