
FlexScan[®] TS100 Optical Troubleshooter

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 TS100 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 TS100. 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.

1625 nm SM OTS/OLS/OPM port	This is a CLASS I LASER output.
1650 nm SM OTS/OLS/OPM port	This is a CLASS I LASER output.
VFL port	This is a CLASS Class 3A / Class 3R LASER output. Avoid exposure to the beam!

NOTE! FlexScans equipped with Bluetooth (option W1) contain the following Bluetooth Transmitter Module:

FCC ID: X3ZBTMOD8
IC: 8828A-MOD8

NOTE! FlexScans 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:** Except user replaceable battery, FlexScan 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 OTS/OLS/OPM port and any mating connectors using approved cleaning supplies (e.g. One-click cleaner) before mating the connectors.
- **CAUTION!** Power levels in excess of +10 dBm may damage OTS/OLS/OPM optics. Do not connect FlexScan to network connectors where received power level may exceed +10 dBm. If high power levels are suspected, verify power level by connecting to OPM and measuring received power level.

Apple Inc. Legal Notice

AirPlay, iPad, iPhone, iPod, iPod classic, iPod nano, iPod touch, and Retina are trademarks of Apple Inc., registered in the U.S. and other countries. iPad Air, iPad mini, and Lightning are trademarks of Apple Inc.



Labeling and Hazard Warning

1. 'Laser Radiation' label - located on the back of the TS100 unit.
2. Model and Serial Number label - located on the back of the TS100 unit
3. Calibration void label - located on the back of the TS100 unit.
4. FCC Transmitter label (models containing Bluetooth/Wi-Fi transceiver)- located on the bottom of the TS100 unit.





Models Overview

Three models target FTTx PONs and Point-to-Point troubleshooting applications

1. TS100-30: 1625 nm filtered PON Troubleshooter - Tests in-service or out-of-service PONs to, but not through, optical splitter.
2. TS100-60: 1650 nm filtered PON Troubleshooter - Tests in-service or out-of-service PONs to, but not through, optical splitter.
3. TS100-70: Extended range 1650 nm filtered PON Troubleshooter
 - Tests in-service or out-of-service PONs to and through the first optical splitter
 - Detects excess loss at splitter due to macro-bends, poor connections, or faulty splitters

All Models - Common Functionalities and Features

- Measure link length, loss, ORL, and detect faults to splitter in seconds
- Evaluate link and event measurements against user-settable pass/fail limits
- Provide LinkMap® display with easy-to-understand color-coded event icons indicating pass/fail
- Field-replaceable connector with tool-free interchangeable adapters
- USB and Bluetooth for results upload and field software updates
 - FlexApp allow remote results upload from the field(free download from Google Play for Android and Apple App store for iOS)
 - Uploaded results may be viewed and reported using included FlexReports
- Internal 4GB memory for results storage and software

TS100-60/70 Model-Specific Functionalities and Features

- Optical Light Source (OLS) with fiber-identifying tone generation at 1650 nm or insertion loss testing
- Broadband Optical Power Meter (OPM) for power measurements, tone detect and insertion loss test
- PON Optical Power Meter (OPM) for downstream GPON/RF Video/XGS-PON power measurements
- Wave ID to auto-detect wavelength(s) being used between OLS and OPM devices
- Visual Fault Locator (VFL) to pinpoint faults in splice closures and cabinets

TS100-30 Model-Specific Functionalities and Features

- Optical Light Source (OLS) for fiber-identifying tone generation only, at 1625 nm; not applicable for insertion loss testing
- PON Optical Power Meter (OPM) for downstream GPON/XGS-PON power measurements and 1650 nm tone detection



Hardware Overview

Controls and Interfaces



#	Feature	Description
1	Power button	Press to power FlexScan 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. • Flashing RED/GREEN = Battery charging halted due to over-temperature.
4	USB host port	This USB port may be used to connect USB Flash Drive for data storage, results backup or to update FlexScan software.
5	Micro-USB function port	With the supplied USB cable, this port may be used to connect TS100 to a USB host port on a PC to upload stored results, PDF printouts and captured screen images.
6	T100-60/70: 1650 nm Fault Locator/Light Source/Power Meter Port TS100-30: 1625 nm Fault Locator/Power Meter	This is a CLASS I LASER output. Used for the following testing: <ul style="list-style-type: none"> • Live fiber detection and power measurement. • Detection of faults and other events to end of point-to-point network or to first splitter in FTTH PON • Link Length, Loss, and ORL measurements
7	T100-60/70: VFL (red laser) port	This is a Class 3A / Class 3R LASER output. Avoid exposure to the beam! The VFL (visual fault locator) port is a 635 nm (visible red) laser. Used for short-range fault-location.



#	Feature	Description
8	Touchscreen display	4.3" 480 x 272 color backlit LCD touchscreen.
9	Home/Menu button	<ul style="list-style-type: none"> Press to toggle between Test Results Home screen and the Home Menu. Press to select Save, Send, or General Settings.
10	Test Start/Stop button	Press to start a new test; or, if a test is running, stop the current test.
11	TS100-60/70: VFL/CW button TS100-30: Tone generation button	TS100-60/70: Use the VFL button to control the VFL laser: Press and hold ~ 1 sec to enable VFL at ~2 Hz flash rate Press and hold ~ 2 sec = CW Press and hold ~ 1 sec to switch off TS100-30: Press and hold ~ 1 sec to enable Tone generation
12	VFL indicator	When the VFL port is active this indicator illuminates as follows: Flashing RED = VFL flashing at ~2 Hz rate Solid RED = VFL on CW OFF = VFL is 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 = Battery 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 nearing empty
-  - 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.



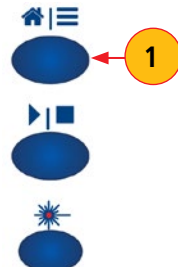
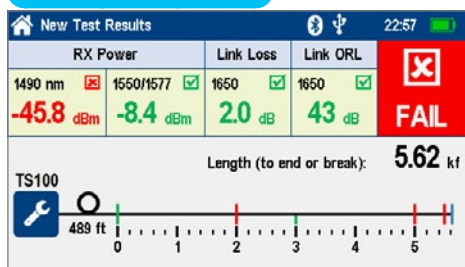
Configuring FlexScan to Auto-Off

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

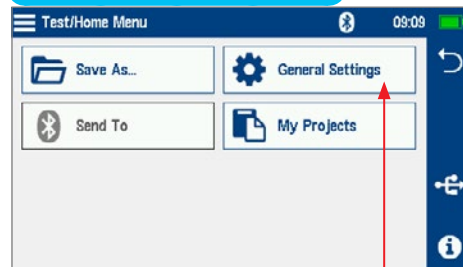
To Configure the Auto-Off Timer:

1. From the d Home screen, press Home/Menu button.
2. Next, touch the General Settings option.
3. When in the Settings menu, touch left/right arrows to navigate to the Settings screen that contains the Auto Off Timer option.
4. Touch the Auto Off Timer field to display the sub-menu.
5. Select the desired power save option (Never, 5 min, 15 min).
6. Touch Back to return to the previous screen.

Home/Test Screen



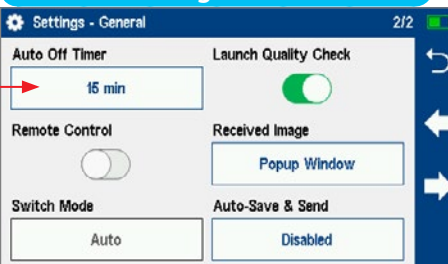
Test/Home Menu Screen



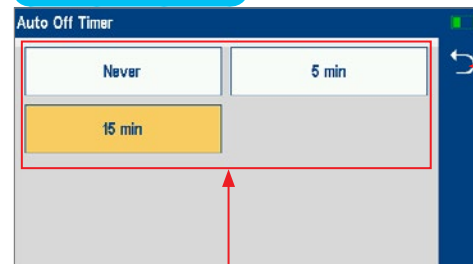
General Settings, Screen 1 of 2



General Settings, Screen 2 of 3



Auto Off Timer



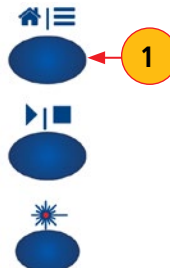
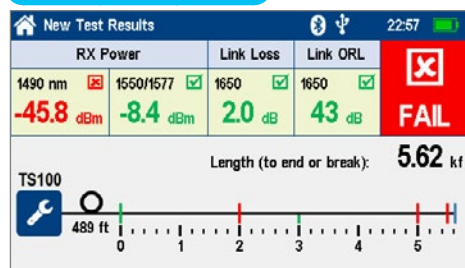


How to View Device Information

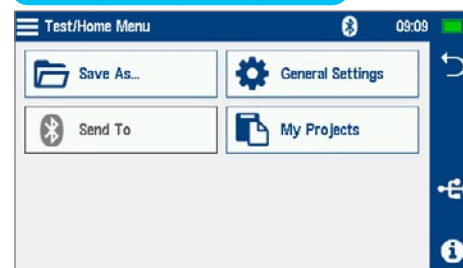
FlexScan software revision, serial number, and calibration date can be viewed from the Device Information screen, which is accessed from the Test/Home Menu screen.

1. From any screen, press the Home/Menu button.
2. From the displayed Test/Home Menu, touch Info.
3. View FlexScan Info displayed on the Device Information screen.

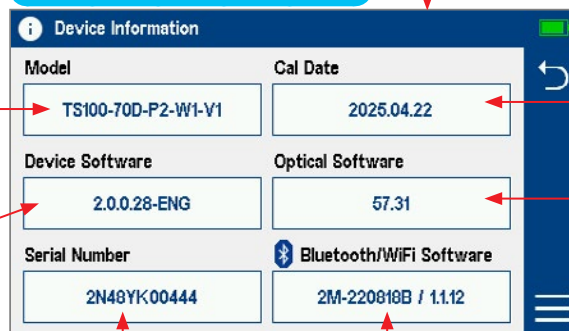
Home/Test Screen



Test/Home Menu Screen



Device Information Screen



Model Number: Model Number of your FlexScan TS100

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

Serial Number: FlexScan's serial number

Cal Date: Date of last calibration

Optical Software: Revision of current optical firmware

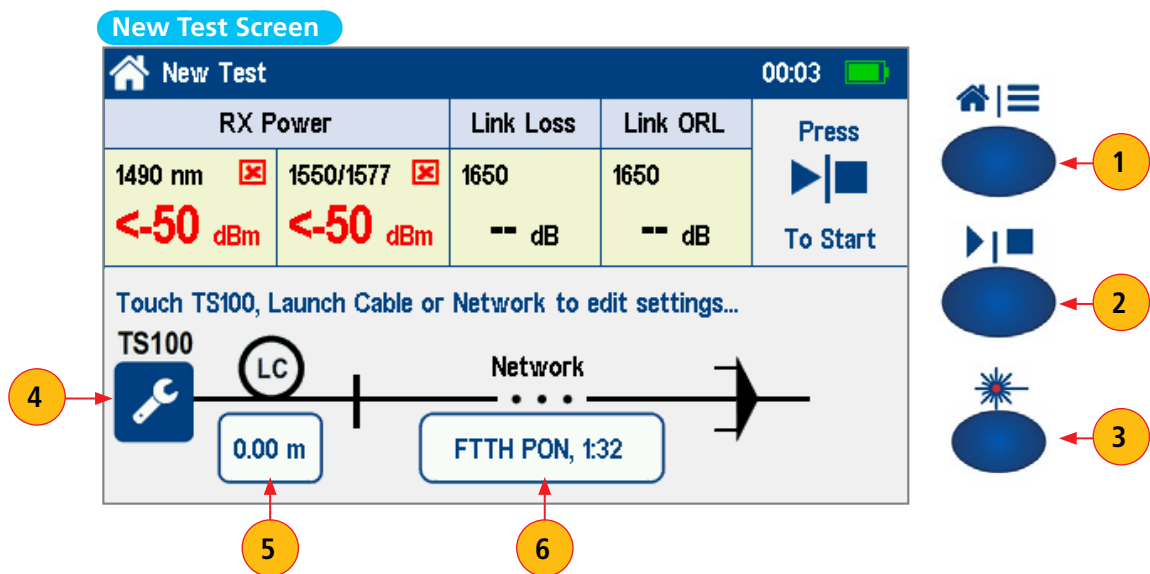
Bluetooth/Wi-Fi Software: Current Bluetooth and Wi-Fi firmware revisions



User Interface Overview

FlexScan's Home Screen - New Test

The New Test screen is the FlexScan's main screen that is displayed at startup.



#	Feature	Description
1	Home/Menu button	<ul style="list-style-type: none"> Press to toggle between Test Results Home screen and the Home Menu. Press & hold to capture screen image of the current display.
2	Test Start/Stop button	Press to start a new test; or, if a test is running, stop the current test.
3	TS100-60/70: VFL/CW button TS100-30: Tone generation button	TS100-60/70: Use the VFL button to control the VFL laser: <ul style="list-style-type: none"> Press and hold ~ 1 sec to enable VFL at ~2 Hz flash rate Press and hold ~ 2 sec = CW Press and hold ~ 1 sec to switch off TS100-30: Press and hold ~ 1 sec to enable Tone generation.
4	Tool (Test Setup) icon	Touch Tool (Test Setup) icon to: <ul style="list-style-type: none"> View and edit current test settings Select OLS/OPM or Inspection mode (if available in your TS100 model)
5	Launch Cable field	Touch Launch Cable field to change LC length.
6	Network field	Touch Network to configure Network Type: Pt-to-Pt or FTTH PON and expected split ratio.



