

FOCIS Flex Inspection | aEROS®

**Fiber Optic Connector Inspection Solution
User's Guide**

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Safety Information

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.

NOTE! FOCIS Flex contains no user serviceable parts. This instrument must be returned to AFL or authorized agents for repair.

IMPORTANT! It is important to keep connector end-faces on the launch and receive cables and those on the Fiber Under Test (FUT) clean, to ensure accurate measurements and operation.

CAUTION! Never view a live fiber. Never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords and jumpers. Laser radiation is harmful to eyes.

NOTE! Refer to your company's safety procedures when working with optical systems.

NOTE! Follow your company's approved cleaning procedures.

FOCIS Flex Mobile | aeRos® Solution Overview

Paired with AFL's FOCIS Flex Fiber Optic Connector Inspection System, AFL's aeRos cloud with FOCIS Flex App features a complete fiber optic connector inspection and workflow and data management solution.

FOCIS Flex Probe

FOCIS Flex probe is a self-contained, compact, and hand-held inspection probe that can be used independently or paired with AFL's FOCIS Flex App and aeRos cloud.

FOCIS Flex probe auto-focuses, centers and captures the inspected fiber end-face image, applies pass/fail rules, and displays image and pass/fail results. Inspection results are wirelessly transferred to a smart device and seamlessly synchronized with the aeRos cloud for instant access, analysis, and reporting. If needed, results can be saved internally to FOCIS Flex probe and then transferred to a PC via USB connection.

aeRos

aeRos is an open, cloud-based, workflow management platform that facilitates two-way communication and data exchange from engineering to project management to your technician in the field. Now everyone has access to test results and can address challenges in real-time. aeRos allows project managers to send jobs directly to technicians, defining tests and configurations as needed. Throughout the job, managers can monitor technicians' progress and help to solve problems as they arise.

FOCIS Flex | aeRos® Solution Overview

FOCIS Flex App

FOCIS Flex App works seamlessly with the aeRos® cloud and FOCIS Flex inspection probe to configure the test capabilities needed for a particular job. With aeRos PRO account, test projects and setups can be created and predefined in aeRos cloud, and then pushed to the smart device App to simplify the test process for technicians. When project is complete, inspection results automatically synchronized with the cloud for instant access, analysis, and reporting.

FOCIS Flex App is available via Google play store or App Store.



Made for iPad mini 3

Legal Notice



"Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

- iPad, and Retina are trademarks of Apple Inc., registered in the U.S. and other countries.
- iPad mini is a trademark of Apple Inc., registered in the U.S. and other countries.
- Android is a trademark of Google Inc.

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 key - 
- 2 Image Capture key - 
- 3 F1 soft key (typically Back function)
- 4 F2 soft key (typically Select function)
- 5 Navigation and Edit functional keys

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

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

Interfaces

- 10 Optical inspection port
- 11 Adapter tip
- 12 Dust cover
- 13 Micro-USB port
- 14 5 VDC input jack
- 15 Charging indicator



Pairing FOCIS Flex Inspection Probe with a Smart Device

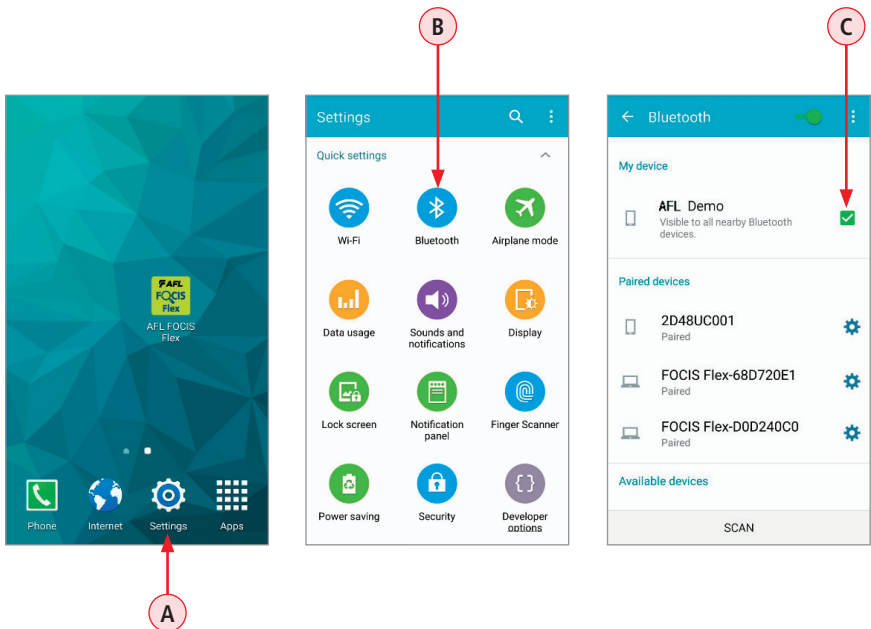
To transfer fiber-end images from the FOCIS Flex inspection probe and display inspection results on a smart device equipped with the FOCIS Flex App as well as transfer results to the aeRos cloud, you need to connect your FOCIS Flex probe with your smart device. To connect Bluetooth devices together, enable Bluetooth on each device and pair them. To get started enable Bluetooth on your smart device.

Enabling Bluetooth on Android Smart Device

To enable Bluetooth on Android Device:

Depending on your smart device model, perform the following steps to turn Bluetooth on.


1. Navigate to the Settings App **(A)**.
2. Once in the Settings screen, tap Bluetooth **(B)**.
3. In the Bluetooth screen, locate your smart device and tap check box **(C)** - make it visible to all nearby Bluetooth devices.
4. Once your smart device is ready, proceed to configuring Bluetooth on your FOCIS Flex probe.

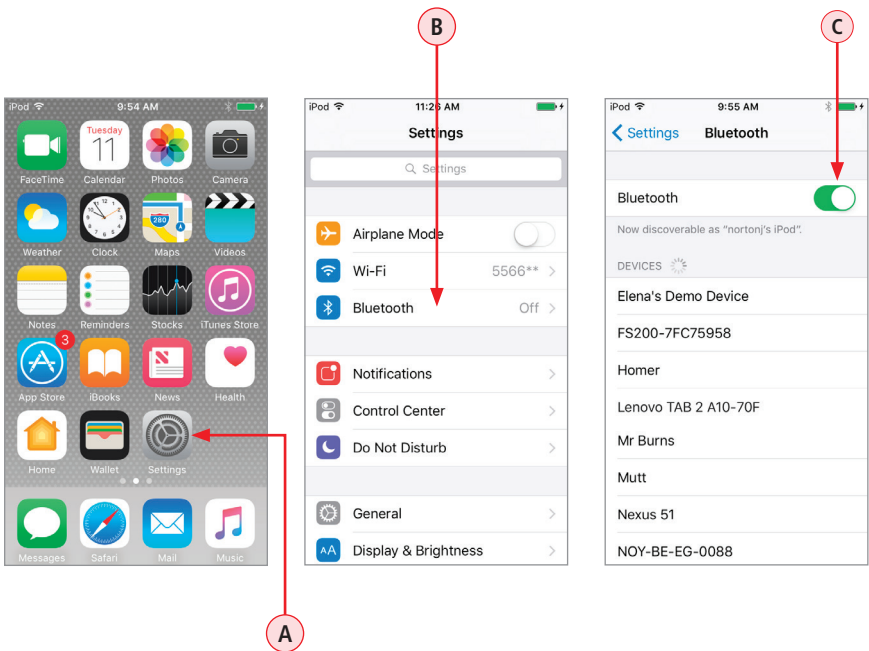


Pairing FOCIS Flex Inspection Probe with a Smart Device

Enabling Bluetooth on Apple Smart Device

Depending on your smart device model, perform the following steps to turn Bluetooth on.

