PDL/OL Meter

IQS-3400B

- Reliable solution for coupler characterization
- Efficiently characterizes wideband passive components
- High spectral range: 1260 nm to 1635 nm

Fiber-optic T&M, monitoring, manufacturing and assembly solutions

EXFO

High-Performance PDL Testing

Polarization-dependent loss (PDL) is a critical parameter in passive component manufacturing today. Stringent PDL specifications mean you have to check couplers, fixed attenuators, isolators and other components on the production floor. You need a PDL test solution you can rely on.

Key Features

- Average and standard deviation reporting on multiple measurements
- 0.001dB resolution at 2500 samples per second
- Variable scan time period
- Remote control via GPIB Ethernet or RS 232
- LabView drivers and COM/DCOM libraries available

Reliable Backup

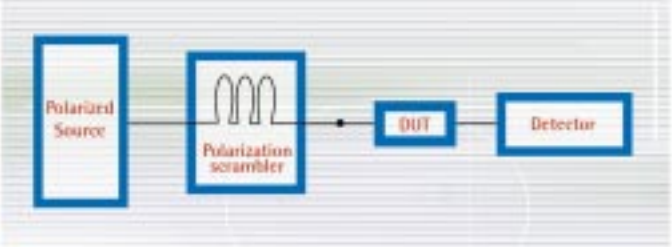
Back up your PDL measurements with the IQS-3400B's optical return loss (ORL) test function. PDL can be caused by ORL from a scratched connector. If the PDL reading on a connectorized device seems unusually high, the ORL tester lets you check for loss due to connector damage.

ORL measurement

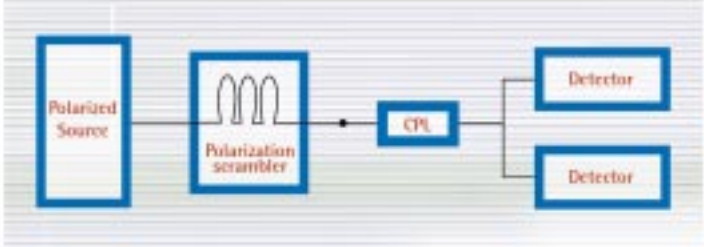
Streamlined Setup

The IQS-3400B PDL/OL Meter uses the scanning method for simple, flexible component characterization on the production floor. Start with a laser source, use the IQS-5100B to scramble the polarization state of the signal, and then take a power acquisition with the IQS-3400B. Getting reliable PDL measurements is easy with the streamlined IQS PDL test setup.

DUT mode



Coupler mode



Automated Features

The IQS-3400B performs the following measurements automatically:

- Three-port device characterization
- Polarization-dependent coupling ratio (PDCR)
- Coupling ratio
- Excess loss
- Insertion loss for each branch of a coupled fiber

Flexible Software

The IQS-3400B PDL Meter comes with a Visual IQS software application that gives you more flexibility in managing your test configurations.

PDL test system

Select the automatic configuration for quick, simple testing at one of three settings: Normal mode, for quick and efficient testing; Precision mode, for more detailed, accurate results; and High PDL mode, for testing PDL values higher than 10 dB.

IQS-3400B general interface

To configure advanced settings adapted to your specific testing needs, you can customize your own mode.

Complete solution

The IQS-5100B Polarization Scrambler teams up with the IQS-3400B PDL/OL Meter for a streamlined, reliable PDL solution. With solid construction and low activation loss, the IQS-5100B offers the sturdiness and versatility you need for passive component testing.

The IQS-500 Intelligent Test System

The new IQS-500 Intelligent Test System provides a flexible approach to optical test and measurement for manufacturing, automation, optical qualification and R&D. It combines powerful features and control capabilities for up to 100 modules.

Based on standard industrial PC architecture, the IQS-500 Intelligent Test System is a scalable modular platform that includes controllers, expansion units and a comprehensive range of plug-in test modules. The IQS-500 is also backward-compatible with most of EXFO's IQ-generation modules, allowing you to maximize the return on previous investments. The IQS-500 Intelligent Test System offers a powerful, easy-to-use environment to match your most demanding needs.

General Specifications

Operating temperature	0 °C to 50 °C	(32 °F to 122 °F)
Storage temperature	–40 °C to 70 °C	(–40 °F to 158 °F)
Relative humidity	0 % to 95 % (non-condensing) up to 40 °C	
Dimensions (H x W x D)	12.5 cm x 3.6 cm x 28.2 cm	(4 15/16 in x 1 7/16 in 11 1/8 in)
Weight	0.64 kg	(1.45 lb)
Recommended sources	IQS-240x M5	(DFB laser O-, C- or L-band)
	IQS-2600	(Tunable laser C-band)
	IQS-2600B	(Tunable laser C+L-band)
	IQS-21xxBP	(Polarized LED)

Specifications[1]

General	
Wavelength range (nm)	1260 to 1635
Detector type	Germanium (2 mm)
Dynamic range (dBm)	9 to –55
Fiber type	9/125 µm
Display resolution (dB)	0.01 and 0.001
Measurement time (s)	1.0 to 9999.0 (typ. 2.5)
Normal Mode	
PDL range (dB)	0.010 to 30
PDL uncertainty[2] (dB)	+0.01/–0.005 –3 % of PDL
Insertion loss uncertainty[3,5] (dB)	± (0.05 + 5 % of PDL)
Insertion loss repeatability[5] (dB)	± (0.01 + 5 % of PDL)
Coupler Mode	
PDCR range (dB)	0.005 to 30
PDCR uncertainty[5] (dB)	± (0.005 + 10 % of PDCR)
Coupling ratio uncertainty[5] (dB)	± 0.1
Coupling ratio repeatability[4,5] (dB)	± 0.01
Insertion loss uncertainty[3,5] (dB)	± (0.05 + PDCR)
Insertion loss repeatability[5] (dB)	± (0.015 + PDCR)

ORL Measurement	
Dynamic range[6] (dB)	0 to 55
Uncertainty[7] (dB)	0 to 35: ± 0.5
	35 to 45: ± 0.7
	45 to 55: ± 1.2

Notes

1. At 23 °C and 1550 nm, all uncertainties are reported with a confidence level of 95 %, with an IQS-5100B and recommended source
2. For PDL < 1 dB, for 2.5 s measurement time
3. Plus connector repeatability
4. For coupling ratio higher than 20 %
5. When the power of detector D2 goes down to –35 dBm, a remnent noise from the power meter adds uncertainty to the measurements
6. Using a 10 dBm optically isolated source with ± 0.001 dB stability
7. Includes linearity, polarization sensitivity and connector repeatability

Ordering Information

IQS-3400B-B-XX

Connector Code

89 = FC/UPC
90 = ST/UPC
91 = SC/UPC

Also available for the IQ-200 Optical Test System

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Printed in Canada 02/07 W