

## SPECIFICATIONS

Wavelength	Spectral range	1250-1700 nm / 239.834-176.349 THz	
	Span range	0.5 nm to full range (450 nm)	
	Linearity $2\sigma^a$	$\pm 6$ pm over 1500-1640 nm, $\pm 20$ pm over full range	
	Accuracy $2\sigma^a$	$\pm 10$ pm over 1500-1640 nm, $\pm 25$ pm over full range	
	Repeatability $2\sigma$	$\pm 2$ pm / 0.25 GHz @ 1550 nm	
	Sampling resolution	2 pm / 0.25 GHz @ 1550 nm	
	Sampling points	251 (span of 0.5 nm) to 225,001 (span of 450 nm)	
	Reference	Built-in ELED (safety class 1) + Acetylene cell (user calibration by patchcord)	
Monochromator	Resolution bandwidth <sup>b, c, d</sup>	20 pm native (20 pm = 2.5 GHz), adjustable over 50–2000 pm with 1 pm step	
	Dynamic range (ORR) <sup>e</sup>	$\geq 30$ dB ( $> 35$ dB typ.) beyond $\pm 50$ pm from peak $\geq 50$ dB ( $> 55$ dB typ.) beyond $\pm 100$ pm from peak $\geq 60$ dB ( $> 63$ dB typ.) beyond $\pm 200$ pm from peak	
	Stray light suppression ratio <sup>f</sup>	$\geq 73$ dB	
Optical power	Input power per channel	$\leq 20$ dBm	
	Total safe power	$\leq 25$ dBm	
	Level sensitivity <sup>g</sup>	single scan	High (0.5 nm/s): $< -76$ dBm ( $-78$ dBm typ.)
		with averaging (Avg Nb of scans) <sup>h</sup>	High (0.5 nm/s): $-80$ dBm (Avg 3), $-85$ dBm (Avg 30), $-90$ dBm (Avg 380) $-75$ dBm (2 nm/s): $-80$ dBm (Avg 7), $-85$ dBm (Avg 70), $-90$ dBm (Avg 800)
	Absolute level accuracy <sup>a, i</sup>	$\pm 0.4$ dB at 1310 nm and 1550 nm	
	Level linearity <sup>j</sup>	$\pm 0.07$ dB over the full range (input level $-50$ to $+3$ dBm)	
	Level/wavelength flatness <sup>k</sup>	$\pm 0.15$ dB over 1500-1640 nm, $\pm 0.25$ dB over 1260-1680 nm	
	Level sampling	$\pm 0.01$ dB over $-60$ to $+20$ dBm	
Sweep speed	Sensitivity <sup>g</sup>	$-55$ dBm at 2000 nm/s to $-75$ dBm at 2 nm/s	
	Sweep cycle/100 nm <sup>l</sup>	300 ms typ.	
	Sampling rate	1 MHz typ.	
Optical interfaces	Optical input	SMF-28 type fiber	
	Calibration output	Wavelength reference (see above)	
	Connector of input and output	FC/APC or FC/PC or SC/APC or SC/PC	
	Return loss	$> 38$ dB ( $> 42$ dB typ.) at 1310 nm and at 1550 nm (APC connector)	

## Notes

- After user calibration performed after 1 hour warm-up time.
- Native 17-22 pm over 1500-1620 nm (except in  $-55$  dBm sensitivity), 17-24 pm over 1250-1700 nm.
- Adjustable resolution bandwidth is calculated from the native bandwidth.
- Adjustable over 6-400 GHz with 0.1 GHz step on the abscissa in THz.
- HeNe laser at 1523 nm with  $\pm 2$  nm span.
- Laser at 1523 nm with  $\pm 50$  nm span, excluding  $\pm 2$  nm around peak.
- Noise level of 99 % of all data points over 1520-1620 nm.
- Typical values.
- Over 18-28°C all sensitivity settings except  $\pm 0.6$  dB in  $-55$  dBm and burst sensitivities.
- Measured at 1310 nm and 1500 nm, except  $\pm 0.3$  dB in  $-55$  dBm and burst sensitivities.
- Except  $\pm 0.35$  dB in  $-55$  dBm and burst sensitivities, except for water absorption lines, over 18°C-28°C all sensitivity settings.
- Sweep cycle / 100 nm at  $-60$  dBm sensitivity at center wavelength of 1475 nm.

## GENERAL SPECIFICATIONS

Environmental	Operating temperature	5 °C to 35 °C, 41 °F to 95 °F
	Performance guaranteed temperature	18 °C to 28 °C, 64.4 °F to 82.4 °F
	Storage temperature	-10 °C to 50 °C, 14 °F to 122 °F
	Humidity	80 % RH, non condensing
Physical and electrical	Dimensions (W x H x D)	413 mm x 314 mm x 385 mm
	Weight	15 kg
	Power supply	48 V DC input, ≤ 75 VA (adapter 100-240 V AC, 50-60 Hz to 48 V DC provided)
	Screen	12 inch capacitive touchscreen (res. 1024 x 768)
External devices	Screen	VGA Port (x1), DVI-D Port (x1), HDMI (x1)
	Others (e.g., mouse, hard disk)	USB 2.0-A (x4), USB 3.0-A (x2)
Remote interface	Ethernet (2x RJ45)	1 Gbit/s max.
	GPIO (1x IEEE 488)	7.2 Mbit/s max.
	USB (1x USB 2.0-B)	115 kbit/s max.
Triggers	In	Start scan (BNC, 5 V TTL), Gate in RLT mode
	Out	Pulse on a user-defined span (BNC, 5 V TTL)
Data storage	Internal	18 GB
	External	FAT32, NTFS
	File types	csv, binary, jpg, png

## ORDERING INFORMATION

OSA20-XX

## Connector

50 = FC/PC  
 54 = SC/PC  
 58 = FC/APC  
 88 = SC/APC

Example: OSA20-58

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