Understanding LinkMap® Display

New Test Results Screen

Notes:

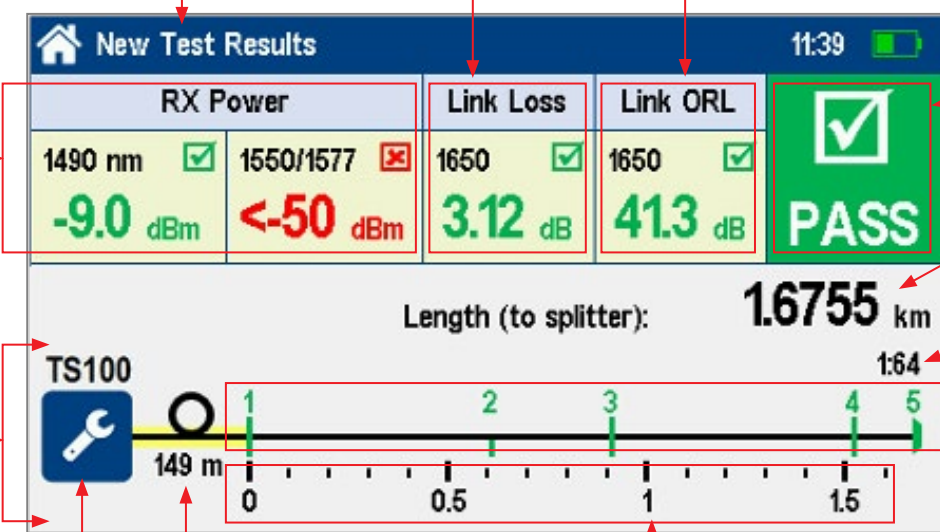
- LinkMap® Thumbnail: Touch to view detailed LinkMap.
- Measurements are color-coded to indicate pass/fail status:
 - Green = Pass
 - Red = Fail
 - Black = Not evaluated

This field displays "New Test Results" label if file has not been saved or File name that consists of cable name and fiber number.

Link Loss: Loss to end, splitter or break (displays 1625 nm for TS100-30).

Link ORL: ORL to end, splitter or break (excluding reflectance of open end)

Received PON power levels (1550 nm result will not be displayed for TS100-30).



Overall Pass/Fail.

Network Length (to splitter, end, or break).

Split Ratio (TS100-70 only, shown if splitter detected).

LinkMap® Thumbnail: this field depicts tested network.

- Touch to view detailed LinkMap

Numbered and color-coded events.

Tool icon - touch this icon to perform the following:

- View and edit current test settings
- Select OLS/OPM or Inspection mode (if available in your TS100 model)

Launch Cable length.

Length scale.



Understanding LinkMap® Display

Detailed LinkMap Results Screen

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

Screen title: "New Test" if file has not been saved or File name: consists of cable name and fiber number.

LinkMap thumbnail view with proportionally spaced events.

LinkMap detail view: shows summary and first 4 events, or up to 5 events. The LinkMap automatically selects first detected fault (if any).

Event number, type, and location of the selected event.

Cause and corrective action for the detected fault event.

Event Loss displayed for selected event:

- GREEN - indicates passing result
- RED - indicates failing result

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

Current time, in this example shown in 24-hour format.

Battery icon indicates the battery charge state.

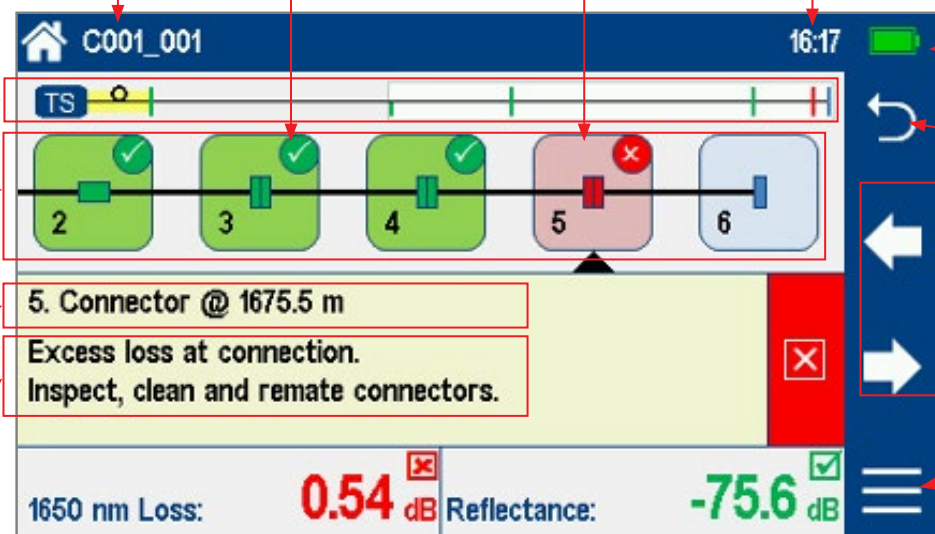
Back soft key: touch to return to the previous menu.

Touch to move to next or previous event.

Menu soft key: touch to navigate to Save As screen.

Event Reflectance displayed for selected event:

- GREEN - indicates passing result
- RED - indicates failing result





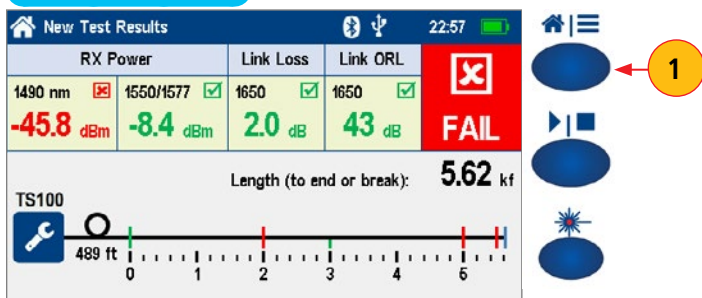
New Test Screen - How to Navigate

1. Test/Home Menu screen may be accessed from the New Test Results screen by pressing the Home/Menu button or from the LinkMap Detail screen by touching the 3-bar Menu icon.

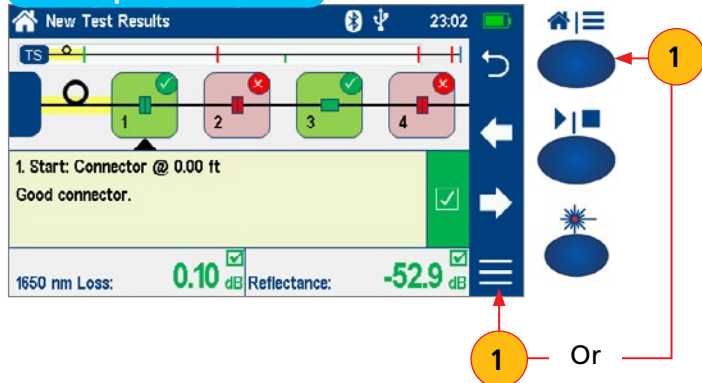
While in Test/Home Menu screen, you may perform the following operations:

2. Touch Save As to name and save results.
3. Touch Send To option to send results to Bluetooth-paired device.
 - If Send To option is grayed out, Bluetooth is either not available or disabled. Select General Settings to enable Bluetooth and pair to mobile device running the FlexApp if you wish to upload results to that device for reporting or sharing.
4. Touch General Settings to select, view, and edit General Settings.
5. Touch My Projects to recall and view saved results.
6. Touch USB icon to enter USB upload/download mode.
7. Touch Info icon to display Info screen.
8. Touch Back to return to Test/Home.

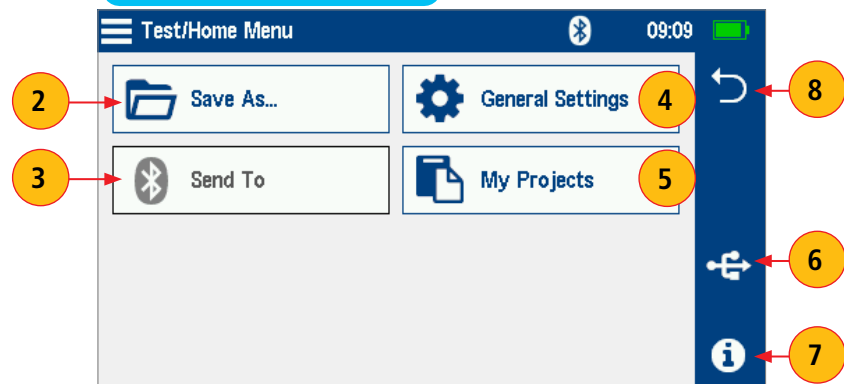
New Test Screen



LinkMap Detail Screen



Test/Home Menu Screen

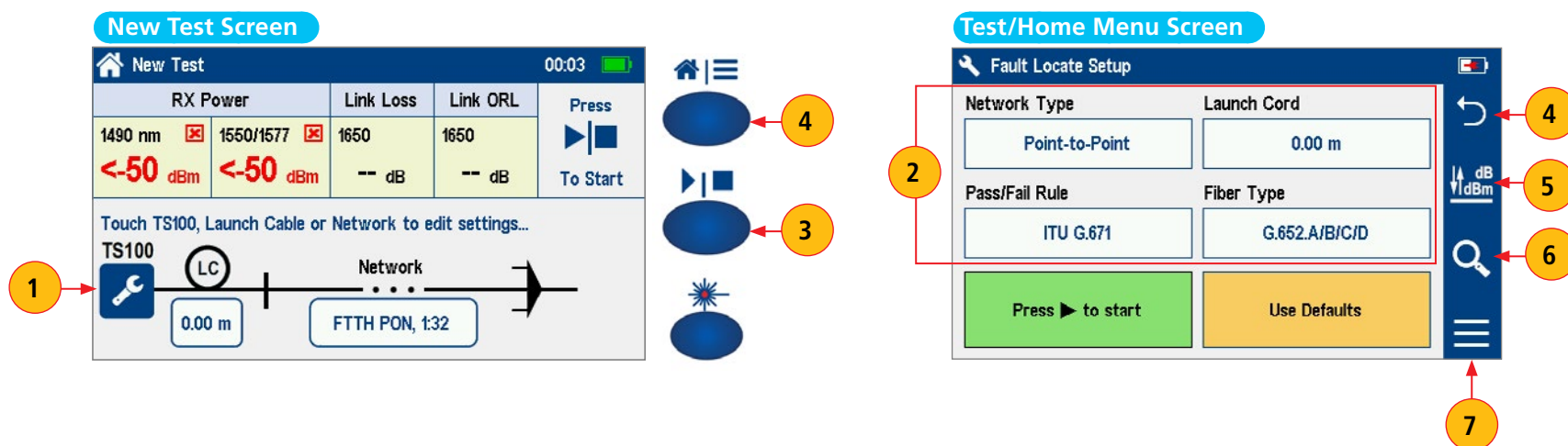




FleXpress® Fault Locate Test Setup

Fault Locate Setup Screen Overview

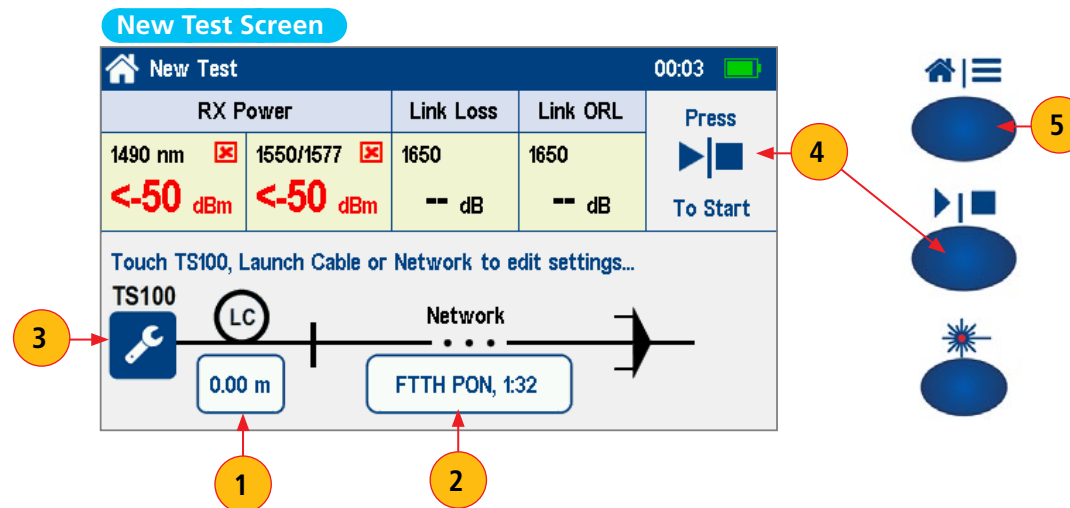
1. Fault Locate Setup screen is accessed from the Test screen by touching the TS100 Tool icon.
2. When in Fault Locate Setup screen, select a Test Setting to edit it
 - Network Type. See [“Select Network Type” on page 19.](#)
 - Launch Cord. See [“Configure Launch Cord Length” on page 20.](#)
 - Pass/Fail Rules. See [“Pass/Fail Rule Setup” on page 21.](#)
 - Fiber Type. See [“Viewing and Configuring Fiber Type” on page 26.](#)
3. Pressing the Start/Stop button will initiate a new test.
4. Pressing the Home/Menu button or touching Back will return to Home/Test Results screen without starting a new test.
5. Touching the dB/dBm icon (present if available on your TS100 model) will enter the Light Source & Power Meter mode.
6. Touching the Inspection icon (present if available on your TS100 model) will enter the Connector Inspection mode.
7. Touching the Menu icon will display the OTDR test Setups screen





Quick Preview and Edit Launch Cable and Network Type

1. Touch Launch Cable Length to edit it, see [“Configure Launch Cord Length”](#) on page 20.
2. Touch Network Type to select FTTH PON or Point-to-Point (P2P), see [“Select Network Type”](#) on page 19.
 - TS100-30/60 always tests in Point-to-Point mode
 - TS100-70 tests to splitter (P2P) or through first splitter
 - When FTTH PON selected, configure expected PON split ratio
3. Touch TS100 tool view and/or edit additional settings.
 - Pass/Fail Rules, see [“Pass/Fail Rule Setup”](#) on page 21.
 - Fiber Type, see [“Viewing and Configuring Fiber Type”](#) on page 26.
4. Initiate Test: Touch Press to Start icon or press Start/Stop button.
5. If needed, you may press Home/Menu to return home without starting test.





Configuring Fault Locate Test Setup

Select Network Type

1. From the New Test screen touch Tool to access the Fault Locate Setup screen.
2. Touch Network Type option to select Point-to-Point (P2P) or FTTH PON:
 - TS100-30/60 always tests in Point-to-Point mode
 - TS100-70 tests to splitter (P2P) or through first splitter
 - FTTH PON through Splitter (only available in TS100-70!).
3. When FTTH PON selected, configure expected PON split ratio.
4. Touch the Split Ratio field to select the desired split ration from the displayed options,
5. Touch Back to return to the previous Setup screen.

