

# Product Catalog

## Fiberoptic Instrumentation





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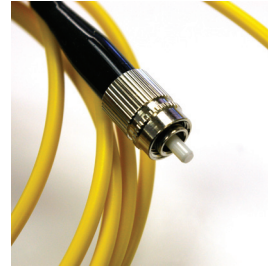
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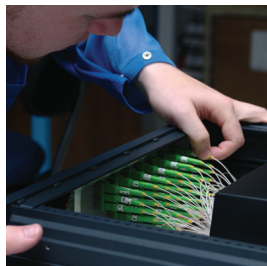
## WELCOME TO JGR!

Established in 2002, JGR has steadily grown to meet the test and measurement demands of the communications market. We have built solid relationships with our customers and are the trusted suppliers of equipment and calibration services to key industry players worldwide. We have a reputation for knowledgeable and reliable service.

Since the introduction of our innovative and industry-leading BR5 backreflection meter, we have expanded our portfolio to include competitive switching technology as well as the MS12001 cable assembly test system.

In addition to development and production within our facilities in Ottawa, Ontario, we operate an ISO17025:2005 Accredited Laboratory for repair and NIST-traceable calibration services.

We have built our success on listening to our customers, understanding their requirements and acting quickly to bring to market the products and services that fit their needs. Contact us to discuss your testing requirements today!



# Tunable Lasers

## TLS Tunable Laser Source



### PRODUCT DESCRIPTION

JGR's TLS delivers ultra-wide continuous wavelength range of 1260nm to 1630nm at 0.1nm resolution, covering complete CWDM spectral range. It features a very high Side Mode Suppression Ratio (SMSR) of over 60dB, low coherence length, high resolution and repeatability, which makes this source perfect for characterization of CWDM, PON and other optical components as well as for general lab use.

The TLS also features large line width of about 75pm which results in low coherence length and therefore negligible interference effects. The tuning speed of our TLS is over 100nm/second and the output power is typically between -5 and + 5dBm. It is available with PM or SM output options.

### KEY FEATURES

- Ultra wide 1260nm to 1630nm continuous wavelength range
- Resolution of 0.1nm
- Side Mode Suppression Ratio 60dB at 0.1nm resolution bandwidth
- Tuning speed of over 100nm / second

### APPLICATIONS

- CWDM and PON component testing
- General lab use
- Test and measurement

### COMPLIANCE

- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

- TLS Tunable Laser Source
- Hybrid jumper
- AC power cord



## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS	
Parameter	Specification
Wavelength Range, min (nm)	1260 - 1630
Output Power (dBm)	-5 to +5 typ, -10 min
Resolution (nm)	0.1nm
Repeatability (dB)	0.1nm
Accuracy (nm)	± 0.2
Tuning Speed (nm/s)	> 100
SMSR	60dB min, 63dB typ at 0.1nm BW
Linewidth (pm)	60 - 90
Wavelength Stability (nm)	0.1 <sup>1</sup>
Power Stability (dB)	0.25 <sup>1</sup> , 5 minutes
PER, PM output (dB)	18
Output Type	SMF28-e or Panda PM Fiber

<sup>1</sup>At 25°C.

### CONTACT US

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[www.jgroptics.com](http://www.jgroptics.com)

# USB Mainframe

## UM08 USB Mainframe



### PRODUCT DESCRIPTION

The UM08 is a compact benchtop/rack mount mainframe that is compatible to work with any external computer. The UM08 communicates with USB to either Windows 7/8 or Windows XP.

The UM08 allows for testing a variety of applications making use of power meters, laser sources, switches and attenuators.

### KEY FEATURES

- 8 slot mainframe
- Controlled by an external computer
- Compact
- Benchtop/Rackmount
- Windows 7/8 & Windows XP compatible
- \* See minimum requirements

### APPLICATIONS

- Component testing
- WDM testing
- Ribbon fiber testing
- Simultaneous testing with multiple connector types
- Incoming inspection
- QA testing
- Single & Multi Fiber Testing

### IN THE BOX

- UM08
- Power Cord

# UM05 Optical Attenuator

## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS					
Parameter	Specification				
	Single-mode		Multimode	High Power	Flexcore
	Long 1200-1700nm	Short 1200-1700nm	750-1700nm	1200-1700nm	980-1100nm
<b>Attenuation Range (dB)</b>	100	60	60	60	90
<b>Insertion Loss (dB)<sup>1</sup></b> HI1060 (5 / 125µm) <sup>2</sup> SM (9 / 125µm) <sup>3</sup> MM (50 or 62.5 / 125µm) <sup>5</sup>	1.5	1.2	2.0	2.0 <sup>4</sup>	2.0
<b>Return Loss (dB)</b> HI1060 (5 / 125µm) SM (9 / 125µm) MM (50 or 62.5 / 125µm) <sup>6</sup>	60		35	55	55
<b>PDL (dB)</b>	< 0.1				
<b>Repeatability (dB)</b>	± 0.01				
<b>Resolution (dB)</b>	0.01				
<b>Absolute Accuracy (dB)<sup>7</sup></b>	± 0.1				
<b>Max. Optical Input Power (dBm)</b>	23 (200mW)		23 (200mW)	30 (1W)	23 (200mW)
<b>Beam Block (dB)</b>	> 100				
<b>Input Voltage</b>	110 - 220 V AC, 50 - 60 Hz				
<b>Interface</b>	Front Panel / GPIB / RS232 / USB <sup>8</sup>				

<sup>1</sup> Excluding connectors and couplers.

<sup>2</sup> At 980nm and 1060nm.

<sup>3</sup> At 1550nm. 0.3 dB higher at 1310nm.

<sup>4</sup> At 1550nm 1.0dB higher at 1310nm.

<sup>5</sup> At 850nm. 0.3dB lower at 1310nm.

<sup>6</sup> At 800-1350nm.

<sup>7</sup> At calibration wavelength.

<sup>8</sup> USB interface via-USB-DB9 adapter.

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# UM07 Optical Switch



## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS				
Parameter	Specification			
	1x2, 2x2		1x4, 1x12, 1x24, 1x32, 1x48, 1x72	
	Single-mode	Multimode	Single-mode	Multimode
Wavelength Range (nm)	1280 - 1660	850 / 1310	1250 - 1670	840 - 1350
Insertion Loss (dB) <sup>1</sup>	0.7			
Return Loss (dB) <sup>1</sup>	> 50	> 35	> 60	> 40
PDL (dB)	≤ 0.05	N/A	≤ 0.05	N/A
Repeatability (random switching) (dB)	± 0.01		± 0.03	
Repeatability (sequential) (dB)	± 0.01		± 0.005	
Crosstalk (maximum) (dB)	- 80			
Maximum Input Power (mW)	300			
Switching Time (ms)	10		300	
Switch Life	10 <sup>8</sup> cycles			

<sup>1</sup> Excluding connectors.

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# UM10 Optical Source



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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Fiber Type (μm)	(9/125)	(50/125 or 62.5/125)
Operating Wavelengths (nm)	1310 / 1490 / 1550 / 1625 / 1650	850 / 1310
Output Power (dBm)	-1	
Stability (Short Term) (dB)	± 0.005	
(Long Term) (dB)	± 0.05	
Interface	Front Panel	
Power	9.0 V DC	

# UM11 Power Meter



## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Detector Type	2mm InGaAs / 5mm Ge / Cavity	
Insertion Loss Uncertainty (dB)	$\pm 0.03^1$	$\pm 0.07^1$
Insertion Loss Stability (dB) <sup>2</sup>	$\pm 0.004$	$\pm 0.015$

<sup>1</sup> For simplex measurements using FC detector adapter. Uncertainty for MTP to MTP, MT-RJ to MT-RJ, MTP to fanout is  $\pm 0.06$ dB (reported with a level of confidence of 95%). This does not include uncertainties due to connector, connector adapter or switch PDL.

<sup>2</sup> For a stable connection over a period of 15 minutes.

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# Optical Attenuators

## OA5 Programmable Optical Attenuators



### KEY FEATURES

- Precise optical power
- $\pm 0.1$  dB Accuracy
- $\pm 0.01$  dB Repeatability
- 100 dB Dynamic range
- Optional new Flexcore (5/125  $\mu\text{m}$ ) Fiber testing

### APPLICATIONS

- Manufacturing production testing
- BER testing
- Channel equalization

### COMPLIANCE

- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

- OA5 Attenuator
- AC power cord

### PRODUCT DESCRIPTION

JGR's programmable OA5 Optical Attenuators enable precise optical power control and feature high accuracy and superior repeatability.

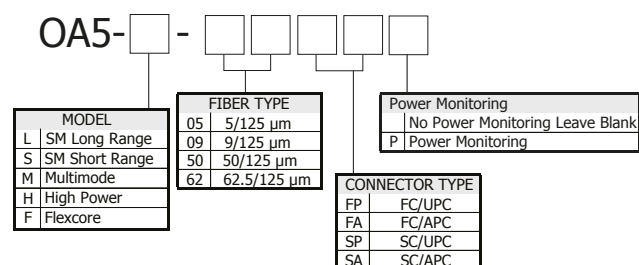
They are ideal for lab and production applications including power level adjustment in automated test systems, BER testing of transmitters and receivers, and channel equalization in WDM systems.

