

F&C® Special component types

Tag sensor

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Technical Support

Application

Universal label sensor for packaging machinery inspection, transparent or opaque object inspection



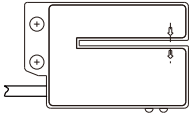
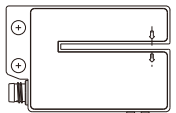
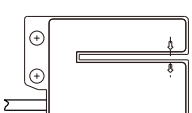
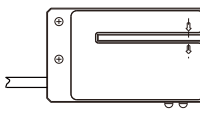
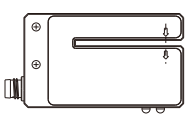
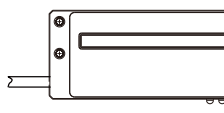
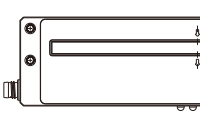
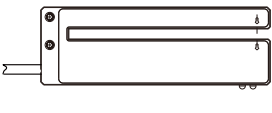
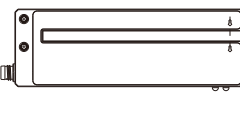
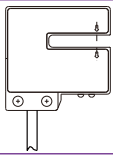
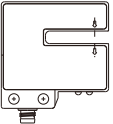
Capacitive label sensor



Ultrasonic sensor

FC Potentiometer
tag sensorFC button label
sensorFC ultrasonic
tag sensorFGYM light
curtain sensorFGSM sall light
curtain sensorFLA laser
alignmentsFKP60 pressure
switchFKP70 pressure
switchFGP37 pressure
switchFD serise
magnetic switch

FCT conesors

Type	Outlook	Trough	Model		LED	Standard detection	Connecting method
			NPN	PNP			
Trough		2.5mm	FC-2100	FC-2100P	Red	Common label	Φ4*2M/4-wires
		2.5mm	FC-2100N/D	FC-2100P/D	Red	Common label	With M8 connector
		2.5mm	FC-2100T	FC-2100TP	Red	Common label	Φ4*2M/4-wires
		2.5mm	FC-2100T/D	FC-2100TP/D	Red	Common label	With M8 connector
		2.5mm	FC-2104	FC-2104P	Red	Common label	Φ4*2M/4-wires
		2mm	FC-2104N/D	FC-2104P/D	Red	Common label	With M8 connector
		5mm	FC-2107	FC-2107P	Red	Common label	Φ4*2M/4-wires
		5mm	FC-2107N/D	FC-2107P/D	Red	Common label	With M8 connector
		5mm	FC-2110	FC-2110P	Red	Common label	Φ4*2M/4-wires
		5mm	FC-2110/D	FC-2110P/D	Red	Common label	With M8 connector
		6mm	FC-2200	FC-2200P	Red	Common label	Φ4*2M/4-wires
		6mm	FC-2200N/D	FC-2200P/D	Red	Common label	With M8 connector

