



12-1015 - ST815
Stable Laser Source User Manual

V1.0

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service time.

- (1) The instrument should be avoided of mechanical oscillation, collision, fall off and any other mechanical damage.
- (2) The instruments should be avoided the touch of the hard objects, dirty objects, acid, alkali and other caustic objects with the optical output port FC type adapter. Please cover the dustproof cap to avoid the dust and other bad chemical objects.
- (3) Please clean the fiber jumper earthen port using alcohol and operate it after the alcohol is air-dry.
- (4) It is forbidden that the user looks at the light output end directly when you operate the instrument to avoid the light burn the eye and skin.
- (5) Clean the ceramic core regularly
- (6) The battery should be taken out if the instrument is out of operation for a long while, otherwise, the service time of battery will be affected.

1. Summary

With better performance and special fast field testing function, ST815 adopts advanced technology of exact light and dealing with technology and to support high performance light for the field test and the lab development. It has been an ideal instrument for maintenance and development of optical network equipments.

ST815 can be widely used in various kinds of optical cable testing fields, such as LAN, WAN, CAN, CATV and long-distance Fiber Network.

Together with ST800 series optical power meter, ST815 Laser Source can support stable light signal on many kinds of wavelength, it can recognize the fiber, test the fiber loss and continuity accurately, help to evaluate the transmission quality of fiber chain as well.

2. Functions

- (1) Handheld, easy to operate
- (2) Two to four wavelength optional
- (3) Continuous light, modulated light output
- (4) Output double wavelength through single adapter
- (5) Output three or four wavelength through double adapter
- (6) High stabilization
- (7) Auto shut off function without operation in 10 minutes
- (8) Support FC, SC, ST adapters
- (9) Big LCD, intuitive, easy to use,
- (10) LED backlight switch on/off

- (1) Auto close back light in 8 seconds
- (2) Ni-MH rechargeable battery or 9V battery
- (3) Battery voltage display
- (4) Low voltage checking and shut off design to save energy

3. Specifications

- (1) Emitter type: Fabry-Perot LD/DFB-LD
- (2) ST815 series wavelength switch:
ST815 Wavelength: 1310±20nm, 1550±20nm
ST815B Wavelength: 1310±20nm, 1550±20nm, 1490±20nm
ST815C Wavelength: 1310±20nm, 1550±20nm, 850±20nm, 1300±20nm
ST815D Wavelength: 1310±20nm, 1550±20nm, 1625±20nm
- (3) Spectral width: ≤5nm
- (4) Output Power: ≥-7 dBm
- (5) Stability in short time: ≤±0.05dB/15min
- (6) Stability in long time: ≤±0.1dB/5h
- (7) Light output mode: CW, 270Hz, 1kHz, 2kHz
- (8) Battery display : LCD
- (9) Working wavelength and modulated light display: LCD
- (10) Battery: 9V/160mAh Ni-MH rechargeable battery or 9V dry battery
- (11) Low voltage: If the battery voltage is lower than 7.5V, auto warning every 20s
- (12) Low voltage shut off: When the battery voltage is lower than 7.1V
- (13) Charging time: 4-6 hours
- (14) Battery working duration: 4 hours
- (15) Working temperature: 0°C ~ 40°C

6. Faults & Solutions

Faults	Reasons	Solutions
The instrument cannot be switched on	The battery is under low voltage	Charge the battery at once
No optical power output	The earthen core of the connector is broken	Replace the connector
The optical power is decreased	Connector and the inner light caudal fiber earthen core are dirty	Clean the earthen core using absorbent cotton with alcohol

7. Advertent Items

Attention: The light source maybe hurt to eyes, so it is forbidden that the user looks at the light output end directly when you operate the instrument in order to avoid the light burn the eyes.

Note: If you use (9v) dry battery, do not recharge the battery. That is dangerous!

Please pay attention to the followings in order to keep the performance of the instrument and prolong its

4. Backlight

Press "*" button to turn the backlight on or off. When the backlight is on, the sign * will display on the screen, otherwise this sign disappear. If the backlight is in a closed state, the operation of any function key will open the 8 seconds' backlight besides pressing "start" button.

5. Under-voltage

When the battery voltage is lower than 7.8V, the power indicator become \square , when the battery voltage is lower than 7.5V, the equipment will alarm "Low voltage" every 20 seconds. When the battery voltage is lower than 7.1V, it will be in auto turn-off state. Lower than 7.2 V should be charged in time, charging time is about 4 to 6 hours, please observe the charger, if the charging indicator light becomes from red to green, which means the battery is full.

6. When the equipment is not in use, the user should immediately cover the dust cap to keep the adapter clean.

(16) Storage temperature: $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$

(17) Relative Humidity: $\leq 80\%$

(18) Dimension (mm): $160 \times 76 \times 28$

(19) Weight: 0.22Kg

4. Layout

ST815 Figure

1. 1310nm, 1550nm output adapter

2. LCD

3. Operate buttons

4. Charging socket



ST815B, ST815C, ST815D Figure

1. 1310nm, 1550nm output adapter
2. The second output adapter:
ST815B: 1490nm output adapter
ST815C: 850nm, 1300nm output adapter
ST815D: 1625nm output adapter
3. LCD
4. Operate button
5. Charging socket

5. Operation

1. **On/Off**
Press "On" key 2 seconds to start the equipment, LCD displays operating wavelength, battery voltage and modulation state. When you open the ST815, it works on 1310 nm wavelength and continuous light output state; press "off" key 2 seconds to close the equipment. The system defaults auto-shutdown, auto shutdown logo ☼ is displayed on the screen. Open and turn off the automatic shutdown function: Press "off" button on the screen, auto-off mark ☼ disappear, which shows the automatic shutdown function is closed; and then press "off" button, automatic shutdown logo ☼ is displayed on the screen at this time has indicated that the automatic shutdown feature open. If there is no operation for 10 minutes, the equipment will automatically shutdown.
2. **Wavelength switch function**
Press "wavelength" button, you can switch different wavelengths, and LCD screen display the different output wavelength.
Note: If you want to switch the 1310nm, 1550nm wavelength to 850nm, 1300nm (ST815C) or 1490nm (ST815B) or 1625nm (ST815D), do not forget to change the output adapter.
3. **Modulation output**
Press the "Mode" button, you can achieve the modulated light 270Hz, 1 kHz, 2 kHz continuous light output, at the same time on the LCD screen will show the corresponding modulation frequency of the state.