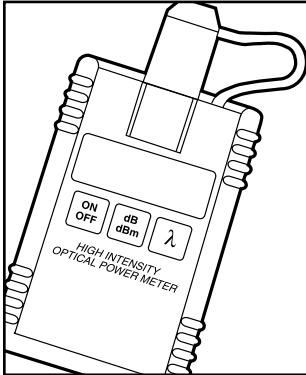




BLACK BOX[®]

NETWORK SERVICES

FIBER OPTIC MAINTENANCE KIT



Test, clean, and troubleshoot fiber cabling more easily than ever before.

Key Features

- ▶ **Includes dual-LED 850/1300-nm optical source, power meter, cleaning tool/wands, and case.**
- ▶ **Measure attenuation on multimode or single-mode cable/connectors.**
- ▶ **Source can output at 850 or 1300 nm; meter can be calibrated for 850, 1300, 1310, or 1550 nm.**
- ▶ **Source can produce continuous-wave or modulated output.**
- ▶ **Meter can store reference values for each wavelength.**
- ▶ **Widely temperature- and humidity-tolerant, splash-resistant.**
- ▶ **ST adapters and AA batteries included; SC, FC adapters available.**

Looking for a set of fiberoptic testing and cleaning tools that you can take just about anywhere? The Fiber Optic Maintenance Kit might be just the thing. It comes with an optical source, a power meter, a cleaning tool, and ten swab-type cleaning wands, all in a tough but attractive carrying case.

The handheld optical source has a pair of LEDs: one designed to output at 850 nm, the other designed to output at 1300 nm. The handheld meter can be calibrated to test the attenuation of cables and connectors at either of these wavelengths, and at 1310 or 1550 nm as well.

Both the source and the meter have proprietary universal connectors, onto which adapters you can snap different fiberoptic connector types. The kit comes with ST adapters; we also offer sets of SC (product code FT731) or FC (FT732) adapters.

With its InGaAs (indium gallium arsenide) photodetectors, the power meter can measure losses accurately to within ± 0.25 dB under calibration conditions. The meter has nonvolatile memory, so you can

store reference values for each of its supported wavelengths.

The meter displays its readings on a 4-digit LCD panel. It also displays symbols on this panel to indicate the calibrated wavelength and a low-battery warning. (The meter will continue operating for at least five hours once the low-battery symbol appears.)

The source and the meter are each powered by two preinstalled AA batteries. With a fresh pair of batteries, the source will operate for a cumulative total of more than 24 hours, and the meter will operate for a total of more than 100 hours.

Normally the optical source outputs a continuous wave into the fiber or connector being tested. But you can switch it into a modulated mode in which it outputs square-wave pulses at your choice of 270 Hz, 1 kHz, or 2 kHz, which (among other things) can be helpful for tracing fibers.

The cleaning tool is a fully self-contained unit that requires no additional supplies. Its special lint-free textile surface quickly removes dust, oil, and other contaminants from the endfaces

of fibers and fiberoptic connectors. To clean a connector, just open the shutter by gripping the lever, then slide the endface along the exposed cleaning-tape surface while gripping the lever. The cleaning tape is good for more than 400 uses before you'll need to replace it.

Because they're made of the same lint-free material as the cleaning tool's tape, the kit's disposable swablike cleaning wands are effective for removing contaminants from harder-to-reach connector endfaces and ferrule-alignment sleeves. They're particularly useful for maintaining the phosphor bronze sleeves used in some fiberoptic-connector adapters.

The tough, padded nylon carrying case comes with a shoulder strap and rear belt loops.

One other thing makes the kit ideal for field work: Its components are highly tolerant of temperature (operating at 5 to 122°F/-15 to +55°C) and humidity (up to 95%), and while they're not waterproof, they can resist a few splashes and sprinkles.



#26372

Specifications

Dual LED Source

Compliance:

EMI/RFI radiation: CE (EN 55022 Class B); FCC Part 15 Subpart B Class A, IC Class/classe A;
EMI/RFI immunity: CE (IEC 801-2 and 801-3);

Interfaces: Proprietary snap-on interface for interchangeable fiberoptic adapters

Optical Characteristics at 850 nm:

Center wavelength:
Nominal: 850 nm;
Range: 840 to 880 nm;
Maximum spectral width: 55 nm;
Power stability (one hour maximum deviation): ± 0.05 dB;
Power output (± 1 dB uncertainty):
Into graded-index 100/140- μ m multimode: -13 dBm;
Into graded-index 62.5/125- μ m multimode: -13 dBm (the calibrated launch level);
Into graded-index 50/125- μ m multimode: -14 dBm;
Not normally attached to single-mode fibers at 850 nm

Optical Characteristics at 1300 nm:

Center wavelength:
Nominal: 1300 nm;
Range: 1270 to 1345 nm;
Maximum spectral width: 150 nm;
Power stability (one hour maximum deviation): ± 0.05 dB;
Power output (± 1 dB uncertainty):
Into graded-index 100/140- μ m multimode: -20 dBm;
Into graded-index 62.5/125- μ m multimode: -20 dBm (the calibrated launch level);
Into graded-index 50/125- μ m multimode: -21 dBm;
Into 9/125- μ m single-mode: -38 dBm

Optical Output Type: Continuous-wave or modulated (270-Hz, 1-kHz, or 2-kHz square-wave), user-selectable

User Controls:

(3) Front-mounted pushbuttons: (1) for power, (1) for wavelength selection, (1) for modulation-mode selection;
(1) Slide switch inside battery compartment for modulation-frequency selection

Indicators: (3) Front-mounted LEDs: (2) for chosen wavelength, (1) for modulation mode

