OTS-400 Series Optical Sources, Meters, Testers and Kits with Data Storage Capabilities

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Applications

- Testing and troubleshooting of various telecommunication networks

Description

The Corning Cable Systems OTS-400 Series of intelligent and versatile optical meters, sources and testers offers simultaneous testing and storage of dual-wavelength attenuation measurements. At the press of a button, dual-wavelength measurements are made and stored for the fiber under test. These sources, meters and testers can be used during installation, system qualification and maintenance. The combination of practical features, simple operation, field performance and rugged design makes them perfect for virtually all fiber optic testing environments.

The OTS-400 Series meters, sources and testers are offered individually or packaged in test kits which include two instruments, accessories, test jumpers and a carrying case. The most popular combination of port adapters and test jumpers has been pre-selected for each type of kit to allow for testing "right out of the box." A wide variety of additional source and meter port adapters are available along with other optional accessories.

OTS-400 Series Power Meter and Tester | LAN713

OTS-400 Series Test Kit | LAN714

Features / Benefits

- Auto testing provides automatic wavelength switching and detection that cuts typical testing time in half
- Stores up to 1000 measurements which can be separated into individual cables, panels or jobs; this eliminates field paperwork, saves time and improves testing productivity
- USB data ports provide convenient transfer of data to OTSView Windows®-based PC Software for storage, viewing and printing of test results
- Dual- and quad-wavelength sources provide the flexibility of testing multimode cables, single-mode cables or hybrid cables
- Power meter has a range of +10 to -70 dBm with 40 calibrated wavelengths for testing flexibility
- Dual-wavelength testers with source and meter in the same unit improve bi-directional testing productivity

This test equipment is classified as a category 9 item under RoHS (Directive 2002-95-EC), thus is exempt from the restriction.

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Features / Benefits *(continued)*

- Generation and detection of 270 Hz, 1 kHz and 2 kHz tones provides system continuity tracing capability
- Thresholds available for pass/fail indication, which expedites the testing process
- Rugged and ergonomic design with backlit display makes the OTS-400 easy to read, easy to hold and easy to handle
- Complete selection of field-interchangeable universal interface adapters on source ports and screw-on connector adapters on meter ports, which eliminates the requirement to use hybrid patch cords for testing
- All sources have an integrated, high power (3 dBm) 650 nm visual fault locator (VFL)

Power Meter Specifications[1]

Model	**OM-410R**
Detector	Ge
Power Range (dBm)[2]	10 to -70
Wavelength Range (nm)	800 to 1650
Number of Calibrated Wavelengths	40
Power Uncertainty (nW)[3]	± 5% ± 0.1
Resolution (dB)[4]	± 0.01
Automatic Offset Nulling[5]	Yes
Display Units	dB/dBm/W
Tone Detection (Hz)	270, 1 k, 2 k
Automatic Wavelength Recognition[6]	Yes
Warm-Up Period (min)[7]	0
Data Storage (measurements)	1000
Battery Life (hours) (typical)	72
General	
Size (H x W x D)	19.0 x 10.0 x 6.2 cm (7.5 x 4 x 2.5 in)
Weight	0.48 kg (1.1 lb)
Operating Temperature	-10º to 50ºC (14º to 122ºF)
Storage Temperature	-40º to 70ºC (-40º to 158ºF)
Relative Humidity	0% to 95% non-condensing
Warranty and Recommended Recalibration Interval (years)	3

Notes:
[1] *Specifications are guaranteed at 23ºC ± 1ºC.*
[2] *In CW mode, sensitivity defined as 6 x rms noise level.*
[3] *For calibrated wavelengths.*
[4] *For power ranges of 10 dBm to -60 dBm.*
[5] *For power > -40 dBm.*
[6] *At 850 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm and 1625 nm; for power > -50 dBm.*
[7] *Results in a variation of ≤ 0.06 dB for input power level > -40 dBm.*

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Light Source Specifications[1]

Model	OS-4RMDSD OS-403RD	OS-4RMDSD OS-404RXD
Central Wavelength (nm)	850 ± 25 1300 -10/+50	1310 ± 20 1550 ± 20
Spectral Width[2] (nm)	50 (850 nm) 135 (1300 nm)	≤ 5 (1310 nm) ≤ 5 (1550 nm)
Output Power[3] (dBm)	≥ -20 (850 nm) ≥ -20 (1300 nm)	≥ 1 (1310 nm) ≥ 1 (1550 nm)
Power Stability[4] (dB) 15 min. 8 hours	± 0.05 ± 0.1	± 0.03 ± 0.1
Automatic Wavelength Recognition (generation)	Yes	Yes
Automatic Testing Mode[5]	Yes	Yes
Tone Generation (Hz)	270, 1 k, 2 k	270, 1 k, 2 k
Battery Life (hours) (Typical in Auto mode)	50	50
Safety	Class 1M Laser Product	Class 1M Laser Product

Visual Fault Locator (VFL)[6]

