



Test & Inspection

FlexScan[®] FS200 OTDR

With SmartAuto[®], FleXpress[™] and LinkMap[®]

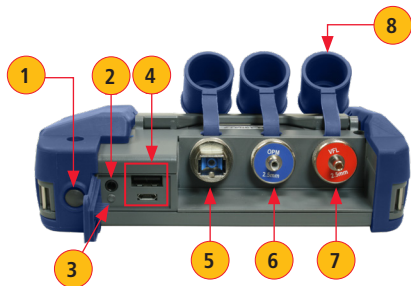
Quick Reference Guide

www.AFLglobal.com | +1 (800) 235-3423

Table of Contents

Controls, Display, Interfaces.	3
Home Screen	4
OTDR Modes: SmartAuto® with LinkMap® Display Summary	5
OTDR Modes: Live Fiber Detection and Launch Quality Check	6
OTDR Modes: Testing in SmartAuto®	7
Expert and Real Time OTDR: Trace Display	9
General Settings	10
Light Source and Power Meter Operation.	12
Saving, Recalling, Uploading Test Results	13

Controls, Display, Interfaces



1. Power button
2. Power jack (5 VDC)
3. Charge/AC indicator
4. USB ports
5. OTDR/source port
6. Power meter port
7. VFL port
8. Dust cover
9. Home button
10. Start/stop test button
11. VFL indicator
12. VFL button
13. Touchscreen display

Battery Charging



- Plug the included AC charger into AC outlet.
- Connect charger plug to power jack.
- AC LED indicates charging status as follows:
 - OFF** - AC not connected
 - RED** - Charging battery
 - GREEN** - Fully charged
- **Note:** Flashing RED/GREEN = battery charging halted due to over-temperature.

Configure FlexScan to Auto-Off

- From the Home screen, select Settings menu.
- Locate and select the Auto Off Timer menu.
- From the Auto Off Timer menu, select the desired power save option (5 min, 15 min, Never).



Home Screen

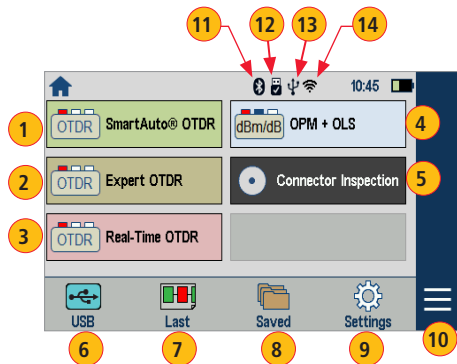
The Home screen is the FlexScan's Main menu that is displayed at startup. While in any other screen, return to Home by either pressing the Home button  or touching (if available) the Back  soft key. This screen contains menus of Test and Utility modes that allow users to set test parameters, select user preferences, manage saved test results, configure general settings and perform other non-test functions.

Test Modes and Features Summary

1. **SmartAuto™ OTDR:** Configure and run SmartAuto OTDR test using multi-pulse acquisition.
2. **Expert OTDR:** Configure and run Expert OTDR test with averaging.
3. **Real Time OTDR:** Configure and initiate OTDR test with real-time updates.
4. **Source & Power Meter:** Enable light source and/or measure optical power.
5. **Connector Inspection:** View connector inspection results received via Bluetooth from FOCIS Flex probe.

Utility Modes and Features Summary

6. **USB:** Touch to enable file transfer.
7. **Last:** Touch to view the most recent test results.
8. **Saved:** Touch to recall and view saved test results.
9. **Settings:** Touch to access General Settings menu.
10. **Menu:** Touch to view Device Information screen.
11. **Bluetooth:** Indicates Bluetooth enabled.
12. **USB:** Indicates external USB memory stick detected.
13. **USB Cable:** Indicates USB cable connected to PC.
14. **Wi-Fi:** Indicates Wi-Fi Link enabled.



