

MOOS Fiber Optic cable Insertion Loss Meter

The purpose of this device is to measure the insertion loss variation and fiber health of the MOOS mooring communications cable. This information will be used to determine the suitability and reliability of the final optic link in the MOOS system. This device will be used once for this deployment. The system will use a single laser source, which will be split into three beams of 5%, 50%, and 50%. The 5% will be used to track the laser, while the 50% beams will be feed into the two cables. The output of the two cables and the 5% beam will be feed to the Smart Detector heads. These detectors have the analog output option., allowing this voltage to be scaled and sent to the ADC system for sampling

Requirements:

Physical:

Must fit in available space in MOOS mooring controller housing.

Outputs: Three analog outputs

- 1) Reference power (5% -13dBm)
- 2) Channel 1 (47.5% -3.2dBm)
- 3) Channel 2 (47.5% -3.2dBm)

All analog outputs will be buffered 0-10V continuous time

6 pin Phoenix Connector

- Pin 1 - Reference power
- Pin 2 - Common
- Pin 3 - Channel 1
- Pin 4 - Common
- Pin 5 - Channel 2
- Pin 6 - Common

Power Source: 10-16V Battery power at 151 ma continuous

2 pin Phoenix Connector

- Pin 1 - +Bat
- Pin 2 - -Bat

Stability and accuracy:

Laser Source: 1mw = 0dBm
Frequency: 1550nm
Range: -27 to -3.9dBm
Accuracy: +/- 5%
Stability: +/-5% over 6 months, 10 to 25 degrees C.
Voltage Output: 0-10V
Bandwidth: 4Hz