AFL

Test & Inspection

FlowScout® MPO OLTS Test Set

User's Guide

Table of Contents

General, Safety, and Legal

This user's guide provides operating instructions for testing fiber optic networks with your FlowScout MPO OLTS test set 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 FlowScout MPO OLTS tester. Please check our web site at **www.AFLglobal.com**, **Test and Inspection** for updates to this user's guide and additional application information.

General Overview

The FlowScout MPO OLTS is a pair of hand-held testers that connect on opposite ends of a multifiber span with MPO-style fiber connectors.

One tester is the optical light source and the matching tester is the optical power meter.

The test set can measure the optical loss of multi-fiber cables and can support testing of MPO-8, MPO-12, MPO-16 and more cables. MPO configurations testing depends on the configuration of the light source and power meter testers and the test cords used for cable testing using two wavelengths (1310 nm and 1550 nm).

All models of both testers have tree test ports:

Test Ports on the FlowScout MPO OLTS - OPM Tester	Test Ports on the FlowScout MPO OLTS - OLS Tester
MPO OPM test port This is an MPO-16 single-mode light source used for communication with the OLS tester.	**MPO SM OLS test port** This is an MPO-16 single-mode optical light source port. This port may be enabled to work as VFL visual fault locator.
SM OLS test port This is a single-fiber single-mode optical light source port. This port is equipped with an SC/APC connector.	**SM OLS test port** This is a single-fiber single-mode optical light source port. This port is equipped with an SC/APC connector. This port may be enabled to work as VFL visual fault locator.
OPM test port This is a single-fiber optical power meter port. This port can be equipped with a selection of adapters - FC, SC, LC, ST, 2.5 or 1.25 mm Universal.	**OPM test port** This is a single-fiber optical power meter port. This port can be equipped with a selection of adapters - FC, SC, LC, ST, 2.5 or 1.25 mm Universal.

The FlowScout MPO OLTS testers are fully NIST traceable on all wavelengths on the OPM port and 1310/1550 nm on the MPO test port.

Safety Information

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

MPO SM OLS test port: 1310/1550 nm	**CLASS I LASER output. Do not stare into beam!**
SM OLS test port: 1310/1550 nm	**CLASS I LASER output. Do not stare into beam!**
VFL Laser on the MPO SM OLS test port: 650 nm	**CLASS IIIa LASER output. Do not stare into beam!**
VFL Laser on the SM OLS test port: 650 nm	**CLASS IIIa LASER output. Do not stare into beam!**

NOTE! FlowScout MPO OLTS testers equipped with Bluetooth contain the following Bluetooth Transmitter Modules:

FCC ID: FCC ID: X3ZBTMOD8

IC: IC: 8828A-MOD8

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 tester 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:** FlowScout MPO OLTS 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 FlowScout MPO OLTS ports and any mating connectors using approved cleaning supplies (e.g. One-click cleaner) before mating the connectors.

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.

Apple Inc. Legal Notice

Made for iPhone/iPad:

FlowScout MPO OLTS is compatible with Apple iPhone 15 Pro, iPhone 15, iPad (10th generation), and iPad (9th generation). iPhone and iPad are registered trademarks of Apple.

“Made for iPhone/iPad” means that an electronic accessory has been designed to connect to iPhone and iPad models and has been certified by the developer to meet Apple’s performance standards.

Labeling and Hazard Warning

1. **Laser Safety warning** - located on the top of the FlowScout MPO OLTS tester.
2. **Laser Radiation label** - located on the back of the FlowScout® MPO OLTS tester.
3. **Serial Number label** - located on the back of the FlowScout MPO OLTS tester.
4. **FCC Transmitter label** - located on the back of the FlowScout MPO OLTS tester.

Hardware and User Interface Overview

FlowScout® MPO OLTS - OPM Tester Hardware

Controls and Interfaces

Ref	Feature	Description
		Test Ports, Display
1	MPO SM OPM test port	This is an MPO-16 single-mode optical power meter port.
2	SM OLS test port	**This is a CLASS I LASER output. Do not stare into beam.** This is a single-fiber single-mode optical light source port. This port is equipped with an SC/APC connector.
3	OPM test Port	This is a single-fiber optical power meter port. This port can be equipped with a selection of adapters - FC, SC, LC, ST, 2.5 or 1.25 mm Universal.
4	Dust cap	Used to protect optical ports from dust/damage. It is important to keep the dust caps in place when the unit is not being used.
5	Touchscreen display	Contains on-screen controls and menus. Used to show setup menus, test results, and saved test data information.
		Hard Buttons and Soft Keys
6	Power button	Press to power FlowScout MPO OLTS on/off.
7	Screen-specific soft key	This is screen-specific/function-specific soft key. In the shown image example it function as a Test Start/Stop key - Press to start a new test; or stop the current test if test is running.
8	Home soft key	From any screen, press to return to the Home screen.
9	Back soft key	Press to return to previous screen
		Ports and Indicators
10	USB port	USB port for charging, transferring results, and firmware upgrade.
11	AC/Charger indicator	Illuminates when USB is connected and indicates battery charging status. • RED light = rechargeable battery is charging. • GREEN light = rechargeable battery is fully charged.
12	Speaker	Produce audible tones(test pass, test fail, etc.)

Hardware and User Interface Overview

FlowScout® MPO OLTS - OLS Tester Hardware

Controls and Interfaces

Ref	Feature	Description
		Test Ports and Display
1	MPO SM OLS test port	**This is a CLASS I LASER output. Do not stare into beam.** This is an MPO-16 single-mode optical light source port. This port may be enabled to work as VFL visual fault locator - **This is a CLASS IIIa LASER output. Do not stare into beam.**
2	SM OLS test port	**This is a CLASS I LASER output. Do not stare into beam.** This is a single-fiber single-mode optical light source port. This port is equipped with an SC/APC connector. This port may be enabled to work as VFL visual fault locator - **This is a CLASS IIIa LASER output. Do not stare into beam.**
3	OPM test Port	This is a single-fiber optical power meter port. This port can be equipped with a selection of adapters - FC, SC, LC, ST, 2.5 or 1.25 mm Universal.
4	Dust cap	Used to protect optical ports from dust/damage. It is important to keep the dust caps in place when the unit is not being used.
5	Touchscreen display	Contains on-screen controls and menus. Used to show setup menus, test results, and saved test data information.
		Hard Buttons and Soft Keys
6	Power button	Press to power FlowScout MPO OLTS on/off.
7	Screen-specific soft key	This is screen-specific soft key. In the shown image example, this key has no function.
8	Home soft key	From any screen, press to return to the Home screen.
9	Back soft key	Press to return to previous screen
		Ports and Indicators
10	USB port	USB port for charging, transferring results, and firmware upgrade.
11	AC/Charger indicator	Illuminates when USB is connected and indicates battery charging status. • RED light = rechargeable battery is charging. • GREEN light = rechargeable battery is fully charged.
12	Speaker	Produce audible tones(test pass, test fail, etc.)

Battery Charging

You may charge the battery while your FlowScout® MPO OLTS is switched on or off by using the AC-to-USB power adapter/charger. Any sufficiently rated AC-to-USB power adapter can be used to charge the FlowScout MPO OLTS battery.

- Plug the included AC-to-USB power adapter/charger into AC outlet.
- Using USB-A to USB-C cable connect AC-to-USB power adapter to the FlowScout MPO OLTS USB-C port.
- FlowScout MPO OLTS charges while operating. However, the device will charge faster if powered off while connected to the AC-to-USB power adapter.
- A fully-charged battery operates for approximately 8 hours of typical use.
- Charger indicator and Battery icon will indicate charging status as shown below.

Understanding Battery & Power Status

State	Power Indicator	Fully Charged	¾ Charged	½ Charged	¼ Charged	<10% Charged
Not Charging / On	Power Icon (software)					
	Charger Indicator	Off				
Charging / On	Power Icon (software)					
	Charger Indicator					
Charging / Off	Power Icon (software)	N/A				
	Charger Indicator					

User Interface Overview

Status and Navigation Bars

Status bar displays: date stamp, laser source on/off, MPO/LC connector status, Bluetooth on/off (future – OPM only), and battery charge status

Status Bar Indicators

8:13 AM

Time Format	Laser		Connector Status		Bluetooth		Battery*
12-hour		On		MPO connected		On	
24-hour				MPO Disconnected		Off	
				LC Connected			
				LC Disconnected			

* See "Understanding Battery & Power Status" on page 9

Navigation Bar: displays icons/ labels of 3 soft keys located under each icon.

In the shown image, this icon indicates the Test Start/Stop soft key. Touch this icon or press the soft key below it to start a new test; or stop the current test if test is running.

Home key icon: touch this icon or press the soft key below it to return to the Home screen.

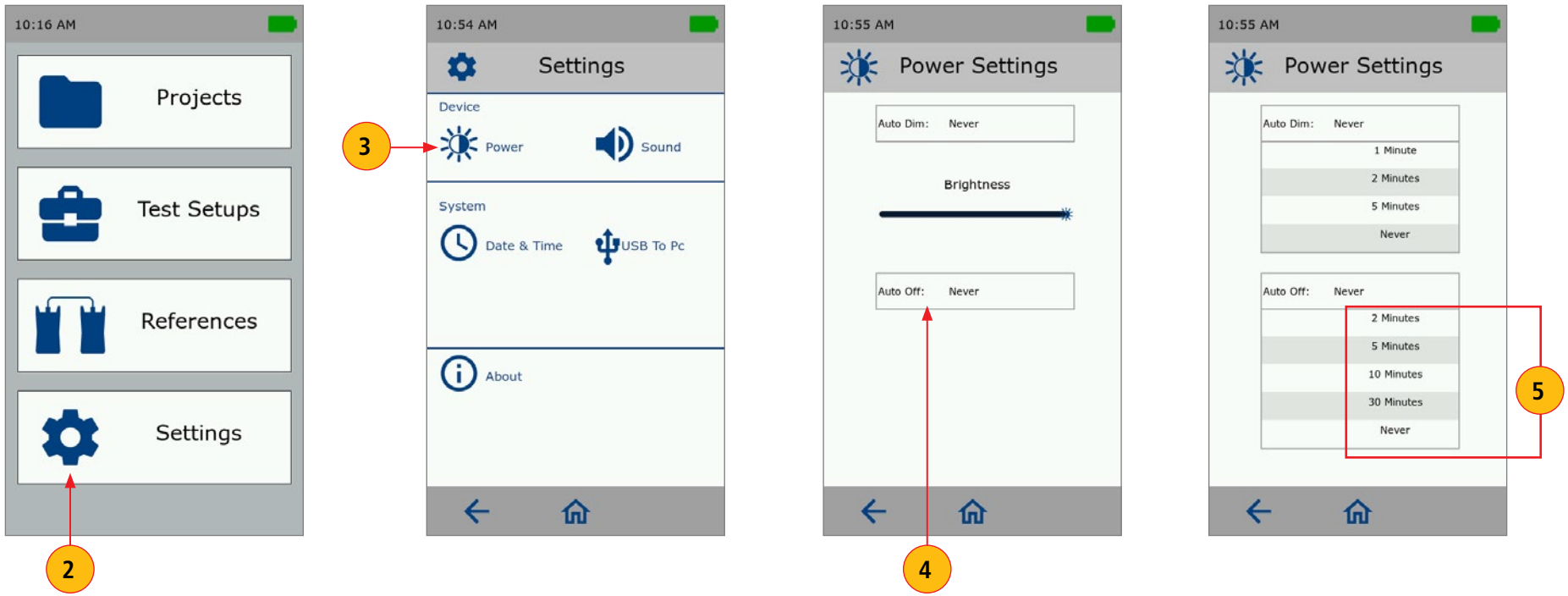
Back key icon: touch this icon or press the soft key below it to return to the previous screen.

Configuring FlowScout to Auto-Off

The Auto-Off feature is available for conserving battery power on your FlowScout® MPO OLTS.

To Configure the Auto-Off Timer:

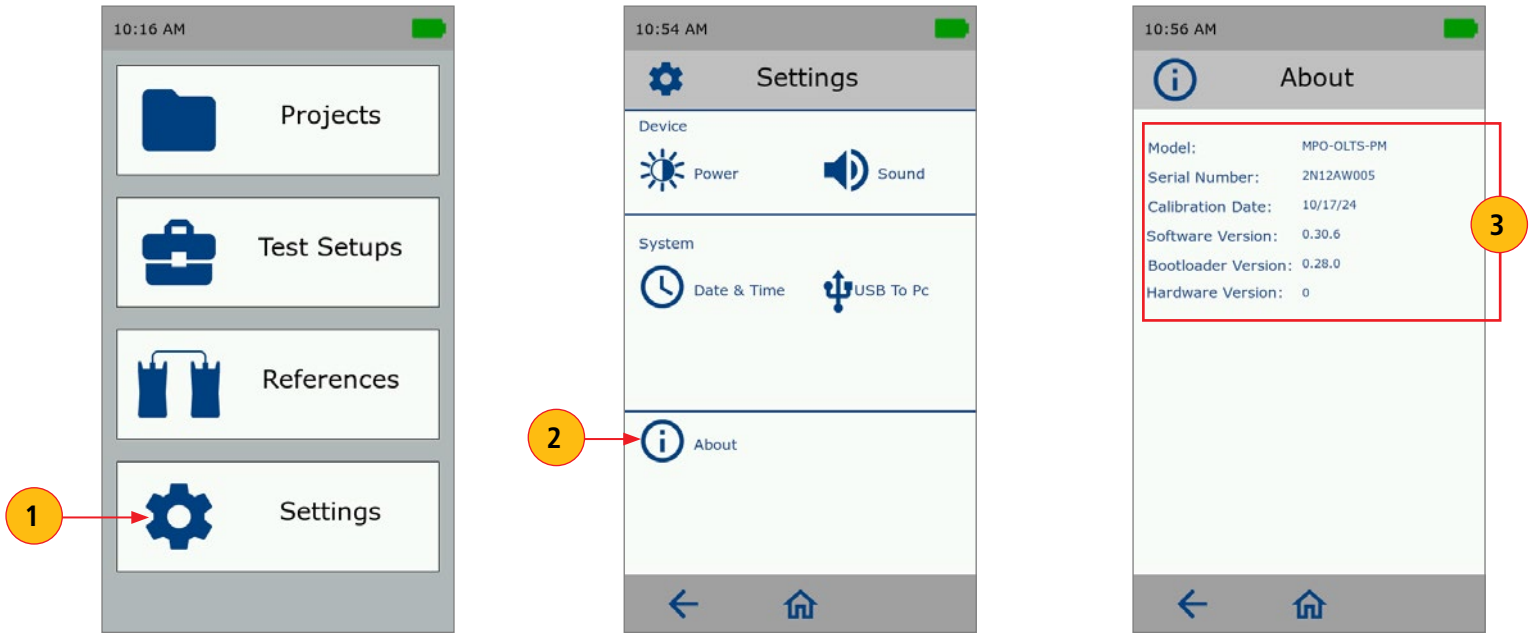
1. Turn your FlowScout MPO OLTS On.
2. From the displayed Home screen, touch Settings - .
3. In the Settings menu, select the Power option.
4. Next, touch the Auto-Off menu
5. Select the desired power save option (5, 10, 20, 30 minutes, Never).



How to View Device Information

FlowScout® MPO OLTS model number, serial number, calibration date, software revision, bootloader version, and hardware version may be viewed from the About screen, which is accessed from the Home > Settings screen.

1. From the Home screen, touch Setting.
2. From the displayed screen, touch About.
3. View the FlowScout MPO OLTS Info displayed on the About screen.



Initiating the Laser

The following procedures are used to initiate the laser. These are specific to the OPM and OLS testers.