The OA5 model is a benchtop instrument offering dynamic range of at least 50 dB (depending on the model configuration). The OA5 remote interface can be controlled via GPIB, RS232, or USB\* or locally via the user-friendly front panel keypad and display, simplifying the selection and confirmation of attenuation levels.

A variety of configuration options offer additional flexibility. The OA5 series attenuators may be calibrated to particular wavelengths and offer either front panel bulkheads or pigtailed of various lengths.

\*USB interface via-USB-DB9 adapter

### ORDERING SCHEME



## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS					
Parameter	Specification				
	Single-mode		Multimode	High Power	Flexcore
	Long 1200-1700nm	Short 1200-1700nm	750-1700nm	1200-1700nm	980-1100nm
<b>Attenuation Range (dB)</b>	100	60	60	60	90
<b>Insertion Loss (dB)<sup>1</sup></b> HI1060 (5 / 125 $\mu$ m) <sup>2</sup> SM (9 / 125 $\mu$ m) <sup>3</sup> MM (50 or 62.5 / 125 $\mu$ m) <sup>5</sup>	1.5	1.2	2.0	2.0 <sup>4</sup>	2.0
<b>Return Loss (dB)</b> HI1060 (5 / 125 $\mu$ m) SM (9 / 125 $\mu$ m) MM (50 or 62.5 / 125 $\mu$ m) <sup>6</sup>	60		35	55	55
<b>PDL (dB)</b>	< 0.1				
<b>Repeatability (dB)</b>	$\pm 0.01$				
<b>Resolution (dB)</b>	0.01				
<b>Absolute Accuracy (dB)<sup>7</sup></b>	$\pm 0.1$				
<b>Max. Optical Input Power (dBm)</b>	23 (200mW)		23 (200mW)	30 (1W)	23 (200mW)
<b>Beam Block (dB)</b>	> 100				
<b>Input Voltage</b>	110 - 220 V AC, 50 - 60 Hz				
<b>Interface</b>	Front Panel / GPIB / RS232 / USB <sup>8</sup>				

<sup>1</sup> Excluding connectors and couplers.

<sup>2</sup> At 980nm and 1060nm.

<sup>3</sup> At 1550nm. 0.3 dB higher at 1310nm.

<sup>4</sup> At 1550nm 1.0dB higher at 1310nm.

<sup>5</sup> At 850nm. 0.3dB lower at 1310nm.

<sup>6</sup> At 800-1350nm.

<sup>7</sup> At calibration wavelength.

<sup>8</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
<b>Unit Dimensions W x H x D (cm)</b>	26 x 11 x 26
<b>Shipping Box Dimensions W x H x D (cm)</b>	37 x 25 x 38
<b>Unit Weight (kg)</b>	3
<b>Total Shipment Weight (kg)</b>	4
<b>Operating Temperature (°C)</b>	0 to 40
<b>Storage Temperature (°C)</b>	- 40 to 70
<b>Humidity (Non-condensing) (°C)</b>	Maximum 95% RH from 0 to 40

## HOW TO ORDER

Please contact JGR for more information.

## CONTACT US

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# Optical Switches

## SX4 Benchtop Optical Switch

### KEY FEATURES

- 1A, 2B, 2C configurations
- Low IL at 0.7 dB
- Single-mode or multimode

### APPLICATIONS

- Manufacturing production testing
- Multiple device testing
- R&D applications
- System compliance testing

### COMPLIANCE

- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

- SX4 Switch
- AC power cord
- Test Report



### PRODUCT DESCRIPTION

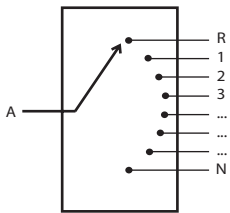
JGR's SX4 fiberoptic switches are benchtop instruments ideal for manufacturing production testing. A variety of configurations including 1x2 up to 1x24 are available. The SX4 offers low insertion loss and excellent repeatability, with the advantage of ease of use and portability.

The switch is controlled via remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display. For additional flexibility, the front panel bulkheads may be fitted with typical FC/UPC, FC/APC, SC/UPC, or SC/APC connector types.

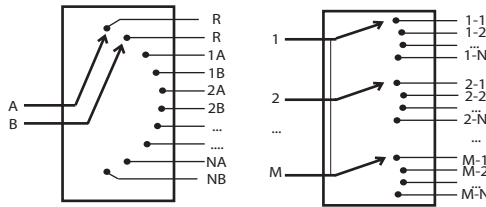
\*USB interface via-USB-DB9 adapter

## CONFIGURATION OPTIONS

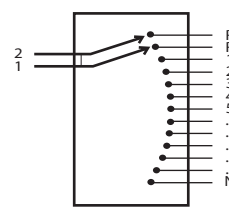
**A-Configuration: 1xN**



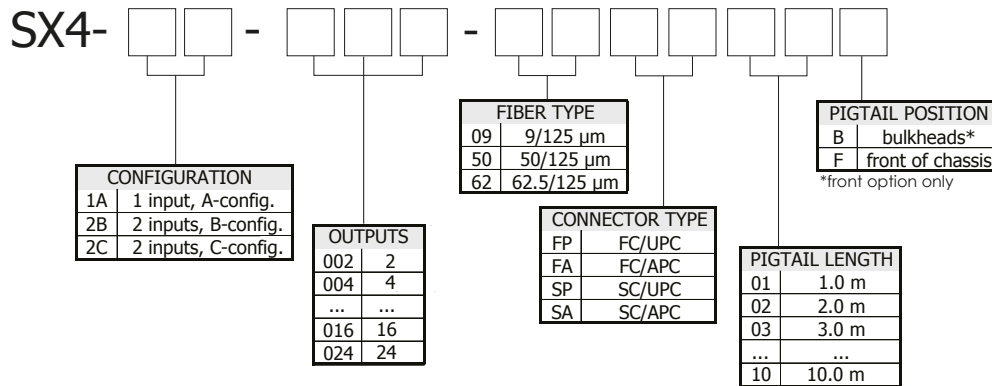
**B-Configuration: Ganged  
1xN (MxN) Configurations**



**C-Configuration  
MxN Non-blocking**



## ORDERING SCHEME



## HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Wavelength Range (nm)	1250 - 1670	840 - 1350
Insertion Loss (dB) <sup>1</sup>	0.7	
Backreflection (dB) <sup>1</sup>	≤ - 60	≤ - 40
PDL (dB)	0.05	N/A
Repeatability (random switching) (dB)	± 0.03	
Repeatability (sequential) (dB)	± 0.005	
Crosstalk (maximum) (dB)	- 80	
Maximum Input Power (mW)	300	
Switching Time (ms)	300	
Input Voltage	100 - 240 V AC, 50 - 60 Hz	
Power Consumption (VA)	60 maximum	
Control	Front Panel / GPIB / RS232 / USB <sup>2</sup>	
Switch Life	10 <sup>8</sup> cycles	

<sup>1</sup> Excluding connectors.

<sup>2</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Unit Dimensions W x H x D (cm)	25 x 12 x 27	
Shipping Box Dimensions W x H x D (cm)	37 x 25 x 38	
Unit Weight (kg)	3	
Total Shipment Weight (kg)	4	
Operating Temperature (°C)	0 to 55	
Storage Temperature (°C)	- 40 to 70	
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40	



## SX8 Rackmount Optical Switch



### PRODUCT DESCRIPTION

JGR's SX8 fiberoptic switches are customizable benchtop/rackmount instruments ideal for high-volume manufacturing production testing. Available in single-mode or multimode, the switch configurations range from 1x2 up to 1x360. Optional 2x1 or 4x1 built-in switches can provide additional common inputs. The switch may be controlled through remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display.

A variety of configuration options offers additional flexibility. The front panel bulkheads may be fit with typical FC/UPC, FC/APC, SC/UPC, or SC/APC connector types and several pigtail length options are available. Switches with up to 48 bulkhead channels for FC (64 channels for LC and SC) are available in a 3U chassis or 100 pigtail. Larger count switches move to a 6U chassis.

