DiCon Fiberoptics, Inc.

HERMETIC TAP DETECTOR

Polarization Maintaining Fiber

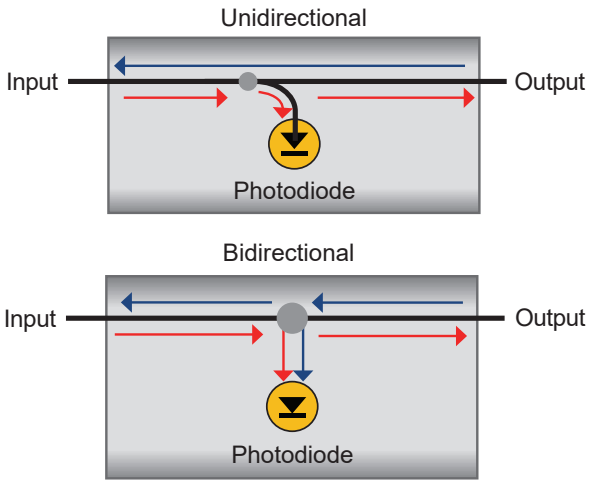
DiCon's **Hermetic Tap Detector (HTD)** combines the functionality of a thin film coupler and a photodetector into a single compact component for monitoring optical signals, with the added benefit of a hermetic seal for a more robust and reliable solution for rugged environments.
The HTD uses a thin film filter to tap off a percentage of the input signal only and directs it to the photodiode.

- High Directivity of 27 dB min (Unidirectional)
- Hermetically Sealed for Long Term Reliability
- Compact Size: 12.8 mm Long x 2.5 mm Diameter
- Flat Spectral Response

Applications

- Optical Power Monitoring
- WDM System Channel Monitoring
- Commercial & Defense Networks

Functionality Type



ORDERING INFORMATION

HTD - □ - □ - □ - □ - □ - □ - □ - □ - □

Product Code

HTD	Hermetic Tap Detector

Tap Ratio

1	1%
2	2%
3	3%
5	5%
10	10%

Functionality Type

U	Unidirectional
B	Bidirectional

Wavelength Range

O	1260 nm - 1360 nm
E	1360 nm - 1460 nm
S	1460 nm - 1530 nm
C	1530 nm - 1570 nm
L	1570 nm - 1625 nm
U	1625 nm - 1675 nm

Multiple wavelength ranges can be supported. Use "/" to add multiple ranges. For example: For 1260 - 1360 nm & 1530 - 1570 nm use O/C, for 1260 to 1675 nm use O/E/S/C/L/U.

Connector Type

N	None
FC	FC/UPC
FC/APC	FC/APC
LC	LC/UPC
LC/APC	LC/APC
SC	SC/UPC
SC/APC	SC/APC

**Other connector type are available upon request*

Fiber / Jacket Type

PM13/2BF	PM1300 Panda Fiber, 250 µm barefiber
PM15/2BF	PM1550 Panda Fiber, 250 µm barefiber

Pigtail Length

1	1 Meter
X	Specify X Meters

Pin Bending

S	Straight Pins
B	Bent Pins

Connector Key Orientation

N	None
S	Slow axis
F	Fast axis

DiCon® FIBEROPTICS

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OPTICAL SPECIFICATIONS[1,2]

Pass Band Wavelengths		O, E, S, C, L, U Bands
Insertion Loss, Single Band[3] (dB)	1%	0.2 typ. // 0.4 max.
	2%	0.3 typ. // 0.5 max.
	3%	0.3 typ. // 0.5 max.
	5%	0.4 typ. // 0.6 max.
	10%	0.65 typ. // 0.8 max.
Directivity (dB)	Unidirectional	30 typ. // 27 min.
	Bidirectional	0.1 typ. // 0.2 max.
Back Reflection (dB)		-45 max.
Wavelength Flatness, over ±20 nm range from CWL (dB)	Single Band	0.025 typ. // 0.1 max.
	Dual Band	0.1 typ. // 0.2 max.
	Full Bands	0.15 typ. // 0.4 max.
PER (dB)[4]		20 max.
TDL (dB)		0.3 max.
Optical Power (mW)		500 max.
Operating Temperature (°C)		-5 to 70
Storage Temperature (°C)		-40 to 85
Fiber Type		Panda PM Fiber

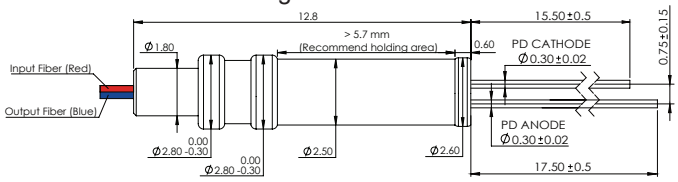
1. Specifications are without connector loss.
2. All measurements taken at CWL at approx. 23°C.
3. IL adds 0.2 dB for multi-bands. IL adds 0.2 dB for one pair connector loss.
4. 16 dB maximum with connector

PHOTODIODE SPECIFICATIONS[1,2]

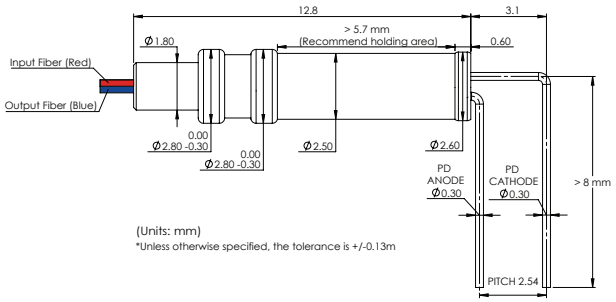
Breakdown Voltage (Vb)		20 min. (Ir = 1uA)
Dark Current (nA)		1 max. at T = 23 °C (Vr = 5 V)
Shunt Resistance (MΩ)		40 min. (V = 10mV)
Capacitance (pF)		5 max. (Vr = 5V, f = 1 MHz)
Tap Responsivity (mA/W)	1%	7 to 20
	2%	10 to 30
	3%	20 to 40
	5%	40 to 60
	10%	80 to 120
Wavelength Dependent Responsivity (WDR) (±20 nm range from CWL) (dB)	Single Band	0.15 typ. // 0.3 max.
	Dual Band	0.3 typ. // 0.5 max.
	Full Bands	0.8 typ. // 1.25max.
Temperature Dependent Responsivity (TDR) (dB)		0.4 max.
Linearity		± 3% @ Vr = 5 V
Bandwidth (MHz)		250

Dimensions in mm

Straight Pins



Bent Pins



(Units: mm)
*Unless otherwise specified, the tolerance is +/-0.13m