OPM Tester:

On the OPM tester the laser may be initiated in two ways:

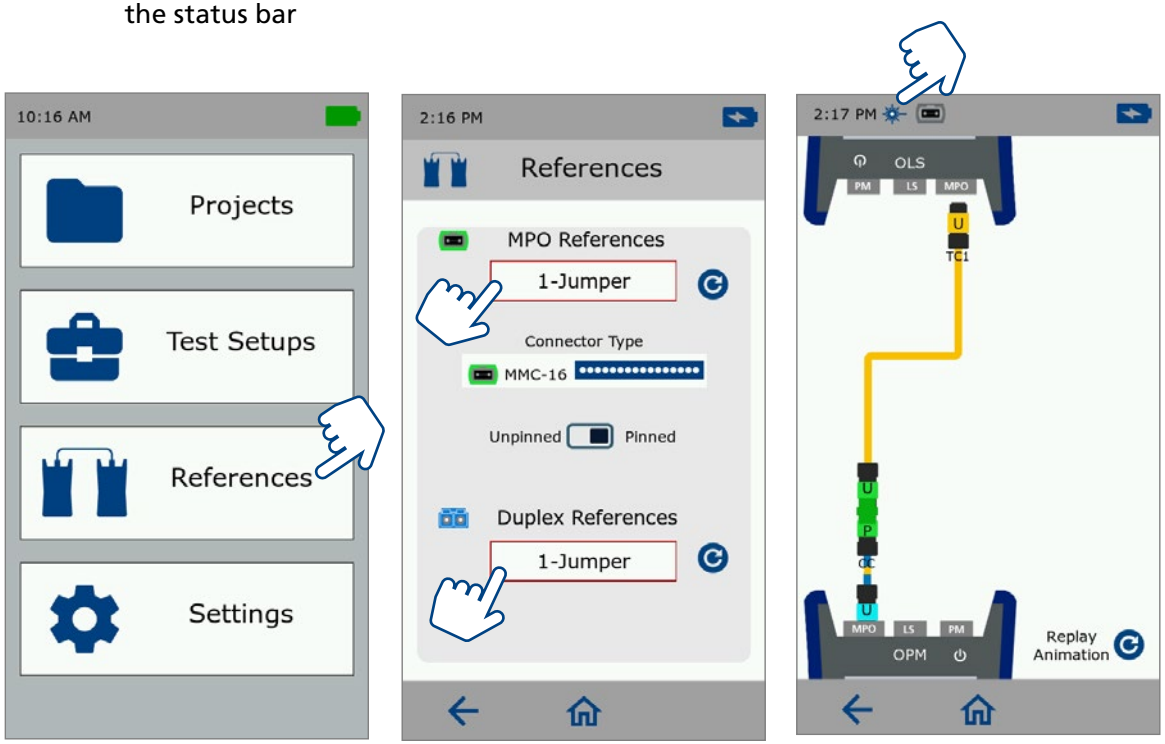
- From the References screen
- From the existing Project at port Level

Initiate the laser from the References screen

– Touch the Reference button

– Depending on your testing, touch either MPO or Duplex Reference method

– When the Referencing screen displayed, note that the laser icon appears on the status bar

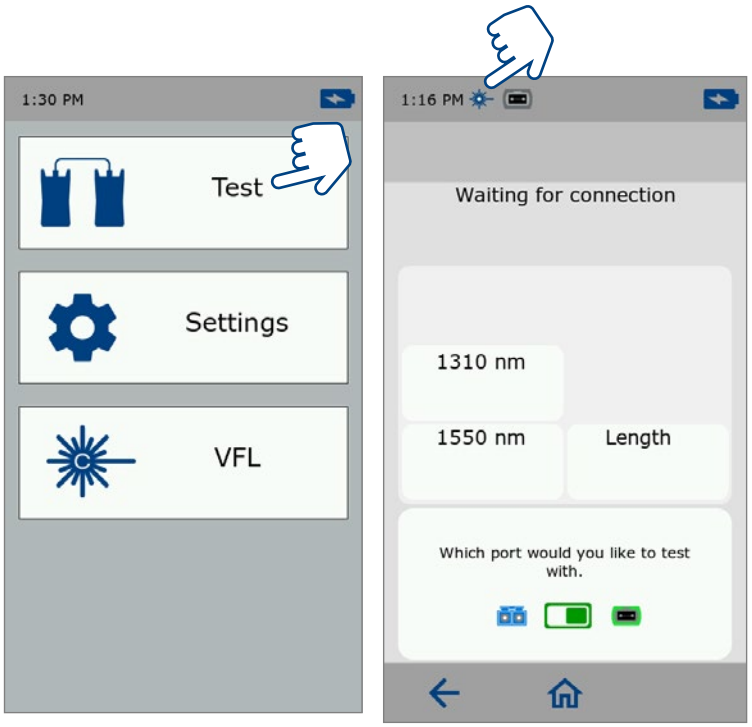


OLS Tester:

On the OPM tester the laser may be initiated from the Home screen:

– Touch the Test button

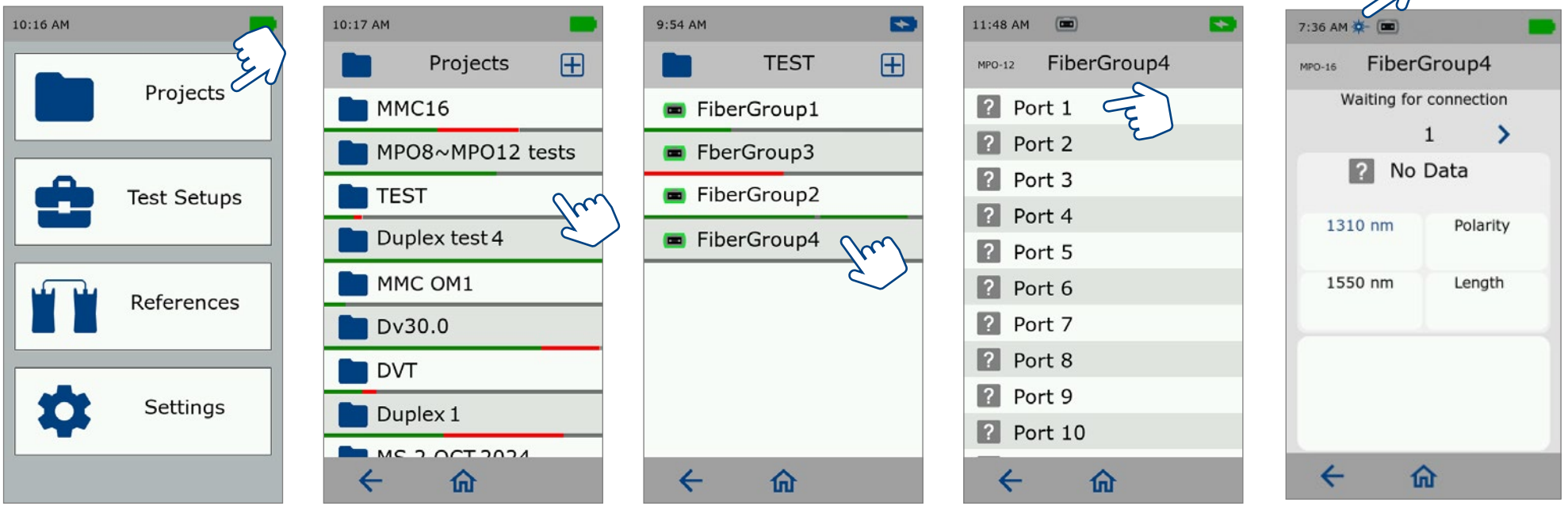
– When the test screen is displayed, note that the laser icon appears on the status bar



OPM Tester:

Initiate the laser from the existing Project at Port level

- Display Projects by touch the Projects button.
- Next, select and open the desired existing Project by touching it's name.
- Next, select and open the desired Fiber Group by touching it's name.
- Touch any Port.
- On the OLS tester Home screen, touch the Test button.
- When the Testing screen is displayed, note that the laser icon appears on the status bar.



Configuring Settings

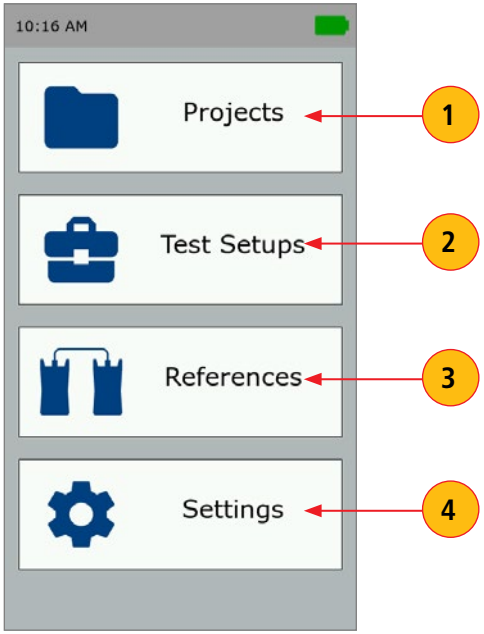
Home Screen Overview

Home screen is the first screen you see on the FlowScout MPO OLTS tester startup.

OPM Tester Home Screen:

The Home screen on the OPM tester allows the user to perform the following setups

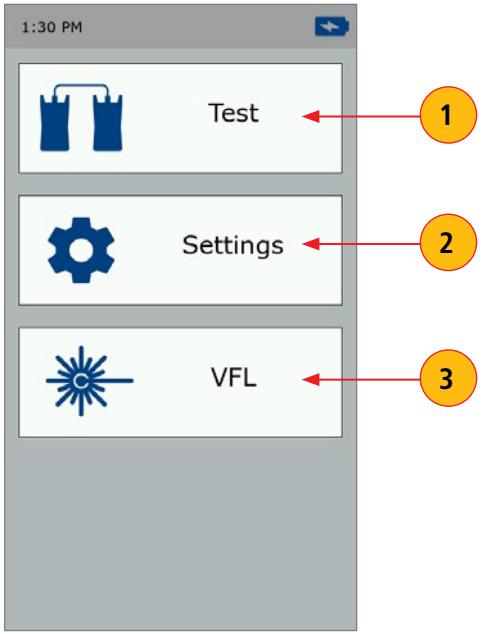
1. Create new Projects and new Fiber Groups within Projects. Projects and Fiber Groups re stored on the FlowScout MPO OLTS - OPM tester.
2. Configure Test Setups. Test Setups are stored on the FlowScout MPO OLTS - OPM tester.
3. Configure and perform Referencing. Referencing (or re-referencing) is initiated from the FlowScout MPO OLTS - OPM tester.
4. Perform General Setting.



OLS Tester Home Screen:

The Home screen on the OLS tester allows the user to perform the following setups

1. Initiate Test per setups performed on the OPM tester.
2. Perform general Setting.
3. Initiate the VFL (Visual Fault Locator) functionality.



General Settings

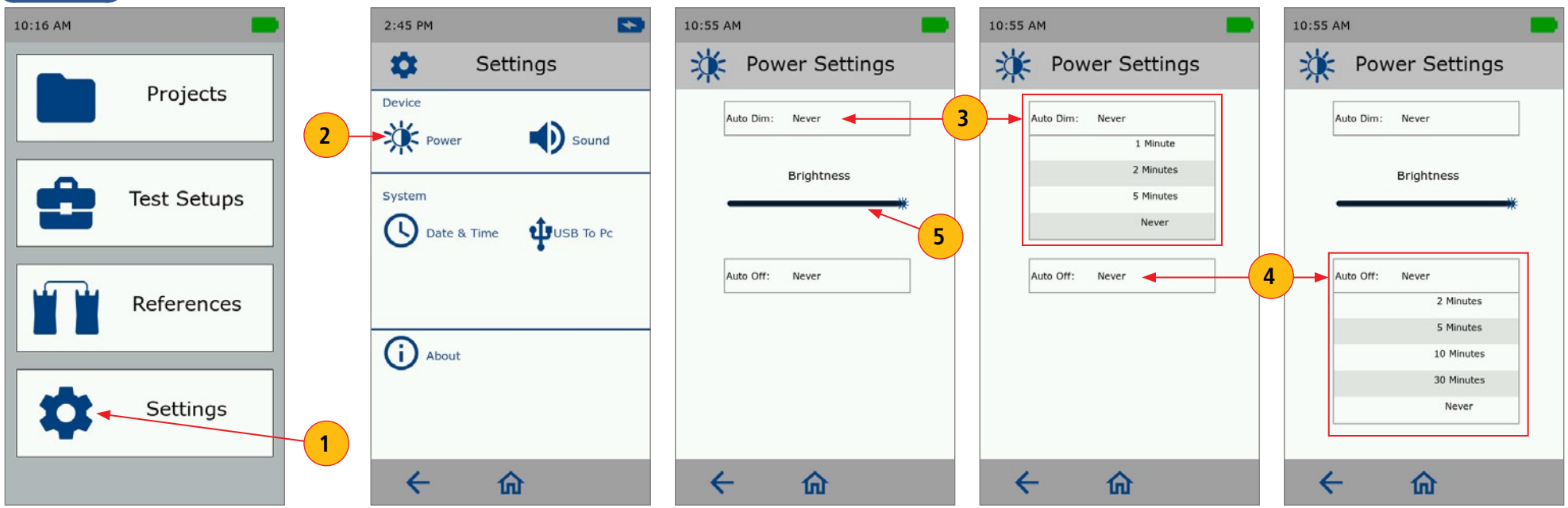
Test Setups are performed on both testers, FlowScout MPO OLTS OPM tester and OLS tester.

1. From the tester Home screen, touch Settings. From the Settings screen you may perform general setup as follows:
   - Power
   - Sound
   - Date & Time
   - USB to PC
   - About
2. Touching Power allows configuring Auto Dim time, Auto Off time, and adjust the display Brightness.

Power Settings

3. To configure Auto Dim, touch its field and select the desired option from the displayed list.
4. To configure Auto Off, touch its field and select the desired option from the displayed list.

OPM Tester



5. To adjust the display Brightness, drag its slider to the desired level.

Sound Settings

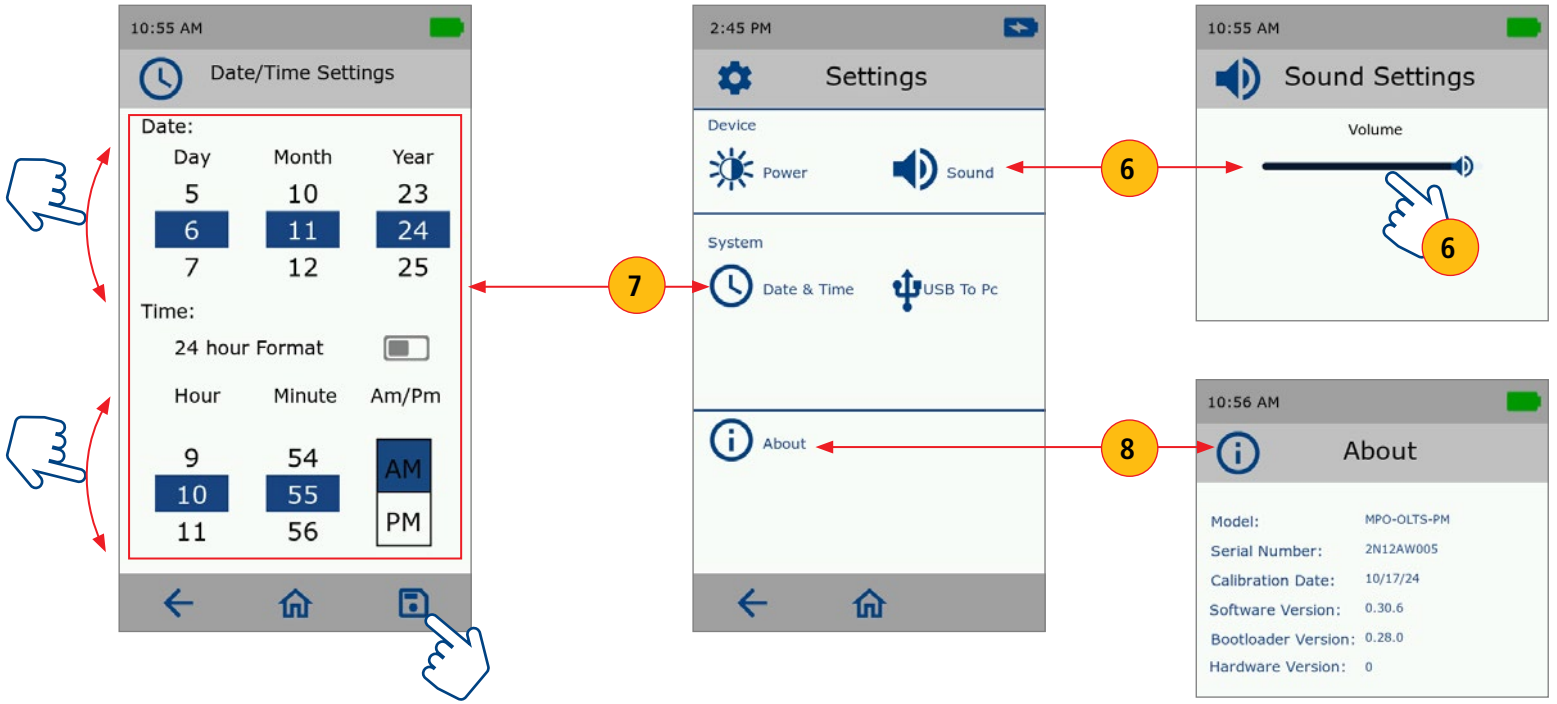
6. In the Settings Screen, touch Sound. Next, drag the volume slider to adjust to the desired level.

Date & Time

7. In the Settings Screen, touch Date & Time to adjust hours, minutes, AM/PM as needed.
   - Use the on-screen Spinner to adjust the desired parameter: day/month/year and hour/minute/AM/PM.
   - Touch Save to store settings

Date & Time

8. About



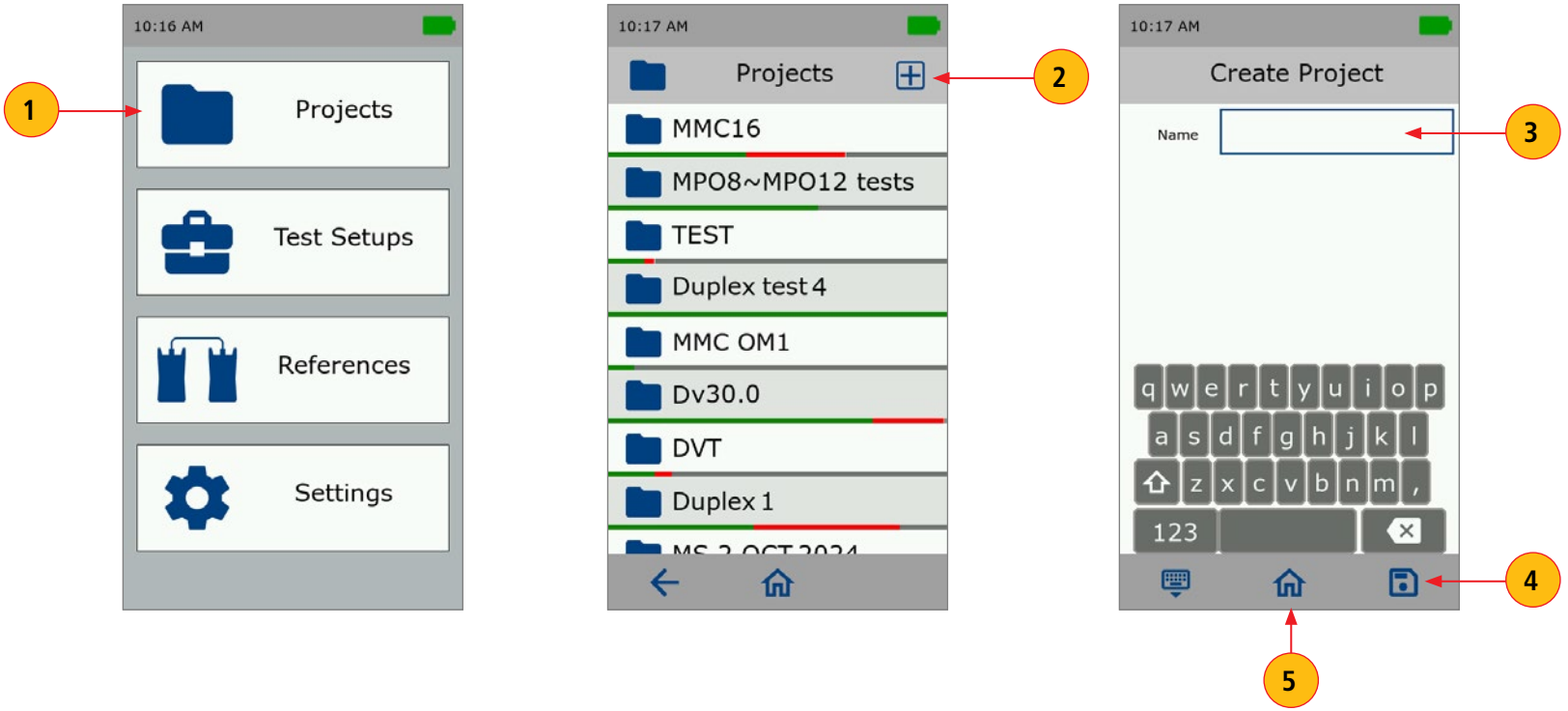
Project and Fiber Group Setup

Creating New Projects

FlowScout MPO OLTS - OPM Tester

Projects are created and stored on the OPM tester.