FC-2100/FC-2200 Tag sensor



Ultrasonic sensor

Ultrasonic sensor

FC Potentiometer
tag sensor

FC button label
sensor

FC ultrasonic
tag sensor

FGYM light
curtain sensor

FGSM sall light
curtain sensor

FLA laser
alignments

FKP60 pressure
switch

FKP70 pressure
switch

FGP37 pressure
switch

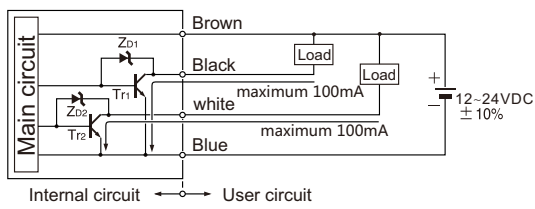
FD serie
magnetic switch

FCT conesors

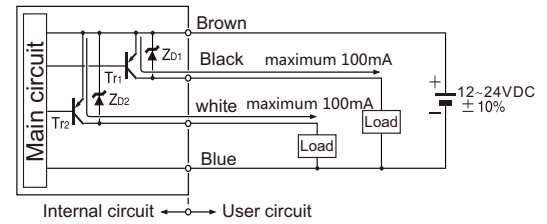
Project	Specification table
Operating Voltage	12~24VDC $\pm$ 10%
Power ripple	<10%VDC Operating Voltage
Current consumption	15mA Max
Load current	100mA Max at DC 24V
Output type	N=NPN.NO.NC P=PNP.NO.NC Φ 4*2M/4-Wires /M8,4-pin
protect the circuit	Reverse power protection and output short circuit protection
Response time	50us max
Response frequency	2KHZ
Operating mode	Normally open normally closed select
Storage temperature	-30°C~70°C
Ambient temperature	-20°C~55°C
Working humidity	35%~85%
Storage humidity	35%~95%
Protection degree	IP65
Material	Aluminum metal case

Wiring schemes

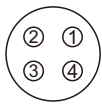
NPN.NO.NC



PNP.NO.NC



Pin layout

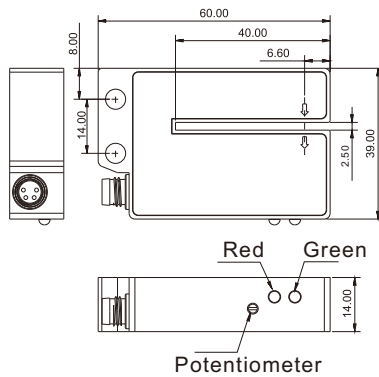


M8

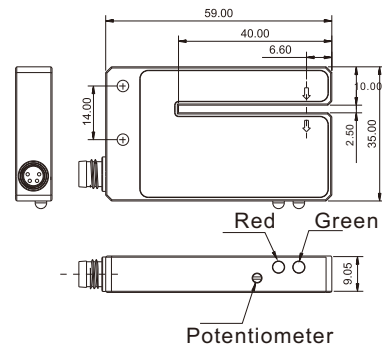
1	Brown
2	white
3	Blue
4	Black

Dimensions

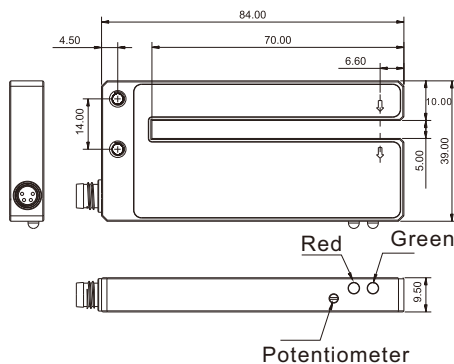
FC-2100/D



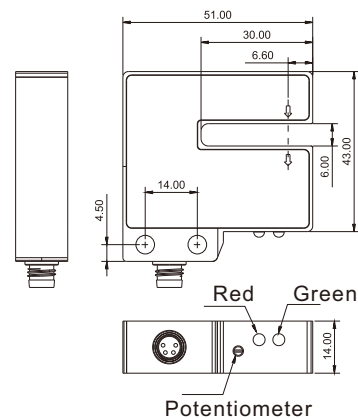
FC-2104/D



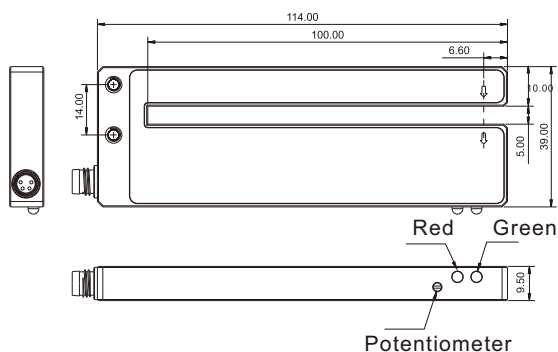
FC-2107/D



FC-2200/D



FC-2110/D



Note: The red light is the work indicator, the green light is the power indicator, and the potentiometer hole is used for potentiometer adjustment.