The image shows three screenshots of the Fault Locate Setup process, with numbered callouts 1 through 5 indicating the steps:

- 1:** New Test Screen. A wrench icon is highlighted in a blue circle.
- 2:** Fault Locate Setup Screen. The Network Type is set to Point-to-Point.
- 3:** Fault Locate Setup Screen. The Network Type is set to FTTH PON.
- 4:** PON Splitter 1 screen. The 1:32 split ratio is selected.
- 5:** PON Splitter 1 screen. The Back button is highlighted in a blue circle.

New Test Screen

RX Power	Link Loss	Link ORL	Press
1490 nm	1550/1577	1650	1650
<-50 dBm	<-50 dBm	-- dB	-- dB

Touch TS100, Launch Cable or Network to edit settings...

TS100

LC 0.00 m

Network

FTTH PON, 1:32

Fault Locate Setup Screen

Network Type: Point-to-Point

Launch Cord: 0.00 m

Pass/Fail Rule: ITU G.671

Fiber Type: G.652.A/B/C/D

Press ▶ to start

Use Defaults

Fault Locate Setup Screen

Network Type: FTTH PON

PON Splitter 1

ONT

OLT

1:32

PON Splitter 1

None			
1:2	2:2	1:4	2:4
1:8	2:8	1:16	2:16
1:32	2:32	1:64	2:64



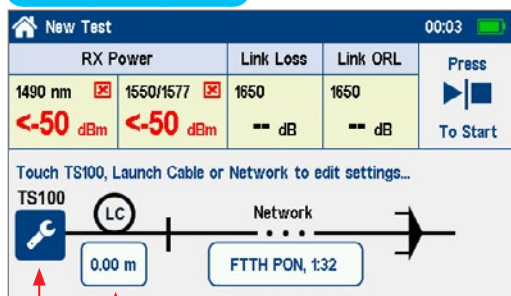
Configure Launch Cord Length

The Launch Cord Setup that allows the user to View/Edit Launch Cord length:

There are two ways to access the Launch Cord Setup screen:

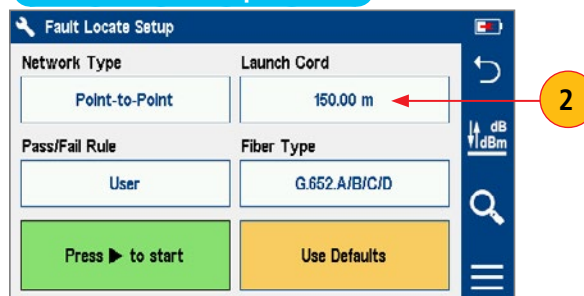
1. From the New Test screen touch Tool to access the Fault Locate Setup.
2. Next, touch the Launch Cord option to display the Launch Cord screen.
3. Another way to access the Launch Cord screen, is by touching the 'LC'- Launch Cord field.
4. When in the Launch Cord setup screen, touch Clear to clear current launch cable length.
5. Enter desired launch cable length..
6. Touching Cancel or Back will return to previous screen without saving changes.
7. Touching Done will save changes and return to previous setup screen.

New Test Screen

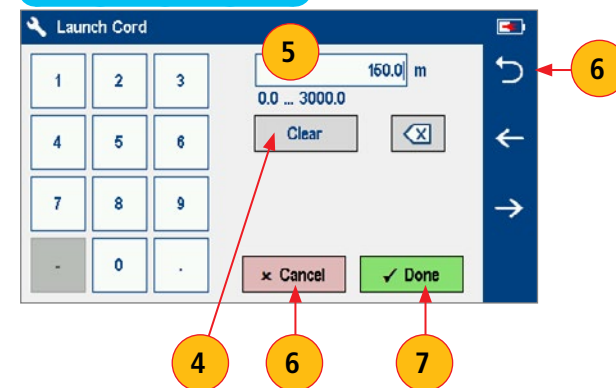


1 3

Fault Locate Setup Screen



Launch Cord Screen





Pass/Fail Rule Setup

1. From the New Test screen touch Tool to access the Fault Locate Setup screen.
2. Touch Network Type option to display the Pass/Fail Rule sub-screen.
3. Next, select desired Pass/Fail Rules
 - **ITU G.671** – Pass/Fail limits based on ITU-T Recommendation G.671. ITU G.671 Pass/Fail Settings may be viewed but NOT changed.
 - **TIA-568.3-D** – Pass/Fail limits based on TIA Recommendation 568.3-D. TIA-568.3-D Pass/Fail Settings may be viewed but NOT changed.
 - **User** – User-settable pass/fail limits. User Pass/Fail Settings may be viewed and changed.
4. Touch Back to return to Fault Locate Setup
5. When back in the Fault Locate Setup screen, touch and hold selected Pass/Fail rule to view/edit link and event pass/fail limits.

Notes:

- Splice, Connector and Splitter pass/fail limits are fixed and cannot be edited for ITU G.671 and TIA-568.3-D standards.
- Splitter pass/fail limits can only be viewed and set in TS100-70.
- Pass/Fail Rules provide limits for:
 - Maximum allowed Splice Loss
 - Maximum allowed Connector Loss & Reflectance
 - Min/max allowed Splitter Loss & maximum Splitter Reflectance
 - Min/max allowed Link Length
 - Maximum allowed Link Loss
 - Minimum allowed Link ORL
 - Min/max allowed RX Power at 1490 & 1550/1577 nm

New Test Screen

RX Power		Link Loss	Link ORL	Press
1490 nm	1550/1577	1650	1650	▶
<-50 dBm	<-50 dBm	-- dB	-- dB	To Start

Touch TS100, Launch Cable or Network to edit settings...

TS100 [Wrench Icon 1] LC 0.00 m Network FTTH PON, 1:32

Fault Locate Setup Screen

Network Type: Point-to-Point

Launch Cord: 150.00 m

Pass/Fail Rule: User

Fiber Type: G.652.A/B/C/D

Press ▶ to start

Use Defaults

Pass/Fail Rule Screen

ITU G.671

TIA-568.3-D

User

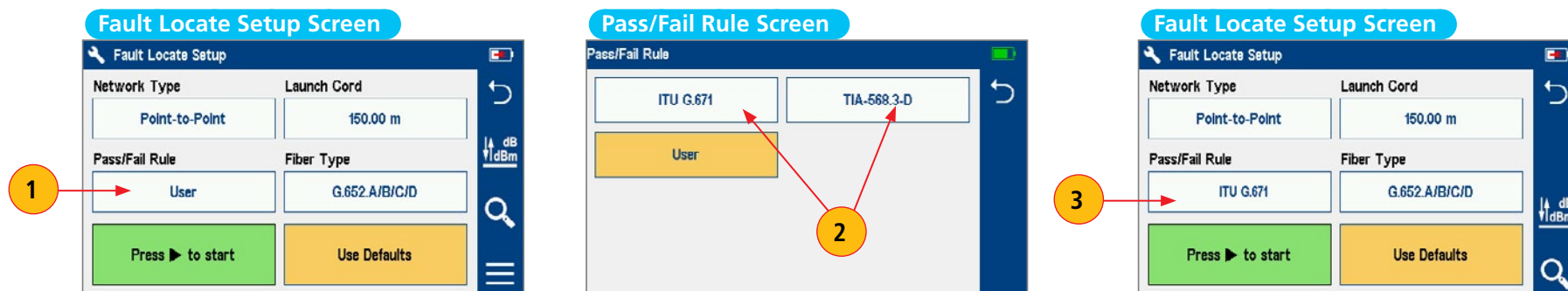


ITU G.671 or TIA-568.3-D Pass/Fail Rule Settings - View Only

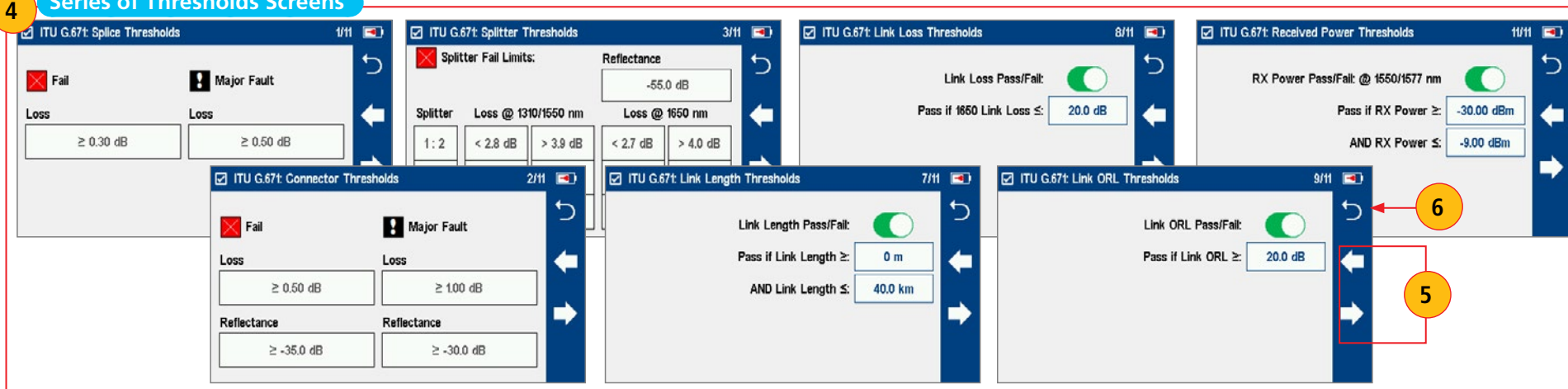
For TS100-70 Only

ITU G.671 and TIA-568.3-D Pass/Fail Rule settings may be viewed but not edited!

1. While in the Fault Locate Setup 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 Pass/Fail Rules menu.
2. Next, touch the ITU G.671 or TIA-568.3-D option to select.
3. When back in the Fault Locate Setup screen, touch and hold the displayed Pass/Fail Rule to open one of the settings screen:
4. Splice, Connector, Splitter (4 screens), Link Length, Link Loss, Link ORL, Received Power thresholds screens will be displayed in sequence allowing the user to view limits.
5. Touch left/right arrows to navigate through the available Thresholds screens.
6. Touch Back to return to the Fault Locate Setup screen.



4 Series of Thresholds Screens





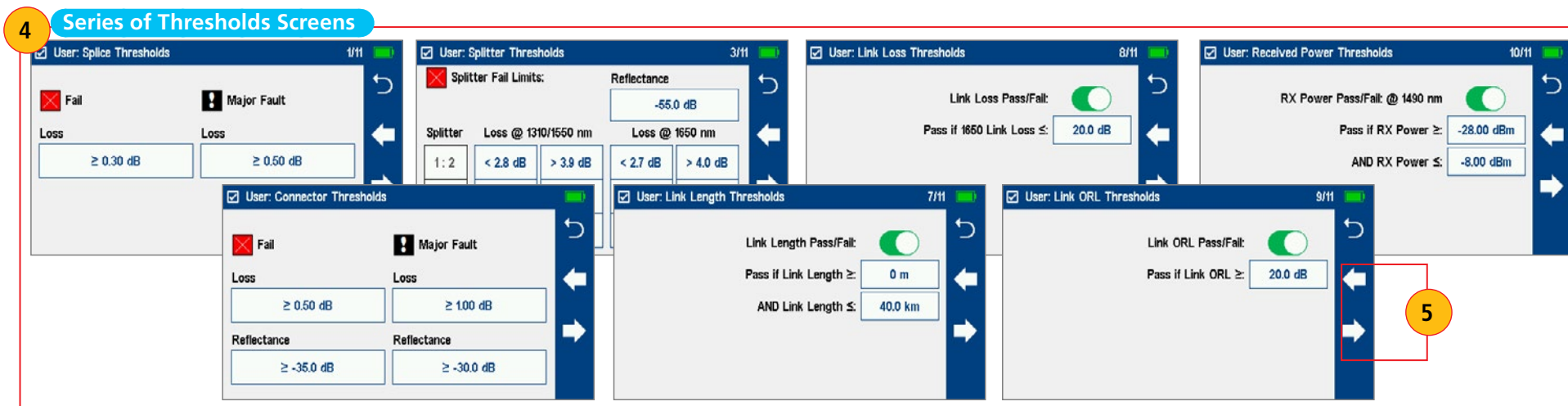
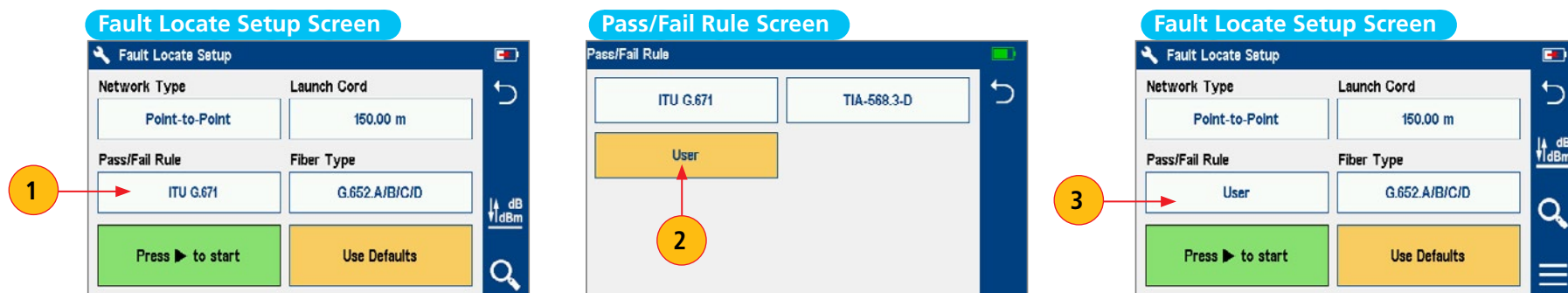
User Pass/Fail Limits - View and Edit

User Pass/Fail Role settings may be viewed and edited

1. While in the Fault Locate Setup screen, make sure the User Rule is displayed in the Pass/Fail Rule field. If not, touch the Pass/Fail Rule field to display the Pass/Fail Rule menu.
2. Next, touch the User option to select.
3. When back in the Fault Locate Setup screen, touch and hold the displayed User Pass/Fail Rule to open one of the settings screen.
4. Splice, Connector, Splitter (4 screens), Link Length / Loss / ORL, Received Power thresholds screens will be displayed in sequence.