1. From the FlowScout MPO OLTS Home screen, touch Projects to display Projects screen.
2. Touch Add icon.
3. Enter Project Name. Maximum Project Name = 20 Characters.
4. Touching Save will store the newly created Project and return to the Projects screen.
5. Touching Home will return to the MPO OLTS Home screen without saving selected parameters.

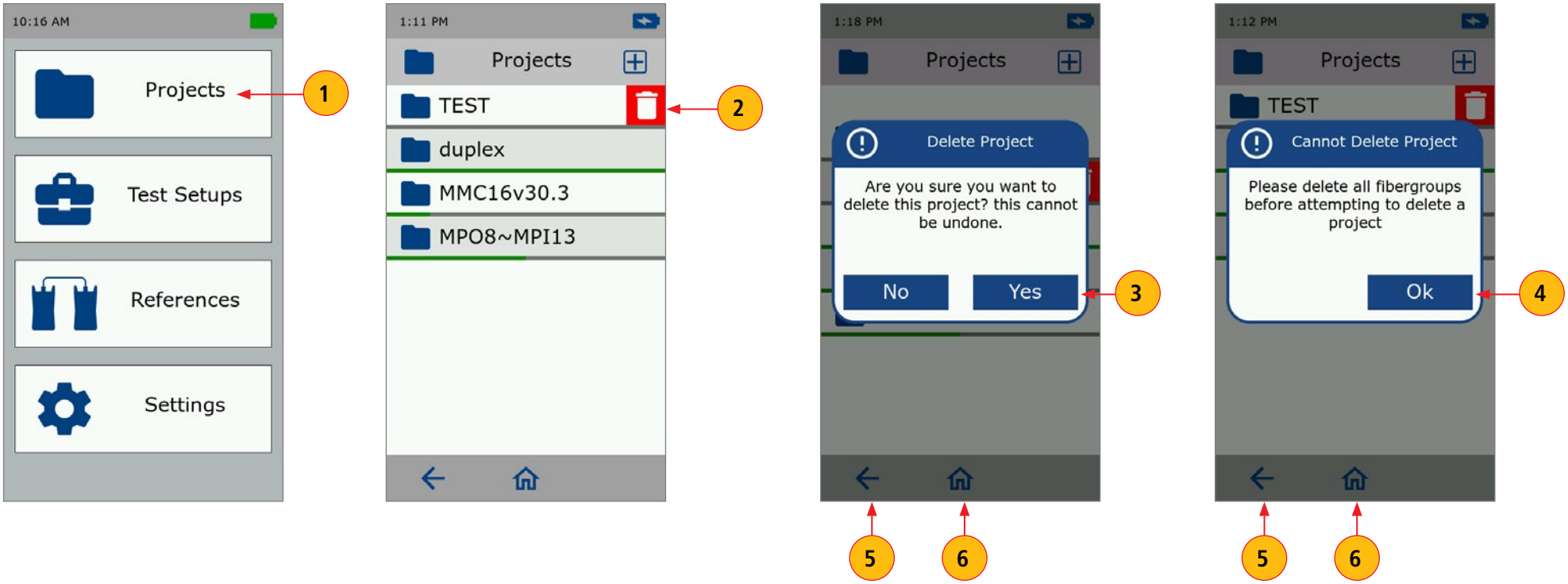


Deleting Projects

FlowScout MPO OLTS - OPM Tester

Projects can be deleted from the OPM tester.

1. From the FlowScout OPM tester Home screen, touch Projects to display Projects screen.
2. Slide left from the edge of the desired Project name to display the Delete icons. Touch Delete.
3. If a Project selected for deletion does not contain Fiber Groups, Confirm deletion by touching Yes.
4. If a Project selected for deletion contains Fiber Groups, you will be notified to delete Fiber Groups first.
   - Touch OK and display Fiber Groups by touching Project name.
   - Delete all Fiber Groups in the Project, see section "Deleting Fiber Groups" on page 24.
   - Return to Project screen and proceed with the deletion; repeat steps 2 and 3.
5. Touching Back will return to the previous screen.
6. Touching Home will return to the MPO OLTS Home screen.



Creating Fiber Groups

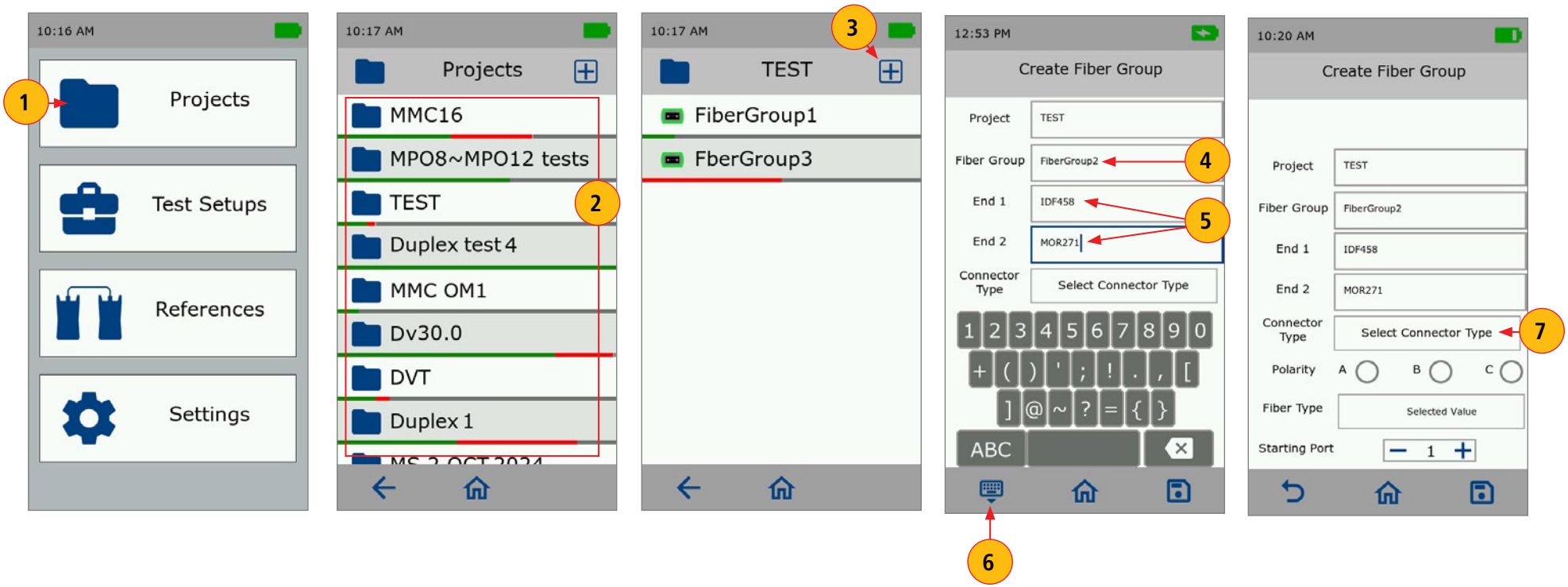
FlowScout MPO OLTS - OPM Tester

Fiber Groups are created and stored on the OPM tester.

1. From the OPM tester Home screen, touch Projects.
2. Navigate to the desired project and touch it to open and display Fiber Groups within that Project.

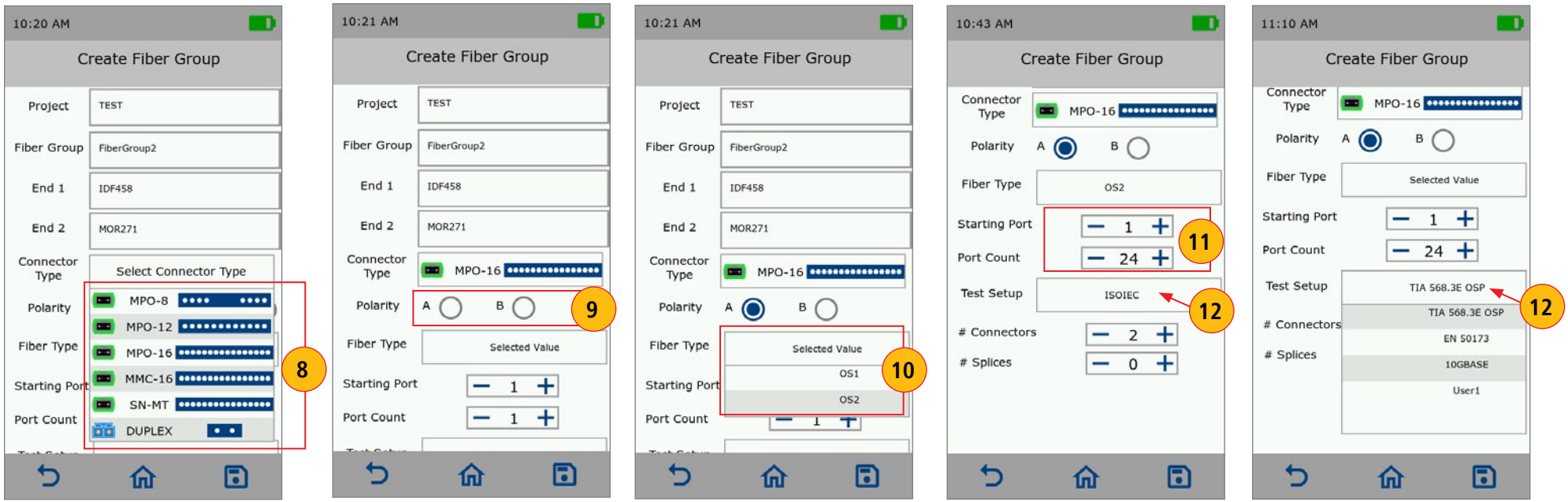
   Note: You may view Ports test status of the existing Fiber Group by touching its name and displaying Ports test statu of that Fiber Group.
3. Touching Add icon will display Create Fiber Group screen.
4. Enter a preferred name for the new Fiber Group (e.g. FiberGroup2).
5. Specify End 1 and End 2 names.

   Note: Maximum allowed characters for End Names = 20.
6. Touch Keyboard icon to hide on-screen keyboard and display more options.
7. Touch Select Connector Type to select.



8. From the displayed list, select the connector type to be tested.
9. Next, identify Polarity (multi-fiber only). Polarity selection depend on the previously selected Test Setup option.
10. Select Fiber Type.
11. Identify Starting Port and Port Count.
12. Select Test Setup.

Note: Test Setups need to be configured prior to the Fiber Group creation in order to be displayed as available options at this step. See "Configuring Test Setups" on page 25.

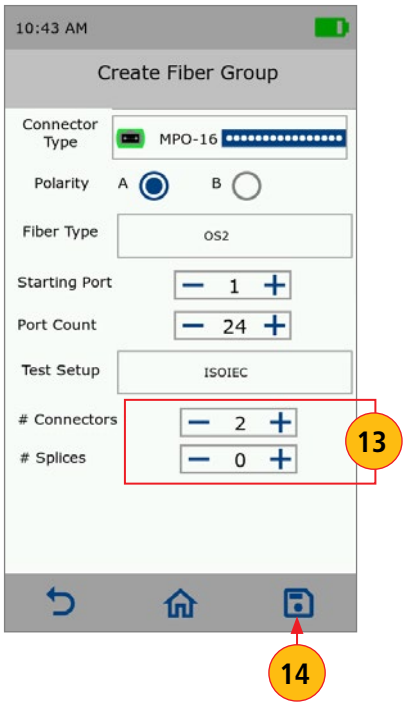


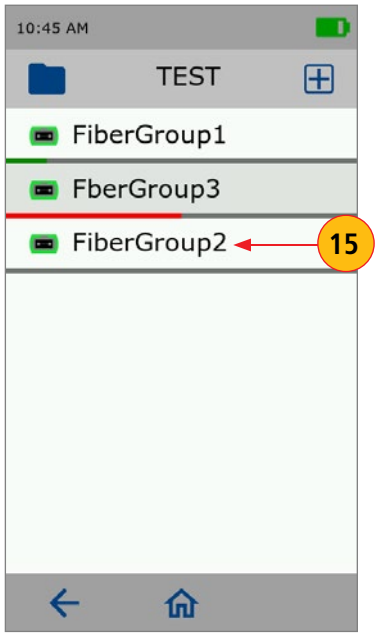
13. Enter number of Connectors and Splicers.
14. Touching Save will store the newly created Fiber Group and return to the Fiber Groups screen.

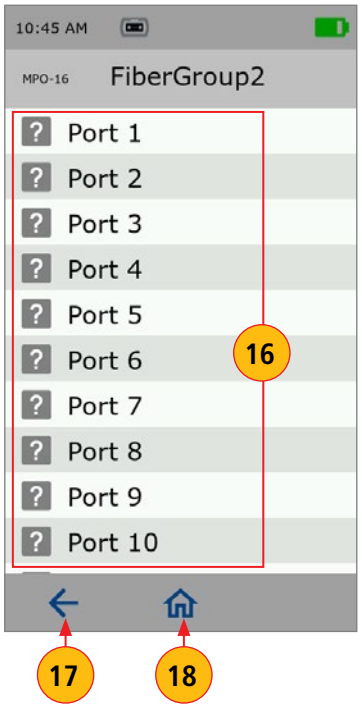
    Note: keep in mind that touching Home will not store the created Fiber Group, it will return to the MPO OLTS Home screen without saving parameters.
15. Once display returns to the Fiber Groups screen, note that newly created Fiber Group (FiberGroup2). appears on the list. Touch the newly created Fiber Group (FiberGroup2) and view ports details.
16. Ports details screen displays that ports are ready to be tested. Note that test status is shown as [?] - not tested.

    Note: Ports test status of the tested Fiber Group may be indicated as Not Tested/Pass/Fail as follows:

    ? - Not Tested ☑ - Pass ☒ - Fail
17. Touching Back will return to the previous screen.
18. Touching Home will return to the MPO OLTS Home screen.







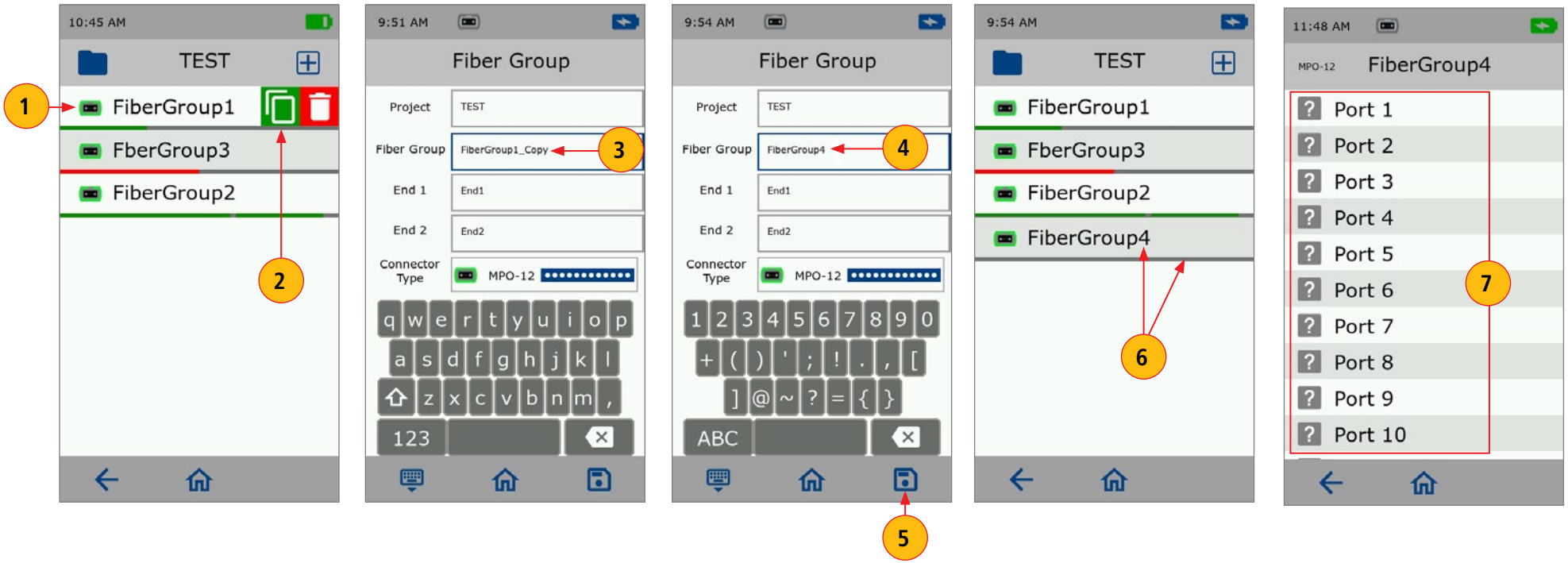
Scroll down to see all Ports.

Copying a Fiber Group Setup

FlowScout MPO OLTS - OPM Tester

The setup of an individual Fiber Group can be replicated for additional Fiber Groups without having to duplicate the setup.