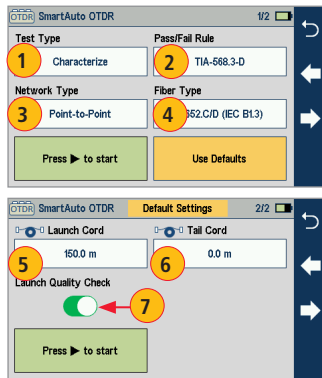
OTDR Modes: SmartAuto® with LinkMap® Display Summary

While in the SmartAuto OTDR Settings Menu:

- Touch the desired setting field/tab (e.g. Test Type) to display a sub-menu (where applicable).
- Touch ← → to navigate to next/previous screen.
- Touch ↶ to return to the previous menu.
- Touch Use Defaults (if displayed) to reset settings to defaults.
- Touch 'Press ▶ to start' to initiate testing.

SmartAuto OTDR Settings Summary

1. **Test Type:** Limited to Characterize in FS200-100.
Select Characterize or Flexpress Fast Test in FS200-60/300/303/304 when Network Type = Point-to-Point.
2. **Pass/Fail Rule:** Indicates selected LinkMap event pass/fail rules.
Touch to select ITU G.671, TIA-568.3-D or User. Touch and hold to view/edit pass/fail event thresholds.
3. **Network Type:** Limited to Point-to-Point in FS200-100 model.
Select Point-to-Point or FTTH PON in FS200-60/300/303/304 models. If PON selected, configure split ratio settings to match expected network splitter configuration.
4. **Fiber Type:** Touch to select G.65x or User fiber type. Touch and hold to view/edit associated Group Index of Refraction (GIR) and Backscatter Coefficient (BC) settings.
5. **Launch Cord:** Touch to configure length of Launch cable, if present.
6. **Tail Cord:** Touch to configure length of Receive cable, if present.
7. **Launch Quality Check:** Enable to check OTDR connection to launch cord or jumper cable at start of test.



OTDR Modes: Live Fiber Detection and Launch Quality Check

Live Fiber Detection

To prevent service disruption on live PONs, FlexScan performs a Live Fiber check prior to every OTDR test. If a live fiber is detected, FS200-100/300 models display a warning screen and do not allow testing; FS200-60/303/304 displays a warning and allows the user to complete a test at 1650 nm only.

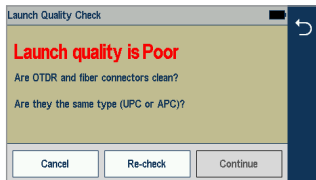
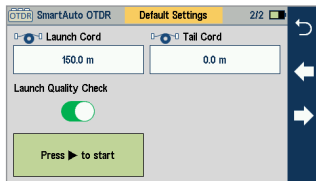
Launch Quality Check

An optional launch quality check enables users to detect dirty, damaged, poorly seated, or mismatched (UPC to APC) connectors.

To perform the launch quality check:

1. With the Launch Quality Check option enabled in the OTDR or General Settings screen, initiate an OTDR test.
2. The FlexScan will assess the loss and reflectance at the OTDR's connection to the launch cord (fiber ring) or fiber under test.
3. If excess loss or reflectance is detected, the OTDR displays the 'Launch Quality is Poor' warning screen. From this screen the user may choose to perform one of the following:
 - Cancel a test by touching either Cancel or Back.
 - Clean connectors, then repeat the launch quality check by touching Re-check.
 - Continue testing without checking and cleaning the connection by pressing Continue.

Note: Testing a fiber with poor launch quality may produce poor test results.



OTDR Modes: Testing in SmartAuto®

Initiate the SmartAuto test by touching 'Press ► to start' soft key or pressing Start/Stop button.

1. FlexScan begins testing with the Live Fiber check and if a live fiber is NOT detected, proceeds to next step.
2. If the Launch Quality check is enabled, FlexScan checks loss and reflectance of the OTDR connection.
3. If launch quality is good, FlexScan starts testing at one or more wavelengths using SmartAuto settings.
4. When testing is done, FlexScan displays the LinkMap® screen, which is a primary display in SmartAuto OTDR mode.

LinkMap Display Features

LinkMap is an icon-based representation of the analyzed network.

