



Smart Sensing Solutions Since 1954

FS Fork Sensor



Closing the Gap

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The **FS Fork Sensor** is simple to use. The metallic housing is ultra rugged and comes in a wide range of gap sizes. The fork style design is easy to align and simple to adjust.

Fork sensors are used for detecting very small objects and for counting tasks in feeding, assembly and handling applications. They are also used for belt edge and guide control.

The narrow light beam and fast response time makes this type of sensor reliable and well suited for these applications.

Installation is easy and requires no time-consuming process to align the transmitter and receiver. Made of rugged aluminum, long-term stability of the optical axis guarantees alignment between transmitter and receiver will be maintained.



Features

- 10mm wide allows for mounting in narrow spaces.
- Fast response time for accurate position.
- Detects objects as small as 0.5mm.
- Quick setup.
- No alignment needed of transmitter and receiver.
- Signal margin indicator.
- Robust metal housing, epoxy encapsulated, IP67 rated.

Features

DETECTION AXIS

Position of detector.

OUTPUT INDICATOR

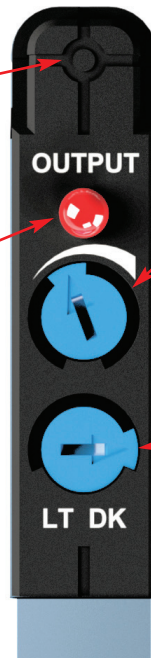
Red LED illuminates when outputs are ON. Blinks to indicate low signal margin.

SENSITIVITY ADJUSTMENT

Adjust counter-clockwise for improved detection of small objects. Adjust clockwise to increase margin in dirty environment.

LIGHT/DARK OUTPUT SELECT

Switch between Light-On or Dark-On.



How to Specify

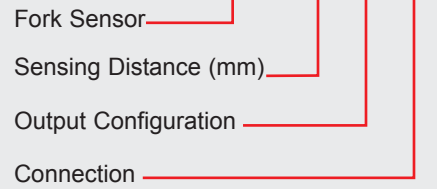
1. Select Sensor:
FS Fork Sensor

2. Select Sensing Distance (mm):
20, 30, 50, 80, 100, 120, 180, 220

3. Select Output Configuration:
P = PNP
N = NPN

4. Select Connection:
C = 3-Pin M8 Male Connector

Example: FS 80 N C



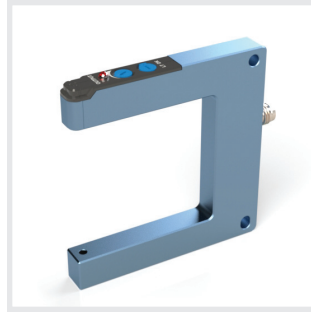
Models



FS20
Gap Depth 0.787in (20mm)



FS30
Gap Depth 1.181in (30mm)



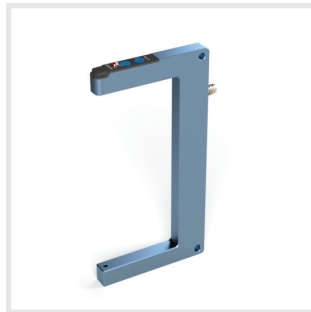
FS50
Gap Depth 1.969in (50mm)



FS80
Gap Depth 3.150in (80mm)



FS100
Gap Depth 3.937in (100mm)



FS120
Gap Depth 4.724in (120mm)



FS180
Gap Depth 7.087in (180mm)
Infrared light source



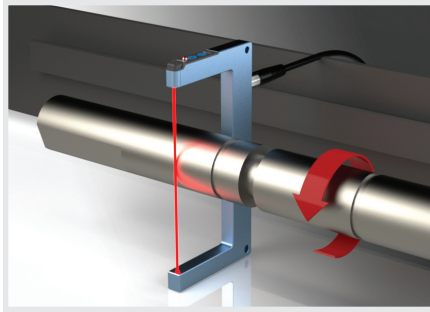
FS220
Gap Depth 8.661in (220mm)
Infrared light source

Accessories

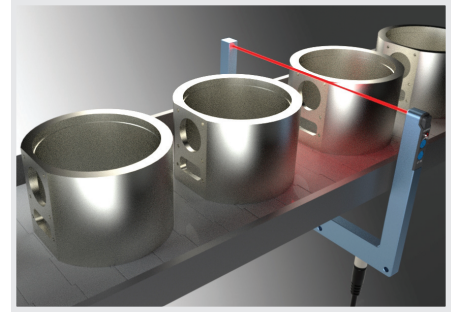


GEC3-6
3-Pin 6ft (1.8m) Cable

Applications



Imbalance detection on rotating parts.



Under-belt mounting keeps sensor out of the way.

Specifications

SUPPLY VOLTAGE & CURRENT

- 8-30 Vdc
- Current 45mA
- Reverse polarity protected
- Transient spike protected

OUTPUT

- 150mA output current
- Short circuit & transient spike protected
- Saturation voltage: < 0.3VDC @ 10mA
< 2VDC @ 150mA
- NPN or PNP based on model.

