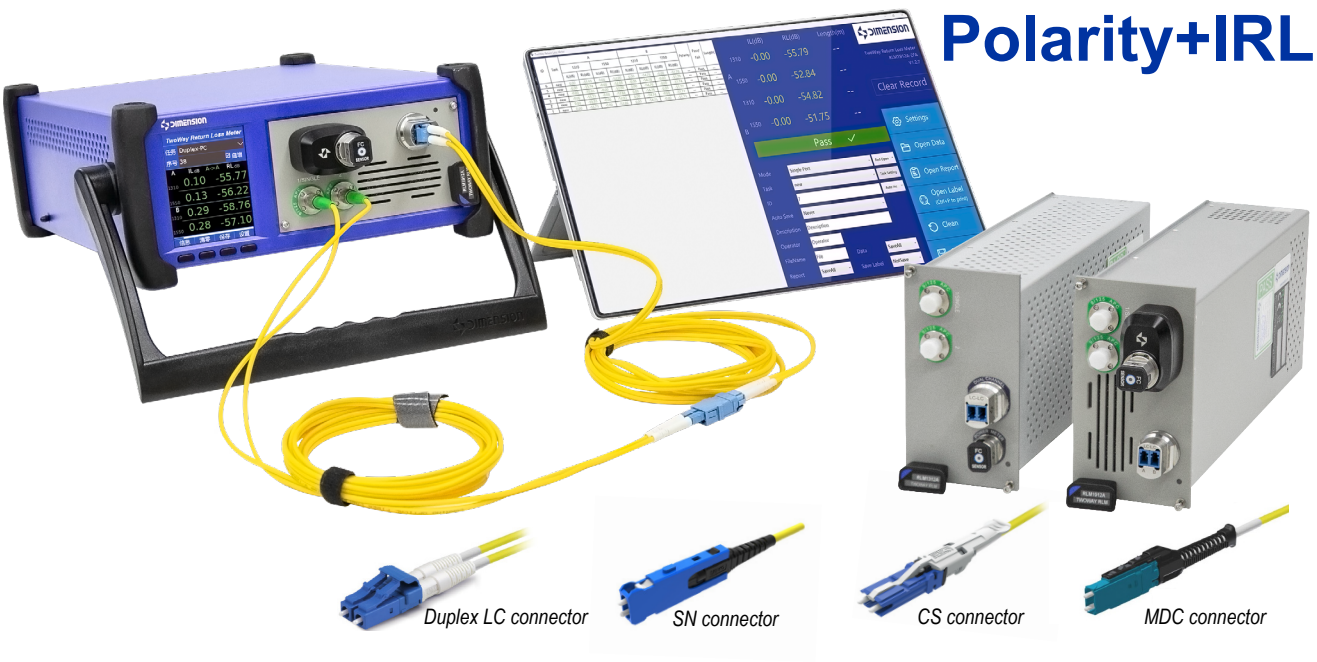
# TwoWay Fiber Polarity and Return Loss Meter




The TwoWay Dual-Channel Polarity and Return Loss Tester is an innovative product from Dimension Technology, designed to address current challenges in testing duplex fiber jumpers. It employs a groundbreaking design concept that enables simultaneous automatic testing of IL, RL, and Polarity. The concurrent testing time for IL, RL, and Polarity is less than 1.2 seconds (in fast mode), significantly improving testing efficiency and reducing customer equipment investment costs. While enhancing efficiency, it also ensures the measurement reliability of IL and RL, achieving a minimum detectable return loss of -80dB (single-mode). The fast and accurate measurement capabilities of TwoWay make it an effective tool for enhancing production efficiency and quality control.