1. From the Home screen, tap Settings **(A)** > Bluetooth **(B)**
On some models it is: Settings > General > Bluetooth
2. In the Bluetooth screen, tap on/off control **(C)** to turn Bluetooth On - .
3. Bluetooth starts-up and your device becomes 'discoverable' visible to all nearby Bluetooth devices.
4. Once your smart device is ready, proceed to configuring Bluetooth on your FOCIS Flex probe.



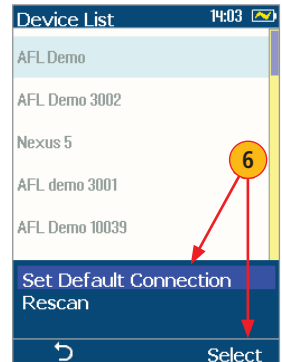
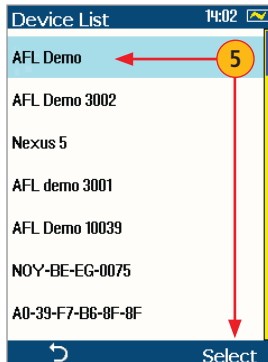
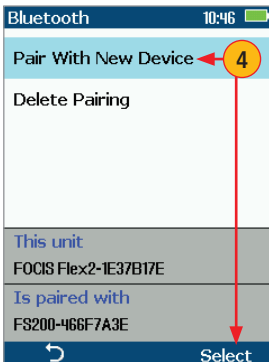
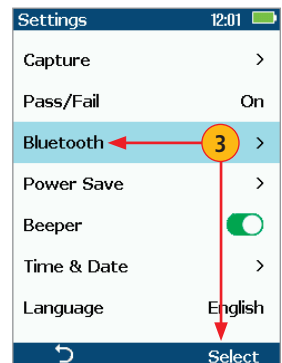
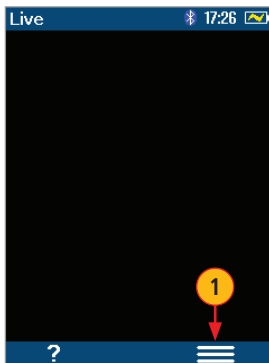
Pairing FOCIS Flex with a Smart Device

Configuring Bluetooth on the FOCIS Flex Inspection Probe

Bluetooth menu is accessed from the Live Image mode > Main Menu > Settings.

- 1 Pressing the Menu key will display the Main Menu.
- 2 From the Main Menu, navigate/highlight the Settings option and press Select.
- 3 When in the Setting menu, Navigate to Bluetooth and press Select.
- 4 From the Bluetooth screen, highlight Pair With New Device. Press Select to scan for all visible nearby Bluetooth devices. An hourglass is displayed while FOCIS Flex scans and builds a list of available devices. The hourglass disappears when scanning is complete.
- 5 Once a list of available devices is displayed, use Up/Down \blacktriangle arrow keys to select the desired device to pair with. Press Select.
- 6 Next, use Up/Down \blacktriangle arrow keys to highlight the Set Default Connection, and then press Select to complete pairing.

Now your FOCIS Flex probe is paired with a smart device, which operates in the FOCIS Flex App.



Pairing FOCIS Flex with a Smart Device

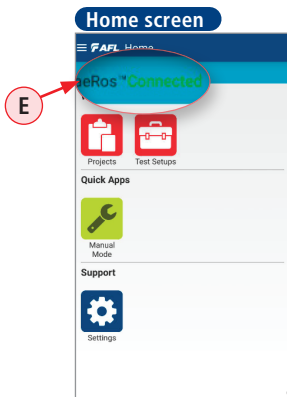
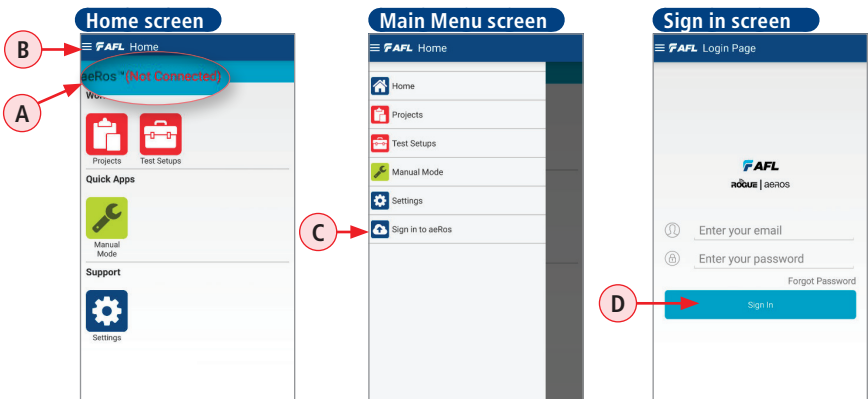
FOCIS Flex Bluetooth Troubleshooting Process

- Is the FOCIS Flex running the latest firmware (see “User Interface” under “Device Info” on FOCIS Flex2 probe)?
 - If not, upgrade firmware from <http://www.aflglobal.com/Resources/Software.aspx>
- Is smart device operating system (Android or iOS) updated to current revision?
 - If not, utilize OS upgrade procedure available from smart device manufacturer (Apple, Samsung, Google, Asus, etc.).
- Attempt Bluetooth pairing in “RF quiet” environment without numerous competing Bluetooth and WiFi devices and WLANs.
- Is the FOCIS Flex app the current revision?
 - If not, update FOCIS Flex app from the Google Play store or the Apple App store.
- Unpair all paired Bluetooth devices on smart device (tablet or smartphone).
 - **Turn the smart device Bluetooth radio button off, then back on, waiting a minimum of 10 seconds before turning the smart device Bluetooth radio button back on.**
 - Then try to pair FOCIS Flex once again.
 - If the pairing process still fails, try to restart both devices (smart device and FOCIS Flex).
- **If using the FOCIS Flex app, it MUST be in the Manual Mode or Project Mode screen in order for endface images to be transferred.**
 - If the FOCIS Flex app is not in Manual Mode or Projects, the FOCIS Flex will report an image transfer error.