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

5. Touch left/right arrows to cycle through thresholds screens.





6. Touch the desired threshold field to display its Editor screen.
7. When Editor screen is displayed, edit the threshold value using on-screen controls.
8. Touch Done to save changes and return to the Thresholds screen.
9. Touch Back to return to the Fault Locate Setup screen.

Splice Thresholds Settings

User: Splice Thresholds 1/11

Fail Major Fault

Loss	Loss
≥ 0.30 dB	≥ 0.50 dB

5

6

Connector Thresholds Settings

User: Connector Thresholds

Fail Major Fault

Loss	Loss
≥ 0.50 dB	≥ 1.00 dB

Reflectance	Reflectance
≥ -35.0 dB	≥ -30.0 dB

5

6

Splitter Thresholds Settings

User: Splitter Thresholds 3/11

Splitter Fail Limits: Reflectance -55.0 dB

Splitter	Loss @ 1310/1550 nm	Loss @ 1650 nm
1:2	< 2.8 dB > 3.9 dB	< 2.7 dB > 4.0 dB
2:2	< 2.6 dB > 4.2 dB	< 2.5 dB > 4.3 dB
1:4	< 5.4 dB > 7.4 dB	< 5.3 dB > 7.6 dB

5

6

Splice Thresholds Editor

Loss

1	2	3
4	5	6
7	8	9
0	.	

0.05 ... 3.00

0.30 dB

Clear

Cancel Done

7

9

8

Connector Thresholds Editor

Loss

1	2	3
4	5	6
7	8	9
0	.	

0.25 ... 3.00

0.50 dB

Clear

Cancel Done

7

9

8

Splitter Thresholds Editor

User: Splitter Thresholds

1	2	3
4	5	6
7	8	9
0	.	

3.0 ... 5.5

4.0 dB

Clear

Cancel Done

7

9

8



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

1. Touch left/right arrows to cycle through thresholds screens:
 - Minimum/maximum acceptable Link Length
 - Maximum acceptable Link Loss
 - Minimum acceptable Link ORL
 - Minimum/maximum acceptable Received Power (for each OTDR test wavelength)
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 Back to return to the Fault Locate Setup 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

Received Power Thresholds

Link Length Thresholds Editor

Link Loss Thresholds Editor

Link ORL Thresholds Editor

Received Power Thresholds Editor



Viewing and Configuring Fiber Type

Fiber Type settings depends on the selected Network Type option. Touch the Fiber Type field to display one of the following:

- Single-mode G.65x
- User-SMF options

G.65x Fiber Settings may be viewed but NOT changed.

User Settings may be viewed and changed.

To view G.65x Fiber Settings

1. While in the Fault Locate Setup screen, make sure G.65x fiber type is displayed in the Fiber Type field.
2. If not, touch the Fiber Type field to display the Fiber Type menu and touch the desired G.65x fiber types to select.
3. When back in the Fault Locate Setup 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 (ACI; Loss-per-Distance)
4. Touch Back to return to the Fault Locate Setup screen.

Fault Locate Setup Screen

Network Type: Point-to-Point | Launch Cord: 0.15000 km

Pass/Fail Rule: ITU G.671 | Fiber Type: User

Press ▶ to start | Use Defaults

1 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

2

Fault Locate Setup Screen

Network Type: Point-to-Point | Launch Cord: 150.00 m

Pass/Fail Rule: User | Fiber Type: G.652.A/B/C/D

Press ▶ to start | Use Defaults

3 Touch and hold to view the default settings

Fiber Settings Screen

G.652.A/B/C/D

GIR @ 1625 nm	1.4690
BC @ 1625 nm	-83.0 dB
ACI @ 1625 nm	0.20 dB/km

4



To view and edit User Fiber Type Settings

1. While in the Fault Locate Setup screen, make sure the User Fiber Type label is displayed in the Fiber Type field.
2. If not, touch the Fiber Type field to display the Fiber Type menu and touch the User option to select.
3. When back in the Fault Locate Setup 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 (ACI; Loss-per-Distance)
4. Touch the desired parameter field (e.g. GIR @1550 nm) to display its Editor screen.
5. Edit the value using on-screen controls. Touch Done to save changes and return to the User Fiber Type settings screen.
6. Touch Back to return to the Fault Locate Setup screen.

Fault Locate Setup Screen

Network Type	Launch Cord
Point-to-Point	150.00 m
Pass/Fail Rule	Fiber Type
User	G.652.A/B/C/D
Press ▶ to start	Use Defaults

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

Fiber Type Screen

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

2

Fault Locate Setup Screen

Network Type	Launch Cord
Point-to-Point	0.15000 km
Pass/Fail Rule	Fiber Type
ITU G.671	User
Press ▶ to start	Use Defaults

3 Touch and hold to view and edit settings

Fiber Settings Screen

GIR @ 1650 nm
1.4690
BC @ 1650 nm
-83.0 dB
ACI @ 1650 nm
0.20 dB/km

4

GIR @ 1650 nm		
1	2	3
4	5	6
7	8	9
-	0	.
1.4690		
1.3000 ... 1.7000		
Clear		
Cancel Done		

5

6

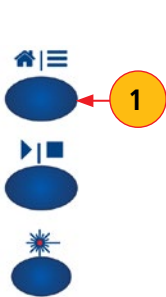
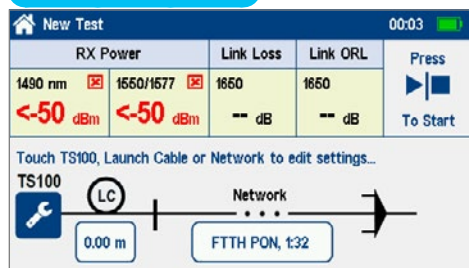


General Settings

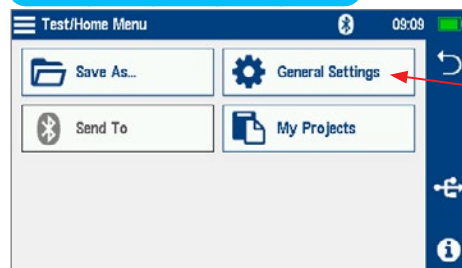
General Settings screen is accessed from the Test Results Screen, by pressing Home/Menu button and then selecting General Settings.

1. From the New Test screen, press Home/Menu button.
2. Next, touch the General Settings option. This will display the General Settings screen.
3. While in the General Settings screen, touch the desired setting field (e.g. Language) to display a sub-menu.
4. Touch left/right arrows to display additional General Settings screen.
5. Touch Back to return to the previous menu.
6. Alternatively, pressing the Home/Menu button will return to the previous screen.

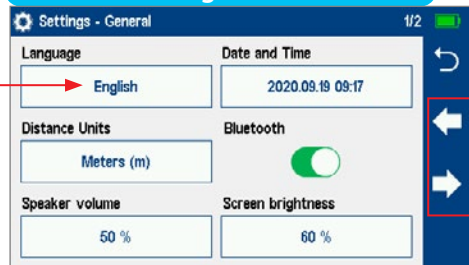
New Test Screen



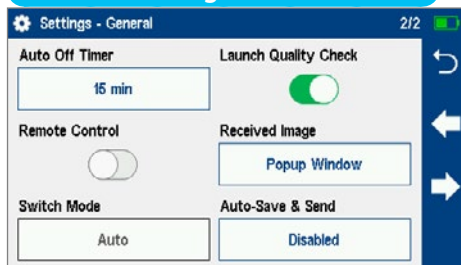
Test/Home Menu Screen



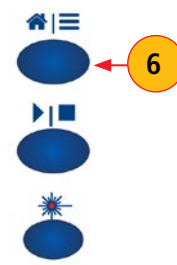
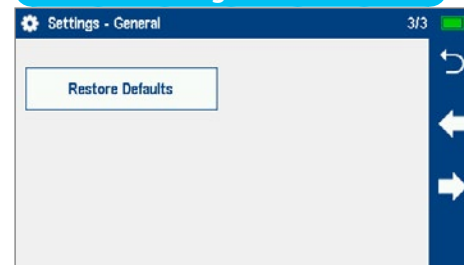
General Settings, Screen 1 of 2



General Settings, Screen 2 of 3



General Settings, Screen 3 of 3





General Settings

While in the General Settings screen, select and view/edit settings as follows:

Language

1. Language: touch to select from the available languages (depends on installed language pack).

Date & Time

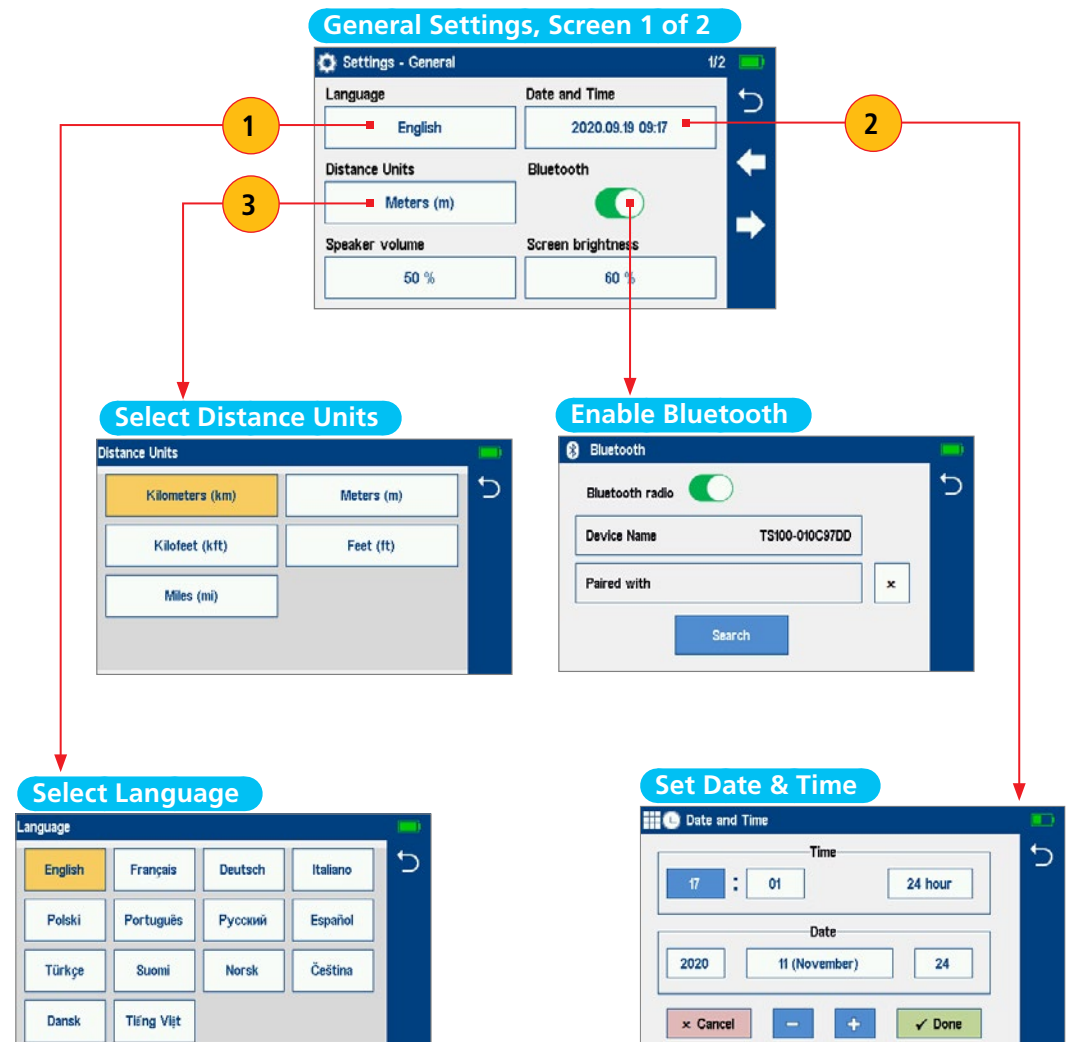
2. Date & Time: touch to adjust current date or time.
 - Enable/Disable 24 hour format.
 - Touch current Date & Time to edit.
 - From the displayed sub-menu, touch the desired Time/Date parameter to enable it: hours, minutes, AM/PM (if 24-hour format disabled), year, month, day.
 - Use [-]/[+] controls to change (increment or decrement) the selected parameter value.
 - Touch Done to save changes and return to the General Settings screen.
 - Touch Cancel or Back ↶ to return to Settings menu without saving edits.

Distance Units

3. Distance Units: select kilometers, meters, kilofeet, feet, or miles as needed.

Bluetooth

4. Bluetooth:
 - Touch the on/off control to display a sub-screen and enable Bluetooth.
 - Touch Search to discover devices, then select device from list to pair.