\*USB interface via-USB-DB9 adapter

### KEY FEATURES

- Low IL at 0.7 dB
- Up to 360 outputs
- Many configuration possibilities
- User Friendly

### APPLICATIONS

- High-volume production testing
- Multiple device testing
- R&D applications
- System compliance testing

### COMPLIANCE

- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

- SX8 Switch
- AC power cord
- Test Report

### HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

### CONTACT US

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Canada

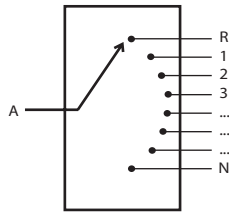
**Tel:** 613-599-1000

**Fax:** 613-599-1099

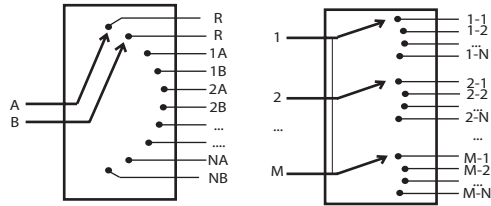
**Email:** info@jgroptics.com

## CONFIGURATION

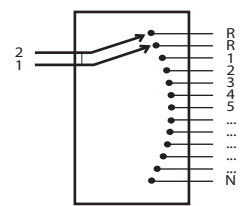
**A-Configuration: 1xN**



**B-Configuration: Ganged 1xN (MxN) Configurations**



**C-Configuration MxN Non-blocking**



## ORDERING SCHEME

**SX8-** [ ] [ ] - [ ] [ ] [ ] - [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

CONFIGURATION	
1A	1 input, A-config.
2A	2 inputs, A-config.
2B	2 inputs, B-config.
2C	2 inputs, C-config.

OUTPUTS	
002	2
004	4
008	8
016	16
032	32
...	...
360	360

FIBER TYPE	
09	9/125 μm
50	50/125 μm
62	62.5/125 μm

CONNECTOR TYPE	
FP	FC/UPC
FA	FC/APC
SP	SC/UPC
SA	SC/APC

PIGTAIL POSITION	
B	bulkheads*
F	front of chassis
R	rear of chassis

\*front option only

PIGTAIL LENGTH	
01	1.0 m
02	2.0 m
03	3.0 m
...	...
10	10.0 m

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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Wavelength Range (nm)	1250 - 1670	840 - 1350
Insertion Loss (dB) <sup>1</sup>	0.7	
Backreflection (dB) <sup>1</sup>	≤ - 60	≤ - 40
PDL (dB)	0.05	N/A
Repeatability (random switching) (dB)	± 0.03	
Repeatability (sequential) (dB)	± 0.005	
Crosstalk (maximum) (dB)	- 80	
Maximum Input Power (mW)	300	
Switching Time (ms)	300	
Input Voltage	100 - 240 V AC, 50 - 60 Hz	
Power Consumption (VA)	150 maximum	
Control	Front Panel / GPIB / RS232 / USB <sup>2</sup>	
Switch Life	10 <sup>8</sup> cycles	

<sup>1</sup> Excluding connectors.

<sup>2</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
3U Unit Dimensions W x H x D (cm)	48 x 13.5 x 37.5	
6U Unit Dimensions W x H x D (cm)	48 x 27 x 37.5	
3U Shipping Box Dimensions W x H x D (cm)	53 x 32 x 57	
6U Shipping Box Dimensions W x H x D (cm)	53 x 55 x 55	
Unit Weight (kg)	14 (depending on configuration)	
Total Shipment Weight (kg)	15 (depending on configuration)	
Operating Temperature (°C)	0 to 55	
Storage Temperature (°C)	- 40 to 70	
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40	

# Cable Assembly Test System

## MS12001 System

### KEY FEATURES

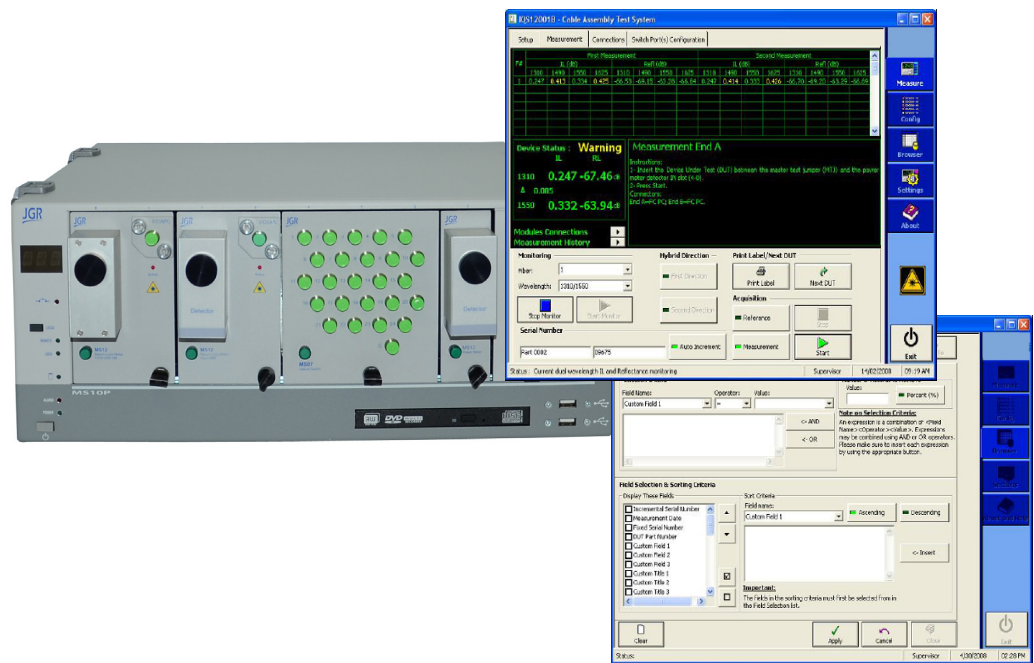
- MS10P is a powerful controller unit with 10 slots
- MS10E Expansion Chassis for up to 10 extra slots
- Remote control via Ethernet/GPIB card
- Turn-key software
- Local / Remote Database
- Mandrel Free IL/RL

### APPLICATIONS

- Component testing
- Ribbon fiber testing
- Simultaneous testing with multiple connector types
- Incoming inspection
- QA testing
- Single & Multi Fiber Testing

### IN THE BOX

- MS10P or MS10E
- Power Cord



MS12001 Software

### PRODUCT DESCRIPTION

The MS12001 system provides the most accurate mandrel-free insertion loss and return loss measurement in the industry for both cable assemblies and components. The MS12001 allows both single-mode and multimode insertion loss and return loss testing within a MS10P single station. A MS12-PM power meter module can be added for more efficient high through-put testing. Furthermore a MS7 1xN optical switch can be added for multi-fiber testing. The MS12001 user-friendly turnkey software manages all test sequences, databases and results.



## MS10P

10 slot Mainframe  
with CPU Dual Core  
Processor



## MS10E

10 slot Expansion  
Mainframe for  
MS05P & MS10P

The MS10P offers 10 module slots to meet higher density requirements. Each controller unit features a dual-core processor, Ethernet/RS232 and optional remote GPIB control. The MS10E is a 10-slot expansion unit which can be used to expand the MS10P Mainframe when additional slots are required.

The MS10P controller is built around an industrial-grade PC and run the well proven operation system Windows XP Embedded.

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### **MS12001 KEY FEATURES**

- High-sensitivity, mandrel-free return loss up to -80 dB
- Simultaneous testing at four wavelengths (1310, 1490, 1550 and 1625 nm)
- Compatible with simplex, duplex, multifiber, bundle, hybrid and fan-out cable assemblies
- Turnkey software and database for manufacturing applications
- Testing capabilities for PLC splitters and planar arrays

### **POWERFUL REMOTE CONTROL AND ACCESS**

Automation of the MS12001 software can be achieved using one of the two standard Ethernet ports or the optional GPIB interface card of the MS modular platforms. In addition, the second Ethernet port can be used to access or store test results in a central database or, to remotely access the platform using VNC or remote desktop.

The MS12 modules are fully compatible with the IQS-3250 and 3250B modules. The MS12001 software is an upgraded version of the IQS-12001B software.

### **COMPLETE INTEGRATION TO MAXIMIZE PERFORMANCE**

The MS12001 software has been designed to maximize efficiency in production while keeping its operation simple. The complete integration of the different system components provides the highest possible throughput for insertion loss (IL) and mandrel-free return loss (RL) testing.

## GRAPHICAL USER INTERFACE

- Step-by-step instructions with connection diagrams
- Controls available from the main screen
- Live monitoring of IL and RL measurements

## DATA POST-PROCESSING

- Integrated database with all necessary tools to manage results and build reports
- Customized label printing capability
- Database browser with filter builder

## AUTOMATION OF CUSTOMER SPECIFIC TESTS

The MS12001 system comes with a full set of SCPI commands allowing customers to develop their own testing applications. The SCPI commands have been implemented to allow users to bypass just the right level of integration from the MS12001 system to develop applications like environmental testing but still benefit from the extensive signal processing capabilities of the system.

## CALIBRATION VERIFICATION TOOL

No need to send the MS12 modules for calibration verification every year. Using EXFO's CKT-30 Singlemode Return loss module the user can easily verify if the system still meets calibration specifications. As long as the return loss measured remains within  $\leq 0.5$  dB to that of the CKT-30, there is no need to send the modules back for calibration therefore avoiding unnecessary downtime.

