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Find the *Newport / ILX Lightwave FOM-7900B* at our website: ***Click HERE***

FOS 79800E Series

WDM DFB Fiber Optic Source Modules

Specifications

79800E Series WDM DFB Fiber Optic Source Modules

WAVELENGTH

Available Center λ:	(see table)
Spectral Width	
Coherence Control OFF:	<30 MHz
Coherence Control ON:	1 GHz (typical)
Wavelength Accuracy:	±50 pm
Wavelength Tuning Range:	±0.85 nm
Wavelength Setting Resolution:	1 pm
Wavelength Stability[1]	(see table)
Short Term (15 minutes):	±3 pm
Long Term (24 hours):	±5 pm

OUTPUT POWER

Output Power:[2]	(see table)
Output Power Stability	(see table)
15 minute (spec):	<0.005 dB rms
24 hours:	±0.03 dB
Power Attenuation Range:	Full Power to 0 dBm
Attenuation Accuracy:[3]	±0.1 dB
Optical Isolation:	>30 dB
RIN:[5]	-145 dB/Hz
Side Mode Supression Ratio:	>40 dB (>45 dB typical)
Signal-to-Peak Background Ratio:[4]	>30 dB

PM ALIGNMENT

Also available:	PM fiber aligned to slow axis

SSE50 OPTIONAL SPONTANEOUS EMISSION SPECIFICATION

Signal/Spontaneous Emission (within ±100 nm of center wavelength)	>50 dB

SS-810 SOURCE SHUTTER

Transition Time	
Off to On:	30 ms
On to Off:	10 ms
Power Stability 24 hr. 25 ±1°C	<0.07 dB
Power Stability 15 min. 25 ±1°C	<0.005 rms
Repeatability:	±0.05 dB
Lifetime:	>10 million cycles

GENERAL

Optical Connector:[6]	FC/APC
Operating Temperature:	15°C—35°C
Humidity:	<90% RH, non-condensing

ORDERING INFORMATION

MODULE	CENTER WAVELENGTH	MAXIMUM POWER LEVEL[1]	STABILITY
79800E/315C1	1527.98–1564.26 nm (C-band)	9–10 mW	See note 1
79800E/315L1	1564.27–1610 nm (L-band)	9–10 mW	See note 1
79800E/315C2	1527.98–1564.26 nm (C-band)	>10 up to 20 mW	See note 1
79800E/315L2	1564.27–1610 nm (L-band)	>10 up to 20 mW	See note 1
79800E/315S	1475–1527.97 nm (S-band)	9–20 mW	See note 1
79800E/315EL	1610.01–1625 nm (Extended L-band)	9–20 mW	See note 1
79800E/SERV	1310, 1480, 1510, 1625 ±5 nm (Service Channels)	9–20 mW	See note 7

NOTES

1 After one-hour warm-up (typical). Some modules may require longer warm-up time. For short-term stability, assume ambient temperature constant within ±0.1°C. For long-term stability, assume ambient temperature constant within ±1°C.
2 User specified maximum power level.
3 Defined as: $\Delta P_{meas} - \Delta P_{set}$ from maximum power to 5 dB down.
4 ±100 nm about center wavelength.
5 Measured at output connector. Use angled connector patchcords to minimize noise.
6 Other connector types available. Some specifications may be degraded.
7 After warm-up of up to six hours. For short-term stability, assume ambient temperature constant within ±0.1°C. For long-term stability, assume ambient temperature constant within ±1°C

ADDITIONAL ORDERING INFORMATION

79800E/000	Special Product for non-standard wavelengths
79800E/CUST	Customer Supplied Lasers, non-standard product
SS-810	Source Shutter Option (Not compatible with PM alignment)
SSE50	50 dB Ratio of Signal to Spontaneous Emission Option
PM Alignment	Per Channel PM Alignment

In keeping with our commitment to continuing improvement, ILX Lightwave reserves the right to change specifications without notice and without liability for such changes.

