

Optical Performance Monitor

Optoplex's **Optical Performance Monitor (OPM)**, also known as **Optical Channel Monitor (OCM)**, uses proprietary thin-film filter technology combined with a micro-actuator and intelligent firmware. OPM/OCM measures critical information on optical transmission signals in DWDM networks for monitoring signal dynamics, determining system functionality, identifying performance change, and providing feedback for network control elements to maintain and optimize network performance. In particular, Optoplex's OPM/OCM can automatically scan the C-band, L-band and C+L-band wavelength range and precisely measure channel wavelength, power, and optical signal-to-noise ratio (OSNR).

Key Features and Benefits

- High dynamic range
- Low temperature sensitivity
- High power and wavelength accuracy
- Built-in wavelength reference
- Wide wavelength coverage
- Compact size
- 10, 40, and 100Gbps capable

Applications

- Optical performance monitoring of DWDM systems
- Optical add/drop monitoring
- Optical power or OSNR monitoring for gain equalization
- System alarms or error warnings
- Portable OSA/Spectrometer



Fast Data Acquisition OPM



SFF OPM



Standard Footprint OPM



2-port OPM

OPM/OCM Product Specification (Standard Version)

Parameter	Unit	50 GHz	100 GHz
Wavelength Range	<i>nm</i>	C-, L- or C+L-band	
Channel Number (for C- or L-band)	-	80 or 96	40 or 44
Adjacent Channel Power Difference	<i>dB</i>	< 13	< 15
Non-Adjacent Channel Power Difference	<i>dB</i>	< 20	< 25
Minimum Spacing Between Channels	<i>GHz</i>	40	75
Maximum Input Power	<i>dBm</i>	23	
Channel Input Power Range	<i>dBm</i>	- 40 ~ - 10	
Absolute Channel Power Accuracy	<i>dB</i>	0.5	
Relative Channel Power Accuracy	<i>dB</i>	0.3	
Power Measurement Repeatability	<i>dB</i>	0.1	
PDL	<i>dB</i>	< 0.3	
Absolute Wavelength Accuracy	<i>pm</i>	50	
Relative Wavelength Accuracy	<i>pm</i>	30	
Channel Wavelength Resolution	<i>pm</i>	20	
OSNR	<i>dB</i>	> 25	> 28
OSNR Accuracy	<i>dB</i>	1.5	
Noise Floor	<i>dBm</i>	-60	
Response Time	<i>ms</i>	< 200 (Power & Wavelength)	
		< 500 (Power, Wavelength & OSNR)	
Power Consumption	<i>W</i>	< 2	
Operating Temperature Range	<i>°C</i>	-5 ~ 65	
Storage Temperature Range	<i>°C</i>	-40 ~ 85	

40/100G Capability

Modulations	Data Rate (Gb/s)	Modulations	Data Rate (Gb/s)
OOK	2.5; 10	DP-DPSK	40
RZ-OOK	10	DP-DQPSK	100
ODB	2.5, 10	DP-BPSK	40
PSBT	2.5, 10	PM-BPSK	40
DPSK	10, 40	PM-QPSK	40, 100
RZ-DQPSK	40	DC PM-QPSK	100

Notes:

- 1) For OPM's capability to monitor various signals of different modulations and data rates, please consult with Optoplex for details.
- 2) Standard OPM with a dimension of 100x70x17.5mm and interface of UART or DPRAM available. Other custom footprint and interface available upon request.
- 3) 25GHz OPM for power monitoring available.
- 4) Custom made Dual-Mode OPM (it works for different channel spacing, 100/50, or 50/25GHz) available upon request.