

TwoWay Fiber Polarity and Return Loss Meter



TwoWay fiber polarity and return Loss meter is a new product that PDR uses innovative design concepts to solve the problems encountered in the current duplex fiber jumper test, which can realize the simultaneous automatic test of IL, RL and Polarity. The testing time of IL, RL and Polarity at the same time is less than 2s (fast mode), which can greatly improve the testing efficiency and reduce the cost of test equipment investment. At the same time, it also guarantees the reliability of IL and RL measurement under the premise of improving efficiency. The minimum can achieve -80dB Return loss detection (single mode). TwoWay's fast and accurate measurement function is an effective tool to improve production efficiency and quality control.

Main Features

- Three-in-one automatic test of duplex fiber IL,RL and polarity
- RL mandrel-free test, IL,RL and polarity test time is less than 2s
- Reduce test work station and increase production test efficiency by more than 300%
- RL minimum detectable down to -80dB(SM)
- Minimum measuring fiber length 0.7 m
- Support single-core and duplex LC, CS, SN, MDC and other fiber patchcord tests.
- Rich interchangeable, high reliability detector adapter
- Support physical button, touchscreen, network, USB control methods
- Platform + module design, multi-application and scalable
- Support PC-side control software, automatic saving test data/report, support remote network control

Applications

- Fiber patchcord and connector performance test
- Other optical passive device performance test

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.

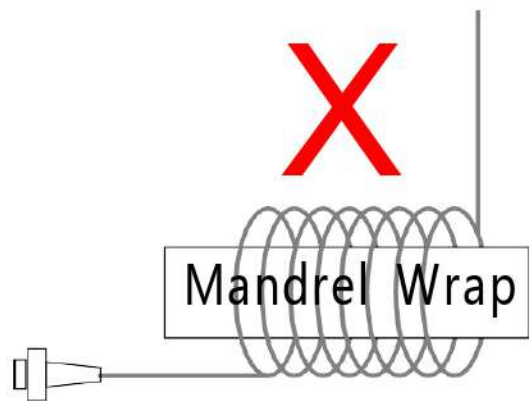
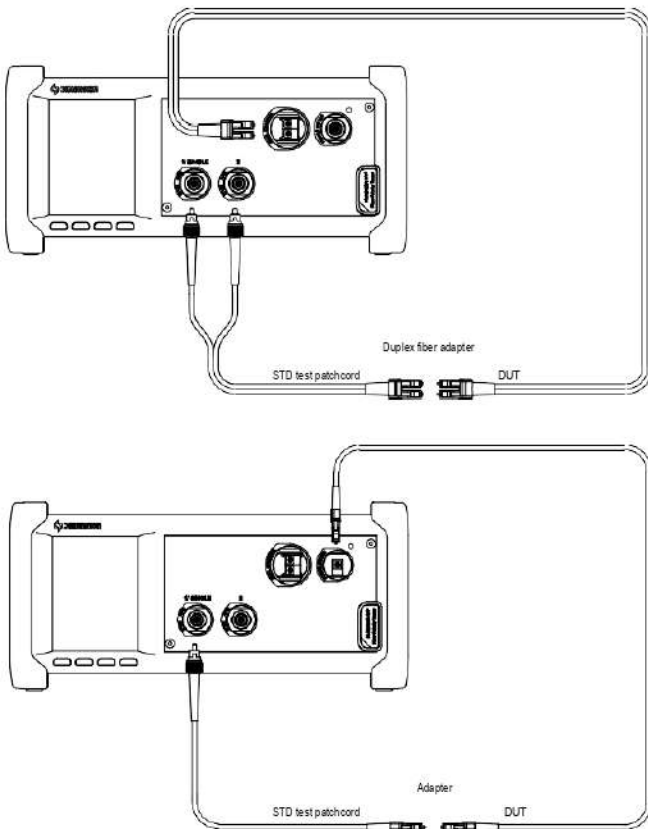
The diagram illustrates the 'Three-In-One' test concept. On the left, three separate test categories are listed: RL (Return Loss), IL (Insertion Loss), and Polarity, each with a plus sign indicating they are combined. A large blue question mark is positioned next to these, with an arrow pointing to a circular graphic labeled 'Three-In-One'. This graphic contains icons for IL, RL, and Polarity, with a double-headed arrow between IL and RL, and a polarity symbol below Polarity. To the right is a screenshot of the 'TwoWay Return Loss Meter' interface. The screen shows the following data:

TwoWay Return Loss Meter			
Task	Duplex-PC		
SN	38	<input checked="" type="checkbox"/> INC	
A	IL dB	A->A	RL dB
1310	0.11		-55.77
1550	0.13		-56.22
B			
1310	0.29		-58.76
1550	0.27		-57.10

At the bottom of the screenshot are buttons for 'Info', 'Zero', 'Save', and 'Set'.

