

# MS12 | Return Loss Meter



## Product Description

The MS12 modules combines advanced time-domain technology with a built in unique wide aperture integrating cavity. An internal monitoring feature maintains laser stability for reliable insertion loss testing throughout an entire working day. The internal return loss reference helps with highly accurate multimode and single-mode return loss measurement performance. The multimode MS12 Return Loss Meters meet IEC-61280-4-1 Encircled Flux Standard.

The EXFO IQS-3250, IQS-3250B and IQS-9403 are fully compatible with the MS12001 line. They meet the same specifications and will be recognized by both the MS12001 and the IQS-12001B systems.

## KEY FEATURES

- SM 1310, 1490, 1550 and 1625 nm
- MM 850, 1300 nm
- RL: SM 80 dB
- RL: MM 50 dB
- Integrating Cavity
- (9 mm) Power Meter Detector

## APPLICATIONS

- Component testing
- Connector and Patchcord testing
- Incoming inspection
- QA Testing

## COMPLIANCE

- Multimode meets IEC 61280-4-1 Encircled Flux standard

## IN THE BOX

- Return Loss Meter
- Calibration Certificate
- Detector Cap
- FC Detector Adapter
- Hybrid Test Jumper
- SM comes with power level Adjustment Jumper

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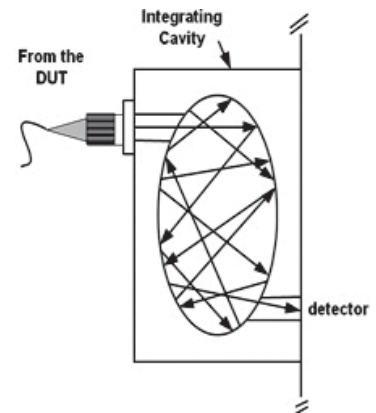
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## Accurate, Repeatable and Flexible

The wide aperture of the unique integrating cavity used on the MS12 modules makes it usable both for simplex and multi-channel connectors and make the connector alignment much less critical. The other big advantage of the integrating cavity used is the negligible polarization dependence. Therefore, accuracy and repeatability of the measurements are increased. Remote head cavity option available for additional measurement flexibility.

The integrating cavity is a standard feature of all modules used in the MS12001 system, the loss test modules and the loss meters.

Based on advanced time domain technology and the wide aperture integrating cavity detector, the MS12 IL/RL Loss Meter module will deliver accurate and repeatable insertion loss and return loss measurements. The internal monitoring channel ensures accurate insertion loss measurements by compensating for any source power variations. The insertion loss measurement has been developed in accordance with the TIA/EIA-455-34A Standard FOTP-34A, "Interconnection Device Insertion Loss Test".



## Ordering Scheme

### Single-Mode Version

MS12--09FA

LASER 1	
No Laser	0
1310 nm	30
1490 nm	04

LASER 2	
No Laser	0
1550 nm	50
1625 nm	06

DETECTOR	
Front Panel Leave Blank	
Remote Head	R

- Single-mode version comes with FC/APC laser connector

### Multimode Version

MS12-8300-FP

FIBER TYPE	
50/125 $\mu\text{m}$	50
62.5/125 $\mu\text{m}$	62

DETECTOR	
Front Panel Leave Blank	
Remote Head	R

- The standard multimode versions contain two lasers at 850 and 1300 nm and comes with FC/UPC laser connector

## Specifications

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Fiber Type (µm)	9/125	50/125 or 62.5/125
Encircled Flux Standard	N/A	IEC-61280-4-1
Operating Wavelengths (nm)	1310 / 1550 or 1490 / 1625	850/1300
Insertion Loss Uncertainty (dB)	± 0.03 <sup>1</sup>	± 0.07 <sup>1</sup>
Insertion Loss Stability (dB) <sup>2</sup>	± 0.004	± 0.01 <sup>5</sup>
Return Loss (dB)	30 to 80	10 to 50
Return Loss Accuracy (dB)	± 1.0 (30 to 70)	± 1.2 (10 to 30)
	± 1.7 (70 to 75)	± 1.5 (30 to 40)
	± 2.2 (75 to 80)	± 1.6 (40 to 43)
		± 2.9 (43 to 50)
Return Loss Repeatability (dB) <sup>3</sup>	± 0.1 (30 to 65)	± 0.2 (10 to 30)
	± 0.2 (65 to 70)	± 0.4 (30 to 40)
	± 0.4 (70 to 75)	± 0.6 (40 to 43)
	± 1.5 (75 to 80)	± 1.8 (43 to 50)
Testing Time (s)	< 6	
Cable Assembly Length (m)	1.7 to 1500	
Detector Type	Integrating cavity	
Output Channels <sup>4</sup>	Up to 72	
Test Method	End to end / bidirectional	

**Notes:**

<sup>1</sup> For simplex measurements using FC detector adapter. Uncertainty for MTP to MTP, MT-RJ to MT-RJ, MTP to fanout is ± 0.06 dB (reported with a level of confidence of 95%). This does not include uncertainties due to connector, connector adapter or switch PDL.

<sup>2</sup> For a stable connection over a period of 15 minutes.

<sup>3</sup> For a stable connection over 10 measurements.

<sup>4</sup> With MS7 Optical Switch.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
Number of slots	2
Unit Dimensions W x H x D (cm)	7.4 x 12.5 x 28.2
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	0.9
Total Shipment Weight (kg)	1.5 (depending on number of modules purchased)
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	-40 to 60
Humidity (Non-condensing) (°C)	Maximum 80%, no condensing at 40

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