

Single mode Optical Variable Attenuator Comparison

Specification	Meaning	KI 7013B	JDSU OLA-55	EXFO FVA-600	Noyes VOA6-SM
Calibration λ Fiber type	More is Better	1310 / 1490 / 1550 / 1625 nm 9/125 μ m	1310 / 1550 / 1625 nm 9/125 μ m	1310 / 1550 nm 9/125 μ m	1310 / 1550 nm 9/125 μ m
λ range	Wider is better	1200 to 1650 nm	1260 to 1650 nm	1250 to 1625 nm	1260 to 1650 nm
Attenuation range	Wider is better	2.00 to 60.00 dB Max attenuation (Hi): > 60 dB Min attenuation (Lo): < 2 dB	2 to 60 dB	Max attenuation: 65 dB IL (exclude connectors): \leq 1.5 dB	2.00 to 60.00 dB
Absolute loss uncertainty	Smaller is better	0.3 dB	0.8 dB	Not Specified	0.8 dB
Linearity	Smaller is better	0.03 dB	0.2 dB	0.1 dB Only @ 23 \pm 3 $^{\circ}$ C, 1550 nm \pm 40 nm, excluding connectors	0.5 dB
Repeatability	Smaller is better	0.03 dB	0.1 dB	0.1 dB Only @ 1550 nm \pm 40 nm	0.2 dB
Resolution (dB)	Smaller is better	0.05	0.05	0.01	0.05
Insertion loss at low position	Smaller is better	< 2.00 dB	2 dB	1.5 dB	2.0 dB
Maximum input power	Bigger is better	+30 dBm	+ 23 dBm	+24 dBm	+20 dBm
λ Flatness	Smaller is better	Superior wavelength flatness -0.0002 dB/Δnm/dB Ideal for CWDM application	Not specified	Not specified	Not specified
Return Loss (ORL)	Bigger is Better	> 45 dB typ, PC > 60 dB typ, APC dependent on external connector	> 40 dB typ (PC) > 60 dB typ (APC) dependent on external connector	50 dB Only @ minimum IL, 1310 nm \pm 1 nm, 1550 nm \pm 1 nm, including connectors	> 45 dB typ dependent on external connector
Polarization Mode Dispersion (PMD)	Smaller is better	< 1 ps	Not specified	Not specified	Not specified
Standard connector	More is better	3 pairs of SC, FC, ST interchangeable connectors	1 pair	1 pair	1 pair of connectors
Metal free connector ¹	Yes is better	Yes	No	No	No
Attenuation set speed		Fast	Slow	Fast	Fast
Thermal stability	Smaller is better	0.02 dB over temperature	Not Specified	Not Specified	Not specified
Attenuation stable at power on or off	Yes is better	Yes	Yes	Not Specified	Yes
Modern interchangeable optical connectors	More is better	SC, FC, ST, D4, MU, LC, LSA, E2000, SMA	SC, FC, ST, MU, LC, LSA, E2000, SMA	SC, FC, ST, LSA, E2000	SC, FC, ST

Power	Auto off is essential for field use.	AC power, 2 X C batteries. Selectable auto-off 10 minutes after last key press	AC charger, 4 x AA Alkaline batteries Selectable Auto off 20 minutes	AC adapter and rechargeable Li-ion battery Auto-off Not Specified	AC power, 2 X AA batteries
Battery life with recommended cells	Longer is better	200 – 600 hours	> 300 hours	300 hours	100 hours
User automation programs	More is better	15 user programs can be stored & recalled	0	No	No
Re-calibration cycle	Longer is better	3 years	3 years	3 years	1 year
Warranty	Longer is better	3 to 7 years	2 years	3 years	1 year
RS232 PC interface / External Software		PC Software	None	PC Software	PC software
Operating /storage temperature		-10 to 55 °C / -25 to 70 °C	-10 to 55 °C / -40 to 70 °C	-10 to 50 °C / -40 to 70 °C	-10 to 55 °C / -40 to 70 °C
Volume (cm ³)		1012	1112	1178	1328
Weight (gm)		520	500	600	450
Standard accessories		ST, FC, SC optical connector adaptors, traceable calibration & compliance certificate, tilt bail, soft pouch and leather holster, AA-to-C battery converters, Software free on web site	One style optical connector	User guide, Certificate of Calibration, quick reference sticker in five languages, AC adapter/charger, one connector adapter (EUI-XX), lithium ion battery, shoulder strap, semi-rigid carrying case, USB cable, instruction manual on CD	a protective rubber boot, AC adapter, Li-ion battery, battery charger, and a soft carry case

Note 1: Kingfisher instrument is supplied with metal-free optical interchangeable connector adaptors, which avoid critical contamination of connectors used in high power applications.

Disclaimer: This comparison is based on our interpretation of published specifications. No liability is accepted for any inaccuracy. We would be pleased to amend anything found to be inaccurate.