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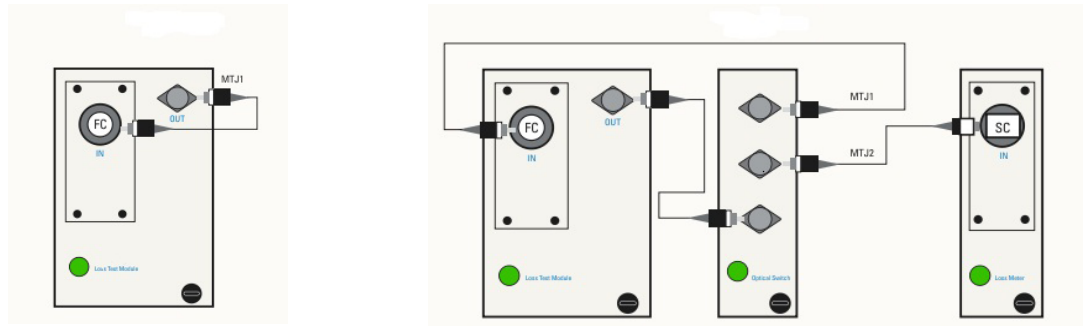
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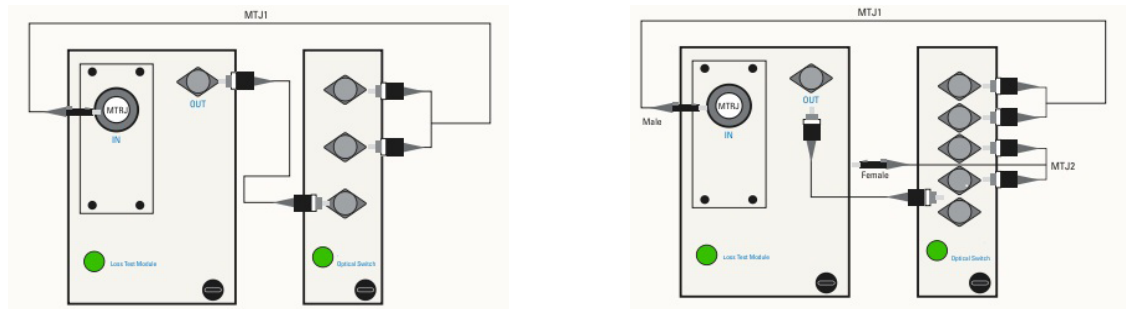
## MULTIPLE CONFIGURATIONS FOR MULTIPLE REQUIREMENTS

In its standard configuration, the MS12001 system includes only the hardware required to perform IL and return loss measurements at a minimal cost. By adding additional switch ports and loss meters, the MS12001 system can be configured for high-throughput applications in order to minimize handling and therefore reduce the testing time. When more than 72 channel switches are required, external switches (such as the JGR SX8 Switch) can be controlled using the GPIB interface. To save even more time, specific switch ports can be assigned to specific connector types eliminating the need to disconnect the launch fiber. For example, using a 1 x32 switch can allow you to dedicate channels 1 to 24 to MTP connectors (male and female), ports 25 to 28 to MT-RJ connectors (male and female), and still have room for FC, ST, SC and MU connectors.

### STANDARD CONFIGURATION



### HIGH-THROUGHPUT CONFIGURATION



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## ACCESSORIES

The MS12001 system also supports a full range of accessories to further improve the testing time. The user's generic label printer, generic bar code reader and footswitch (pn: VIP-912-FS1) can be added to the system and its use is fully integrated in the software. The footswitch can be purchased from <http://www.vetra.com/footsw2.htm>. Should the user require the new license for VSVIEW 8.0 RE - ESD label editing, it can be purchased from [www.componentone.com](http://www.componentone.com).

## ORDERING SCHEME

### MS10P

10-slot Mainframe & CPU Dual Core Processor

### MS10E

10-slot Expansion Mainframe

## HOW TO ORDER

Choose your model and then use the appropriate part number listed.

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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	MS10P Mainframe	MS10E Expansion
CPU	Dual Core Processor	N/A
Memory	2 Gbyte	N/A
Display	N/A	N/A
Interfaces	Dual Ethernet 6 USB Ports RS232 External Keyboard Mouse & Monitor Port	N/A
Storage	160 Gbyte hard drive DVD+RW	N/A
Operating System	Windows XP Embedded	N/A
Power	100 V to 240 V, 50 / 60 Hz	

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS		
Parameter	Specification	
	MS10P Mainframe	MS10E Expansion
Number of slots	10	
Unit Dimensions W x H x D (cm)	15.4 x 37.95 x 42.9	17.7 x 43.9 x 49.5
Shipping Box Dimensions W x H x D (cm)	61 x 36 x 71	
Unit Weight (kg)	16.5	13
Total Shipment Weight (kg)	31.5	28
Operating Temperature (°C)	0 to 40	
Storage Temperature (°C)	- 40 to 60	
Humidity (Non-condensing) (°C)	Maximum 80%, no condensing	

# MS05B Mainframe



## PRODUCT DESCRIPTION

The MS05B is a compact benchtop mainframe that is compatible to work with any external computer \*. The MS05B communicates with an included PCI card to either Windows 7 or Windows XP.

The MS05B allows both single-mode and multimode insertion loss and return loss testing within a MS05B single station. A MS12-PM power meter module can be added for more efficient high through-put testing. Furthermore a MS7 1xN optical switch can be added for multi-fiber testing.

## ORDERING SCHEME

### **MS05B**

5-slot Benchtop Mainframe

## KEY FEATURES

- 5 slot mainframe
  - Controlled by an external computer \*
  - Compact
  - Benchtop
  - Windows 7 & Windows XP compatible
- \* See minimum requirements

## APPLICATIONS

- Component testing
- Ribbon fiber testing
- Simultaneous testing with multiple connector types
- Incoming inspection
- QA testing
- Single & Multi Fiber Testing

## IN THE BOX

- MS05B
- PCI Card
- Power Cord



### HOW TO ORDER

Choose your model and then use the appropriate part number listed.

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### SPECIFICATIONS

* MINIMUM COMPUTER REQUIREMENTS	
Parameter	Specification
Operating System	32 bit Windows 7 and Windows XP
Case Size	Mid-Tower
Motherboard	1 available PCI slot
Hard Drive	At least 40GB free
Processor	2nd Generation Intel Core i3 or higher
Ram	4GB

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
Unit Dimensions W x H x D (cm)	36 x 15 x 34
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	7
Total Shipment Weight (kg)	8
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	- 40 to 70
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40

# MS12 Return Loss Meter



## PRODUCT DESCRIPTION

The MS12 modules combine advanced time-domain technology with a unique wide-aperture integrating cavity. An internal monitoring channel and a return loss reference are used to provide highly accurate insertion loss and return loss measurements even for APC connectors which are well known to be difficult to test.

The MS12 modules use an internal monitoring channel to ensure IL measurement accuracy and an internal return loss reference to improve multimode and single-mode return loss measurement performance.

The multimode MS12 Return Loss Meter meets IEC-61280-4-1 Encircled Flux Standard.

## COMPATIBLE WITH EXFO'S IQS-12001B

The MS12 modules are fully compatible with EXFO's IQS-3250, IQS-3250B and IQS-9403 modules. They meet the same specifications and will be recognized by both the MS12001 and the IQS-12001B systems.

## KEY FEATURES

- SM 1310, 1490, 1550 & 1625 nm
- MM 850, 1310 nm
- RL: SM 80dB
- RL: MM 50dB
- Integrating Cavity (9mm) Power Meter Detectord

## APPLICATIONS

- Component testing  
Connector and Patchcord testing
- Incoming inspection
- QA Testing

## COMPLIANCE

- MM meets IEC 61280-4-1 Encircled Flux Standard

## IN THE BOX

- Return Loss Meter
- Calibration Certificate
- Detector Cap
- FC Detector Adapter
- Hybrid Test Jumper
- SM comes with power level Adjustment Jumper

## HOW TO ORDER

Choose your model and then use the appropriate part number listed.

## CONTACT US

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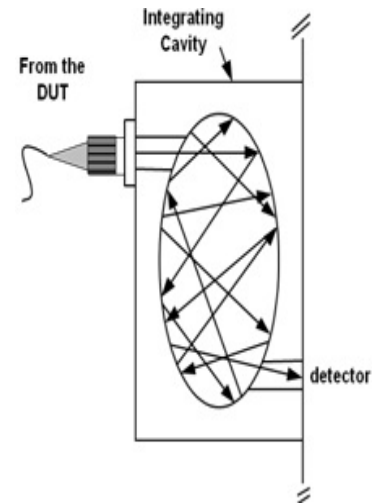
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## ACCURATE, REPEATABLE AND FLEXIBLE

The wide aperture of the unique integrating cavity used on the MS12 modules makes it usable both for simplex and multiplex connectors and make the connector alignment much less critical. The other big advantage of the integrating cavity used is the negligible polarization dependence. Therefore, accuracy and repeatability of the measurements are increased.

The integrating cavity is a standard feature of all modules used in the MS12001 system, the loss test modules and the loss meters.