FOCIS Flex App Overview

Signing in to aeRos User Account

1. On your smart device, launch the FOCIS Flex App.
2. Home screen is the first screen you see on the FOCIS Flex App startup. If you haven't logged in to aeRos cloud, notice that connection status **(A)** indicates 'Not Connected'. Perform the following steps.
3. From the Home screen, display the Main menu by touching the Menu icon **(B)**.
4. From the Main menu, tap the 'Sign in to aeRos' option **(C)**.
5. When prompted, enter your email and password, and then tap Sign in **(D)**.
6. When back in the Home screen, notice that connection status **(E)** now indicates that you are connected to the aeRos cloud.



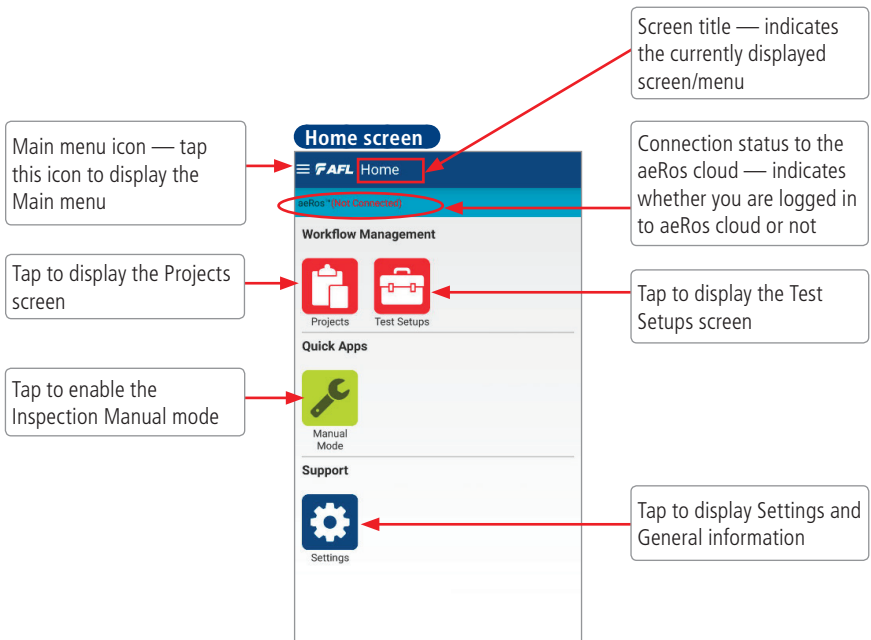
Note: The FOCIS Flex App does work 'standalone' without connection to the aeRos -Cloud Workflow Management Solution.

FOCIS Flex App Overview

User Interface Overview

Home Screen

Home screen is the first screen you see on FOCIS Flex App startup. It features several groups of icons, displays connection status to the aeRos cloud, and provides access to the Main menu.

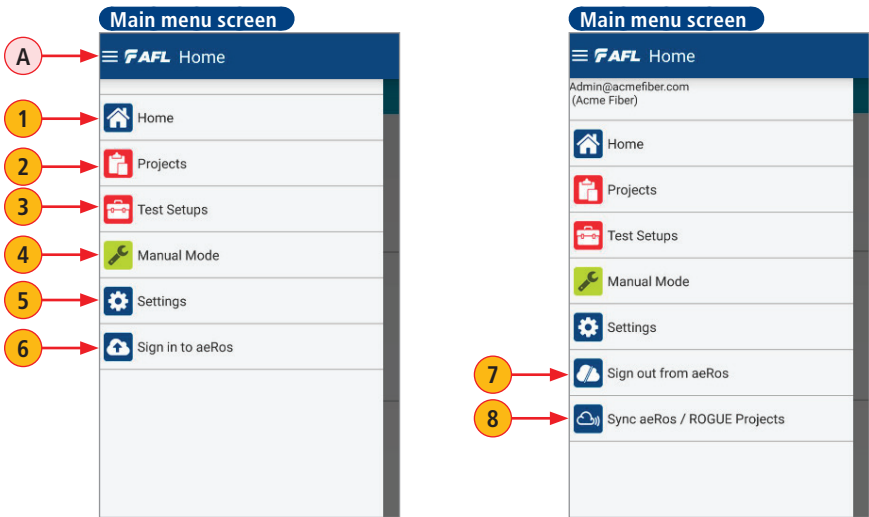


FOCIS Flex App Overview

User Interface Overview

Main Menu

The Main menu is accessed from the Home screen by touching the Main menu icon (A). In addition to the same functions that are available from the Home screen, the Main menu provides access to Sign In to aeRos as well as Synchronize function. Tap on the desired menu option to activate it or display a sub-screen.



Ref	Menu Item	Function
1	Home	Tap to access the Home screen.
2	Projects	Tap this option to display the Projects screen.
3	Test Setups	Tap to display the Test Setups screen.
4	Manual Mode	Selecting this option displays the Inspection Manual mode screen.
5	Settings	Tap to display Settings and General information.
6	Sign in to aeRos	If displayed, tap to access the Sign In screen that allows logging in to the aeRos cloud.
7	Sign out from aeRos	This option is only displayed when logged in to aeRos. Tap to disconnect from the aeRos cloud.
8	Synchronize	Tap this option to synchronize data with aeRos.

FOCIS Flex App Overview

User Interface Overview

Projects Screen

The Projects screen may be accessed from either Home screen or from the Main menu screen by selecting Projects (A). When signed in to aeRos, the Projects screen displays all Projects for the organization and allows the user to select a project and perform tests created and assigned to the user in aeRos. The user may also create new Projects as needed. Projects created within the FOCIS Flex App are synchronized and saved to aeRos in real time.



Ref	Feature	Description
1	Search Tool	The 'Search' feature allows you to search for projects in your Organization by entering keywords into the search box field.
2	New Project Tool	This feature allows you to create a new project within FOCIS Flex App.
3	Project Row	By clicking on a Project row you can display an individual project and associated with this project sub-screens (Test, Results).
4	Project Progress Bar	A Project progress bar may contain up to three color-coded sections to indicate the status of a Project by fibers passed (green) (B), fibers failed (red) (C), or incomplete (gray) (D).

