

## FOS 1000A OMI Instrument

### Benefits:

- Measures & monitors OMI
- Integrated optical attenuator for high power apps
- Measures optical power in dB or mW in relative or absolute terms
- Effective as an optical node
- High RF output and low distortion



### Ideal Applications:

- Development/manufacturing testing
- Field node troubleshooting
- Head end/return band transmitter evaluation
- Optimization of multi-channel carrier application
- Transmitter performance benchmarking

The **FOS 1000A OMI Instrument** is a high quality, microprocessor controlled, optical test system. It is specifically designed to look like the typical wide band optical node widely deployed in today's CATV, CCTV, Multi-channel, or other high quality optical telecommunications network.

Unique to the FOS 1000A is its ability to monitor and measure the **Optical Modulation Index (OMI)** of an optical carrier in percent (%), per channel, or total. This additional value makes the FOS 1000A the most efficient tool for optimizing laser transmitter performance, saving users both significant time and money.

All controls are easily accessed, and all information is conveniently displayed on the unit's front panel. In addition, system channel loading is easily programmed using the front panel push buttons. If you are interested in learning more about this instrument, we welcome you to contact your local sales representative.

**Specifications:** (continued on next page)

### Display/Front Panel Specifications:

Status/Control Display	2 line, 48 character LCD (backlight)
Display Status Mode Selection	
<ul style="list-style-type: none"> <li>• mW or dBm</li> <li>• Wavelength</li> <li>• Relative/Absolute</li> <li>• Number of Channels</li> <li>• Wavelength</li> <li>• Mode</li> <li>• Optical Power</li> <li>• RF Power</li> <li>• OMI per Channel</li> <li>• OMI Total</li> </ul>	<ul style="list-style-type: none"> <li>Front Panel SPST Push Button Switch</li> <li>Front Panel SPST Push Button Switch</li> <li>Front Panel SPST Push Button Switch</li> <li>Three section BCD Push Button Switch</li> <li>1310 nm, 1550 nm <math>\pm</math>20 nm</li> <li>Absolute, Relative</li> <li>mW or dBmW</li> <li>Estimated Carrier Power in dBmV; <math>\pm</math> 2dB</li> <li>Measured in Percent</li> <li>Measured in Percent</li> </ul>

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### Optical Specifications:

Internal Optical Input	FC/APC, front panel accessible
Front Panel Optical Input Adapter	SC/APC Standard (Others Optional)
Optical Input Max (no damage)	+3 dBmW with Attenuator = 0
OMI Reading Accuracy	±10% of the OMI reading; ± 0.2%
Optical Receiver ENI	≤ 8 pA per root Hz; 15 MHz to 1000 MHz
Integrated Optical Attenuator	0.25 to 25 dB Continuous from Front Panel
Optical Input Threshold, Typical	-2 dBmW Optical, 85 channels, 1% OMI
Measurement Threshold Standard with Option 1 (see below)	-3 dBmW Optical, 79 channels, 3.5% OMI -8 dBmW Optical, 79 channels, 3.5% OMI

### RF Specifications:

RF Output Connector	75 ohm BNC
RF Output Return Loss	> 15 dB; 15 to 860 MHz > 12 dB; 860 to 1000 MHz
RF Output Level, Above Threshold Output (3 dB) RF Frequency Range	-2dBmW Total RF Power (No Attenuation) 20 MHz to 1000 MHz
RF Output Flatness (Typical)	±0.75 dB (20 MHz to 1000 MHz)
Internal Attenuator Range	0 to 44 dB in 2 dB steps
Internal Attenuator Accuracy	±0.25 dB (20 MHz to 1000 MHz)
Internal Attenuator Flatness	±0.25 dB (20 MHz to 1000 MHz)
RF Output Distortion Performance	CSO, CTB - Maximum -70 dBc
RF Output Correlated Noise	< -95 dBmW @ RF output

### Environmental:

Temp Range (No Damage)	-20 to +60 degrees C
Temp Range (Operating)	0 to +50 degrees C

### Physical and Power:

Overall Dimensions	10" Deep X 8" wide X 4.75" High (excluding Handle)
Power ON/OFF	SPST Toggle (rear of unit)
AC Power Requirements	110V/220V, 50-60 Hz, < 25 Watts Total
AC power Range	85V to 250V

### Options and Accessories:

Option 1	Low Power Option: Extends low power input specification to -8 dBm
Option A	Carrying Bag: Rugged, secure bag with hand grip designed for use in the field.
Option B	Rugged, high performance, SM, patch cord set with 1 each, 1 meter length SCA to SCU, SCA to SCA, SCA to FCU, and SCA to FCU patch cords
Option C	Rugged, high performance, SM, patch cord set with 1 each, 2 meter length SCA to SCU, SCA to SCA, SCA to FCU, and SCA to FCU patch cords