

VOA Array Rack System

(net-ready, high speed, SM/MM, broadband, latching)
 (US patent 8,666,218 and other patents pending)

Product Description

The VOA Array Rack System is highly versatile that is cable of meeting performance requirements for all application scenarios. The system intergrades power minoring taps to provide high precision attenuation and output laser power control. Many types of VOAs can be selected. MEMS VOAs offering low cost. Electro-optical NanoSpeed™ VOAs offer 300ns fast response and high-speed laser power stabilization function that eliminates fluctuations and surge. Fiber-Fiber™ Mini-motor VOAs offers ultra-broadband covering from 200 to 2500nm with all types of fibers, ultra-low insertion loss, and latching function that preserves the output level when electrical power is removed.

The system is a modular plug-in design that accommodates any number of channels in a single system with various corresponding rack heights. Each plug-in contains up to 8 channels using compact LC connectors and a 1U system can be configured to have 24 channels. The same system can further integrate amplifiers. The standard control interfaces is ethernet, other control methods may be available per request. A standard Web based GUI is included.



Features

- Very Low Loss
- Highly Repeatable
- Latching
- High Resolution
- Large Attenuation

Performance Specifications

| VOAS | Min | Typical | Max | Unit |
|--|-----|---------|---------------------|------|
| Operation Wavelength | 300 | | 2500 | nm |
| Insertion Loss | | 0.3 | 0.5 ^[1] | dB |
| | | 1 | 1.5 ^[2] | dB |
| Polarization Dependent Loss | | 0.15 | 0.5 | dB |
| Wavelength Dependence Loss | | 0.1 | 0.2 | dB |
| Attenuation Range | 35 | 60 | 78 ^[3] | dB |
| Attenuation Setting Repeatability | | | 0.05 | dB |
| Extinction Ratio (PM version only) | 18 | 23 | 25 | dB |
| Polarization Mode Dispersion (SM version only) | | 0.01 | 0.05 | ps |
| Return Loss | 45 | | | dB |
| Response Time | | | 100 | ms |
| Optical Power handling | | 500 | 1000 ^[4] | mW |
| Operating Temperature | -20 | | 75 | °C |
| Storage Temperature | -40 | | 85 | °C |
| Electrical Power Input | 100 | | 230 | VAC |

Notes:

- [1] Only with Precision MEMS VOA with build-in position sensor
- [2] Other VOAs with tap monitor
- [3] 60dB and 78dB only available with MEMS and Precision MEMS VOAs
- [4] 1W only available with Precision Piezo VOAs

Applications

- Power Control
- Power Regulation
- Channel Balance
- Instrumentation



GUI Software

- ❑ The system contains tap monitor on each channel output providing attenuation and power control function.

192.168.0.126 voa

NMU Management Card Monitor

8 Channel VOA Module Monitor

Business information | Topology information | Basic information

Auto Mode | Manual Mode | Alarm Threshold

State

| VOA | Power | | | | Configuration | | | | Attenuation | | | | Configuration | | Threshold | |
|------|--------|-----------|------|-----|---------------|-----------|------|-----|-------------|-----------|------|-----|---------------|-----|-----------|--|
| | Actual | Configure | Unit | set | Actual | Configure | Unit | set | Actual | Configure | Unit | set | Actual | set | | |
| VOA1 | -45.99 | 20.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA2 | -45.07 | 15.10 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA3 | -43.88 | -3.00 | dBm | set | 17.3 | 17.3 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA4 | -42.65 | 7.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA5 | -43.71 | -50.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA6 | -45.39 | -50.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA7 | -45.99 | 3.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |
| VOA8 | -40.21 | 5.00 | dBm | set | 0.0 | 0.0 | dB | set | 0.0 | 0.0 | dB | set | -20.00 | set | | |

Actual Output Power Configure Output Power Actual Attenuation Configure Attenuation

Mechanical Footprint Dimensions (Unit:mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

- The system includes a rack-mount box of either 1U or 2U with multiple plug-in modules
- Pluggable module order information below, each module accommodate up to 8 channels

| VOAS- | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|-------|--|--|--|---|--------------------------|--|--|
| | Channel | Speed | Off State | Test Wavelength | Fiber type | Attenuation | Connector |
| | 1 = 01 2 = 02 3 = 03 4 = 04 5 = 05 6 = 06 7 = 07 8 = 08 MN =MN | MEMS 10ms =1 MEMS 2ms =3 NS 100ns =2 | Transparent =1 Opaque = 2 Special =0 | 1260-1620= C 488 = 4 532 = 5 630 = 6 780 = 7 850 = 8 980 = 9 1060 = 1 1310 = 3 2000 = 2 Special = 0 | Pick from below table | 60 dB=2 65 dB =3 70 dB =4 80 dB =5 35dB =1 | None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Duplex LC=8 MTP = 9 Special=0 |

| | | | | | |
|----|------------|----|--------|----|-------------------------|
| 01 | SMF-28 | 34 | PM1550 | 67 | OM1 (MMF 62.5/125um) |
| 02 | SMF-28e | 35 | PM1950 | 68 | OM2 (MMF 50/125um) |
| 03 | Corning XB | 36 | PM1310 | 69 | OM3 (MMF 50/125um) |
| 04 | SM450 | 37 | PM400 | 70 | OM4 (MMF 50/125um) |
| 05 | SM2000 | 38 | PM480 | 71 | GIF50 (GIF 50/125um) |
| 06 | SM600 | 39 | PM630 | 72 | GIF625 (GIF 62.5/125um) |
| 07 | Hi780 | 40 | PM850 | 73 | 106/125um |
| 08 | SM800 | 41 | PM980 | 74 | FG105LCA |
| 09 | Hi980 | 42 | | 75 | FG50LGA |
| 10 | Hi1060 | 43 | | 76 | |
| 11 | Draka BBE | 44 | | 77 | |
| 12 | | 45 | | 78 | |