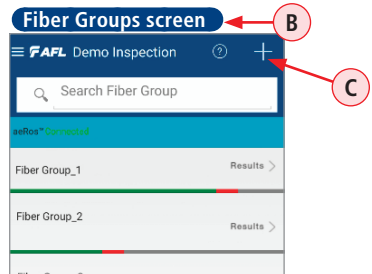
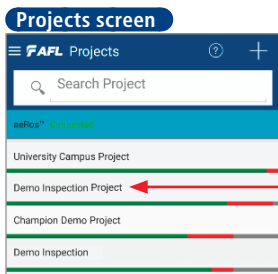
To Create a New Project

- In the Projects screen, tap on New Project tool '+' (2).
- In the displayed Create New Project screen, tap on the Name field (E) and enter the new Project name.
- Tap Save (F). The newly created Project is saved and synchronized to aeRos in real time. If not connected to aeRos the new Project is saved on the smart device

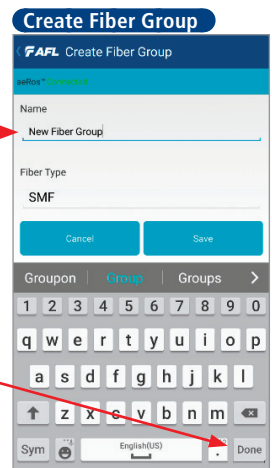
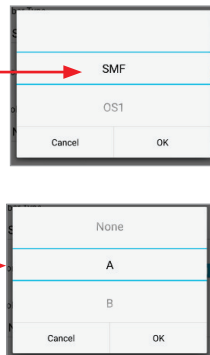
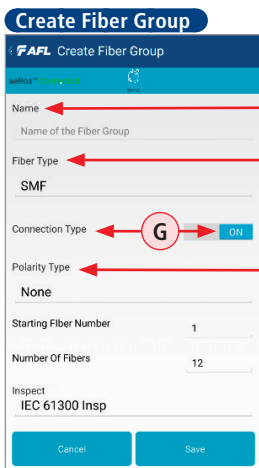
FOCIS Flex App Overview

To Create a New Fiber Group Within a Project

- Navigate to the desired Project (in the screen example below, Demo Inspection Project (A)) and tap on it to display its details - Fiber Groups screen (B).
- In the Fiber Groups screen, tap on New Fiber Groups tool '+' (C).



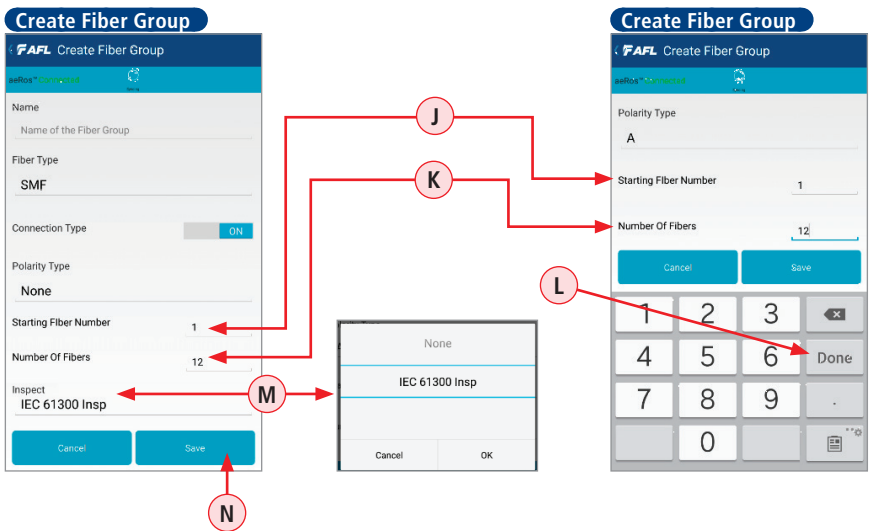
- In the displayed Create Fiber Group screen, tap on the Name field (D) and enter the new Fiber Group name. Tap Done (E).
- Tap Fiber Type (F) to see the available options. Once the options window is displayed, swipe vertically until the desired option appears as 'selectable' (displayed in Black font), then tap OK to select that option.
- Tap Connection Type control (G) to turn it ON/OFF. When ON, you will be able to set the Polarity Type (H) option as follows:
 - Tap Polarity Type (H) to see the available options. Once the options window is displayed, swipe vertically until the desired option appears as 'selectable' (displayed in Black font), then tap OK to select that option.



FOCIS Flex App Overview

To Create a New Fiber Group Within a Project

- To set Starting Fiber Number **(J)** and Number of Fibers **(K)** parameters, tap the desired parameter.
Once the numeric editor is displayed, enter the desired number, and then tap Done **(L)**.
- Tap Test Setup **(M)** to see the available options. Once the options window is displayed, swipe vertically until the desired option appears as 'selectable' (displayed in Black font), then tap OK to select option.
Note: Test Setups may be created either in aeRos or within the FOCIS Flex App. To select a Test Setup created within the FOCIS Flex App, it needs to be created prior to creation new Fiber Groups. For details on how to create a Test Setup within the FOCIS Flex App, see section "[To Create a New Test Setup](#)" on page 17. For details on how to create a Test Setup in aeRos, see [aeRos user's guide](#).
- Tap Save **(N)**. The newly created Fiber Group is saved and synchronized to aeRos in real time.



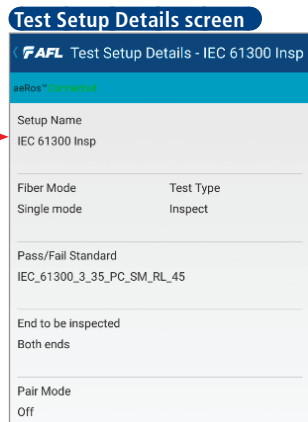
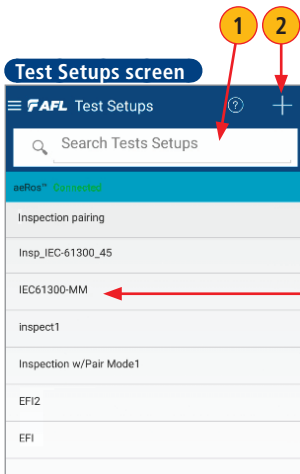
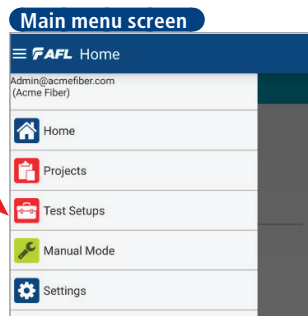
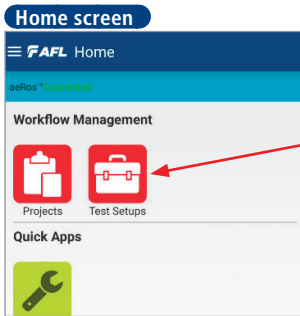
FOCIS Flex App Overview

User Interface Overview

Test Setups Screen

The Test Setups screen is accessed from either Home screen or from the Main menu by selecting the Test Setups icon (option **A**).

When signed in to aeRos, this screen allows the user to view test setups created and assigned in aeRos. The user may also create new Test Setups as needed. Test Setups created within the FOCIS Flex App are synchronized and saved to aeRos in real time.



