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Data Sheet

July 30, 2026

THORLABS

ThorLabs S1FC1550 Fabry-Perot Laser Source

ThorLabs S1FC1550 Fabry-Perot Laser Source The Thorlabs S1FC1550 is a benchtop fiber-coupled Fabry-Perot laser source in the S1FC series. Thorlabs documentation describes these sources as providing easy coupling and simple control of laser-diode-driven fiber optics, with adjustable output power, front-panel FC/PC fiber aperture, and optional external modulation. The S1FC1550 is intended for laboratory and industrial fiber-optic applications requiring a stable 1550 nm source, including telecommunications testing, fiber optic sensing, spectroscopy setups, and general fiber-coupled optical experiments. The Thorlabs S1FC1550 is a benchtop fiber-coupled Fabry-Perot laser source in the S1FC series. Thorlabs documentation describes these sources as providing easy coupling and simple control of laser-diode-driven fiber optics, with adjustable output power, front-panel FC/PC fiber aperture, and optional external modulation. The S1FC1550 is intended for laboratory and industrial fiber-optic applications requiring a stable 1550 nm source, including telecommunications testing, fiber optic sensing, spectroscopy setups, and general fiber-coupled optical experiments.

 ThorLabs S1FC1550 Fabry-Perot Laser Source

MODEL

**ThorLabs
S1FC1550**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

S1FC1550

LISTING

<https://aumictechlabs.com/products/s1fc1550-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Thorlabs S1FC1550 is a Fabry-Perot benchtop laser source delivering stable continuous-wave optical signals at 1550 nm for telecommunications, fiber optic testing, and near-infrared

experimental applications. The unit has 1.5 mW minimum output power with power adjustment from approximately 0 mW to full output, coupled to standard single-mode fiber via an FC/PC connector. Front-panel controls enable intuitive power management and real-time output monitoring through a digital display.

Technical Specifications

Wavelength: 1550 nm typical; 1530–1570 nm operating range

Output Power: 1.5 mW minimum full output; adjustable 0 mW to full power

Optical Fiber: SMF-28-J9 single-mode fiber, 10.4 μm $\pm$ 500 nm mode field diameter, 0.14 numerical aperture

Power Stability: $\pm$ 0.05 dB over 15 minutes; $\pm$ 0.1 dB over 24 hours (after 1 hour warm-up at 25 $^{\circ}\text{C}$ $\pm$ 10 $^{\circ}\text{C}$)

Operation Mode: Continuous wave (CW)

Laser Class: Class 1

Warm-up Time: 5 minutes minimum to stabilization

Modulation Input: 0–5 V analog, 50 Ω impedance, 0–30 kHz bandwidth (sinewave only). Full depth of modulation supported to 5 kHz; small-signal modulation to 30 kHz. TTL and squarewave inputs not permitted.

Key Features

Fiber-coupled output with standard FC/PC connector for direct system integration

Dual AC input selectable between 115 VAC (250 mA max) and 230 VAC (160 mA max), 50–60 Hz

Safety interlock input via 2.5 mm mono jack (normally open dry contacts only)

Analog modulation capability via BNC connector

Compact benchtop form factor, 3.23 kg

Operating Environment

Operating Temperature: 15–35 $^{\circ}\text{C}$

Storage Temperature: 0–50 $^{\circ}\text{C}$

Typical Applications

Telecommunications system testing and validation

Fiber optic component characterization

Near-infrared signal generation for laboratory and field experiments

Optical power measurement and system calibration

Features & description

From manufacturer datasheet

Features

- Fabry-Perot laser diode source at 1550 nm
- Fiber-coupled benchtop instrument
- FC/PC optical output aperture
- Single-mode fiber matched to wavelength
- Adjustable output power from near zero to full rated power
- Front-panel power display and multi-turn power adjust knob
- Laser enable switch with emission indicator
- Keylock power switch
- Remote interlock input
- External modulation input (0 to 5 V)
- Switch-selectable 115 VAC / 230 VAC operation

