700 Series

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771R-D3
3mm InGaAs Optical Power Meter

Features

- Single input channel
- 3mm indium-gallium-arsenide (InGaAs) photodetector
- 850nm, 980nm, 1310nm, 1480nm, 1550nm, and 1625nm N.I.S.T. traceable calibration wavelengths
- +3 to -80dBm measurement range
- Logarithmic dB/dBm and linear Watt (mW, µW, nW) units
- ±0.25dB absolute accuracy at calibration conditions*
- 0.001dB measurement resolution; 0.001mW/µW/nW resolution
- Optical power meters can be operated independently via the GPIB/IEEE-488 compliant RIFOCS 700R system controller
- Space efficient—up to 11 optical power meter modules and one system controller can be installed in a 19-inch rack
- Snap-On Connector (SOC) interface adapts to all industry standard fiber optic connectors and other less common types
- ***Finder*** button—quickly addresses selected

* N.I.S.T. traceable calibration wavelengths only.

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Key Specifications

Detector type	3mm InGaAs
Calibration wavelengths	850, 980, 1310, 1480, 1550, and 1625nm
Calibration traceability	U.S. N.I.S.T.
Power range	+3 to -80dBm
Absolute accuracy	±0.25dB
Resolution	0.001dB 0.001mW/µW/nW
Stability	< ±0.02dB from +3 to -65dBm < ±0.05dBm from -65 to -80dBm

Applications

Optical Power Measurements

The 771R-D3 optical power meter is based on a proven 3mm indium-gallium-arsenide (InGaAs) photodetector specially manufactured for RIFOCS Corp. Offering a measurement resolution of 0.001 for logarithmic dB and linear Watt (mW/µW/nW) units, the 771R-D3 optical power meter can capture the slightest attenuation changes, making it ideal for measurements on MT-RJ and other duplex connectors.

The 771R-D3 optical power meter can measure power levels between +3 and -80dBm, well within the dynamic range of typical fiber optic systems.

Manual operation of the 771R-D3 optical power meter, via the 700R controller module, is simple and intuitive. Measurement data, calibrated wavelengths, and other information is easily read on the large, backlit LCD display of the latter unit. Operators can quickly select calibrated wavelengths and measurement modes using the six ergonomically designed, multi-function buttons on the controller. A ***Finder*** button on each 770R Series optical power meter, and other 700 Series instruments, makes module selection easy and convenient.

A GPIB/IEEE-488 interface incorporated in the 700R controller module enables the 771R-D3 optical power meter to be operated from a remote terminal using basic commands. Operation of the 771R-D3 optical power meter can also be automated using ***fiber***WORKS™ application software by RIFOCS Corp., which simplifies complex and tedious measurement tasks.

Efficient design and engineering are the hallmarks that have made RIFOCS an industry leader in the field of fiber optic instrumentation. The compact design of the 771R-D3 optical power meter, and others in the series, permits up to 11 of the units to be installed in a standard 19-inch rack with a 700R controller module.

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771R-D3
3mm InGaAs Optical Power Meter

Ordering Information

One Snap-On Connector (SOC) adapter is included with the 771R-D3 optical power meter. Please specify the desired connector adapter type when ordering using the SOC Adapter Table, below. Additional SOC adapters may also be ordered separately.

Part No.	Description
771R-D3	Optical power meter module

SOC Adapter Table

Part No.	Description
13A2*	AMP MT-RJ duplex connector
13AF*	AMP MT-RJ ferrule
1001	Blank
1010	DIN 47256
1020	NTT/FC-PC
1030	AT&T/ST-PC
1038	MIL-T-29504 optical termini
1040	HMS-10 (2.5mm)
1047	Mini-BNC
1050	Diamond HMS-0 (3.5mm)
1057	Stratos 430/Holtek 38000
1062	NTT/SC-PC
1081	Radiall VFO
1086	Diamond HMS-10A (SMA-2.5)
1087	SMA-905/906
10E0	Radiall EC
10E2	Diamond E-2000
10TB	Simplex TOSLINK/Spectran J-pin
10TD	TR/TX set, duplex TOSLINK/Spectran J-pin
10TR	Duplex TOSLINK TX
10TX	Duplex TOSLINK TR
10ZP	H-P Versalink/Spectran V/Z-pin

* 13 Series SOC adapters can only be used on instruments incorporating a D3 (3mm detector) interface. A key inside the 13 Series SOC adapter will prevent it from being mounted on standard optical power meters, e.g., 771R, 773R, 555B, etc.

Specifications[1]

Subject to change without notice

Detector type	3mm indium-gallium-arsenide (InGaAs)
Primary calibration wavelengths	850nm, 980nm, 1310nm, 1480nm, 1550nm, 1625nm
Power range	+3 to -80dBm
Linearity[2, 3]:	
±0.5dB	-70dBm to -80dBm
±0.1dBm	-65dBm to -70dBm
±0.05dB	-3dBm to -65dBm
±0.5dB	+3dBm to -3dBm
Absolute accuracy[1, 3, 4]	±0.25dB at calibration conditions for all N.I.S.T. traceable wavelengths
Stability[2, 3]	< ±0.02dB from +3dBm to -65dBm < ±0.05dB from -65dBm to -80dBm
Resolution	0.001dB 0.001mW/µW/nW
Settling time, auto-range from dark to maximum power	0.5 seconds, +3dBm to -60dBm 0.75 seconds, < -60dBm
Readings per second (remote mode)	10 per second, typical
Measurement modes	Relative logarithmic dB, absolute logarithmic dBm, absolute linear Watt (mW, µW, nW)
Optical connector interface	Snap-On Connector (SOC) interface
Environmental:	
Operating temp.	0°C to +50°C
Storage temp.	-15°C to +70°C
Humidity	0 to 95% RH, non-condensing
Weight	400g (14 oz.)
Dimensions	12.9 x 3 x 26.2 cm (5 x 1.17 x 10.22 in), one slot in RIFOCS 700 Series rack

[1] Within specified ambient environment of +20°C to +25°C.
[2] At constant temperature (delta T = ±1°C).
[3] After zeroing optical power meter at measurement temperature.
[4] Power level -10dBm, continuous wave (CW), at calibration wavelength.

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