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Find the *Tektronix TOP400* at our website: ***Click HERE***

Optical Sources/Power Meter/Attenuator

▶ TOP130 • TOP140 • TOP160 • TOP200 • TOP220 • TOP300 • TOP400



TOP130 Optical LED Source

- Selectable output – CW or Modulate
- Three modulation frequencies – 270 Hz, 1 kHz, 2 kHz
- >20 hours battery life
- Universal (SOC) interface

The Tektronix TOP130 Optical LED Source is a small, rugged LED source designed for use in installing, maintaining and researching LAN, FDDI and other fiber optic links.

This multimode instrument provides two calibrated outputs – at 850 nm and 1300 nm. Providing both CW and modulated outputs, the user can set the modulation frequency to match the frequency signatures required by fiber identifiers and signal tracers (270 Hz, 1 kHz, 2 kHz). The TOP130 comes with a choice of adapters; two selected adapters will be provided. (Laser class 1)

TOP140/TOP160 Optical Laser Sources

- Universal connector interface (UCI)
- >80 hours battery life (>50 Hours TOP160)

The TOP140 and TOP160 Optical Laser Sources answer the need for small, rugged and truly versatile laser sources for use in installation, maintenance and testing of fiber optic systems. These laser sources cover the most used single-mode transmission windows – 1310 nm and 1550 nm. The TOP140 and TOP160 provide both CW and modulated output modes. In CW mode these instruments feature extremely stable output power. In the modulated mode the frequency may be set to 270 Hz, 1 kHz or 2 kHz.

All laser sources feature the Universal Connector Interface which adapts to all standard fiber optic connectors via a complete line of simple, screw-on/screw-off UCI adapters. (Laser class 1)

▶ Features & Benefits

TOP130

Dual Wavelength (850 nm and 1300 nm)

Excellent Long-term Stability

TOP140/TOP160

Stabilized Calibrated Output

Hermetically Sealed Laser Diode for Longevity

Selectable Modulation Frequencies (270 Hz, 1 kHz, 2 kHz)

TOP200

Relative dB Mode for Direct Attenuation and Insertion Loss Measurements

0.01 dB Resolution

TOP220

Measures Outputs as High as +27 dBm

980 to 1550 nm

>100 Hours Battery Life

TOP300

High Brightness

Universal Connector Interface (UCI)

Fiber Tracing

Solid State Substitute for HeNe Laser

- **MOD:** Continuous Light for Fiber ID, 3 Per-second Cycle for Modulation
- **CW:** Blinking Light for Fiber

TOP400

Ideal for Testing System Headroom

Passive Device – No Power Required

Adjustable Attenuation

▶ Applications

System Loss Measurements

Optical Troubleshooting

Fault Location

Installation

Maintenance

Optical Links

Research

Tektronix

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TOP200 Optical Power Meter

- ▶ Set reference for different wavelengths
- ▶ Save references for each wavelength
- ▶ Universal (SOC) interface
- ▶ >100 hours battery life

The TOP200 handheld optical power meter covers the full range of optical fiber applications. This instrument is quality engineered for field and lab personnel requiring a high performance, cost effective, compact and rugged optical power meter. The TOP200 uses the Snap-On Connector (SOC) interface. Most industry standard fiber optic connectors can be accommodated, including FC, ST and SC.

The extraordinary design combines a state-of-the-art signal processor and microcomputer electronics to provide superb performance as well as simple and elegant operation with just three controls: ON/OFF, dBm/dB and lambda. A reference value can be set and also saved for each wavelength.

TOP220 High-Power Optical Power Meter

- ▶ Universal (SOC) interface
- ▶ Auto shutoff

The Tektronix TOP220 is a handheld, high-power optical power meter. It can measure optical signals as high as +27 dBm. It also can make measurements on the low end down to –30 dBm. This instrument is quality engineered for field and lab applications requiring a high performance, cost effective, compact and rugged optical power meter. The TOP220 uses the Snap-On Connector (SOC) interface. Most industry standard fiber-optic connectors can be accommodated, including FC, ST and SC.

TOP300 Visual Fault Finder

- ▶ Fault location to millimeter accuracy
- ▶ Long battery life

The TOP300 Visual Fault Finder is specifically designed for field personnel who need an efficient and economical tool to visually check continuity and integrity of fiber installations, during and after installation. Unlike many other visual fault finders, the high-efficiency laser diode operates at short wavelengths which makes the emitted light particularly visible.

Difficult-to-locate fiber breaks are easily detected when using the TOP300 visual fault finder. Whenever the fiber is interrupted, the light escapes the fiber and becomes visible to the operator. Precise pinpointing of problems is immediate and intuitive to the user.

The optical connection is via the precision Universal Connector Interface (UCI) which offers superior repeatability, longevity and ease of maintenance. (Laser class 1)

TOP400 Optical Attenuator

- ▶ Universal connector interface (UCI)
- ▶ Less than 2 dB insertion loss

The Tektronix TOP400 is a handheld optical attenuator. Its superior design allows it to have less than 2 dB of insertion loss. The TOP400, when used with an optical power meter and source, allows the user to manually dial in attenuation to determine system headroom. It is a passive device and does not require any batteries or power for operation.