1. In the screen example below, “FiberGroup1” is configured and some of the ports are tested
2. Slide left from the edge of the desired Fiber Group name to display the Copy and Delete icons. Touch Copy.
3. Next, you will see the Fiber Group Configuration screen.
   - Note that Fiber Group name is indicated as a ‘Copy’ of the FiberGroup1.
4. The copied Fiber Group name can be edited as desired.
   - Note that the new fiber group will have the exact same set-up as the original fiber group.
5. Touch Save.
6. The newly created Fiber Group (FiberGroup4 in our example) appears under the same Project as the original Fiber Group.
   - Note that testing status bar is Gray, indicating no tests have been done yet.
7. Touch the newly created Fiber Group name (FiberGroup4) and view ports details. Ports details screen displays that ports are ready to be tested. Note that test status is shown as [?] - not tested.

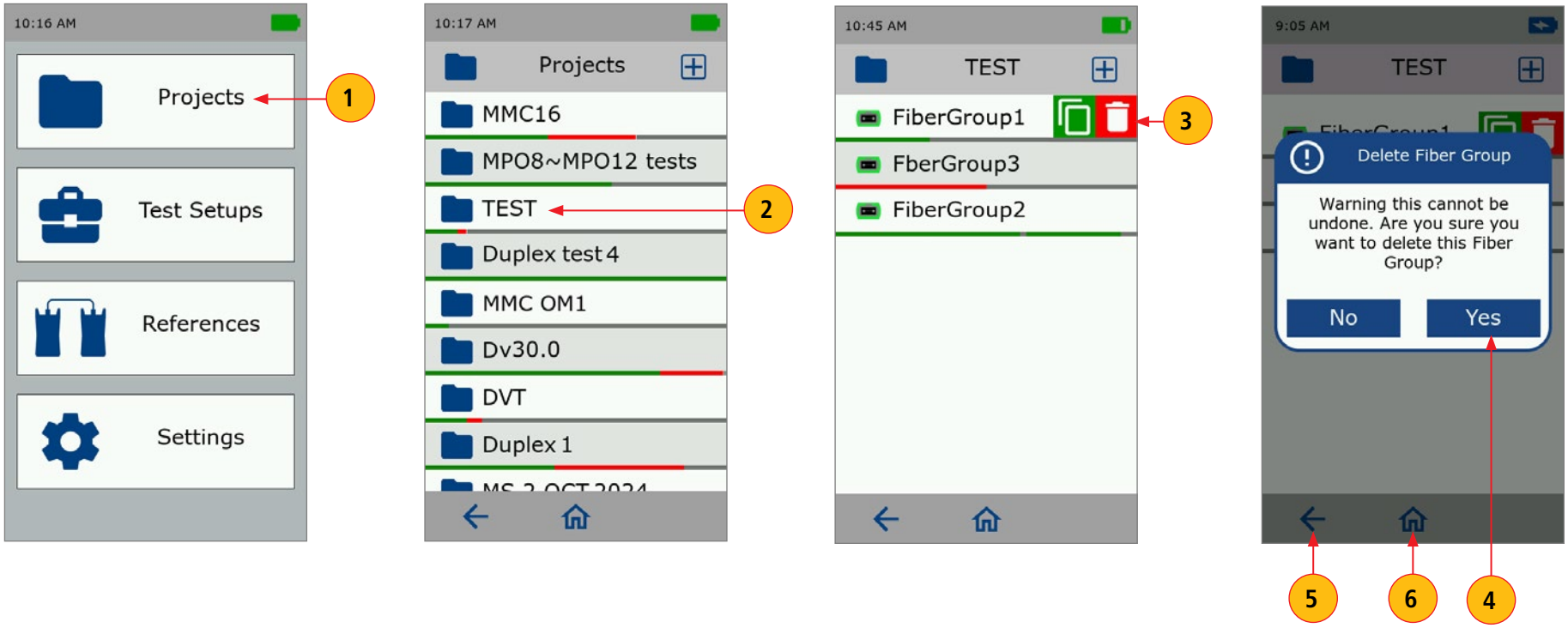


Deleting Fiber Groups

FlowScout MPO OLTS - OPM Tester

An individual Fiber Group can be deleted from a Project.

1. From the OPM tester Home screen, touch Projects.
2. Select the desired Project by touch its name to display Fiber Groups.
3. In the Fiber Groups Screen, slide left from the edge of the desired Fiber Group name to display the Copy and Delete icons. Touch Delete .
4. Confirm deletion by touching Yes.
5. Touching Back will return to the previous screen.
6. Touching Home will return to the MPO OLTS Home screen.



Test Setups

Configuring Test Setups

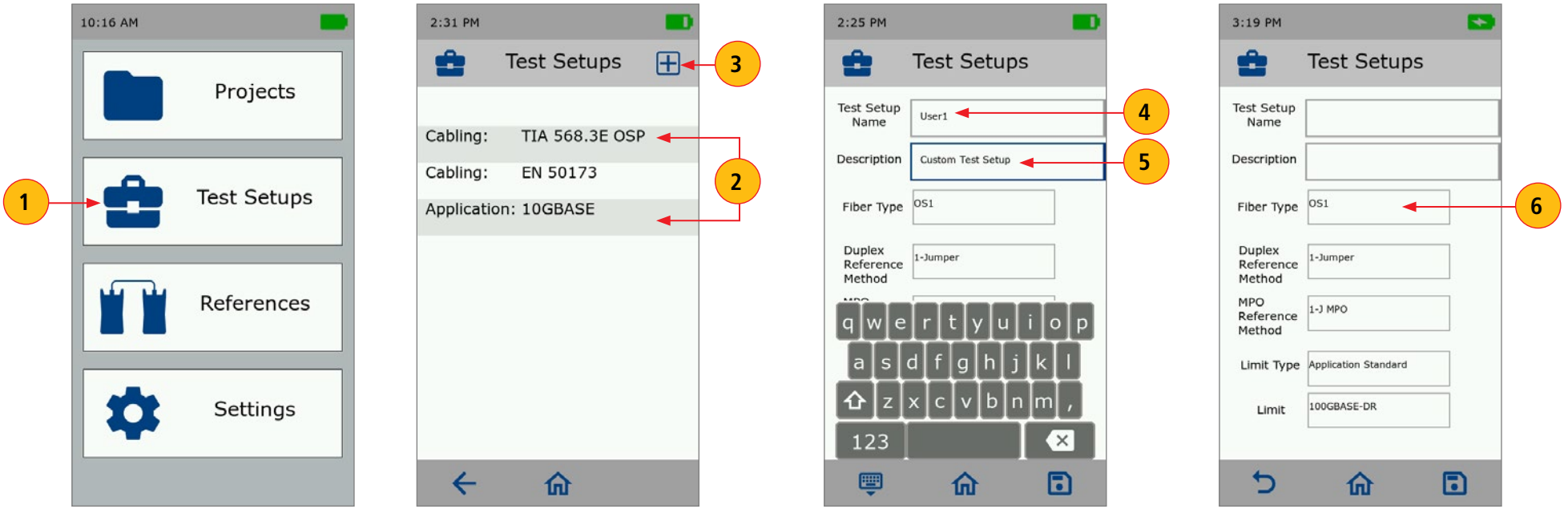
FlowScout MPO OLTS - OPM Tester

Test Setups are created and stored on the OPM tester.

Test Setups are created to simplify the test process. They include the following parameters:

- Name and Description
- Fiber Type
- Reference Method
- Test Limit Type: Application Standard, Cabling Standard, or User-defined

1. From the FlowScout MPO OLTS Home screen, touch Test Setups.
2. The Test Setups screen displays previously created test Setups or blank if no previously created Test Setups.
3. Touch Add icon.
4. Enter Test Setup name.
5. Add Description as needed.
6. Select Fiber Type.



7. Chose Limit Type.

   Note: Limit Type selections controls all the following setups.

Option I - Application Standard Selected

8. If Application Standard option is selected for the Limit Type, touch Limit to select one of the available Application Standards form the list.

Option II - Cabling Standard Selected

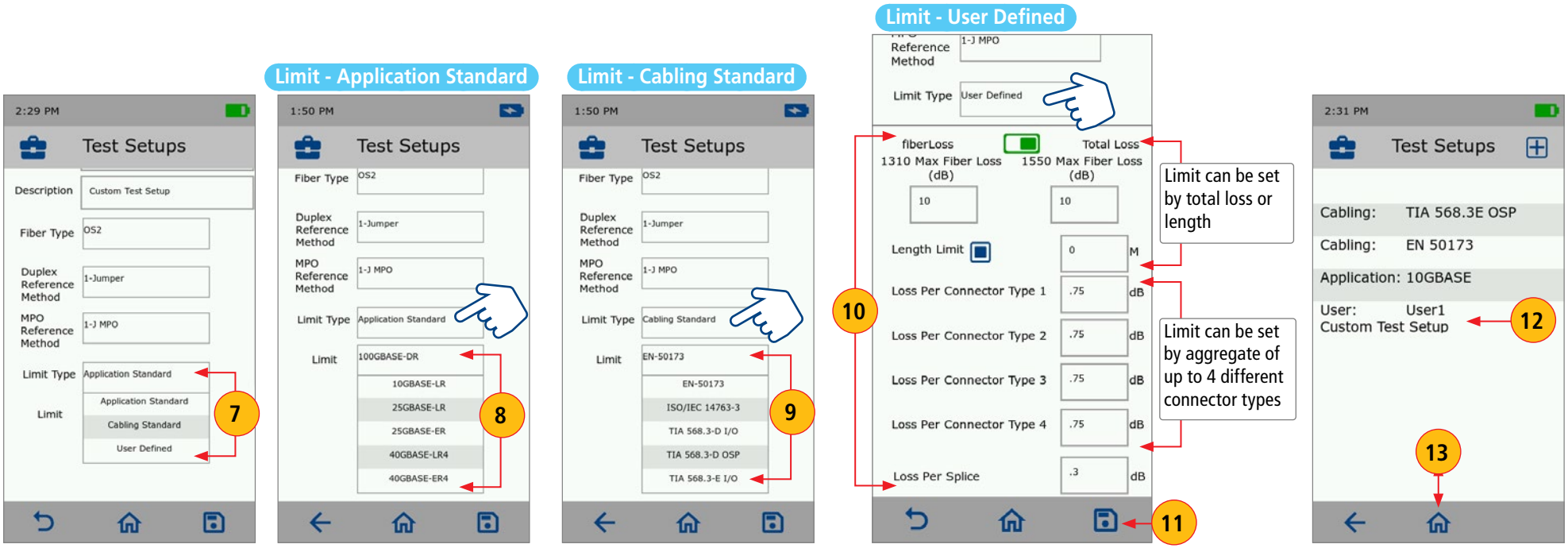
9. If Cabling Standard option is selected for the Limit Type, touch Limit to select one of the available Cabling Standards form the list.

Option III - User Defined Selected

10. If User Defined option is selected for the Limit Type, limits are user-set and need to be defined. The user will need to indicate limits as follows: Max Fiber Loss, Length Limit, Loss per Connector Type 1/2/3/4, Loss per Splice.
11. Touching Save will store the newly created Test Setup and return to the Test Setups screen.

    Note: keep in mind that touching Home will not store the created Test Setup, it will return to the MPO OLTS Home screen without saving.
12. Once display returns to the Test Setups screen, note that newly created Test Setup appears on the list.

    Note: you may view any of the Test Setup details by touching its name and displaying the setup details screen.
13. Touch Home will return to the MPO OLTS Home screen.



Referencing

Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Setting References

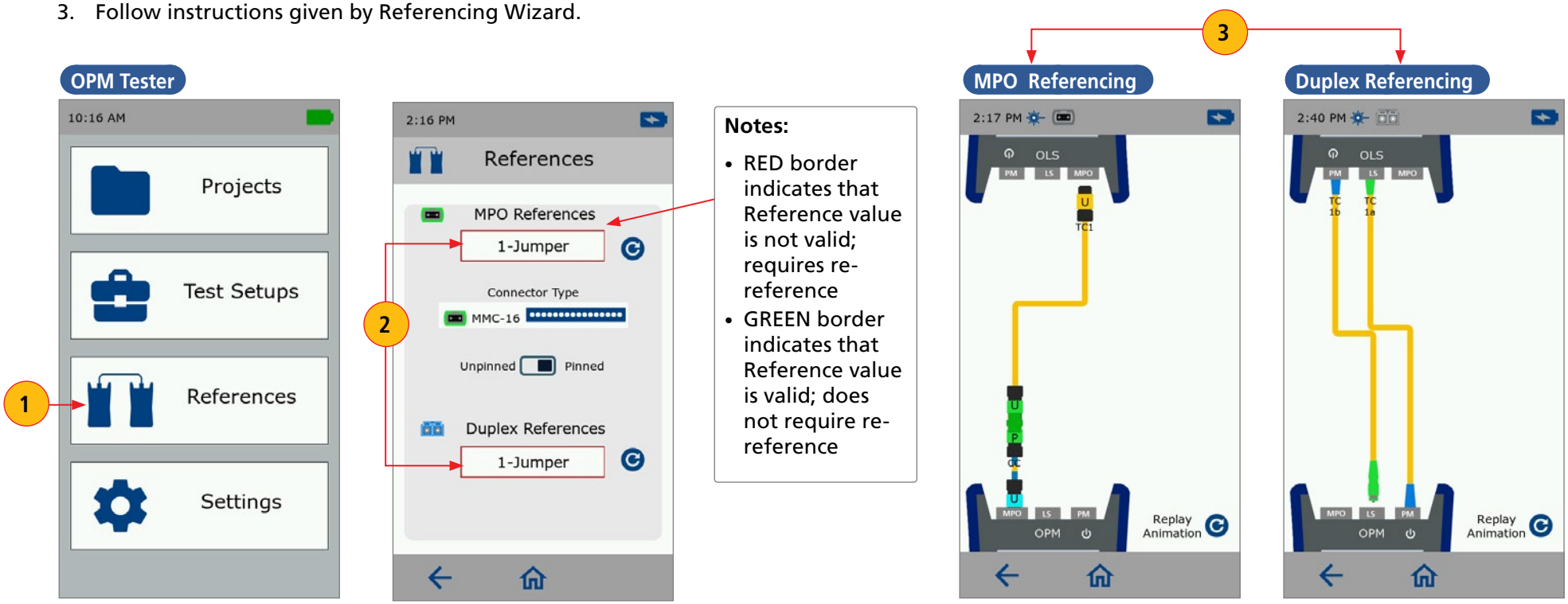
Referencing (or re-referencing) must be performed in any of the following cases:

- No more than 24 hours after the previous reference
- If the MPO OLTS OLS tester is powered off
- If the test lead from the MPO OLTS OLS tester is disconnected at the OLS tester
- To comply with customer requirements (e.g. re-reference after every 500 tests)

Referencing (or re-referencing) is initiated from the FlowScout MPO OLTS - OPM tester.

1. From the FlowScout MPO OLTS Home screen, touch References.
2. From the Referencing screen, select either MPO or Duplex 1-Jumper Referencing method.

   Note: 1-J Referencing method is preferred and specified in testing standards. Other options (e.g. 3-jumper, equipment, etc) will be available in future releases.
3. Follow instructions given by Referencing Wizard.



MPO Referencing

Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

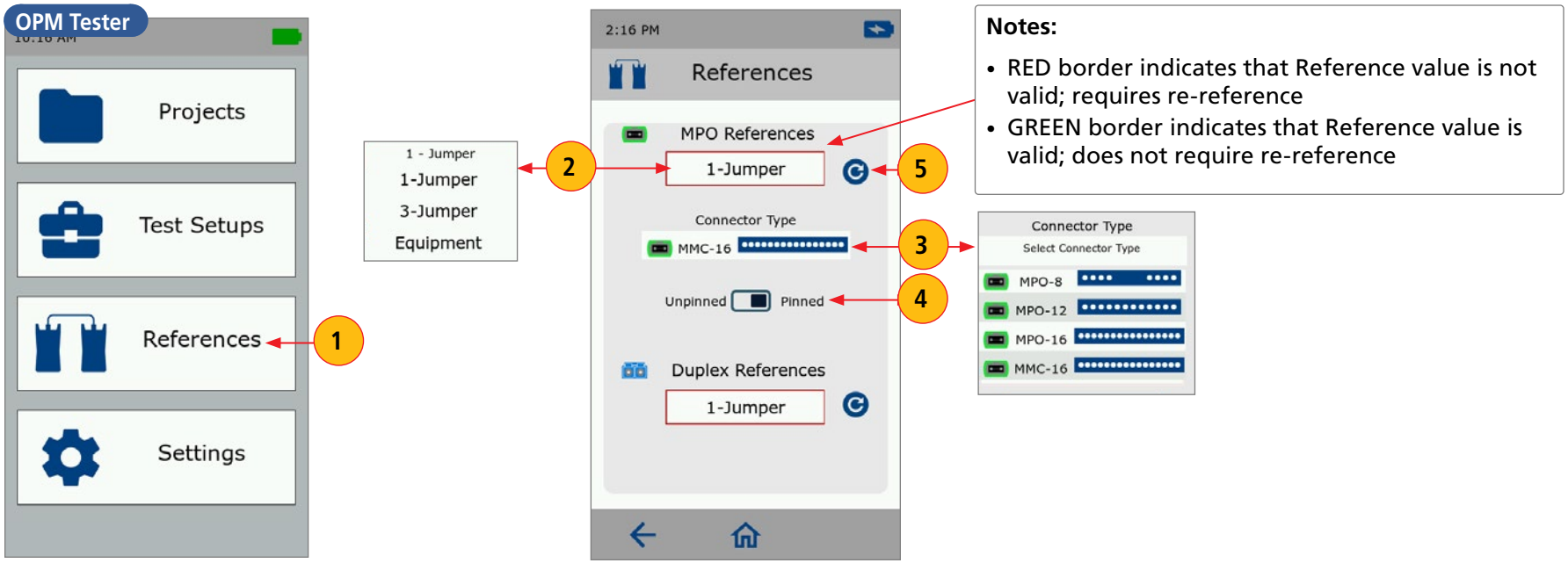
Referencing (or re-referencing is initiated from the FlowScout MPO OLTS - OPM tester. Referencing (or re-referencing) must be performed in any of the following cases:

- No more than 24-hours after the previous reference
- If the MPO OLTS OLS tester is powered off
- If the test lead from the MPO OLTS OLS tester is disconnected at the OLS tester
- To comply with customer requirements (e.g. re-reference after every 500 tests)

On the OPM tester

1. Display the References screen by touching References on the OPM tester Home screen.
2. Select the MPO referencing method.

