
FlexScan[®] FS200 OTDR

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

User's Guide

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Safety and Legal

This user's guide provides operating instructions for testing fiber optic networks with your FlexScan OTDR and assumes that you have basic knowledge about testing fiber optic networks. The purpose of this user's guide is to explain how to use and maintain your FlexScan OTDR. Please check our web site at www.AFLglobal.com, **Test and Inspection** for updates to this user's guide and additional application information.

Warranty Terms and Conditions

AFL products are warranted against defective material and workmanship for a period of (1) one year from the date of delivery to the end user. Any product that is found defective within the warranty period will, at the discretion of AFL, be repaired or replaced. Warranty will be voided if the product has been repaired or altered by other than an authorized AFL product repair facility, if the void sticker has been compromised, or which have been subject to misuse, negligence, or accident. In no case shall AFL liabilities exceed the original purchase price.

Safety Information

WARNING! Use of procedures or adjustments other than those specified herein may result in hazardous radiation exposure.

OTDR/OLS ports: 1550 nm; 1650 nm; 1310/1550 nm; 1310/1550/1625 nm; and 1310/1550/1650 nm	These are a CLASS I LASER output .
VFL port	This is a CLASS II LASER output. Do not stare into beam!

NOTE! FlexScan OTDRs equipped with Bluetooth (option W1) contain one of the following two Bluetooth Transmitter Modules:

FCC ID: X3ZBTMOD	FCC ID: X3ZBTMOD8
IC: 8828A-MOD7	IC: 8828A-MOD8

NOTE! FlexScan OTDRs equipped with Wi-Fi contain the following Wi-Fi Transmitter:

FCC ID: 2ANTH-FS2TS1 This device complies with Part 15 of 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.

Changes or modifications not expressly approved by AFL Test and Inspection could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC: 23261-FS2TS1

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt (RSS(s)). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.



L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

WARNING! Use only the specified AC adapter. Use of another type of AC adapter can damage the instrument and create the danger of fire and electrical shock.

WARNING! To avoid the danger of fire and electrical shock:

- Never use a voltage that is different from that for which the AC adapter is rated.
- Do not plug the unit into a power outlet that is shared by other devices.
- Never modify the power cord or excessively bend, twist, or pull it.
- Do not allow the power cord to become damaged.
- Do not place heavy objects on the power cord or expose it to heat.
- Never touch the AC adapter while your hands are wet.
- Should the power cord become seriously damaged (internal wiring exposed or shorted), contact the manufacturer to request servicing.
- **CAUTION!** Do not run any tests or perform functions that activate a FlexScan laser unless fiber is attached to the corresponding port.
- **CAUTION!** To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords, or test jumpers. Refer to your company's safety procedures when working with optical systems.
- **NOTICE:** FlexScan OTDR contains no user serviceable parts, it must be returned to AFL or authorized agents for repair and calibration.
- **IMPORTANT:** Proper care in handling should be taken when using any precision optical test equipment. Scratched or contaminated optical connectors can impact the performance of the instrument. It is important to keep the dust caps in place when the unit is not being used.
- **IMPORTANT:** Always clean OTDR port and any mating connectors using approved cleaning supplies (e.g. One-click cleaner) before mating the connectors.
- **CAUTION!** Power levels in excess of +3 dBm may damage OTDR optics. Do not connect OTDR to network connectors where received power level may exceed +3 dBm. If high power levels are suspected, verify power level by connecting to OPM and measuring received power level.

Apple Inc. Legal Notice

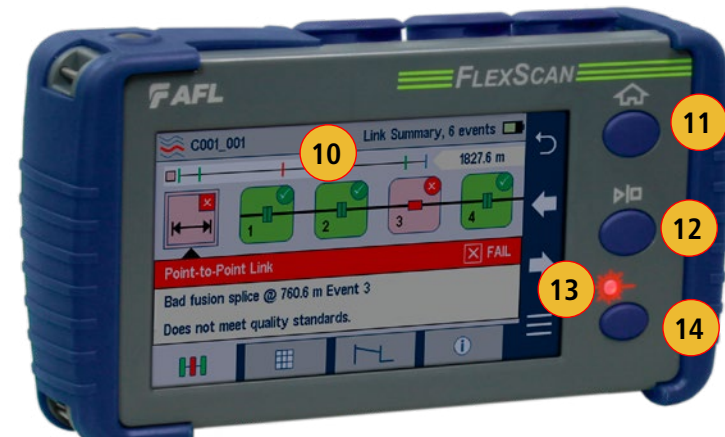
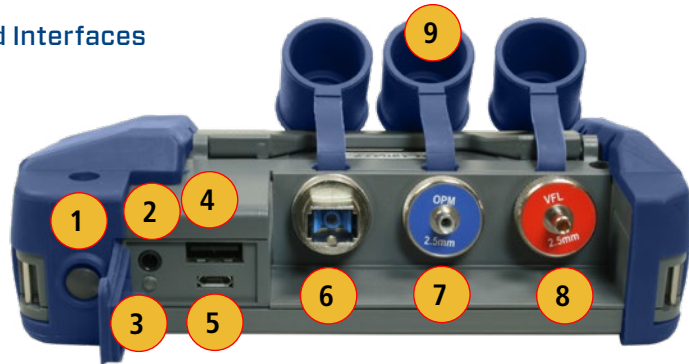
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Hardware and User Interface Overview

Hardware

Controls and Interfaces



Ref	Feature	Description
1	Power button	Press to power FlexScan OTDR on/off.
2	Power port (5 VDC)	This is interface for the AC power adapter/charger.
3	AC/Charger indicator	Illuminates when AC is connected and indicates battery charging status. <ul style="list-style-type: none"> • RED light = rechargeable battery is charging. • GREEN light = rechargeable battery is fully charged. • Note: Flashing RED/GREEN = battery charging halted due to over-temperature.
4	USB host port	This USB port allows connection to a PC for transferring stored test results; also may be used to connect USB Flash Drive for data storage and copying Internal files.
5	Micro-USB function port	With the supplied USB cable, this port may be used to connect OTDR to a USB host port on a PC.
6	OTDR/Light Source port	This is a CLASS I LASER output. 1550 nm only, 1650 nm only, 1310/1550 nm, or 1310/1550/1650 nm single-mode OTDR/Light Source port, depending on model.
7	Power meter port	Optical Power Meter port. Used for power (dBm, W) or loss (dB) measurements.

Ref	Feature	Description
8	VFL port	This is a CLASS II LASER output. Do not stare into beam! The VFL (visual fault locator) port is a 650 nm (visible red) laser. Used for short-range fault-location.
9	Dust cap	Used to protect optical ports from dust/damage. It is important to keep the dust caps in place when the unit is not being used.
10	Touchscreen display	Contains on-screen controls and menus. Used to show setup menus, test results, and saved test data information.
11	Home button	Press to access the Home screen.
12	Test start/stop button	Press to start a new test; or, if a test is running, stop the current test.
13	VFL indicator	When the VFL port is active this indicator illuminates as follows: <ul style="list-style-type: none"> • Flashing RED = VFL is flashing • Solid RED = CW enabled • OFF = VFL is off
14	VFL button	Use the VFL button to control the VFL laser: <ul style="list-style-type: none"> Press and hold ~ 1 sec to enable flashing Press and hold ~ 2 sec to enable CW Press and hold ~ 1 sec to switch off







Battery Charging

You may charge the battery while your FlexScan is switched on or off by attaching the supplied AC charger.

- Plug the included AC charger into AC outlet.
- Connect charger plug to the Power port.
- AC/Charger indicator will illuminate to indicate charging status as follows:
 - **RED** - Charging battery
 - **GREEN** - Fully charged
 - **OFF** - AC disconnected
 - **Flashing RED/GREEN** - Charging halted due to over-temperature.
- FlexScan charges while operating.
- A fully-charged battery operates for approximately 12 hours of typical use.

Understanding Battery Charge Status

When FlexScan is ON, battery icon shown on the display indicates battery status as follows:

-  - Battery fully charged
-  - Battery partially charged
-  - Battery discharged
-  - Battery charging

Battery fully charged, Battery partially charged, and Battery discharged symbols will only be shown when unit is operating without being connected to AC.



Configuring FlexScan to Auto-Off

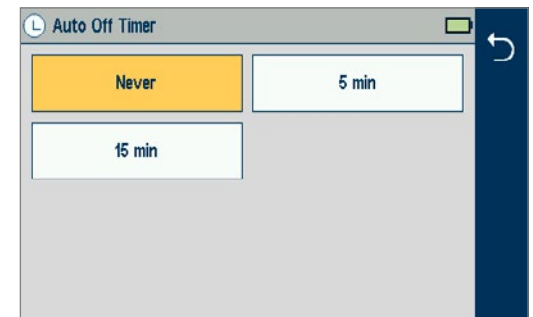
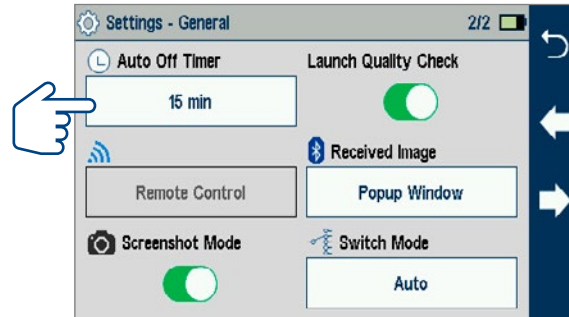
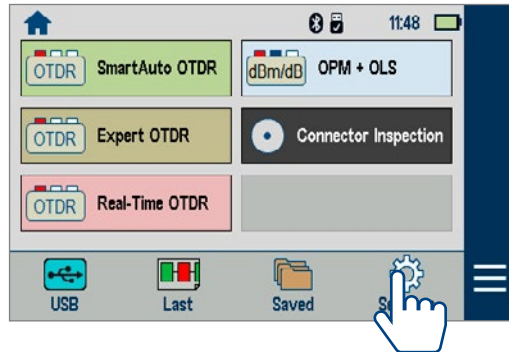
The Auto-Off feature is available for conserving battery power on your FlexScan.

To Configure the Auto-Off Timer:

- Turn your FlexScan On. From the displayed Home screen, touch Settings.
- In the Settings menu, locate the Auto Off Timer option.
 - Touch ◀▶ arrows to navigate to next/previous screen if the Auto Off Timer option is not displayed.
- Touch the Auto Off Timer field to display the settings sub-menu.
- Select the desired power save option (5 min, 15 min, Never).

Notes:

1. Auto-off timer is reset due to any button or touch-screen activity, USB or AC charger connected/disconnected.
2. Auto-off is inhibited if OLS is enabled, USB is connected to PC, AC charger is connected, Wi-Fi Link is enabled, or USB mode is enabled.

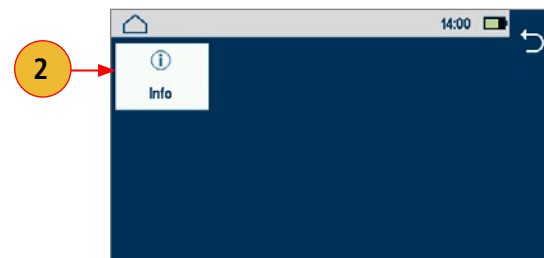




How to View Device Information

FlexScan software revision, serial number, and calibration date can be viewed from the Device Information screen, which is accessed from the Home screen.

1. From the Home screen, touch the Menu ≡ soft key.
2. From the displayed sub-screen, touch the Info tab.
3. View FlexScan Info displayed on the Device Information screen.



Model Number:

FS200-60: 1650 nm OTDR

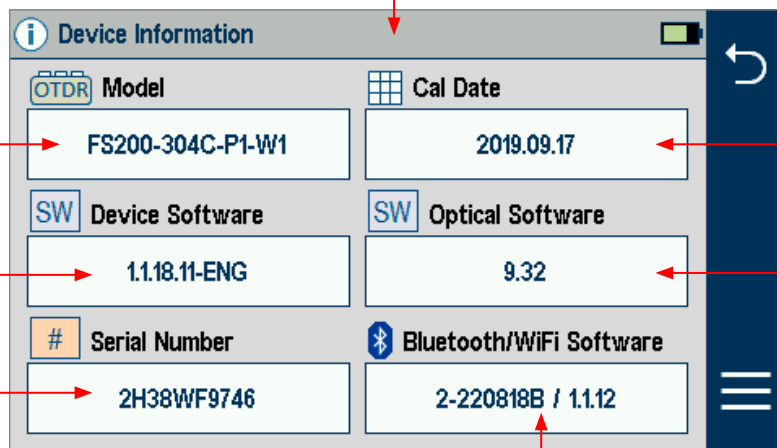
FS200-100: 1310/1550 nm Pt-to-Pt OTDR

FS200-300: 1310/1550 nm PON & Pt-to-Pt OTDR

FS200-303: 1310/1550/1625 nm PON & Pt-to-Pt OTDR

FS200-304: 1310/1550/1650 nm PON & Pt-to-Pt OTDR

3



Device Software: Revision of the current User Interface software and language

Serial Number: FlexScan serial number

Cal Date: Date of last calibration



Optical Software: Revision of current optical firmware

Bluetooth/Wi-Fi Software: Current Bluetooth and Wi-Fi firmware revisions



User Interface Overview

Home Screen Features

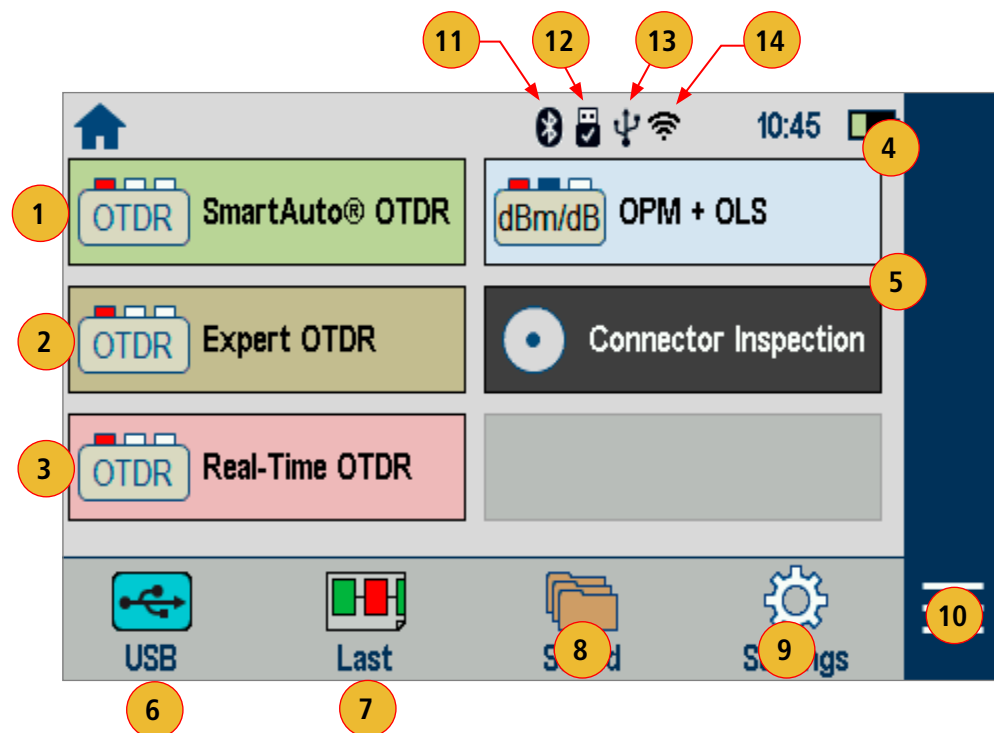
The Home screen is the FlexScan's Main screen that is displayed at startup. While in any other screen, return to Home by either pressing the Home button  or touching and holding (if available) the Back  soft key. This screen contains menus of Test and Utility modes that allow users to set test parameters, 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. **Power Meter & Source (OPM + OLS):** Enable light source and/or measure optical power.
5. **Connector Inspection:** View connector inspection results received via Bluetooth from FOCIS Flex auto-focus probe.
6. **USB:** Touch to enable file transfer. Enabling this mode allows the user to connect to a PC to download results to the PC or upload software updates from the PC.
7. **Last:** Touch to view the most recent test results.
8. **Saved:** Touch to recall and view or send saved test results.
9. **Settings:** Touch to access General Settings menu that contains Unit settings, user preferences, and common OTDR settings.