## Main Features

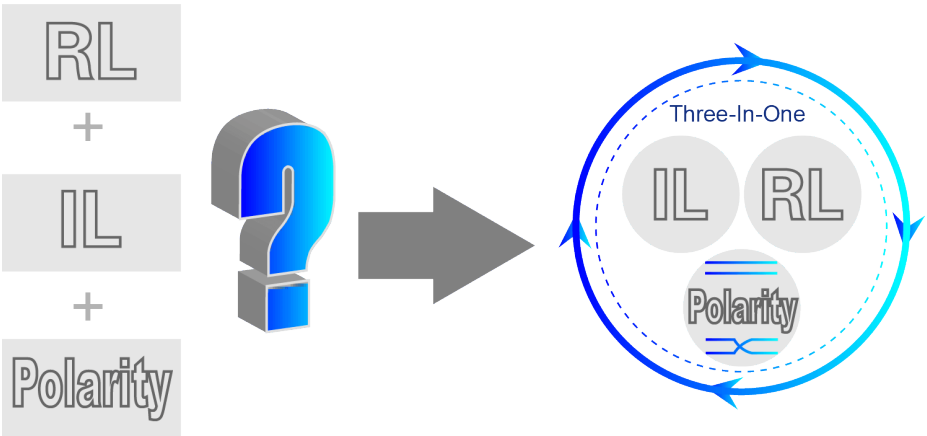
- Integrated Automatic Testing of Duplex Fiber IL, RL, and Polarity
- Tangle-free RL testing; IL, RL, and Polarity measurement time under 1.2s
- Saves workstation space and increases production test efficiency by over 300%
- Minimum detectable RL: -80dB (Single-mode)
- Minimum measurable fiber length: 0.7 meters
- Supports testing of single-core and duplex LC, CS, SN, MDC, and other fiber jumpers
- Wide range of interchangeable, highly reliable detector adapter connectors
- Supports multiple control methods: buttons, touchscreen, Ethernet, and USB
- Platform + modular design for easy application expansion
- Supports PC control software, automatically saves test data reports, and enables remote network control

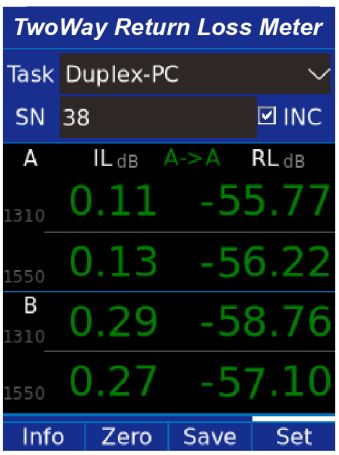
## Applications

- Patch Cord and Connector Performance Testing
- Optical Passive Device Performance Testing

## Three-in-one automatic test of duplex fiber IL,RL and polarity

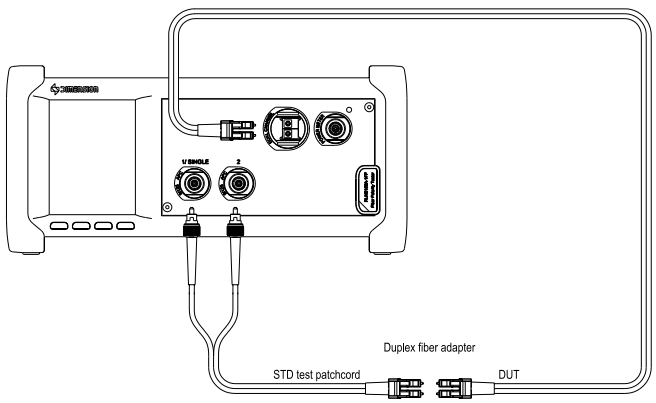
TwoWay fiber polarity and return Loss meter can quickly complete the winding-free return loss and insertion loss test of the duplex fiber jumper. At the same time, it can realize the polarity detection of the duplex fiber, and truly realize the three-in-one automatic loss and polarity test.