   Note: 1-J Referencing method is preferred and specified in testing standards. Other options (e.g. 3-jumper, equipment, etc) will be available in future releases.
3. Select Connector Type.
4. Select Pinned or Unpinned.
5. Touch the Refresh button to initiate the Reference Wizard. Next, proceed to OLS tester.



On the OLS tester

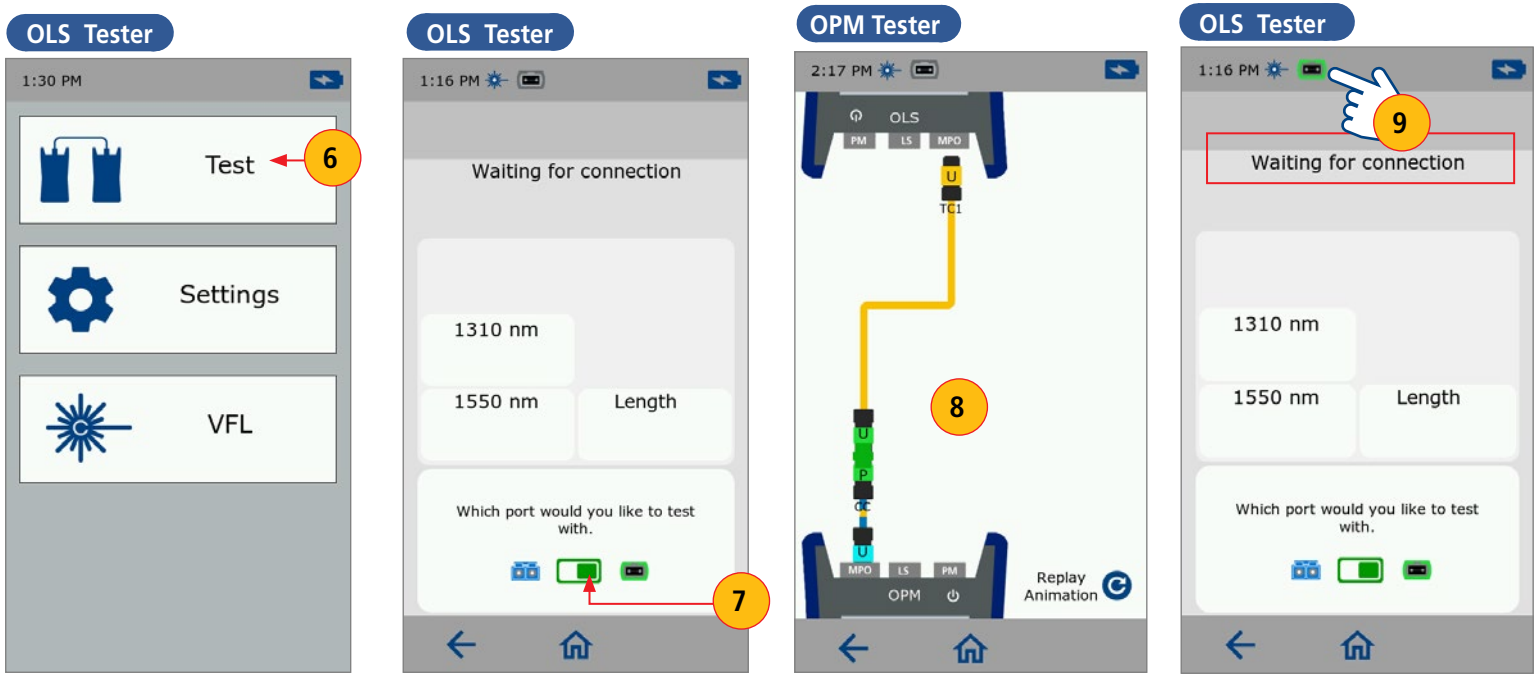
6. From the OLS tester Home screen, touch Test.
7. Touch Toggle switch to select MPO port. Next, proceed to OPM tester.

On the OPM tester

8. Follow instructions given by Referencing Wizard and connect jumpers per instructions.

On the OLS tester

9. Once connection established, note that MPO connector ID label lights-up Green to indicate and confirms the successful connection.

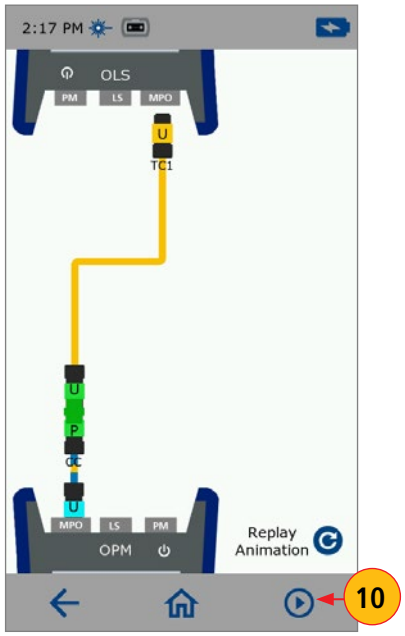


On the OPM tester

10. On the OPM tester and touch Start to begin referencing.
11. When the Referencing is complete, the OPM tester displays connectivity diagram for testing.
12. You may view Reverence values buy touching the Test button.
13. View Reverence values. Note: Reference values should be approximately: – 8 dBm for 1310 nm; – 4 dBm for 1550 nm.
    - If references are not acceptable, clean all connectors on test ports and cords and re-reference.
    - If references are not acceptable, proceed to testing.

Reference Example – MPO 1-J, MMC-16

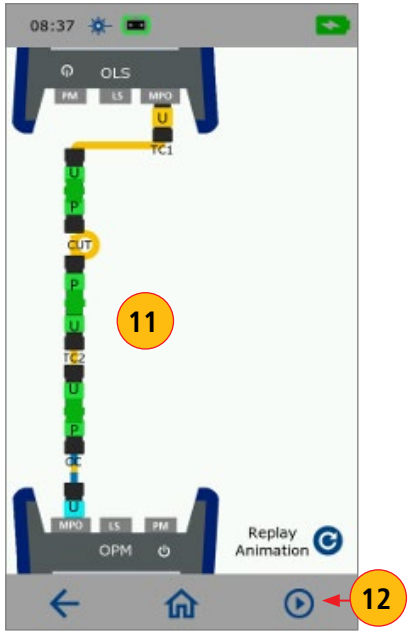
OPM Tester



Reference Wizard shows connectivity for:

- TC1 - launch cord
- CC - conversion cord

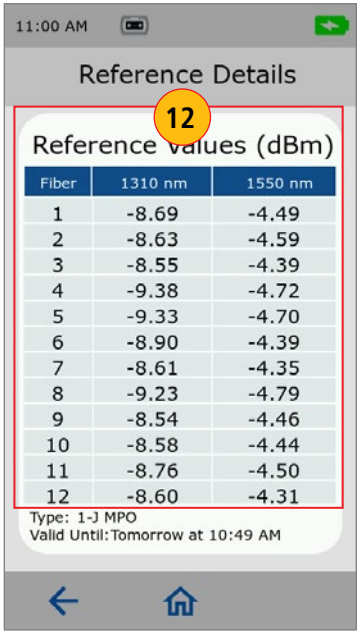
OPM Tester



After reference completes, connectivity shown for :

- TC1 - launch cord
- CUT - cable under test
- TC2 - receive cord
- CC - conversion cord

OPM Tester



Fiber	1310 nm	1550 nm
1	-8.69	-4.49
2	-8.63	-4.59
3	-8.55	-4.39
4	-9.38	-4.72
5	-9.33	-4.70
6	-8.90	-4.39
7	-8.61	-4.35
8	-9.23	-4.79
9	-8.54	-4.46
10	-8.58	-4.44
11	-8.76	-4.50
12	-8.60	-4.31

Reference values should be approximately:

- – 8 dBm for 1310 nm
- – 4 dBm for 1550 nm

Duplex Referencing

Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Referencing (or re-referencing is initiated from the FlowScout MPO OLTS - OPM tester. Referencing (or re-referencing) must be performed in any of the following cases:

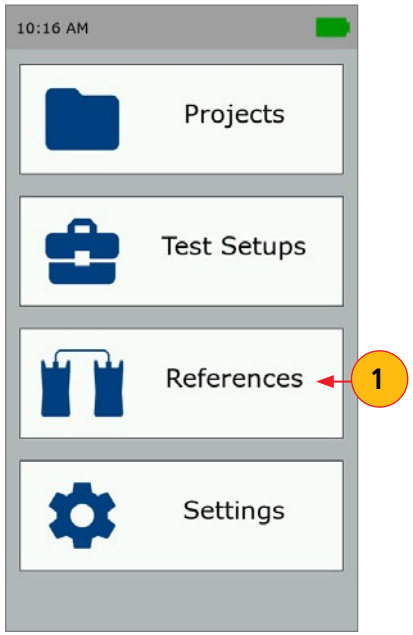
- No more than 24-hours after the previous reference
- If the MPO OLTS OLS tester is powered off
- If the test lead from the MPO OLTS OLS tester is disconnected at the OLS tester
- To comply with customer requirements (e.g. re-reference after every 500 tests)

On the OPM tester

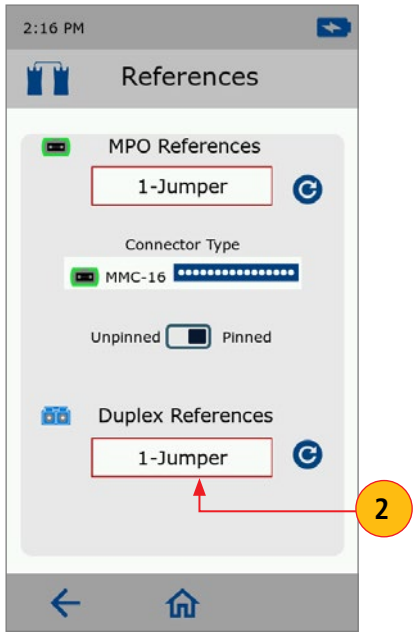
1. From the OPM tester Home screen, touch References.
2. From the Referencing screen, select Duplex 1-Jumper reference. Next, proceed to OLS tester.

   Note: 1-J Referencing method is preferred and specified in testing standards. Other options (e.g. 3-jumper, equipment, etc) will be available in future releases.

OPM Tester



OPM Tester



On the OLS tester

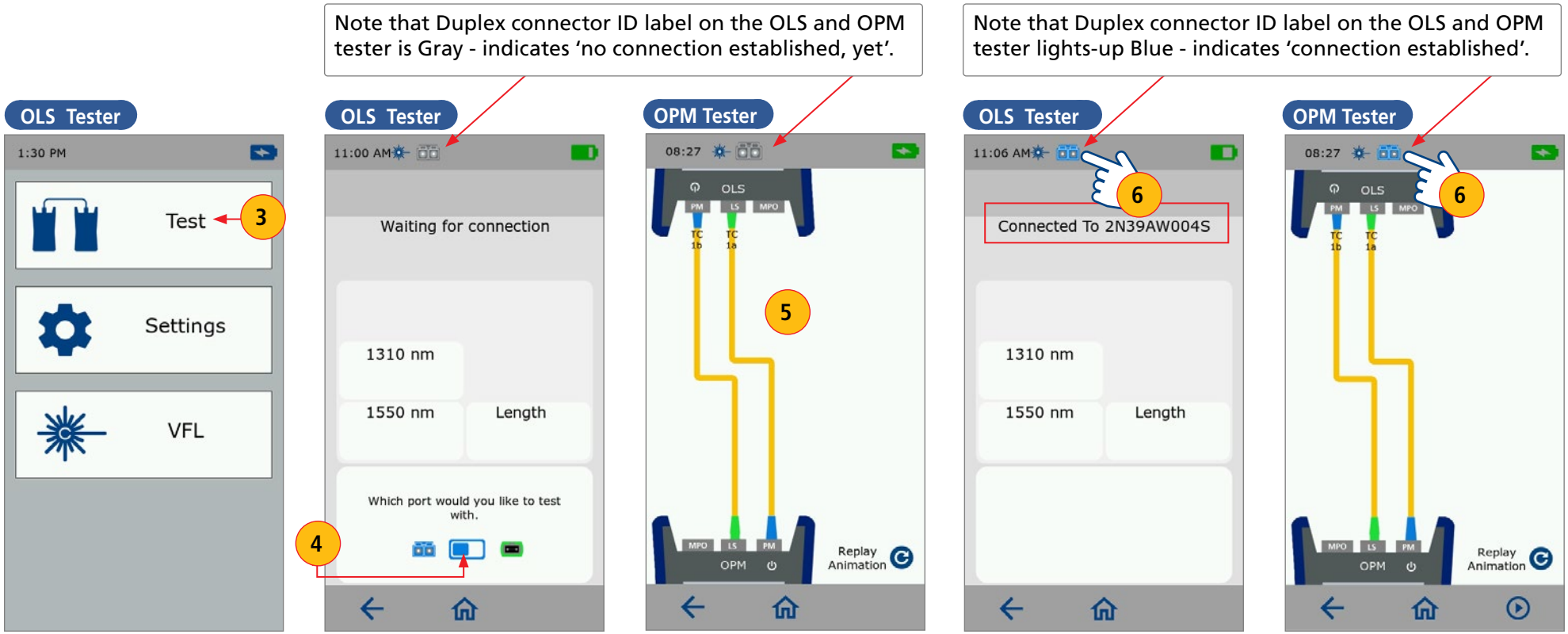
3. From the OLS tester Home screen, touch Test.
4. Touch Toggle switch to select Duplex port. Next, proceed to OPM tester.

On the OPM tester

5. Follow instructions given by Referencing Wizard and connect jumpers per instructions.

On the OLS tester and OPM tester

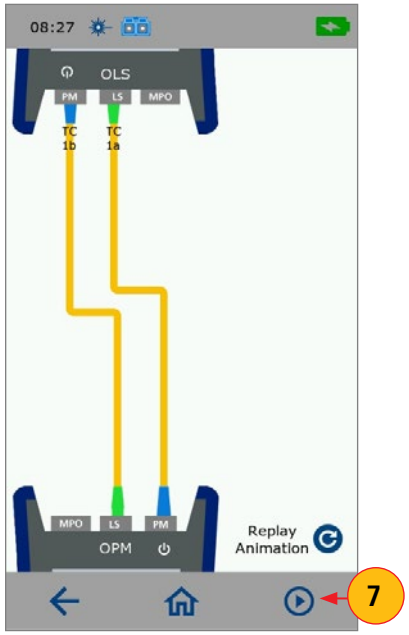
6. Once connection established, note that Duplex connector ID label lights-up Blue to indicated that and status below confirms the successful connection.



On the OPM tester

7. On the OPM tester touch Start to begin referencing.
8. Once referencing is complete, OPM tester displays instruction on how to proceed to testing.
9. Note: Reference values should be approximately: – 8 dBm for 1310 nm; – 4 dBm for 1550 nm. Follow these instructions to connect.

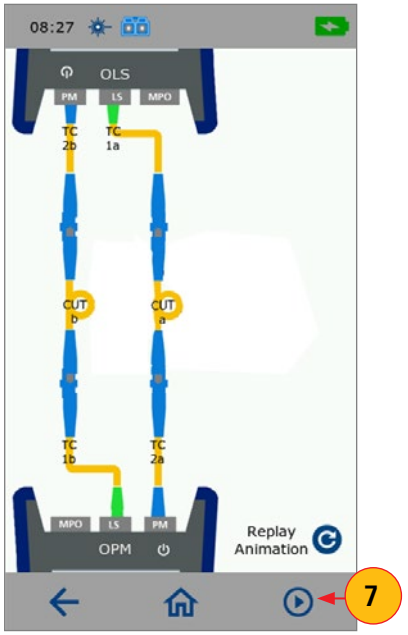
OPM Tester



Reference Wizard shows connectivity for:

- TC1a - test cord
- TC1b - test cord

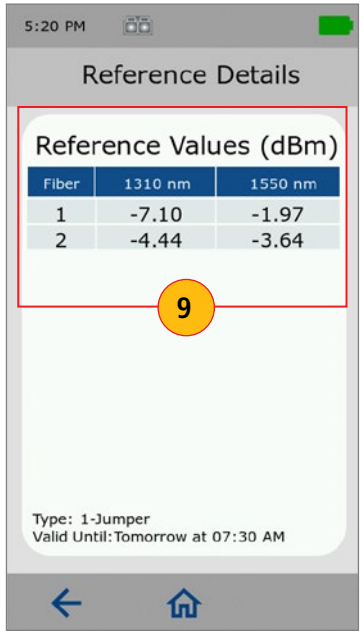
OPM Tester



After reference completes, connectivity shown for :

- TC1a and TC1b - test cords
- CUT - cable under test
- TC2a and TC2b - test cord

OPM Tester



Reference values should be approximately:

- – 8 dBm for 1310 nm
- – 4 dBm for 1550 nm

Testing with FlowScout MPO OLTS

Understanding the Workflow

Important: Clean all fiber optic connectors before performing test procedures described below.