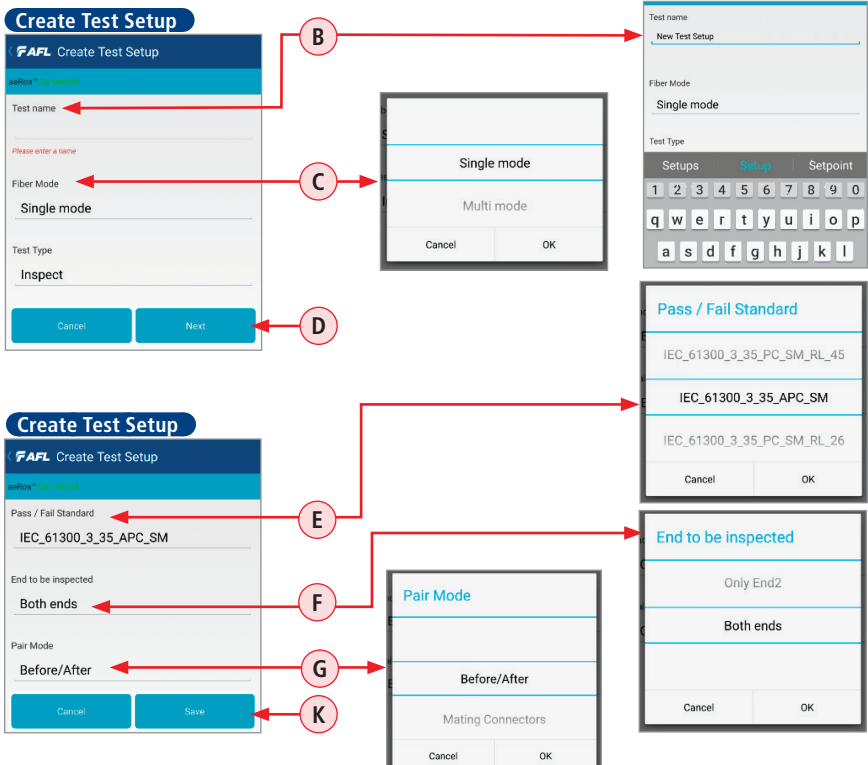
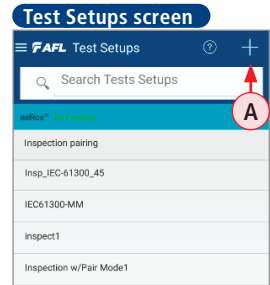
Ref	Feature	Description
1	Search Tool	The 'Search' feature allows you to search for test setups in your Organization by entering keywords into the search box field.
2	New Test Setup Tool	This feature allows you to create a new Test Setups within FOCIS Flex App and sync it to aeRos.
3	Test Setup Row	By clicking on a test setup row you can view the Test Setup Details screen B .

FOCIS Flex App Overview

To Create a New Test Setup

To create a new Test Setup:

- In the Test Setups screen, tap on New Test Setup tool '+' **A**.
- In the displayed Create Test Setup screen, tap on the Test Name field **B** and enter the new Test Setup name.
- Tap Fiber Type **C** to see the available options. Once the options window is displayed, swipe vertically until the desired option appears as 'selectable' (displayed in Black font), then tap OK to select that option.
- Tap Next **D** to display more Test Setup parameters: Pass/Fail Standard **E**, End to be inspected **F**, Pair Mode **G**.
- Tap the desired parameter **E** / **F** / **G** to see the available options. Once the options window is displayed, swipe vertically until the desired option appears as 'selectable' (displayed in Black font), then tap OK to select option.
- Tap Save **K**. The newly created Test Setup is saved and synchronized to aeRos in real time. If not connected to aeRos the new Project is saved on the smart device



Getting Started

Workflow Steps

aeRos Test Workflow and Data Management Solution simplifies coordination between the main office and field technicians by providing remote project setup, automatic data collection and reporting, as well as the real-time job monitoring that is independent of technology or location.

Notes:

- A Project consists of one or multiple Fiber Groups with assigned to them Test Setups and Test Limits (Pass/Fails Standards) incorporated into a Test Setup.
- When created in aeRos, projects can be assigned to a single or multiple technicians.
- Projects, Fibers Groups, and Test Setups may be created either in aeRos or within the FOCIS Flex App.
- Prior to creating a Project, make sure to create a Test Setup that will be assigned to Fiber Groups.
- While creating a Test Setup, you will be able to select one of the industry Pass/Fail Standards.

Creating a Project in aeRos

1. Create a Project:
 - Add Fiber Groups to a Project
 - Assign Test Setups to Fiber Groups
2. Once created, projects are pushed from aeRos cloud to the FOCIS Flex App to simplify the process for technicians.
3. When the testing is complete, the test results automatically and seamlessly synchronize with the aeRos cloud.
4. Reports creation is simplified with aeRos customizable, easy to use reporting templates that include “what-if” analysis against different industry standards.
 - If there is a need to re-test a project against a new or different industry standard, simply enter a new pass/fail limit and aeRos provides the new status.

Inspecting Fibers with FOCIS Flex | aeRos®

Inspection Mode User Interface Overview

- 1 Screen title:** Displays name of the selected Fiber Group.
- 2 Share icon:** Tap this icon to send out the displayed test results (fiber end-face image and Pass/Fail analysis table) by email and other connectivity mechanisms.
- 3 Edit icon:** Tapping this icon will display the Change Fiber Group screen, which allows the user to make edits to the fiber group by editing Fiber Group Name, Fiber Type, Connection Type, Starting Fiber Number, Number of Fibers, and Test Setups. See section titled "[To Create a New Fiber Group Within a Project](#)" on page 14 for details on how to change/define Fiber Group parameters.
- 4 aeRos connection status:** indicates whether you are logged in to aeRos or not.
- 5 Fiber Group Left/Right arrows:** These arrows may be used to scroll through all Fiber Groups in the open Project.
- 6 Project Information field:** Displays details of the currently selected Project (Fiber Group name, fiber type, number of fibers/connections/splices, MPO polarity).

1 Screen title: Displays name of the selected Fiber Group.

2 Share icon: Tap this icon to send out the displayed test results (fiber end-face image and Pass/Fail analysis table) by email and other connectivity mechanisms.

3 Edit icon: Tapping this icon will display the Change Fiber Group screen, which allows the user to make edits to the fiber group by editing Fiber Group Name, Fiber Type, Connection Type, Starting Fiber Number, Number of Fibers, and Test Setups. See section titled "[To Create a New Fiber Group Within a Project](#)" on page 14 for details on how to change/define Fiber Group parameters.

4 aeRos connection status: indicates whether you are logged in to aeRos or not.

5 Fiber Group Left/Right arrows: These arrows may be used to scroll through all Fiber Groups in the open Project.

6 Project Information field: Displays details of the currently selected Project (Fiber Group name, fiber type, number of fibers/connections/splices, MPO polarity).

