

## 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.

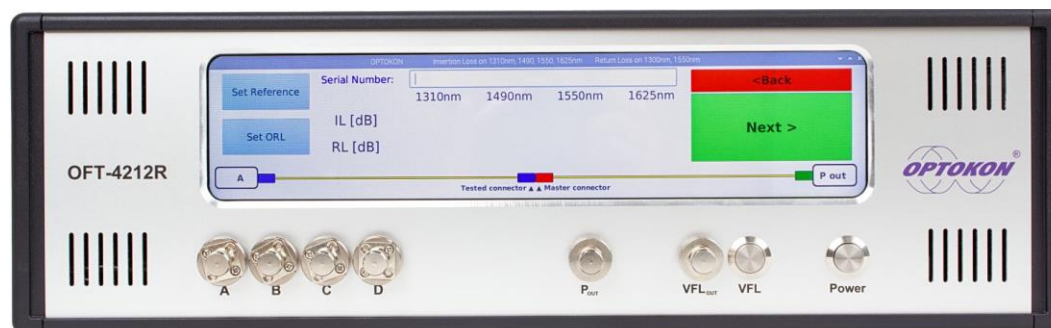
All measured data are automatically stored on local SSD.

#### 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:

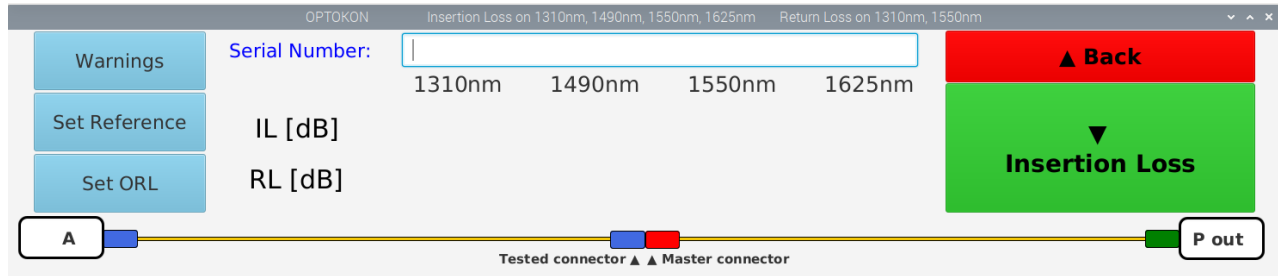


## Specification:

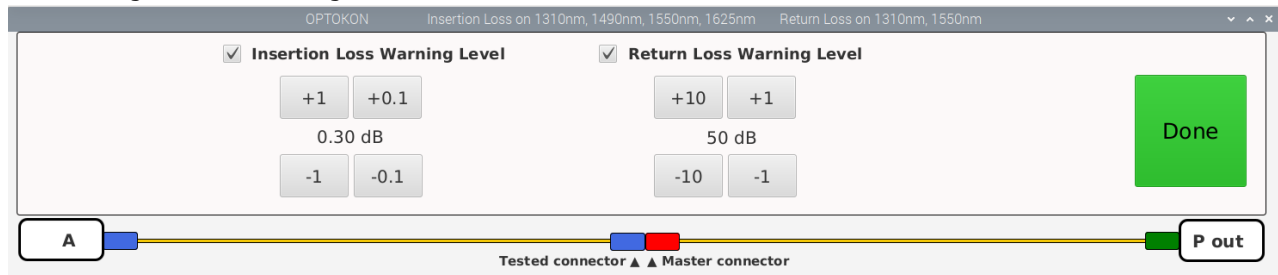
|                                                  |                                           |        |  |
|--------------------------------------------------|-------------------------------------------|--------|--|
| Light source                                     |                                           |        |  |
| 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:

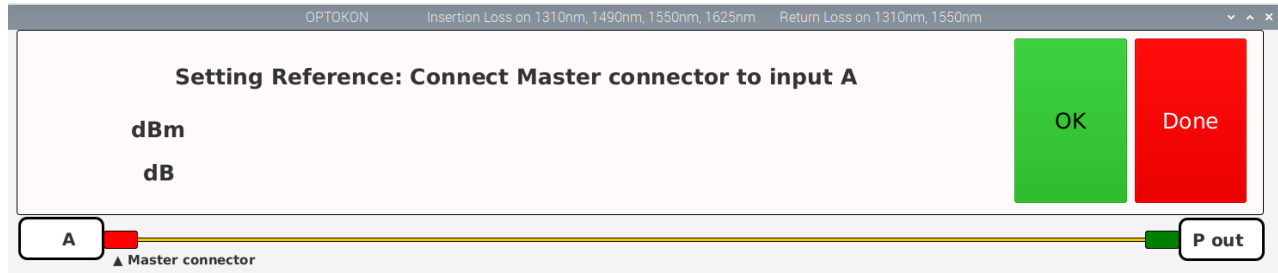
### 1. Connector serial number writing:



### 2. Testing tolerancies settings

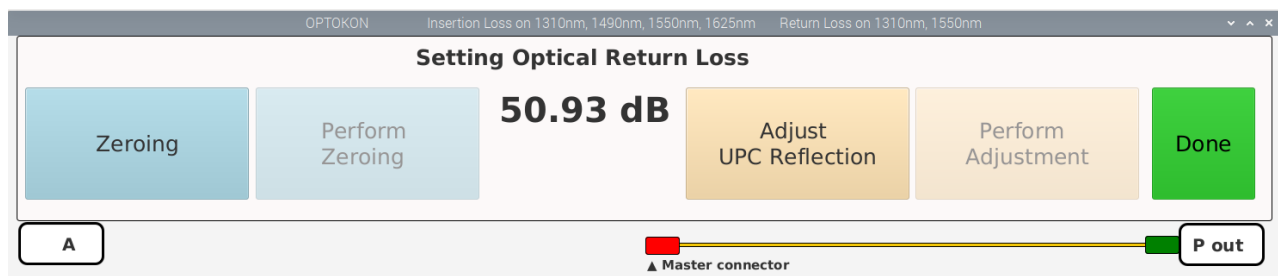


### 3. Insertion Loss Reference settings



### 4. Adjusting optical Return Loss

#### 4.1.



## 4.2

OPTOKON Insertion Loss on 1310nm, 1490nm, 1550nm, 1625nm Return Loss on 1310nm, 1550nm

### Setting Optical Return Loss

Zeroing
Perform Zeroing
**50.93 dB**
Adjust UPC Reflection
Perform Adjustment
Done

A
Master connector
P out

## 4.3

OPTOKON Insertion Loss on 1310nm, 1490nm, 1550nm, 1625nm Return Loss on 1310nm, 1550nm

### Setting Optical Return Loss: Apply Mandrel Rot

Zeroing
Perform Zeroing
**70.00 dB**
Adjust UPC Reflection
Perform Adjustment
Done

A
Master connector
Mandrel Rot
P out

## 5. DUT connection

OPTOKON Insertion Loss on 1310nm, 1490nm, 1550nm, 1625nm Return Loss on 1310nm, 1550nm

Warnings
Serial Number: test
1310nm 1490nm 1550nm 1625nm
Set Reference IL [dB]
Set ORL RL [dB]
Back
Insertion Loss

A
Tested connector
Master connector
P out

## 6. Test results reading, data saving

OPTOKON Insertion Loss on 1310nm, 1490nm, 1550nm, 1625nm Return Loss on 1310nm, 1550nm