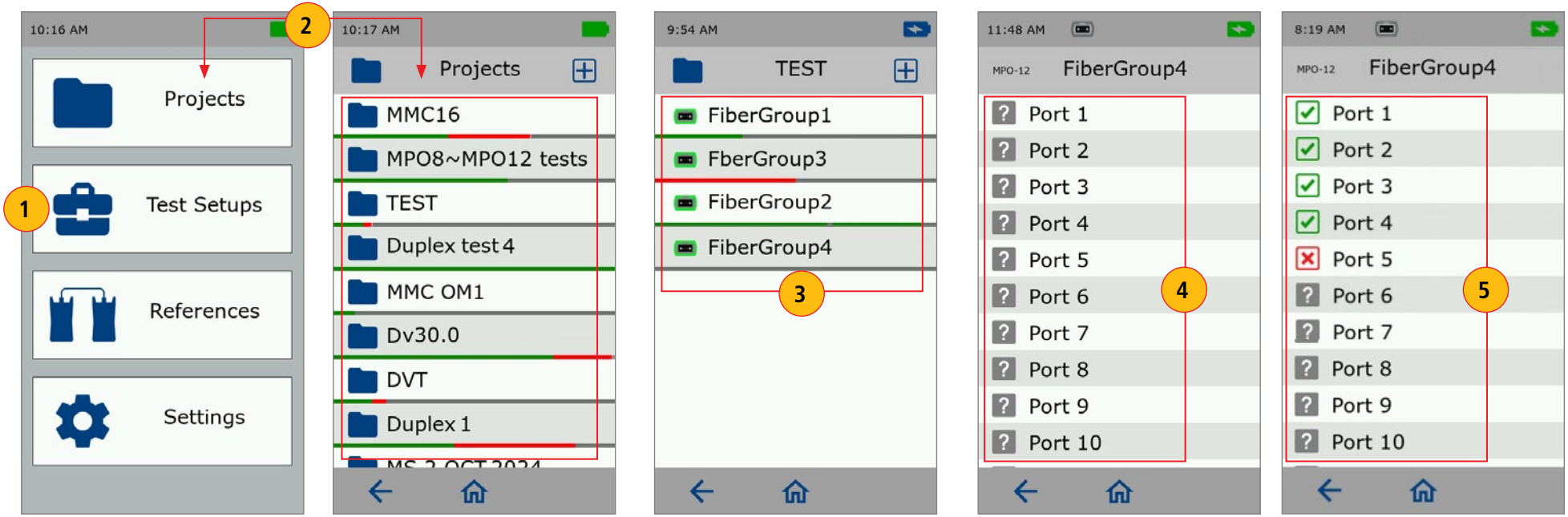
Setting references is recommended on a daily basis before testing and when changing test jumpers. If references haven't been set for over 24 hours, you will be prompted to set references. Once MPO | Duplex references have been set, you may proceed to testing.

On the OPM Tester

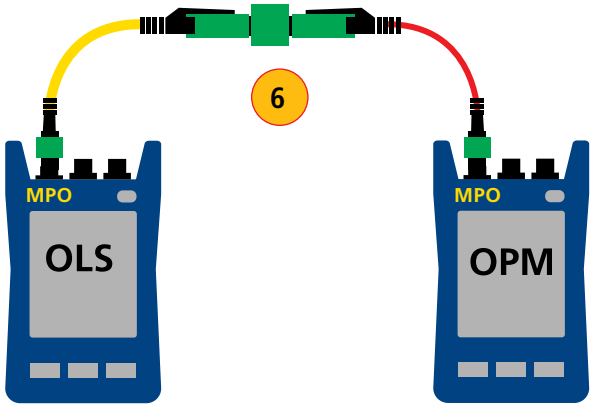
Testing is initiated from the OPM tester.

1. Select or create a Test Setup. See "Configuring Test Setups" on page 25.
2. Select or create a Project. See "Creating New Projects" on page 18.
3. Within the selected Project, select or create a Fiber Group. See sections "Creating Fiber Groups" on page 20 and "Copying a Fiber Group Setup" on page 23
4. Display Fiber Group Status by touching its name. If the selected Fiber Group was not previously tested, Ports status will be displayed as ? - Not Tested.
5. If the selected Fiber Group was previously tested, Ports status may be indicated as Not Tested/Pass/Fail as follows:

   ? - Not Tested ☑ - Pass ☒ - Fail



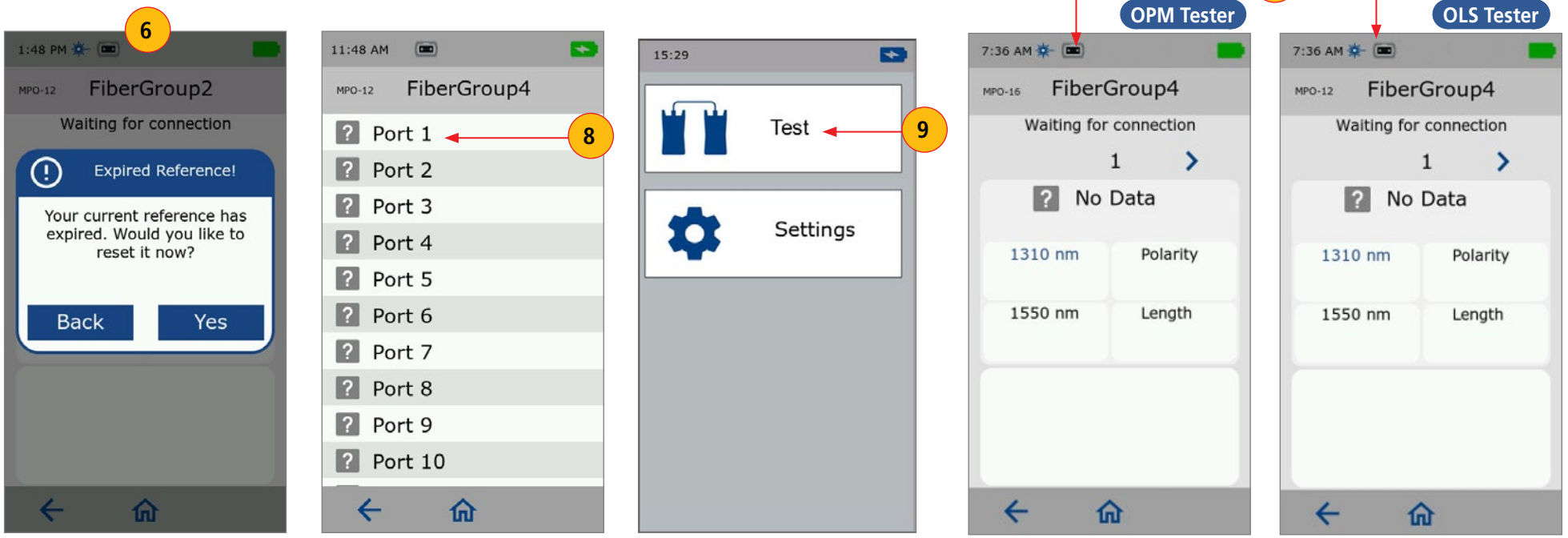
6. Ensure that you have valid references.
   - If references are not valid, See section "Referencing" on page 27.
   - For referencing you would need both testers at the same site.
7. Once a valid reference is established, move the OPM and OLS testers to opposite sites of the cable to be tested and proceed to testing.



OPM and OLS Testers at opposite site of the cable under test

- Turn the OPM and OLS testers on.
- Screen examples below show MPO testing images.

8. On the OPM tester Navigate to the desired Project > Fiber Group > Port. See steps 1-5. Touch the desired Port to initiate testing.
9. On the OLS tester touch Test.
10. Note that MPO icon is greyed out on both testers, which indicates that OPM and OLS testers are NOT connected to the cable under test.

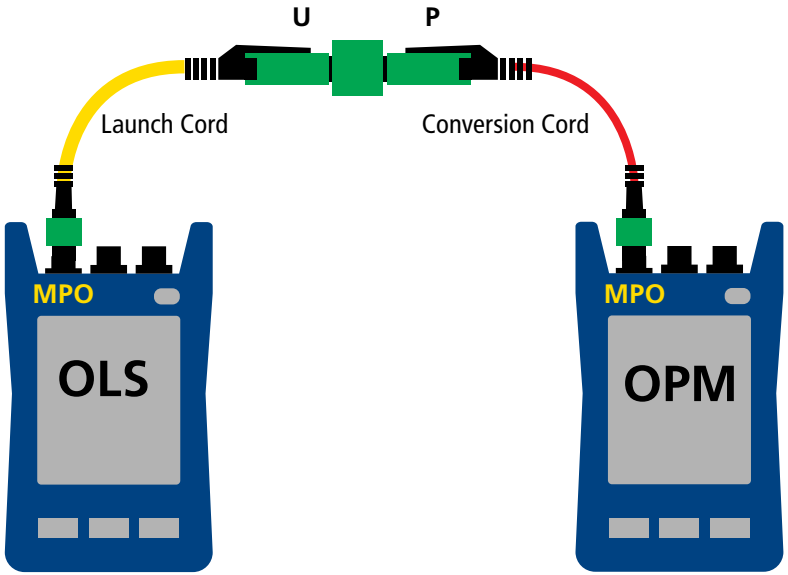


11. Connect both units to the cable to be tested.
12. Note that MPO icons turn GREEN, with indicates that OPM and OLS testers ARE connected.
13. On the OPM tester: touch test to start testing.
14. Next, you should see test results displayed on both testers.

Test Diagrams

Testing Cables Terminated with MMC-16 Pinned Connectors

Reference Diagram (1-Jumper Method)

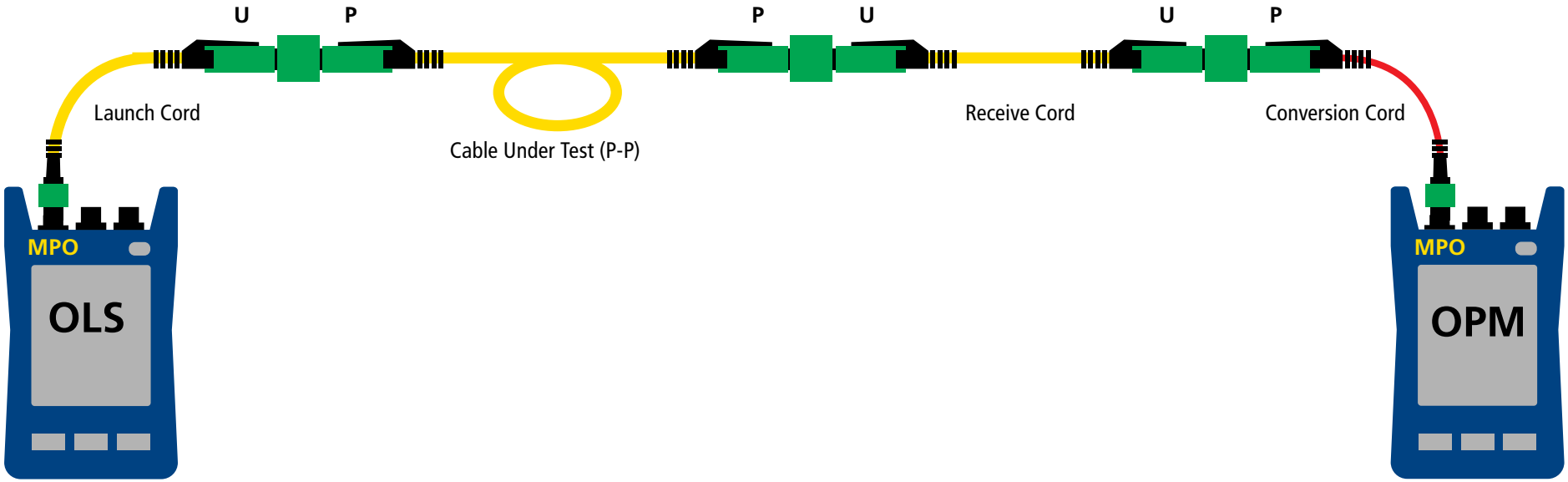


Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Legend:
P - Pinned
U - Unpinned

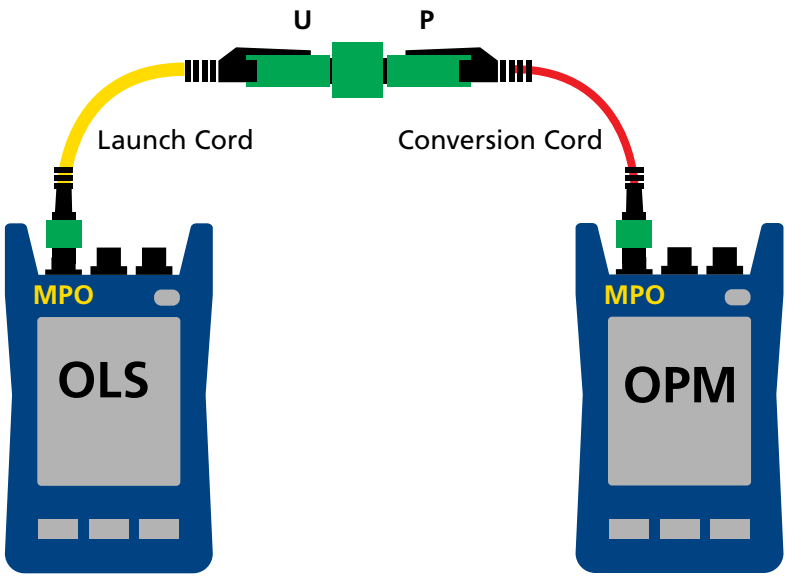
Cable Assemblies Required for Testing: Refer to AFL's Buyers Guide for cable assembly kit ordering information.

Test Diagram



Testing Cables Terminated with MPO-12 Pinned Connectors

Reference Diagram (1-Jumper)

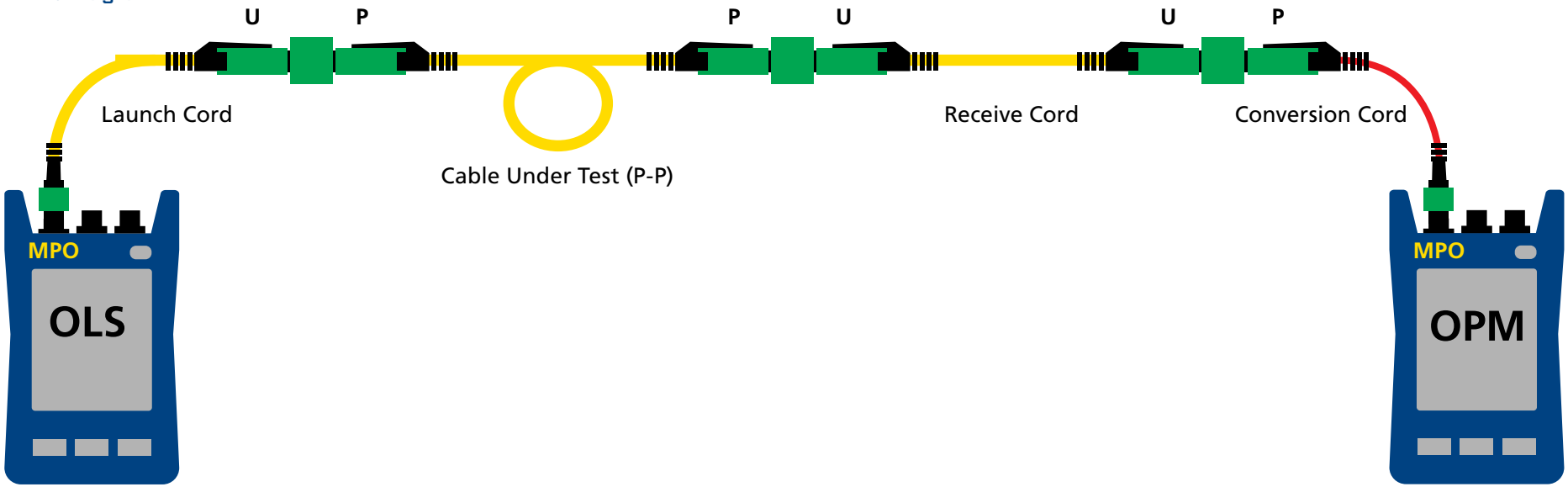


Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Legend:
P - Pinned
U - Unpinned

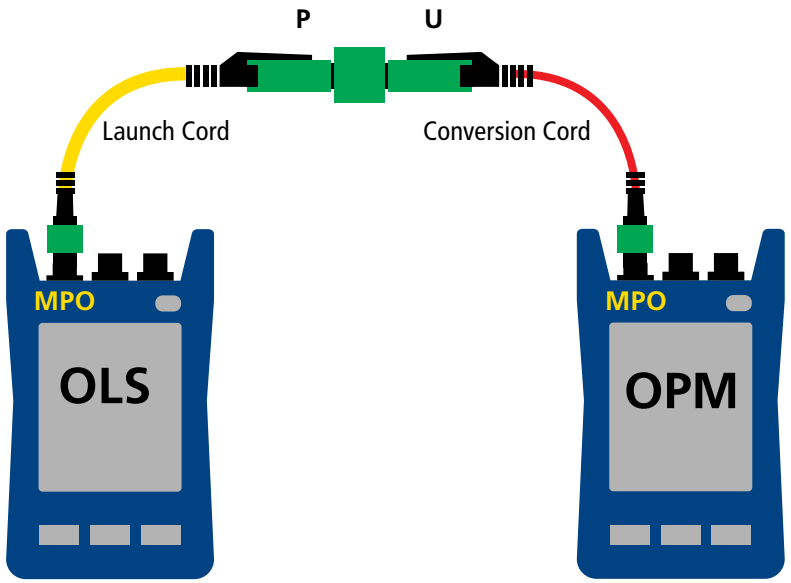
Cable Assemblies Required for Testing: Refer to AFL's Buyers Guide for cable assembly kit ordering information.

