

# OFT-4212R

## Fiber optic 4 channels optical test station

### Description:

OFT4212R is a connector assembly test station, equipped with set of Light sources, Optical Return Loss module, four channel power meter and control unit with touch display.

This solution provides full automated test of connector with graphical guidance.

Serial numbers of tested connectors can be entered manually or by QR code reader.

Measured values are checked if they are within expected range, then displayed in GREEN or RED color as a warning.

If there is a warning, the measurement can be easily repeated.

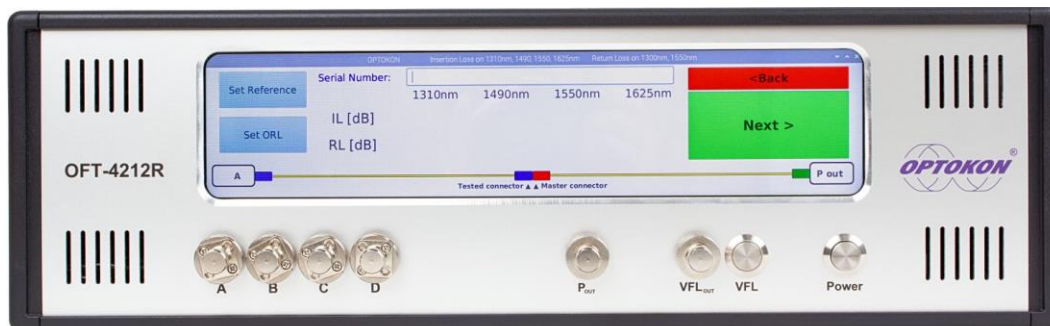
All measured data are automatically stored on local SSD.

### Applications:

Connector test with Insertion loss at 1310, 1490, 1550 and 1625 nm, Return loss at 1310 and 1550 nm:



Front panel view – comfortable testing procedure:

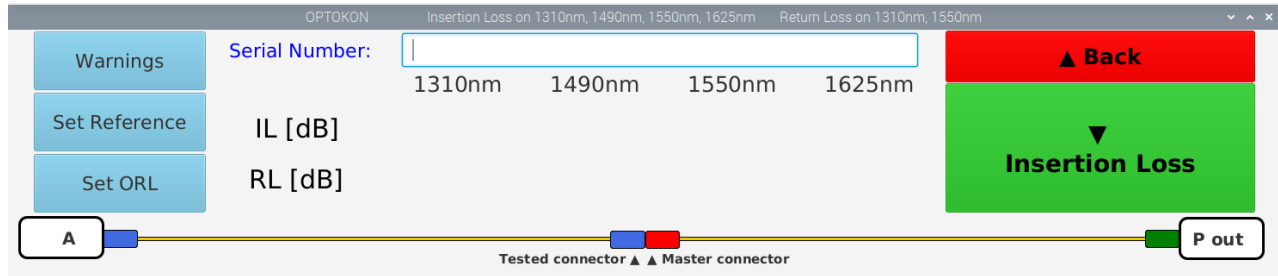


## Specification:

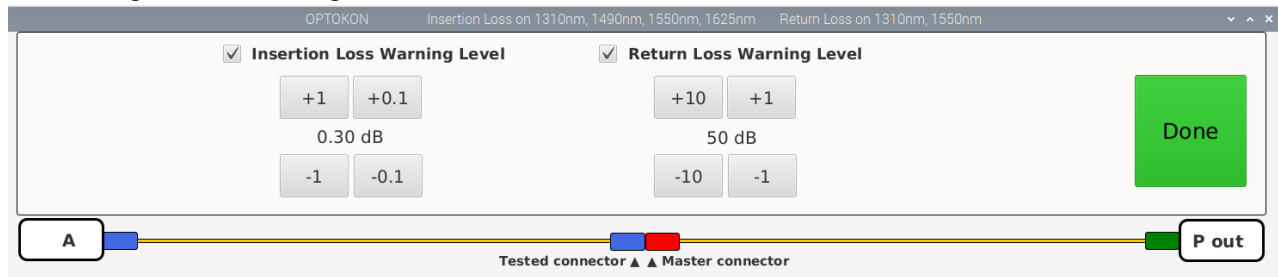
Light source	
Interface	FC/APC
Working wavelengths	850, 980, 1310, 1383, 1490, 1550, 1625 nm
Wavelength accuracy	± 2.0 nm
Wavelength stability, 24 hrs	± 0.1 nm
Output power	0 dBm
Accuracy	± 0.3 dB
VFL – visual fault locator, wavelength	650 nm
Power meter	
Interface	FC, SC, LC, universal 2.5 mm, 1.25 mm
Photodetector	InGaAs
Spectral wavelength	850-1700 nm
Calibrated wavelengths for SM measurement	1310, 1383, 1550, 1625 nm
Dynamical range	-50 to +10 dBm
Uncertainty	± 5 %
Resolution	0.01
Displayed units	dBm, dB, W
Return loss meter	
Dynamic range	0-70 dB
Working wavelength	1550 nm
Accuracy	0-50 dB: 0.5 dB 50-70 dB: 1.0 dB
Other functionality	
SW for temporal data collection and storage	4 channels
Memory capacity	5000
Display results simultaneously in all 4 channels	Text / graphical