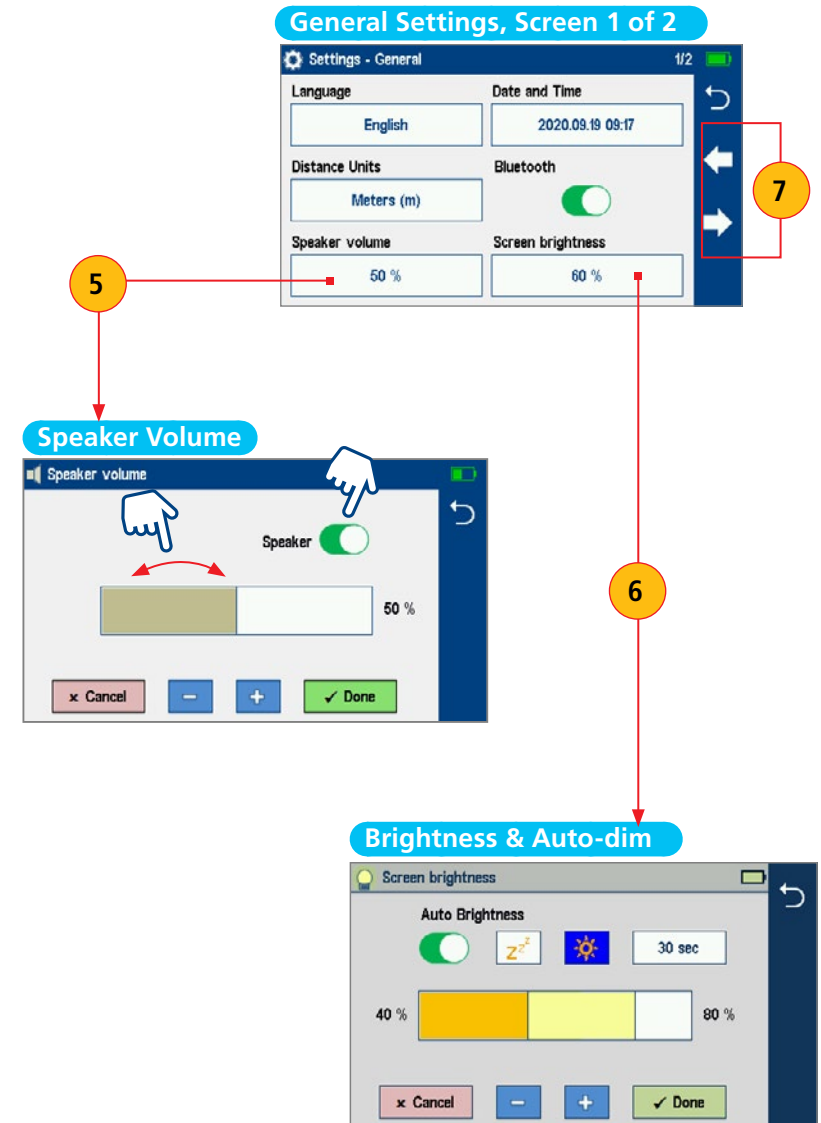
General Settings

Speaker Volume

5. Speaker Volume:
 - If disabled, touch the on/off control 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.

Screen Brightness and Auto-dim

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: Select Sleep icon and adjust slider right/left or use [+] / [-] controls to increase or decrease backlight dim setting
 - Brightness: Select Bright icon and adjust slider right/ left or use [+] / [-] controls to increase or decrease brightness
 - Timer control: Select and adjust time delay after last touchscreen action before display auto dims (if Auto Brightness enabled)
 - Press Done to save changes and return to the General Settings screen.
7. Touch left/right arrows to display additional Settings screen





General Settings

Auto Off Timer

8. Auto Off Timer:
 - Touch the Auto Off Timer field to display the sub-menu.
 - Select the desired power save option:
 - Never, 5 min, 15 min

Launch Quality Check

9. Launch Quality Check: An optional launch quality check enables users to detect dirty, damaged, poorly seated, or mismatched (UPC to APC) connectors. Touch to enable/disable.

Remote Control

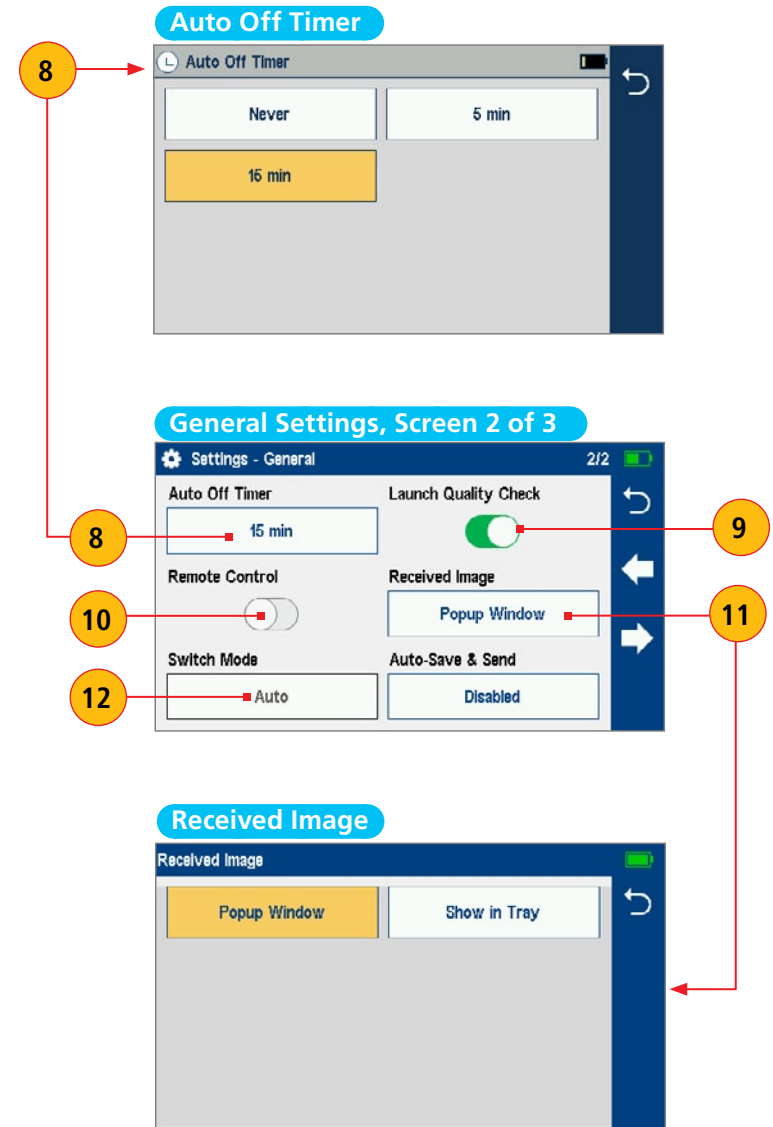
10. Remote Control: Touch the on/off control to display a sub-screen and enable the remote Control option.

Received Image

11. Received Image: FlexScan® TS100 accepts connector inspections images via Bluetooth® from FOCIS Flex and FOCIS Lightning inspection probes.
 - Received images may either be immediately displayed (Popup Window selected) or may be stored in memory for display when Connector Inspection selected from the Home screen (Show in Tray selected).

Switch Mode

12. Switch Mode: Touch to configure MPO switch settings.
 - MPO Switch Control is available only when AFL MPO switch is enabled and connected to TS100 via USB cable.
 - Error message appears if Switch Mode selected with no MPO switch connected and enabled.
 - When MPO Switch is connected, up to 12 fibers may be tested in a single test.





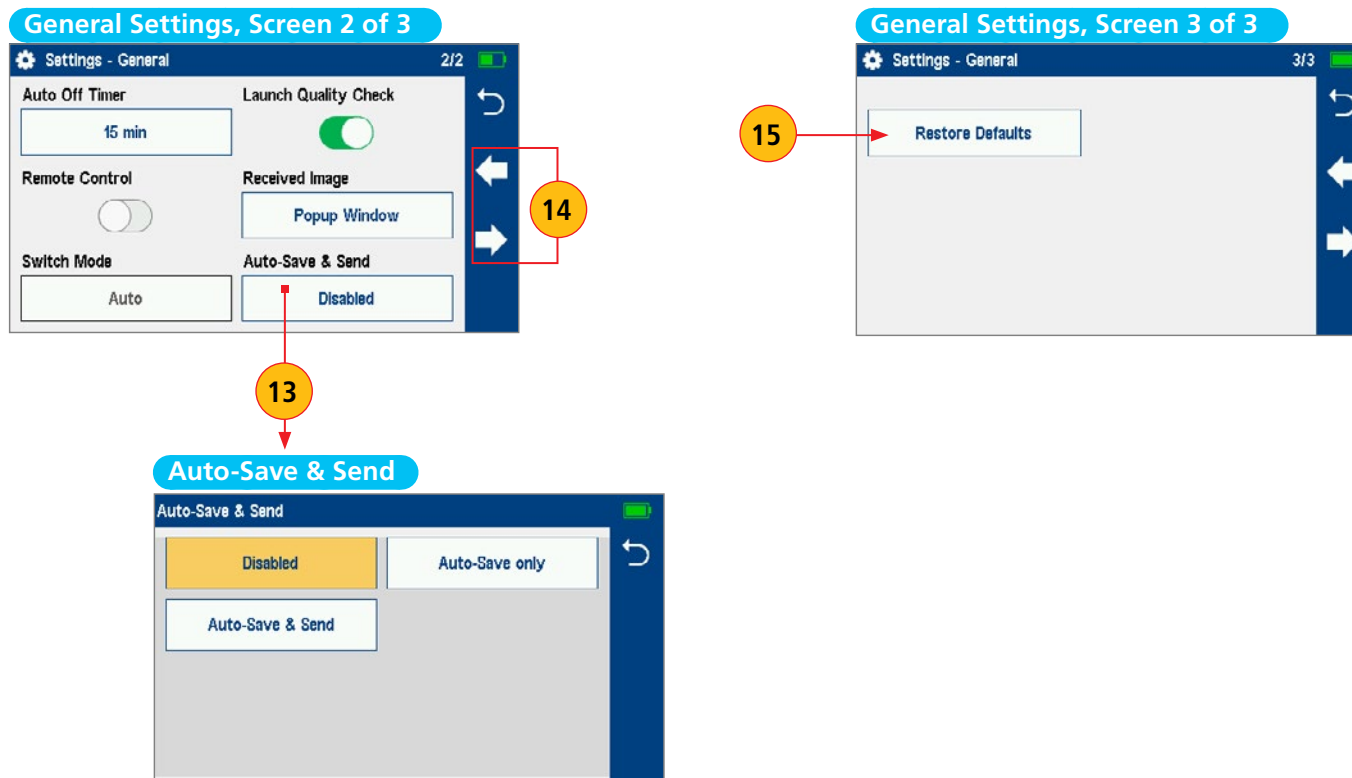
General Settings

Auto-Save and Send

13. Auto-Save and Send: Touch Auto-Save / Send to display a sub-screen
 - Touch the desired option.
 - If Auto-Save or Auto-Save & Send selected, configure Project, Fiber Group, Fiber# where results are to be saved. Touch Done when finished configuring Project, Fiber Group, and Fiber#.
14. Touch $\leftarrow \rightarrow$ arrow to display additional Settings screen.

Restore Default

15. Restore Defaults: Touch to reset all settings to factory defaults.





Managing OTDR and PON OPM Test Setups

Saving a Test Setup

To Save a Test Setup

1. From the New Test Results screen, touch Tool.
 2. From Fault Locate Setup screen, touch the Menu icon to display the OTDR Test Setups screen.
 3. Touch the Save Setup option.
 4. Next, you will see the Save Setup screen. Name the Test Setup you about to save.
 5. Next, touch Done.
- After selecting Done, the Fault Locate Setup screen is displayed with the saved Test Setup.

Note: Saving only applies to the current Test Setup.

The screenshots illustrate the steps for saving a test setup:

- 1. New Test Screen:** Shows the 'New Test' screen with a 'Tool' icon (wrench) circled in blue and labeled '1'. Below the screen is a diagram of a fiber network with a 'TS100' device and a 'Network' section.
- 2. Fault Locate Setup Screen:** Shows the 'Fault Locate Setup' screen with a menu icon (three horizontal lines) circled in blue and labeled '2'. The screen displays settings for Network Type (Point-to-Point), Launch Cord (150.00 m), Pass/Fail Rule (User), and Fiber Type (G.652.A/B/C/D).
- 3. OTDR Test Setups Screen:** Shows the 'OTDR Test Setups' screen with a 'Save Setup' button circled in blue and labeled '3'. Other buttons include Recall Setup, Backup Setups, Restore Setups, and Delete Setup.
- 4. Save Setup Screen:** Shows the 'Save Setup' screen with a text input field circled in blue and labeled '4'. A keyboard is visible below the input field.
- 5. Save Setup Screen:** Shows the 'Save Setup' screen with a 'Done' button circled in blue and labeled '5'.

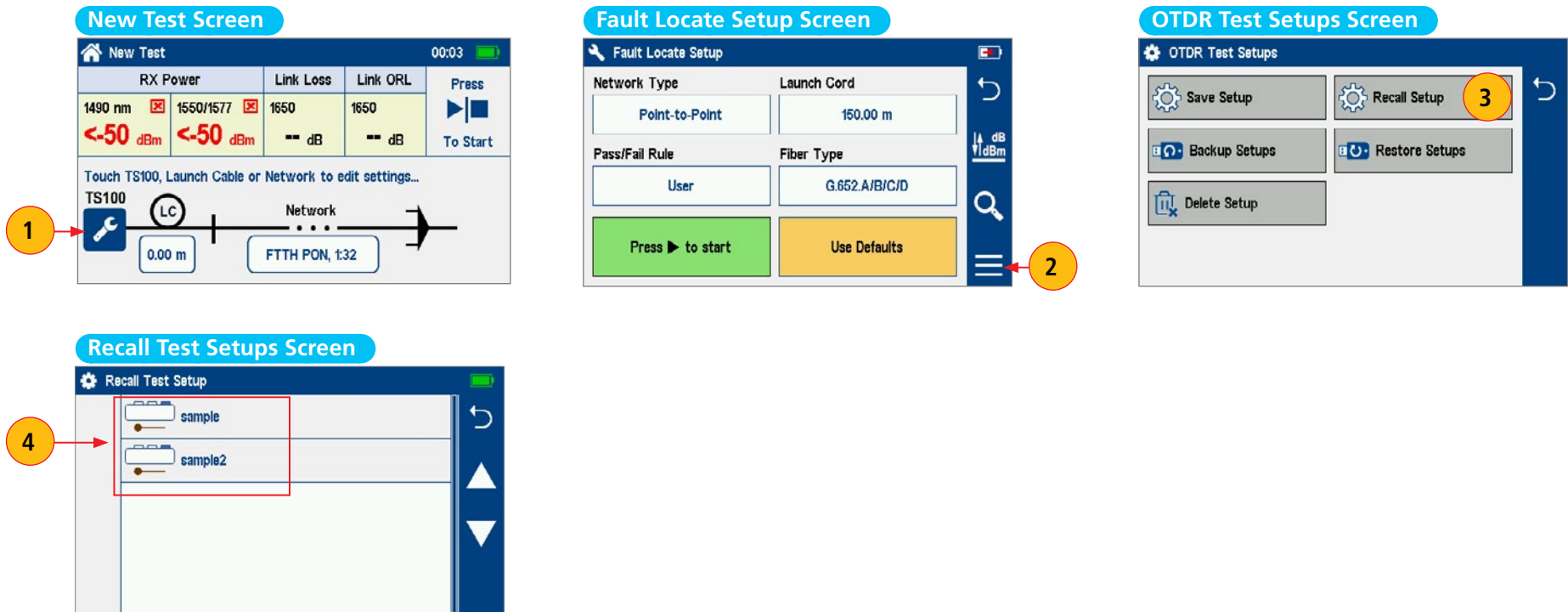


Managing OTDR and PON OPM Test Setups

Recalling a Test Setup

To Recall a Saved Test Setup

1. From the New Test Results screen, touch Tool.
2. From Fault Locate Setup screen, touch the Menu icon to display the OTDR Test Setups screen.
3. Touch the Recall Setup option.
4. Next, you will see a list of the previously saved Test Setups. Select the setup you'd like to recall.
 - The Fault Locate Setup screen will be displayed with the Recalled Test Setup.