Test Diagram



Testing cables terminated with MPO-12 Unpinned Connectors

Reference Diagram (1-Jumper)

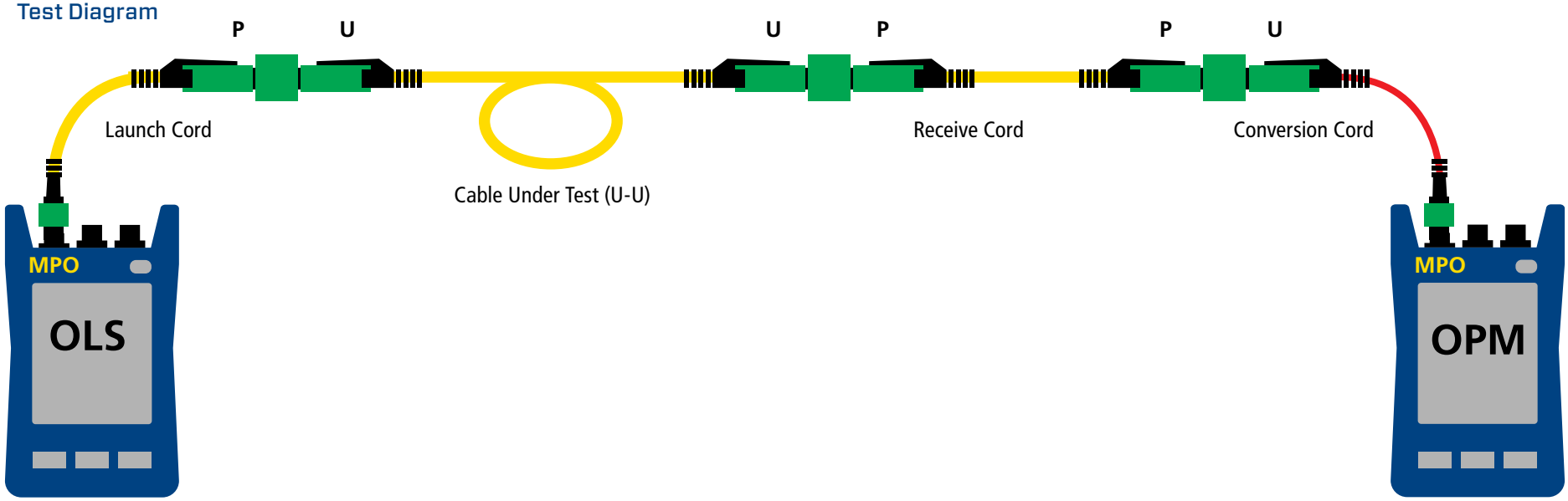


Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Legend:
P - Pinned
U - Unpinned

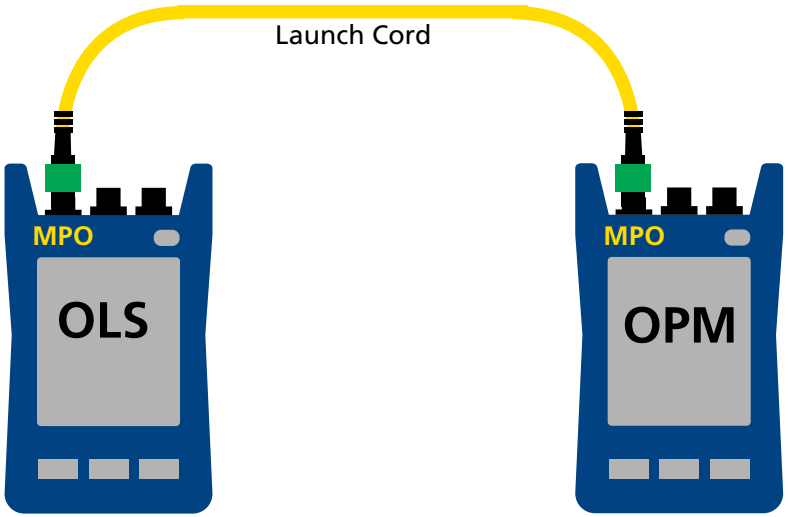
Cable Assemblies Required for Testing: Refer to AFL's Buyers Guide for cable assembly kit ordering information.

Test Diagram



Testing Cables terminated with MPO-16 Pinned Connectors

Reference Diagram (1-Jumper Method)

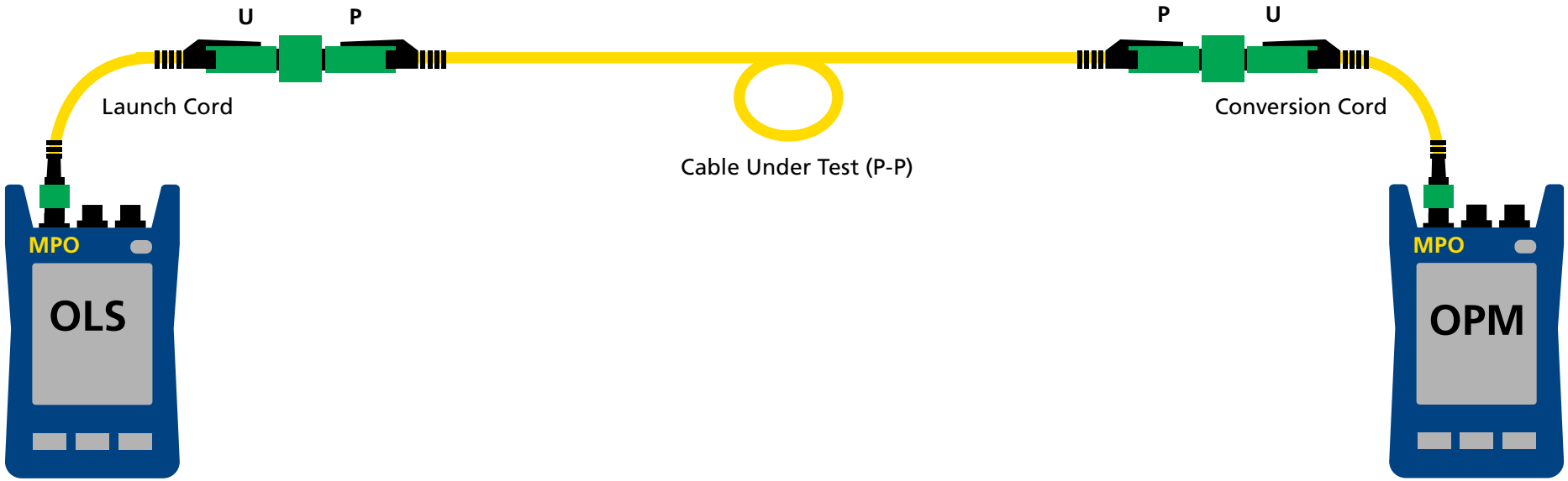


Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Legend:
P - Pinned
U - Unpinned

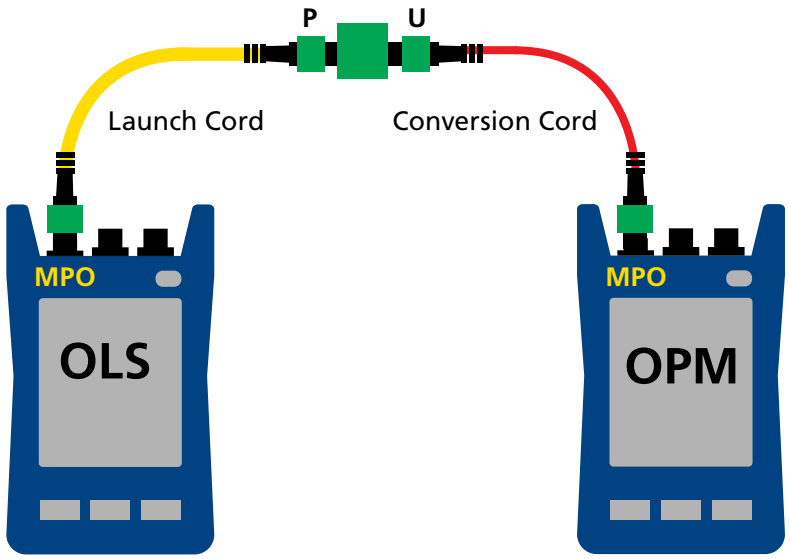
Cable Assemblies Required for Testing: Refer to AFL's Buyers Guide for cable assembly kit ordering information.

Test Diagram



Testing Cables Terminated with MPO-16 Unpinned Connectors

Reference Diagram (1-Jumper Method)

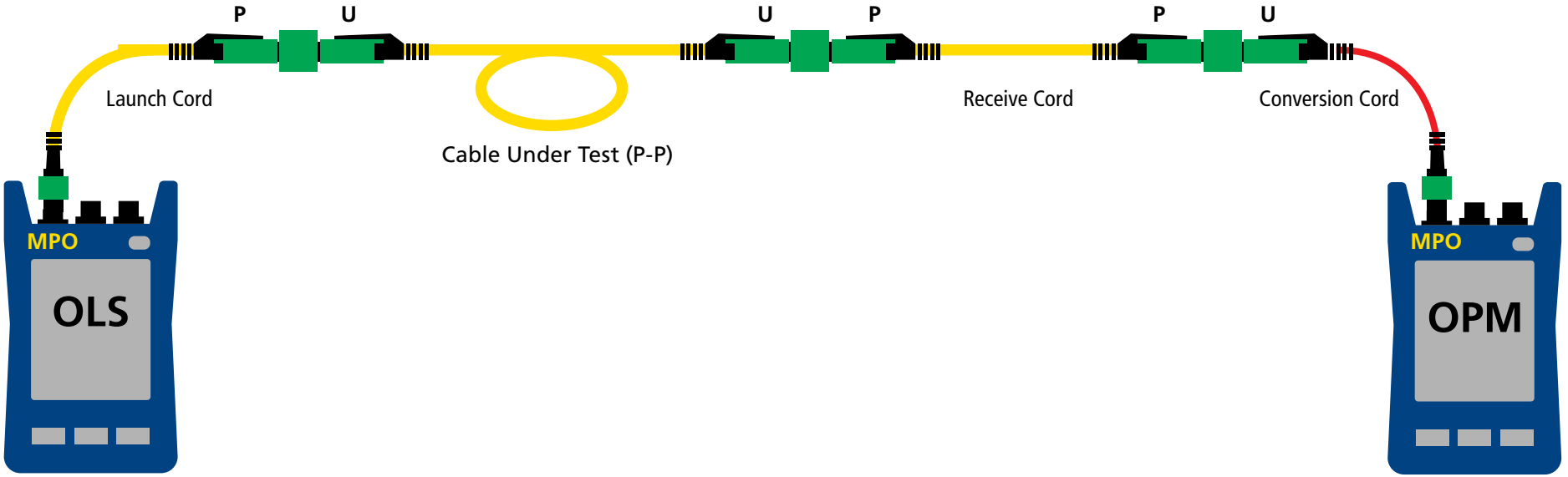


Important: Clean all fiber optic connectors and optical ports before performing test procedures described below!

Legend:
P - Pinned
U - Unpinned

Cable Assemblies Required for Testing: Refer to AFL's Buyers Guide for cable assembly kit ordering information.

Test Diagram

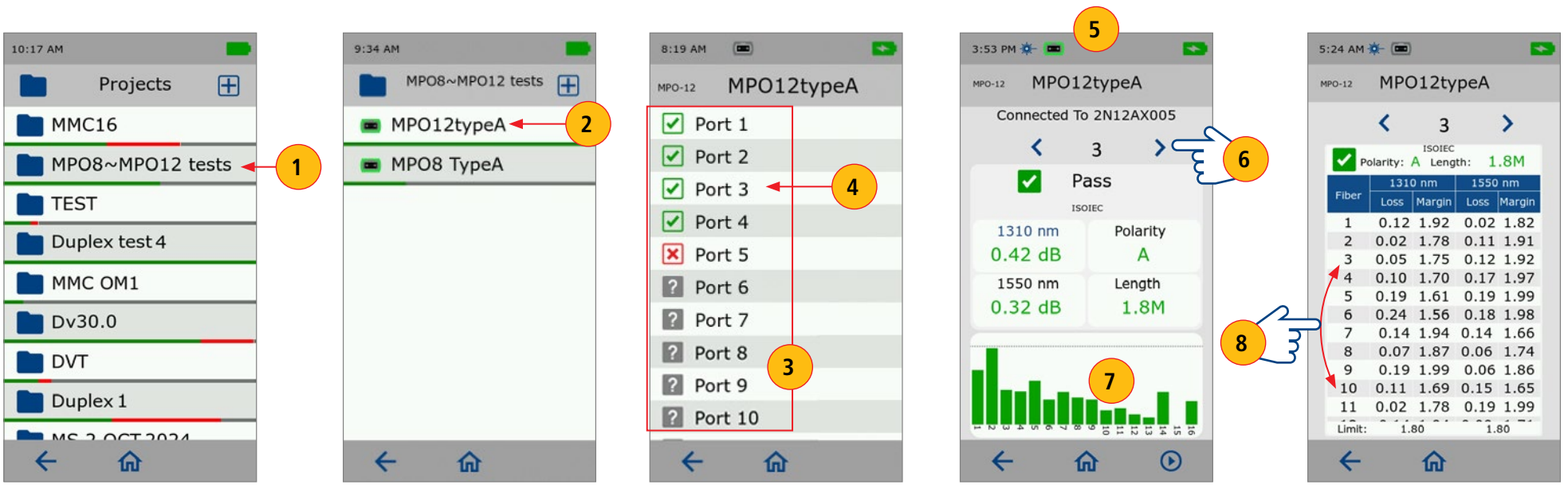


Viewing Results on the OPM Tester

Reviewing MPO Test Results (MPO Example)

On the OPM Tester

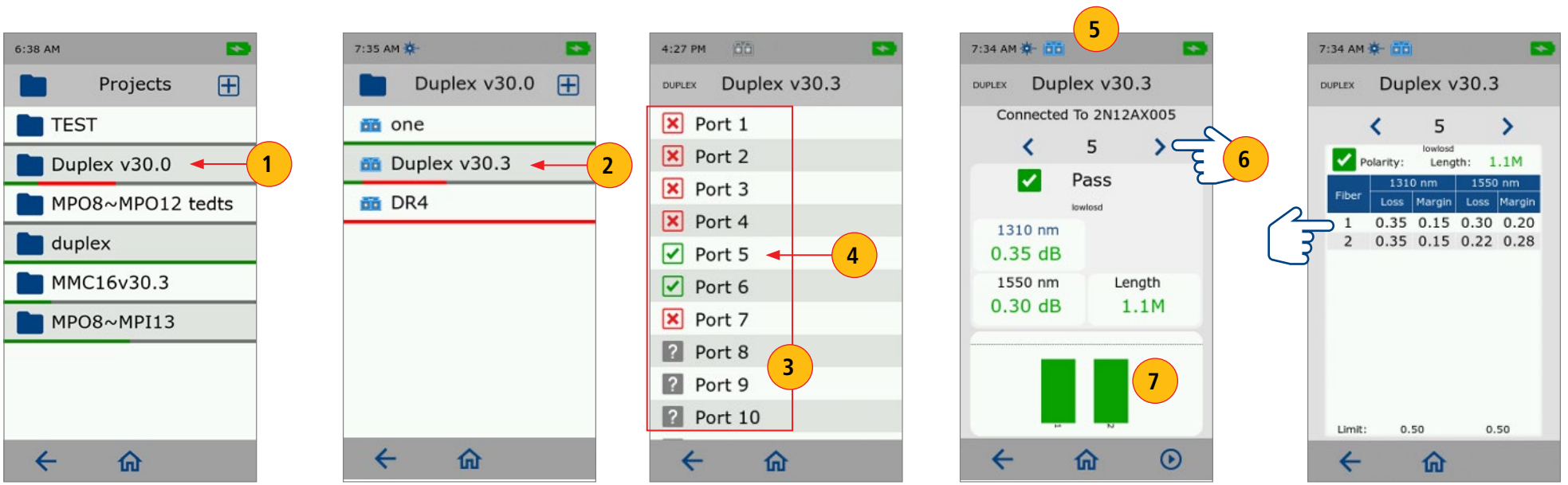
1. Select the desired Project > Fiber Group.
2. Tap on the selected Fiber Group name to display Ports test status.
3. Next, you will see the Ports status, which may be indicated as Pass/Fail/Not Tested as follows:
   ☑ - Pass ☒ - Fail ? - Not Tested
4. Touch the desired Port to display Pass/Fail screen.
5. The displayed Pass/Fail screen indicates pass/fail, polarity, loss, and length data for the selected Port.
6. Tapping on the left/right arrows will display previous/next Port data.
7. Tap on the Loss graph to display the loss details for all fibers in the selected Fiber Group.
8. When in the Loss Details screen, scroll up/down to see all fibers.



Reviewing Duplex Test Results (Duplex Example)

On the OPM Tester

1. Select the desired Project > Fiber Group.
2. Tap on the selected Fiber Group name to display Ports test status.
3. Next, you will see the Ports status, which may be indicated as Pass/Fail/Not Tested as follows:
   ☑ - Pass ☒ - Fail ? - Not Tested
4. Touch the desired Port to display Pass/Fail screen.
5. The displayed Pass/Fail screen indicates pass/fail, loss, and length data for the selected Port.
6. Tapping on the left/right arrows will display previous/next Port data.
7. Tap on the Loss graph to display the loss details for all fibers in the selected Fiber Group.



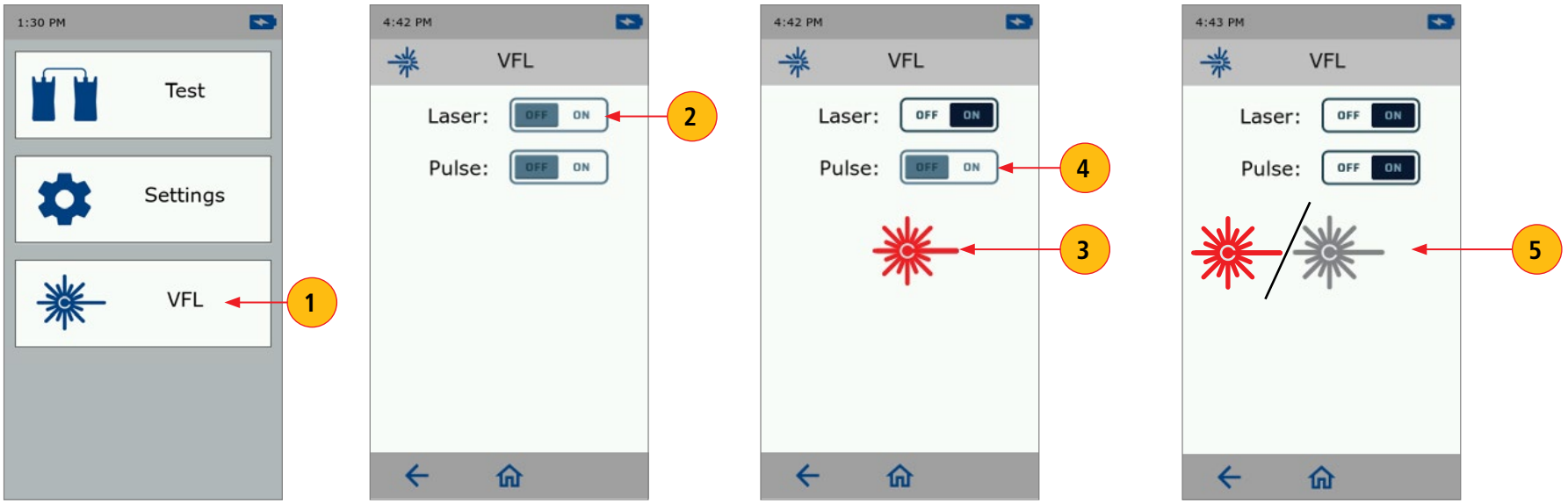
VFL Functionality on the OLS Tester

Enabling VFL

VFL functionality enabled on the OLS tester provides the following benefits:

- Allows installers to identify far-end connector.
- Assists cable installation by ensuring connector is installed in correct port or module.

