

# FIBRE OPTICS EQUIPMENT



Optical Power  
Meters



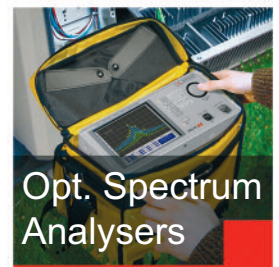
Optical  
Attenuators



LASER Light  
Sources



Micro  
OTDRs



Opt. Spectrum  
Analysers



Optical  
Splicing Kits



Optical to RF  
Converters



Optical Input  
For FSMs



Network  
Analysers



Headends with  
Optical Out

# **PROLITE-11B** Pocket visual fault locator

- ✓ **Small, pocket-size fault locator.**
- ✓ **Universal adapter. Fits any fibre.**

**PROLITE-11B** is a new, powerful, mini visual laser source for fiber fault locating. It has attractive design and small size and it is easy to operate.

Visual fault locator is typically used to inspect damaged or broken point of an optical fiber, cable or patch cord. The leaking red light from the damage reveals the faulty spot. Another way of using **PROLITE-11B** is to identify individual fibers from other fibers for example at ODF.



- ✓ **Universal 2.5 mm adapter.**
- ✓ **Uses AAA standard batteries (2 pcs).**
- ✓ **Includes carrying bag.**

SPECIFICATIONS	PROLITE-11B - Pocket visual fault locator
Laser class Output power Operating range Laser type Optical connector Wavelength Modulations	Class IIIA $\geq 1 \text{ mW}$ Approx. 5km (detecting range will be different with different fibers) Laser diode 2.5 mm universal $650 \text{ nm} \pm 10 \text{ nm}$ Continuous / 2 Hz
<b>POWER SUPPLY</b>	2 x AAA LR03 batteries. Battery life: About 23 hours (*)
<b>INCLUDED ACCESSORIES</b>	2 x AAA batteries, Manual, Carrying case
<b>MECHANICAL FEATURES</b>	
Dimensions Weight	W. 120 x H. 33 x D. 30 mm About 67.8 g

(\*) Tested with 2 x AAA batteries at  $23^\circ\text{C} \pm 3^\circ\text{C}$

## **PROLITE-17** Pocket optical meter

- ✓ **Small, pocket-size optical meter.**
- ✓ **850-1625 nm (+10 to -70 dBm).**

The **PROLITE-17** pocket-sized optical power meter has compact structure and stable performance. It ensures high measuring precision of 850 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm and 1625 nm wavelengths.

**PROLITE-17** is ideal to be carried out at any time.



- ✓ **2.5 mm universal interface (support FC/SC/ST connectors).**
- ✓ **Low power consumption, continuously work more than 80 hours.**
- ✓ **Linear optical power and logarithmic power display.**
- ✓ **Power remains indication. Relative value measurement function.**
- ✓ **Compact and portable design.**

SPECIFICATIONS	PROLITE-63B - Pocket optical meter
Measurement range	+10 to -70dBm @1550nm
Resolution	0.01 dB
Calibrated Wavelengths	850, 1300, 1310, 1550, 1490 and 1625 nm
Sensor Type	InGaAs
Accuracy (*)	0.35 dB $\pm$ 1 nW
Working Wavelength	800 ~ 1700 nm
<b>POWER SUPPLY</b>	2 x AAA batteries
Battery life (**)	About 80 hours (stand-by time: About 1600 hours)
<b>INCLUDED ACCESSORIES</b>	2 x AAA batteries, Quick guide, Packing box, Carrying case
<b>MECHANICAL FEATURES</b>	
Dimensions	W. 120 x H. 33 x D. 30 mm
Weight	About 70 g

(\*) Accuracy under 1550 nm mode, 23 °C  $\pm$  3 °C.  
(\*\*) Tested with a new battery, under 23 °C  $\pm$  3 °C.

## **PROLITE-30B** Optical fibre identifier

- ✓ **Detects 270Hz, 1kHz and 2kHz.**
- ✓ **Signal direction indication.**

The **PROLITE-30B** Optical Fiber Identifier is a low cost, portable instrument designed to detect optical signals without disrupting traffic.