FC-2600 Push Button Label Sensor



Ultrasonic sensor

Ultrasonic sensor

FC Potentiometer tag sensor

FC button label sensor

FC ultrasonic tag sensor

FGYM light curtain sensor

FGSM sall light curtain sensor

FLA laser alignments

FKP60 pressure switch

FKP70 pressure switch

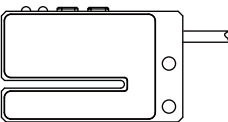
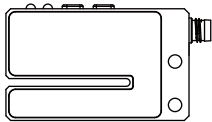
FGP37 pressure switch

FD serie magnetic switch

FCT conors

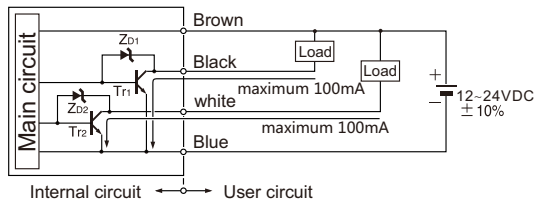
Project	Specification table
Operating Voltage	12~24VDC±10%
Power ripple	<10%VDC Operating Voltage
Current consumption	15mA Max
Load current	100mA Max at DC 24V
Output type	N=NPN.NO.NC P=PNP.NO.NC Φ4*2M/4-Wires /M8,4-pin
protect the circuit	Reverse power protection and output short circuit protection
Response time	50us max
Response frequency	2KHZ
Operating mode	Normally open normally closed select
Storage temperature	-40℃~+70℃ -5~+55℃
Ambient temperature	-20℃~+60℃ -30~+70℃
Working humidity	35%~85%
Storage humidity	35%~95%
Protection degree	IP65
Material	Aluminum metal case

Model specifications

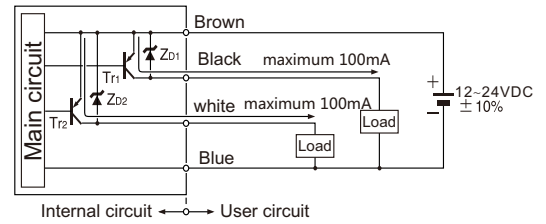
Type	Outlook	Trough	Model		LED	Standard detection	Connecting method
			NPN	PNP			
Trough		2.5mm	FC-2600	FC-2600P	LED Red	Common label	Φ4*2M/4-wires
		2.5mm	FC-2600/D	FC-2600P/D	LED Red	Common label	With M8 connector

Wiring schemes

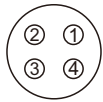
NPN.NO.NC



PNP.NO.NC



Pin layout



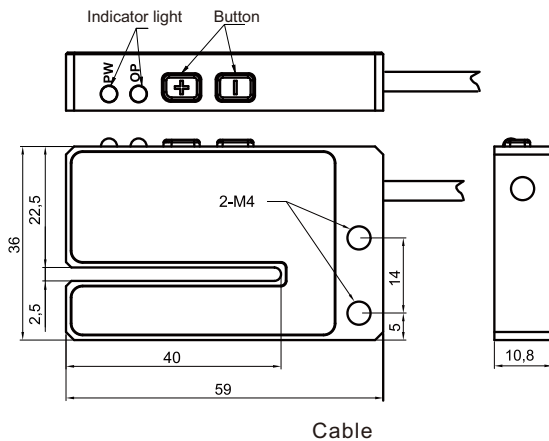
M8

1	Brown
2	white
3	Blue
4	Black

Dimensions

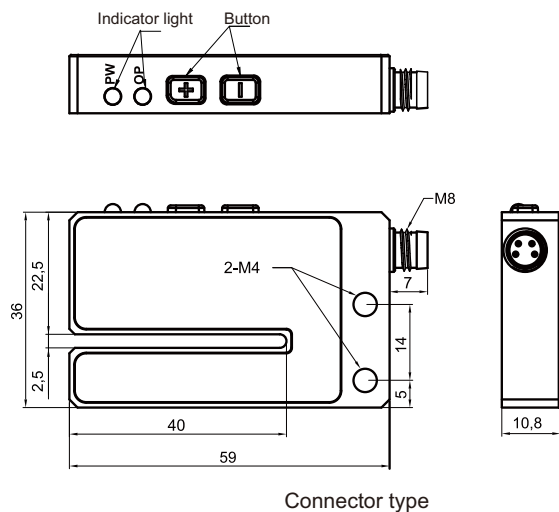
Straight outlet dimensions

FC-2600/P



with M8 connector

FC-2600/D P/D



Instructions:

