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Find the *Keysight / Agilent N3970A* at our website: *Click HERE*

Agilent N3970A Optical Power Meter / N3974A Dual Laser Source and N3977A Automated Optical Attenuator.

Technical Specifications



The Agilent Power Meter, Light Source and Attenuator are produced to the ISO 9001 international quality system standard and are CE compliant as part of Agilent's commitment to continually increasing customer satisfaction through improved quality control.

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N3970A Optical Power Meter

Performance Specifications

Sensor Element	InGaAs
Wavelength Range	850 - 1650 nm
Calibration Wavelengths	850 [1], 1300, 1310, 1550 nm
Power Range	+5 to –60 dBm (850 nm) +5 to –70 dBm (other wavelengths)
Maximum Input Power	+15 dBm
Uncertainty at reference conditions [2]	±0.13 dB (±3%)
Total Uncertainty [3]	±0.3 dB (±7%) ±2 pW
Autotest sensitivity (typical) [4]	-40 dBm (850 nm) -50 dBm (other wavelengths)
Operating Time (typical)	250 hours
Applicable Fiber Type	9/125 μm to 62.5/125 μm
Optical Input	Non-Contact, Removable Connector Adapters
Display Type	LCD, 4 digits
Display Resolution	0.01dB, 3 digits in linear mode
Display Units	dB, dBm, nW, μW, mW

1: All specifications at 850 nm are typical.
2: 23 ±3°K, -10 to –30 dBm, calibration wavelengths ±2nm, fiber type standard SMF, connector type ceramic FC / PC, at day of calibration.
3: includes uncertainty contributions due to: uncertainty at reference conditions, varying optical connector types, fiber types up to 62.5 μm core diameter and numerical aperture up to 0.3, operation within power range and within operating temperature range.
4: Tested at room temperature, using an optical attenuator.

General Specifications

Size	190 x 130 x 70 mm, 7.9" x 5.4 x 2.9
Weight	500 gm, 1.1lb. Shipping 2Kg, 4.4 lb
Operating / storage	-10 to 55°C / -25 to 70°C
Power	2 alkaline C cells (7.6 A/hr) or external 9V DC with 2.5mm +ve pin Selectable auto-off, low battery indicator back lit display
Tone detection	100 – 9999 Hz 1%
Man / min	Recording feature for stability testing
Hidden keypad	For setting advanced functions
Damage level	> 5 db above max reading
Case	Polycarbonate, 1 meter drop tested
RS232	3.5 mm jack connector, 0.3 – 56 Kbaud, default 9.6 K
Printing	Not supported

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Ordering Information

Instrument
N3970A Optical Power Meter

Standard accessories: (Included with instrument)
FC, ST, SC optical connector, manual, batteries, certificate of calibration, carry strap, pouch & protective holster.
This instrument is equipped with interchangeable optical connector adaptors, and works with PC connectors.

The N3970A Optical Power Meter is supplied with a straight contact output connector interface. To connect to the instrument, you must attach your connector interface to the interface adaptor, then connect your cable.

Agilent service Product No.	Description
N3979-63240	ST
N3970-63246	SC
N3970-63251	FC

Optional Accessories:

Agilent Product No.	Description
N3979A [1]	Power Supply 9V DC.

Option:

Agilent Product No.	Description
N3973A	Loss Test Companion Software and RS-232 cable
N3978A	2 Instrument Carry Case.

[1] Not available in Australia, Korea, Japan, Mexico & South Africa.

N3974A Dual Laser Source

Performance Specifications

Source Type	Fabry-Perot Laser
Center Wavelength [1]	1310 ± 20 nm 1550 ± 20 nm
Spectral Bandwidth (typical)	3 nm FWHM
Output Power	≥ -6 dBm
Short-term stability (typical) [2] Long-term stability (typical) [3]	±0.02 dB ±0.15 dB
Operating Time (typical)	140 hours
Temperature coefficient (typical)	0.4 nm/°K
Applicable Fiber Type	9/125 μm
Optical Output	Removable Connector Adapters. Single port, Open beam

1. At 25°C - ambient temperature.

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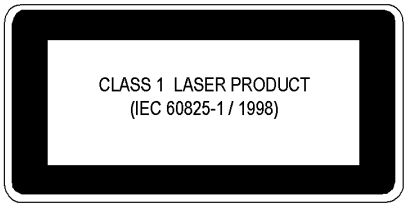
2. No warm up, 15 min, at stable temperature, within operating temperature range.
3. No warm up, 8 hours, within operating temperature range.