Managing OTDR and PON OPM Test Setups

Backup Test Setups

To Backup Saved Test Setups to USB Stick

1. From the New Test Results screen, touch Tool.
2. From Fault Locate Setup screen, touch the Menu icon to display the OTDR Test Setups screen.

Insert USB stick into the TS100 USB port prior to next step!

3. Touch the Backup Setups option.
4. Next, you will see a list of the available Test Setups (if previously saved).
5. Select the desired test Setup files:
 - Touch the Select File icon and then touch the desired Setup file(s)
 - Touch and hold the Select File icon to select all Setup files at once
6. Next, touch the USB icon to backup the selected Setup file(s) to the USB.

New Test Screen

RX Power		Link Loss	Link ORL	Press
1490 nm	1550/1577	1650	1650	To Start
<-50 dBm	<-50 dBm	-- dB	-- dB	

Touch TS100, Launch Cable or Network to edit settings...

TS100 0.00 m Network FTTH PON, t:32

Fault Locate Setup Screen

Network Type	Launch Cord
Point-to-Point	150.00 m
Pass/Fail Rule	Fiber Type
User	G.652.A/B/C/D

Press ► to start Use Defaults

OTDR Test Setups Screen

- Save Setup
- Recall Setup
- Backup Setups
- Restore Setups
- Delete Setup

Backup Setups Screen

Sample Name	Details
sample	
sample2	

USB icon



Managing OTDR and PON OPM Test Setups

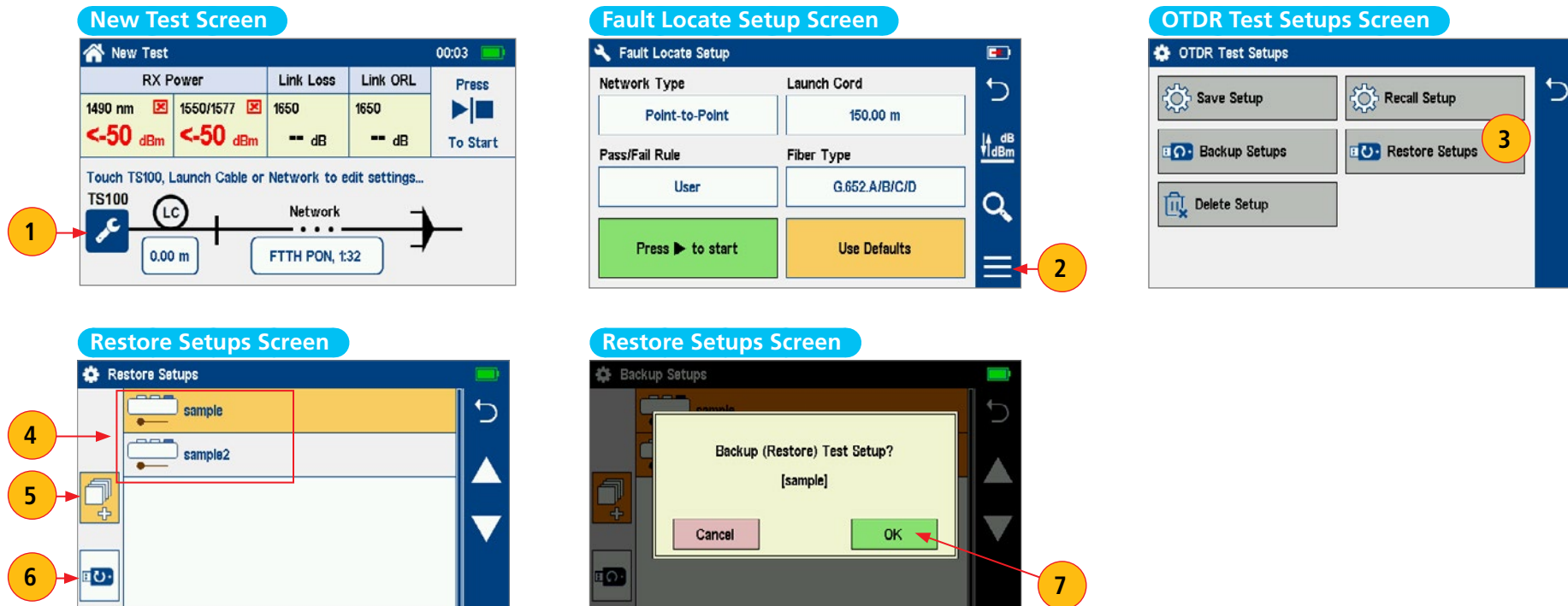
Restore Test Setups

To Restore Saved Test Setups from the USB Stick

1. From the New Test Results screen, touch Tool.
2. From Fault Locate Setup screen, touch the Menu icon to display the OTDR Test Setups screen.

Insert USB stick into the TS100 USB port prior to next step!

3. Touch the Restore Setups option.
4. Next, you will see a list of the available Test Setups.
5. Select the desired test Setup files:
 - Touch the Select File icon and then touch the desired Setup file(s)
 - Touch and hold the Select File icon to select all Setup files at once
6. Next, touch the USB icon to restore the selected Setup file(s) from the USB to your TS100.
7. Touch OK to confirm.





Managing OTDR and PON OPM Test Setups

Deleting a Test Setup

To Delete a Saved Test Setup

1. From the New Test Results screen, touch Tool.
2. From Fault Locate Setup screen, touch the Menu icon to display the OTDR Test Setups screen.
3. Touch the Delete Setup option.
4. Next, you will see a list of the previously saved Test Setups. Select the Test Setup you'd like to delete.
5. Touch OK to confirm deletion.
6. Touch Back to return to the previous screen.

New Test Screen

Fault Locate Setup Screen

OTDR Test Setups Screen

Recall Test Setups Screen

Delete Setup



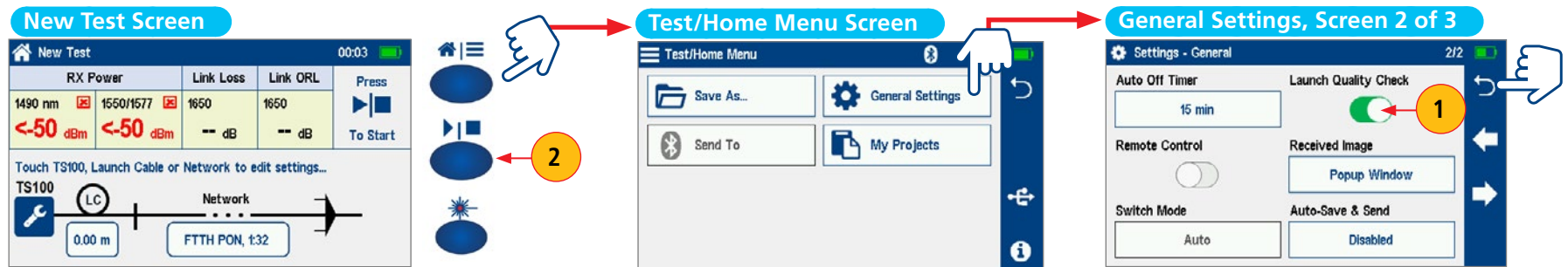
Live Fiber Detection and Launch Quality Check

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:

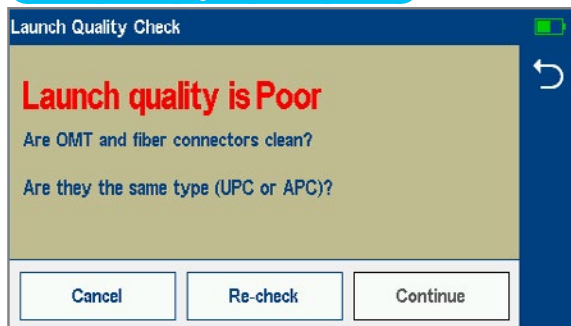
1. Make sure the Launch Quality Check option enabled in the General Settings Screen.
 - From the New Test screen, press Home/Menu button.
 - Next, touch the General Settings option. This will display the General Settings screen.
 - When in the General Settings screen, locate the Launch Quality Check option and make sure it is enabled.
 - Return to the New Test screen by touching Back.



2. When back in the New Test screen, initiate a new test.

- The FlexScan TS100 will assess the loss and reflectance at the OTDR's connection to the launch cord (fiber ring) or fiber under test.
- If excess loss or reflectance is detected, the TS100 displays the 'Launch Quality is Poor' warning screen.

Launch Quality Check Screen



- From the Launch Quality Check screen the user may chose 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.



Live PON Test

Test Sequence in Live PON Test

1. Touch TS100 Tool icon to configure Test Settings. See section [“Fault Locate Setup Screen Overview”](#) on page 17
2. Alternatively, touching LC length field allows you to edit launch cable length.
3. Alternatively, touching Network field allows you to edit Network Type: Pt-to-Pt or FTTH PON and Split Ratio.
4. Press the Start/Stop button to initiate a test. Touching Press To Start icon will also initiate a test.
5. Next, you will see the New Test Results screen.
6. You may touch the network thumbnail field to view LinkMap details.
7. Press Home/Menu to save results by selecting the Save As option.

New Test Screen

RX Power	Link Loss	Link ORL	Press
1490 nm	1550/1577	1650	1650
<-50 dBm	<-50 dBm	-- dB	-- dB

Touch TS100, Launch Cable or Network to edit settings...

TS100 [wrench icon] LC [0.00 m] Network [FTTH PON, 1:32]

Callouts: 1 (wrench icon), 2 (LC field), 4 (Start/Stop button)

New Test Results Screen

RX Power	Link Loss	Link ORL	Result
1490 nm	1550/1577	1650	1650
<-50 dBm	-18.6 dBm	1.1 dB	42 dB

Length (to end or break): 5.00 kf

Callouts: 5 (PASS result), 6 (Length field)

Test/Home Menu Screen

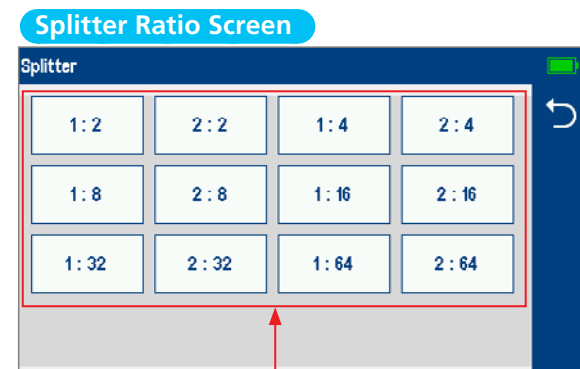
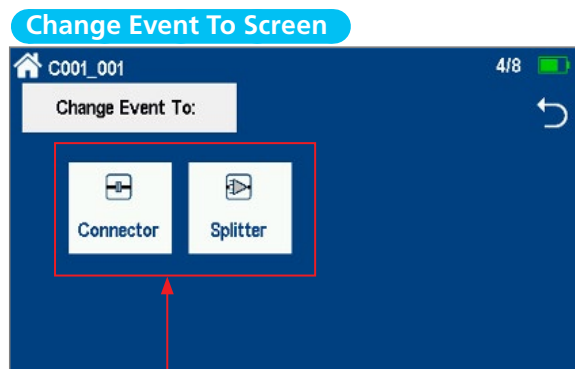
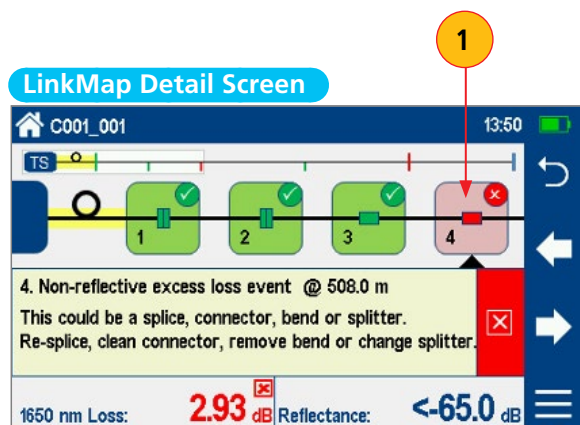
Test/Home Menu

Callout: 7 (Save As... button)



Event Correction

1. From the LinkMap Detail screen, touch and hold the event requiring correction to display a sub-screen.
2. Next, on the Change Event To screen, select the desired event type.
3. If the selected new event type is a splitter, you will be prompted to select the splitter ratio.
4. After selecting the desired new event type (and setting splitter ratio, if new event type is a splitter),
 - Display will revert to LinkMap, showing the new event type.
 - Event analysis is automatically performed, using the pass/fail limits of the new event type.