Connectors: (2) Top-mounted proprietary connectors for snap-on adapters; source comes with (2) ST female adapters, and sets of SC (FT731) and FC (FT732) female adapters are available separately

Temperature Tolerance:

Operating: 5 to 131°F (-15 to $+55$ °C);
Storage: -31 to $+158$ °F (-35 to $+70$ °C)

Humidity Tolerance: Up to 95% noncondensing

Power:

From (2) included 1.5V alkaline AA batteries;
Can operate for a cumulative total of 24 hours on each fresh pair of batteries;
Unless auto-shutoff is disabled at power-up, automatically turns itself off if 15 minutes of inactivity elapse after a keypress

Size: 5.6"H x 2.8"W x 1.4"D (14.2 x 7.2 x 3.6 cm)

Weight: 8.4 oz. (240 g)

Power Meter

Compliance:

EMI/RFI radiation: CE (EN 55022 Class B); FCC Part 15 Subpart B Class A, IC Class/classe A;
EMI/RFI immunity: CE (IEC 801-2 and 801-3);

Detector Type: 1-mm InGaAs (indium gallium arsenide)

Calibration Wavelengths: 850, 1300, 1310, and 1550 nm

Optical Power Range: $+3$ to -60 dBm

Absolute Accuracy: ± 0.25 dB at calibration conditions

Memory: Non-volatile memory for calibration data

User Controls:

(3) Front-mounted pushbuttons: (1) for power, (1) for dB/dBm selection, (1) for wavelength and calibration-factor selection;

(1) Slide switch inside battery compartment for calibration (not for use except when directed to do so by a technician)

Indicators: Front-mounted 4-digit LCD panel that includes low-battery and calibration symbols

Connector: (1) Top-mounted proprietary connector for snap-on adapters; meter comes with (1) ST female adapter, and sets of SC (FT731) and FC (FT732) female adapters are available separately

Temperature Tolerance:

Operating: 5 to 131°F (-15 to $+55$ °C);
Storage: -31 to $+158$ °F (-35 to $+70$ °C)

Humidity Tolerance: Up to 95% noncondensing

Power:

From (2) included 1.5V alkaline AA batteries;
Can operate a cumulative total of over 100 hours on each fresh pair of batteries;
Unless auto-shutoff is disabled at power-up, automatically turns itself off if 70 minutes of inactivity elapse after a keypress

Size: 5.6"H x 2.8"W x 1.4"D (14.2 x 7.2 x 3.5 cm)

Weight: 7.6 oz. (215 g)

The complete package

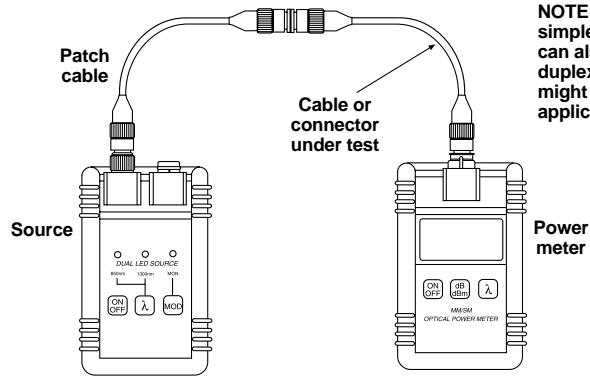
- (1) Optical power meter.
- (1) ST adapter for the meter.
- (2) AA batteries for the meter (preinstalled).
- (1) Dual-wavelength 850/1300-nm LED source.
- (2) ST adapters for the source.
- (2) AA batteries for the source (preinstalled).
- (1) Connector-cleaning tool.
- (10) Disposable cleaning wands.
- User manual.
- Nylon carrying case.

Sets of (3) SC or FC adapters are available as product codes FT731 and FT732 respectively.



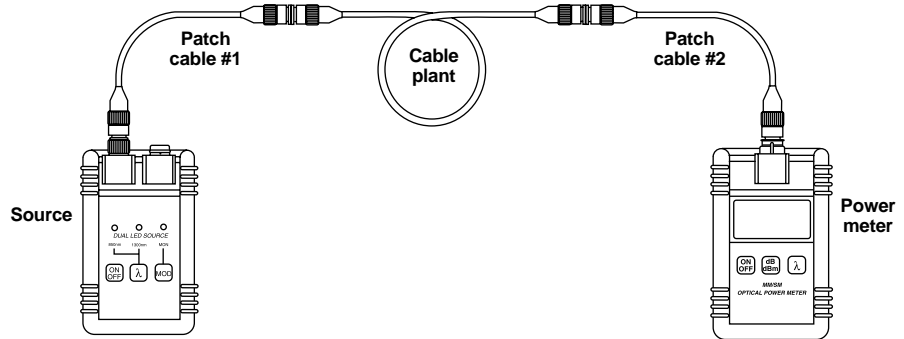
The kit is useful for all sorts of test applications, including insertion loss (top) and link loss (bottom).

Insertion-loss testing



NOTE: These diagrams show simplex patch cables, but you can also use single strands of duplex patch cables, which might be more useful in some applications.

Link-loss testing



Ordering Information

ITEM	CODE
Fiber Optic Maintenance Kit.....	FT730A
<i><u>You might also need...</u></i>	
Set of (3) SC adapters.....	FT731
Set of (3) FC adapters.....	FT732
1-m (3.3-ft.) Duplex fiberoptic patch cables	
Multimode 62.5/125- μ m, ST male to male.....	EFN062-001M-CC
Multimode 62.5/125- μ m, SC male to male.....	EFN4025-001M
Single-mode 9/125- μ m, ST male to male.....	EFN5009-001M
Single-mode 9/125- μ m, SC male to male.....	EFN5010-001M
Single-mode UPC 9/125- μ m, FC male to male.....	EFN6000-001M