## Single channel connectors – testing procedure:

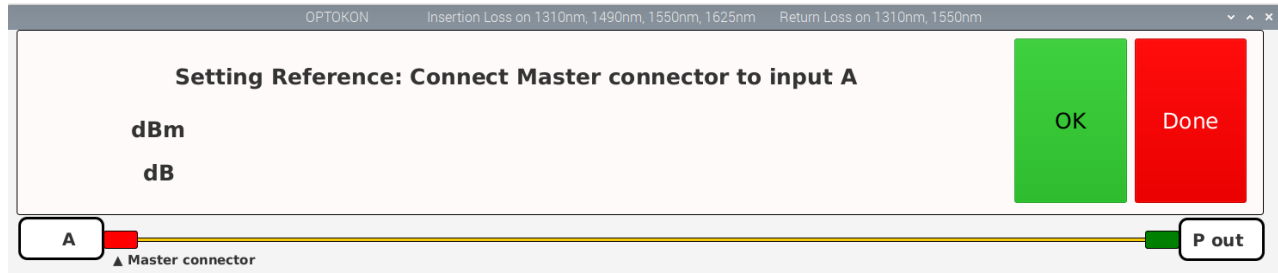
### 1. Connector serial number writing:



### 2. Testing tolerancings settings

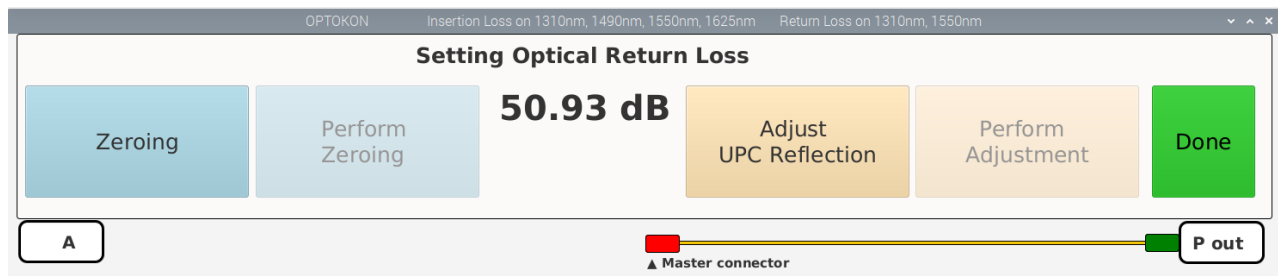


### 3. Insertion Loss Reference settings



### 4. Adjusting optical Return Loss

#### 4.1.



### 4.2

The screenshot shows the 'Setting Optical Return Loss' window. At the top, it displays 'OPTOKON' and 'Insertion Loss on 1310nm, 1490nm, 1550nm, 1625nm' and 'Return Loss on 1310nm, 1550nm'. The main display shows a large '50.93 dB' value. Below this are buttons for 'Zeroing', 'Perform Zeroing', 'Adjust UPC Reflection', 'Perform Adjustment', and 'Done'. At the bottom, there is a diagram of a fiber cable with a red 'Master connector' at point 'A' and a green 'P out' connector at the end.

### 4.3

The screenshot shows the 'Setting Optical Return Loss: Apply Mandrel Rot' window. It displays '70.00 dB' in the center. The interface includes 'Zeroing', 'Perform Zeroing', 'Adjust UPC Reflection', 'Perform Adjustment', and 'Done' buttons. The bottom diagram shows a fiber cable with a red 'Master connector' at point 'A', a yellow 'Mandrel Rot' section in the middle, and a green 'P out' connector at the end.

## 5. DUT connection

The screenshot shows the 'DUT connection' window. It features a 'Serial Number' field with the value 'test'. Below it are columns for '1310nm', '1490nm', '1550nm', and '1625nm'. On the left, there are buttons for 'Warnings', 'Set Reference', and 'Set ORL'. On the right, there are 'Back' and 'Insertion Loss' buttons. The bottom diagram shows a fiber cable with a blue 'Tested connector' and a red 'Master connector' at point 'A', and a green 'P out' connector at the end.