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International Inquiries: 406-586-1244
email: sales@ilxlightwave.com

Rev.3/04/02

Product Features

Center wavelengths from 1475–1625 nm

1 pm resolution

Maximum output power range 9–20 mW

Output power stability <0.005 dB rms

Output wavelength stability ±0.003 nm

Coherence control for SBS suppression and power stability

For your most demanding WDM system and component test applications, ILX Lightwave proudly offers the FOS-79800E Series WDM DFB Fiber Optic Source Modules. This fourth generation source module platform brings unparalleled reliability to your test systems. Choose maximum calibrated power levels, from 9–20 mW. Select center wavelengths from 1475–1625 nm on ITU grid points or at your custom specification. These modules offer an impressive list of features: picometer resolution, high power, exceptional stability, coherence control, optional source shutter, optional PM alignment and accurate attenuation.

When installed in the FOM-7900B Fiber Optic System Mainframe, FOS-79800E Series WDM DFB Fiber Optic Source Modules are easily controlled through simple front panel menu entries, or through a full featured GPIB remote interface. Mainframe trigger capabilities allow you to easily synchronize output modulation of multiple modules.



The Standard for Fiber Optic Sources

ILX Lightwave
Photonic Test & Measurement Instrumentation

FOS 79800E Series
WDM DFB Fiber Optic Source Modules

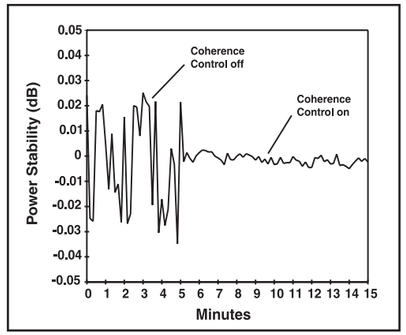
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FOS 79800E Series

WDM DFB Fiber Optic Source Modules

Solutions for Multi-Wavelength Test Applications

Dependable long-term performance is the trademark of the FOS-79800E Series Fiber Optic Source Modules, even in the most exacting laboratory and production environments. Together with the FOM-7900B Modular Fiber Optic System, they deliver the most effective multi-wavelength test solution for both active and passive WDM components and systems.



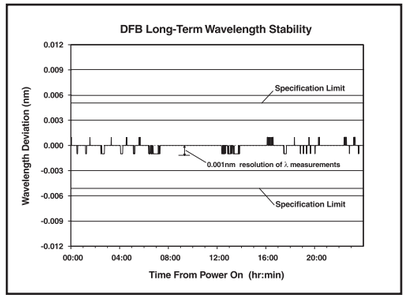
Coherence control of narrow linewidth sources will minimize instabilities caused by reflections in single mode fiber.

Standard features include dual stage temperature control, ILX Lightwave's proprietary low noise laser current control technology, closed loop constant power operation and redundant current limits. The FOS-79800E Series Source Modules provide the performance and reliability required for your most demanding fiber optic testing needs.

Sophisticated Module Control

Each FOS-79800E module can be controlled independently through an intuitive menu on the FOM-7900B System mainframe front panel, or remotely through RS-232 or GPIB IEEE-488.2. Easy-to- understand commands allow full control of wavelength, output power, calibration, and modulation functions. Banked remote capability provides control of up to two hundred source channels from a single GPIB address.

The FOS-79800E modules save time by allowing quick and easy configuration of each application. For example, all modules can be controlled by one "Channel All" function.



Precise control of laser diode temperature and current densities ensures a stable wavelength.

Coherence Control for a Stable Test System

In narrow linewidth fiber optic test systems, reflections from connectors and the effects of etalons can degrade source stability and cause measurement instability. In higher power applications, Stimulated Brillouin Scattering worsens this problem by providing narrow-band gain for light traveling back to the source. For these reasons, controlling DFB source spectral linewidth is critical.

Coherence control of the FOS-79800E modules broadens laser linewidth from 30 MHz to 1 GHz. This reduces spectral power density and decreases coherence length from several meters to around 20 cm. The final result is remarkably stable sources for solid measurements.

