

# **DLS 355**

## **Quick Start Guide**

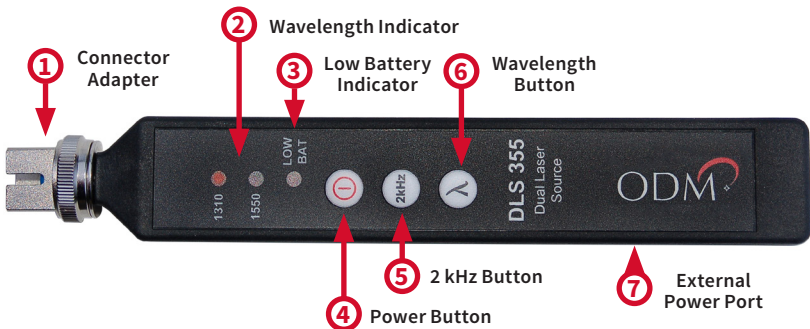
### Dual Laser Source

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The DLS 355 dual laser source is a single-mode test laser used for verifying the proper function of fiber optic networks. This document will serve as an overview of the major features and functions of the device and offer tips for troubleshooting common issues in optical networks.



### 1. Connector Adapter - Interchangeable

The DLS 355 comes with an SC screw-on adapter. Additional adapters are available from Ripley. Refer to page 5 for more information.

### 2. Wavelength Indicator

This unit offers 1310 nm and 1550 nm wavelengths. When the DLS 355 is turned on, the red light indicates which wavelength is selected. The red light blinks to indicate when the 2 kHz modulation is turned ON.

### 3. Low Battery Indicator

A red indicator light appears when the CR2 battery power is low. Replace or recharge the battery, depending on the battery type, to return to normal operation of the DLS 355.

### 4. Power Button

Use the power button to turn the DLS 355 ON and OFF. The unit will turn off automatically after 15 minutes. To bypass auto-shutoff, hold the power button for 5 seconds when turning ON.

### 5. 2 kHz Button

The 2 kHz button toggles the modulation of currently-selected wavelength output. The laser flashes at 2000 times per second to provide a recognizable signal to a companion power meter. Output power of the laser is reduced by 3 dB when the modulation is active.

### 6. Wavelength Button

The wavelength button switches between the 1310 nm and 1550 nm wavelength.

### 7. External Power Port

The port accepts the AC 030 power supply. The power supply is not a battery charger - just a battery bypass.

## Important Safety Information

### **⚠ WARNING!**

Read and understand all of the instructions and safety information in this manual before operating this tool.

## **⚠ LASER HAZARD**

Please note that 1310 nm and 1550 nm wavelengths are not visible to the human eye. Do not look directly into the output port of the DLS 355 or directly into any fiber connector that may be live.

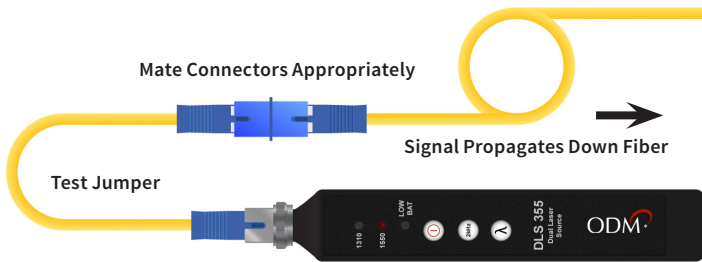
Since the laser is invisible to the eye, the eye's natural blink reflex is suppressed. This can cause damage to the retina.



FDA 21 CFR 1040.10 & 1040.11  
IEC 60825-1: 2007-03  
Class 1 Laser Product

## **Transmitting Light**

The DLS 355 transmits either the 1310nm or 1550nm wavelength on single-mode fiber. It is important to use a test jumper to mate the DLS 355 to the fiber under test.



## **Output Power**

The DLS 355 is calibrated to have an output power level of -5 dBm. Variations in power level between -5 dBm and -8 dBm may be normal depending on the quality and age of the test jumper, the DLS 355 output port, and other factors.

Always ensure that the DLS 355 is transmitting an acceptable power level before performing an insertion loss test. Simply insert the test jumper (plugged into the DLS 355) into a companion power meter set to the dBm mode. The power meter will indicate the measured output power of the laser.

Test Jumper Plugged  
Into Power Meter



Power Meter Displays  
Output Power of Laser

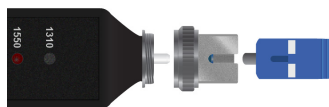
## **Output Port Maintenance**

The DLS 355 utilizes a physical fiber connection at the output port. It ensures a steady power level for performing insertion loss tests.

Ensure that any test jumpers are inspected and cleaned before plugging into the DLS 355 unit. If soiled or damaged connectors are inserted, they can cause damage to the DLS 355 output port and the unit may need to be repaired.



The test jumper has physical contact with the ferrule inside the DLS 355.



#### TO CLEAN THE FERRULE INSIDE THE DLS 355:

- Unplug the test jumper
- Unscrew the adapter until it spins freely, then pull
- Inspect the ferrule with an approved microscope, clean if necessary, and replace adapter

## Using the 2 kHz Function

When the DLS 355's 2 kHz modulation is active, the selected wavelength indicator will blink. The modulation is recognized by optical power meters further down the fiber and indicated by a 2 kHz notification on the screen and a loud beep. The modulated tone can also be recognized through the fiber jacket when a Live Fiber Identifier is used.