S1FC1550 Characteristics / Specifications

PARAMETER	VALUE
Model	S1FC1550
Manufacturer	Thorlabs
Instrument Type	Fiber-Coupled Fabry-Perot Laser Source
Wavelength	1550 nm
Center Wavelength Tolerance (typical listing)	1550 nm +/-15 nm
Minimum Full Output Power	1.5 mW
Laser Class	Class 1 (1550 nm, less than 5 mW)
Optical Interface	FC/PC
Internal Fiber	SMF-28 / SMF-28-J9 single-mode fiber
Display Accuracy	+/-10%
Setpoint Resolution	0.01 mW
Adjustment Range	approximately 0 mW to full power
TEC	Not applicable (Fabry-Perot version; no TEC wavelength stabilization) Modulation
Modulation Input	0 to 5 V corresponds to 0 to full power
Allowed Modulation Waveforms	DC or sine wave input only
Modulation Bandwidth	5 kHz full depth of modulation; 30 kHz small-signal modulation
Modulation Connector	BNC, 50 Ohm
Caution	Do not apply TTL or square-wave modulation to the MOD IN input Environmental And Power
Operating Temperature	15 to 35 C
Storage Temperature	0 to 50 C
AC Input	115 VAC / 230 VAC (switch selectable), 50-60 Hz
Fuses	250 mA for 115 VAC; 160 mA for 220/230 VAC; 5 mm x 20 mm 250 VAC TypeT Mechanical
Approximate Dimensions	5.76 inWx 11.43 inDx 3.07 in H (146.3 mm x 290.3 mm x 78.0 mm)

PARAMETER	VALUE
Front Panel	3.5-digit display, laser aperture, enable switch, emission indicator, keylock power, power adjust
Rear Panel	AC inlet, remote interlock, modulation input, line-voltage indicator Operational Notes Laser emission begins approximately 5 seconds after the enable switch is pressed. The displayed power is the optical power at the laser aperture; delivered fiber power may be lower depending on connector quality. A short circuit must be present across the remote interlock terminals for laser enable. Clean FC ferrules and the output barrel before mating fiber cables.
Bandwidth	5 kHz full depth of modulation; 30 kHz small-signal modulation

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	0 to 50 C
Operating temperature	15 to 35 C
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AC Input	115 VAC / 230 VAC (switch selectable), 50-60 Hz
Fuses	250 mA for 115 VAC; 160 mA for 220/230 VAC; 5 mm x 20 mm 250 VAC TypeT Mechanical
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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	S1FC1550
Manufacturer	Thorlabs
Instrument Type	Fiber-Coupled Fabry-Perot Laser Source
Wavelength	1550 nm
Center Wavelength Tolerance (typical listing)	1550 nm +/-15 nm
Minimum Full Output Power	1.5 mW
Laser Class	Class 1 (1550 nm, less than 5 mW)
Optical Interface	FC/PC
Internal Fiber	SMF-28 / SMF-28-J9 single-mode fiber

Power Stability, 15 minutes: +/-0.05 dB after 1 hour warm-up at 25 +/-10 C ambient
Power Stability, 24 hours: +/-0.1 dB after 1 hour warm-up at 25 +/-10 C ambient

Specifications

PARAMETER	VALUE
Display Accuracy	+/-10%
Setpoint Resolution	0.01 mW
Adjustment Range	approximately 0 mW to full power
TEC	Not applicable (Fabry-Perot version; no TEC wavelength stabilization)

Modulation

Specifications

PARAMETER	VALUE
Modulation Input	0 to 5 V corresponds to 0 to full power
Allowed Modulation Waveforms	DC or sine wave input only
Modulation Bandwidth	5 kHz full depth of modulation; 30 kHz small-signal modulation
Modulation Connector	BNC, 50 Ohm

PARAMETER	VALUE
Caution	Do not apply TTL or square-wave modulation to the MOD IN input

Environmental And Power

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Operational Notes
Laser emission begins approximately 5 seconds after the enable switch is pressed. The displayed power is the optical power at the laser aperture; delivered fiber power may be lower depending on connector quality. A short circuit must be present across the remote interlock terminals for laser enable. Clean FC ferrules and the output barrel before mating fiber cables.

Notes
This manual OEM source was compiled from the Thorlabs S1FC series Fiber-Coupled Laser Sources operating manual covering the S1FC1550, with supporting Artisan product listing details for connector and wavelength tolerance.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.