Emitter type	Laser
Wavelength (nm)	650
Output power (dBm)	3
Safety	Class 3R Laser Product

General

Size (H x W x D)	19.0 x 10.0 x 6.2 cm (7.5 x 4 x 2.5 in)
Weight	0.48 kg (1.1 lb)
Operating Temperature	-10º to 50ºC (14º to 122ºF)
Storage Temperature	-40º to 70ºC (-40º to 158ºF)
Relative Humidity	0% to 95% non-condensing
Warranty and Recommended Calibration Interval (years)	3

Notes:
[1] *Specification are guaranteed at 23ºC ± 1ºC.*
[2] *Values are rms for FP lasers; and -3 dB width for LEDs (typical values for LEDs and VCSEL).*
[3] *LED output power is specified with 62.5 µm fiber; 50 micron coupled power would be lower.*
[4] *After a 15-minute source warm-up period. Expressed as ± half the difference between the maximum and minimum values measured during the period.*
[5] *When used with compatible OM-410R meter or OTS-400 Series tester.*
[6] *Typical values when coupled to detector with air gap.*

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Optical Loss Tester Specifications[1]

Model	OTS-411D	OTS-412XD
Central Wavelength (nm)	850 ± 25 1300 -10/+50	1310 ± 20 1550 ± 20
Spectral Width[2] (nm)	50 (850 nm) 135 (1300 nm)	≤ 5 (1310 nm) ≤ 5 (1550 nm)
Output Power[3] (dBm)	≥ 20 (850 nm) ≥ 20 (1300 nm)	≥ 1 (1310 nm) ≥ 1 (1550 nm)
Power Stability[4] (dB) 15 min. 8 hours	± 0.05 ± 0.1	± 0.03 ± 0.1
Automatic Testing Mode[5]	Yes	Yes
Tone Generation (Hz)	270, 1k, 2k	270, 1k, 2k
Battery Life (hours)	50	50
Safety	Class 1M Laser Product	Class 1M Laser Product
Detector	***Ge***	***GeX***
Power range (dBm)[6]	10 to -70	26 to -55
Wavelength (nm)	800 to 1650	800 to 1650
Number of calibrated wavelengths	40	40
Power uncertainty (nW)[7]	± 5% ± 0.1	± 5% ± 3
Resolution (dB)[8]	± 0.01	± 0.01
Automatic offset nulling[9]	Yes	Yes
Display units	dB, dBm, W	dB, dBm, W
Tone detection (Hz)	270, 1k, 2k	270, 1k, 2k
Automatic wavelength recognition[10]	Yes	Yes
Warm-up period (min)[11]	0	0
Data storage (measurements)	1000	1000
General		
Size (H x W x D)	19.0 x 10.0 x 6.2 cm (7.5 x 4 x 2.5 in)	
Weight	0.48 kg (1.1 lb)	
Operating Temperature	-10º to 50ºC (14º to 122ºF)	
Storage Temperature	-40º to 70ºC (-40º to 158ºF)	
Relative Humidity	0% to 95% non-condensing	
Warranty and Recommended Calibration Interval (years)	3	
Visual Fault Locator (VFL)[12]		
Emitter type	Laser	
Wavelength (nm)	650	
Output power (dBm)	3	
Safety	Class 3R Laser Product	

Notes:

1. *Specification are guaranteed at 23°C ± 1°C.*
2. *Values are rms for FP lasers; and -3 dB width for LEDs (typical values for LEDs).*
3. *LED output power is specified with 62.5 µm fiber, 50 micron coupled power would be lower.*
4. *After a 15-minute warm-up period of the source. Expressed as ± half the difference between the maximum and minimum values measured during the period.*
5. *When used with compatible OS-400R Series source, OM-410R meter or OTS-400 series tester.*
6. *In CW mode; sensitivity defined as 6 x rms noise level.*
7. *For calibrated wavelengths. Valid up to 20 dBm for GeX detectors.*
8. *For power ranges of 10 dBm to -60 dBm for Ge detector and -26 dBm to -45 dBm for GeX detector.*
9. *For power > -40 dBm for Ge detectors, and > -25 dBm for GeX detectors.*
10. *At 850 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm and 1625 nm; for power > -50 dBm for Ge detectors and > -40 dBm (typical) for GeX detectors.*
11. *For variation ≤ 0.06 dB at 23°C ± 1°C; at power levels ≥ -40 dBm for Ge detectors and ≥ -25 dBm for GeX detectors.*
12. *Typical values when coupled to detector with air gap.*