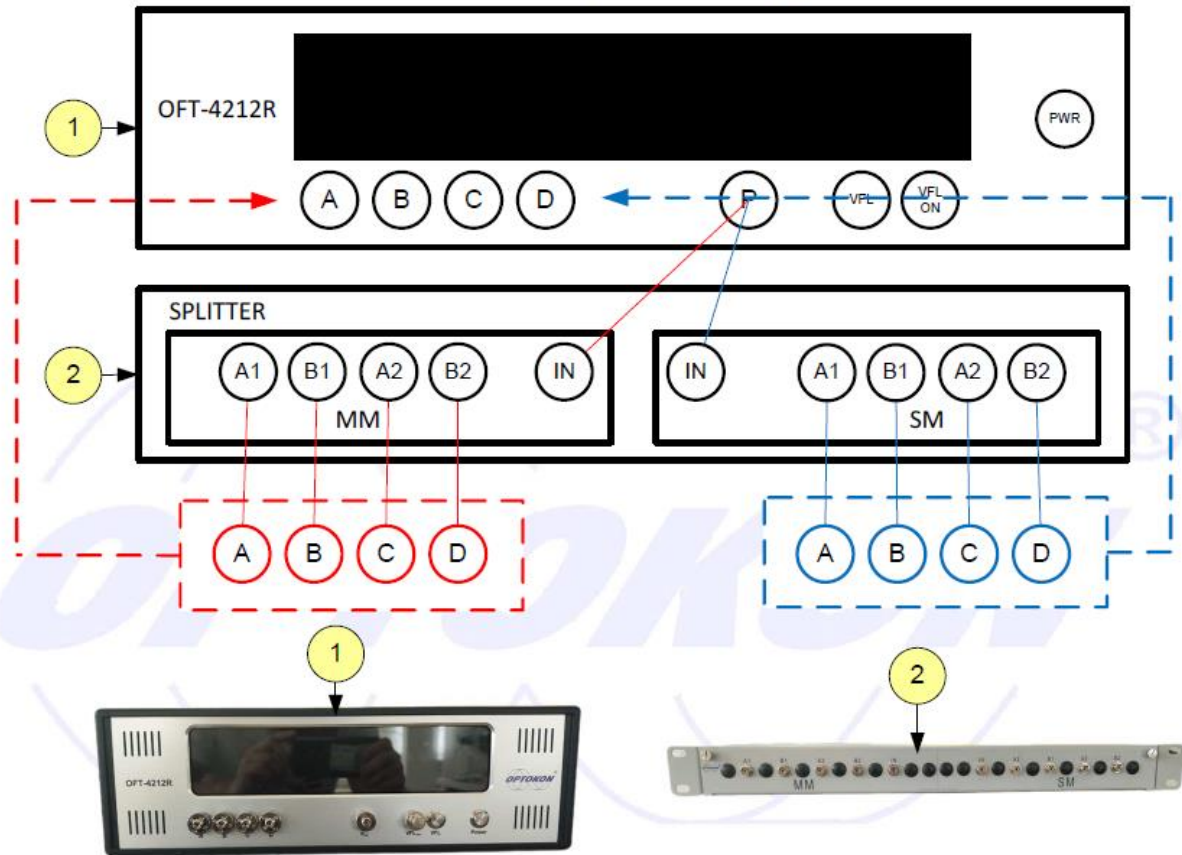
## 6. Test results reading, data saving

The screenshot shows the 'Test results reading, data saving' window. It displays the same 'Serial Number' field with 'test'. The 'IL [dB]' row shows values: 0.01, -0.00, -0.00, -0.03. The 'RL [dB]' row shows values: 70.00, 65.74. On the right, there are 'Back' and 'New Serial Number' buttons. The bottom diagram is identical to the previous screenshot, showing the fiber cable setup with 'Tested connector', 'Master connector', and 'P out'.

## Multi fiber connector up to 4 fibers with Insertion loss at 1310, 1490, 1550 and 1625 nm.

4x output from LS – external splitter unit for testing of multi channels connectors:

### OFT-4212R + splitter MM/SM



## Testing procedure:

- Connector serial number writing:

- Testing tolerancies settings

- Insertion Loss Reference settings

- Test results reading, data saving

Serial Number:	1310nm	1490nm	1550nm	1625nm
A	-0.13	-0.14	-0.11	-0.13
B	-0.12	-0.11	-0.09	-0.13
C	-0.10	-0.11	-0.13	-0.14
D	-0.09	-0.08	-0.09	-0.13