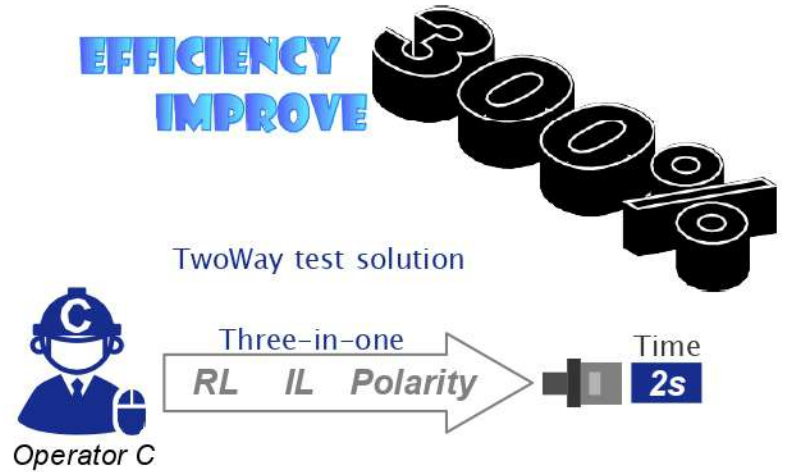
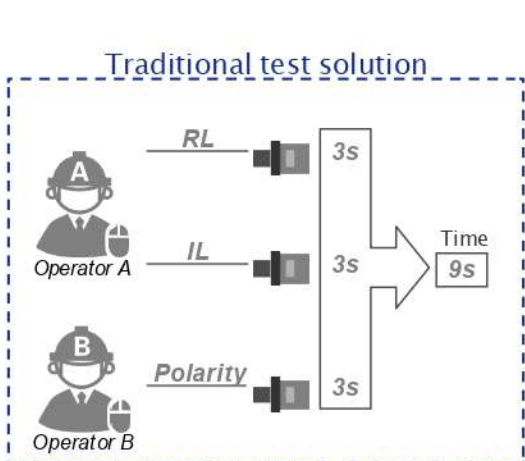
RL mandrel-free test, IL,RL and polarity test time is less than 2s

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 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 2s 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 use the PDR self-developed high-sensitivity detection circuit and the optimized software algorithm, RL can achieve the detection of -80dB(SM), which can meet the detection requirements of high-performance single mode patchcord (SM/APC).

TwoWay Return Loss Meter

Task Duplex-APC
 SN 58 INC

	IL dB	A->A	RL dB
A	0.10		-75.77
	0.13		-76.22
B	0.09		-78.76
	0.08		-77.10

Info Zero Save Set

Setting

Task Duplex-APC

IL Check RL Check Quick
 DualCore CrossLine Polarity

λ (nm)	IL (dB)	IL Compensate	Cor
1550	0.2	<input type="checkbox"/>	
1310	0.2	<input type="checkbox"/>	

New Edit Delete
 Import Export Back
 Tab ^ v Enter

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

To meet the needs of customers, PDR 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.

ID	Task	A				B				Polarity	Length(m)
		IL(dB)	RL(dB)	IL(dB)	RL(dB)	IL(dB)	RL(dB)	IL(dB)	RL(dB)		
0	Task-Test	0.08	-56.21	0.09	-56.52	0.09	-56.52	0.10	-58.21	True	---
1	Task-Test	0.08	-56.21	0.09	-56.52	0.09	-56.52	0.10	-58.21	True	---
2	Task-Test	0.08	-56.21	0.09	-56.52	0.09	-56.52	0.10	-58.21	True	---
2	Task-Test	0.07	-56.34	0.08	-56.46	0.07	-56.34	0.08	-56.46	False	---
4	Task-Test	0.07	-56.34	0.08	-56.46	0.07	-56.34	0.08	-56.46	False	---
5	Task-Test	0.07	-56.34	0.08	-56.46	0.07	-56.34	0.08	-56.46	True	---

