



Cercis, Inc.

Long Range Fault Finder FiberTracker 1310 & 1550 nm

Putting Light to the Test

Cercis Model 60 Series Long Range FiberTracker Fault Finders are full-feature hand-held instruments enabling location of fiber breaks or faulty splices on multi-kilometer lengths of single mode or multimode fibers. At a break, the LED of the detection wand illuminates continuously and an audible tone is emitted. The optical port is either ST- or FC-type.

The FiberTracker can be used to locate faults over long distances, and may be used with any color plastic (PVC, PUR, PTE) sheathed cable; although metal armor cabling will interfere with or eliminate break detection. In presence of active transmission, or when identifying a single fiber within a multi-fiber cable, the 1 MHz pulse mode allows positive identification of the signal. The light source uses four rechargeable (120 V recharger included) NiCd 1.5 V AA batteries.

Model 60

DISCONTINUED—EXISTING STOCK ONLY AVAILABLE

Fault location to 1 millimeter accuracy

Range: SMF*
1310: ≤ 75 km
1550: ≤ 100 km

0.5 mW Class 1 IR Laser Diode

Find faults within OTDR dead zone



Features

- Wavelengths: 1310 for lengths ≈ 50 km (~ 0.3 dB/km) or 1550 nm ≈ 75 km (~ 0.2 dB/km attenuation SMF)
- ST Optical Port
- Modulation Feature for Detection on Active Fibers or when Identifying Fibers within Multifiber Cables
- Stabilized Calibrated Output 0.05 dB over 5 hrs.
- Light Source Class 1 (0.5 mW_{typ}) Laser: >50 hours NiCd AA Battery Life; Recharger Included (120 VAC only)
- Detection Wand: >50 hours Alkaline AA Battery Life

**Use of same size or larger fibers (*italic*) will yield the same output power since the unit contains a fiber-pigtailed source.

Knob	Option	Description
ON	Continuous Pulse Mode	Select output mode desired with On/Continuous/Pulse switch
Power Adjust	Obtain and maintain max. output	Turn Clockwise—to decrease power Counterclockwise—to increase power

Class 1 Laser Output & Fiber Types

Each fault detector contains a singlemode fiber pigtailed laser, which retains power output within the prescribed limits of Class 1 laser product—while testing SM or MM fibers.

Model	Units	60-13	60-15
Wavelength	nm	1310 Laser	1550 Laser
Spectral Width (FWHM)	nm	2	2
Wavelength Range	nm	+/- 20	+/- 20
Stability: 1 hr. max. deviation	dB	<0.05	<0.05
Power Output (Adjustable 10 dB Range)	dBm	-3 to -13	-3 to -13
9/125 (SMF28) Fiber		-3 to -13	-3 to -13
50/125 GI MMF 0.21 NA		-3 to -13	-3 to -13
62.5/125 GI MMF 0.23 NA		-3 to -13	-3 to -13
100/140 GI MMF 0.29 NA		-3 to -13	-3 to -13
200/230 GI MMF 0.22 NA*	-3 to -13	-3 to -13	-3 to -13
0.5 mW* Continuous or 0.5 mW* Pulse Mode (1 Hz)		Unit allows power adjust to achieve 0.5 mW* (Class 1 laser) Compliant with 21CFR 1040.10 and 1040.11	
Detector Sensitivity (incorporates ambient light rejection); full beam width 20° typical)	dBm	-63 Sensitive only to 500 Hz Frequency (Not triggered by traffic or modulation)	
Power—Light Source Power—Detection Wand	V	Requires 4 9 Volt rechargeable NiCd batteries (>50 hrs. life) Requires 1 9V alkaline AA battery (>200 hrs. life) (builtin test circuit)	

Specifications subject to change without notice.

*Typical



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Identifying Fibers and Fiber Breaks

Clean & Connect

Clean the end faces of all optical connectors using alcohol-moistened lens-grade tissues or commercial cleaners such as CLETOP. Connect the fiber under test to the jumper. Connect the jumper to the optical output port on the light source.

Caution: Be certain that the other end of the fiber or fiber cable is suitably terminated or that an active device receptacle cap is placed on the other end of the fiber. Power should never be applied to an unterminated fiber or cable as the laser-based optical emissions from this end may cause permanent eye damage.

Power On & Adjust

Turn on the light source via the continuous/off/pulse switch on its side. Connect the fiber under test to a power meter and using the power adjust knob at the top of the light source, achieve a stabilized optical output within the 10 dB range of -3 to -13 dBm. Output is 500 Hz (Continuous Mode) or gated at 1 Hz, 500 Hz (Pulse Mode).

Detection Wand

Turn on the detection wand by depressing the switch at the end. The detector will beep once, and the LED at the end will blink red at one second intervals to indicate normal operation. The detection wand will only detect the 500 Hz tracer signals emitted from the Model 60 transmitter.

