

# POWER SPLITTING AND MONITORING

## UNI-DIRECTIONAL TAP/DETECTOR

DiCon's Uni-directional Tap/Detector is a high performance, hybrid component which taps and monitors optical signals in uni-directional transmission systems. Uni-directional Tap/Detectors reduce the cost of power monitoring by combining the tap and PIN photo-diode PIN in a single component without the need for an in-line isolator on the output port.



### FEATURES

- Ultra-flat broadband spectral response
- High directivity from output to input
- Corning SMF-28 or polarization maintaining fiber

### APPLICATIONS

Uni-directional Tap Detectors enhance the accuracy of power monitoring by eliminating unwanted back-reflection and scattering from sources downstream of the device. Tap/Detectors with Corning SMF-28 fiber are designed for power monitoring in protection switches, line cards, fiber amplifiers, and OADMs. Tap/Detectors with polarization maintaining fiber are designed for power monitoring of signal or pump laser sources that use PM fiber pigtailed.



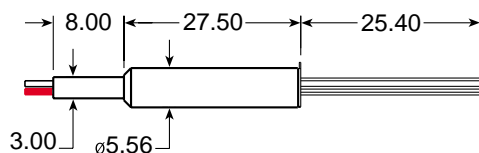
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## SPECIFICATIONS

Optical insertion loss	2%	0.6 dB max.
	5%	0.8 dB max.
	10%	1.0 dB max.
Saturation optical power	2%	14 dBm max.
	5%	10 dBm max.
	10%	7 dBm max.
Photodiode tap responsivity	2%	0.01 - 0.04 A/W
	5%	0.04 - 0.06 A/W
	10%	0.08 - 0.12 A/W
Directivity	20 dB min.	
Extinction ratio <sup>2</sup>	18 dB min.	
Wavelength flatness	0.1 dB max.	
Back-reflection	-45 dB max.	
PDL	0.05 dB typ., 0.1 dB max.	
PMD	0.1 ps max.	
Photodiode dark current	1 nA max. at T = 23°C and 5V bias	
	15 nA max. at T = 70°C and 5V bias	
Photodiode shunt resistance	10 Mohms min.	
Photodiode capacitance	8 pF max. at -5V bias	
Photodiode bias voltage	-14V min., -2V max.	
Photodiode linearity	+/- 15%	
Photodiode frequency bandwidth	1500 MHz max.	
Operating temperature	-5°C to +75°C	
Storage temperature	-40°C to +85°C	
Soldering temperature	+350°C max.	
Soldering time	3 sec max.	

1. All specifications referenced without connectors.  
2. For Corning PM 1300 fiber type only.

## HOUSING DIMENSIONS<sup>1</sup>



Units: mm

- Optional 13 mm PIN lengths by request.
- Input fiber marked red.

## ORDERING INFORMATION

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Directivity	20 20 dB min. <sup>1</sup>
Tap Ratio	2 2% 5 5% 10 10%
Fiber Type	2 Corning SMF-28, 250 um 9 Corning SMF-28, 900 um PM Corning PM 1300, 400 um
Wavelength Range	14 1410 - 1490 nm 15 1530 - 1560 nm 16 1570 - 1610 nm 15/16 1530 - 1610 nm <sup>2</sup>
Connector Type	FC FC/SPC FC/APC FC/APC FC/UPC FC/UPC SC SC/SPC SC/APC SC/APC SC/UPC SC/UPC ST ST/SPC ST/UPC ST/UPC LC LC/SPC LC/UPC LC/UPC MU/UPC MU/UPC N None
Connector Key Orientation	S Slow axis F Fast axis N Not applicable <sup>3</sup>
Pigtail Length	1 1 meter X Specify X meters

- Higher Directivity by special request.
- Corning SMF - 28 only.
- Specify "N" for all options except Corning PM 1300 fiber with FC connectors.