Task: Duplex-PC Task Setting

ID: 22 Auto Inc

Description: Description Barcode

Fiber Num: 1

Operator: Operator

FileName: File

	IL(dB)	RL(dB)	Length(m)
1310	0.09	-56.52	---
1550	0.10	-58.21	---
A -> A			
1310	0.12	-57.52	---
1550	0.17	-58.65	---

Return Loss Meter

RLM1312A-2FA

V1.0.0

- Settings
- Data
- Report
- Zero
- Save

Platform + module design, multi-application and scalable

PDR'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.






Specifications

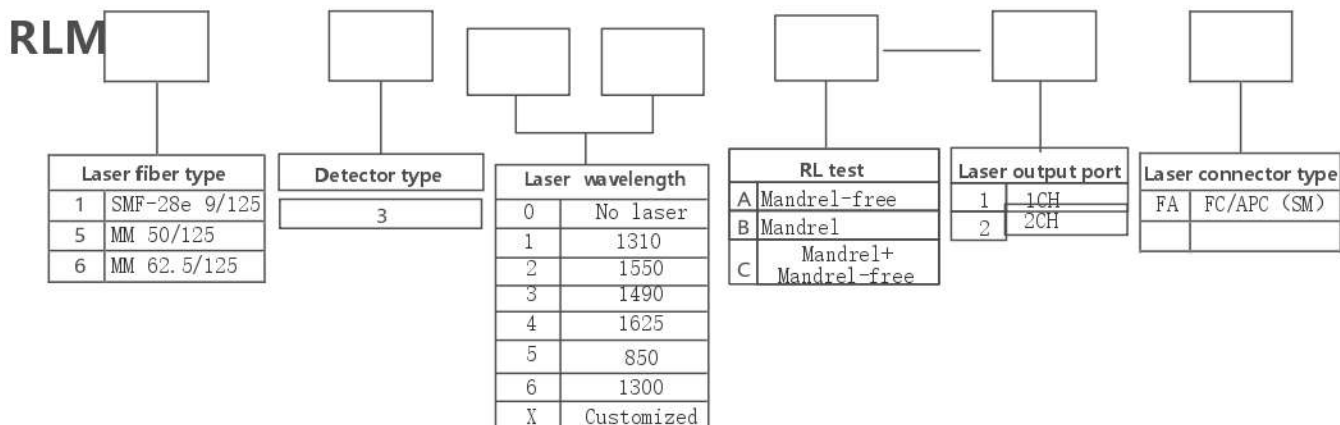
Basic product model		RLM1312A-2FA
light source	Fiber Type	SM 9/125
	Wavelength	1310/1490/1550/1625nm
	Source Type	Laser
	Encircled Flux Standard	NA
IL section	IL Accuracy	0~1dB:±0.03dB 1~5dB:±0.1dB >5dB:±0.2dB
RL section	RL Range	-30 ~ -80dB
	RL Accuracy	-30 ~ -70dB : ±1.0dB -70 ~ -75dB : ±2.0dB
Others	Fiber length (Min)	DUT reflections (both ends)>50dB : 0.7m DUT reflections (both ends)<50dB : 1.7m
	Testing Time (s)	<2s(fast mode,IL+RL + Polarity test)
	Display resolution	0.01dB
Mainframe	Input power	AC90 ~ 260V/50HZ
	Warming up time	20 minutes (if the storage temperature is different from the service temperature, the preheating time is 60 minutes)
	Recalibration period	2years
	Working temperature	10 °C ~ 40 °C
	Storage temperature	-40 °C ~ 70 °C
	Size	ALPHA platform : 359mm×274mm×115mm, OMEGA platform : 462mmX374mmX171mm Module : 285mmX133mmX71mm

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



Eg,RLM1312A-2FA: Mandrel-free duplex fiber IRL test module,1310/1550,SM 9/125, Laser output 2CH FC/APC

Note: 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 B supports four single-mode wavelengths, and XX should be selected for the two-digit coding.