

### Features and Benefits

- Mates with standard, 1000µm core, plastic fiber optic cable
- Internal micro-lens for efficient coupling Inexpensive plastic connector housing
- Connector-less interface
- Interference-free transmission from light-tight housing
- Simple fiber termination and connection
- Excellent linearity

### Applications

- Household appliances
- Power electronics
- Optical networks
- Medical instruments
- Automotive electronics
- Audio systems
- Electronic games

## Fiber Optic Emitters / Detectors

### IF-D91 Plastic Fiber Optic Photodiode

### IF-D92 Fiber Optic Phototransistor

## Industrial Fiber Optics

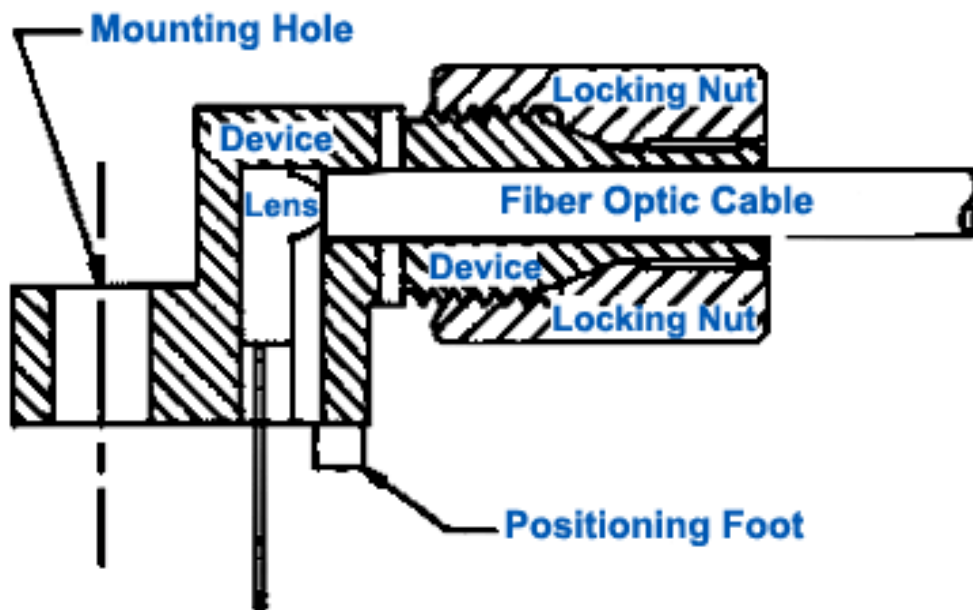
The **IF-D91** is the active photodiode in Industrial Fiber Optics' family of low cost, medium frequency, short distance fiber optic emitters and detectors.

The **IF-D92** is the active phototransistor device in this same family.

Each emitter and detector consists of a PVC housing, an internal active element such as an LED or photodetector, and a cinch nut to hold the fiber in place. The PBC housing retains the active element and the cinch nut while optimizing coupling between the active element and the jacketed 1000 µm plastic fiber.

Working with this family of fiber optics is simple: No special tools or training required. Only a sharp knife or razor blade is needed to terminate the plastic fiber. When the fiber is inserted in the emitter or detector, tighten the cinch nut. Thereafter, the fiber can be removed simply by loosening the nut.

### Cross-Section of Fiber Optic Device



## SPECIFICATIONS

IF-D91 Characteristics (TA=25°C)		IF-D92 Characteristics (TA=25°C)	
Parameter	Value/Unit	Parameter	Value/Unit
Maximum Photosensitivity	850nm	Maximum Photosensitivity	850nm
Spectral Bandwidth	400-100nm	Spectral Bandwidth	400-100nm
Rise and Fall times	5ns	Switching Times	20 uS
Respnsivity @860nm @632nm	0.4 uA/uW 0.2 uA/uW	Respnsivity @860nm @632nm	100 uA/uW 50 uA/uW
Dark Current	<60nA	Collector Dark Current	<100nA
Reverse Breakdown Voltage	60V	Breakdown Voltage BV <sub>CEO</sub>	>= 30nA
Forward Voltage	1.2V	Breakdown Voltage BV <sub>ECO</sub>	>= 5V
Total Capacitance	4pF	Saturation Voltage	0.15V

## ORDERING INFORMATION

<b>Part Number:</b> Photodiode IF-D91 Plastic Fiber Optic Phototransistor IF-D92 Plastic Fiber Optic	
<b>Maximum Ratings (T<sub>A</sub> =25°C)</b>	
<b>Operating and Storage</b>	
<b>Temperature Range (T<sub>OP</sub> T<sub>STG</sub>)</b>	-40 to 85°C
<b>Junction Temperature (T<sub>J</sub>)</b>	85°C
<b>Soldering Temperature (2mm from case bottom) (T<sub>S</sub>) t&lt;/=5<sub>s</sub></b>	240°C
<b>Power Dissipation (P<sub>TOT</sub>) (T<sub>A</sub> =25°C)</b>	100 mW
<b>Derate Above 25°C</b>	1.33 mW/°C
<b>IF-D92</b>	
<b>Collector Emitter Voltage (V<sub>CEO</sub>)</b>	30 V
<b>Emitter Collector Voltage (V<sub>ECO</sub>)</b>	5 V
<b>Collector Current (I<sub>C</sub>)</b>	50 mA
<b>Collector Peak Current (P<sub>TOT</sub>) (T<sub>A</sub> =25°C)</b>	100 mA

FOR ADDITIONAL INFORMATION ON THIS OR OTHER PRODUCTS AND THEIR AVAILABILITY, PLEASE CONTACT FIBER OPTIC CENTER, INC.