The TOP400 uses a proprietary scheme for the attenuating mechanism. The small size and large dial indicator make this instrument an indispensable tool for fiber optic line commissioning, bit error rate (BER) measurements, system margin analysis and receiver sensitivity testing. All optical connections are via the precision Universal Connector Interface (UCI) which offers low insertion loss, low return loss and excellent stability.

▶ Characteristics

TOP130

Optical

- ▶ Functions
  - **– MOD:** Modulated output mode.
  - **– CW:** Continuous wave DC output mode.
  - **– FREQ:** User selectable frequency – 270 Hz, 1 kHz or 2 kHz.

Center Wavelength – 850 nm: 830-880 nm, 1300 nm: 1270-1345 nm.

Spectral Width (FWHM) – 850 nm: <55 nm; 1300 nm: <140 nm.

Stability (1 Hour) – ±0.05 dB.

Power Output (Into 62.5/125 GI Fiber) –
850 nm: –13 dBm (50 µW).
1300 nm: –20 dBm (10 µW).

Connector Interface – Universal (SOC) interface. Choice of standard adapters.

Power

Source – Two AA batteries.

Battery Life – >20 hours.

Environmental

Temperature –
Operating: –15°C to +55°C, 0 to 95% RH (noncondensing).
Storage: –35°C to +70°C, 0 to 95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	240	8.4

TOP140 and TOP160

Optical

- ▶ Functions
  - **– MOD:** Modulated Output Mode
  - **– CW:** Continuous Wave DC Output Mode
  - **– FREQ:** User Selectable Frequency –270 Hz, 1 kHz or 2 kHz

Center Wavelength –
TOP140: 1310 nm (1280-1340 nm).
TOP160: 1310/1550 nm (1280 to 1340 nm and 1520 to 1580 nm).

Spectral Width RMS – 5 nm.

Stability – 1 hour maximum deviation: ±0.05 dB.
24 hours maximum deviation: ±0.15 dB.

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Optical Sources/Power Meter/Attenuator

▶ TOP130 • TOP140 • TOP160 • TOP200 • TOP220 • TOP300 • TOP400

Power Output[*1][*3] (into SM –28/9 µm Core) – TOP140 and TOP160: –7 dBm (200 µW).

Power Output Uncertainty[*2] – ±0.5 dB (calibrated launch level into SM-28/9 µm core fiber).

Connector Interface – Universal (SOC) interface. Choice of standard adapters.

Power

Source – Two AA alkaline batteries.

Battery Life – TOP 140: >80 hours. TOP 160: >50 hours.

Environmental

Temperature –
Operating: –15°C to +55°C, 0-95% RH (noncondensing).
Storage:–35°C to +70°C, 0-95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	230	8

TOP200

Optical

▶ Functions
- **– dBm:** Absolute Power
- **– dB:** Relative Power Also Used to Save/Recall Reference Values.
- **– Lambda:** Select CAL Wavelength Also Used to Set Default/CAL Wavelength

Sensor Type – InGaAs (1 mm).

Power Range – +3 to –60 dBm.

Cal Wavelengths – 850, 1300 and 1550 nm.

Absolute Accuracy – ±0.25 dB at calibration conditions.

Display – Custom triplexed liquid crystal display with 4-digit data field (0.01 dB resolution) and simultaneous display of cal wavelength.

Display incorporates the following distinct annunciators: 850, 1310, 1550, dB, dBm, B (Low Bat) and C (CAL).

Calibration Data – Data stored in nonvolatile memory.

Connector Interface – Universal (SOC) Interface.

Power

Source – Two AA alkaline batteries.

Battery Life – >100 hours.

Environmental

Temperature –
Operating: –15°C to +55°C, 0-95% RH (noncondensing).
Storage: –35°C to +70°C, 0-95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	250	8.9

TOP220

Optical

▶ Functions
- **– dBm:** Absolute Power
- **– dB:** Relative Power Also Used to Save/Recall Reference Values
- **– Lambda:** Select CAL Wavelength Also Used to Set Default/Power Up Wavelength
- **– CAL:** Calibrate Unit

Sensor Type – InGaAs (2 mm).

Power Range – +27 to –30 dBm.

Cal Wavelengths – 980, 1310 and 1550 nm.

Absolute Accuracy – ±0.25 dB at calibration conditions.

Display – Custom triplexed liquid crystal display with 4-digit data field (0.01 dB resolution) and simultaneous display of cal wavelength.

Calibration Data – Data stored in nonvolatile memory.

Connector Interface – Universal (SOC) Interface.

Power

Source – Two AA alkaline batteries.

Battery Life – >100 hours.