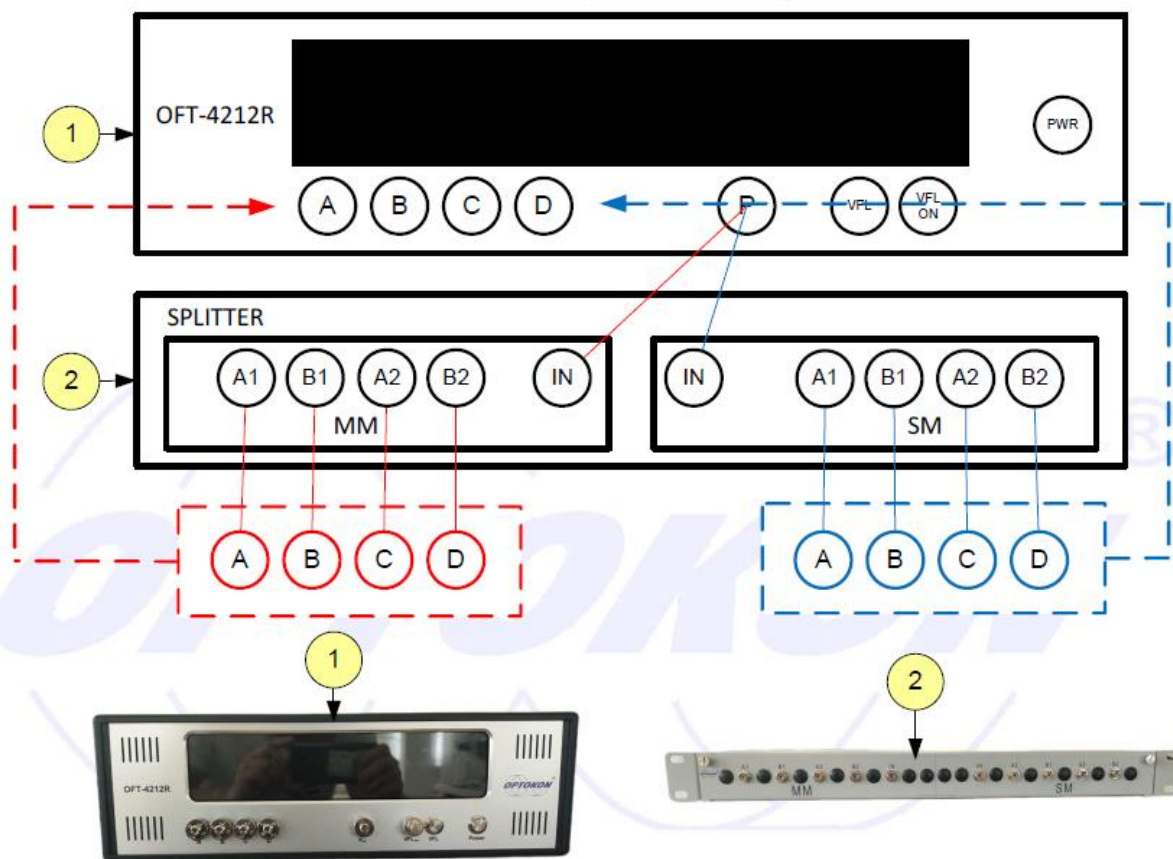
Warnings
Serial Number: test
1310nm 1490nm 1550nm 1625nm
Set Reference IL [dB] 0.01 -0.00 -0.00 -0.03
Set ORL RL [dB] 70.00 65.74
Back
New Serial Number

A
Tested connector
Master connector
P out

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

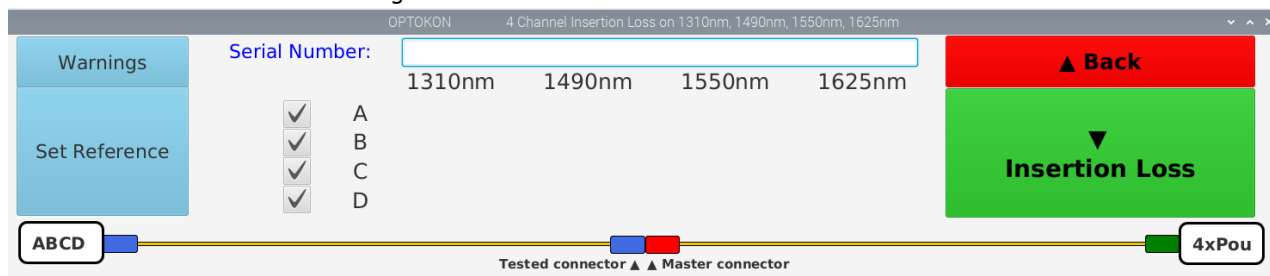
4x output from LS – external splitter unit for testing of multi channels connectors:

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

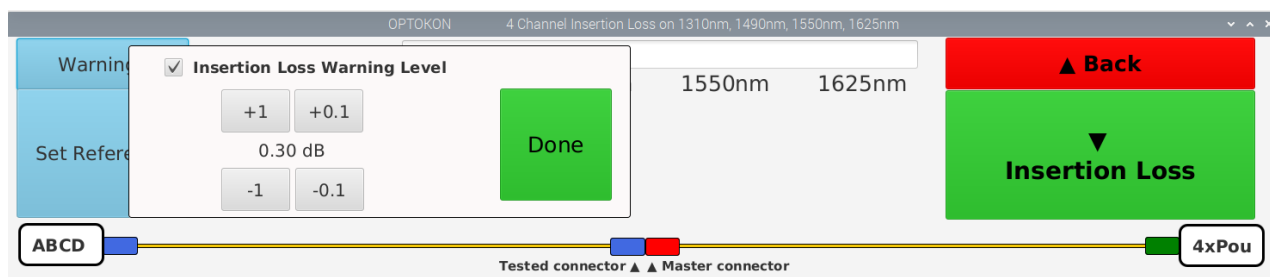


## Testing procedure:

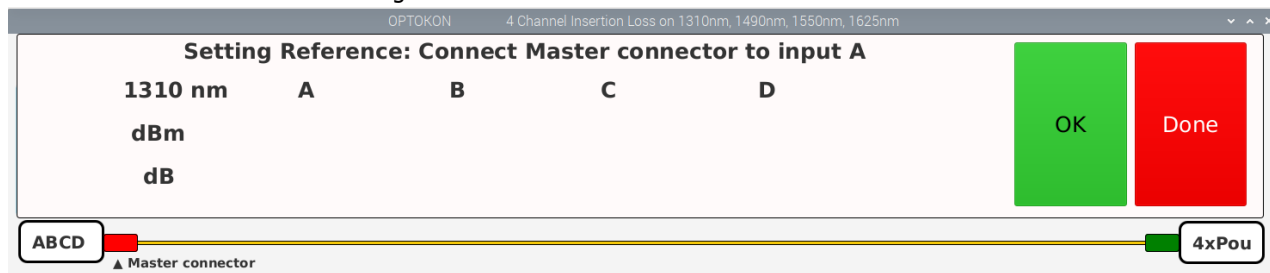
- Connector serial number writing:



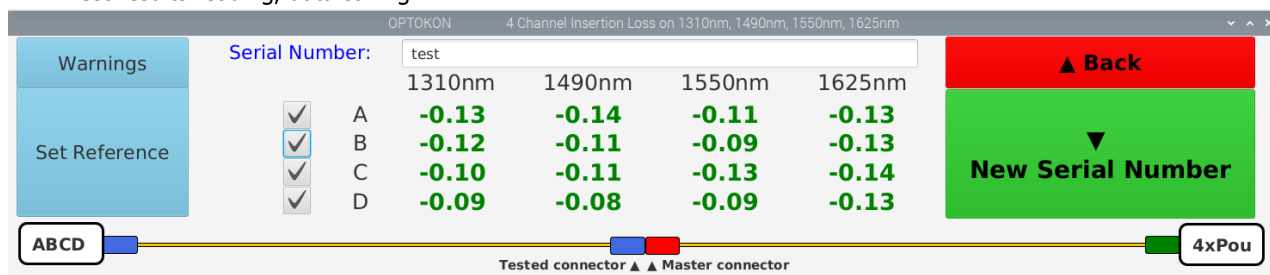
- Testing tolerancies settings



- Insertion Loss Reference settings



- Test results reading, data saving



|   | 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  |