General Specifications

Size	190 x 130 x 70 mm, 7.9" x 5.4 x 2.9
Weight	500 gm, 1.1lb. Shipping 2Kg, 4.4 lb
Operating / storage	-10 to 55°C / -25 to 70°C
Power	2 alkaline C cells (7.6 A/hr) or external 9V DC with 2.5mm +ve pin. Selectable auto-off, low battery indicator back lit display
Modulation frequency	270 Hz, 1 KHz, 2 KHz
Hidden keypad	For setting advanced functions
Case	Polycarbonate, 1 meter drop tested
Printing	Not supported

Laser Safety Information

In the USA, all laser sources specified by this data sheet are classified as Class I according to 21 CFR 1040.10 (1999). Internationally, the same laser sources are classified as Class 1 according to IEC 60825-1 (1998).



Ordering Information

Connector options.
This instrument is equipped with interchangeable optical connector adaptors. The ferrule type for light sources is PC.

Instrument
N3974A Dual Laser Source.

Standard accessories (included with instrument):
SC, ST, FC optical connector, manual, batteries, certificate of calibration, carry strap, pouch and protective holster.

The N3974A Dual Laser Source is supplied with a straight contact output connector interface. To connect to the instrument, you must attach your connector interface (see list connector interfaces below) to the interface adaptor, then connect your cable.

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Agilent service Product No.	Description
N3979-63240	ST
N3970-63246	SC
N3970-63251	FC

Optional Accessories:

Agilent Product No.	Description
N3979A [1]	Power Supply 9V DC.

Option:

Agilent Product No.	Description
N3973A	Loss Test Companion Software and RS-232 cable
N3978A	2 instrument Carry Case.

[1] Not available in Australia, Korea, Japan, Mexico & South Africa.

N3977A Automated Optical Attenuator

Performance Specifications

Calibration wavelengths	1310 nm and 1550 nm.
Wavelength dependence (1200 - 1600 nm): $Attenuation \approx A_{displayed} - 0.00027\,\Delta\lambda \cdot (5 + A_{displayed})$ typ. where $A_{displayed}$ is the displayed attenuation in dB and $\Delta\lambda$ = wavelength difference from calibration wavelengths in nm.	
Wavelength Range	1200 to 1600 nm
Attenuation Range	2.50 to 60.00 dB
Repeatability	± 0.03 dB (at fixed polarization state)
Insertion loss at LOW position	< 2.5 dB
Linearity	± 0.003 dB/dB ± 0.05 dB (at fixed polarization state, for the specified attenuation range, no optical discontinuity during adjustment)
Warm-up period	None
Thermal stability	± 0.02 dB typical over temperature range, at fixed polarization state, exclusive of connector drift
Maximum input power	< 200 mW, + 23 dBm
Applicable Fiber Type	9/125 μm
Return Loss (typical)	< -40dB with physical-contact connectors of perfect quality
Operating Time	200 – 600 hour's typ depending on motor use (backlight off) from 2 alkaline C cells

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General specifications

Size	190 x 130 x 70 mm, 7.9" x 5.4 x 2.9
Weight	500 gm, 1.1lb. Shipping 2Kg, 4.4 lb
Operating / storage	-10 to 55°C / -25 to 70°C
Power	2 alkaline C cells (7.6 A/hr) or external 9V DC with 2.5mm +ve pin. Selectable auto-off, low battery indicator back lit display
Hidden keypad	For setting advanced functions
Case	Polycarbonate, 1 meter drop tested
Printing	Not supported

Ordering Information

Instrument
N3977A Automated Optical Attenuator

Standard accessories (included with instrument):
2 sets of SC, ST, FC optical connectors, manual, batteries, certificate of calibration, carry strap, pouch and protective holster.

The N3977A Automated Optical Attenuator is supplied with a straight contact output connector interface. To connect to the instrument, you must attach your connector interface (see list connector interfaces below) to the interface adaptor, then connect your cable.

Agilent service Product No.	Description
N3970-63240	ST
N3970-63246	SC
N3970-63251	FC

Optional Accessories:

Agilent Product No.	Description
N3979A [1]	Power Supply 9V DC

Option:

Agilent Product No.	Description
N3978A	2 instrument Carry Case.

[1] Not available in Australia, Korea, Japan, Mexico & South Africa.

Related Agilent literature:

Agilent Handhelds Photocard
p/n 5988-1066EN

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