1. Install and fix, and connect to power 12 ~ 24VDC;
2. A small amount of red indicator light passes through the sensor at the bottom of the label. Press the "+" key until the red light is just at the starting point. When the red indicator light does not light up when the label passes the sensor, it is in a normal working state.
3. When the label's bottom paper passes the sensor's red indicator light, please press "-" key until the red light is just at the starting point. When the label passes the sensor, the red indicator light is off, it is in normal working state.

Ultrasonic sensor
FC Potentiometer tag sensor
FC button label sensor
FC ultrasonic tag sensor
FGYM light curtain sensor
FGSM sall light curtain sensor
FLA laser alignments
FKP60 pressure switch
FKP70 pressure switch
FGP37 pressure switch
FD serie magnetic switch
FCT conesors

FC-2300 / FC-2400 Ultrasonic Label Sensor



Model	FC-2300/D	FC-2300P/D	FC-2400/D	FC-2400P/D
Slot width	3mm			
Label distance	2mm			
Label size	2mm			
voltage	10.....30VDC			
power consumption	40mA			
Continuous wavevalue (at 10 mA)	<1V			
Switch output	NPN	PNP	NPN	PNP
Signal voltage	L light / D light action can be adjusted by button			
PNP	HIGH=UV-(<2V)/LOW=0V			
NPN	HIGH=UV-(<2V)/LOW=2V			
Output current	100mA			
capacitance	100nF			
Reaction time	300us			
Initialization time	100ms			
VDE protection level	III			
Protection class	Ip65			
Circuit protection	B.C			
Short circuit protection	Reverse power protection and output short circuit protection			
Ambient temperature	During work: -5 °C ~ +55 °C			
storage temperature	During storage: -30 °C ~ +70 °C			
working principle	Ultrasonic detection principle			
Environmental wind speed	5m/sec			
Connector type	M8,4-pin			
Adjustment options	Adjust via "+", "-"			
Material	Aluminum			
weight	95g			

Ultrasonic sensor

Ultrasonic sensor

FC Potentiometer tag sensor

FC button label sensor

FC ultrasonic tag sensor

FGYM light curtain sensor

FGSM sall light curtain sensor

FLA laser alignments

FKP60 pressure switch

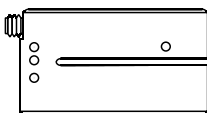
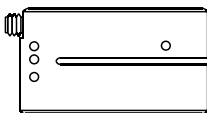
FKP70 pressure switch

FGP37 pressure switch

FD serie magnetic switch

FCT conesors

Model specifications

Type	Outlook	Trough	Model		LED	Standard detection	Connecting method
			NPN	PNP			
Trough		2.5mm	FC-2300/D	FC-2300P/D	Red	Special label	With M8 connector
		2.5mm	FC-2400/D	FC-2400P/D	Red	Special label	With M8 connector