Change Fiber Group screen

aeRos™ Connected

Name
Fiber Group_2

Fiber Type
SMF

Connection Type OFF

Starting Fiber Number
1

Number of Fibers
12

Inspect
IEC 61300 Insp

Cancel Save

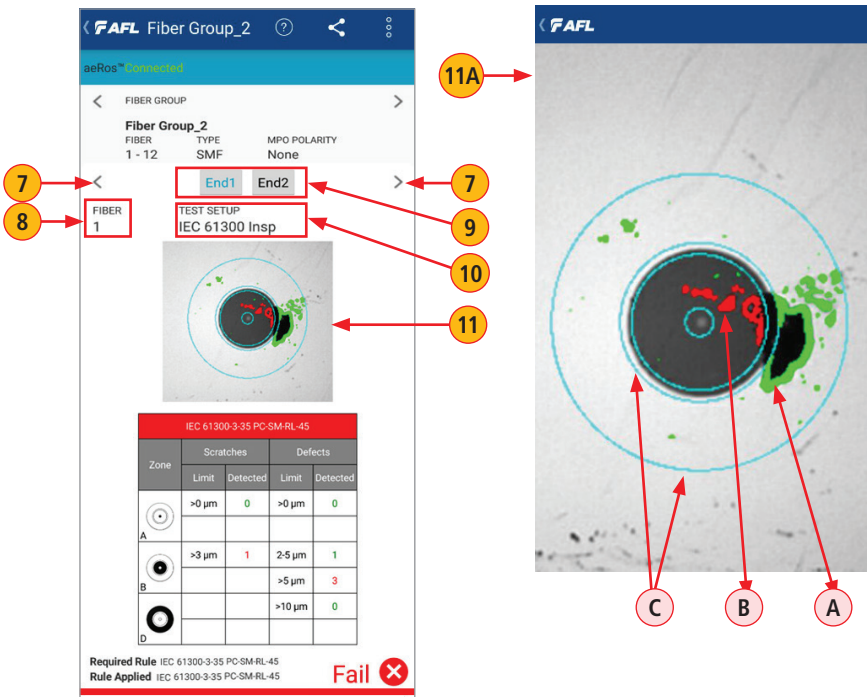
Zone	Scratches		Defects	
	Limit	Detected	Limit	Detected
A	>0 μm	0	>0 μm	0
B	>3 μm	1	2-5 μm	1
			>5 μm	3
D			>10 μm	0

Required Rule IEC 61300-3-35 PC-SM-RL-45
Rule Applied IEC 61300-3-35 PC-SM-RL-45 **Fail** ❌

Inspecting Fibers with FOCIS Flex | aeRos®

Inspection Mode User Interface Overview

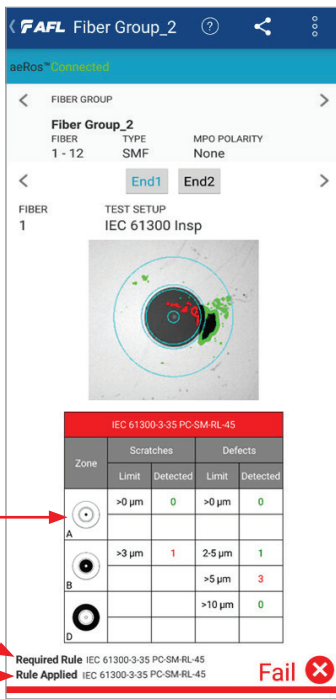
- 7 **Fiber Number Left/Right arrows:** These arrows may be used for changing fiber number.
- 8 Number of the fiber that is currently being inspected.
- 9 **Cable End Tabs:** These tabs allow the user to save captured images of both ends of a fiber cable by alternating between End1 or End2. Tap on the desired tab to make it active.
- 10 Applied Test Setup.
- 11 **Image View** displays captured end-face image with Pass/Fail Analysis.
 - Passing scratches/defects highlighted in GREEN (A); failing scratches/defects highlighted in RED (B); analyzed zones represented by BLUE circles (C).
 - Tapping on the fiber image will display end-face image view only (11A)
 - The fiber end-face image can be scaled and positioned on the screen by pinching/spreading/dragging the displayed end-face image.



Inspecting Fibers with FOCIS Flex | aeRos®

Inspection Mode User Interface Overview

- 12 **Pass/Fail Results Table** displays the inspection rule and scratches/defects allowed and detected in each of the four zones (A - core, B - cladding, C - adhesive, D - contact area); reports the number of detected scratches/defects exceeding limit for each zone; shows failed rules in RED, passed in GREEN.
- 13 **Rule Required** by Test Setup assigned to a Fiber Group in aeRos.
- 14 **Rule Applied** during image analysis performed by FOCIS Flex.
- 15 Color-coder bar indicates Pass (Green) or Fail (Red) inspection status.



Results Table - Pass

IEC 61300-3-35 PC-SM-RL-45				
Zone	Scratches		Defects	
	Limit	Detected	Limit	Detected
A	>0 μm	0	>0 μm	0
B	>3 μm	0	2-5 μm	0
C			>5 μm	0
D			>10 μm	0

Results Table - Fail

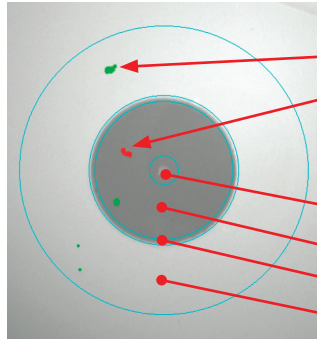
IEC 61300-3-35 PC-SM-RL-45				
Zone	Scratches		Defects	
	Limit	Detected	Limit	Detected
A	>0 μm	0	>0 μm	0
B	>3 μm	1	2-5 μm	1
C			>5 μm	3
D			>10 μm	0

Inspecting Fibers with FOCIS Flex | aeRos®

IEC Pass/Fail Analysis

IEC 61300-3-35 defines connector inspection pass/fail criteria, which depends on the several factors as follows

- Fiber type (SMF or MMF)
- Connector end face regions
 - A region: Core
 - B region: Cladding
 - C region: Adhesive (between cladding and ferrule)
 - D region: Physical contact area
- Type of end face flaw:
 - Scratches
 - Defects (contamination, particles, chips)
- Size of flaw



Defect
Passing
Failing

Region
A: Core
B: Cladding
C: Adhesive
D: Contact

Example IEC Rule

Shown below is the display when the IEC rule for single-mode PC connector with return loss ≥ 45 dB is selected. The table identifies the number of scratches or defects of a certain size, which may be allowed in each of the core, cladding, and contact regions.

Region	Scratch	Defect
A: Core	>0 μm : 0 No scratches >0 μm allowed	>0 μm : 0 No defects >0 μm allowed
B: Cladding	>3 μm : 0 No scratches >3 μm allowed	2-5 μm : 5 Up to 5 defects 2-5 μm diameter allowed
		>5 μm : 0 No defects >3 μm allowed
D: Contact	Blank No limitations on scratches	0 $\geq 10 \mu\text{m}$ No defects $\geq 10 \mu\text{m}$ allowed

IEC Rules		10:45	
Rule		IEC 61300-3-35	
		PC, SM, ORL ≥ 45 dB	
A	B	C	D
	>0 μm : 0		>0 μm : 0
			2-5 μm : 5
	>3 μm : 0		>5 μm : 0
			$\geq 10 \mu\text{m}$: 0

Inspecting Fibers

Important: Always clean fiber optic connectors and optical ports before connection and testing. Keeping fiber optic end-faces clean is extremely important and one of the most critical requirements for ensuring accurate measurements and operation. Damaged or contaminated end-faces have a direct impact on optical performance.