POWER-UP DELAY

- 300ms. No output pulse on power-up.

RESPONSE TIME

- 240µs (120µs repeatability)

GAP RANGE

- 20mm to 220mm (determined by model)

ADJUSTMENTS

- Sensitivity
- Light/Dark output select

LIGHT IMMUNITY

- High immunity to most ambient light, including high efficiency lighting and high intensity strobes.

LED INDICATORS

- Red output LED. Illuminates when output is ON. Blinks to indicate low signal margin.

LED LIGHT SOURCE

- LED, RED = 660nm, IR = 830nm (IR only available for FS180 & FS220 models).

CONNECTIONS

- M8, 3-pin

OPERATING TEMPERATURE

- -20°C to 70°C (-4°F to 158°F)

HOUSING CONSTRUCTION

- 10mm wide anodized aluminum housing
- Chemical resistant, high-impact ABS & PC human interface
- RX Lens: acrylic
- Epoxy encapsulated

RATINGS & CERTIFICATIONS

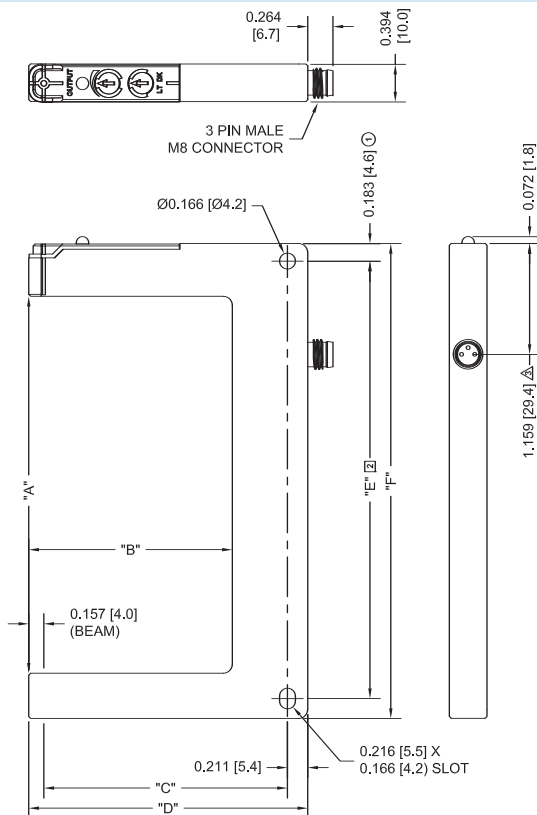
- IP67
- CE
- UL pending



RoHS Compliant
Product subject to change without notice

Connections and Dimensions

Fork Sensor



- ① - FS20 = 0.651 [16.5]
ALL OTHER MODELS ARE AS SPECIFIED
- ② - FS180 & FS220 INCLUDE TWO ADDITIONAL 0.166 [4.2] DIA. MOUNTING HOLES BETWEEN TOP HOLE AND BOTTOM SLOT:
- FS180
BOTTOM SLOT 2.556 [64.9] 2.581 [65.6] 2.581 [65.6] 7.719 [196.1]
- FS220
BOTTOM SLOT 3.081 [78.3] 3.106 [78.9] 3.106 [78.9] 9.294 [236.1]
- ③ - FS20 = 0.906 [23.0]
FS30 = 1.102 [28.0]
ALL OTHER MODELS ARE AS SPECIFIED

FORK SENSOR	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"	DIM. "F"
FS20	0.787 [20.0]	0.945 [24.0]	1.364 [34.6]	1.732 [44.0]	0.924 [23.5]	1.811 [46.0]
FS30	1.181 [30.0]	1.339 [34.0]	1.969 [50.0]	2.126 [54.0]	1.814 [46.1]	2.205 [56.0]
FS50	1.969 [50.0]	2.126 [54.0]	2.545 [64.6]	2.913 [74.0]	2.601 [66.1]	2.992 [76.0]
FS80	3.150 [80.0]	2.126 [54.0]	2.545 [64.6]	2.913 [74.0]	3.782 [96.1]	4.173 [106.0]
FS100	3.937 [100.0]	2.126 [54.0]	2.545 [64.6]	2.913 [74.0]	4.570 [116.1]	4.961 [126.0]
FS120	4.724 [120.0]	2.126 [54.0]	2.545 [64.6]	2.913 [74.0]	5.357 [136.1]	5.748 [146.0]
FS180	7.087 [180.0]	4.488 [114.0]	4.907 [124.6]	5.276 [134.0]	7.719 [196.1]	8.110 [206.0]
FS220	8.661 [220.0]	4.488 [114.0]	4.907 [124.6]	5.276 [134.0]	9.294 [236.1]	9.685 [246.0]

