

# PHASE DEMODULATOR

## DPSK Demodulator

Avensys Tech's DPSK Demodulator is an All-Fiber delay line interferometer constructed from two continuous lengths of Corning SMF28 fiber fused to form wavelength-insensitive 3dB couplers. This results in unparalleled insertion loss, fringe contrast, port imbalance and polarization-dependency performance. Phase tuning is achieved using a heater directly deposited on the optical fiber, providing minimal power consumption and fast rise times.

This device is offered in a compact, stable and reliable package that has successfully completed qualification testing to Telcordia's GR-1221-CORE central office requirement and is also fully compliant with RoHS requirements. Field data indicates a reliability rate of less than 100 FIT at a 60% confidence level. Free from resonance below 2 kHz, the device can operate in the presence of ambient vibration. Connectorization is available as an option, with matched pigtail length down to 0.5ps accuracy.

For more information on this or other products and their availability, please contact our customer service at **514.748.4848** (Int'l) / **1.888.922.1044** (Canada & USA only) or via e-mail at [info@avensysotech.com](mailto:info@avensysotech.com)



### KEY FEATURES

- **2.5, 10, 20, 40, 50 GHz and Custom Rates**
- **Near Zero PDL and PMD**
- **Tunable**
- **Work in C & L Bands**
- **Very Low PDF**
- **Low Excess Loss & High Isolation**



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### SPECIFICATIONS

PARAMETERS (1) & (7)	STANDARD CONFIGURATIONS				
Free Spectral Range	2.5 GHz	10 GHz	20 GHz	40 GHz	50 GHz
Isolation	>24 dB	28 dB			
PDF (2)	0.04 GHz	0.22 GHz	0.45 GHz	0.55 GHz	0.7 GHz
Operating Wavelength	1530 - 1610 nm				
Peak Insertion Loss (3)	0.5 dB	0.3 dB			
Differential Delay between Pigtails (4)	374.5 ps	0.5 ps			
Heater Resistance	350 $\Omega$				
Tuning Rise Time (5)	100 - 300 ms				
Tuning Fall Time (5)	100 - 320 ms				
Operating Case Temperature	0 - 60° C				
Reliability (6)	< 100 FIT				

(1) All specs are typical values only.

(2)  $\Delta f$  between polarization eigenstates – more details available upon request.

(3) Does not include contribution from connectors.

(4) Delay difference between ports 1 & 2; applies to connectorized units only. Offered either unterminated or with connectors.

(5)  $\tau$  such that  $\Delta \varphi \propto 1 - e^{-t/\tau}$ .

(6) Random fit rate. Qualified Telcordia's GR-1221-CORE central office (except for the 2.5 GHz unit).

(7) All measurements are "worst case" values over operating band of both ports.

### ORDERING INFORMATION

**Avensys Tech can also develop custom multimode power combiners to meet a wide range of technical requirements.**



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