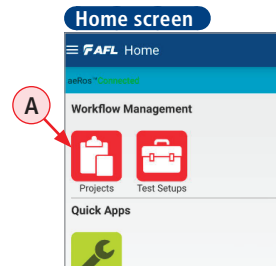
Important: Inspect optical connectors after cleaning to ensure cleaning was successful and to verify the end-face is not damaged (cracked, pitted).

The following instructions assume that:

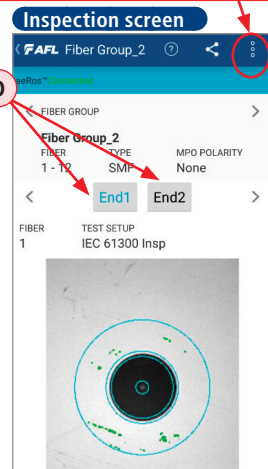
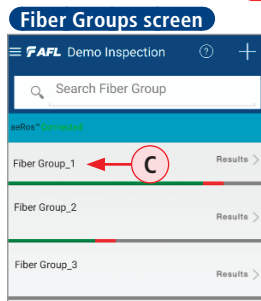
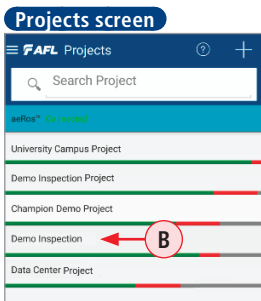
- FOCIS Flex is configured with the appropriate adapter tip installed.
- FOCIS Flex is paired with a smart device, which operates in the FOCIS Flex App. Refer to section "[Pairing FOCIS Flex Inspection Probe with a Smart Device](#)" on page 6.
- FOCIS Flex Bluetooth Auto Sent feature is turned ON.

On your Smart Device:

1. Launch the FOCIS Flex App.
2. From the Home screen (or Main menu), tap Projects (A) to display the Projects screen and see all projects in your Organization.
3. Select the desired Project and open it by tapping on its row, e.g. 'Demo Inspection' (B).
4. Next screen will display a list of Fiber Groups in the currently open project.
5. Tap on the desired Fiber Group (C).



Tapping on the Edit icon will display the Change Fiber Group screen, which allows the user to make edits to the selected fiber group, see [page 19](#) for details.

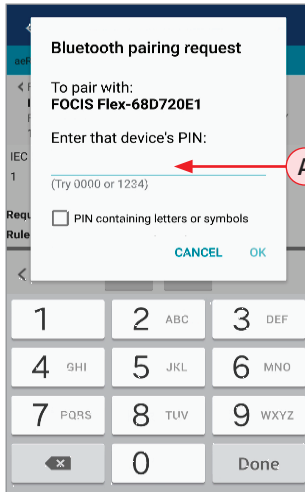


6. The next screen you see, is your Inspection mode test screen.
 - Select the desired fiber end (END1 or END2) (D).
 - Wait for FOCIS Flex.

Inspecting Fibers

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 5](#)).
- Once captured, the fiber end-face image gets 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 smart device paired to it.
 - The first time you connect to the FOCIS Flex App and depending on your smart device, you may be asked for a PIN for your device.
 - For FOCIS Flex the default PIN is 0000.
 - Enter PIN **A**, then tap OK.
 - Now your smart device will accept images from FOCIS Flex.



Inspecting Fiber End-faces

Smart Device:

- Once image is transferred, you will get an audio indication and see inspection results displayed in the results window.
 - Observe the displayed results: a static image of the inspected fiber end-face and Pass/Fail status.
 - If the displayed image - **Failing result (A)**:
 - Clean the failing connector.
 - Re-inspect by repeating steps 7 - 10.
 - Note:** The new images will overwrite previous images without any alert notification!
 - If the displayed image - **Passing result (B)**, you may do one of the following:
 - Proceed to inspection of another end for a cable by tapping End2 tab (C).
 - Proceed to inspection of the next fiber in the Fiber Group by tapping > arrow (D).
- Test results are automatically uploaded to aeRos cloud in real time.

Note that if not connected to aeRos, the test results are saved on the smart device.

The result screen can be printed using the aeRos reporter function in your aeRos account.

FAFL Fiber Group_2
aeRos™ Connected

FIBER GROUP
Fiber Group_2
FIBER TYPE MPO POLARITY
1 - 12 SMF None

End1 End2

FIBER 1 TEST SETUP IEC 61300 Insp

IEC 61300-3-35 PC-SM-RL-45				
Zone	Scratches		Defects	
	Limit	Detected	Limit	Detected
(C)	>0 µm	0	>0 µm	0
A	>3 µm	1	2-5 µm	1
B			>5 µm	3
D			>10 µm	0

Required Rule IEC 61300-3-35 PC-SM-RL-45
Rule Applied IEC 61300-3-35 PC-SM-RL-45

Fail ❌

FAFL Fiber Group_2
aeRos™ Connected

FIBER GROUP
Fiber Group_2
FIBER TYPE MPO POLARITY
1 - 12 SMF None

End1 End2

FIBER 1 TEST SETUP IEC 61300 Insp

IEC 61300-3-35 PC-SM-RL-45				
Zone	Scratches		Defects	
	Limit	Detected	Limit	Detected
(C)	>0 µm	0	>0 µm	0
A	>3 µm	0	2-5 µm	0
B			>5 µm	0
D			>10 µm	0

Required Rule IEC 61300-3-35 PC-SM-RL-45
Rule Applied IEC 61300-3-35 PC-SM-RL-45

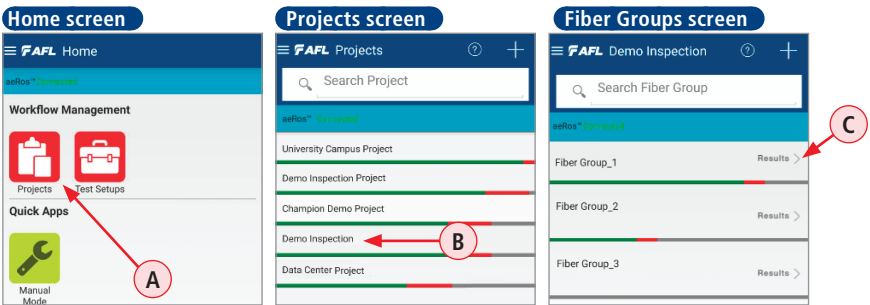
Pass ✅

Inspecting Fibers with FOCIS Flex | aeRos®

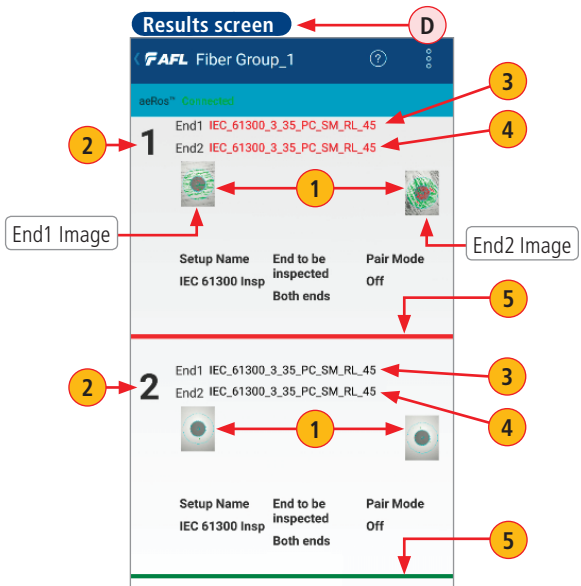
Viewing Results on Smart Device

To view inspection results on your Smart Device:

1. Launch the FOCIS Flex App.
2. From the Home screen (or Main menu), tap Projects **A** to display the Projects screen and see all projects in your Organization.
3. Select the desired Project and open it by tapping on its row, e.g. Demo Inspection **B**.
4. Next screen will display a list of Fiber Groups in the currently open project.
5. Navigate to the desired Fiber Group, and then tap results **C**.
6. Observe inspection results as shown in the Results screen example **D**.