Based on non-destructive macrobending technology, the **PROLITE-30B** doesn't disrupt traffic, damage or overstress the fiber, enabling efficient, accurate and reliable data acquisition.

During maintenance, installations, rerouting or restorations, it's often necessary to isolate a specific fiber. By simply clamping the **PROLITE-30B** onto a fiber, the OFI will indicate if there is a signal, a Modulated Signal, or traffic and show signal direction.



SPECIFICATIONS	PROLITE-30B - Optical fibre identifier
Recognizable Wavelength Range Recognizable signal type Detector Type Clamp Type Sensitivity Continuous wave Modulated signal LED Indicator	900 to 1650 nm CW, 2 kHz, 1 kHz, 270 Hz $\pm 5\%$ InGaAs 2 pcs H0.9/0.25 for bare fibers ; H2.0/3.0 for jacketed fiber  +11 dB to -20 dBm (1310 nm); +11 dB to -30 dBm (1550 nm) +11 dB to -10 dBm (1310 nm); +11 dB to -18 dBm (1550 nm) Signal traffic, signal frequency (2 kHz, 1 kHz or 270 Hz), signal intensity (5 grades), low battery
POWER SUPPLY	2 x 1.5 AA batteries
MECHANICAL FEATURES Dimensions Weight	W. 62 x H. 202 x D. 36 mm 270 g



## PROLITE-50 / PROLITE-51 / PROLITE-52



- Lightweight, portable, easy-to-use and economical
- Fast test, and large LCD display
- Backlight function supports testing work at night
- Measure the length and defects of coiled optical fibre
- Large memory capacity (up to 1000 test curves according to model)
- RS-232 / USB data upload port & PC Software
- Interchangeable fibre-optic connectors
- Dust, damp and shock proof design for field application
- LCD indicators for battery charging, and LD lasing status
- Built-in NiMH rechargeable batteries

The **PROLITE-50/51/52** series are optical fault locating and analyzing tools for optical fibre network, and feature hand-held, compact, lightweight, easy-to-use, intelligent and quick test. The Large LCD display and backlight design makes testing work more comfort and convenient no matter during daytime or at night.

As a fault locating and analyzing tool the **PROLITE-50/51/52** are easier, smaller and more economical than typical equipments of its class, with higher user value. Besides, **PROLITE-50/51/52** can save and transfer the measurement curves data to a PC by the provided software for further analyzing, reporting and printing.

According to the ergonomics, the **PROLITE-50/51/52** are designed to fully embody the user's convenience with its large LCD display and graphical interface. The user can activate the measurement operations easily by the push of only one button. The **PROLITE-50/51/52** will become the indispensable and ideal tools that all builders, and maintenance personnel of optical fibre networks should have in their tool kit.

SPECIFICATIONS	PROLITE-50	PROLITE-51	PROLITE-52
<b>Optical Specifications</b>			
Wavelength (±20 nm)	1310/1550 nm	1310/1550/1625 nm	1625 nm
Dynamic Range	24 dB	38/37/37 dB	37 dB
Event Deadzone	10	1.5	1.5
Attenuation Deadzone	25	10	10
Connector Typ (interchangeable SC, ST, FC)	SC / APC		
Fibre Type Single mode			
Selectable Pulse Width	5 nS / 10 nS / 12 nS / 30 nS / 100 nS / 275 nS / 300 nS 1 μS / 2.5 μS / 10 μS / 20 μS		
Selectable Ranges	0.3 / 1.3 / 2.5 / 5 / 10 / 20 / 40 / 80 / 120 / 160 / 240 km		
Distance Measure Accuracy	± (1 m + 5 x 10 <sup>-5</sup> x Distance + sampling space)		
Reflection Detect Accuracy	± 4 dB		
Attenuation Detect Accuracy	± 0.05 dB / dB		
Measurement Data Storage	300 test curves	1000 test curves	1000 test curves
<b>Visual fault locator</b>			
Output power	-	-	≥ -3 dBm
Max distance	-	-	5 km
<b>General Specifications</b>			
Power Supply	NiMH rechargeable battery (8 h. operating, 20 h. stand by) / AC adapter		
Data Transmission	RS-232 / USB port		
<b>Mechanical features</b>			
Dimensions and weight	220 (H.) x 110 (W.) x 70 (T.) mm, 1 kg		

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT PRIOR NOTICE 11/14

## PROLITE-55 Low cost triple LASER source

- ✓ **Digital communication with PROLITE-63B power meter for auto wavelength recognition.**
- ✓ **Continuous or modulated output.**

The **PROLITE-55** can transmit with a wavelength identification digital encrypted protocol, enabling the **PROLITE-63B** power meter to automatically shift to the proper calibration wavelength. This feature reduces the need of communication between the two users and decrease the potential for error.