Utility Modes and Features Summary

10. **Menu:** Touch to view Device Information screen.
11. **Bluetooth:** Indicates Bluetooth enabled.
12. **USB Stick:** Indicates external USB memory stick cable plugged in and detected.
13. **USB Cable:** Indicates USB cable plugged in.
14. **Wi-Fi:** Indicates Wi-Fi remote control enabled.





General Settings

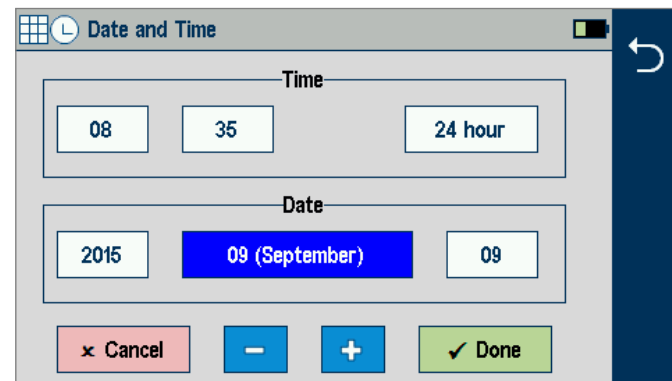
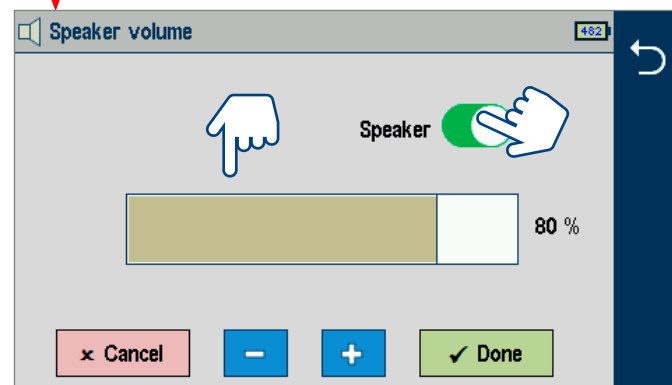
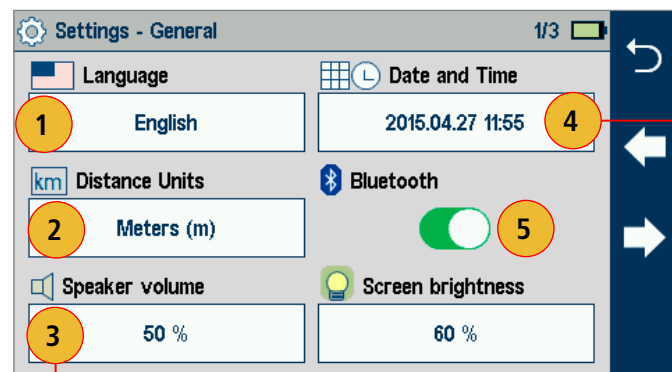
While in the General Settings screen:

- Touch the desired setting field/tab (e.g. Distance Units) to display a sub-menu.
- Touch \leftarrow \rightarrow Left/Right Arrows to display additional General Settings screen.
- Touch \curvearrowright Back to return to the previous menu.

Select and view/edit settings as follows

1. **Language:** touch to select the desired language.
2. **Distance Units:** select kilometers, meters, kilofeet, feet, miles.
3. **Speaker Volume:** touch to display a sub-screen, where
 - If Speaker disabled, touch the on/off control O/O to turn the Speaker on.
 - Touch and/or touch and drag the adjustment slider right/left to increase/decrease the Speaker volume. Or, press [+] / [-] controls for precise adjustments of 10% by step.
 - Press Done to save changes and return to the General Settings screen.
4. **Date and Time:** touch to display a sub-screen, where
 - Touch the desired Time/Date Parameter to enable it.
 - Use controls [+] / [-] to change the selected parameter value.
 - Press Done to save changes and return to the General Settings screen.
5. **Bluetooth:**
 - If disabled, touch the Bluetooth field to display Bluetooth menu.
 - Touch the Bluetooth radio button O to enable O .
 - In the device name field you will see Bluetooth ID displayed for the FlexScan device.

General Settings, Page 1 of 3





6. Screen Brightness and Auto-dim:

- Touch the on/off control to enable/disable the Auto Brightness feature.
 - When the Auto Brightness feature is disabled , you may adjust Brightness by touching and/or touching and dragging the adjustment slider right/left to increase/decrease the Brightness value. Or, you may press the [-] and [+] controls for precise adjustments of 10% by step.
 - When the Auto Brightness feature is enabled , you may adjust several parameters: Auto-dim, Brightness, and Timer control. Make adjustments using sliders for dimmer, for brightness or controls for all.
 - Touch Zzz button, then touch [+] or [-] to adjust auto-dimmed display brightness.
 - Touch Sun button, then touch [+] or [-] to adjust normal display brightness.
- Press Done to save changes and return to the General Settings screen.

Touch $\leftarrow \rightarrow$ Left/Right Arrows to display General Settings Screen # 2.

7. Auto Off Timer: Touch to display a sub-screen and select Auto Off option: 5 min, 15 min, Never.

8. Remote Control: Enable/disable results download and software update via Wi-Fi.

9. Launch Quality Check: Touch the on/off control to enable/disable check of the OTDR connection quality at start of each OTDR test.

10. Received Image: Touch to display a sub-screen and select an option for displaying inspection results transferred from the FOCIS Flex probe:

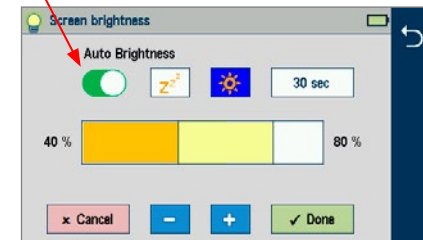
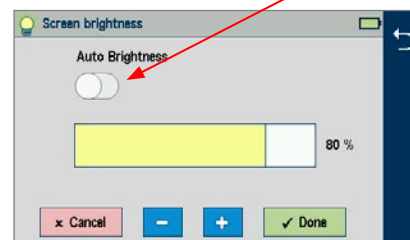
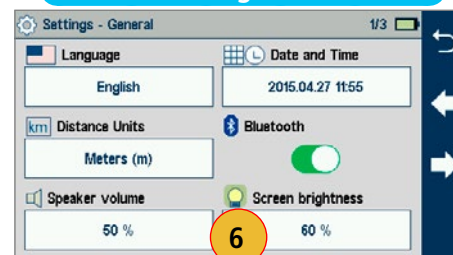
- Display received FOCIS Flex results in popup window
- Save received FOCIS Flex results in background and show notification in tray.

11. Screenshot Mode: Touch to enable/disable capture. When enabled, press Home to capture current screen as .bmp file in \SCREENSHOTS folder in internal memory.

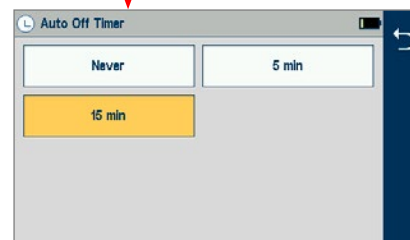
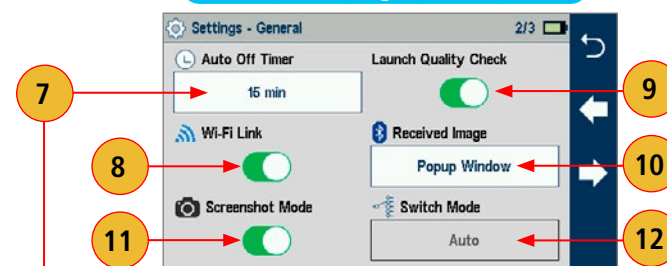
12. Switch Mode: Touch to configure MPO switch settings.

- MPO Switch control is available only when MPO Switch is enabled and connected to FlexScan via USB cable.
 - When MPO Switch connected, up to 12 fibers may be tested in a single SmartAuto or Expert mode test.

General Settings, Screen 1 of 3



General Settings, Screen 2 of 3





Touch ◀ ▶ Left/Right Arrows to display General Settings Screen # 3.

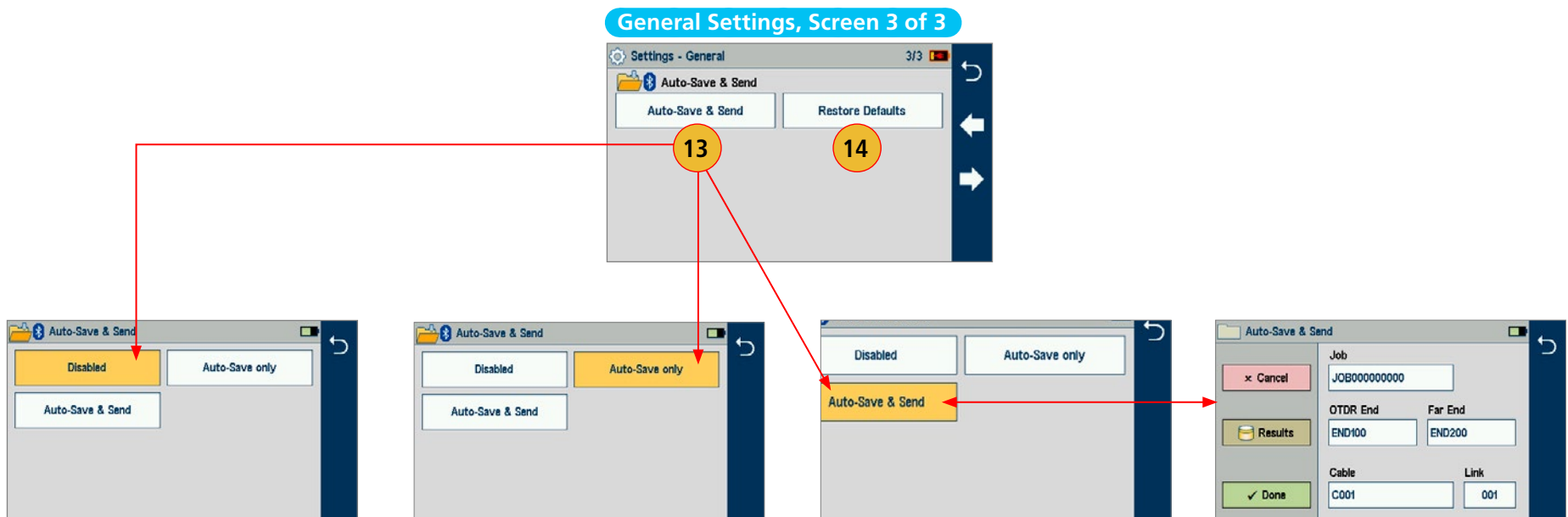
13. Automatically Save (and Optionally Send) Results.

FS200 may be configured to automatically save and optionally send results when each test completes. Results may be wirelessly transferred via Bluetooth to iOS or Android device equipped with the free FlexApp.

Transferred results may be wirelessly sent by mobile device to remote location for reporting using FlexReports cloud-based software.

To Configure Auto-Save (and Optional Send):

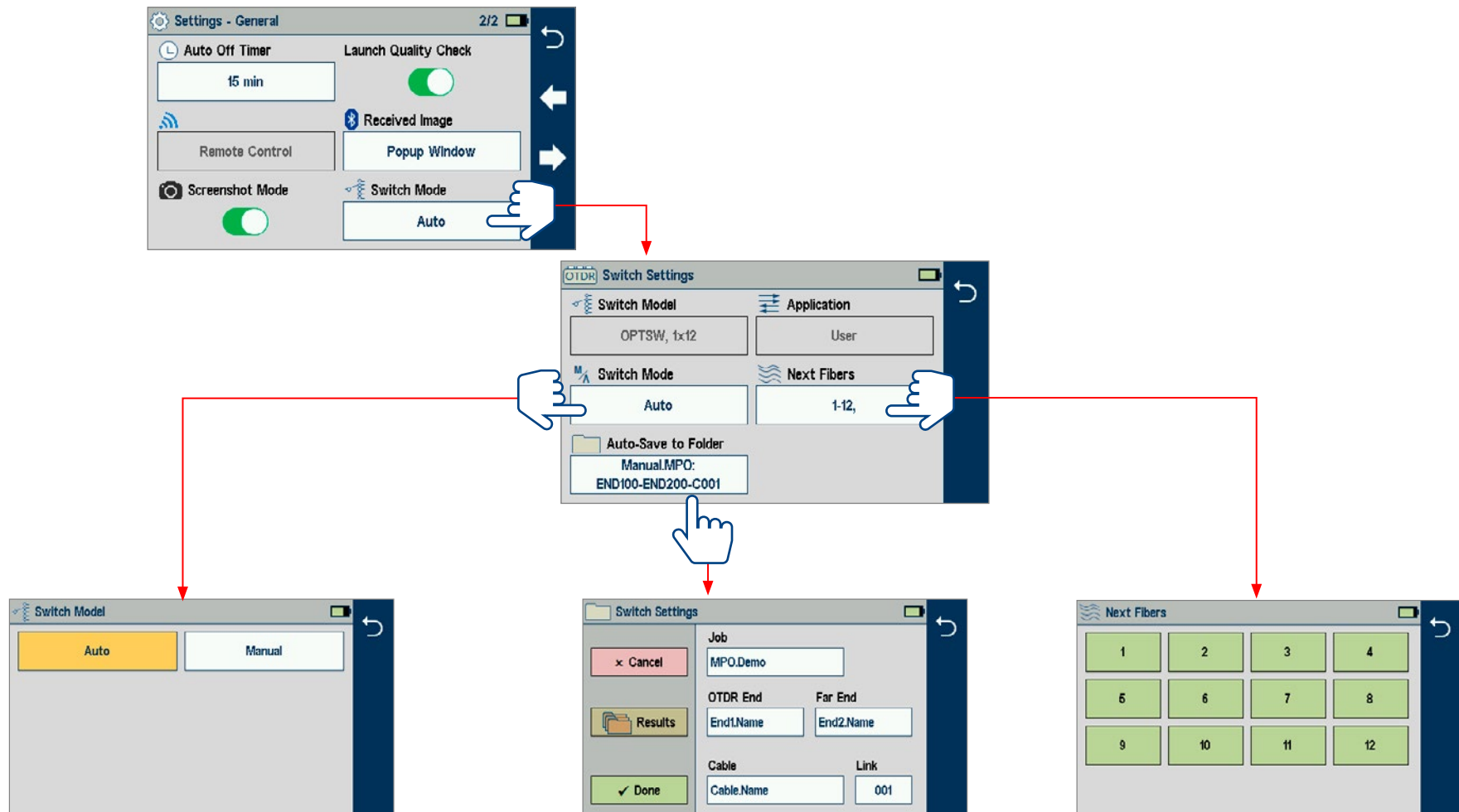
- Touch Auto-Save & Send to display additional screen.
 - Disabled – Results will not be automatically saved or sent.
 - Auto-Save only – Results will be saved, but not sent.
 - Auto-Save & Send – Results will be saved and sent to a Bluetooth-paired mobile device running AFL FlexApp.
 - Configure Job, OTDR End, Far End, Cable and Fiber# names for saved results and touch Done.
 - When Auto-save enabled, results will be saved to the configured destination (internal memory or USB stick), Job, Fiber Group folder and the Fiber# will be incremented each time a test completes.
14. **Restore Defaults:** After updating software or anytime you wish to restore the FlexScan to its factory-default settings, you may restore factory defaults by selecting Restore Defaults.