- 1 Captured and analyzed fiber image.
- 2 Number of the inspected fiber.
- 3 End1: Rule Applied during image analysis performed by FOCIS Flex.
- 4 End2: Rule Applied during image analysis performed by FOCIS Flex.
- 5 Color-coder bar at the bottom of the Image Viewer window indicates Pass (Green) or Fail (Red).



Inspecting in Manual Mode

Manual Inspection Mode

Manual Inspection Mode do not require the user to create a Project prior to testing. This mode may be used to perform diagnostic fiber end-faces inspection. However, if needed thousands of inspection results may be saved on in the FOCIS Flex internally.

Paired with AFL's FOCIS Flex Fiber Optic Connector Inspection System, AFL's FOCIS Flex App features a complete fiber inspection solution.

FOCIS Flex auto-focuses, captures and centers the inspected fiber end-face image, applies pass/fail rules, displays image and pass/fail results, and wirelessly transfers image and results to a paired smart device. For details see section "[FOCIS Flex Inspection Probe Overview](#)" on [page 5](#).

Important: Always clean fiber optic connectors and optical ports before connection and testing. Keeping fiber optic end-faces clean is extremely important and one of the most critical requirements for ensuring accurate measurements and operation. Damaged or contaminated end-faces have a direct impact on optical performance.

Important: Inspect optical connectors after cleaning to ensure cleaning was successful and to verify the end-face is not damaged (cracked, pitted).

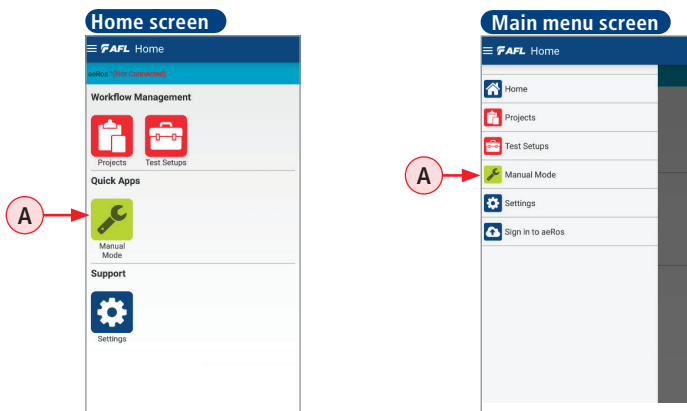
The following instructions assume that:

- FOCIS Flex is configured with the appropriate adapter tip installed.
- FOCIS Flex is paired with a smart device, which operates in the FOCIS Flex App. Refer to section "[Pairing FOCIS Flex Inspection Probe with a Smart Device](#)" on [page 6](#).
- FOCIS Flex Bluetooth Auto Sent feature is turned ON.

To Inspect Fibers:

On your Smart Device:

1. Launch the FOCIS Flex App.
2. From the Home screen or Main menu, tap Manual A to launch the Manual Inspection Mode.



Inspecting in Manual Mode

Manual Inspection Mode

FOCIS Flex:

3. 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.
4. If testing an optical fiber connector mounted in a bulkhead adapter, slide the adapter tip into the bulkhead adapter.
5. You will see a Live fiber-end image appears on the FOCIS Flex display.
6. Capture the displayed image by pressing the Capture button. (Refer to section "[FOCIS Flex Inspection Probe Overview](#)" on page 5).
7. Once captured, the fiber end-face image gets analyzed by the FOCIS Flex.
8. Once analysis is done, inspection results will appear on the FOCIS Flex display.
9. Simultaneously, FOCIS Flex will be sending results to the smart device paired to it.

On your Smart Device:

10. Once image is transferred, you will get an audio indication and see inspection results displayed in the results window.
 - Observe the displayed results: a static image of the inspected fiber and Pass/Fail status.
 - If the displayed image shows **Failing result (A)**, clean the connector and re-inspect by repeating steps 3 - 6. A new image will overwrite the previous image without any warning!
 - If the displayed image shows **Passing result (B)**, you may proceed to inspection of another fiber cable or connector. Return to the Home screen and restart Manual mode to clear the result image.

Share icon allows inspection results to be exported. Share functions are enabled after inspection results are transferred.

Transferred from FOCIS Flex, captured and analyzed fiber image

Pass/Fail analysis performed by FOCIS Flex probe

Color-coded bar indicates Pass (Green) or Fail (Red) inspection result

A

B

IEC 61300-3-35-PC-SM-RL-45					
Zone	Scratches		Defects		
	Limit	Detected	Limit	Detected	
A	>0 µm	0	>0 µm	0	
B	>3 µm	1	2-5 µm	1	
C			>5 µm	3	
D			>10 µm	0	

Limit IEC: 61300_3_35_PC_SM_RL_45 **Fail** ❌

IEC 61300-3-35-PC-SM-RL-45					
Zone	Scratches		Defects		
	Limit	Detected	Limit	Detected	
A	>0 µm	0	>0 µm	0	
B	>3 µm	0	2-5 µm	0	
C			>5 µm	0	
D			>10 µm	0	

Limit IEC: 61300_3_35_PC_SM_RL_45 **Pass** ✅

General

Cleaning Connectors on Test Cables and Fiber Under Test

It is important to keep connector end-faces on test cables and on the fiber under test clean, to ensure accurate measurements and operation.

IMPORTANT! Inspect optical connectors after cleaning to ensure cleaning was successful and to verify the end-face is not damaged (cracked, pitted, etc.).

CAUTION! Never view a live fiber. Laser radiation is harmful to eyes.

Follow your company's approved cleaning procedures.

AFL recommends cleaning test cables using a Cletop cassette cleaner or a One-Click Cleaner.

Contacting Customer Service

You may call AFL Customer Service between 8 AM and 5 PM, United States Eastern Time.

Phone 800-321-5298

Phone +1 (800) 321-5298

+1 (603) 528-7780

Fax +1 (603) 528-2025

Email AFLTestTechSupport@AFLglobal.com

Thank you for choosing AFL Test & Inspection!

www.AFLglobal.com