The **PROLITE-55** offers 1310nm, 1490nm, 1550nm with excellent stability for accurate fiber testing, especially in FTTx. This compact instrument operates in either continuous wave (CW) mode or modulated mode.



- ✓ **Easy-to-use, straight forward operation.**
- ✓ **LCD backlight for easy operation in dark environments.**
- ✓ **Rechargeable internal battery.**
- ✓ **Three-year warranty.**

SPECIFICATIONS	PROLITE-55 - Low cost triple LASER source
Output wavelength	1310, 1490, 1550 nm $\pm 20$ nm
Emitter Type	LD
Output Stability (@ 15 minutes)	$< \pm 0.05$ dB (1310 and 1550 nm), $< \pm 0.1$ dB (1490 nm)
Output Stability (@ 5 hours or above)	$< \pm 0.1$ dB (1310 and 1550 nm), $< \pm 0.2$ dB (1490 nm)
Spectral Width	3 nm
Output Frequency	270 Hz, 1 kHz, 2 kHz
Output Power	-5 dBm $\pm 0.5$ dB
Back-light	Yes
POWER SUPPLY	2 x Ni-MH AA batteries. Auto power off function.
DIMENSIONS & WEIGHT	W. 76 x H. 160 x D. 45 mm, 270 g

## **PROLITE-57** Low cost optical meter

- ✓ **PASS/FAIL mode with selectable threshold margins.  
Work faster. Increase productivity.**

**PROLITE-57** is a portable, high quality PON optical power meter. It is specifically designed to meet the rapid growth of FTTx market with PON (Passive Optical Network) technologies. It is capable to measure all three signals (1310nm, 1490nm and 1550nm) that carry voice, data and video, so-called triple-play applications along a single fiber.

**PROLITE-57** can measure not only 1490nm and 1550nm optical signal, but also accurately detect and measure the upstream burst at 1310nm sent from an ONU while the ONU is in the idle mode.

The simple operation and accurate measurement make **PROLITE-57** an ideal tool for PON (suitable for APON, BPON, EPON and GPON application) installation and acceptance test to ensure that they meet required standards, and service activation and troubleshooting.



- ✓ **Cost efficient palm size designed for field and lab testing.**
- ✓ **Support Pass/Fail measurement and normal measurement. User definable threshold value (up to 10 sets).**
- ✓ **Easy-to-use interface with large color TFT display for easy visibility and LED indicators.**
- ✓ **Simply connect-and-display the results of all three wavelengths (1310/1490/1550nm) of PON signals with two optical ports.**
- ✓ **Detect and measure the upstream burst at 1310nm.**
- ✓ **Supports APON, BPON, EPON and GPON networks.**
- ✓ **Pass, Fail and Warning indicators for easy view of signal condition.**
- ✓ **Unit runs either by Ni-MH battery for more than 20 hours continuously work or AC/DC adapter.**
- ✓ **USB interface.**
- ✓ **Real-time clock.**