To configure automatic MPO Switch control:

- Touch Switch Mode.
- A popup error message appears if Switch Mode selected with no MPO switch connected and enabled.
- Switch Settings screen appears if switch connected and enabled.
- Select Auto Switch Mode .
- Select Next Fibers and configure fibers to be tested.
- Touch Auto-save to Folder, then select and configure Job, OTDR End, Far End, Cable folder, and start Link (Fiber#)where multi-fiber test results will be saved.





SmartAuto® OTDR with Flexpress® and LinkMap® Display

Using Touchscreen Controls

While in the SmartAuto OTDR setup screen:

If no setting changes required:

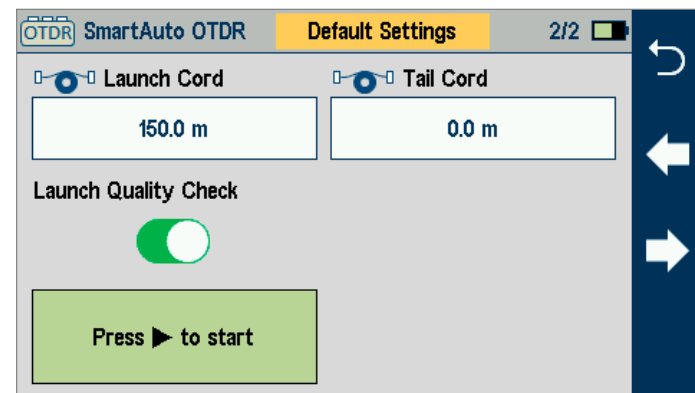
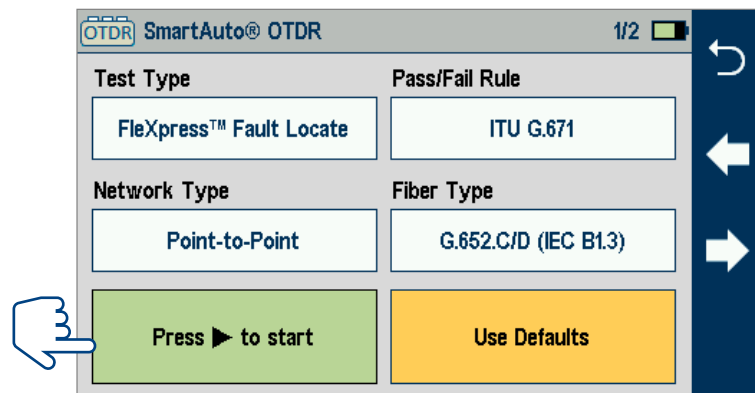
- Touch 'Press ▶ to start' to initiate testing.

Notes:

1. **Characterize mode:** Standard multi-pulse acquisition.
2. **Flexpress mode** (FS200-300/303/304 only): Fast Test mode for Point-to-Point networks only.

If setting changes required:

- Touch the desired setting field/tab (e.g. Test Type) to display a sub-menu (where applicable).
- Touch left/right arrows ◀ ▶ to navigate to next/previous screen (where applicable).
- Touch Back ↶ to return to the previous menu.
- Touch Use Defaults (if displayed) to reset settings to the factory defaults as needed.
- When done, touch 'Press ▶ to start' to initiate testing.





SmartAuto Settings Summary

1. Test Type:

- Limited to Characterize in FS200-100 model.
- Select Characterize or FleXpress Fast Test in FS200-60/300/303/304 models 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.

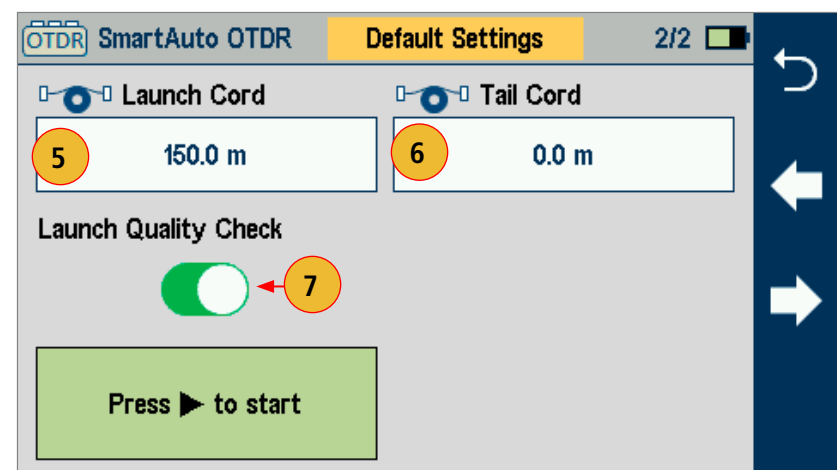
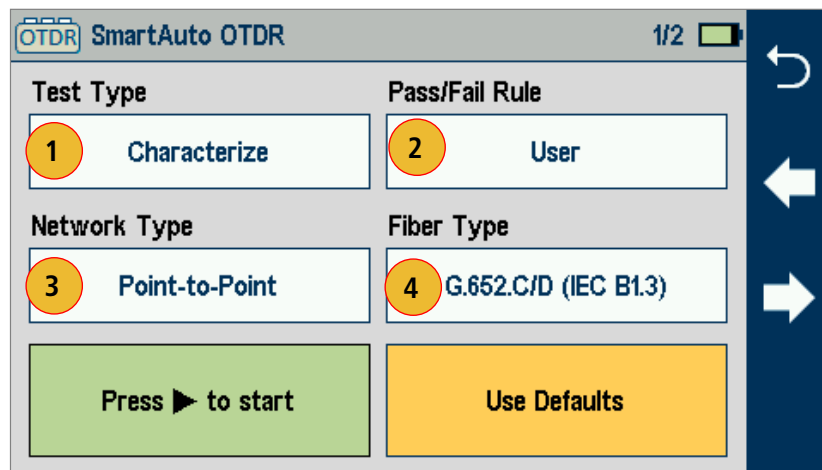
3. Network Type: Limited to Point-to-Point in FS200-100 model. Select Point-to-Point or FTTH PON in FS200-60/300/303/304 models. If PON selected, configure split ratio settings to match expected network splitter configuration.

4. Fiber Type: Touch to select one of the standard fiber types 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.





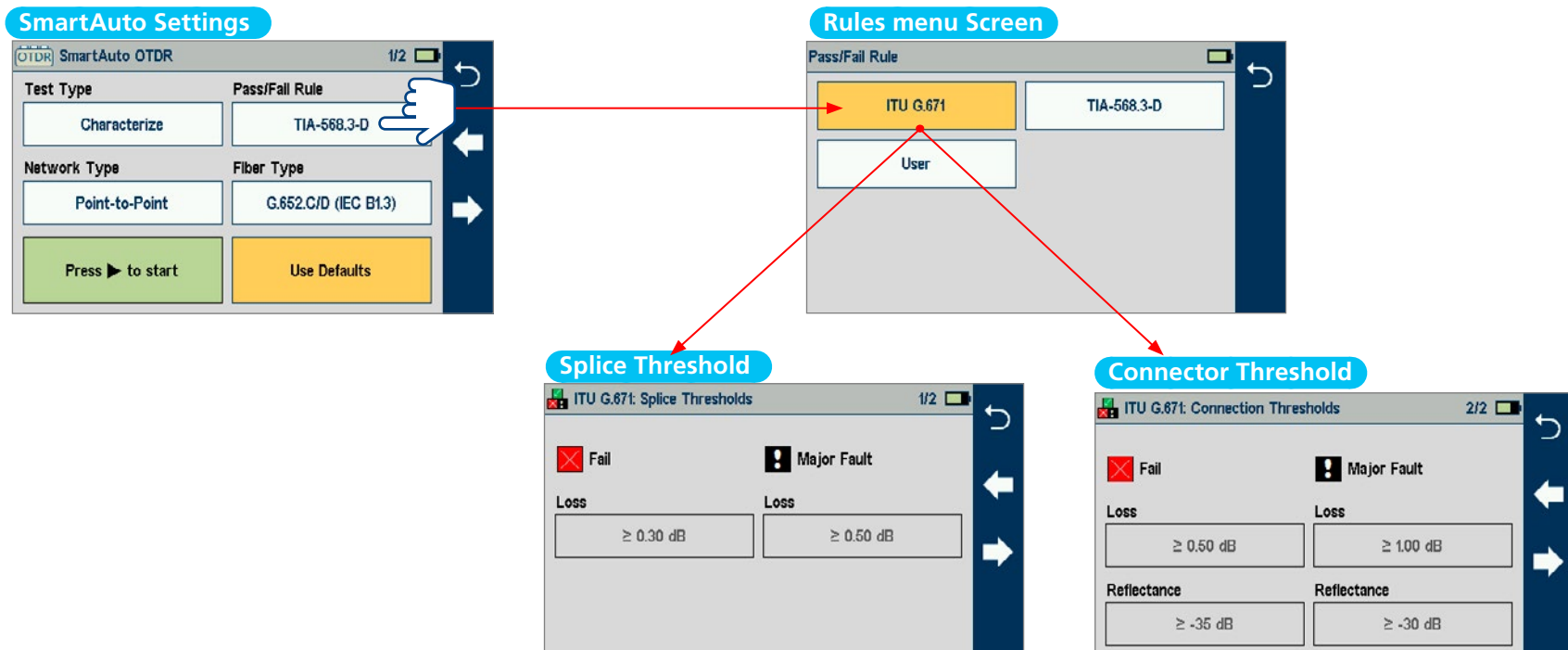
Configuring Pass/Fail Rules

- ITU G.671 Pass/Fail Settings may be viewed but NOT changed.
- TIA-568.3-D Pass/Fail Settings may be viewed but NOT changed.
- User Pass/Fail Settings may be viewed and changed.

ITU G.671 or TIA-568.3-D Pass/Fail Rule Settings - View Only

- While in the SmartAuto Settings screen, make sure the ITU G.671 or TIA-568.3-D Rule is displayed in the Pass/Fail Rule field.
- If not, touch the Pass/Fail Rule field to display the Rules menu and touch the ITU G.671 or TIA-568.3-D option to select.
- When back in the SmartAuto Settings screen, touch and hold the displayed Rule to open one of the settings screen:
 - Splice, Connector, or Splitter Pass/Fail thresholds will be displayed.
 - Touch $\leftarrow \rightarrow$ keys to toggle between screens.
 - View settings.
 - Touch \hookrightarrow to return to the SmartAuto Settings screen.

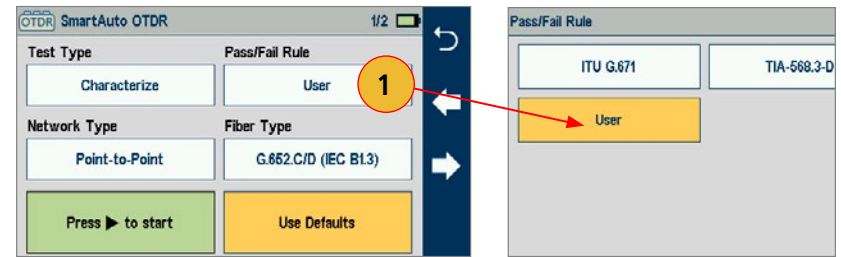
Note: FS200-60/300/303/304 include additional Pass/Fail screens to view/edit splitter min/max loss Pass/Fail limits based on split ratio.





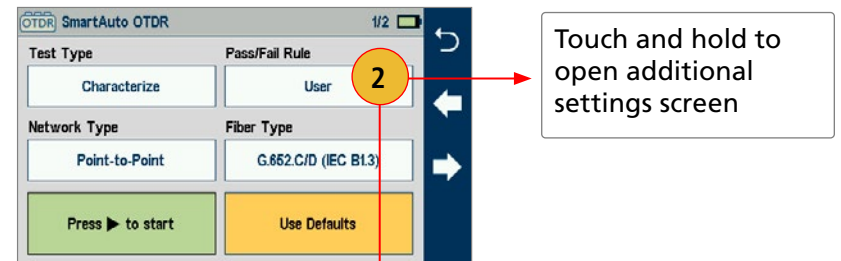
User Pass/Fail Rule Settings - View and Edit

1. While in the SmartAuto Settings screen, make sure the User Rule label is displayed in the Pass/Fail Rule field. If not, touch the Pass/Fail Rule field to display the Rules menu and touch the User option to select.
2. When back in the SmartAuto Settings screen, touch and hold the displayed User Rule to open one of the settings screen:
 - **Splice, Connector, Splitter (4 screens), Link Length, Loss, ORL** thresholds screens will be displayed in sequence.

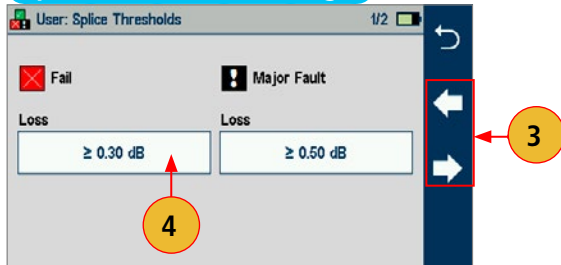


To View and Edit Splice, Connector, Splitter Pass/Fail Limits

3. Touch $\leftarrow \rightarrow$ keys to cycle through thresholds screens.
4. Touch the desired threshold field to display its Editor screen.
5. When Editor screen is displayed, edit the threshold value using on-screen controls.
6. Touch Done to save changes and return to the Thresholds screen.
7. Touch \curvearrowright to return to the SmartAuto Settings screen.