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Ordering Information

Part Number	Description
Power Meter	
OM-410R	Optical Power Meter with and 40 calibrated wavelengths; auto wavelength switching when used with OTS-400 Series source; data storage for 1000 measurements, USB cable for data transfer; OTSView software, Li-Ion rechargeable battery and one (1) AC charger, one (1) SC meter port adapter, one (1) ST® Compatible meter port adapter, one (1) wrist strap and manual
Light Sources	
OS-403RD	Optical Source (850/1300 nm LED) with integral 650 nm VFL; auto wavelength switching when used with OM-410R meter; Li-Ion rechargeable battery and one (1) AC charger, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) wrist strap and manual
OS-404RXD	Optical Source (1310/1550 nm laser) with integral 650 nm VFL; auto wavelength switching when used with OM-410R meter; Li-Ion rechargeable battery and one (1) AC charger, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) wrist strap and manual
OS-4RMDSD	Quad Optical Source (850/1300 nm LED) and (1310/1550 nm laser) with integral 650 nm VFL; auto wavelength switching when used with OM-410R meter; Li-Ion rechargeable battery and one (1) AC charger, two (2) SC source port adapters, one (1) ST Compatible source port adapter, one (1) wrist strap and manual
Optical Loss Testers	
OTS-411D	Multimode 2-Fiber Intelligent Tester with 850/1300 nm LED source; auto wavelength switching when used with another tester; power meter with data storage and integral 650 nm; USB cable for data transfer; OTSView software, Li-Ion rechargeable battery and one (1) AC charger, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, one (1) wrist strap and manual
OTS-412XD	Single-mode 2-Fiber Intelligent Tester with 1310/1550 nm laser source; auto wavelength switching when used with another tester; power meter with data storage and integral 650 nm; USB cable for data transfer; OTSView software, Li-Ion rechargeable battery and one (1) AC charger, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, one (1) wrist strap and manual
Test Kits with Source and Meter	
OTSK-400MD	Intelligent Multimode Test Kit including OS-403RD (850/1300 nm LED source) and OM-410R (meter with data storage); source includes integral 650 nm VFL, USB cable for data transfer, OTSView software; Li-Ion rechargeable battery and two (2) AC chargers, SC and ST Compatible jumpers and adapters for multimode, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, two (2) wrist straps, plastic case of cleaning supplies, padded carrying case and manual
OTSK-400SD	Intelligent Single-mode Test Kit including OS-404RXD (1310/1550 nm laser source) and OM-410R (meter with data storage); source includes integral 650 nm VFL, USB cable for data transfer, OTSView software; Li-Ion rechargeable battery and two (2) AC chargers, SC and ST Compatible jumpers and adapters for single-mode, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, two (2) wrist straps, plastic case of cleaning supplies, padded carrying case and manual
OTSK-4MDSD	Quad Intelligent Multimode and Single-mode Test Kit including OS-4RMDSD (850/1300 nm LED and 1310/1550 nm laser) source and OM-410R (meter with data storage); source includes integral 650 nm VFL, USB cable for data transfer, OTSView software; Li-Ion rechargeable battery and two (2) AC chargers, SC and ST Compatible jumpers and adapters for both multimode and single-mode, two (2) SC source port adapters, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, two (2) wrist straps, plastic case of cleaning supplies, padded carrying case and manual

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Ordering Information *(continued)*

Test Kits with Two Testers

Part Number	Description
OTSK-411D	Multimode 2-Fiber Intelligent Tester Kit including two (2) OTS-411D (850/1300 nm LED) testers (which have a meter port with data storage and integral 650 nm VFL); USB cable for data transfer; OTSView software and two (2) AC chargers; SC and ST® Compatible jumpers and adapters for multimode, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, two (2) wrist straps, plastic case of cleaning supplies, padded carrying case and manual
OTSK-412XD	Single-mode 2-Fiber Intelligent Tester Kit including two (2) OTS-412XD (1310/1550 nm laser) testers (which have a meter port with data storage and integral 650 nm VFL); USB cable for data transfer; OTSView software; two (2) AC chargers; SC and ST Compatible jumpers and adapters for single-mode, one (1) SC source port adapter, one (1) ST Compatible source port adapter, one (1) SC meter port adapter, one (1) ST Compatible meter port adapter, two (2) wrist straps, plastic case of cleaning supplies, padded carrying case and manual
Accessories	
UI-SC	Universal Interface Source Connector Adapter, SC
UI-ST	Universal Interface Source Connector Adapter, ST Compatible
UI-FC	Universal Interface Source Connector Adapter, FC
OA-SC	Power Meter Connector Adapter, SC
OA-ST	Power Meter Connector Adapter, ST Compatible
OA-FC	Power Meter Connector Adapter, FC
OA-LC	Power Meter Connector Adapter, LC
OA-MTRJ	Power Meter Connector Adapter, MT-RJ
PS-9-1	AC Power Adapter for 400 Series Source, Meter, or Tester
CASE-STD-400	Padded Carrying Case for two 400 Series instruments and accessories
CASE-HH-400	Hard-Shell Transit Case for two 400 Series instruments and accessories
OTS-COMBOMAN	Set of mandrels for 50 µm and 62.5 µm multimode fiber

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Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA
1-800-743-2675 • FAX: 828-901-5973 • International: +1-828-901-5000 • www.corning.com/cablesystems

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