

V30

User Manual

Optical Multi Meter

Please read this manual before operating the device.
Please keep this manual together with the device.



V30

User Manual

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Important: INNO Instrument strongly recommends all users to read this manual before operating the V30.

This manual is valid for the following software version:

Preface

Thank you for choosing V30 optical multi meter produced by [INNO Instrument](#). This handheld product is conveniently used to measure the optical power. It provides 6 kinds of wavelengths selectable to meet different demands. Such functions as LED lamp, VFL and network cable/phone line test are also available in V30. Meanwhile, its compact structure and strong housing are ready for operation in various severe environments.

This manual is only subject to the users who have already purchased V30 optical multi meter. Copying any part of this manual without any written permission by publisher is forbidden.

Introduction

V30 optical multi meter is a portable and powerful instrument used in optical power measuring, VFL detecting and NET testing. Besides, LED lamp is also available.

Basic Configuration

Optical multi meter, Network cable/phone line test module, Alkaline battery, charger, user's manual.

Power Supply

- External DC power supply: 5V input voltage; input current \leq 500mA
- Alkaline battery or rechargeable battery

Size and Weight

- Size: 124H x 60W x 35D mm
- Weight: 127.5g (battery included) / 28.5g

Environment Condition

- Operating environment: Altitude: 0~5000m, Temperature: -10°C to 60°C, Relative humidity: 0 ~ 90% (40°C, Non-condensing), Max. wind velocity: 15m/s
- Storage environment: Temperature: -20°C to 70°C, Relative humidity: 0 ~ 90% (40°C, Non-condensing)

Parameters

Parameters		
Optical Power Meter (OPM)	Type of detector	InGaAs
	Type of optical fiber interface	2.5mm of ST / SC / FC universal connectors
	Calibrated wavelengths	850 / 1300 / 1310 / 1490 / 1550 / 1625nm
	Measuring range	from +6 to -70dBm
	Accuracy	±0.02dB
	Linearity	±2%
	Units	dBm / Mw / uW
Visual Fault Locator (VFL / VLS)	Output power	1mW
	Type of optical fiber interface	5Km of single mode fiber (SMF)
	Radiation safety class	Class 2
	Wavelengths	650nm ± 20nm
	Output modes	Continuous / 2Hz blink lasers
Network cable/ phone line test	Type of interface	RJ45 / RJ11
	Applicable network / phone lines	UTP CAT-5 / CAT-5e (2/4/6-core phone lines)
	Max. test distance	1Km
Operating temperature		from -10°C to + 60°C
Storage temperature		from -20°C to + 70°C
Relative humidity		<90% (non-condensing)

Appearance Overview



Functions

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Power-on and power saving function

Power-on:

Quickly press "MODE" key to turn on the instrument.

Power-off:

Press and hold "MODE" key for 4 seconds or more until "OFF" displays on the screen.

Note: This instrument will shut down automatically without receiving any operation instruction for 10 minutes.

Power saving function:

This instrument will shut off automatically after waiting but without receiving any operation instruction for about 10 minutes. If you want to disable this auto shut-off function (i.e. Power saving) and keep this instrument working, please press and hold the "MODE" button immediately when power on for about 2 seconds until "PERM" appears on the bottom right screen of the LCD, meaning that the power saving function has been disabled.



Function selections

It defaults to be under “OPM” function when power-on. 4 functions including “OPM”, “VFL”, “LED” and “network cable/phone line tester” will be switched in loop mode.

Optical power meter (OPM)



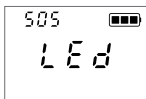
You can switch the measuring optical wavelengths by pressing “T” button under the function of “OPM”. The calibrating wavelengths of this instrument are 850/1300/1310/1490/1550/1625 nm and the units of numeric display include uW and dBm, which can be switched via “U” button.

Visual Fault Locator (VFL)



You can select continuous laser mode or blink laser mode with 2Hz of blink frequency under the function of “VFL”.

LED lamp



You can select continuous light mode of LED or blink mode of SOS coding (International standard) by pressing “U” button under the function of LED.

Network cable/phone line test



The “Network cable/ phone line test” (NET) function is used in network generic wiring and for verifying the link on-off condition of network including the sequence of testing cable connection systems. Test will begin when this NET function is enabled; the 8 indicators are used for indicating the sequence of testing cable connection systems. When the network cable or phone line is connected to this instrument and remote model, 8 indicators will blink in turn.

Charger

This instrument is rechargeable. In process of using rechargeable battery, you should shut off the instrument and charge for it in time when low battery displayed on the screen.

This product can be charged by being connected with AC adapter or USB port. The indicator of remaining battery will blink during this product charging. The indicator will be off when charging is completed. If charge isn't stopped, the product will be charged by trickle charge, with low current to supplement for the electric quantity.

This product cannot be used while charging. Don't connect this product with AC adapter when rechargeable batteries are used, to avoid product combustion or even explosion at high temperature.

Battery-Powered Supply:

Operation Procedures:

- Open the cap of the slot for inserting new batteries.
- Load in rechargeable dry batteries (AA, R6, 1.2V).

Power Supply via USB:

Operation Procedures:

Connect the cable to the MINI USB port, when the letter CHARGE will appear beside the battery icon on the screen.



Changing the SC/FC/ST Connectors

As shown in the following picture, users can demount and replace the connector with a necessary one, SC connector, FC connector or ST connector available for interchange.



Safety Precautions

Operating and carrying V30 should comply with the following safety rules and general specifications. Otherwise, it will violate the safety standards of manufacturing and operating this product. Users who violate these requirements should take the responsibility to the consequences.

Warning

Any change or modification for this product without definite permission as per this manual is forbidden. Do not expose this product in the rain or wet environment to avoid fire or electric shock. Do not open the housing of this device for fear of electric shock. Maintenance to this product can be carried out by qualified technicians only.

Caution

The laser in this product will be harmful to your eyes, so it is forbidden to dismantle housing of this product or directly stare at the export of the laser.

Usage Precautions

Battery

Use alkaline batteries or rechargeable batteries of same type, same model and same capacity only. Only charge the rechargeable battery.

Condensing

Do not place this product in an environment at a suddenly changed temperature. If this product is suddenly moved from cold place to a hot place, or if the room temperature suddenly rises up, don't operate the device immediately, because it will cause condensing. If the product is in use but the room temperature suddenly changes, stop immediately operating the product and take the battery out of this product. This product can be started up again at least an hour later.

Storage

Batteries should be taken out from the instrument and stored in proper place if this product not in use for a long time to avoid damage to the product due to battery leakage.

Maintenance and Calibration

General Maintenance

- Avoid touch fiber-optic connectors with hard objects and clean them if necessary.
- Store the instrument at room temperature in a ventilating and dry area to avoid damp.
- Batteries should be taken out from the instrument and stored in proper place if long time not in use.

Troubleshooting

Problems	Causes	Methods
Failed to startup	Check if the batteries are powered/ install the batteries improperly	check if batteries are installed well
shutdown immediately after startup	Check if the battery level	Replace battery or charge this product
Display and operation failed	Program out of order	Re-startup
Battery cannot be charged	Use the alkaline battery instead of rechargeable battery	Re-install rechargeable batteries
Garbled display	Abnormal restoration	Re-startup

Maintenance and technical support

Any operation like “calibration, maintain or repair for the device” can only be carried out by qualified maintenance technician. Please contact with the engineers of [INNO Instrument](#). You can also consult any question through the following Website.

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