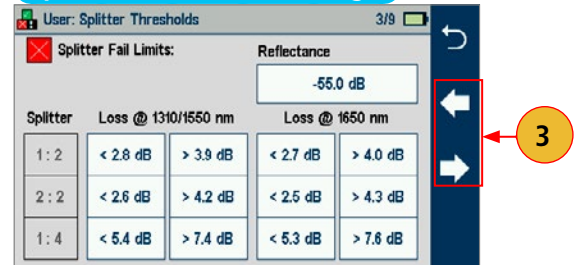
Splice Thresholds Settings



Connector Thresholds Settings



Splitter Thresholds Settings



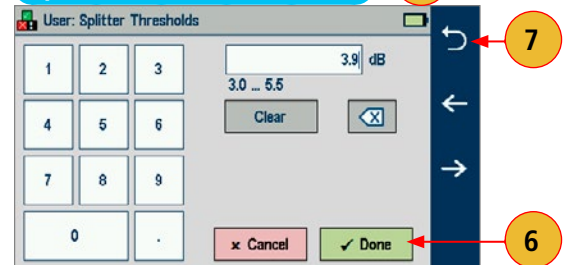
Splice Thresholds Editor



Connector Thresholds Editor



Splitter Thresholds Editor





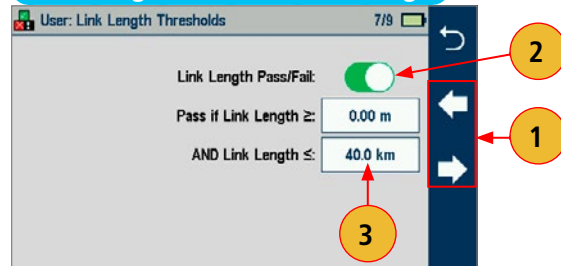
To View and Edit Link Length, Loss, ORL Pass/Fail Limits

1. Touch $\leftarrow \rightarrow$ keys to cycle through thresholds screens:
 - Minimum/maximum acceptable Link Length
 - Maximum acceptable Link Loss (for each OTDR test wavelength)
 - Minimum acceptable Link ORL
2. For each Link Pass/Fail Limit, enable/disable Pass/Fail for that limit
3. Touch the desired threshold field to display its Editor screen.
4. When Editor screen is displayed, edit the threshold value using on-screen controls.
5. Touch Done to save changes and return to the Thresholds screen.
6. Touch \leftarrow to return to the SmartAuto Settings screen.

Understanding Link Length, Loss, ORL Pass Status

- When Link Length Pass/Fail enabled: Pass status is displayed if $\text{Min Length Limit} \leq \text{Measured Length} \leq \text{Max Length Limit}$
- When Link Loss Pass/Fail enabled: Pass status is displayed if $\text{Measured Loss} (\lambda) \leq \text{Max Loss Limit} (\lambda)$
- When Link ORL Pass/Fail enabled: Pass status is displayed if $\text{Measured ORL} \geq \text{Min ORL Limit}$

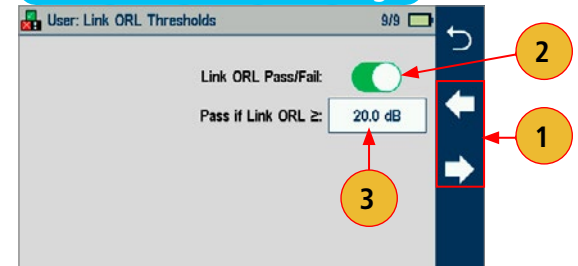
Link Length Thresholds Settings



Link Loss Thresholds Settings



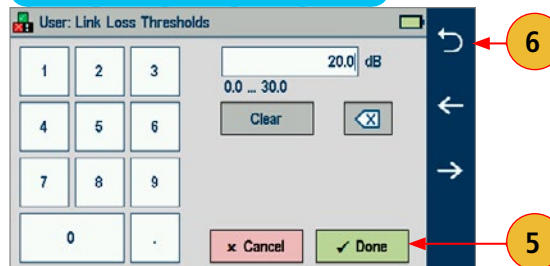
Link ORL Thresholds Settings



Link Length Thresholds Editor



Link Loss Thresholds Editor



Link ORL Thresholds Editor





Configuring Fiber Type

- **G.65x** Fiber Settings may be viewed but NOT changed.
- **User** Settings may be viewed and changed.

To View G.65x Fiber Settings

- While in the SmartAuto Settings screen, make sure a G.65x fiber type is displayed in the Fiber Type field.
- If not, touch the Fiber Type field to display the Fiber Type menu and touch one of the G.65x fiber types to select.
- When back in the SmartAuto Settings screen, touch and hold the displayed G.65x fiber type to open and view the default settings as follows:
 - Group Index of Refraction (GIR)
 - Backscatter Coefficient (BC)
 - Fiber Attenuation (A; Loss-per-Distance)
- Touch Back ↶ to return to the SmartAuto Settings screen.

SmartAuto Settings Screen

SmartAuto OTDR 1/2

Test Type	Pass/Fail Rule
Characterize	TIA-568.3-D
Network Type	Fiber Type
Point-to-Point	G.652.C/D (IEC B1.3)
Press ▶ to start	Use Defaults

Touch and hold to view the default settings

G.652.A/B (IEC B1.1)

GIR @ 1310 nm	GIR @ 1550 nm	GIR @ 1650 nm
1.4677	1.4682	1.4690
BC @ 1310 nm	BC @ 1550 nm	BC @ 1650 nm
-77.0 dB	-82.0 dB	-83.0 dB
A @ 1310 nm	A @ 1550 nm	A @ 1650 nm
0.32 dB/km	0.18 dB/km	0.20 dB/km

Touch to select one of the G.65x fiber types

Fiber Type Screen

Fiber Type

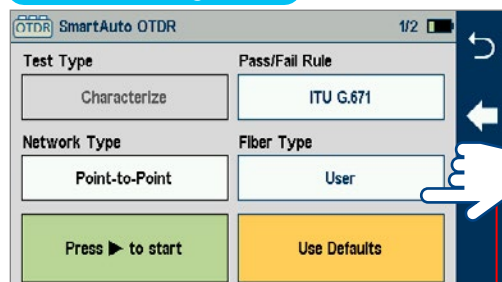
G.652.A/B/C/D	G.653.A/B (IEC B2)
G.654.B/C (IEC B1.2_b/c)	G.655.C/D/E (IEC B4_c/d/e)
G.656 (IEC B5)	G.657.A1/A2 (IEC B6_a1/a2)
G.657.B2/B3 (IEC B6_b2/b3)	User



To View and Edit User Fiber Type Settings

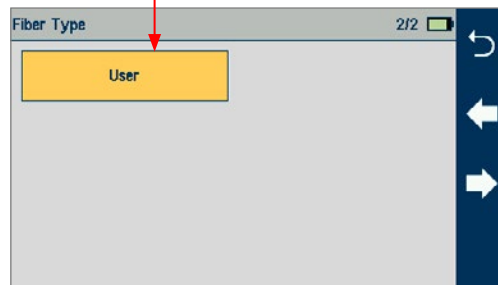
- While in the SmartAuto Settings screen, make sure the User Fiber Type label is displayed in the Fiber Type field.
- If not, touch the Fiber Type field to display the Fiber Type menu and touch the User option to select.
- When back in the SmartAuto Settings screen, touch and hold the displayed User label to open the User Fiber Type settings screen and configure settings as follows:
 - Group Index of Refraction (GIR)
 - Backscatter Coefficient (BC)
 - Fiber Attenuation (A; Loss-per-Distance)
- Touch the desired parameter field (e.g. GIR @1550 nm) to display its Editor screen.
 - Edit the value using on-screen controls.
 - Touch Done to save changes and return to the User Fiber Type settings screen.
 - Touch Back ↶ to return to the SmartAuto Settings screen.

SmartAuto Settings Screen

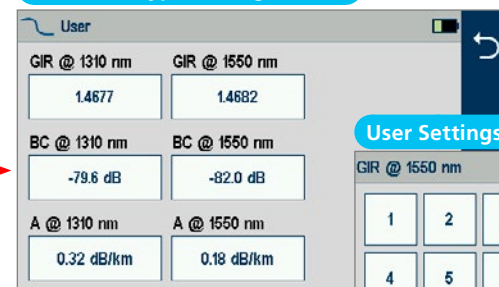


Touch and hold to open User Fiber Type settings

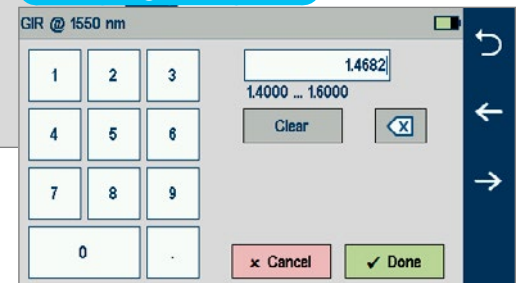
Touch to select the User option



User Fiber Type Settings Screen



User Settings Editor Screen






Enabling Launch Quality Check

When Launch Quality Check feature is enabled, FlexScan checks loss and reflectance of OTDR connection to network enabling the user to detect dirty, damaged, poorly seated, or mismatched (UPC to APC) connectors.

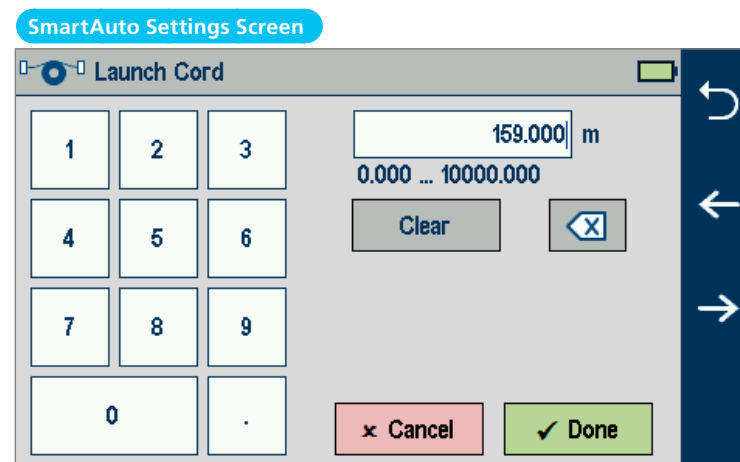
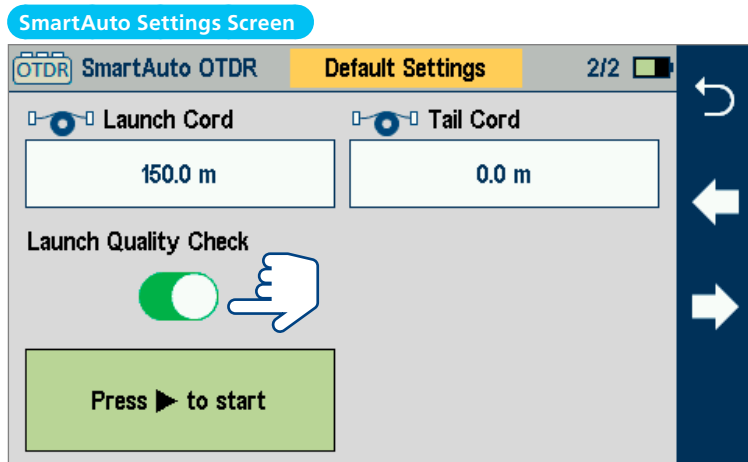
To Enable Launch Quality Check

- While in the SmartAuto Settings screen, touch the on/off control to enable .

Launch and Receive Cable Settings

To Configure Length of Launch and Receive Cables

- While in the SmartAuto Settings screen, touch the Launch Cord field or Tail (Receive) Cord field to display the length editor screen.
- Using on-screen controls, enter the desired length.
- Touch Done to save changes and return to the SmartAuto Settings screen.





Testing in SmartAuto® OTDR

To Start SmartAuto Test

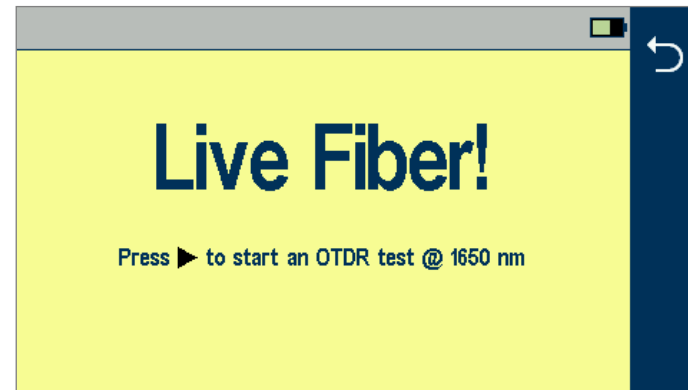
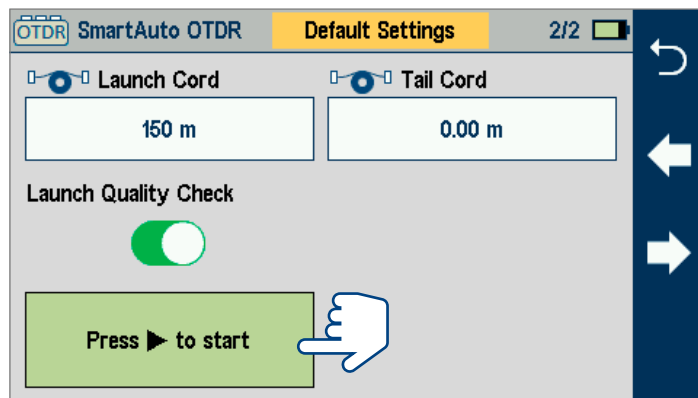
Initiate the SmartAuto test by touching 'Press ► to start' soft key or pressing Test start/stop button.

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 both wavelengths using SmartAuto settings.
4. When testing is completed, FlexScan displays the LinkMap® screen, which is a primary display in SmartAuto OTDR mode.

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, FS200-100/300/303 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.





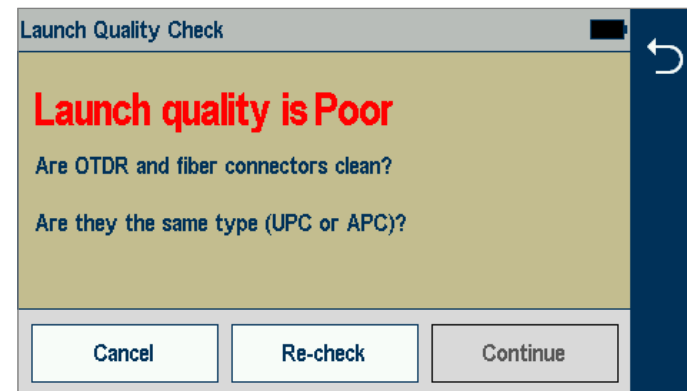
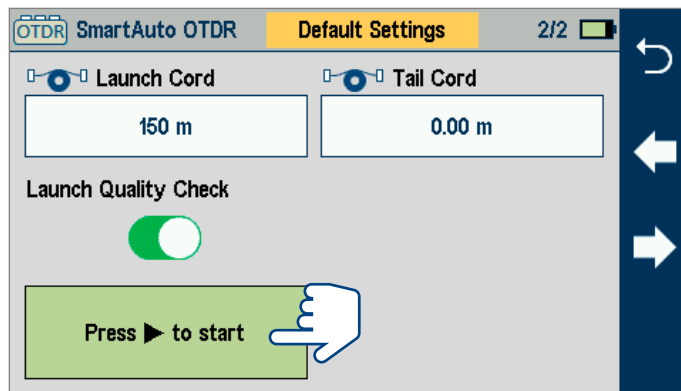
Launch Quality Check

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 chose to perform one of the following:**
 - Cancel a test by touching either Cancel or Back.
 - Clean and reconnect connectors and 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.





Understanding LinkMap Display Features

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

Link map thumbnail view with proportionally spaced events

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

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.