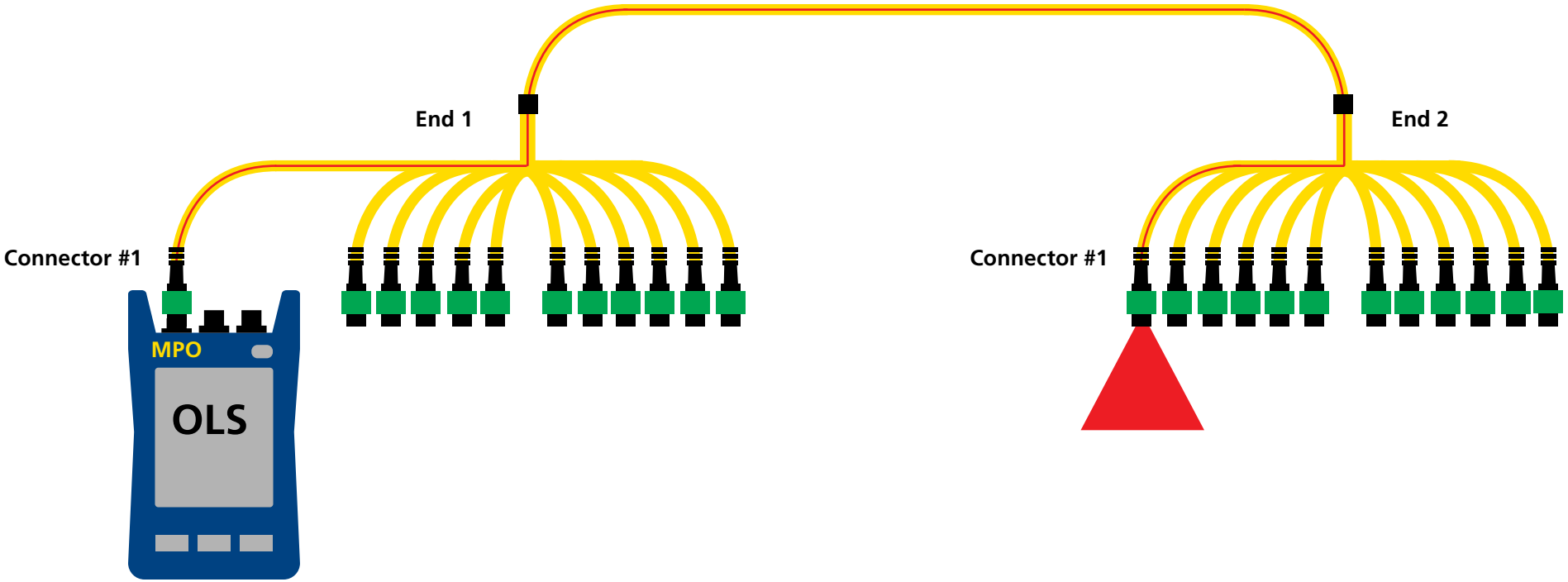
1. Touch the VFL button to access the VFL screen.
2. Touching the Laser toggle button will enable the Laser On.
3. When the Laser is enabled, you will see the Laser icon appears on the screen - Red = Continuous signal.
4. Touching the Pulse toggle button will enable the Laser Pulsing
5. When the Pulse option is enabled, you will see the Laser icon appears on the screen - Alternating Red/Gray = Pulsing signal.



Using VFL on the MPO Port

Below is an example on how to use the VFL for identifying the far-end connector and/or ensuring connector is installed in correct port or module.

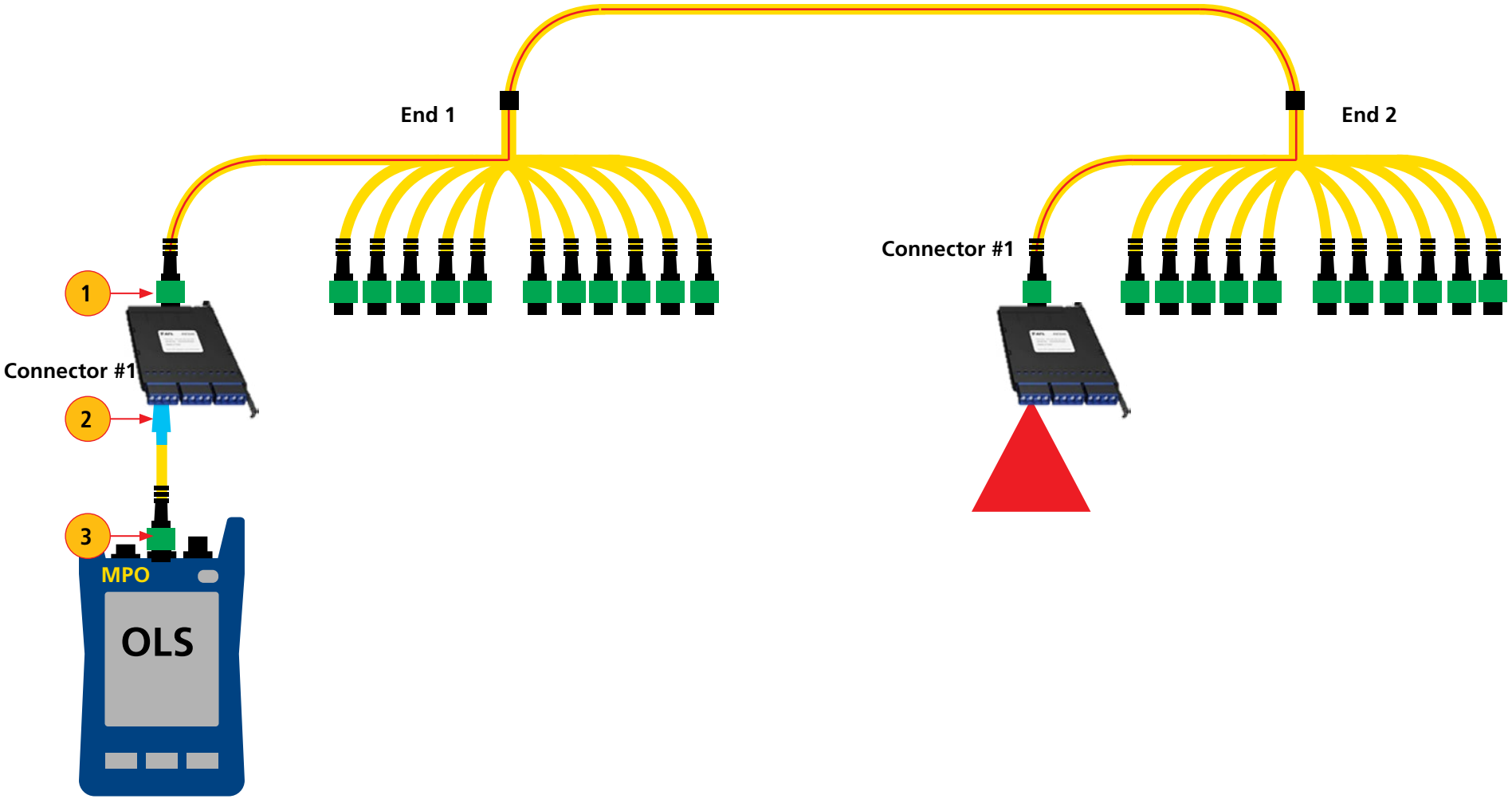
- At the End 1, connect the desired connector to the MPO port on the OLS tester.
- On the OLS tester, enable the VFL. See "VFL Functionality on the OLS Tester" on page 44
- At the End 2, the light will shine out of connector 1.



Using VFL on a Single Port

Below is an example on how to use the VFL for identifying the far-end connector and/or ensuring connector is installed in correct port or module.

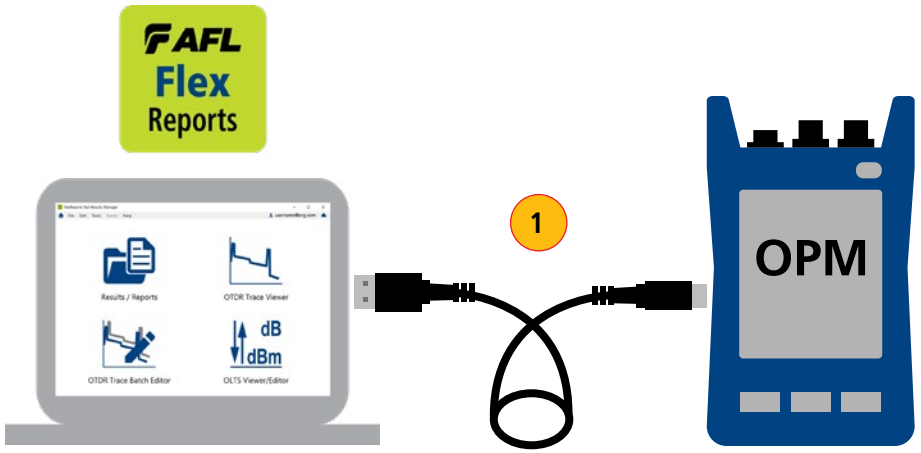
1. At the End 1, connect the desired MPO connector to the MPO-LC panel MOP connector.
2. Select the appropriate LC-SC test cord. Connect the LC end of the LC-SC test cord to the desired LC connector (in the example below, connector #1) on the MPO-LC panel.
3. Connect the SC end of the LC-SC test cord to the OLS test port on the OLS tester.
4. On the OLS tester, enable the VFL. See "VFL Functionality on the OLS Tester" on page 44
5. At the End 2, the light will shine out of connector 1.



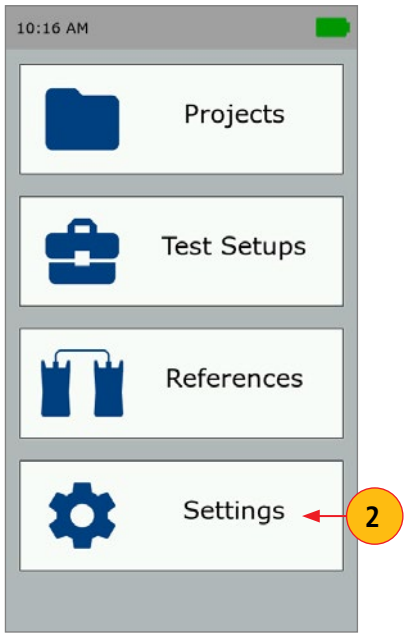
Transferring Results to PC

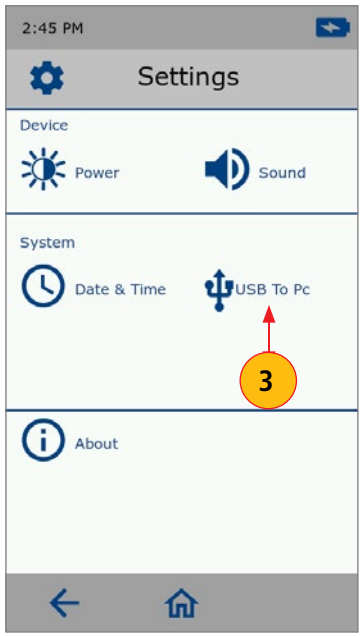
Test results saved on the OPM tester may be transferred to a PC for further analysis and reporting with AFL's FlexReposts software.

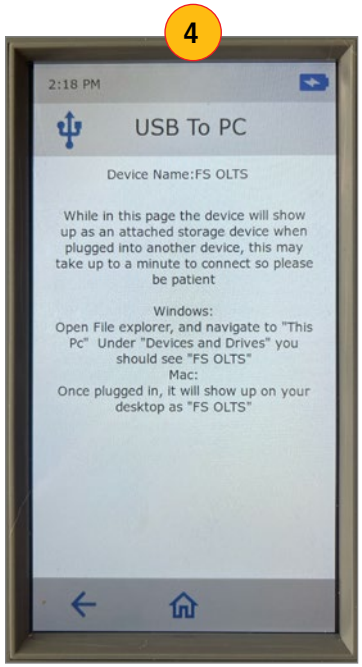
1. Connect you OPM tester to a PC
2. On the OPM tester, tap Setting.
3. Next, tap the USB to PC option.
4. Next, you will see the instructions screen.
5. Once you see the FS OLTS appears on you PC, navigate to the Results folder; click to open.
6. You should see you Projects folders just like you created and stored then on the OPM tester.

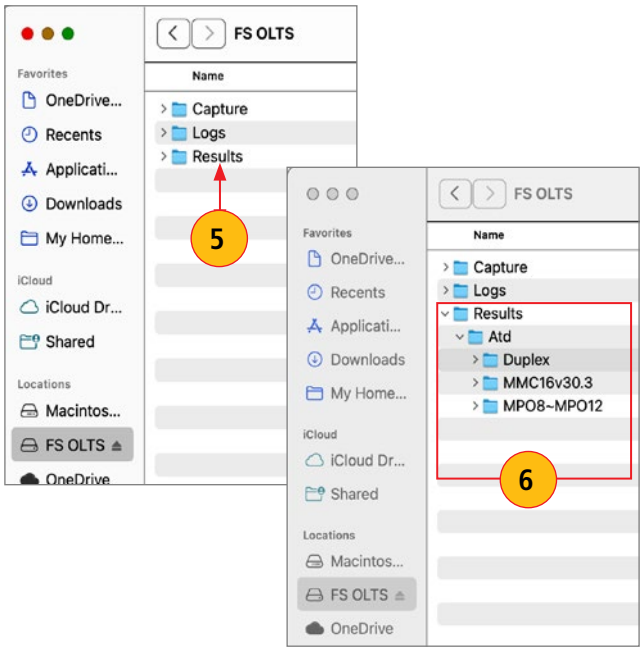


OPM Tester









Generating Reports with FlexReporter Software Suite

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

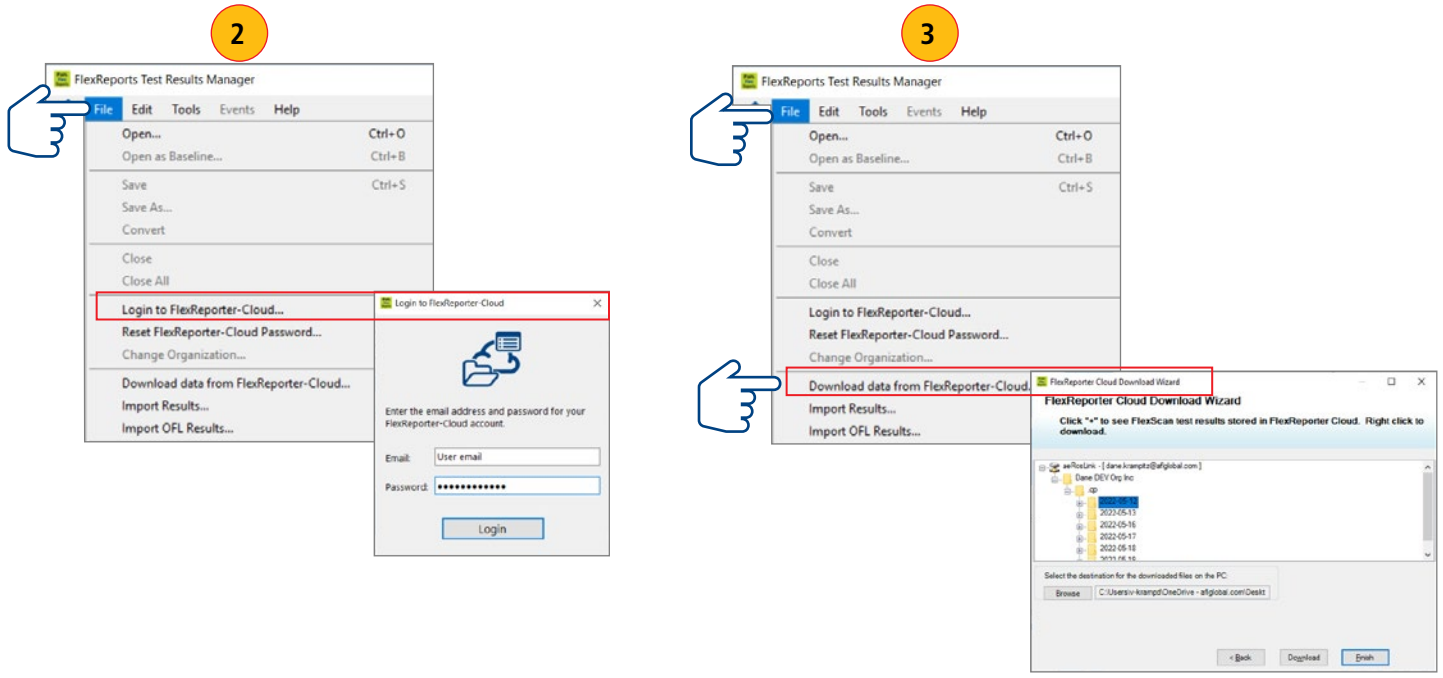
FlexReports is a Windows®-compatible PC software that provides comprehensive test results analysis and reporting for AFL FlexScan OTDRs, FOCIS inspection systems, OLTS, and OPM products.

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

Using FlexReports for Downloading Test Results from FlexReporter-Cloud

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

Download FlexReports



Generating Reports

See FlexReports User's Guide for detailed explanation.

Contacts

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