In the presence of interfering ambient light or electromagnetic energy or when identifying one fiber in a multi-fiber cable, switch the light source to Pulse Mode which emits a differentiated pulsed 1 Hz tone. The receiver will beep and its indicator LED will blink at the same 1 Hz rate, giving positive signal identification. When battery voltage is low, the LED will cease to blink.

Fiber Breaks

Move the detector along the length of the optical fiber under test. When the detector detects light, the LED will light red continuously, and the detector will emit a continuous tone.



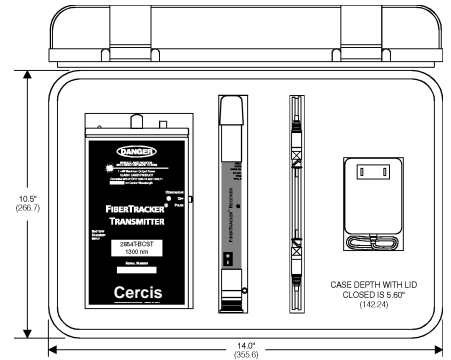
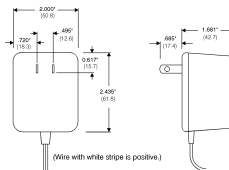
Fiber Identification

Bend the fiber in a radius not to exceed 5 millimeters. Move the detector along the bent region of the fiber under test. When the detector detects light, the LED will light red continuously and the detector will emit a continuous tone.

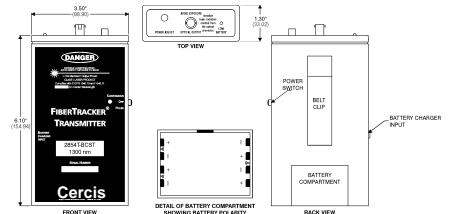
Battery Installation & Recharging

Light Source: 4 rechargeable NiCd 1.5 V AA batteries are supplied. To recharge, insert the end of the battery charger cord into the side jack of the light source. Plug the other end into any 120 V outlet ;batteries require ~6 hours to recharge. Replacement NiCd batteries should be installed in the battery compartment at the back of the unit. The positive (+) and negative (-) ends must be oriented according to the diagram.

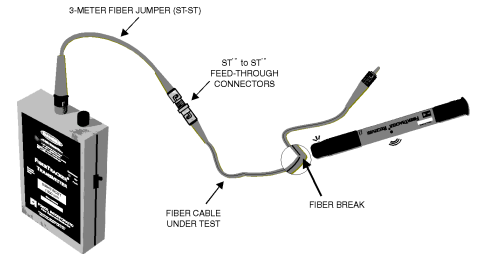
Detector: 1 alkaline 1.5 V AA battery installed. Replacement 1.5 V alkaline battery installed by unscrewing the rubber end cap and inserting battery with positive (+) side facing the nose cone.



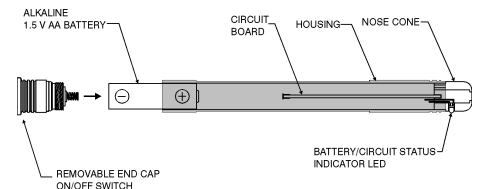
Contents of FiberTracker Kit



Light Source ID & Dimensions



Light Source Fiber Break ID



Detector ID & Dimensions

Part Number	Ordering Information
60-1310-KIT	1310 nm Laser Diode Light Source
60-1550-KIT	1550 nm Laser Diode Light Source
60ST1K3ST*	ST:ST (PC) Jumper, 3 m 9/125 cable
60-DW*	1310/1550/1625 nm Detection Wand
60-RC*	Battery Recharger for Light Source

Wavelengths: 1310 and 1550 nm are standard wavelengths used in optical fiber systems. Both wavelengths are well matched to the attenuation profile of singlemode fibers. 1625 nm is used primarily for testing—either for continuous monitoring or simultaneous checking; this wavelength does not interfere with EDFAs and other system components.

Subject to change without notice. *Not available separately 6/01M60FF Rev. A

Operational & Mechanical Data

Temperature Range Operating	C	-15 C to +50 C
	(F)	(20 to 50 F)
Storage	C	-35C to +70 C
	(F)	(20 to 50 F)
Dimensions Light Source (with battery)	mm	Width X Length X Height 89 X 155 X 32 mm
	(in.)	(3.5 X 6.1 X 1.3 in.)
Shipping Kit (with battery charger, Detector Wand, etc.)	Mm	356 X 267 X 142 mm
	(in.)	(14.0 X 10.5 X 5.6 in.)
Weight Light Source (with battery)	g	365 g (11.5 oz.)
	(oz.)	3552 g (7.0 lb.)