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

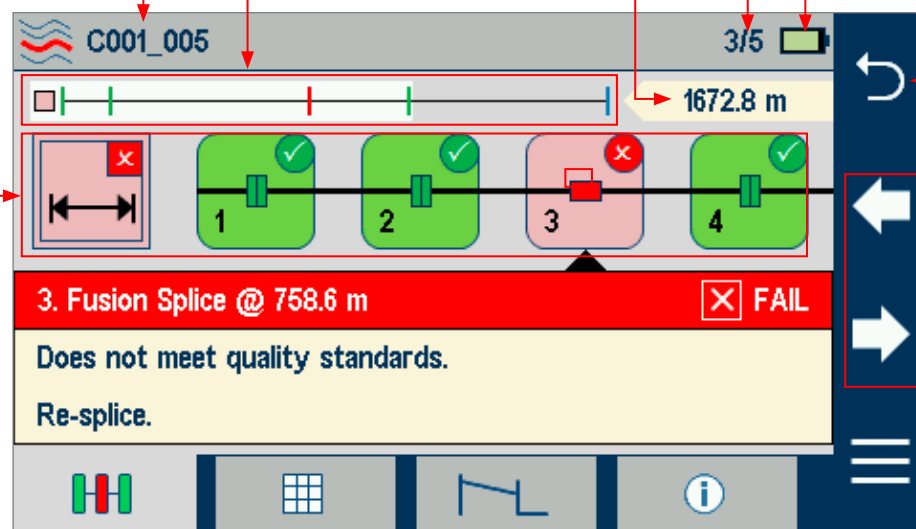
Battery icon indicates battery state

Link Length

Back key: touch to return to the previous menu

Touch to move to next or previous event or fiber section

Menu key: touch to navigate to Save As screen





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 view 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, Event, or Section

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.

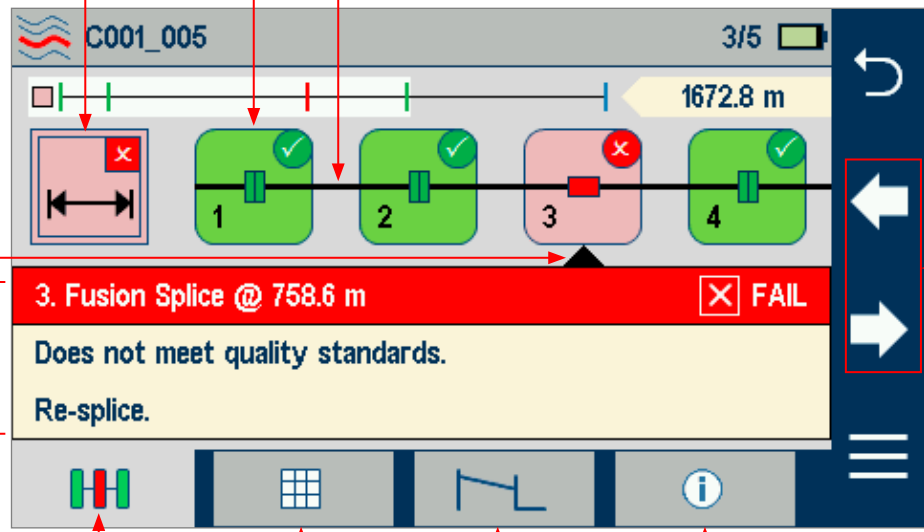
Link Section between events

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 active icon:

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





Expert OTDR

Understanding Expert/Real-time OTDR Settings

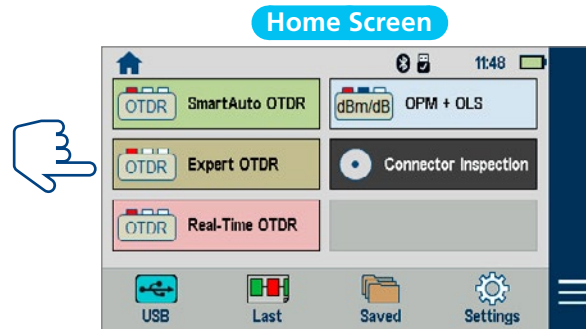
Parameter	Description
Trace Length	<p>The Trace Length parameter determines the distance range of the full (unzoomed) trace. It also determines the distance between data points in the trace: the longer Trace Length, the wider the data point spacing. We recommend selecting the shortest Trace Length that is longer than the fiber under test. For example, to test a fiber that is 2.5 km long, select the 5 km range.</p> <p>Available Range values: 250 m, 500 m, 1, 2, 5, 10, 15, 20, 40, 80, 160, 240 km.</p>
Pulse Width	<p>The FlexScan can operate using different pulse widths. Short pulse widths provide the shortest event and attenuation dead zones. Long pulse widths provide the range needed to test long fibers. Available Pulse values: 3, 5, 10, 20, 30, 50, 100, 200, 300, 500 ns; 1, 2, 3, 5, 10, 20 μs.</p> <p>Note: Longer pulse widths only available on longer Trace Lengths.</p>
Averaging Time	<p>The Averaging Time parameter determines the duration of a timed test and the number of trace averages performed. Longer averaging time produces a smoother trace.</p> <p>Available Averaging Time values: 5, 10, 30, 60, 90, 180 sec.</p>
Fiber Type	<p>Available: User or G.65x. Press and hold the currently selected User or G.65x option to view Group Index of Refraction, Backscatter Coefficient, and Attenuation coefficient. User values can be edited.</p>
Wavelength Settings	<p>FS200-60: 1650 nm only FS200-100: 1310, 1550, 1310/1550 nm FS200-300: 1310, 1550, 1310/1550 nm FS200-303: 1310, 1550, 1625, 1310/1550, 1310/1625, 1550/1625, 1310/1550/1625 nm FS200-304: 1310, 1550, 1650, 1310/1550, 1310/1650, 1550/1650, 1310/1550/1650 nm</p>



Expert OTDR Settings

The Expert OTDR mode is accessed from the Home screen by touching the Expert OTDR tab. While in the Expert OTDR screen:

- Touch the desired test setup parameter to display a sub-screen.
- While in a sub-screen, touch the desired field to set the value.
- Touch $\leftarrow \rightarrow$ to toggle between Expert settings screens.
- Touch \curvearrowright to return to the Home screen.

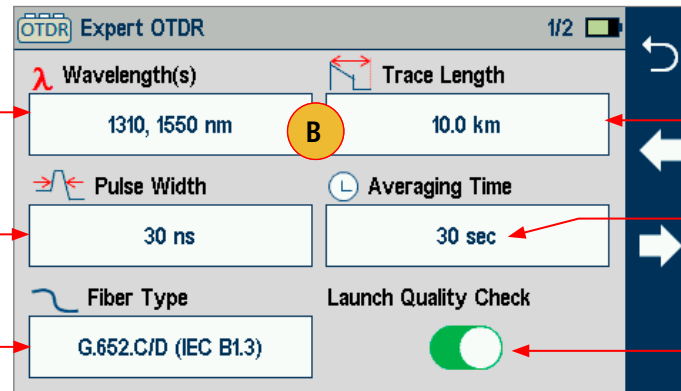


Choose wavelength(s) at which to test

Select Pulse Width: 3, 5, 10, 20, 30, 50, 100, 200 ns. Longer pulse width settings up to 20 μ s may be selected for longer Trace Length settings.

Select G.65x or User

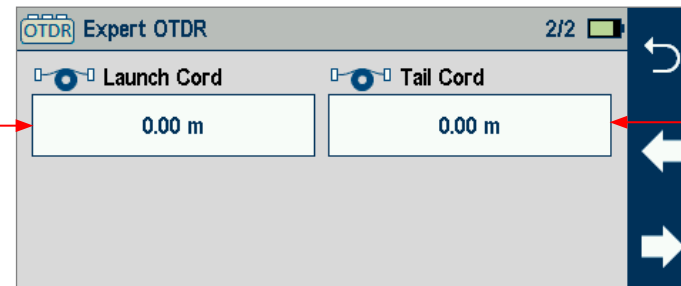
Set the Launch Cord length



Select Trace Length in Distance units that are set in the General Settings screen.

Select Averaging Time: 5, 10, 30, 60, 90, 180 sec

Touch to enable/disable Launch Quality Check



Set the Tail Cord length

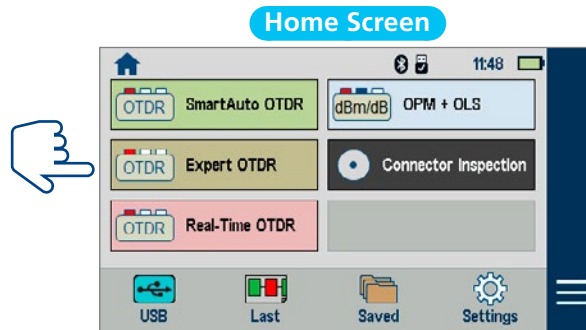


Real-Time OTDR

Real-Time OTDR Settings

The Real-Time OTDR mode is accessed from the Home screen by touching the Real-Time OTDR tab. While in the Real-Time OTDR screen:

- Touch the desired test setup parameter to display a sub-screen.
- While in a sub-screen, touch the desired field to set the value.
- Touch $\leftarrow \rightarrow$ to toggle between Expert settings screens.
- Touch \curvearrowright to return to the Home screen.

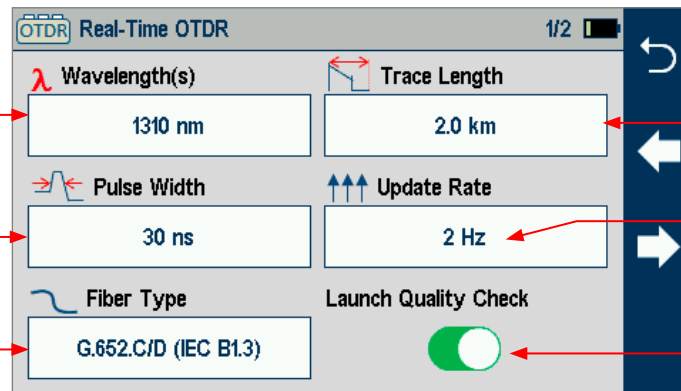


Choose wavelength at which to test

Select Pulse Width: 10, 20, 30, 50, 100, 200 ns. Longer pulse width settings up to 20 μ s may be selected for longer Trace Length settings.

Select G.65x or User

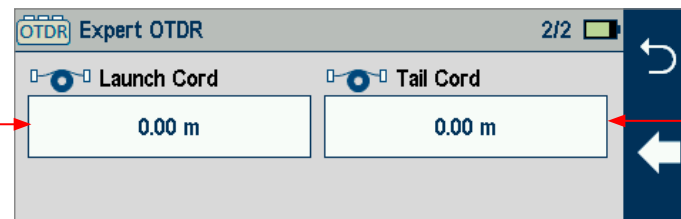
Set the Launch Cord length



Select Trace Length in Distance units that are set in the General Settings screen.

Select Update Rate: 1, 2, 4 Hz

Touch to enable/disable Launch Quality Check



Set the Tail Cord length



Testing in Expert and Real-Time OTDR Mode

To Test in Expert or Real-Time OTDR Mode

Initiate an OTDR test by pressing the Start/Stop button.

1. **FlexScan begins testing with the Live Fiber check and if a live fiber is NOT detected**, proceeds to next step.
For details, see section [“Live Fiber Detection” on page 23.](#)
2. **If the Launch Quality check is enabled**, FlexScan checks loss and reflectance of the OTDR connection.
For details see section [“Enabling Launch Quality Check” on page 22](#) and [“Testing in SmartAuto® OTDR” on page 23.](#)
3. **If launch quality is ‘good’**, FlexScan starts testing using settings configured in Expert OTDR (Real-Time OTDR) settings screen.
4. **When testing is completed**, FlexScan displays the Trace screen, which is the only view shown in Real-Time modes.
For details, see section [“Understanding Trace Display Features” on page 30.](#)

Understanding Trace Display Features

Trace color matches wavelength's indicator color: 1310 nm - red; 1550 nm - blue

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

A and B cursors

Grid units display dB/div on vertical axis and distance/div on horizontal axis

Cursor A location (A is inactive cursor). Touch non-highlighted cursor box to make the A cursor active

Cursor B location (B is active). Yellow highlight indicates the currently active cursor. Touch the screen where you want to reposition the currently active cursor

Wavelength's indicator. White background indicates the currently selected (active) wavelength. Cursor measurements apply to active wavelength.

Used for cursor position and fine adjustments. Touch or touch and hold arrows to move the active cursor.

Touch to select LinkMap view

Touch to toggle active traces (for multi-wavelength tests)

Touch to enable and display 'zoom control' mode

OTDR C001_001 1310 1550

9.00 dB, 242 m/div

A:B 1523.78 m 1.714 dB -53.6 dB 1.13 dB/km

A: 0.06 m B: 1523.84 m

λ

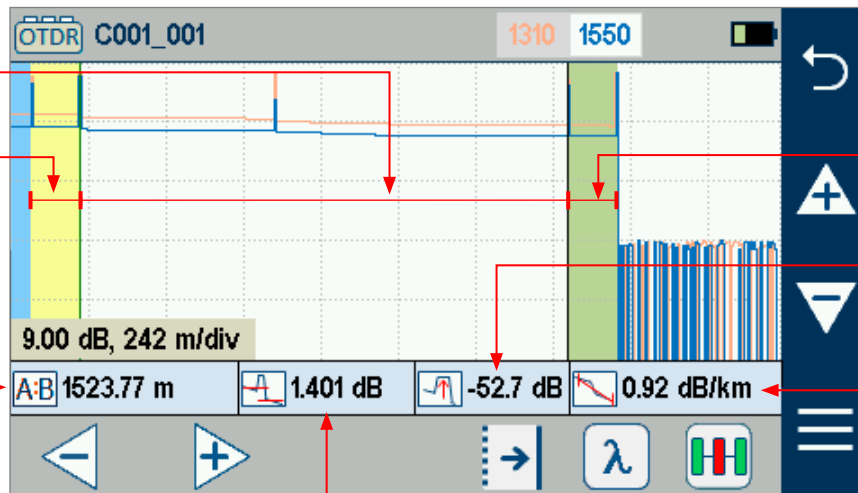


Fiber under test

Launch cable (if present)

Distance from A to B cursor

Loss between A and B cursor



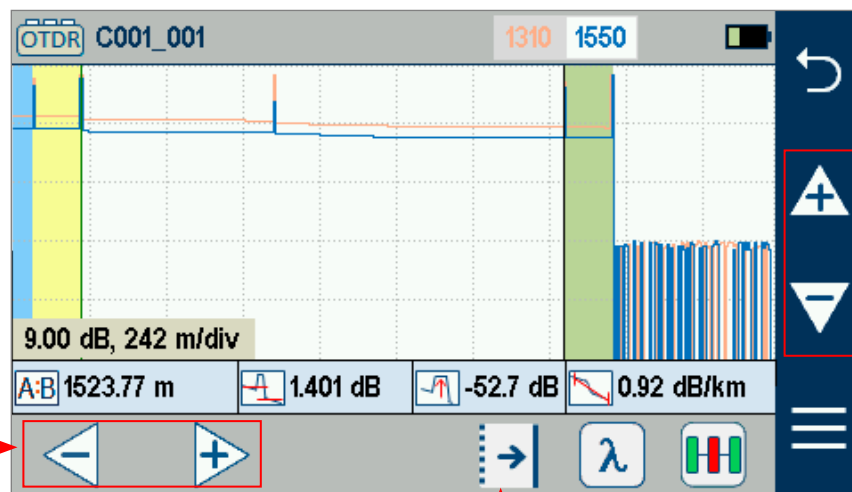
Receive cable (if present)

