PDL/OL Meter

IQ-3400B

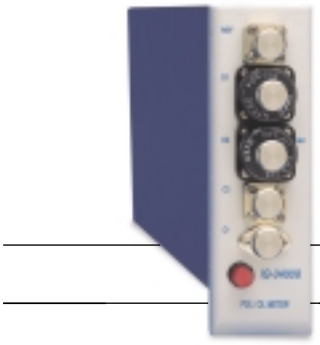
- Reliable solution for coupler characterization
- Efficiently characterizes wideband passive components
- High spectral range: 1260 nm to 1635 nm

Fiber-optic test, measurement and monitoring instruments

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 or RS 232
- OCX commands and LabView drivers available

Reliable Backup

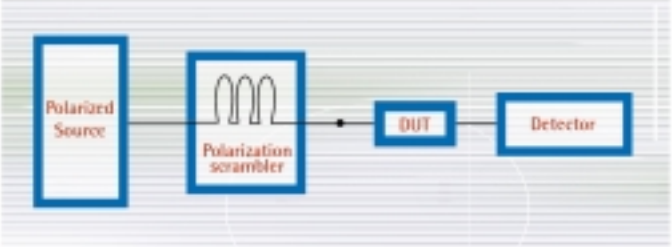
Back up your PDL measurements with the IQ-3400B's optical return loss (ORL) test function. PDL can be caused by ORL from a scratched connector. If the PDL reading on a connectorized device seems unusually high, the ORL tester lets you check for loss due to connector damage.

ORL measurement

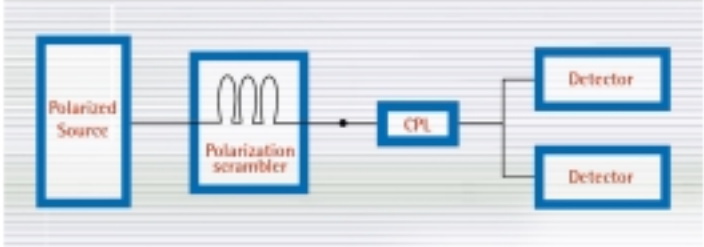
Streamlined Setup

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

DUT mode



Coupler mode



Automated Features

The IQ-3400B performs the following measurements automatically:

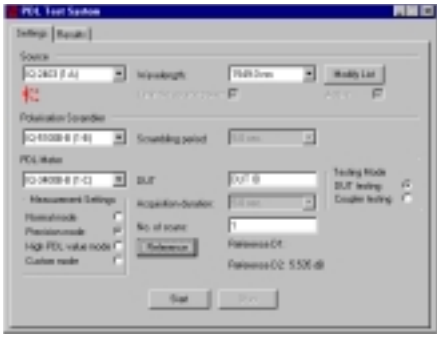
- three-port device characterization
- Polarization-dependent coupling ratio (PDCR)
- Coupling ratio
- Excess loss
- Insertion loss for each branch of a coupled fiber

Complete solution

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

Flexible Software

The IQ-3400B PDL Meter comes with a Visual IQ 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 value mode, for testing PDL values higher than 10 dB.

IQ-3400B general interface

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

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	Width: 3.8 cm (1.5 in) Height: 12.0 cm (4.75 in) Depth: 26.2 cm (10.3 in) Weight: 0.64 kg (1.45 lb)
Recommended sources	IQ-240x M5 (DFB laser O-, C- or L-band) IQ-2600 (Tunable laser C-band) IQ-2600B (Tunable laser C+L-band) IQ-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 IQ-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 down to –35 dBm, a remanent 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

IQ-3400B-B-XX

Connector Code

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

CORPORATE HEADQUARTERS	465 Godin Avenue	Vanier (Quebec) G1M 3G7 CANADA	Tel.: 1 418 683-0211 . Fax: 1 418 683-2170
EXFO AMERICA	1201 Richardson Drive, Suite 260	Richardson TX 75080 USA	Tel.: 1 800 663-3936 . Fax: 1 972 907-2297
EXFO EUROPE	Le Dynasteur, 10/12 rue Andras Beck	92366 Meudon la Forêt Cedex FRANCE	Tel.: +33.1.40.83.85.85 . Fax: +33.1.40.83.04.42
EXFO ASIA-PACIFIC	151 Chin Swee Road, #03-29 Manhattan House	SINGAPORE 169876	Tel.: +65 333 8241 . Fax: +65 333 8242
TOLL-FREE (USA and Canada)	Tel.: 1 800 663-3936	www.exfo.com • info@exfo.com	

SPIQ3400B.2AN 01/11

Printed in Canada