

# OSICS DFB CWDM

## Distributed Feedback Laser

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

### 20 Channels

**Yenista Optics** proposes all CWDM channels from 1270 nm to 1610 nm and two additional channels: the first at 1625 nm and the second at 1650 nm. The channel center of a DFB is located at  $\pm 3$  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 allow to fully load the system for testing at maximum capacity.

#### OSC

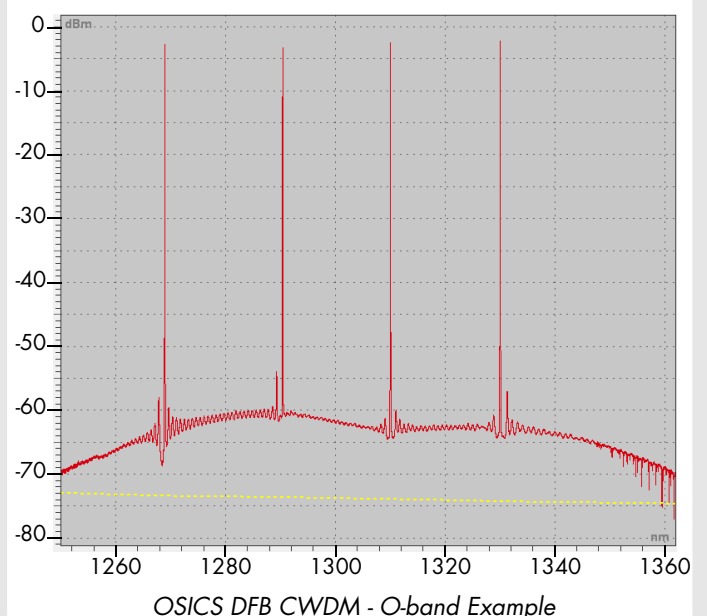
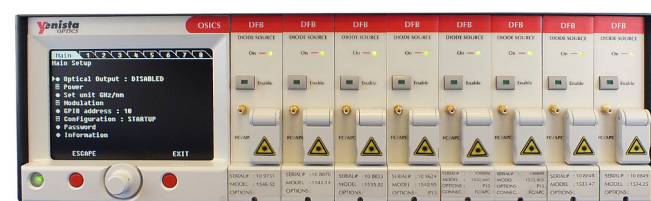
The Optical Supervisory Channel is commonly used for communication between optical amplifiers. The 1510 nm or the 1625 nm channels are most used for this application.

#### 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.

### Key Features

- **Internal & 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 (typ.) 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.



## Specifications

		OSICS DFB CWDM SMF	OSICS DFB CWDM PM13	OSICS DFB CWDM PM15	
<b>Models</b> *1	Channels	See channel grid in the <i>Ordering Information</i> table below			
	Grid wavelength of the first channel	1270 nm	1310 nm	1450 nm	
	Grid wavelength of the last channel	1650 nm		1650 nm	
<b>Wavelength</b>	Channel center*2	wavelength grid $\pm 3$ nm			
	Tuning range	1.6 nm (1.8 nm typ.)			
	Accuracy*3	$\pm 0.03$ nm			
	Stability over 1 hour*3,*4,*5	$\pm 0.005$ nm			
	Stability over 24 hours*3,*4,*5	$\pm 0.005$ nm typ.			
<b>Power</b>	Maximum	10 mW (for channels from 1270 to 1570 nm) 8 mW (for channels from 1590 to 1650 nm)			
	Stability over 1 hour*3,*4,*5	$\pm 0.01$ dB			
	Stability over 24 hours*3,*4,*5	$\pm 0.01$ dB typ.			
	Optical Isolation	> 30 dB			
	RIN (Relative Intensity Noise)*6	< -140 dB/Hz			
<b>Spectrum</b>	Laser line width	< 10 MHz			
	SMSR (Side Mode Suppression Ratio)*3	> 30 dB (40 dB typ.)			
<b>Modulation</b>	TTL (internal & external)	1 Hz to 890 kHz			
	Analog (external / front panel)	150 Hz to 150 MHz			
	SBS Suppression (internal)*7	Waveform	sine		
		Frequency Range	10 kHz to 100 kHz		
Modulation Depth		0 to 15%			
<b>Interfaces on Module Front Panel</b> *8	Enable key with status LED	Power up laser			
	Optical fiber	SMF	PM13	PM15	
	Optical connector	FC/APC narrow key			
	Fiber alignment to connector key	n/a	Slow axis		
	PER (Polarization Extinction Ratio)	n/a	> 17 dB		
	Electrical connector (analog modulation)	Coaxial SMB – 50 $\Omega$			
<b>Others</b>	Laser safety	Class 1 M			
	Dimensions (WxHxD)	35 x 128 x 230 mm			
	Weight	1.1 kg			

\*1: See the table on following page for complete overview of selectable channels at order.

\*2: Conditions: power at 10 dBm, CW operation, diode temperature at 25°C.

\*3: After warm-up and at maximum power.

\*4: At a constant temperature.

\*5: Measured with an APC terminated jumper on a power-meter.

\*6: RIN within the range 100 MHz–20 GHz measured at 10 dBm output power with RBW = 30 kHz.

\*7: SBS = Stimulated Brillouin Scattering.

\*8: See OSICS Mainframe Data Sheet for details on OSICS common specifications and interfaces on the rear panel.

## Ordering Information

Grid	Wavelength (nm)																			
	1270	1290	1310	1330	1350	1370	1390	1410	1430	1450	1470	1490	1510	1530	1550	1570	1590	1610	1625	1650
SMF	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PM13			•																	
PM15										•	•	•	•	•	•	•	•	•	•	•



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Information and specifications are subject to change without notice  
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