Maximum Reflectance between A and B cursor

Loss-per-distance between A and B cursors

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

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



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

Light Source and Power Meter Operation

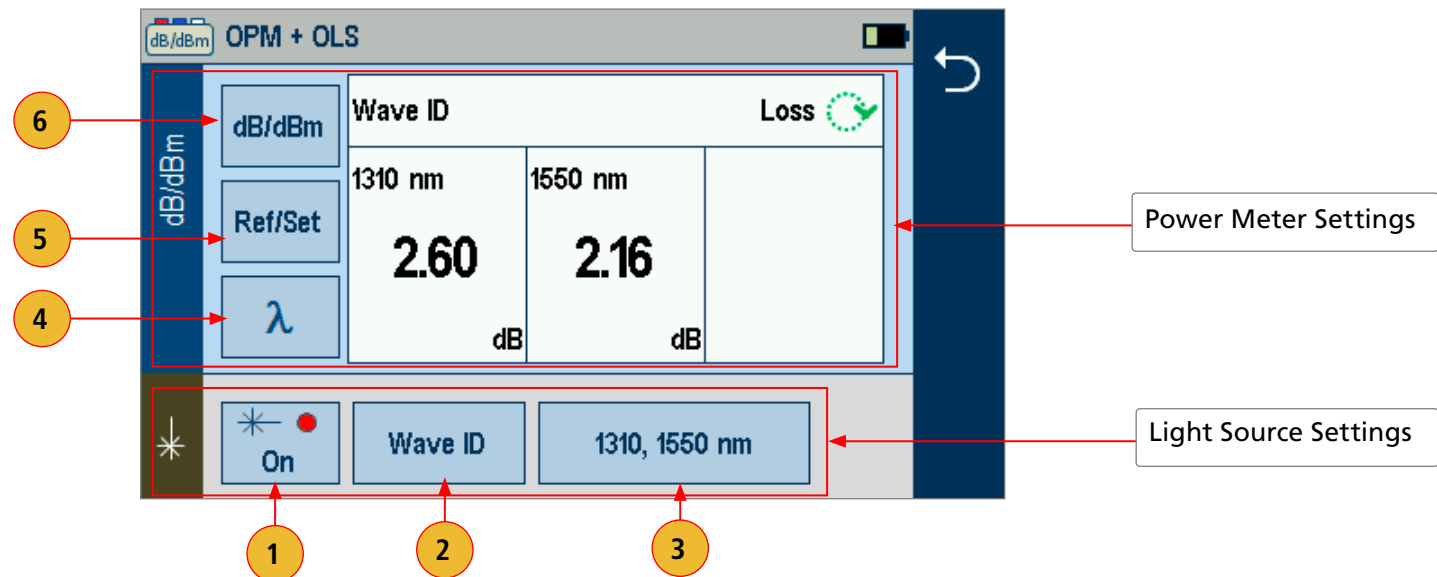
Light Source Settings and Features

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 and/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. Touch and Hold Ref/Set to store new reference(s) at received wavelength(s). Touch Ref/Set to view stored reference(s).
6. Touch to toggle between power (dBm or Watts [nW, μ W, mW]) 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.



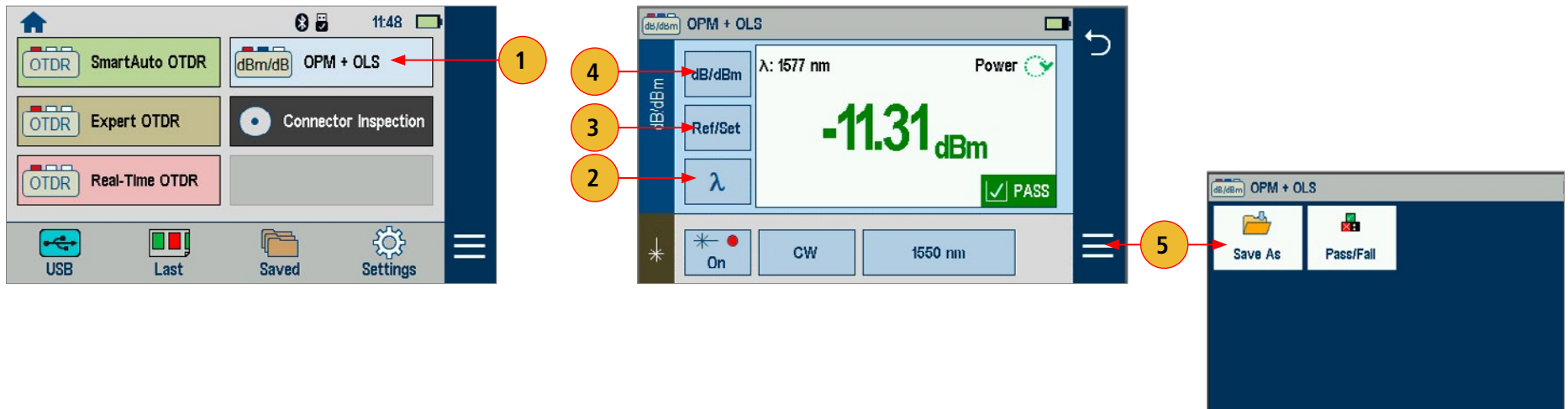


Measuring Optical Power

Important: It is important to keep all optical connections and surfaces free from dirt, oils, or other contaminants to ensure proper operation. Always clean all test jumpers before conducting the test procedures outlined in this Guide.

To Measure Optical Power

1. Turn on the FS200 and touch the OPM+OLS mode to enable.
 - Select the appropriate fiber optic test jumper. The fiber type of this jumper must be the same as the fiber type normally connected to the output being measured.
 - Mount the appropriate adapter on the OPM optical input. This adapter must match the connector on the end of the test jumper you will connect to the FS200 OPM port.
 - Connect one end of the test jumper to the FS200 OPM port and the other end to the optical output to be measured.
2. If used with non Wave ID source, touch λ to cycle through and select the calibrated wavelength that matches the nominal wavelength of the source being measured. If used with Wave ID source, power meter automatically synchronizes to and indicates received wavelength(s).
3. Touch Ref/Set to view stored reference(s). Touch and hold to store new reference at received wavelength.
 - Refer to section [“Create and Apply Power & Loss Measurement Pass/Fail Limits” on page 34](#) on how to configure and understand Power and Loss measurements with applied Pass/Fail limits.
4. Touch dB/dBm to toggle between power (dBm or Watts [nW, μ W, mW]) and loss (dB) mode.
5. Touch the 3-bar icon and select ‘Save As’ to save the displayed measurement; refer to section [“Results: Saving, Recalling, Sharing” on page 39](#) for details.



Create and Apply Power & Loss Measurement Pass/Fail Limits

Power Pass/Fail Limits

- TX Output typically specified for min/max output level
- RX Input typically specified for min/max input levels

To Configure Min/Max Power Limits

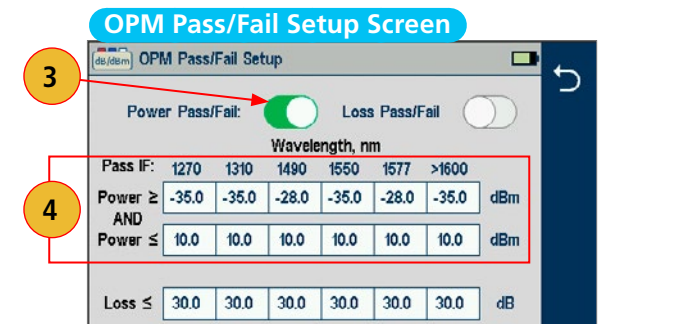
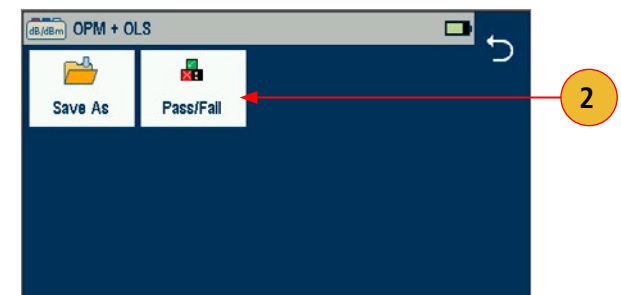
1. While in the OPM/OLS screen, touch Menu.
2. Next touch Pass/Fail.

In the OPM Pass/Fail Setup screen, configure min/max Power Limits as follows:

3. Make sure Power Pass/Fail is enabled.
4. Touch the desired max/min value for the selected wavelength.
5. When the OPM Max/Min Power Limit editor is displayed, make edits using on-screen controls.
 - Touch Clear or Backspace to clear the previously set value
 - Touch the numeric pad to enter new value
 - Touch Done to save edits and return to the OPM Pass/Fail Setup screen.
 - Touch Cancel or Back ↶ to return to the OPM Pass/Fail Setup screen with no edits saved
6. Press Back to return to the OPM/OLS screen and observe measurements. Display will indicate Power or Loss Pass/Fail status.

Understanding Measured Power Pass/Fail:

- Pass status is displayed if
 $[\text{Min Power Limit}] \leq [\text{Measured Power}] \leq [\text{Max Power Limit}]$
- Fail status is displayed if
 $[\text{Measured Power}] < [\text{Min Power Limit}]$ OR $[\text{Measured Power}] > [\text{Max Power Limit}]$





Insertion Loss Pass/Fail Limits

- Networks typically specified for max allowed Loss

To Configure Min/Max Loss Limits

1. While in the OPM/OLS screen, touch Menu.
2. Next touch Pass/Fail.

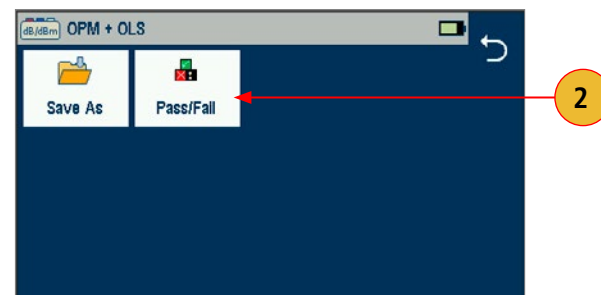
In the OPM Pass/Fail Setup screen, configure max Loss limits as follows:

3. Make sure Loss Pass/Fail editing mode is On.
4. Touch the desired max value for the selected wavelength.
5. When the OPM Max Loss Limit editor is displayed, make edits using on-screen controls.
 - Touch Clear or Backspace to clear the previously set value
 - Touch the numeric pad to enter new value
 - Touch Done to save edits and return to the OPM Pass/Fail Setup screen.
 - Touch Cancel or Back ↶ to return to the OPM Pass/Fail Setup screen with no edits saved
6. Press Back to return to the OPM/OLS screen and observe measurements. Display will indicate Power or Loss Pass/Fail status.

Understanding Measured Loss Pass/Fail:

- Enable and configure max Loss limits in dB
- Display indicates Loss Pass/Fail
 - Pass status is displayed if [Measured Loss] ≤ [Max Loss Limit]
 - Fail status is displayed if [Measured Loss] > [Max Loss Limit]

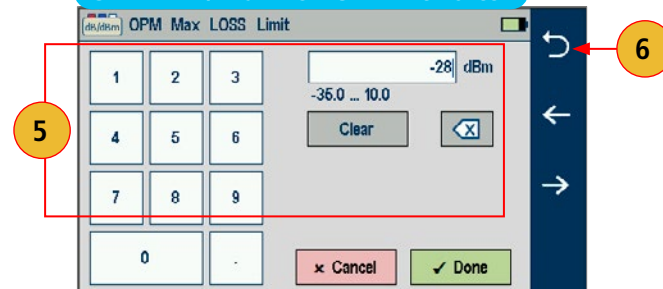
OPM/OLS Screen



OPM Pass/Fail Setup Screen



OPM Min/Max Power Limit Editor





Inspecting Fibers with FOCIS Flex and FlexScan

Optical connectors may be inspected using FOCIS Flex auto-focusing connector inspection probe with IEC Pass/Fail analysis. Captured fiber end-face images and Pass/Fail results are immediately displayed on the FOCIS Flex and on the paired FlexScan OTDR and may be saved in either FOCIS Flex or FlexScan. A micro-USB port on either FOCIS Flex or FlexScan supports fast upload of internally stored results to PC.

FOCIS Flex Inspection Probe Overview

For detailed instructions on how to operate FOCIS Flex inspection probe, please refer to the FOCIS Flex User's Guide (available on www.AFLglobal.com) or the FOCIS Flex Quick Reference Guide provided with your FOCIS Flex inspection probe.

Controls

1. Power button.
2. Power On/Off indicator (GREEN when On).
3. Image Capture button.
4. F1 soft key (typically Back function).
5. F2 soft key (typically Select function).
6. Navigation and Edit functional keys.

Display (2-inch Color LCD [320 x 240])

7. Screen title.
8. Battery status icon.
9. Image and information display area.
10. F1 and F2 soft key labels area.

Interfaces

11. Optical inspection port.
12. Adapter tip.
13. Dust cover.
14. Micro-USB port.
15. 5VDC @ 2A input jack.
16. Charging indicator.



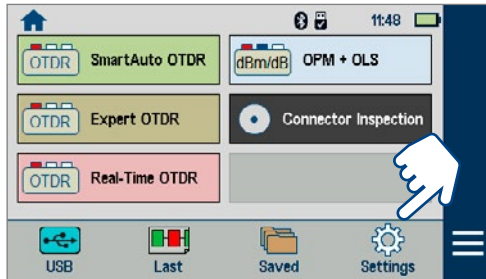
Pairing FlexScan with FOCIS Flex Inspection Probe

To transfer fiber-end images from the FOCIS Flex inspection probe and display inspection results on FlexScan, you must first pair your FOCIS Flex probe with FlexScan.

Enable Bluetooth on FlexScan

- From the Home screen, touch Settings .
- In the General Settings screen: If Bluetooth is disabled , touch its field to display the Bluetooth screen.
- Touch the Bluetooth radio button to enable .
- In the device name field you will see Bluetooth ID displayed for the FlexScan device.

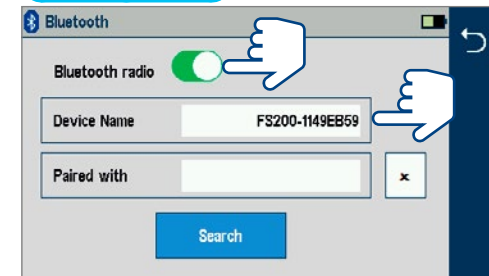
Home Screen



General Settings Screen

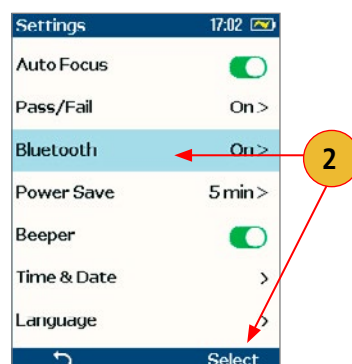
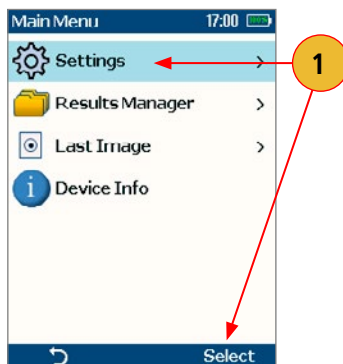


Bluetooth Screen



Enable Bluetooth on FOCIS Flex

1. From FOCIS Flex Main Menu, select Settings, then press Select.
2. From the displayed Settings Menu, select Bluetooth, then press Select.
3. Highlight Pair with New Device, then press Select.
4. When a list of devices is displayed, navigate to and select Bluetooth ID of the FlexScan device, and then press Select to 'Set as Default Device'.





Inspecting Optical Connectors

Once FlexScan is paired to FOCIS Flex with Bluetooth enabled on both units, perform the following steps.

