

OSICS DFB CWDM

DISTRIBUTED FEEDBACK LASER



The OSICS DFB modules are based on high-performance distributed feedback laser diodes.

SPEC SHEET

KEY FEATURES

Internal and external modulation

10 dBm optical power

Internal wavelength calibration for 30 pm accuracy

Wavelength can be finely tuned over 1.8 nm (typical) with the internal temperature control

Front-panel control

KEY FEATURES

Internal and external modulation

10 dBm optical power coupled in a polarization maintaining fiber with a remarkable 5 pm wavelength stability over one hour.

The internal wavelength calibration yields a 30 pm accuracy and the wavelength can be finely tuned over 1.8 nm (typical) with the internal temperature control.

Each module can be controlled from the front panel of the mainframe or through the remote interface. The modules and the mainframe offer a full suite of internal and external modulation capabilities.

20 CHANNELS

EXFO's module covers all CWDM channels from 1270 nm to 1610 nm plus two additional channels: the first at 1625 nm and the second at 1650 nm. The channel center of a DFB is located at ± 3 nm from the grid wavelength.

APPLICATIONS

CWDM

Coarse wavelength division multiplexing is finding its way in many short-haul applications such as transmission between antennas. The OSICS DFB CWDM modules can fully load the system for testing at maximum capacity.

OSC

The optical supervisory channel is commonly used for communication between optical amplifiers. The 1510 nm or the 1625 nm channels are most used for this application.

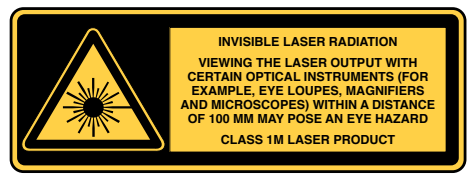
OTDR

Optical time domain reflectometry uses widely spaced lasers. It is noted that 1625 nm or 1650 nm can be used when a line is in operation without disturbing traffic.

SPECIFICATIONS

		SMF	PM15
Models ^a	Channels	See channel grid in the ordering information table below	
	Grid wavelength of the first channel (nm)	1270	1450
	Grid wavelength of the last channel (nm)	1650	1650
Wavelength	Channel center ^b	Wavelength grid ± 3 nm	
	Tuning range (nm)	1.6 (1.8 typical)	
	Accuracy (nm) ^c	± 0.03	
	Stability over 1 hour (nm) ^{c, d, e}	± 0.005	
	Stability over 24 hours (nm) ^{c, d, e}	± 0.005 (typical)	
Power	Maximum	10 mW (for channels from 1270 nm to 1570 nm) 8 mW (for channels from 1590 nm to 1650 nm)	
	Stability over 1 hour (dB) ^{c, d, e}	± 0.01	
	Stability over 24 hours (dB) ^{c, d, e}	± 0.01 (typical)	
	Optical isolation (dB)	> 30	
	RIN (Relative intensity noise) (dB/Hz) ^f	< -140	
Spectrum	Laser linewidth (MHz)	< 10	
	SMSR (dB) ^c	> 30 (40 typical)	
Modulations	TTL (internal and external)	1 Hz to 890 kHz	
	Analog (external/front panel)	150 Hz to 150 MHz	
	SBS suppression (internal) ^g	Waveform Frequency range (kHz) Modulation depth (%)	Sine 10 to 100 0 to 15
Interfaces on module front panel ^h	Enable key with status LED	Power up laser	
	Optical fiber	SMF	PM15
	Optical connector	FC/APC narrow key	
	Fiber alignment to connector key	n/a	Slow axis
	Polarization extinction ratio (PER)	n/a	> 17 dB
	Electrical connector (analog modulation)	Coaxial SMB - 50 Ω	
Others	Laser safety	Class 1 M	
	Dimensions (W x H x D)	35 mm x 128 mm x 230 mm (1 ³ / ₈ in x 5 in x 9 in)	
	Weight	1.1 kg (2.43 lb)	

LASER SAFETY



- a. See the table on following page for complete overview of selectable channels for order.
- b. Location of channel center: lower boundary of the range + 0.4 nm < channel center < upper boundary of the range - 0.4 nm.
- c. After warm-up and at maximum power.
- d. At a constant temperature.
- e. Measured with an APC terminated jumper on a power meter.
- f. RIN within the range 100 MHz - 20 GHz measured at 10 dBm output power with RBW = 30 kHz.
- g. SBS = Stimulated Brillouin scattering.
- h. See OSICS mainframe specifications sheet for details on OSICS common specifications and interfaces on the rear panel.

ORDERING INFORMATION

Model selection																				
Ch. N°	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020
Wavelength (nm)																				
Grid	1270	1290	1310	1330	1350	1370	1390	1410	1430	1450	1470	1490	1510	1530	1550	1570	1590	1610	1625	1650
SMF	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PM15										•	•	•	•	•	•	•	•	•	•	•

ORDERING INFORMATION

OS-DFB-C-XX-XX-XX-58

Wavelength band

F = SMF28 singlemode output fiber
 SCL = PM15 polarization maintaining fiber

Channel number

Wavelength = 1250 + 20 nm x Channel number
 001-009 = Available for F wavelength bands.
 010-020 = Available for F band and SCL wavelength bands

Connector
 58 = FC/APC

Output fiber
 00 = SMF28 singlemode output fiber (only with F wavelength band)
 P = Polarization maintaining fiber (only with SCL wavelength bands)

Example: OS-DFB-C-F-011-00-58

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