The LFI introduces a bend into the fiber which leaks light from the core onto the detector of the power meter. When using an LFI, expect a 30 to 35 dB offset in core power.

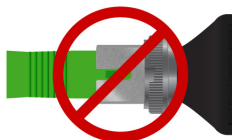


## Testing Notes

Blue connectors (UPC) have a straight ferrule with a domed interface. Green connectors (APC) have an eight-degree angled ferrule with a domed interface.



UPC and APC connectors **are not compatible**. **NEVER** connect UPC and APC connectors together, OR plug an APC connector into the DLS 355 unit. This can cause irreparable damage to both connectors.



## Maintenance

### Unpacking & Inspection

The DLS 355 is supplied with a soft carry case, SC adapter installed on the unit, 3.0V CR2 battery, and an instruction card. Contact Ripley immediately if any part of the unit or packaging is damaged, or otherwise unsatisfactory.

### Low Battery

The DLS 355 provides over 1000 operations under normal conditions. When the LOW BAT LED indicator is illuminated on the device, the CR2 battery should be replaced or recharged, depending on the battery type.

## Optical Connector Interface

The DLS 355 is equipped with a SC/UPC connector adapter that is compatible with only SC/UPC optical connectors. The connector adapter interface should be kept covered and protected from contamination. Care must be taken to avoid objects that may damage the fiber inside the adapter mount. Always inspect and clean fibers before mating them to the device. If scratches or breaks occur on the fiber surface, please contact Ripley for proper service.

## Calibration

All Ripley ODM® brand products include a 2-year warranty. Ripley recommends recalibration every two years to ensure adherence to NIST measurement standards. The first recalibration is free within the warranty period. Contact Ripley Tools for return information.

## Light Source Accessories

### Light Source Adapters

PART NUMBER	DESCRIPTION
AC 022B	SC Adapter
AC 023B	FC Adapter
AC 024B	ST Adapter
AC 025B	LC Adapter

### Patch Cord & Battery Accessories

PART NUMBER	DESCRIPTION
AC 500	SM SC-LC – 1m Simplex
AC 505	SM SC-ASC – 1m Simplex
AC 501	SM SC-SC – 1m Simplex
AC 502	SM LC-LC – 1m Simplex
AC 600	SC-SC – Simplex Bulkhead
AC 601	LC-LC – Simplex Bulkhead
AC 602	LC-LC – Duplex Bulkhead
AC 300	CR2 Non-Chargeable Battery (Pack of 5)
AC 310	CR2 Rechargeable Battery Charger w/ 2 Batteries
AC 311	CR2 Non-Chargeable Battery (Pack of 1)
AC 312	CR2 Rechargeable Battery (Pack of 1)

## AC 030 Battery Bypass

Ripley Tools offers the AC 030 wall plug for users who wish to leave their DLS 355 turned on for long periods of time. This is **NOT** a charger, but rather powers the unit from a wall outlet.



## Specifications

### Dual Single-Mode Laser Source

WAVELENGTH	1310 nm & 1550 nm
OUTPUT POWER	-5.0 dBm
OUTPUT STABILITY	±0.05dB (1 Hour); ±0.03dB Long-Term (15 min warm-up)
SPECTRAL WIDTH	5 nm / 5nm
OPTICAL INTERFACE	SC/FC/ST/LC Interchangeable
tone OUTPUT	2 kHz
LASER CLASS	Class 1 (FDA 21 CFR 1040.11)
POWER	Push Button Toggle / Auto-OFF

<b>BATTERY</b>	CR2
<b>OPERATING TEMPERATURE</b>	-10° C to +50° C
<b>STORAGE TEMPERATURE</b>	-30° C to +60° C
<b>DIMENSIONS</b>	6.1" x 0.94" x 0.75" (15.5 x 2.38 x 1.9 cm)
<b>WEIGHT</b>	3 oz (85.4 g)

## Certifications

This product conforms with health, safety, and environmental protection standards for products sold within the European Economic Area (EEA). This product was tested by an ISO 17025 accredited laboratory and complies with the following CE directives and standards listed below:



**Directives:**

Electromagnetic Compatibility (2014/30/EU)

**Standards:**

EMC: EN 61326-1:2013 Industrial

Safety: EN/IEC61010-1:2010+A1:2016



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Contact Information

Contact us with any questions pertaining to this or any other ODM product.



**Call Us:**  
(603) 524-8350



**Email Us:**  
tech.support@odm.ripley-tools.com



**Visit Us Online:** [www.ripley-tools.com/odm](http://www.ripley-tools.com/odm)

## Warranty Information

Ripley ODM® brand test equipment is furnished with a 2 year warranty extending from the original date of purchase. Contact Ripley Tools for information on recalibration and repair of test equipment. Ripley makes every effort to ensure that all information in this data sheet is accurate. Ripley Tools assumes no responsibility for any errors or omissions and reserves the right to modify this document at any time without notice. Please contact Ripley ODM® brand specialists for pricing and availability of equipment.