On FOCIS Flex:

- If testing an optical fiber connector, slide the ferrule of the optical fiber into the adapter tip installed on the FOCIS Flex inspection port. Use caution not to contaminate the end-face of the fiber connector.
- If testing an optical fiber connector mounted in a bulkhead adapter, slide the adapter tip into the bulkhead adapter.
- You will see a Live fiber-end image appear on the FOCIS Flex display.
- Press the Capture button to auto-focus, capture, analyze and display the connector end-face image. (Refer to section [“FOCIS Flex Inspection Probe Overview”](#) on page 36).
- Once captured, the fiber end-face image is analyzed by the FOCIS Flex.
- Once analysis is done, inspection results will appear on the FOCIS Flex display.
- Simultaneously, FOCIS Flex will send results to the FlexScan paired to it.

On FlexScan:

1. If the Received Image option is set to Popup Window in General Settings, inspection results received from FOCIS Flex will be immediately displayed on FlexScan screen even if Connector Inspection mode is not enabled in the Home Screen
2. If the Received Image option is set to Show in Tray in General Settings, inspection results will only be displayed when Connector Inspection mode is enabled in the Home Screen.
3. Once displayed, view image and results on FlexScan.
4. Inspection results can be stored in FOCIS Flex or FlexScan.
5. To save results in FlexScan, select Menu
6. Next, select Save As to name and save inspection image and Pass/Fail results.

General Settings Screen

1

General Settings Screen

2

Home Screen

3

Inspection Mode Screen

5

Inspection Mode Screen

6

Enable/disable Connector Inspection Mode

Results: Saving, Recalling, Sharing

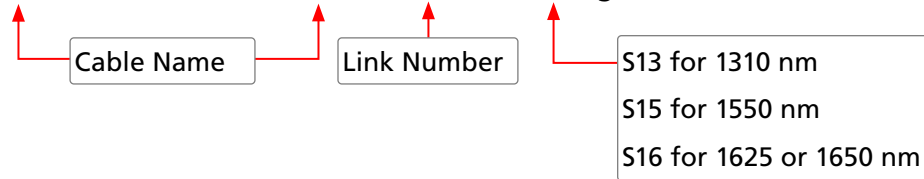
Understanding FS200 File Naming Structure

Test results may be stored in the FlexScan Internal memory or on USB. Saved test results are organized into a Cable sub-folder within a Job folder. A name of the saved result consists of several parameters, which are defined in the Save As screen as follows:

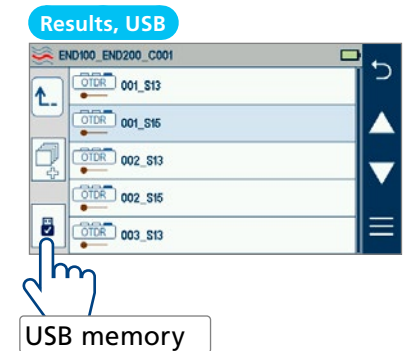
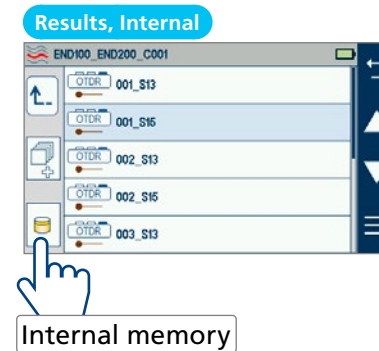
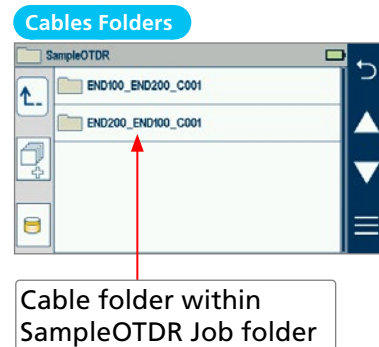
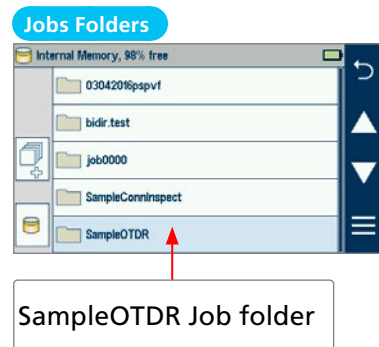
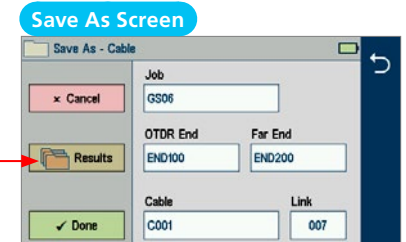
- The Cable folder is named: **OTDREnd_FarEnd_Cable**
 - OTDR test results are named : **OTDREnd-FarEnd-Cable_Link_Wavelength.SOR**
 - Power Meter test results are named: **OTDREnd-FarEnd-Cable.ATD.**
- Results from one or more wavelengths and one or more fibers may be stored in a single .ATD file.

OTDR Test Results Name Structure

OTDREnd-FarEnd-Cable_Link_Wavelength.SOR



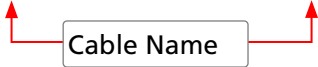
Touch Results to select Internal memory or USB (if present) and navigate to the desired Job and Cable folder



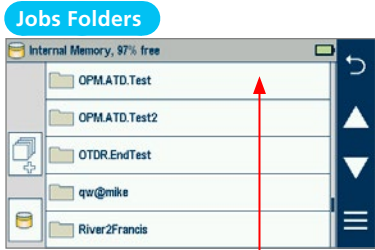
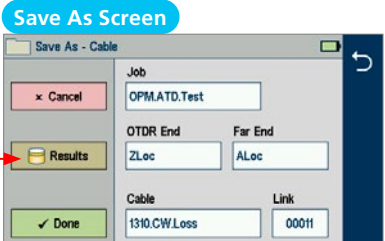


OPM Test Results Name Structure

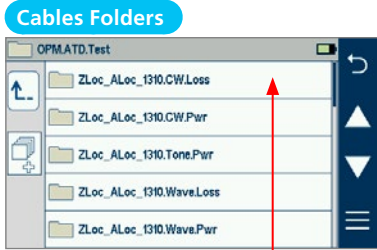
OTDREnd-FarEnd-Cable.ATD



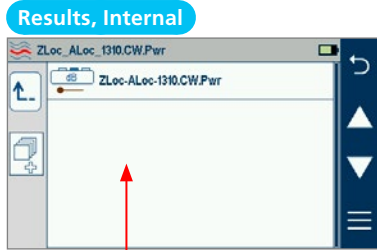
Touch Results to select Internal memory or USB (if present) and navigate to the desired Job and Cable folder



OPMATD.Test Job folder



Cable folder within OPMATD.Test Job folder

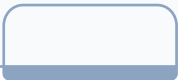


Internal memory



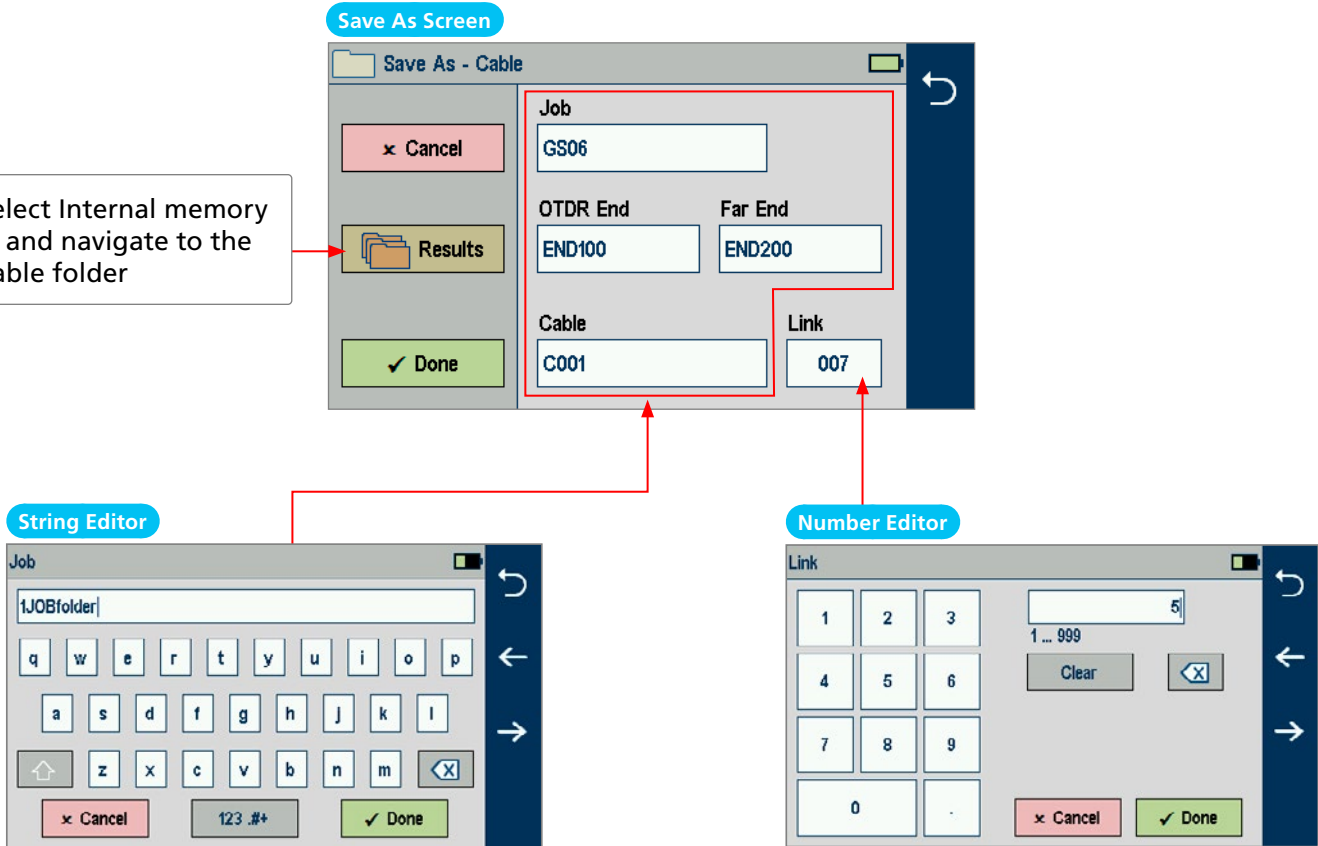
USB memory

Note: FlexScan can be configured to automatically save results and optionally send results to FlexApp via Bluetooth each time a test is completed. See "To Configure Auto-Save (and Optional Send):" on page 13 for details.



- Job, OTDR End, Far End, and Cable fields are user-defined and may be set and/or edited in the String Editor screen:
 - Touch the desired field to display String Editor.
 - Make edits using on-screen controls.
 - Touching Done will save edits and return to the Save As screen.
 - Touching Back ↶ or Cancel will return to the Save As screen with no edits saved.
- Link number auto-increments after each save, but can be modified in the Number Editor screen as needed.
 - Touch the Link field to display the Number Editor.
 - Make edits using on-screen controls.
 - Touching Done will save edits and return to the Save As screen.
 - Touching Back ↶ or Cancel will return to the Save As screen with no edits saved.

Touch Results to select Internal memory or USB (if present) and navigate to the desired Job and Cable folder



Auto-Saving Results

FlexScan can be configured to automatically save results and optionally send results to FlexApp via Bluetooth each time a test is completed. See ["To Configure Auto-Save \(and Optional Send\):" on page 13](#) for details.

Manually Saving Results

Saving to a Newly Created Folder

1. While in the Results screen, touch Menu.
2. Next, touch Save As to display the Results Manager screen.
3. Define <Job>, <OTDR End>, <Far End>, <Cable>, and <Link> fields used to name saved results and edit if required.
4. Touch Done when finished.

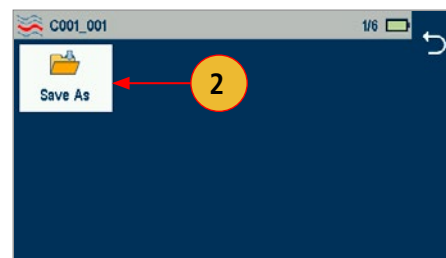
Note:

This will make the newly created Job, OTDR End, Cable, or Fiber current.

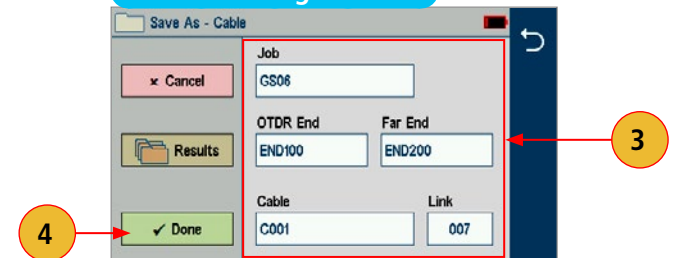
Saving to the Current Folder

5. While in the Results view, touch the Menu.
6. Next, touch Save As to display the Results Manager screen.
7. Review <Job>, <OTDR End>, <Far End>, <Cable>, and <Link> fields used to name saved results.
8. Touch Done when finished.

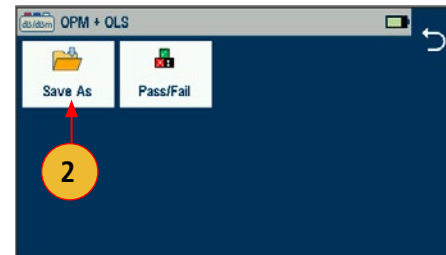
OTDR Results View Screen



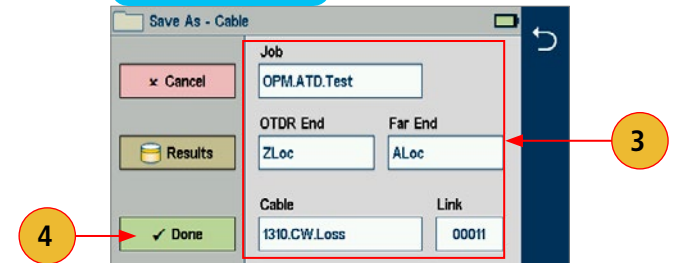
Results Manager Screen



OPM Results View Screen



Save As Screen



Recalling and Viewing Saved Test Results

Saved results can be recalled and viewed

- From the Home screen, touch Saved to display Results Manager, which may be displayed as Jobs, Cables, or Results screen.
- Navigate through Job/Cable/Results screen to locate the desired test result and touch to display it.
 - In Jobs screen: use Up/Down $\blacktriangle/\blacktriangledown$ arrow keys to navigate to the desired folder, then touch it to display saved folders.
 - In Cables screen: navigate to the desired folder, then touch it to display saved results.
 - In Results screen: navigate to the desired test record, then touch it to display test results.
 - Touch result to display details

Touch the desired folder to open

Touch to move up one directory level

Touch to display test results

Home Screen

Jobs Screen

FiberGroups Screen

Results Screen

Touch this icon to toggle between Internal Memory and USB Memory (if a USB stick is present)