Ultrasonic sensor

FC Potentiometer tag sensor

FC button label sensor

FC ultrasonic tag sensor

FGYM light curtain sensor

FGSM sall light curtain sensor

FLA laser alignments

FKP60 pressure switch

FKP70 pressure switch

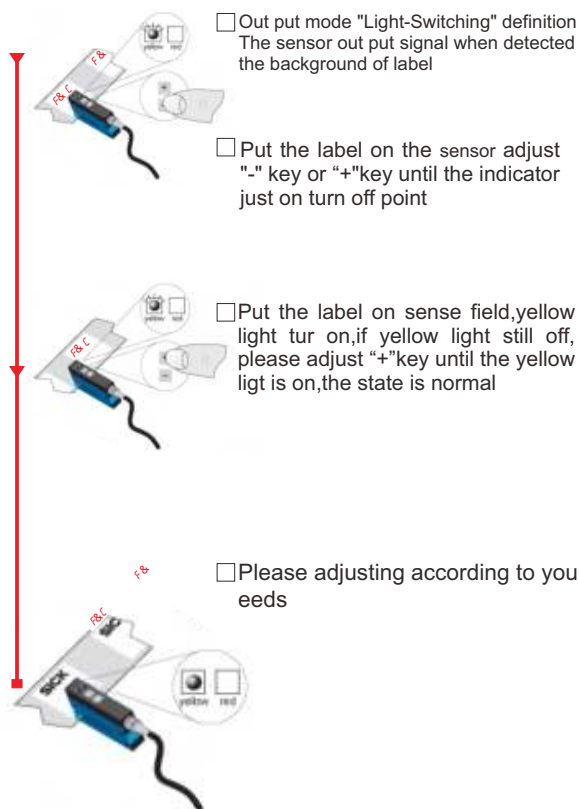
FGP37 pressure switch

FD serie magnetic switch

FCT conesors

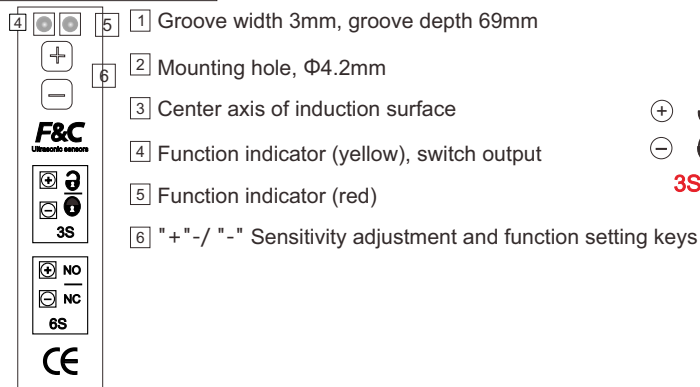
Precautions

Sensitivity adjustment

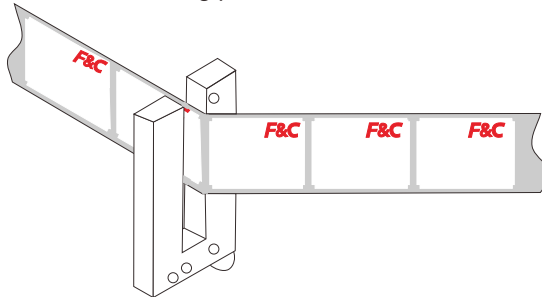


Adjustment panel

FC-2300/D/FC-2400/D



when label moving, please make sure the sensor static



Label detection: transparent, non-transparent or printed labels, not affected by metal color, stable response time, accurate detection, miniaturization, label industrial casing



Setting of sensitivity



Set slowly:

Press "+" or "-" key once

LED (red) lights up with a single press

Quick settings:

Press "+" or "-"

LED (red) flashes after 2 seconds



6S

Light- / dark light / dark action manual mode, press "+" and "-" at the same time for 6 seconds. The LED (yellow) will change the output mode, and the LED (red) will slowly flash. Release the "+" and "-" buttons



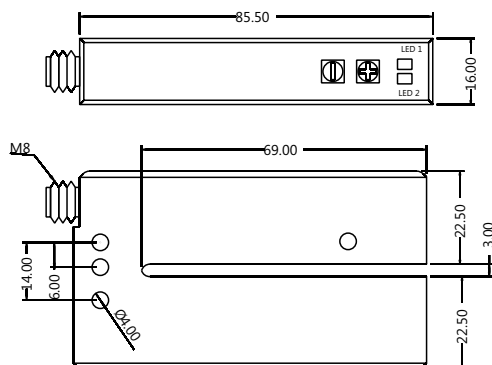
3S

Key lock

Press "+" and "-" at the same time, the button lock status can be switched after three seconds: lock / start lock button: LED (red) stays on after three seconds and LED (red) is on after three seconds Release, release the "+" and "-" button LEDs (red) to light up, release the "+" and "-" button LEDs (red) to turn off

