MPO Test Set
User Manual

The Solutionists®

Introduction

The FIS 12 fiber MPO test set, which is available in Multimode or Single mode configurations, is a two-piece kit that contains a power meter and light source designed to test and certify MPO-style cables quickly and easily. This set will provide the user with link attenuation readings (dB) over the 12 fibers in less than 15 seconds as well as the ability to verify A, B, C, and 40-Gig polarities. These units will work in virtually any MPO application.

The power meter has the ability for the user to set defined attenuation thresholds and will display a FAIL if any of the 12 fibers exceeds the threshold. If all fibers are within the threshold, a PASS will be displayed. This unit can also store up to 1,000 test results which can then be transferred via the provided USB cable to the PC reporting software, also included with the set.

The provided light source can emit optical signals at a constant rate or with various modulated tones. It is programmed to run an automated looped sequence through all 12 fibers, a manual sequence, to light up all 12 fibers at once, or emit fibers 1-4 and 9-12 for certain "40 gig" applications. Both units have an auto-off feature which will power down the unit after 10 minutes of being idle.

Tour of Units

A) Male MPO test port: Insert a female MPO connector into the power meter at all times.

B) Screen Heading: Whichever section of the interface you are currently in will be displayed here.

C) Wave length tested: The current wavelength that the meter is testing.

D) Battery indicator: Displays remaining battery life - when charging, indicator will flash.

E) Unit display: By pressing left/right arrows, toggle between dBm and dB units of measure.

F) Fiber count: Displays the fiber number within the MPO cable.

G) Power value: Displays the power value for each corresponding fiber number within the MPO cable.

H) Pass/Fail threshold value: This can be set in the options menu under "pass/fail thresholds".

I) Auto-Off: This feature is activated as the default setting every time the unit turns on. To de-activate it, short press the "on/off" button and it will disappear. To re-activate, simply short press "on/off" button again.

J) F-Keys: These soft keys will perform multiple functions at any given time in the unit. The command they perform will always be displayed just above each key.

K) Arrow Keys: These keys typically will allow the user move cursors and to make specific selections within the unit.

L) On/Off: This button powers the unit on and off. To turn on or off, long press this button for 3 seconds.

M) Zero/Test: This button has two functions. It will reference out the power value of the reference cord and also test for polarity.

N) Mini-USB port: Insert the USB data cable to the unit here and then connect to your PC to transfer data into the reporting software.


A
B
C
D
I
E
F
G
H
J
K
M
L
N
850 MM
METER
AUTO-OFF
dBm
01 -50.1
02 -50.5
03 -50.4
04 -50.7
05 -50.9
06 -50.6
07 -49.7
08 -50.1
09 -50.4
10 -50.4
11 -50.4
12 -50.4
P/F 0.30dB
Zero Ref
File
Options
F1
F2
F3
Zero/Test
ON/OFF

Power Meter Options

When turning the meter ON, you will be at the METER screen. To enter the OPTIONS screen press F3. Once in MENU OPTIONS, use the up/down arrows to move the cursor to your desired selection. Press F1 to make the selection and F3 to go back to the METER screen:

1) **Polarity Check**: When coupled with the light source, this feature will allow the user to check their cable for a variety of polarities. Use the arrow key to highlight your selection. Make sure to have the source in AUTO MODE and connected to the power meter when using this feature.

2) **Pass/Fail Thresholds**: Use this option to set your pass/fail threshold. You can set a threshold down to the hundredths of a dB (0.01). Use the left/right arrows to choose which placement to control (dictated by the underscore {_}) and then use the up/down arrows to the desired value. Press SET (F1) to lock in the new threshold. Resetting the threshold (F2) will default the value to 0.00dB at which no P/F threshold will be listed on the METER screen ("P/F is Off").

3) **Export Results**: Select this option when the POWER METER is connected to the PC. On the EXPORT screen you can use the up/down arrows to select to export a single file, a range of files, or all files. The up/down, left/right arrows will dictate which range of files will be exported. Press F1 to export.

4) **File Manager**: This option allows the user to recall or erase files. Follow the F-Key functions to carry out your commands.

5) **Backlight**: By highlighting this option, press F1 (select) to turn the backlight on or off.

Light Source

A) Male MPO test port: Insert a female MPO connector into the light source at all times.

B) Wavelength: The wavelength contained in the source

C) Screen Heading: Whichever section of the interface you are currently in will be displayed here

D) Mode Selected: This will display the mode the user has selected for the source in the options section.

E) Battery indicator: Displays remaining battery life, when charging, indicator will flash

F) Fiber count (channel): Displays the fiber number order within the MPO cable

G) Source Icon: This icon indicates if the channel is illuminated.

H) Auto-Off: For the source, this feature is **de-activated** as the default setting every time the unit turns on. To activate it, short press (or tap) the "on/off" button and "AUTO-OFF" will appear on top right of screen. To de-activate, simply short press "on/off" button again and "AUTO-OFF" will disappear.

I) F-Keys: These soft keys will perform multiple functions at any given time in the unit. The command they perform will always be displayed just above each key.

J) Arrow Keys: These keys typically will allow the user to move cursors and to make specific selections within the unit.

K) Modulation Mode: When on the "Source" screen, pressing F-3 will toggle between a constant source or a modulated frequency (tone).

L) On/Off: This button powers the unit on and off. To turn on or off, long press this button for 3 seconds.

M) Scan: Will toggle the source on and off.