Based on advanced time domain technology and the wide aperture integrating cavity detector, the MS12 IL/RL Loss Meter module will deliver accurate and repeatable insertion loss and return loss measurements. The internal monitoring channel ensures accurate insertion loss measurements by compensating for any source power variations. The insertion loss measurement has been developed in accordance with the TIA/EIA-455-34A Standard FOTP-34A, "Interconnection Device Insertion Loss Test".

## ORDERING SCHEME

### **MS12-3050-09FA**

2-slot Return Loss Meter, 1310nm/1550nm, SM, IL and RL, FC/APC

### **MS12-0406-09FA**

2-slot Return Loss Meter, 1490nm/1625nm, SM, IL and RL, FC/APC

### **MS12-8300-50FP**

2-slot Return Loss Meter, 850nm/1300nm, 50um fiber, MM, IL and RL, FC/UPC

### **MS12-8300-62FP**

2-slot Return Loss Meter, 850nm/1300nm, 62.5 um fiber, MM, IL and RL, FC/UPC

## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Fiber Type (µm)	9/125	50/125 or 62.5/125
Encircled Flux Standard	N/A	IEC-61280-4-1
Wavelength Range (nm)	1310 / 1550 or 1490 / 1625	850 / 1300
Insertion Loss Uncertainty (dB)	± 0.03 <sup>1</sup>	± 0.07 <sup>1</sup>
Insertion Loss Stability (dB) <sup>2</sup>	± 0.004	± 0.015
Return Loss (dB)	30 to 80	10 to 50
Return Loss Accuracy (dB)	± 1.0 (30 to 70) ± 1.7 (70 to 75) ± 2.2 (75 to 80)	± 1.2 (10 to 30) ± 1.5 (30 to 40) ± 1.6 (40 to 43) ± 2.9 (43 to 50)
Return Loss Repeatability (dB) <sup>3</sup>	± 0.1 (30 to 65) ± 0.2 (65 to 70) ± 0.4 (70 to 75) ± 1.5 (75 to 80)	± 0.2 (10 to 30) ± 0.4 (30 to 40) ± 0.6 (40 to 43) ± 1.8 (43 to 50)
Testing Time (s)	< 6	
Cable Assembly Length (m)	1.7 to 1500	
Detector Type	Integrating cavity	
Output Channels <sup>4</sup>	Up to 72	
Test Method	End to end / bidirectional	

<sup>1</sup> For simplex measurements using FC detector adapter. Uncertainty for MTP to MTP, MT-RJ to MT-RJ, MTP to fanout is ± 0.06 dB (reported with a level of confidence of 95%). This does not include uncertainties due to connector, connector adapter or switch PDL.

<sup>2</sup> For a stable connection over a period of 15 minutes.

<sup>3</sup> For a stable connection over 10 measurements.

<sup>4</sup> With MS7 Optical Switch.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
Number of slots	2
Unit Dimensions W x H x D (cm)	7.4 x 12.5 x 28.2
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	0.9
Total Shipment Weight (kg)	1.5 (depending on number of modules purchased)
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	- 40 to 60
Humidity (Non-condensing) (°C)	Maximum 80%, no condensing at 40

## KEY FEATURES

- Uses the same cavity as Return Loss Meters
- Replacement for EXFO's IQS-9403

## APPLICATIONS

- Simplex & Multifiber for high-throughput applications

## IN THE BOX

- Power Meter
- Detector Cap
- FC Detector Adapter

# MS12 Power Meter



## PRODUCT DESCRIPTION

The MS12-PM Power Meter features advanced time-domain technology with a unique wide-aperture cavity, also known as sphere technology. The MS12-PM is an economical solution providing excellent linearity, surface uniformity, wide area and repeatable connection loss, even with changing adapters. The MS12-PM is flexible modular power meter with fast response time and is compatible with angled and non-angled polishes. It also provides low polarization dependence.

## ORDERING SCHEME

**MS12-PM01**  
Power Meter



## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Detector Type	Integrating Cavity	
Insertion Loss Uncertainty (dB)	$\pm 0.03^1$	$\pm 0.07^1$
Insertion Loss Stability (dB) <sup>2</sup>	$\pm 0.004$	$\pm 0.015$

<sup>1</sup> For simplex measurements using FC detector adapter. Uncertainty for MTP to MTP, MT-RJ to MT-RJ, MTP to fanout is  $\pm 0.06$ dB (reported with a level of confidence of 95%). This does not include uncertainties due to connector, connector adapter or switch PDL.

<sup>2</sup> For a stable connection over a period of 15 minutes.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
Number of slots	1
Unit Dimensions W x H x D (cm)	3.6 x 12.5 x 28.2
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	0.8
Total Shipping Weight (kg)	1.4 (depending on number of modules purchased)
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	-40 to 60
Humidity (Non-condensing) (°C)	80% non-condensing at 40

## MS7 Optical Switch

### KEY FEATURES

- Configurations from 2x2, 1x2 up to 1x72
- SM & MM
- RL:SM >60dB; MM >40dB
- IL 0.7dB
- Available with fixed connectors
- FC/APC or FC/UPC

### APPLICATIONS

- 4-wavelength,
- Multifiber & high-throughput applications

### IN THE BOX

- MS7 Switch
- Test Report



### PRODUCT DESCRIPTION

The MS7 optical switches are available in a variety of configurations from 2x2, 1x2 to 1x72 for both singlemode and multimode fibers. They provide the flexibility required to configure the MS12001 system to support various applications like multi-wavelength testing, multifiber connector testing or high-throughput configurations.

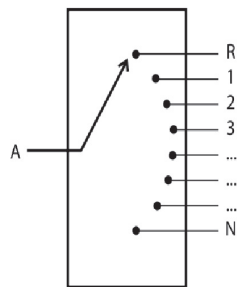
### EXCLUSIVE TO JGR

The MS7 modular optical switches provide high performance at reasonable cost and are exclusive to JGR for use in the MS12001 cable assembly and component test system.

### ORDERING SCHEME

**MS7-1A -**    -     **00B**

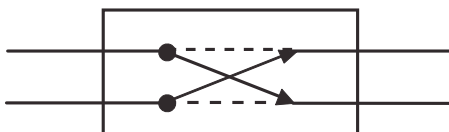
OUTPUT SWITCH		FIBER TYPE		CONNECTOR TYPE	
002	1x2	09	9/125µm	FP	FC/UPC
004	1x4	50	50/125µm	FA	FC/APC
012	1x12	62	62.5/125µm		
024	1x24				
032	1x32				
048	1x48				
072	1x72				



**MS7-2X -002 -**     **00B**

FIBER TYPE		CONNECTOR TYPE	
09	9/125µm	FP	FC/UPC
50	50/125µm	FA	FC/APC
62	62.5/125µm		

2 X 2 CROSS-OVER



### HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

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## SPECIFICATIONS

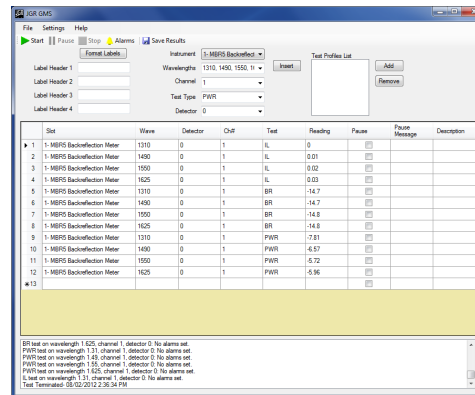
OPTICAL / ELECTRICAL SPECIFICATIONS				
Parameter	Specification			
	1x2, 2x2		1x4, 1x12, 1x24, 1x32, 1x48, 1x72	
	Single-mode	Multimode	Single-mode	Multimode
Wavelength Range (nm)	1280 - 1660	850 / 1310	1250 - 1670	840 - 1350
Insertion Loss (dB) <sup>1</sup>	0.7			
Return Loss (dB) <sup>1</sup>	> 50	> 35	> 60	> 40
PDL (dB)	≤ 0.05	N/A	≤ 0.05	N/A
Repeatability (random switching) (dB)	± 0.01		± 0.03	
Repeatability (sequential) (dB)	± 0.01		± 0.005	
Crosstalk (maximum) (dB)	- 80			
Maximum Input Power (mW)	300			
Switching Time (ms)	10		300	
Switch Life	10 <sup>8</sup> cycles			

<sup>1</sup> Excluding connectors.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS					
Parameter	Specification				
	1x2, 2x2	1x4, 1x12	1x24	1x32, 1x48	1x72
Number of slots	1	2	3	5	7
Unit Dimensions W x H x D (cm)	3.6 x 12.5 x 28.2	7.4 x 12.5 x 28.2	11.2 x 12.5 x 28.2	18.8 x 12.5 x 28.2	26.8 x 12.5 x 28.2
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47				
Unit Weight (kg)	0.5	0.7	0.9	1.4	2
Total Shipment Weight (kg)	From 1 (depending on number of modules purchased)				
Operating Temperature (°C)	0 to 40				
Storage Temperature (°C)	- 40 to 60				
Humidity (Non-condensing) (°C)	Maximum 80% RH at 40				

# Backreflection Meters

## BR5 Backreflection Meter



GMS Software

### PRODUCT DESCRIPTION

The BR5 Backreflection Meter is a user-friendly instrument developed with extremely stable optics for precise measurement of backreflection, insertion loss and power. The BR5 features up to four built-in laser sources at wavelengths of 850, 1310, 1490, 1550, 1625 or 1650 nm (depending on fiber type).