## **PROLITE-57** Low cost optical meter

SPECIFICATIONS	PROLITE-57 - Low cost optical meter
Calibrated Wavelength Measuring Range (continuous datastream) Burst signal measuring range (@ 1310nm ) Spectral Pass-band Connector Type Detector Type Insertion loss Accuracy Linearity Interfaces Communication port Data Storage Display Back-light Refresh Rate of Display Threshold Value	1310 nm, 1490 nm and 1550nm -40 to +10 dBm (1310 nm), -50 to +15 dBm (1490 nm), -50 to +20 dBm (1550 nm) -32 to +10 dBm 1260 ~ 1360 nm (1310 nm), 1480 ~ 1500 nm (1490 nm), 1539 ~ 1565 (1550 nm) Interchangeable FC, SC and ST InGaAs 1.5 dB $\pm 0.5$ dB $\pm 0.2$ dB 2 ports: one for 1310nm (ONU) and one for 1490nm/1550nm (OLT) USB 1000 sets 2.8 inch TFT Color LCD Yes 2.5 Hz 10 sets (configured via PC-based software)
<b>POWER SUPPLY</b> Battery life Auto Power Off	4 x 1.2 V Ni-MH AA batteries or 12 V AC/DC Adaptor (optional) > 20 hours on typical measurement Yes
<b>MECHANICAL FEATURES</b> Dimensions Weight	W. 105 x H. 190 x D. 55 mm (with rubber protector) 700 g



## Portable optical spectrum analyser

The **PROLITE-60** is the result of an intense research work associated to the development of the latest optical communication systems.

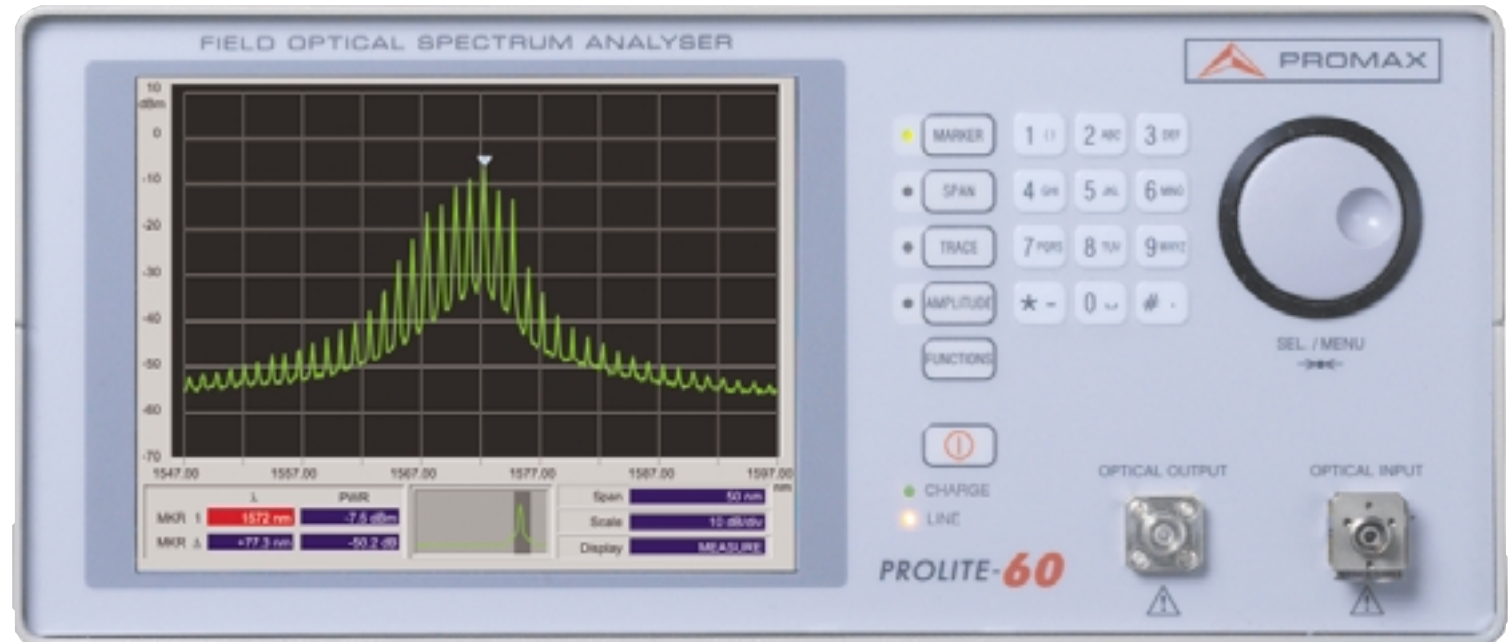
A priority for telecommunication operators all over the world is that of making more efficient their already existing optical networks. The first step is to increase their capacity, which can be achieved by using more wavelengths simultaneously to transport the information.