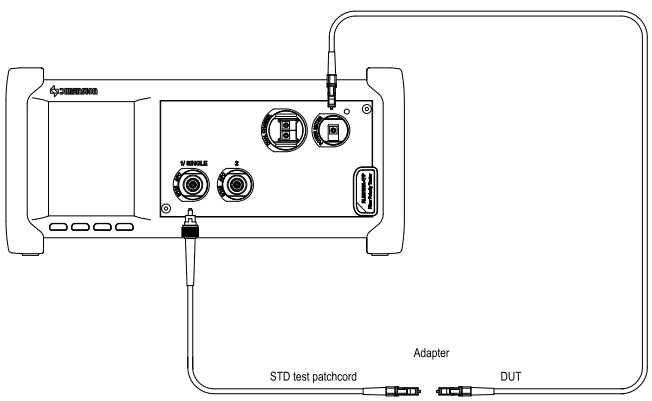


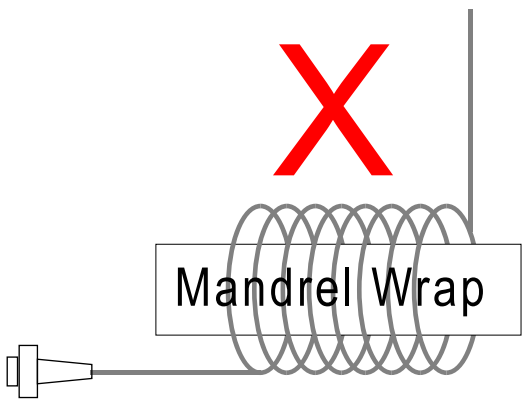




## RL mandrel-free test, IL,RL and polarity test time is less than 1.2s

TwoWay is based on the principle of optical time domain detection to realize the winding-free return loss test. Using high-speed sampling design and software optimization algorithm, the total time of insertion loss, return loss and polarity detection is less than 1.2s (fast mode)

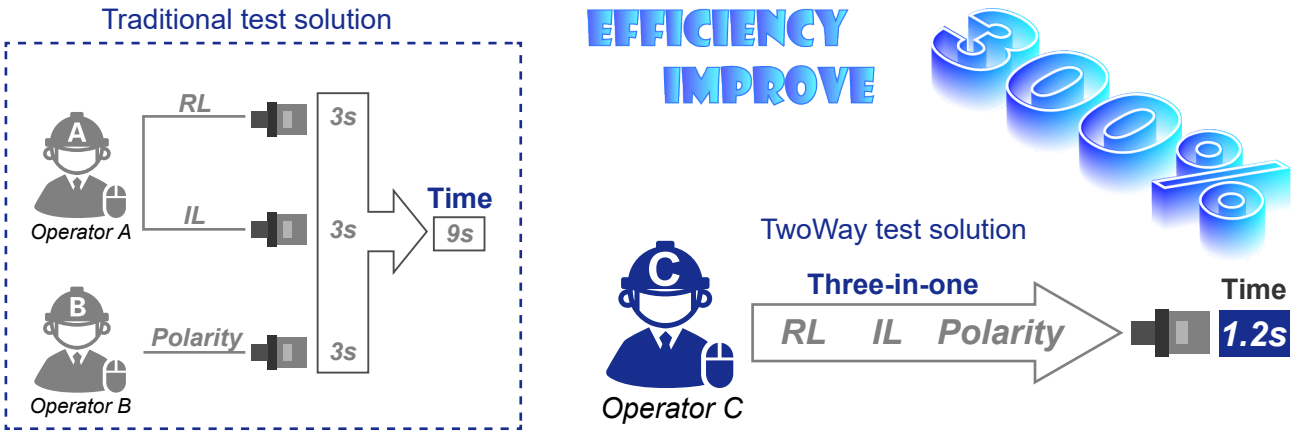


## Reduce test work station and increase production test efficiency by more than 300%

TwoWay fiber polarity and return Loss meter can automatically test IL, RL, and Polarity at the same time, eliminating the need for employees to switch between testing IL/RL and polarity multiple times to switch testing STD jumpers and equipment. IL, RL, Polarity test time is less than 1.5s at the same time (fast mode), the test efficiency is improved by more than 300%, and the customer's test equipment investment cost can be reduced at the same time.

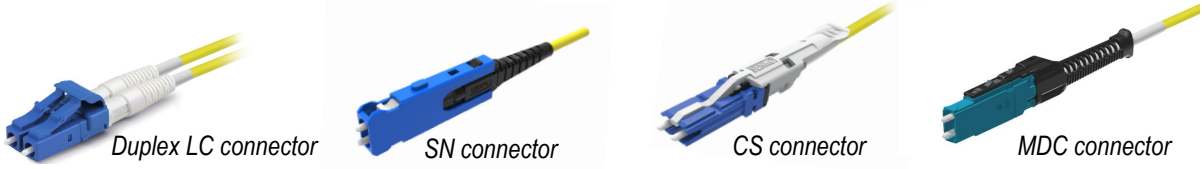



## RL minimum detectable down to -80dB(SM), Minimum measuring fiber length 0.7 m

TwoWay adopts Dimension's self-developed high-sensitivity detection circuit and optimizedsoftware algorithm, achieving a minimum RL measurement of -80dB (single-mode), meeting thetesting requirements of high-performance single-mode jumpers (SM/APC).

