Smart Sensing Solutions
Since 1954

TRI-TRONICS®

AN ALL INCLUSIVE FIBER OPTIC SENSOR

Digital Fiber Optic Sensor

DF Series
Digital Fiber Optic Sensor

AN ALL INCLUSIVE FIBER OPTIC SENSOR

- Optimized specifically for plastic optical fibers
- Digital OLED display to precisely monitor applications
- Simple AUTOSET or application-specific teach adjustment
- Manual fine tuning
- Intuitive on-screen menu
- Available with visible red or infrared sensing beam

www.ttco.com

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Digital Fiber Optic Sensor

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Overview

WIDE VARIETY OF FIBERS
Visit www.ttco.com for full listing.

AUTOSET (●)
Push to perform AUTOSET.

THRESHOLD/VALUE ADJUST ROCKER (▼▲)
1. Manually adjusts the threshold.
2. Alters programming parameters.
   Hold to scroll for numeric values.

MODE (■)
1. Tap to display sensor status screen.
2. Tap again to access parameters.

CONNECTION
4-Pin M8 connector or built-in cable.

FIBER RELEASE CLAMP
Locks fibers in place.

OUTPUT LEDS
1. Illuminates solid when output is ON.
2. Flashes when output is overloaded.

ADVANCED DIAGNOSTIC OLED DISPLAY
See next page for complete listing.

INPUT FUNCTION LIGHT RING
1. Illuminates when input is activated.
2. Illuminates when synchronous crosstalk communication is received.

Note: Only available on connector models.

Specifications

SUPPLY VOLTAGE & CURRENT
- 8-30 Vdc
- 28ma @ 24Vdc, 49ma @ 12Vdc
- Reverse polarity protected
- Transient spike protected

OUTPUT
- Configurable NPN, PNP or Push-Pull
- 150mA output current
- Short circuit & transient spike protected
- Saturation voltage: < 0.3Vdc @ 10mA
  < 2Vdc @150mA

INPUT
- Configurable active high/low
- transient spike protected
- Configurable function: Remote setting or commands, Interrogate, Gate, Dark-On, Lockout, and Latch Reset.

POWER-UP DELAY
- 300ms. No output pulse on power-up.

RESPONSE TIME *(Dependent on Mode)*
- UHS 50µs
- HS 125µs
- STD 250µs
- HR 1ms
- LR 4ms
- ULR 16ms

REPEATABILITY *(Dependent on Mode)*
- UHS 12µs.
- HS, STD, HR, LR, ULR (15.635µs)
- Asynchronous crosstalk enabled (31.25µs)

MAXIMUM RANGE

Opposed Mode
- UHS 20in (508mm)
- HS 28in (711mm)
- STD 32in (813mm)
- HR 47in (1,193mm)
- LR 60in (1,524mm)
- ULR 75in (1,905mm)

Proximity Mode
- UHS 8in (203mm)
- HS 11in (279mm)
- STD 13in (330mm)
- HR 16in (406mm)
- LR 21in (533mm)
- ULR 28in (711mm)

When anti-crosstalk is enabled maximum range specifications are reduced 30%.
Note: Opposed tests utilized: PF-Z-78TL
Proximity tests utilized: PFD-Z-78M64

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

MUTUAL INTERFERENCE REJECTION
- Asynchronous: Two sensor max. responds to selected A or B Channel.
- Synchronous: Up to eight sensors via one wire interface

COMBINABLE DUAL TIMERS
- On-Delay, Off-Delay, One-Shot, Motion
- Latching function
- Timer range: 0.1 - 0.9ms, 1ms - 9,999ms

LED LIGHT SOURCE
- 4 element LED, Red = 660nm

DISPLAY
- 96 X 16 white dot matrix OLED
- Display numerical range depended on processing mode
- UHS - 1,023
- HS - 2,047
- STD - 4,095
- HR - 16,383
- LR - 32,767
- ULR - 65,535

LED INDICATORS
- Output: Red LED. Illuminates when output is ON. Flashes when output is overloaded.
- Connector: Red LED, illuminates when input wire is activated.

CONNECTIONS
- M8, 4-pin
- Attached cable: 4-wire 6ft (1.8m)

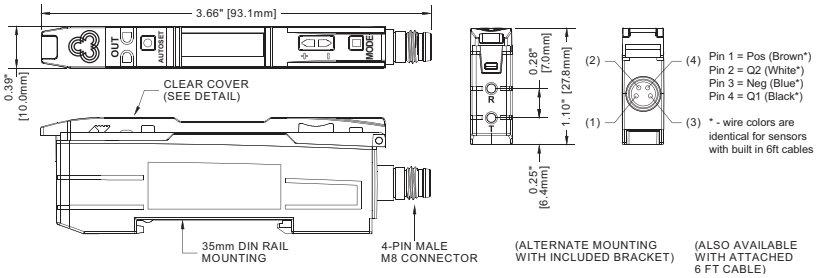
OPERATING TEMPERATURE
- 5°C to 55°C (41°F to 131°F) - Electrical.

HOUSING CONSTRUCTION
- Chemical resistant, high-impact polycarbonate

RATINGS & CERTIFICATIONS
- IP50
- CE
- UL pending

RoHS Compliant
Product subject to change without notice

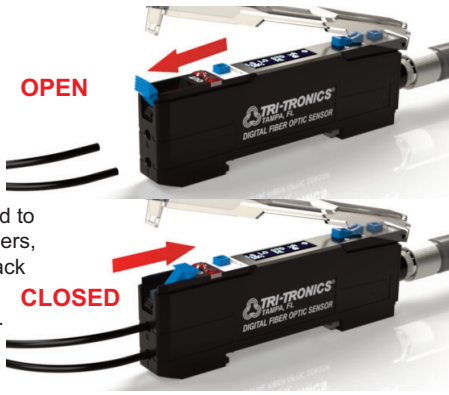
Dimensions



Features

Simple Start
Get going quickly with a push of one button. The sensor default settings will do the rest.

Anti-Crosstalk
Link up to eight sensors together without unwanted overlaping signals between communication channels.



Snap-Lock
Holds the fibers securely with no special tools.

Move the locking mechanism forward to open, insert the fibers, and then slide it back down to create a secure connection.

OLED Display
Quickly set up and precisely monitor applications, while providing real-time feedback that will advise poor conditions that begin to degrade sensor performance.
And it's always right-side-up!

Lock Mode
Intuitive on-screen menu to easily navigate through a variety of setting including Lock Mode to prevent unauthorized tampering.