PCU - GEN I

FSI Interrogator

Key Features

- **205 kHz** Sampling Frequency
- **20 nε** Resolution
- **80** Sensing Segments
- **10 mm – 20 m** Spatial Resolution

About PCU – GEN I

The Photonic Control Unit (PCU) GEN I is the first commercial interrogator for dynamic measurement of FSI sensors (Fiber Segment Interferometry). This interferometric instrument offers high resolution for deformation and temperature measurements over discrete and distributed sensing lengths. The ultra-high sampling frequency allows for acoustic, vibration and modal analysis. Compatible with 3D shape sensors.

Specification

Measurement system	
Number of Optical Channels	4
Number of Measurement Segments per Channel	20
Compatible Sensors	Nova FSI sensors
Minimum Segment Length	10 mm
Maximum Segment Length	20 m
Maximum Distance between PCU and 1st Segment	km range
Maximum Sampling Frequency	205 kHz
Strain Range	10 000 με
Resolution	20 nε*
Data Output (Ethernet)	.csv (other formats on demand)

Mechanical, Environmental and Electrical	
Dimensions	398 x 370 x 86 mm
Operating Temperature Range	0 to 50 °C
Storage Temperature Range	-20 to +70 °C
Maximum Humidity	10 to 95 % non-condensing
Comms Interface	Nova Analytica Application Software
Data Connector	RJ45 Ethernet
Data Logging	Nova Analytica Application Software
Power Connector	Neutrik 12 V or Mains Adapter 12 V
Optical Connector	FC/APC
Input Voltage	12 V (ripple specification: 120 mV p-p)
Power Consumption	150 W
EMC Certification (CE marking)	CE/UKCA

*Elongation resolution of 2 nm on a 100 mm segment under constant load. Resolution is intended as the signal standard deviation.

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