Synchronous 100% Modulation for EDFA Test

The FOS-79800E modules feature a processor-controlled modulation mode that supplies 100% depth, 50% duty cycle modulation drive current. All active modules can be modulated synchronously at any frequency from 1–500 kHz. This is ideal for measuring EDFA spontaneous emission background level by the time domain extinction testing method. Normal and inverted TTL-level outputs provide flexible triggering for data acquisition instruments, simplifying test setup. In addition, a rear panel modulation input synchronizes multiple mainframes, and allows synchronization of the system with an external instrument.



The perfect fiber optic source solution, now with picometer resolution and extended wavelengths.

Calibrated Attenuation for Accurate Channel Equalization

For gain flatness testing with accurate attenuator-like performance, the FOS-79800E modules feature high resolution attenuation so you can easily equalize channel levels. Attenuation is accurate within ±0.1 dB while maintaining other specifications from maximum power to 5 dB down. If speed is critical to your application, the available SS-810 source shutter blocks the output of the modules without turning off the current to the lasers. This significantly reduces time spent waiting for the output to settle.

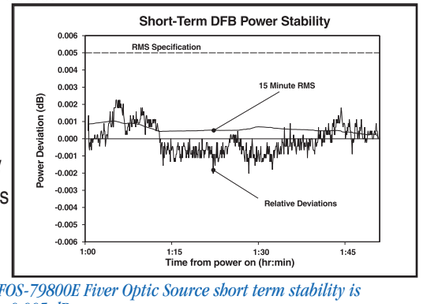


Industry leading fiber optic source power attenuation accuracy.

Reliability Built on Industry Leading Experience

For over 15 years ILX Lightwave has worked closely with laser diode manufacturers developing instrumentation and providing solutions.

Introduced in 1996, the FOM-7900 Fiber Optic Test System with Modular Sources was built on our laser diode control experience, bringing the first modular source system to EDFA manufacturers. This third generation platform will bring unparalleled experience and reliability to your test system.



FOS-79800E Fiver Optic Source short term stability is ±0.005 dB.

We Understand That Component Testing Throughput is Critical

Ask us about edge testing and other innovative solutions for testing your passive components. If you have special requirements such as higher power, special selected wavelengths, or customization with your lasers, call us. Our technically qualified sales engineers can help you define the custom fiber optic source configuration for your testing needs.

FOS 79800E Series

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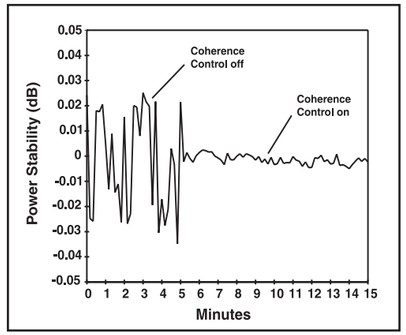
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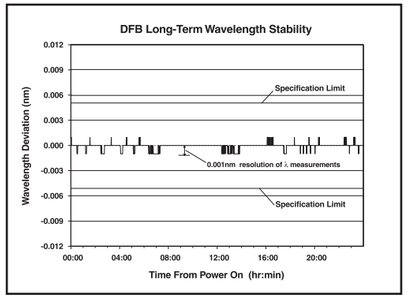
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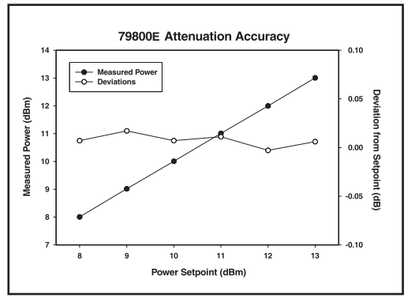
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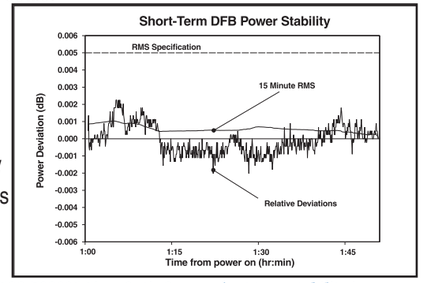
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WDM DFB Fiber Optic Source Modules