An intuitive display and keypad, with one-button access to BR and IL modes, simplifies the collection and management of measurement data. The meter may be controlled through remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display. It is available in single-mode and multimode, the BR5 is ideal for measurements of connectors, components, and systems.

The BR5 achieves ultra-stable backreflection measurements at very low values. Accuracy is typically  $\pm 0.4$  dB and measurement sensitivity is to  $-80$  dB. Insertion loss relative accuracy is  $\pm 0.05$  dB. All our BR5 meters come standard with our GMS Software.

The multimode BR5 meets IEC-61280-4-1 Encircled Flux Standard.

\*USB interface via-USB-DB9 adapter

### KEY FEATURES

- Stable BR measurements at low values
- Up to 4 internal lasers
- BR range to  $-80$  dB
- User Friendly

### APPLICATIONS

- Component testing  
Connector and patchcord testing
- Incoming inspection
- QA testing

### COMPLIANCE

- MM meets IEC 61280-4-1 Encircled Flux Standard
- UL/CSA 61010
- IEC 61010
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

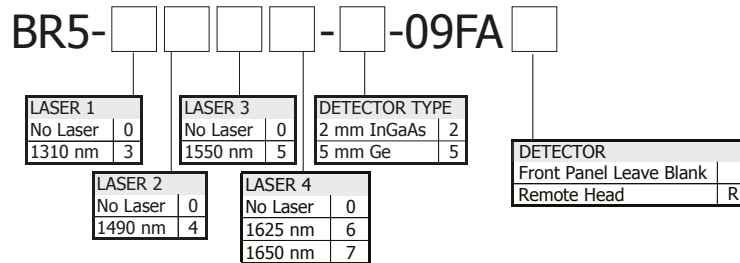
- BR5 Meter
- AC power cord
- Calibration Certificate
- Calibrated Jumper
- Hybrid Test Jumper
- Detector Cap
- FC Detector Adapter
- MW3 Mandrel Wrap

## HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

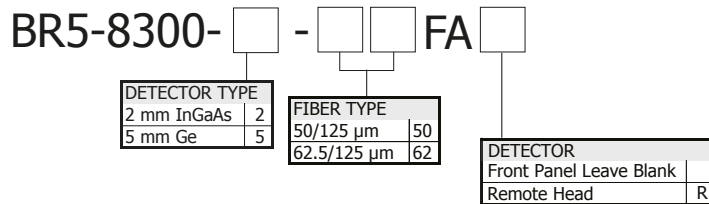
## ORDERING SCHEME

Single-Mode Version



- Up to four lasers may be selected the single-mode version

Multimode Version



- The standard multimode version contains two lasers at 850 and 1310nm Other wavelengths are available upon request

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**ADDITIONAL ACCESSORIES** See Page 32.



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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Fiber Type (µm)	(9/125)	(50/125 or 62.5/125)
Encircled Flux Standard	N/A	IEC-61280-4-1
Operating Wavelengths (nm)	1310 / 1490 / 1550 / 1625 / 1650	850 / 1310
Backreflection Range (dB)	0 to - 80	0 to - 60
Backreflection Accuracy (dB) <sup>1, 2</sup>	± 0.4	
Detector Type	2mm InGaAs / 5mm Ge	
Power Range (dBm)	0 to - 80 / 0 to - 60	
Absolute Power Accuracy (dB) <sup>3</sup>	± 0.25	
Relative Power Accuracy (dB)	± 0.05 (< 5 dB loss) ± 0.15 (> 5 dB loss)	
Remote Interface	GPIB / RS232 / USB <sup>4</sup>	
Input Voltage	100 - 240 V AC, 50 - 60 Hz	
Power Consumption (VA)	60 maximum	
Display	16 character LCD	

<sup>1</sup> Add 0.1 dB to the spec for every 1dB below -60dB (single-mode).

<sup>2</sup> Add 0.1dB to the spec for every 1dB below -45dB (multimode).

<sup>3</sup> Measured at -10 dBm.

<sup>4</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Unit Dimensions W x H x D (cm)	26 x 11 x 26	
Shipping Box Dimensions W x H x D (cm)	37 x 25 x 38	
Unit Weight (kg)	3	
Total Shipment Weight (kg)	4	
Operating Temperature (°C)	0 to 40	
Storage Temperature (°C)	- 40 to 70	
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40	

# MBR5 Multi-Output Backreflection Meter

## KEY FEATURES

- Stable BR measurements at low values
- Up to 72 output channels
- IL and BR measurements
- Up to 4 internal lasers

## APPLICATIONS

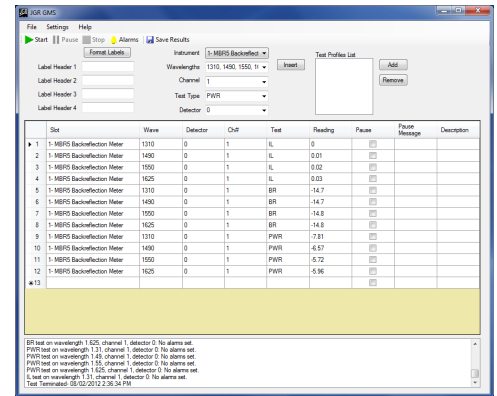
- Component testing
- Ribbon fiber testing
- Simultaneous testing with multiple connector types
- Incoming inspection
- QA testing

## COMPLIANCE

- MM meets IEC 61280-4-1 Encircled Flux Standard
- UL/CSA 61010
- IEC 61010
- IEC 60825-1 Class 1
- FCC Part 15 (Class A)
- EN 61326 (Class A)

## IN THE BOX

- MBR5 Meter
- AC power cord
- Calibration Certificate
- Calibrated Jumper
- Hybrid Test Jumper
- Detector Cap
- FC Detector Adapter
- MW3 Mandrel Wrap



GMS Software

## PRODUCT DESCRIPTION

The MBR5 Multi-Output Backreflection Meter is an instrument developed with extremely stable optics for precise measurement of backreflection, insertion loss and power. Available with 4, 12, 24, 48 or 72 (MM) output channels, the MBR5 is a practical choice for both single fiber and ribbon fiber testing.

The MBR5 features up to four built-in laser sources at wavelengths of 850, 1310, 1490, 1550 and 1625 nm (depending on fiber type), and can be configured for single-mode or multimode measurement.

An intuitive display and keypad simplifies the collection and management of measurement data allowing quick access to the test results from various channels. The meter may be controlled through remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display.

The MBR5 achieves ultra-stable backreflection measurements at very low values. Accuracy is typically  $\pm 0.4$  dB and measurement sensitivity is to  $-80$  dB. Insertion loss relative accuracy is  $\pm 0.05$  dB. In addition, the cavity option is particularly useful for ribbon connectors with large fiber counts. The MBR5 and GMS Software can be used with the SX8 switch. All our MBR5 meters come standard with our GMS Software.

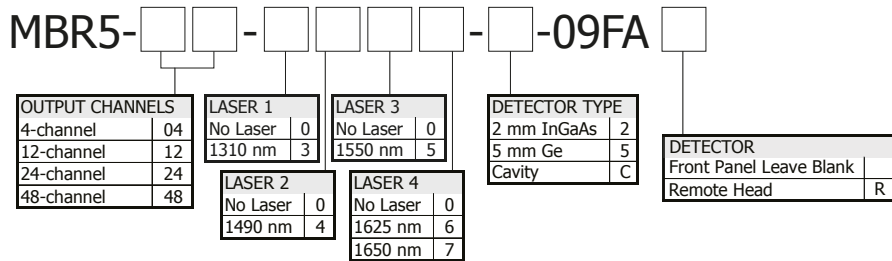
The multimode MBR5 meets IEC-61280-4-1 Encircled Flux Standard.

\*USB interface via-USB-DB9 adapter



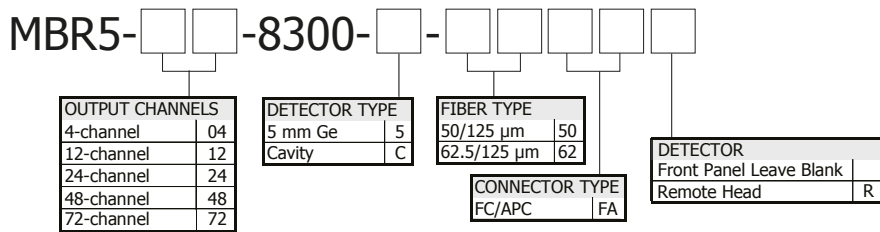
## ORDERING SCHEME

Single-Mode Version



- Up to four lasers may be selected for the single-mode version

Multimode Version



- The standard multimode version contains two lasers at 850 and 1310nm. Other wavelengths are available upon request.