File name: consists of cable name and fiber number, or "New Trace" if file has not been saved

Link map thumbnail view with proportionally spaced events

Link Length

x/y or $x1-x2/y$, where
 x = number of the selected event
 $x1-x2$ = link section between events, y = total events

LinkMap detail view: shows summary and first 4 events, or up to 5 events. White highlighted area in thumbnail view indicates region of fiber for which events are shown in the detail view.

Back key: touch to return to the previous menu

Touch to move to next or previous event or link section

Menu key: touch to navigate to Save As screen

OTDR Modes: Testing in SmartAuto®

Link Summary icon: may be green (all events passed), red (one or more events failed, but no major fault detected), or black (one or more major faults detected)

Selection marker ▲ indicates active icon: Summary, Event, or Section

Details of the currently selected Summary, Event, or Section

LinkMap tab: when in any other test results viewer (Event Table, Trace view, Info view), touch to return to LinkMap view

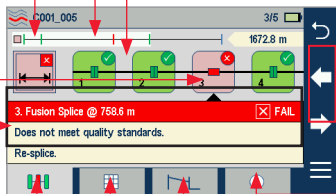
Event Table tab: touch to display measurements for the currently selected Link Summary **A**, Event **B**, or Section **C**

Event icon: event icons may be green (pass), red (fail), or black (major fault). Pass/fail/major fault is based on event loss and reflectance thresholds configured by the currently selected Pass/Fail Rule.

Link Section between events

Touch to move to next or previous event or link section

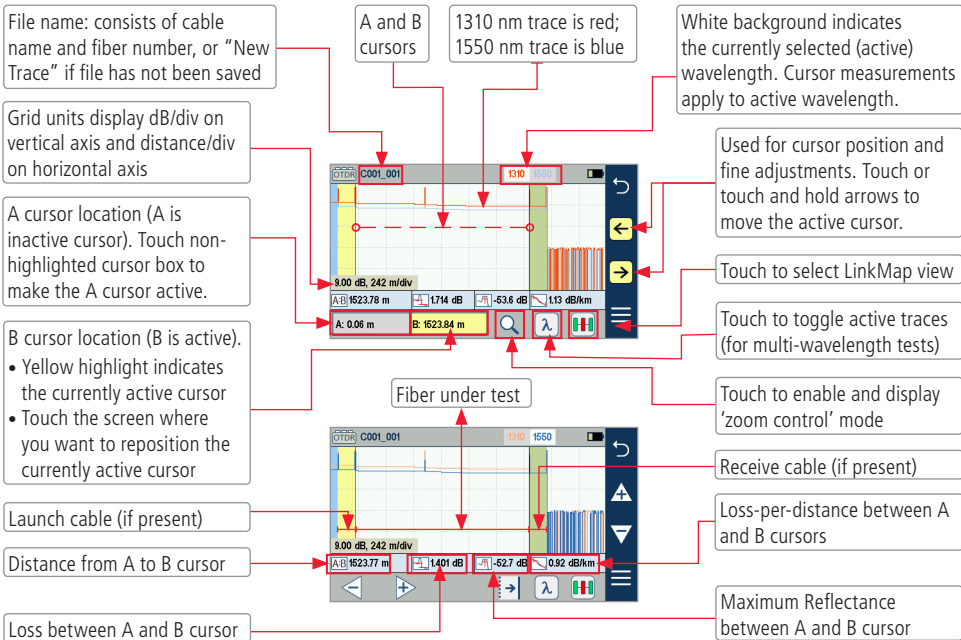
Info tab: touch to display summary of OTDR settings used for this test



Trace tab - touch to display Trace view that depends on selection:

Selection	Display View
Summary	Trace of entire network
Event	Trace around event
Section	N/A

Expert and Real Time OTDR: Trace Display



Expert and Real Time OTDR: Trace Display

Touch the cursor select key to enable and display the 'cursors control' mode

Horizontal zoom: Touch the right/left arrow to zoom trace view horizontally around the currently active cursor