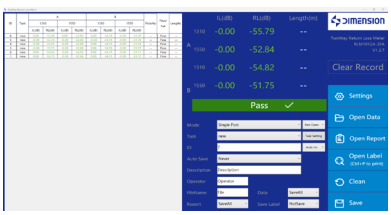

## Rich interchangeable, high reliability detector adapter, Compatible with single fiber/ duplex fiber test

To meet the needs of customers, Dimension has developed a series of interchangeable, high reliability detector adapter, including duplex LC, SN, CS, MDC new connectors, that are flexible and convenient to use,and test loss and polarity at one time, no need re-plug.




## Support pc-side control software, automatic saving test data/report, Support remote network control

Concise and clear software UI design, users can customize test reports, and can automatically save and upload test data and reports.



## Platform + module design, multi-application and scalable

Dimension's universal optical test platform provides a whole set optical test solution, it includes a dual-slot ALPHA test platform and an 11-slot OMEGA test platform, which is compatible with a wide range of functional test modules such as IRL test module. With hot swappable, rogrammable, and scalable,easy to maintain&manage, with low overall cost. Supports many remote control modes, including network, USB, touch screen and physical button, etc.

Users can integrate and expand different functional modules in following-up, such as optical switches,stable light sources, POA testers, BER testers, and high-speed optical power meters, to achieve one-stop test for optical devices and other products' various performances.

**OMEGA test platform**

**ALPHA test platform**

## Specifications

| Basic product model | | RLM-HP-1912A-2FA | RLM-HP-5956A-2FA | RLM1912A-2FA | RLM5956A-2FA | RLM-L-1912A-2FA | RLM-L-5956A-2FA |
|---|---|---|---|---|---|---|---|
| Product series | | High Performance | High Performance | Professional | Professional | Lite | Lite |
| light source | Fiber Type | SM 9/125 | MM 50/125 | SM 9/125 | MM 50/125 | SM 9/125 | MM 50/125 |
| | Wavelength | 1310/1550nm | 850/1300nm | 1310/1550nm | 850/1300nm | 1310/1550nm | 850/1300nm |
| | Source Type | Laser | LED/Laser | Laser | LED/Laser | Laser | LED/Laser |
| | Encircled Flux Standard | NA | IEC-61280-4-1 | NA | IEC-61280-4-1 | NA | IEC-61280-4-1 |
| IL section | IL Stability* | 168h, ±0.02db | | ±0.01dB(<0.5H); ±0.02dB(<8H) | | ±0.02dB(<0.5H); ±0.03dB(<8H) | |
| | IL Repeatability* | ±0.02dB | | | | | |
| | IL Accuracy* | 0~1dB: ±0.02dB<br>1~10dB: +0.1dB<br>10~15dB: +0.5dB | 0~1dB: ±0.02dB<br>1~10dB: ±0.1dB<br>10~15dB: ±0.5dB | 0~1dB: ±0.02dB<br>1~10dB: +0.1dB<br>10~15dB: +0.5dB | 0~1dB: ±0.02dB<br>1~10dB: ±0.1dB<br>10~15dB: ±0.5dB | 0~1dB: ±0.02dB<br>1~10dB: ±0.1dB<br>10~15dB: ±0.5dB | 0~1dB: ±0.02dB<br>1~10dB: ±0.1dB |
| RL section | RL Range | -30~-80dB | -15~-60dB | -30~-80dB | -15~-60dB | -30~-72dB | -15~-55dB |
| | RL Accuracy | -30~-70dB: ±1.0dB<br>-70~-75dB: ±2.0dB | -15~-50dB: ±1.0dB<br>-50~-55dB: ±2.0dB | -30~-70dB: ±1.0dB<br>-70~-75dB: ±2.0dB | -15~-50dB: ±1.0dB<br>-50~-55dB: ±2.0dB | -30~-65dB: ±1.0dB<br>-65~-70dB: ±2.0dB | -15~-50dB: ±1.0dB<br>-50~-55dB: ±2.0dB |
| Others | Fiber length (Min) | DUTreflections (both ends)<-50dB: 0.7m; DUTrefections (both ends)>-50dB: 1.5m | | | | | |
| | Once Testing Time | <0.6s (Single wavelength) | | | | | |
| | Display resolution | 0.01dB | | | | | |
| Mainframe | Input power | AC90~ 260V/50HZ | | | | | |
| | Warming up time | 30minutes (if the storage temperature is different from the service temperature, the preheating time is 90 minutes) | | | | | |
| | Working temperature | 10°C~40°C | | | | | |
| | Storage temperature | -40°C~70°C | | | | | |
| | Size | ALPHA platform: 359mmx274mmx115mm, OMEGA platform: 462mmX374mmX171mm | | | | | |