Saved .SOR files identified by OTDR icon in File Manager

Touch the desired folder to open

Touch to move up one directory level

Touch to display test results

Home Screen

Jobs Screen

FiberGroups Screen

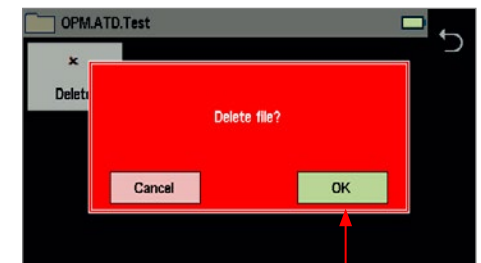
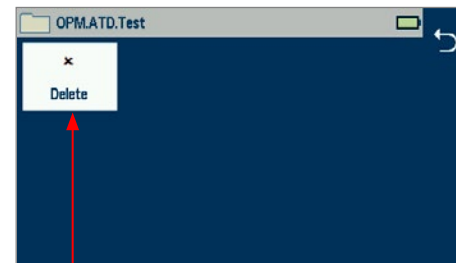
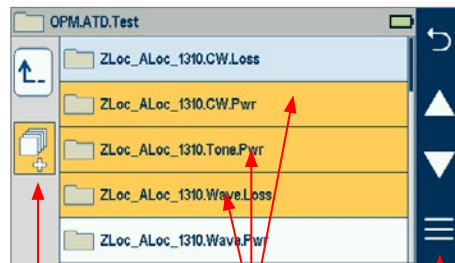
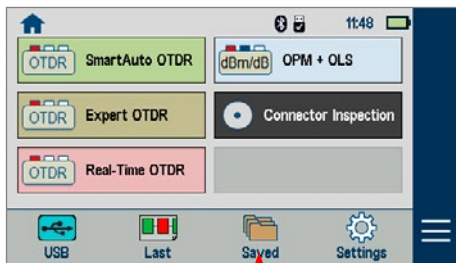
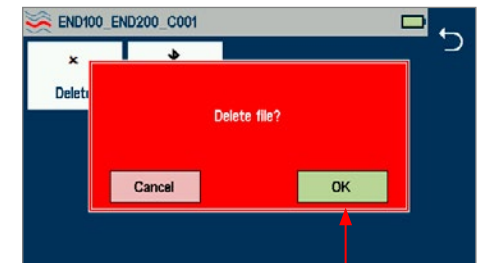
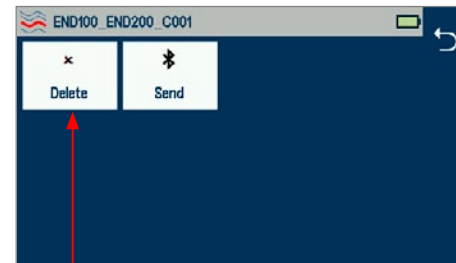
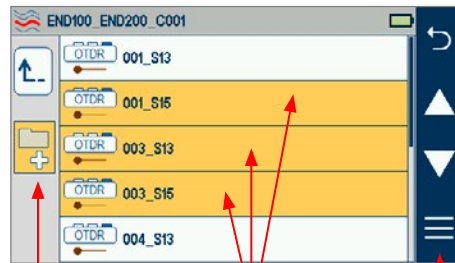
Results Screen

Touch this icon to toggle between Internal Memory and USB Memory (if a USB stick is present)

Saved .ATD files identified by dB/dBm icon in File Manager

Deleting Jobs/Cables/Files

1. From the Home screen, touch the Saved icon to display the Results Manager, which may be displayed as Jobs screen, Cables screen, or Results screen.
2. Navigate through the Jobs/Cables/Results screen to locate the desired results.
3. Press Add Files control to enable 'select' function, or touch and hold Add Files to select all.
4. Touch as many files as needed to select.
5. Touch the Menu ≡ soft key to display a sub-menu.
6. Touch Delete.
7. Then touch OK to confirm deletion.





Transferring Files to a PC via USB

To transfer files from your FlexScan to a PC using a USB cable, perform the following:

- Connect your FlexScan to a PC using the supplied micro-USB to USB cable. Make sure the micro-plug is fully seated in your FlexScan.
- Touch the USB soft key on the FlexScan's Home screen.
- On your PC, open My Computer. A new removable drive named FS200 X: will appear, where 'X:' is the drive letter assigned to your FlexScan.
- Under FS200 X: you should see two or three folders: RESULTS, SOFTWARE and possibly SCREENSHOTS.
- Copy the RESULTS folder to your PC.
 - Under RESULTS you will see: TRACES.
 - Under TRACES you will see all of the folders containing OTDR traces or OPM results.

Note:

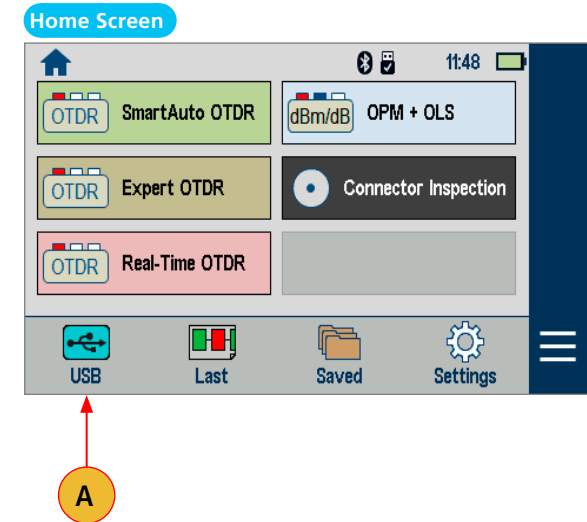
Before removing the USB cable connecting your FlexScan to your PC, or pressing the Cancel soft key on the USB screen, left click the Safely Remove Hardware icon in the Start bar of your PC, then left click the Safely remove USB Mass Storage Device – Drive (X:) message, where 'X' is the drive letter assigned to your FlexScan.

Uploading Results via Bluetooth to a Mobile device Running the FlexApp

See the following instructions:

[FlexApp on Android Device— Wireless Transfer of FlexScan® FS200/TS100 Results to FlexReports for Easy Reporting](#)

[FlexApp on iOS Device — Wireless Transfer of FlexScan® FS200/TS100 Results to FlexReports for Easy Reporting](#)

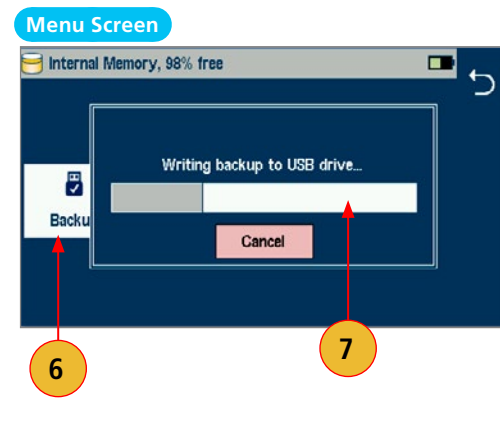
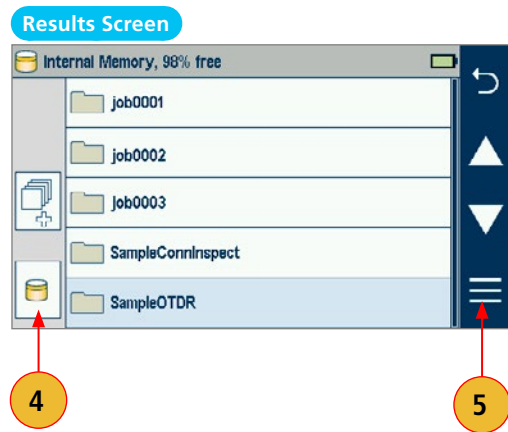
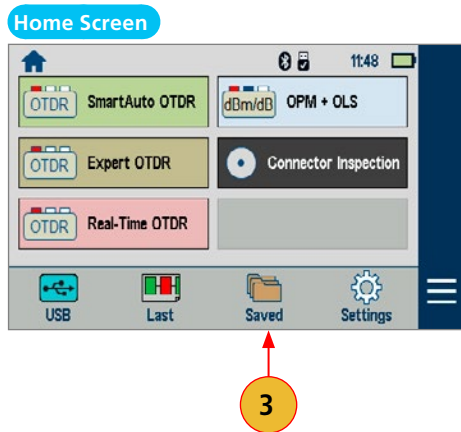




Backing up Results to External USB Memory Stick

To back up internally stored results to USB memory stick:

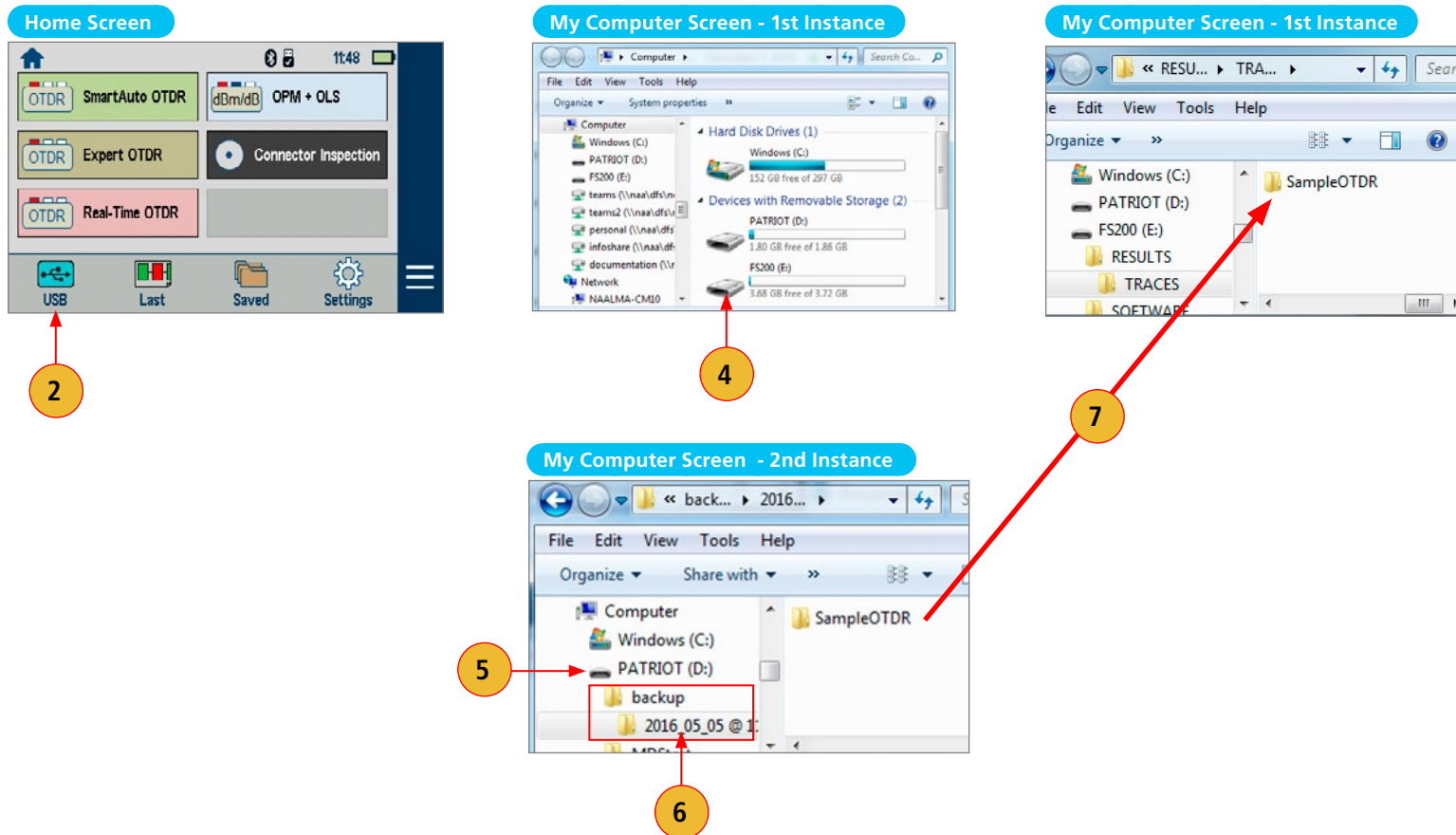
1. Turn on the FlexScan OTDR.
2. Plug in an external USB memory stick.
3. From the Home screen, touch Saved.
4. When in test results screen, verify that Internal Memory option is currently selected.
 - If the USB option is selected, touch the USB memory icon to toggle to the Internal Memory option.
5. Touch Menu.
6. Touch Backup.
7. Wait until the Backup progress completes (indicated by the "Writing backup to USB drive..." label).



Restoring Results from External USB Memory Stick

Use a PC to restore backed up FlexScan results from the USB memory stick:

1. Turn on the FlexScan OTDR and connect to a PC via USB cable.
2. Touch the USB icon on the FlexScan's Home screen.
3. Plug the USB memory stick containing test results into a PC.
4. Open 'My Computer' and double-click on the FS200 drive.
5. Open 2nd instance of 'My Computer' and double-click on the USB drive.
6. Within USB drive, double-click on 'backup' folder, then select date/time-stamped folder.
7. Drag contents of the desired backup folder from the USB to the FS200\Results\Traces folder.
8. PC will prompt to confirm overwrite of folders or files having the same names.





Generating Reports with FlexReporter Software Suite

FlexReporter Software Suite works with AFL Test and Inspection instruments to provide a simple-to-use, high performance cloud enabled reporting platform. FlexReporter combines FlexApp – a mobile App that wirelessly transfers test results to FlexReporter-Cloud from the field with a fast, comprehensive, 3-step reporting solution – FlexReports PC software. The FlexReporter software suite is developed to make the complicated task of reporting faster, simpler, and easy-to-use.

FlexReports is a Windows®-compatible PC software that provides comprehensive test results analysis and reporting for AFL FlexScan OTDRs, FOCIS inspection systems, OLTS, and OPM products.

FlexApp is a mobile Android and iOS App that supports AFL's FlexScan® OTDRs and FOCIS connector inspection products (FOCIS Flex, FOCIS Lightning). FlexApp wirelessly transfers test results from any FlexScan OTDR or FOCIS inspection probe directly to FlexReporter-Cloud from the field for subsequent analysis, editing, and reports generation with FlexReports PC software.

Using FlexReports for Downloading Test Results from FlexReporter-Cloud

1. Install and run latest version of FlexReporter.
2. From FlexReports Home screen menu, click File and click "Log in to FlexReporter-Cloud" to log in.
3. Click "Download data from FlexReporter-Cloud". Navigate and select the desired folder with results for download, then click "Download".
4. Return to the FlexReports Home Menu to view results or generate a test report.

Download FlexReports

The image illustrates the process of downloading test results from FlexReporter-Cloud through three numbered steps:

- Step 1:** The 'File' menu is opened in the FlexReports Test Results Manager application.
- Step 2:** The 'Login to FlexReporter-Cloud...' option is selected from the File menu, leading to a login dialog box where the user enters their email and password.
- Step 3:** The 'Download data from FlexReporter-Cloud...' option is selected from the File menu, leading to a 'FlexReporter Cloud Download Wizard' dialog box. This wizard shows a file explorer view of the cloud storage, where the user can select the desired folder and files for download.

Generating Reports

See [FlexReports User's Guide](#) for detailed explanation.



Contacts

Technical Support	AFLtesttechsupport@AFLglobal.com +1 (800) 235-3423 (Option 3)
Sales Support	https://www.aflglobal.com/en/Contact/Product-Sales-Team Sales@AFLglobal.com +1 (800) 235-3423 (Option 4)
Purchase Orders, Quote, RMA	SPBCustomerPO@AFLglobal.com
Service Request	AFLEquipmentService@AFLglobal.com Product Service Request Form +1-800-235-3423 (Option 2)
AFL Test & Inspection web	www.AFLglobal.com/Test
Product Registration	www.AFLglobal.com/Register
AFL's Customer Portal - Direct	content.AFLglobal.com/Direct.html