**ADDITIONAL ACCESSORIES** See Page 32.



## HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

## CONTACT US

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K2M 1P6  
Canada

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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Fiber Type (μm)	(9/125)	(50/125 or 62.5/125)
Encircled Flux Standard	N/A	IEC-61280-4-1
Operating Wavelengths (nm)	1310 / 1490 / 1550 / 1625 / 1650	850 / 1310
Backreflection Range (dB)	0 to - 80	0 to - 60
Backreflection Accuracy (dB) <sup>1,2</sup>	± 0.4	
Detector Type	2 mm InGaAs / 5mm Ge / Cavity	
Power Range (dBm)	0 to - 80 / 0 to - 60 / 0 to -40	
Absolute Power Accuracy (dB) <sup>3</sup>	± 0.25	
Relative Power Accuracy (dB)	± 0.05 (< 5 dB loss) ± 0.15 (> 5 dB loss)	
Remote Interface	GPIB / RS232 / USB <sup>4</sup>	
Input Voltage	100 - 240 V AC, 50 - 60 Hz	
Power Consumption (VA)	80 maximum	
Display	4 lines, 16 character per line, LCD	

<sup>1</sup> Add 0.1 dB to the spec for every 1dB below -60dB (single-mode).

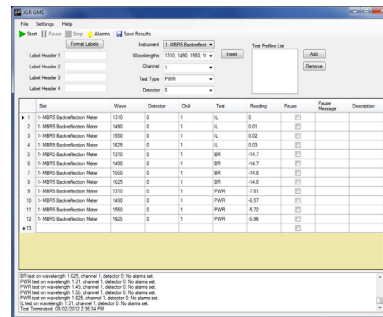
<sup>2</sup> Add 0.1dB to the spec for every 1dB below -45dB (multimode).

<sup>3</sup> Measured at -10 dBm.

<sup>4</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS		
Parameter	Specification	
	Single-mode	Multimode
Unit Dimensions W x H x D (cm)	36 x 15 x 34	
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47	
Unit Weight (kg)	7	
Total Shipment Weight (kg)	8	
Operating Temperature (°C)	0 to 40	
Storage Temperature (°C)	- 40 to 70	
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40	

# PDL5 PDL/ IL/ BR Multimeter



GMS Software

## PRODUCT DESCRIPTION

The PDL5 PDL/IL/BR Multimeter is built on top of stable and proven MBR5 meter technology and is taken to the next level. Improved source isolation, electronics and optics bring ultra-high stability and continuous laser power referencing to allow for repeatable and stable measurements of PDL, IL and average loss with up to 0.001 dB as well as backreflection with 0.1 dB resolution.

The PDL5 is a practical choice for many types of fiber optical component testing. It is available with up to 4 internal sources (1310/1490/1550/1625/1650 nm), 2 output channels, or up to 4 detectors and optical external input is also available.

An intuitive display and keypad simplifies the collection and management of measurement data allowing quick access to the test results from various channels. The meter may be controlled through remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display. The PDL5 and GMS Software can be used with the SX8 switch. All our PDL5 meters come standard with our GMS Software.

## KEY FEATURES

- Ultra Stable and Accurate PDL, IL ave. loss & BR measurements
- Up to 4 Internal Lasers
- Up to 2 Output Channels or 4 Detectors
- External Input available
- 4 or 6 state Mueller Matrix Methods
- Resolution down to 0.001 dB
- ~1 second PDL Measurements

## APPLICATIONS

- Optical Component Testing
- Incoming Inspection
- QA Testing

## COMPLIANCE

- UL/CSA 61010
- IEC 61010
- IEC 60825-1 Class 1
- FCC Part 15 (Class A)
- EN 61326 (Class A)

## IN THE BOX

- PDL5 Meter
- AC Power Cord
- Calibration Certificate
- Calibrated Jumper
- Hybrid Test Jumper
- Detector Cap
- FC Detector Cap
- MW3 Mandrel Wrap

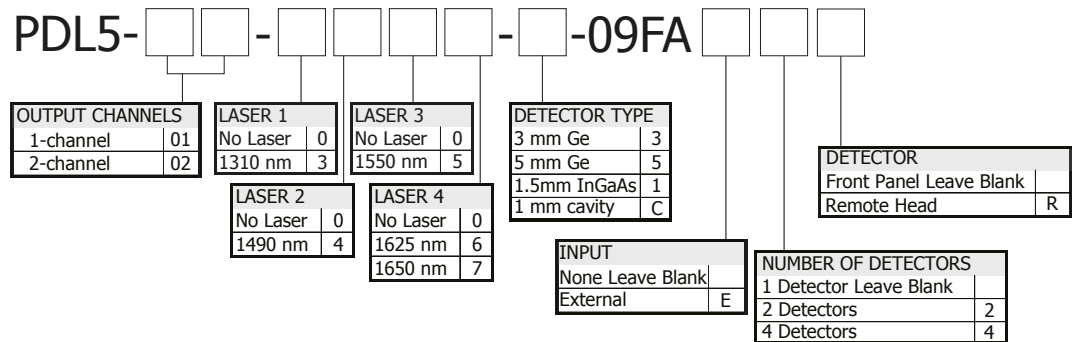
## HOW TO ORDER

Choose one characteristic from each column and assemble the part number.

The PDL5 meter achieves typical PDL accuracy down to  $\pm 0.004$  dB and average loss and IL accuracy down to  $\pm 0.020$  dB. The meter achieves ultra-stable backreflection measurements at very low values. Accuracy is typically  $\pm 0.4$  dB and measurement sensitivity is to -80 dB.

\*USB interface via-USB-DB9 adapter

## ORDERING SCHEME



\*Additional options may be available upon request

## CONTACT US

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## SPECIFICATIONS

OPTICAL / ELECTRICAL SPECIFICATIONS				
Parameter	Specification			
Fiber Type (μm)	SMF-28e (9/125)			
Operating Wavelengths (nm)	1310 / 1490 / 1550 / 1625 / 1650/ Ext <sup>1</sup>			
Detector Type	Low PDL Ge		Low PDL InGaAs	Cavity
	3 mm	5 mm	1.5 mm	1 mm
Power Range (dBm)	5 to -65	5 to -60	5 to -80	5 to -50
PDL Accuracy <sup>2</sup>	1310/1490/1550 nm			
	± (0.004 + 2% of PDL) typ ± (0.010 + 5% of PDL) max		± (0.020 + 2% of PDL) typ ± (0.025 + 5% of PDL) max	± (0.006 + 2% of PDL) typ ± (0.010 + 5% of PDL) max
	1625 nm		± (0.025 + 2% of PDL) typ ± (0.030 + 5% of PDL) max	± (0.006 + 2% of PDL) typ ± (0.010 + 5% of PDL) max
	1650 nm		N/A N/A	± (0.006 + 2% of PDL) typ ± (0.010 + 5% of PDL) max
PDL calculation method	4- or 6-state Mueller Matrix Method			
PDL Dynamic Range (dB)	> 3			
Absolute Power Accuracy (dB) <sup>3,4</sup>	± 0.25			
Relative Power Accuracy IL or IL <sub>ave</sub> (dB) <sup>5</sup>	±(0.020 + 2% of IL or IL <sub>ave</sub> ) typical			
IL, IL <sub>ave</sub> and PDL Resolution(dB)	0.01 or 0.001			
IL <sub>ave</sub> /PDL Measurement time (s), typ <sup>6</sup>	0.7 (4-states, 0.01 res.) / 1.2 (6-states, 0.001 res)			
Backreflection Range (dB)	0 to -80			
Backreflection Accuracy (dB) <sup>4</sup>	± 0.4 <sup>4,7</sup>			
Backreflection Resolution(dB)	0.1			
Remote Interface	GPIB / RS232 / USB <sup>8</sup>			
Input Voltage	100 - 240 V AC, 50 - 60 Hz			
Power Consumption (VA)	80 maximum			
Display	4 lines, 16 character per line, LCD			

<sup>1</sup> Low coherence length source (FP, SLED) with isolation is recommended to meet the specs.

<sup>2</sup> For PDL values below 0.5 dB, 6 states method, 0.001 dB resolution, non-angled connector. Higher PDL values may reduce the measurement accuracy.

<sup>3</sup> Measured at -10 dBm.

<sup>4</sup> At calibrated discrete wavelengths.

<sup>5</sup> Referenced and measured with a non-angled connector with the same detector adapter and detector.

<sup>6</sup> For low PDL (<0.5 dB) and IL (<15dB) values. Certain other conditions (eg. fiber movement) may also increase measurement times.

<sup>7</sup> Add 0.1 dB to the spec for every 1dB below -60dB.

<sup>8</sup> USB interface via-USB-DB9 adapter.