Specifications

79800E Series WDM DFB Fiber Optic Source Modules

WAVELENGTH

Available Center λ:	(see table)
Spectral Width	
Coherence Control OFF:	<30 MHz
Coherence Control ON:	1 GHz (typical)
Wavelength Accuracy:	±50 pm
Wavelength Tuning Range:	±0.85 nm
Wavelength Setting Resolution:	1 pm
Wavelength Stability[1]	(see table)
Short Term (15 minutes):	±3 pm
Long Term (24 hours):	±5 pm

OUTPUT POWER

Output Power:[2]	(see table)
Output Power Stability	(see table)
15 minute (spec):	<0.005 dB rms
24 hours:	±0.03 dB
Power Attenuation Range:	Full Power to 0 dBm
Attenuation Accuracy:[3]	±0.1 dB
Optical Isolation:	>30 dB
RIN:[5]	-145 dB/Hz
Side Mode Supression Ratio:	>40 dB (>45 dB typical)
Signal-to-Peak Background Ratio:[4]	>30 dB

PM ALIGNMENT

Also available:	PM fiber aligned to slow axis

SSE50 OPTIONAL SPONTANEOUS EMISSION SPECIFICATION

Signal/Spontaneous Emission (within ±100 nm of center wavelength)	>50 dB

SS-810 SOURCE SHUTTER

Transition Time	
Off to On:	30 ms
On to Off:	10 ms
Power Stability 24 hr. 25 ±1°C	<0.07 dB
Power Stability 15 min. 25 ±1°C	<0.005 rms
Repeatability:	±0.05 dB
Lifetime:	>10 million cycles

GENERAL

Optical Connector:[6]	FC/APC
Operating Temperature:	15°C—35°C
Humidity:	<90% RH, non-condensing

ORDERING INFORMATION

MODULE	CENTER WAVELENGTH	MAXIMUM POWER LEVEL[1]	STABILITY
79800E/315C1	1527.98–1564.26 nm (C-band)	9–10 mW	See note 1
79800E/315L1	1564.27–1610 nm (L-band)	9–10 mW	See note 1
79800E/315C2	1527.98–1564.26 nm (C-band)	>10 up to 20 mW	See note 1
79800E/315L2	1564.27–1610 nm (L-band)	>10 up to 20 mW	See note 1
79800E/315S	1475–1527.97 nm (S-band)	9–20 mW	See note 1
79800E/315EL	1610.01–1625 nm (Extended L-band)	9–20 mW	See note 1
79800E/SERV	1310, 1480, 1510, 1625 ±5 nm (Service Channels)	9–20 mW	See note 7

NOTES

1 After one-hour warm-up (typical). Some modules may require longer warm-up time. For short-term stability, assume ambient temperature constant within ±0.1°C. For long-term stability, assume ambient temperature constant within ±1°C.
2 User specified maximum power level.
3 Defined as: $\Delta P_{meas} - \Delta P_{set}$ from maximum power to 5 dB down.
4 ±100 nm about center wavelength.
5 Measured at output connector. Use angled connector patchcords to minimize noise.
6 Other connector types available. Some specifications may be degraded.
7 After warm-up of up to six hours. For short-term stability, assume ambient temperature constant within ±0.1°C. For long-term stability, assume ambient temperature constant within ±1°C

ADDITIONAL ORDERING INFORMATION

79800E/000	Special Product for non-standard wavelengths
79800E/CUST	Customer Supplied Lasers, non-standard product
SS-810	Source Shutter Option (Not compatible with PM alignment)
SSE50	50 dB Ratio of Signal to Spontaneous Emission Option
PM Alignment	Per Channel PM Alignment

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Rev.3/04/02

Product Features

Center wavelengths from 1475–1625 nm

1 pm resolution

Maximum output power range 9–20 mW

Output power stability <0.005 dB rms

Output wavelength stability ±0.003 nm

Coherence control for SBS suppression and power stability

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