Dimensions

FC-2300/D/FC-2400/D



Pin layout



M8

1	棕
2	白
3	藍
4	黑

FC-4100 Capacitive Tag Sensor



Ultrasonic sensor

Project	Specification table
Slot width	0.7mm
Groove depth	85mm
frequency	5KHZ
Response time	0.1ms
Supply voltage	12~24VDC
Consumption current	≤ 35mA
Output type	NPN.NO.OR.NC +PNP.NO.OR.NC
Features	Reversible
Output current	100mA
Sensitivity	Smart button adjustment
Benchmark	Smart button adjustment
protection	YES
Red light H	Balance reference indicator
Red light D	Sensitivity level indicator
Green light F	Signal output indicator
shell	Alumina
Connector	M12 connector,4PN
Ambienttemperature	0~60°

Ultrasonic sensor

FC Potentiometer tag sensor

FC button label sensor

FC ultrasonic tag sensor

FGYM light curtain sensor

FGSM sall light curtain sensor

FLA laser alignments

FKP60 pressure switch

FKP70 pressure switch

FGP37 pressure switch

FD serie magnetic switch

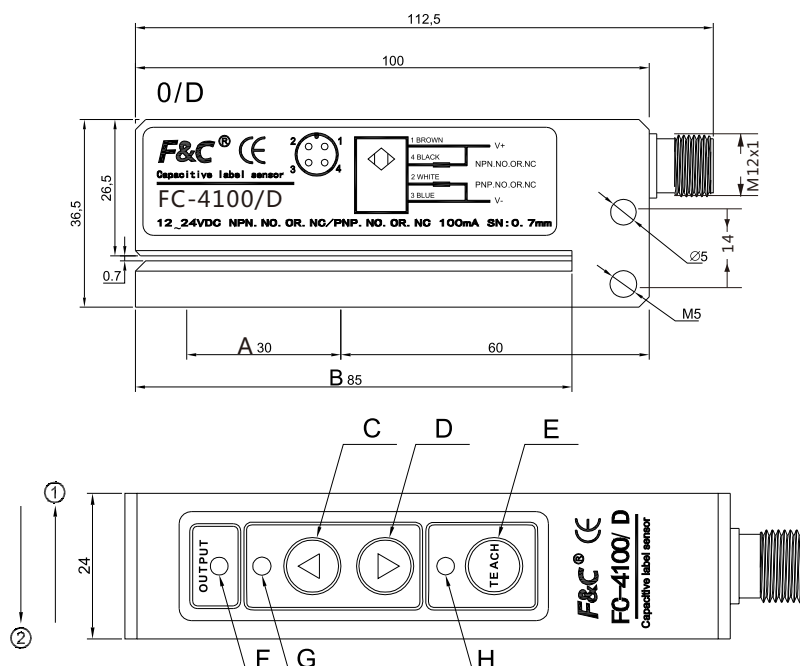
FCT consors

Note: The maximum label speed is 10m / s, and the minimum label pitch is 2mm.

Model specifications

Type	Outlook	Trough	Model		Standard detection	Connecting method
			NPN	PNP		
Trough		0.7mm	FC-4100N/D	FC-4100P/D	Common label	With M12 connector

Dimensions



- A: Detection area
 B: Groove depth
 C: Sensitivity increase key
 D: Sensitivity reduction key
 E: TEACH key for reference adjustment
 F: Output indicator green
 G: Sensitivity indicator red
 H: Reference balance indicator red light
 ① + ② : Label moving direction

Notes:

The sensing position of the sensor on the label is related to the direction in which the label enters the sensor slot laterally. The output switches are shown in the following table:

Moving direction	Switch output black and white	
	NO	NO
①	Signal on the gap	Signal on the label
②	Signal on the label	Signal on the gap

Product use tips:

1. The brighter the balance reference indicator, the higher the sensor's balance and the more ideal the working condition.
2. The brighter the sensitivity indicator, the higher the sensor sensitivity, and the lower the dark sensitivity. The sensitivity can be adjusted as required.

Product accessories list:

1. One FC-4100 / D sensor;
2. One M12 cable (2 meters);
3. 1 product manual;
4. Gap 1.0mm / 0.5mm cover (optional)

Wiring schemes

