


Aumictech

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 13, 2026

JDSU

JDSU PE3+1FA PE3 PMD EMULATOR

The JDSU PE3+1FA is a PMD emulator. It is used to emulate polarization mode dispersion (PMD) in optical fibers. It can be used to test the performance of optical communication systems and components.



MODEL JDSU PE3+1FA	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU PE3+1FA	LISTING https://aumictechlabs.com/products/pe3-1fa-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The JDSU PE3+1FA PE3 PMD Emulator is a precision instrument that emulates Polarization Mode Dispersion (PMD) in optical fiber systems by introducing controlled Differential Group Delay (DGD). It separates incoming optical signals into two discrete polarization paths, applies precise time delays through optical delay elements, and recombines them to simulate real-world fiber impairments. This capability enables engineers to characterize and validate high-speed optical transmission equipment and PMD-sensitive components across a broad wavelength range.

Technical Specifications

Operating Wavelength Range: 1250–1700 nm

PMD Emulation Range: –30 to 125 ps

PMD Emulation Accuracy at 0 ps: ± 0.1 ps

PMD Emulation Resolution: 0.002 ps

PMD Emulation Repeatability: ± 0.02 ps

PMD Emulation Relative Accuracy: $\pm (0.02 \text{ ps} + 0.5\% \text{ of PMD})$

Maximum Insertion Loss: 45 dB

Fiber Type (In/Out): Single-mode 9/125 μm

Port Type: FC/APC

Power Supply: 100–240 V AC, 50–60 Hz

Power Consumption: 100 VA maximum

Operating Temperature: 0 to 40 °C

Storage Temperature: –40 to 60 °C

Humidity (Maximum): 95% non-condensing

Dimensions: 21.2 cm (W) $\times$ 8.9 cm (H) $\times$ 35.5 cm (D)

Form Factor: 19-inch rackmount,

2U, half-rack width Weight: 4 kg

Key Features

- Programmable front-panel control with RS232 and GPIB remote interfaces
- Sub-picosecond resolution for demanding PMD characterization work
- Tight repeatability (± 0.02 ps) and relative accuracy specifications
- Low insertion loss (< 45 dB) CE marked; complies with UL3101-1 and CAN/CSA-C22.2 No. 1010.1

Typical Applications

- PMD sensitivity measurements in high-speed optical transmission systems
- Calibration and validation of PMD measuring equipment
- Testing system performance under simulated fiber impairments
- Integration into automated PMD test systems

Compatibility & Integration

The PE3+1FA accepts single-mode 9/125 μm fiber with FC/APC connectors. Remote control via RS232 and GPIB interfaces enables integration into test automation frameworks and measurement systems.

Features & description

From manufacturer datasheet

Features

- Controlled DGD / PMD emulation with high absolute accuracy
- Emulation range -30 to 125 ps (greater than 125 ps class)
- Resolution 0.002 ps; repeatability +/-0.02 ps
- Dual-path polarization split with optical delay and matching attenuator
- Output state of polarization not controlled (by design)
- Remote GPIB and RS-232; front-panel local control
- FC/APC connectors (+1FA ordering)
- CE marked class product literature

PE31FA Characteristics / Specifications

PARAMETER	VALUE
Model	PE3+1FA
Manufacturer	JDS Uniphase (JDSU / VIAVI)
Instrument Type	Polarization mode dispersion (PMD) / DGD emulator
Base model	PE3
Alias	PE3+1FA; PE3; JDSU PE3+1FA; PE3-1FA
Ordering connector code	+1FA (FC/APC)
Optical connector	FC/APC
Operating wavelength range	1250 to 1700 nm
PMD emulation range	-30 to 125 ps
PMD emulation accuracy at 0 ps setting	+/-0.1 ps
PMD emulation resolution	0.002 ps
PMD emulation repeatability	+/-0.02 ps
PMD emulation relative accuracy	+/- (0.02 ps + 0.5% of PMD)
Maximum insertion loss excluding connector	<3.0 dB
Return loss	>45 dB
In/Out fiber type	Single-mode 9/125 um
Remote interfaces	GPIB; RS-232
Local control	Front panel
Output SOP control	Not controlled
Optical architecture	Polarization split; delay path + matching attenuator; recombine
Product marking	CE
Form	Benchtop programmable optical instrument Notes Specs from JDSU PE3 product literature and PE3+1FA OEM tables (including AssetRelay PE3+1FA specification row). Confirm faceplate PE3 vs PE3+1FA connector adapters and exact DGD travel/zero-offset calibration on the unit. Do not confuse with HD-series optical delay instruments.

PARAMETER	VALUE
Wavelength range	1250 to 1700 nm
Fiber type	Single-mode 9/125 um

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
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Instrument Type	Polarization mode dispersion (PMD) / DGD emulator
Base model	PE3
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Specifications	
PARAMETER	VALUE
Optical connector	FC/APC
Operating wavelength range	1250 to 1700 nm
PMD emulation range	-30 to 125 ps
PMD emulation accuracy at 0 ps setting	+/-0.1 ps
PMD emulation resolution	0.002 ps
PMD emulation repeatability	+/-0.02 ps
PMD emulation relative accuracy	+/- (0.02 ps + 0.5% of PMD)
Maximum insertion loss excluding connector	<3.0 dB
Return loss	>45 dB
In/Out fiber type	Single-mode 9/125 um
Remote interfaces	GPIO; RS-232
Local control	Front panel
Output SOP control	Not controlled
Optical architecture	Polarization split; delay path + matching attenuator; recombine
Product marking	CE
Form	Benchtop programmable optical instrument

Notes

Specs from JDSU PE3 product literature and PE3+1FA OEM tables (including AssetRelay PE3+1FA specification row). Confirm faceplate PE3 vs PE3+1FA connector adapters and exact DGD travel/zero-offset calibration on the unit. Do not confuse with HD-series optical delay instruments.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.