MECHANICAL / ENVIRONMENTAL SPECIFICATIONS	
Parameter	Specification
Unit Dimensions W x H x D (cm)	36 x 15 x 34
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	9
Total Shipment Weight (kg)	10
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	-40 to 70
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40

# Accessories

## STANDARD ACCESSORIES

In addition to the standard accessories provided with your meter, JGR offers additional accessories including a variety of detector adaptors and remote heads to enhance your testing capability.

## ADDITIONAL ACCESSORIES

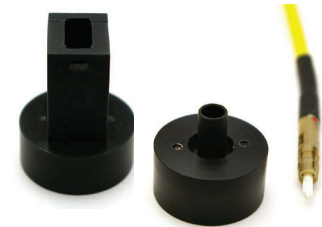
### DETECTOR ADAPTERS

JGR offers a comprehensive line of detector adapters for a variety of fiber types and applications. Manufactured with precision to ensure repeatable ferrule positioning and reliable performance, JGR Detector Adapters are indispensable test instrument accessories.



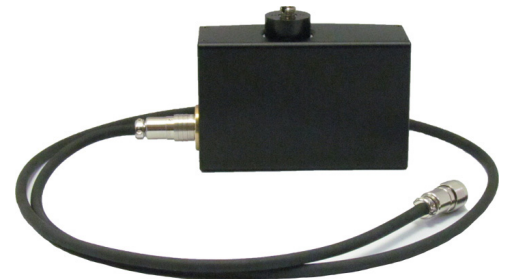
### CUSTOMIZED SOLUTIONS

In addition to our standard products, JGR offers detector adapters tailored to your particular requirements.



### REMOTE HEAD

The JGR 5mm and cavity remote heads offer flexibility in testing setup so that measurements may be taken at a distance from the measuring meter.



## DETECTOR ADAPTERS

For JGR Detector Barrels and new Cavity Detector.



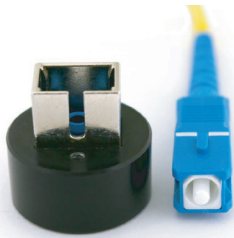
DA100  
Detector Cap



DA101  
FC Detector Adapter



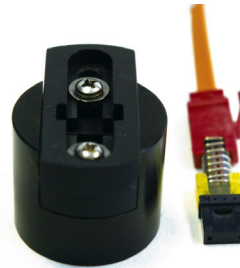
DA102  
ST Detector Adapter



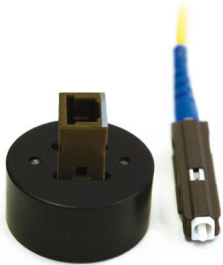
DA103  
SC Detector Adapter



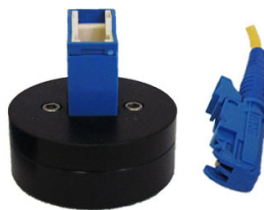
DA109  
SMA905 Detector Adapter



DA112  
MT Detector Adapter



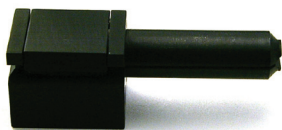
DA114  
MU Detector Adapter



DA115  
E2000 Detector Adapter



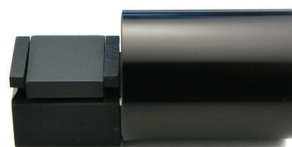
DA1418  
Universal 1.25 mm  
Detector Adapter(LC/MU)



DA113  
Multiple Fiber Holder  
(Bare Ribbon Fiber Adapter)



DA120  
Barrel Detector Adapter  
To be used with DA113



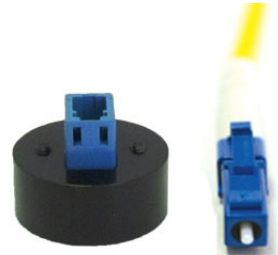
DA113 + DA120  
ASSEMBLY EXAMPLE



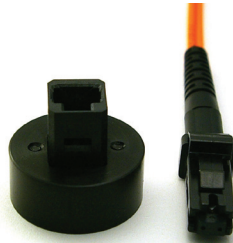
DA116  
Universal 2.5mm Detector Adapter (FC/SC/ST)



DA117  
MTP/MPO Detector Adapter



DA118  
LC Detector Adapter



DA119  
MT-RJ Detector Adapter



DA122  
MPX Detector Adapter



DA123  
Motherboard MT Detector Adapter



DA124  
Universal 2.0mm Detector Adapter



DA126  
Universal 1.6mm Detector Adapter



DA128  
Tri-LC Detector Adapter



DA134  
Duplex LC Detector Adapter



DA135  
Optitap Detector Adapter



DA140  
Barrel Detector Adapter  
To be used with DA141/DA143



DA141  
Fusion Splice Holder Furukawa S199



DA143  
Fusion splicer holder Sumitomo type-65M8



DA229  
Optitip Detector Adapter

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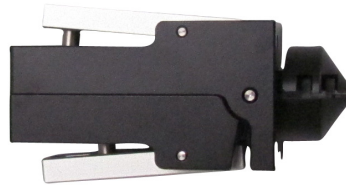
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DA320  
JGR Threads Barrel for BFA3000



BFA3000  
Universal Single Bare Fiber Adapter  
To be used with DA320

## MISCELLANEOUS



MS-TJ MS12 power level adjustment jumper: 100/140um, FC/APC-FC/UPC



NTT Index Matching Block



MW3 Mandrel Wrap



RK3 & RK4 Rackmount Bracket



USB to Serial (DB-9) Adapter



RS232 to Ethernet Converter

# Inspection

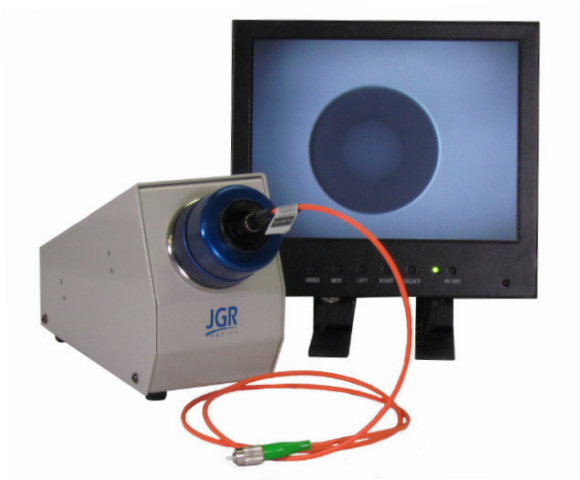
## CS400K Inspection Scope

### KEY FEATURES

- Clear display
- Interchangeable Adapters
- Economical
- 400x Zoom

### APPLICATIONS

- Factory Post-Polish
- Component Assembly
- QC Inspections of Fiber Connectors



### PRODUCT DESCRIPTION

The benchtop CS400K Inspection Scope utilizes coaxial illumination to provide users with a critical view of fine scratches ideal for post polish, component assembly and QC inspection of fiber connectors. The workstation includes a video microscope, video monitor and a 2.5mm universal adapter.

Available with FC/SC/LC/ST/MTP and custom adapters. USB adapter also available.

## FF15/FF25 Fault Locator



### PRODUCT DESCRIPTION

The JGR Fault Locator is designed for field personnel for optimal and efficient fiber tracing, fiber routing and continuity checking in an optical network. It is ergonomically designed, lightweight, small in size and features blink mode, which makes it an ideal tool to detect fiber faults. Tests single-mode and multimode fiber.

There are two models available, namely the FF15 1.25mm fixed and FF25 2.5mm fixed.

### KEY FEATURES

- Ergonomic Design
- Lightweight
- Pen size
- Blink mode
- Tests Single-mode and multimode fiber

### APPLICATIONS

- Fiber tracing, fiber routing and continuity checking in an optical network

# Repair and Calibration

## KEY FEATURES

- 17025:2005 Laboratory Accreditation
- N.I.S.T Traceable
- 3-day turn-around
- Knowledgeable repair

**At JGR we are committed to accurate and timely calibration and repair services traceable to NIST and according to the highest standards in the industry.**

## CALIBRATION

We are experienced in handling a wide range of fiberoptic test equipment requirements. We offer calibration services traceable to NIST, and conforming to the general requirements for the Laboratory Accreditation ISO17025. In addition our Calibration Laboratory is accredited specifically for calibration of fiberoptic test equipment.

## WHY CALIBRATE?

Calibration ensures that your measurement devices are operating within their specifications and that the measurements they perform are traceable to NIST Standards - an important requirement if you (or your customer) require precision and traceability.

## ISO 17025:2005 LABORATORY ACCREDITATION

JGR recognizes the importance of quality in all aspects of our business. We operate an ISO17025:2005 Accredited Laboratory to ensure quality standards for customer care and technical services. This accreditation is a testament to our commitment to quality and our demonstrated proficiency in calibration services. It ensures that we are continually evaluating and improving our services.

## NIST - TRACEABILITY

NIST-traceability means that your instrument's measurements are connected - through an unbroken chain - to National Institute of Standards and Technology measurements. JGR ensures this traceability by regularly calibrating our instruments at the NIST labs.



## Contact



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