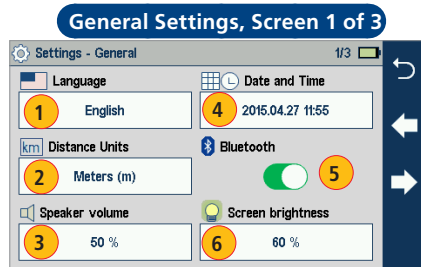
Vertical zoom: Touch the up/down arrow to zoom trace view vertically around the currently active cursor

Touch the LinkMap icon to display the LinkMap view

General Settings

While in the General Settings screen:

- Touch the desired setting field to display a sub-menu.
- Touch **←** **→** Left/Right Arrows to display additional General Settings screen.
- Touch **↶** Back to return to the previous menu.
 1. Select Language.
 2. Select Distance Units.
 3. Set Speaker volume.
 4. Set Date and Time.
 5. Enable/configure Bluetooth.
 6. Set brightness and auto-dim.



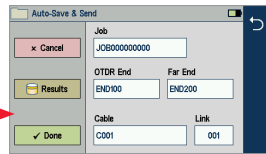
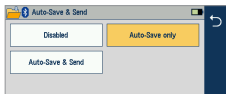
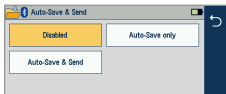
General Settings

Touch ➡ Right Arrows to display General Settings screen # 2.

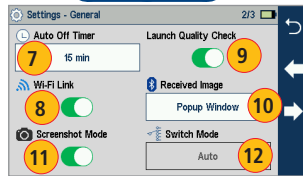
7. Set Auto Off Timer.
8. Enable/disable results download and software update via Wi-Fi.
9. Enable/disable Launch Quality Check.
10. Display received FOCIS Flex results in popup window or save in background.
11. If enabled, capture current screen using Home key.
12. Configure MPO Switch Control (if Switch connected and enabled).
13. Automatically Save (and Optionally Send) test results.

- Touch Auto-Save & Send to display additional screen.
 - Disabled – Results will not be automatically saved or sent.
 - Auto-Save only – Results will be saved, but not sent.
 - Auto-Save & Send – Results will be saved and sent
- **Note:** FS200 must be Bluetooth-paired to mobile device running FlexApp.
- Configure Job, OTDR End, Far End, Cable, and Fiber# names for saved results and touch Done.
- With Auto-save enabled, results will be saved to the configured destination each time a test completes.

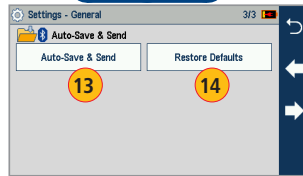
14. Restore Settings to factory default states.



Screen 2 of 3



Screen 3 of 3



Light Source and Power Meter Operation

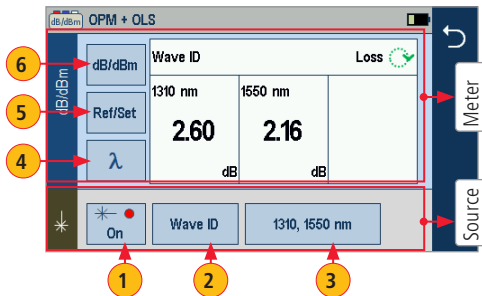
Source Settings and Features

1. Touch to enable/disable light source. RED dot indicates that source is ON.
2. Touch to select test mode: Wave ID, CW, Tone (270 Hz, 330 Hz, 1 kHz, 2 kHz).
 - Select Wave ID mode for fastest loss measurements.
While in this mode, the FlexScan source transmits wavelength information, enabling a Wave ID power meter to synchronize and measure power at received wavelength(s).
 - Use CW mode to generate continuous wave light at a single wavelength.
 - Generate Tone for fiber identification (270 Hz, 330 Hz, 1 kHz, 2 kHz).
3. Touch to select test wavelength: 1310, 1550 or 1650 nm (depending on model).