A
B
C
G
F
E
D
H
K
I
J
M
L
850 MM
SOURCE
Auto mode
AUTO-OFF
Ch 1
Ch 2
Ch 3
Ch 4
Ch 5
Ch 6
Ch 7
Ch 8
Ch 9
Ch 10
Ch 11
Ch 12
CH
270 Hz
1 kHz
2 kHz
Source
Options
Frequency
F1
F2
F3
SCAN
ON/OFF
fis

Light Source Options/Operation

****PLEASE NOTE**: Before taking a reference, please let the source cycle through in AUTO MODE for roughly five minutes in order to stabilize the power output of the source.**

"In certain temperature conditions especially when using the Single mode test kit, it may be necessary to re-reference roughly 10 minutes after the initial reference. As is the case with any light source & power meter setup, if at some point the test results seem skewed or unexpected, the primary tactic the user should take is re-referencing the source to the meter. Make sure to always practice proper cleaning procedures on all connectors and equipment during this process."

When the unit is turned on you will be on the SOURCE screen. Once FIS splash screen disappears the source will be running in AUTO MODE, which is the default operation. This mode will continuously cycle through the 12 channels until you press F1 again. You will notice a lightly shaded round icon moving through the channels when the source is active. When the icon goes dark, the source is off. To change the mode at which the source operates, select F2 to go into the OPTIONS screen. Only plug female MPO/MTP connectors into the light source at all times.

Options: Here you can use the up/down arrow keys to highlight the different modes of operation:

A) Auto Sequence: Continuous cycle through all 12 channels on the SOURCE screen, turned on and off by pressing F1

B) Manual Sequence: Once selected, the user can control, on the SOURCE screen, which channel gets illuminated by using the up/down arrows to highlight a particular channel and the F1 (source) key to turn the source on or off.

C) All On: Choosing this mode will allow the user to illuminate all channels at once when F1 is pressed on the SOURCE screen. It will run for a maximum of 10 seconds before turning off. You can turn it off sooner by pressing F1 again.

D) 40 Gig Sequence: This mode will run a continuous cycle through channels 1 through 4 and 9 through 12 only on the SOURCE screen, turned on and off by pressing F1.

Power Meter Operation

Taking a reference and test: *Two reference cord method*

a. First turn on light source and press F1 to run source in Auto Mode (default setting). Let it cycle through for about five minutes.
b. Clean the power meter port (male) as well as the female MPO connector you are plugging in. Please do the same for the Light Source port, which is also male.
c. Make sure you only insert female MPO connectors into the power meter at all times.
d. Once the source has stabilized after five minutes, connect your Type A polarity reference cords (provided) to the power meter and light source. Use the provided mating sleeve in the kit to connect the two reference cords together between the meter and source (male to female).
e. Now, while the light source is sequencing through, turn the power meter on and confirm that the meter is reading power (dBm) on each channel as the source sequences through.
f. When ready, press F1 on the METER screen ("Zero Ref") to take a power reference
g. Follow the on screen instructions…
h. Once the reference is complete, disconnect the reference cords from each other in the middle and introduce the cable under test in between them.
i. Once the 'cable under test' cable is introduced, highlight the polarity type of the cable you will be testing with the arrow cursor and press F1 when ready to test.
j. The Power Meter will now automatically go back to the METER screen and run a relative loss test; the value of measurement will be in dB.
k. Once the source has scanned all 12 fibers, the Meter will have the loss (dB) values displayed and only if a P/F threshold was set, a PASS or FAIL will be displayed on the screen along with the user defined threshold. If one fiber exceeds the set thresh old the entire test fails. A "P" represents an individual fiber passed and an "X" is an individual fiber that failed.

Saving a file

1) Once a test has completed you can press F1 (SAVE FILE) to enter the file manager screen.

2) Now, you will notice current test results and the world FILE: ###. The meter will default to the lowest file number that is available for the test to be saved under.

3) If you wish to save the test results under a different file number, use the left/right arrow keys to select the file number you wish to save it under. Hold the left/right arrow key down to scroll through the file numbers faster.

4) If the file number is already taken it will say "used", if not, it will say "free". You can either overwrite a used file or save into a free spot.

5) The unit will always default to the next available free file slot for which to save.

6) Once file desired file location is set, press F1 (Save) to confirm and file will be saved.

7) Pressing F2 (Recall) will allow the user to view previously saved files, with the option to erase or export the current recalled file. Again, the left/right arrow keys will allow you to scroll through the files.

8) Once the present file is recalled, you can export, or erase the file by following the on-screen commands assigned to the F-Keys on the unit.

9) You can also perform these functions in the file manager section of the OPTIONS screen.

Exporting files to the reporting software

A. Download the reporting software to your PC from the provided USB memory stick. If the memory stick is lost or not available you can download it from our website at www.fiberinstrumentsales.com/downloads.

B. Open up the folder: "MPO_Test_Report 2.6", then click on application file "MPO_Test_Report"

C. The software will prompt you to connect the cable and to select a folder for storage.

D. Using the provided USB serial cable, connect the meter to your PC.

E. You can select the provided default folder or create your own, then select the folder.

F. Then the software will tell you to select a COM port to connect the unit with the PC software.

G. Select available COM port. The software will confirm if meter is connected to PC.

H. Within the Options menu on the power meter, select EXPORT RESULTS.

I. You can now choose between exporting a single file, a range of files, or all files. Toggle up/down, left/fight keys to navigate.

J. When ready, select Export (F1), the selected files will soon appear on the left side of the computer screen within the reporting software.

K. Each file (i.e. 001) will contain the test results from the 12 channels.

To generate a report in PDF:

- On the top menu, click "Reports"
- Then choose either "Generate" to convert highlighted file only, or "Generate All" to generate all exported files
- To generate all files into a report, click "Generate All". This will convert all files currently exported into a PDF. Each file will have its own page but all will be included in the same PDF file.

Notes:

Notes:

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