Environmental

Temperature –
Operating: –15C to +50°C, 0-95% RH (noncondensing).
Storage: –35°C to +70°C, 0-95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	250	8.9

TOP300

Optical

Center Wavelength – 635 nm (630-640 nm).

Spectral Width (FWHM) – <2 nm RMS.

Stability – 1 hour maximum deviation: ±0.15 dB. 10 hours maximum deviation ±0.25 dB.

Power Output (Into SMF –28 Fiber) – –5 dBm.

Connector Interface – Universal Connector Interface (UCI), UCI Adapters.

Power

Source – Two AA alkaline batteries.

Battery Life – >20 hours.

Environmental

Temperature –
Operating: –15°C to +40°C, 0-95% RH (noncondensing).
Storage: –35°C to +70°C, 0-95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	230	8.1

TOP400

Optical

Insertion Loss – <2 dB (1.25 dB typical).

Attenuation Range – 0 to 35 dB.

Return Loss – <–40 dB (with FC, ST, SC and DIN connectors).

Connector Interface – Universal Connector Interface (UCI).

Environmental

Temperature –
Operating: –15°C to +60°C, 0-95% RH (noncondensing).
Storage: –35°C to +70°C, 0-95% RH (noncondensing).

Physical Characteristics

Dimensions	mm	in.
Width	72	2.8
Height	142	5.6
Depth	36	1.4
Weight	**g**	**oz.**
Net	230	8.1

*1 Within specified ambient temperature of +20°C to +25°C.

*2 Specified with properly terminated FC-PC, ST, SC, DIN, HMS-10/HP (2.5 mm) connectors. Uncertainty for other connectors may be higher.

*3 In modulated mode, power is 3 dB lower.

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▶ Ordering Information

TOP130

LED Optical Source (850/1300 nm).

TOP200

Optical Power Meter (850/1310/1550 nm).

TOP220

High Power Optical Power Meter.

TOP140

Laser Optical Source (1310 nm).

TOP160

Laser Optical Source (1310/1550 nm).

TOP300

Visual Fault Finder (635 nm).

TOP400

Optical Attenuator.

All include – User Manual (070-9392-01); Protective Rubber Jacket with Stand (348-1480-00); One Connector Adapter Options*[1] (user selected from the following Optional Adapters list).

Connectors for TOP130

Opt. 30 – Biconic. Order 119-5168-00.
Opt. 31 – FC. Order 119-5146-00.
Opt. 32 – D4. 119-5167-00.
Opt. 33 – SMA 905/906. Order 119-5169-00.
Opt. 34 – ST. Order 119-5144-00.
Opt. 35 – DIN. Order 119-5166-00.
Opt. 36 – Diamond 3.5. Order 119-5172-00.
Opt. 37[*2] **–** Diamond 2.5. Order 119-5171-00.
Opt. 38 – SC. Order 119-5145-00.
Opt. 39 – SMA 25. Order 119-5170-00.

Connectors for TOP140/160

Opt. 30[*2] **–** Biconic. Order 119-4515-00.
Opt. 31 – FC. Order 119-5115-00.
Opt. 32[*2] **–** D4. 119-4514-00.
Opt. 33 – SMA 905/906. Order 119-4557-00.
Opt. 34 – ST. Order 119-4513-00.
Opt. 35 – DIN. Order 119-4546-00.
Opt. 36 – Diamond 3.5. Order 119-4558-00.
Opt. 37[*2] **–** Diamond 2.5. Order 119-4556-00.
Opt. 38 – SC. Order 119-5116-00.
Opt. 39 – SMA 2.5. Order 119-4517-00.

Connectors for TOP200/220

Opt. 30 – Biconic. Order 119-5168-00.
Opt. 31 – FC. Order 119-5146-00.
Opt. 32 – D4. 119-5167-00.
Opt. 33 – SMA 905/906.*[3]
Opt. 34 – ST. Order 119-5144-00.
Opt. 35 – DIN. Order 119-5166-00.
Opt. 36 – Diamond 3.5. Order 119-5172-00.
Opt. 37 – Diamond 2.5. Order 119-5171-00.
Opt. 38 – SC. Order 119-5145-00.
Opt. 39 – SMA 2.5. Order 119-5170-00.

Connectors for TOP300/400

Opt. 30[*2] **–** Biconic. Order 119-4515-00.
Opt. 31 – FC. Order 119-5115-00.
Opt. 32[*2] **–** D4. 119-4514-00.
Opt. 33 – SMA 905/906. Order 119-4557-00.
Opt. 34 – ST. Order 119-4513-00.
Opt. 35 – DIN. Order 119-4546-00.
Opt. 36 – Diamond 3.5. Order 119-4558-00.
Opt. 37[*2]**–** Diamond 2.5. Order 119-4556-00.
Opt. 38 – SC. Order 119-5116-00.
Opt. 39 – SMA 2.5. Order 119-4517-00.

*[1] One adapter option per insturment. Order additional connector using the 119- part number.

*[2] Optional at additional cost.

*[3] Contact your local Tektronix representative.

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