Power Meter Settings and Features

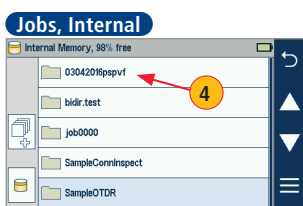
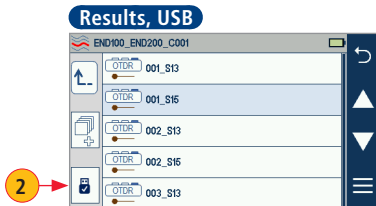
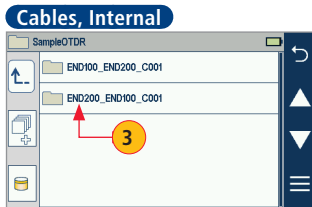
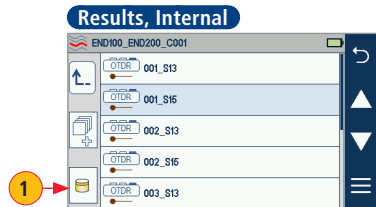
4. If used with non Wave ID source, touch to select wavelength. If used with Wave ID source, power meter automatically synchronizes to and indicates received wavelength(s).
5. Hold to store new reference(s) at received wavelength(s). Touch Ref/Set to view stored reference(s).
6. Touch to toggle between power (in dBm or Watts) and loss (dB) mode.

Note: Power meter detects and indicates fiber identifying tones when used with a light source capable of generating a modulated Tone signal.

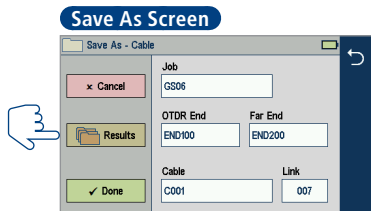


Saving, Recalling, Uploading Test Results

Test results may be stored in the FlexScan Internal memory **1** or on USB **2**. Saved test results are organized into a Cable sub-folder **3** within a Job folder **4**.

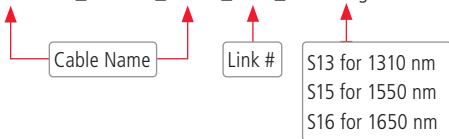


Saving, Recalling, Uploading Test Results



A name of the saved result consists of several parameters, which are defined in the Save As screen.

OTDR End _ Far End _ Cable _ Link _ Wavelength



- Touch Results to select Internal memory or USB (if present) and navigate to the desired Job/Cable folder.
- Job, OTDR End, Far End, and Cable are user-defined in String Editor.
- Link number auto-increments after each save, but can be modified in Number Editor as needed.
 - Touch the desired field to display the String/Number editor sub-screen.
 - Make edits using on-screen controls.
 - Touch Done when finished.

Note: FlexScan can be configured to automatically save results and optionally send results to FlexApp via Bluetooth each time a test is completed. See "General Settings" on page 10.

Saving, Recalling, Uploading Test Results

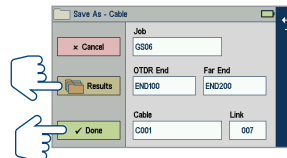
To Save Test Results

1. While in the Results view, touch the Menu, then Save As.
2. Define Job/OTDR End/Far End/Cable/Link fields used to name saved results. Touch Done when finished.
3. Touch Results to view, navigate and select a different Job or Cable folder, or to select USB or Internal memory.



To View Saved Test Results

1. From the Home screen, touch Saved to display the Results Manager.
2. Navigate through Job/Cable/Results screen to locate the desired test record, then touch it to display test results.



Touch the desired folder to open it

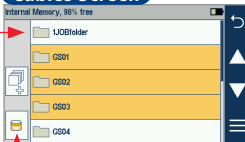
Touch to move up one directory level

Touch to display test results

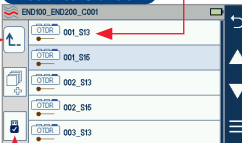
Jobs Screen



Cables Screen



Results Screen



Touch this icon to toggle between Internal Memory & USB (if USB stick present)

Refer to the FlexScan User's Guide (available on the supplied USB stick and www.AFLglobal.com).



Test & Inspection

Thank you for choosing AFL Test & Inspection!

www.AFLglobal.com | +1 (800) 235-3423