*Default test conditions for related parameters: Equipment warm-up time of 30 minutes; Ambient temperature of 23±1°C; FC/PC single-fiber patch cord.

## Detector Adaptors Selection Guide

| Number | PN | Name | Description | Image |
|---|---|---|---|---|
| 1 | 204910022 | OPM duplex LC adapter (RLM use only) | Detection interface, suitable for LC/duplex LC connector(TwoWay RLM use only) |  |
| 2 | 204910026 | OPM SN adapter | Detection interface, suitable for SN connector (TwoWay RLM use only) |  |
| 3 | 204910027 | OPM CS adapter | Detection interface, suitable for CS connector (TwoWay RLM use only) |  |
| 4 | 204910028 | OPM MDC JR adapter | Detection interface, suitable for MDC JR connector(TwoWay RLM use only) |  |
| 5 | 204910029 | OPM MDC SR adapter | Detection interface, suitable for MDC SR connector(TwoWay RLM use only) |  |
| 6 | 204810002 | OPM FC adapter | Detection interface, suitable for FC connector |  |
| 7 | 204810003 | OPM SC adapter | Detection interface, suitable for SC connector |  |
| 8 | 204810004 | OPM LC adapter | Detection interface, suitable for LC connector |  |
| 9 | 204810007 | OPM 2.5 ferrule adapter | Detection interface, suitable for FC/SC/ST ... connector and 2.5mm ferrule |  |
| 10 | 204810006 | OPM 1.25 ferrule adapter | Detection interface, suitable for LC/duplex LC /SN ... connector and 1.25mm ferrule |  |

| Number | PN | Name | Description | Image |
|---|---|---|---|---|
| 11 | 204810014 | OPM Integrating Sphere | Provide wide numerical aperture, can be used with MPO/ duplex LC adapters |  |
| 12 | 204810015 | OPM MPO adapter | Detection interface, suitable for MPO12/ MPO16 connector |  |
| 13 | 204810017 | OPM Bare- fiber adaptor | Detection interface, suitable for bare-fiber power test application |  |

## Ordering Information

RLM □ □ □ □ □ — □ □ □ □

| Series | |
|---|---|
| / | Professional |
| -L | Liter |
| -HP | High Performance |

| Laser fiber type | |
|---|---|
| 1 | SM 9/125 |
| 5 | MM 50/125 |

| Detector type | |
|---|---|
| 3 | Dual PD& InGaAs 2mm PD |
| 9 | Dual PD& Standard Integrating Sphere |

| Laser wavelength[1] | |
|---|---|
| 1 | 1310-SM |
| 2 | 1550-SM |
| 3 | 1490-SM |
| 4 | 1625-SM |
| 5 | 850-MM |
| 6 | 1300-MM |

| RL test | |
|---|---|
| A | Mandrel-Free OTDR |

| Laser output port | |
|---|---|
| 2 | 2CH |

| Laser connector type | |
|---|---|
| FA | FC/APC |

| Fiber Core Count | |
|---|---|
| 01 | Single-core or Dual-core Compatible with ALPHA Chassis |

Eg: RLM1312A-2FA TWOWAYMandrel-free IRLtestmodule Pro, 1310/1550, SM9/125, InGaAs 2mm(TWOWAY), Laser output 2CHFC/APC

Note: 1. RL test model A/C supports dual laser wavelength. Two-digit code represents two laser wavelengths. Customers can choose laser wavelength or customized laser wavelength in the list.Model A/B supports four single-mode wavelengths, and XX should be selected for the two-digit coding.

2. Only single-mode lite version is available.

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