Light Source and Power Meter Operation

Light Source Settings and Features

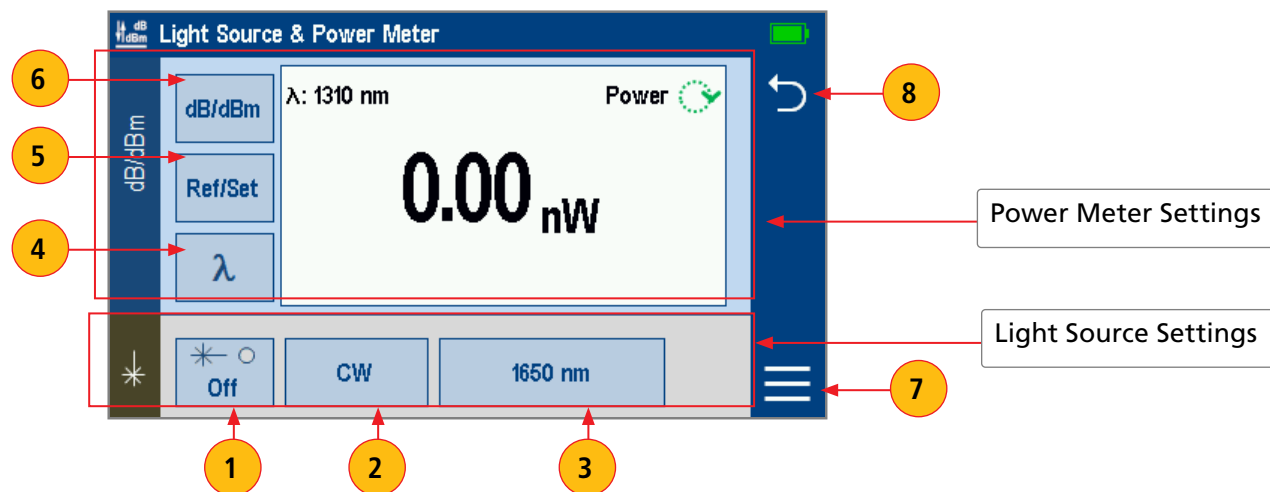
1. Touch Laser On/Off soft button to enable/disable light source. RED Laser indicates that source is ON.
2. Touch Modulation soft button to select source modulation: Wave ID, CW, Tone (270 Hz, 330 Hz, 1 kHz, 2 kHz).
 - Select Wave ID mode for fastest loss measurements. While in this mode, the FlexScan 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 for loss measurements with non-Wave ID power meter.
 - Generate Tone for fiber identification (270 Hz, 330 Hz, 1 kHz, 2 kHz).
3. Touch Wavelength field to select test wavelength.

Power Meter Settings and Features

4. If used with non-Wave ID source, touch λ soft button 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 soft button to store new reference(s) at received wavelength(s). Touch and release Ref/Set to view stored reference(s).
6. Touch dB/dBm soft button to toggle between power (dBm or Watts (mW, μ W, nW)) and loss (dB) mode.
 - Power meter detects and indicates fiber identifying tones when used with a light source capable of generating a modulated Tone signal.

General:

7. Touch Menu to select Test/Home screen Menu - this allows the user to Save or Send OPM results.
8. Touch Back to return to the previous screen.





Inspecting Fibers with FOCIS Probe and FlexScan

Optical connectors may be inspected using FOCIS Flex, FOCIS Duel, or FOCIS Lightning 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 probe display and on the paired FlexScan and may be saved in either FOCIS or FlexScan. A micro-USB port on either FOCIS or FlexScan supports fast upload of internally stored results to PC.

Notes:

- For detailed instructions on how to operate FOCIS Flex, FOCIS Duel, or FOCIS Lightning inspection probe, please refer to the FOCIS Flex, FOCIS Duel, or FOCIS Lightning User's Guide (available on www.AFLglobal.com).
- In this User's Guide, FOCIS Flex model is used as example in the following sections, which describe Bluetooth pairing and inspection process.

FOCIS Flex Inspection Probe Overview

Controls and Interfaces

1. Power button.
2. Image Capture button.
3. F1 soft key (typically Back function).
4. F2 soft key (typically Select function).
5. Navigation and Edit functional keys.
6. Image Display - 2-inch Color LCD (320 x 240)
7. F1 and F2 soft key labels area.
8. Optical inspection port.
9. Adapter tip.
10. Micro-USB port.
11. 5 VDC input jack.
12. Charging indicator.



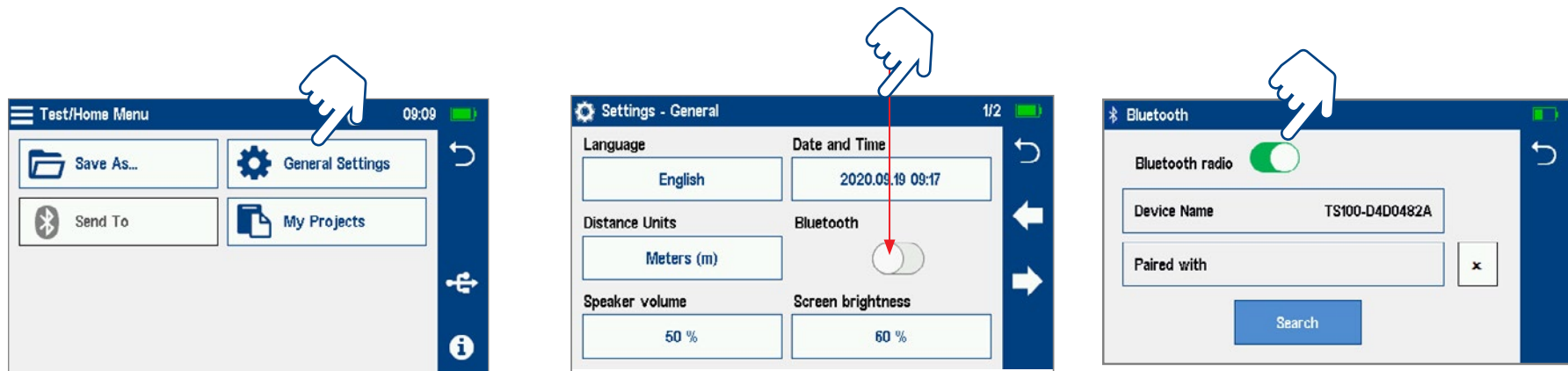


Pairing FlexScan with FOCIS Flex Inspection Probe

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

Enable Bluetooth on FlexScan

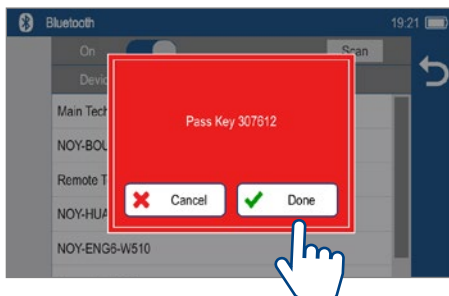
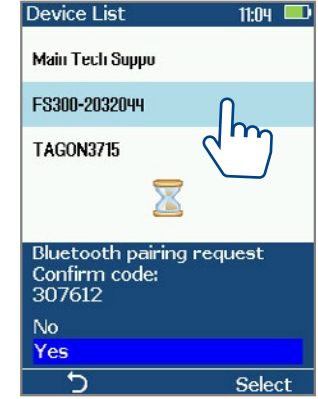
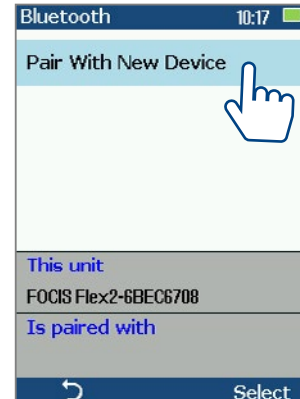
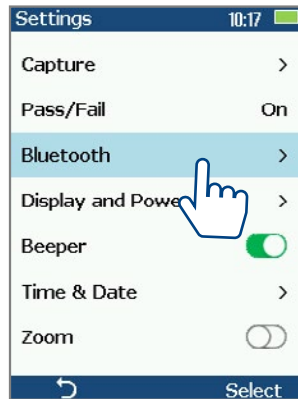
- From the Home screen, touch General Settings.
- In the General Settings screen, touch Bluetooth.
- Touch the Bluetooth On/Off control to enable.





Enable Bluetooth on FOCIS Flex

- From FOCIS probe Main Menu, select Settings, then press Select.
- From the displayed Settings Menu, select Bluetooth, then press Select.
- Highlight Pair with New Device, then press Select.
- 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.
- Confirm Code displayed on FOCIS Flex by selecting Yes
- Confirm Code displayed on FlexScan by touching Done.

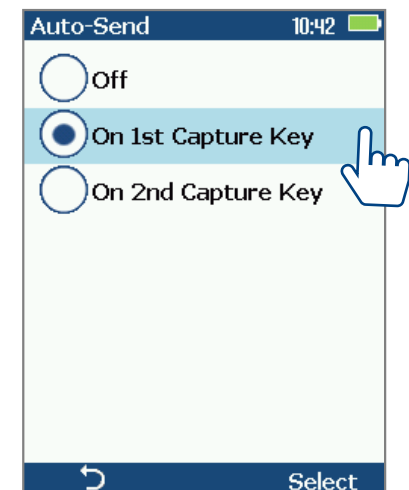
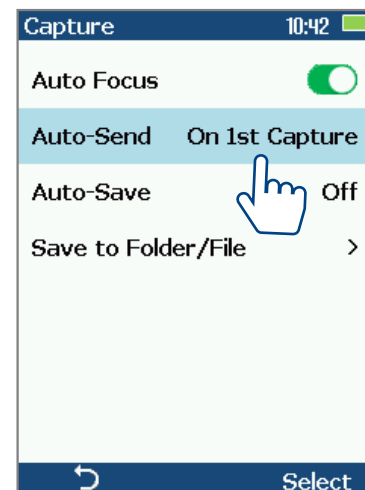
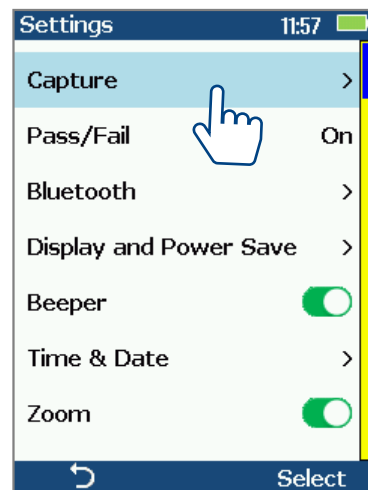


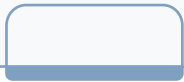


Configuring Auto-Send

- From the Main Menu, select Settings.
- Select Capture to display the Capture settings screen.
- Highlight and Select Auto-Send.
- Use Arrow Keys to enable Auto-Send on 1st Capture key or on 2nd Capture key.

When Auto-Send is enabled, pressing Capture key from Live Image mode will initiate auto-focus (if enabled), capture image, analyze pass/fail (if enabled), then send image and pass/fail results to paired FlexScan.





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 appears on the FOCIS Flex display.
- Capture the displayed image by pressing the Capture button. (Refer to section [“FOCIS Flex Inspection Probe Overview” on page 42](#)).
- 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 be sending results to the FlexScan paired to it.

Notes:

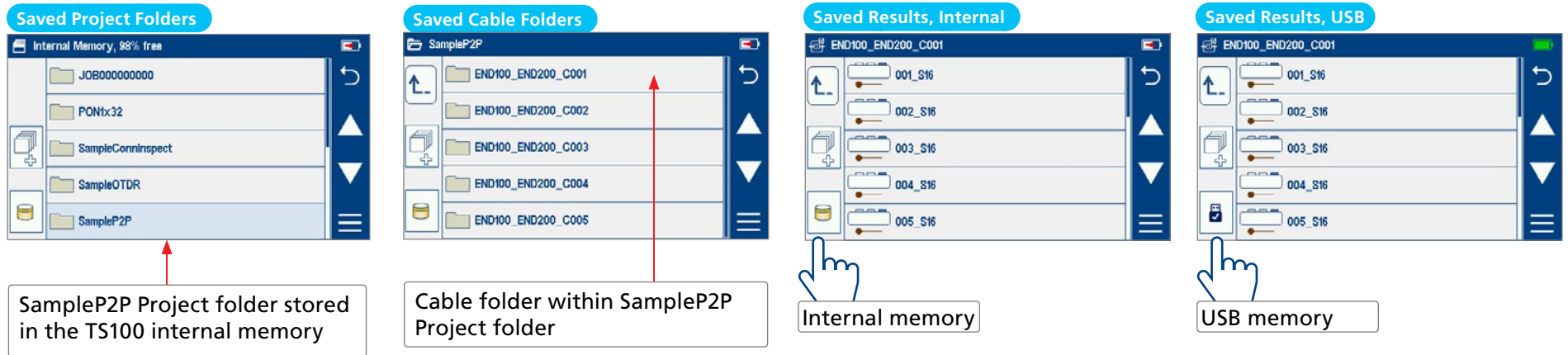
1. Touch left/right arrows to select image only, overlay only, or image + overlay.
2. Touch Menu to display Test/Home screen Menu.
3. Press Back or Home button to return to the previous screen.

IEC: PC, SM, ORL ≥ 45 dB	
A B C	
A	>0 μm: 0 >0 μm: 0
B	2-5 μm: 4 >3 μm: 0 >5 μm: 0
C	
D	≥10 μm: 0

Results: Saving, Recalling, Sharing

Understanding TS100 File Naming Structure

Fiber test results may be stored in the TS100 internal memory or external USB stick. Saved test results are organized into a Cable sub-folder within a Project folder.



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

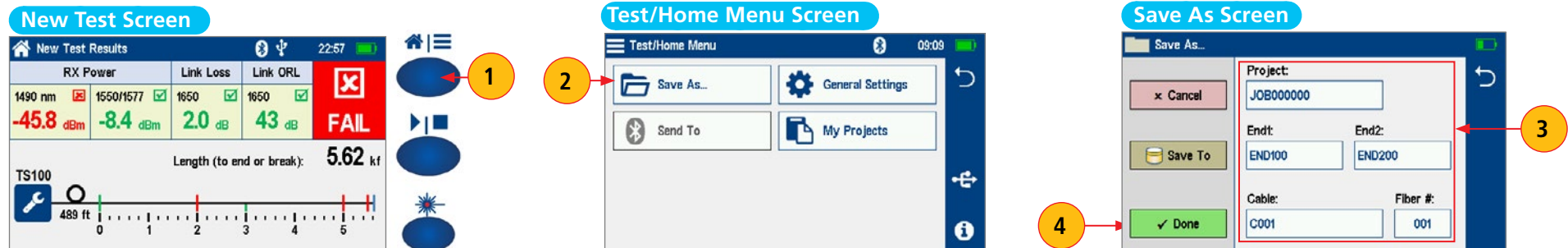


- Touch Save As to display File Manager and navigate to the desired Project / Fiber Group folder.
- Project, End 1, End 2, and Cable are user-defined in Text Editor.
- Fiber number auto-increments after each save, but can be modified in Number Editor as needed.
- Touch Done when finished.

Manually Saving Results

Saving to the Current Folder

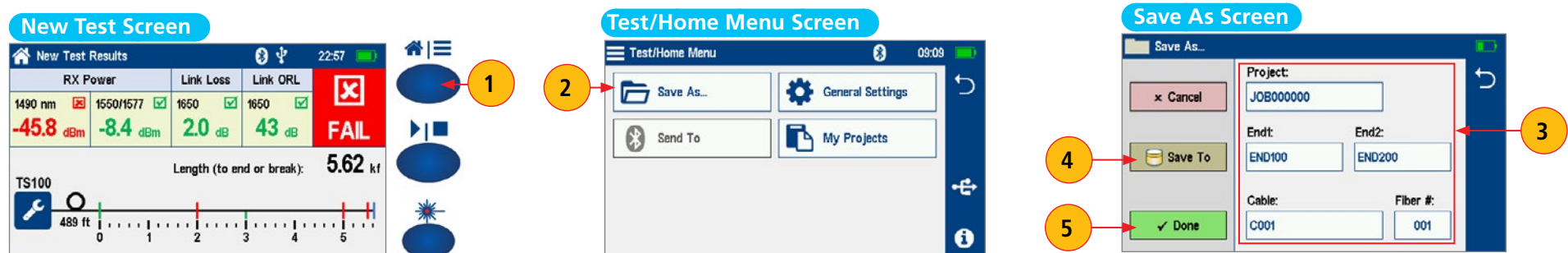
1. While in the Results screen, touch Menu.
2. From the displayed Test/Home Menu screen, touch Save As.
3. Review Project, End1, End2, Cable and Fiber# fields used to identify saved results. You may edit any of the desired field as needed.
4. Touch Done when finished. This will save test results to the current folder.



Saving to a Newly Created Folder

1. While in the Results screen, touch Menu.
2. From the displayed Test/Home Menu screen, touch Save As.
3. Define Project, End1, End2, Cable and Fiber# fields used to name saved results: touch the desired field to edit it.
4. You may touch Save To to view, navigate and select a different Project or Cable folder, or to select external USB or internal memory. Touch Back to return to Save As screen.
5. Touch Done when finished. This will save test results to the newly created folder.

Note: this will make the newly created Project, End1, End2, Cable, or Fiber current.



Auto-Saving Results

TS100s may be configured to automatically save test results each time an OTDR test is completed. Auto-save (and optional auto-send) are configured in the General Settings screen, as follows:

1. From the New Test screen, press Home/Menu button.
2. Next, touch the General Settings option. This will display the General Settings screen.
3. From the General Settings screen, touch the Auto-Save & Send option. This will display the Auto-Save & Send menu.
4. Select the desired auto-save/send option:
 - Auto-Saved Disabled: Results will not be automatically saved.
 - Auto-Save Only: Results will be saved using the configured Project, End1, End2, Cable and Fiber#. Fiber# will be auto-incremented after each test completes and the results are saved.
 - Auto-Save & Send: Results will be saved using the configured Project, End1, End2, Cable and Fiber#. Fiber# will be auto-incremented after each test completes and the results are saved. Saved results will be sent to a Bluetooth-paired Android or iOS device running the FlexApp. If no device is paired, enabled and within range, or if TS100's Bluetooth is disabled, results will not be sent or will timeout.
5. After selecting Auto-Save Only or Auto-Save & Send, configure the Project, End1, End2, Cable and Fiber# as described above.
6. Touch Done when finished.

New Test Screen

Test/Home Menu Screen

General Settings, Screen 2 of 3

Auto-Save & Send

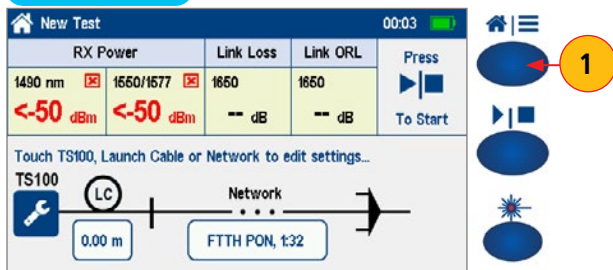
Auto-Save & Send

Viewing Saved Test Results

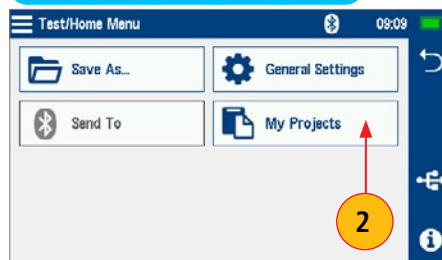
To View Saved Test Results

1. From the Test screen, press the Home/Menu button.
2. Next, touch My Projects to display the Results Manager (may be displayed as Projects screen, Cables screen, or Fibers screen).
3. You may use the up/down soft keys to scroll up/down through the displayed list of files.
4. Touch the Folder Up icon to navigate up to Cables or Projects level.
5. Touch the Memory/USB icon to toggle between USB memory stick and internal memory card (if USB stick present).
6. Once you navigated through Project/Cable/Fiber screens to the desired test record, touch it to recall and display test results.

Test Screen



Test/Home Menu Screen

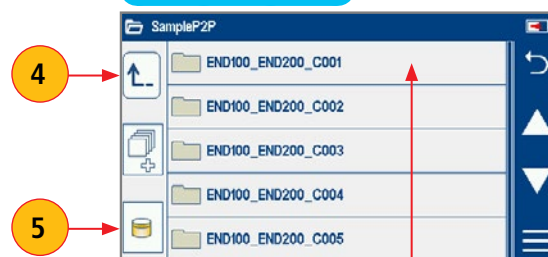


Saved Project Folders



Touch the desired Project folder to select it and view a list of Cable folders saved within that Project folder.

Saved Cable Folders



Touch the desired Cable folder to select it and view a list of Fiber folders saved within that Cable folder.

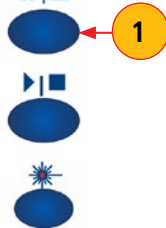
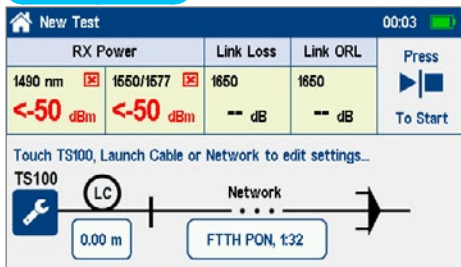
Saved Results, Internal



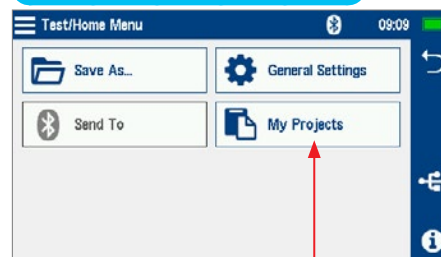
Deleting Projects/Jobs/Fibers

1. From the Test screen, press the Home/Menu button.
2. Next, touch My Projects to display the Results Manager (may be displayed as Projects screen, Cables screen, or Fibers screen).
 - Navigate through the Projects/Cables screen to locate the desired results.
3. Touch Files icon to enable the selection functionality.
4. Touch as many files/folders as you wish to delete.
5. Touch the Menu soft key to display a sub-menu.
6. Next, touch Delete.
7. Then touch OK to confirm deletion.

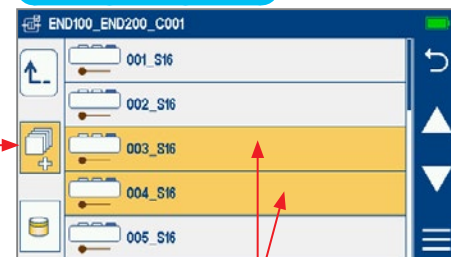
Test Screen

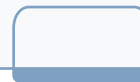


Test/Home Menu Screen



Saved Results, Internal





Transferring Results to a PC via USB

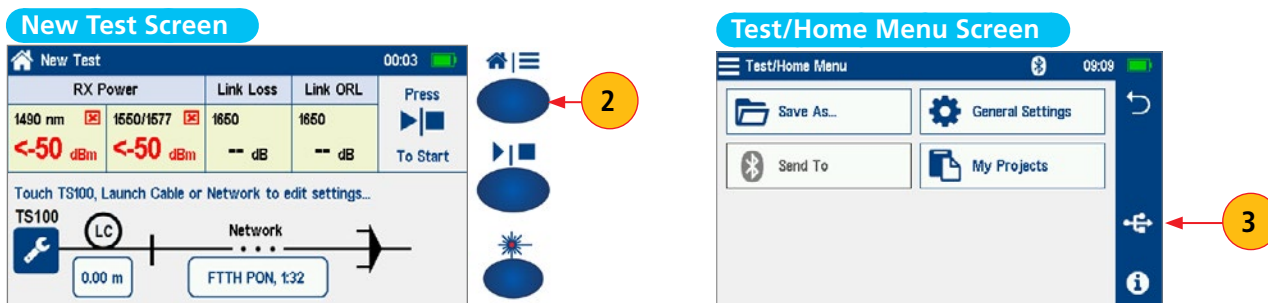
To transfer files from your FlexScan to a PC using a USB cable, perform the following:

1. 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.
2. While in the Results screen, touch Menu.
3. Touch the USB soft button located on the Test/Home Menu screen.
4. On your PC, open My Computer. A new removable drive named TS100 X: will appear, where 'X:' is the drive letter assigned to your FlexScan.
5. Under TS100 X: you should see two folders: RESULTS and SOFTWARE.
6. Copy the RESULTS folder to your PC.
 - Under RESULTS you will see: TRACES.
 - Under TRACES you will see all of the folders containing test results.

Note:

Before removing the USB cable that connects 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](#)

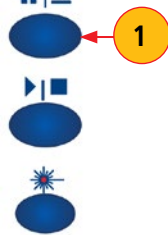
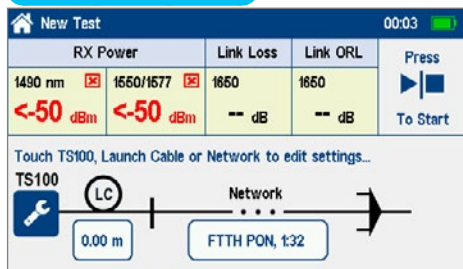
[FlexApp on iOS Device — Wireless Transfer of FlexScan® FS200/TS100 Results to FlexReports for Easy Reporting](#)

Back-Up Saved Results to USB Memory

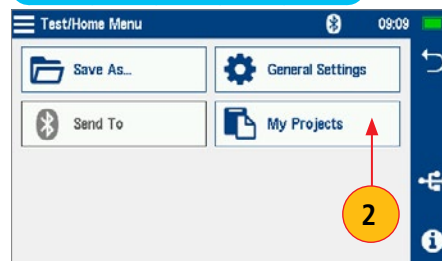
To back up internally stored results to USB memory stick, plug external USB memory stick into FlexScan and perform the following steps

1. From the Test screen, press the Home/Menu button.
2. Next, touch My Projects.
3. If Folder Up icon \uparrow is shown, touch it to navigate up to Projects level until \uparrow icon disappears.
4. Verify that Internal Memory is currently selected - memory card icon is shown.
 - If USB selected, touch USB memory icon to toggle to internal memory.
5. Touch Menu icon.
6. Touch Backup.
7. Wait until "Writing backup to USB drive..." completes.

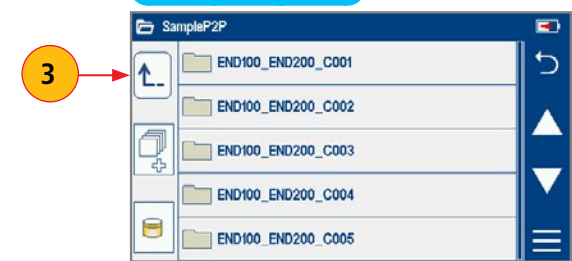
New Test Screen



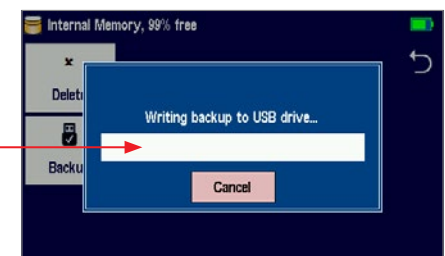
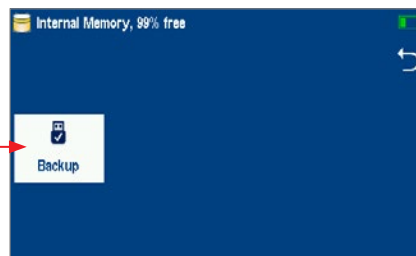
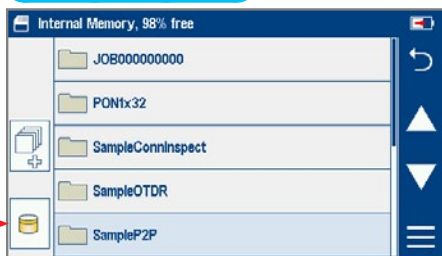
Test/Home Menu Screen



Saved Cable Folders



Saved Project Folders





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.

1

2

3

Download FlexReports

FlexReports Test Results Manager

File Edit Tools Events Help

Open... Ctrl+O

Open as Baseline... Ctrl+B

Save Ctrl+S

Save As...

Convert

Close

Close All

Login to FlexReporter-Cloud...

Reset FlexReporter-Cloud Password...

Change Organization...

Download data from FlexReporter-Cloud...

Import Results...

Import OFL Results...

Login to FlexReporter Cloud

Enter the email address and password for your FlexReporter-Cloud account.

Email: User email

Password: *****

Login

FlexReporter Cloud Download Wizard

Click "*" to see FlexScan test results stored in FlexReporter Cloud. Right click to download.

FlexReporter Cloud Download Wizard

Select the destination for the downloaded files on the PC.

Browse C:\Users\kcamp@OneDrive - atglobal.com\Desktop

Back Download Finish

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