One of the biggest handicaps to implement this type of systems so far was the cost of the test equipment required to launch the projects. When various wavelengths are sharing one single fibre, the optical power meters are not normally bringing out much information about the problems that can be affecting to each one of them as the measurements are not wavelength selective.

Say we are injecting into a fibre eight wavelengths out of eight laser sources. When we are to check at the other end of the fibre something as simple as whether all laser sources are working properly, an optical spectrum analyser is required. The

**PROLITE-60** is the first optical spectrum analyser truly portable, rough and batteries operated available at a really attractive cost.

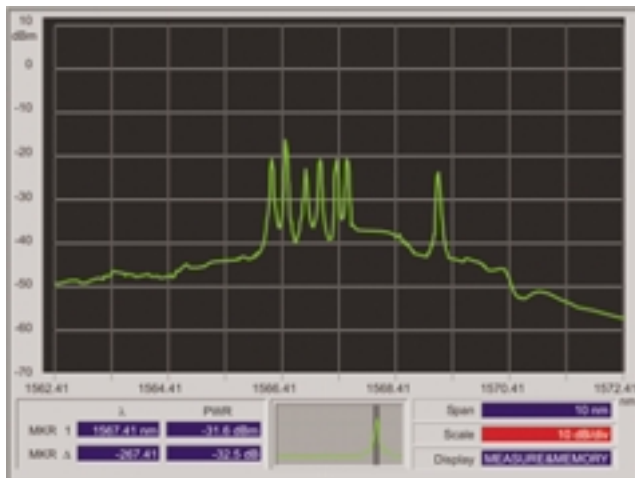
The **PROLITE-60** is also suitable for many other applications. Using the various available options it is suitable for reflectometry, analysis of materials, fibre sensors, testing of photonic devices such as filters, attenuators, couplers, isolators and other optical components.



## A large number of applications

### Wavelength multiplexation

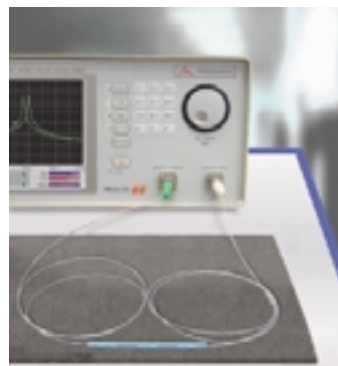
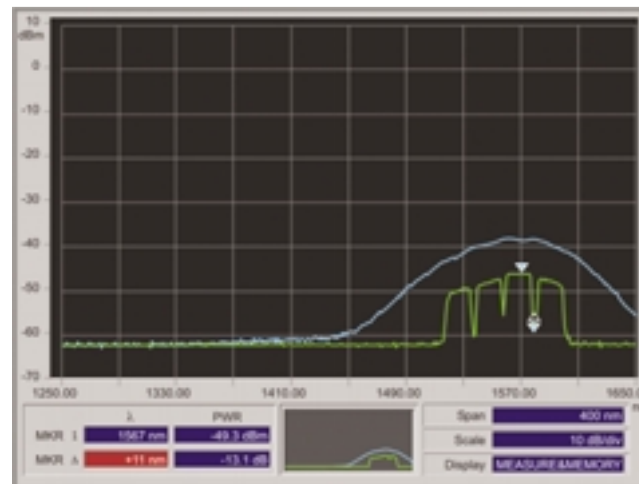
When different wavelength signals are transmitted within one fibre, the system is known as WDM (Wavelength division multiplex). The WDM systems can be classified as a Dense Wavelength division multiplex (DWDM) or as a Coarse Wavelength division multiplex (CWDM) depending on the wavelength separation. DWDM systems applies when separation is lower than 1nm whilst CWDM applies when wavelengths have a wider separation. The **PROLITE-60** has the specifications to allow installation, surveillance and maintenance of both DWDM and CWDM.



The utility of the optical spectrum analyser for the professionals working in this amazing world of the optic communications is out of any doubt. But, for many years, the level of price and complexity of the instruments available have been restricting their use. With the launch of the **PROLITE-60** it is now possible to consider the use of an optical spectrum analyser for any type of application in this field

### SLED Light Source

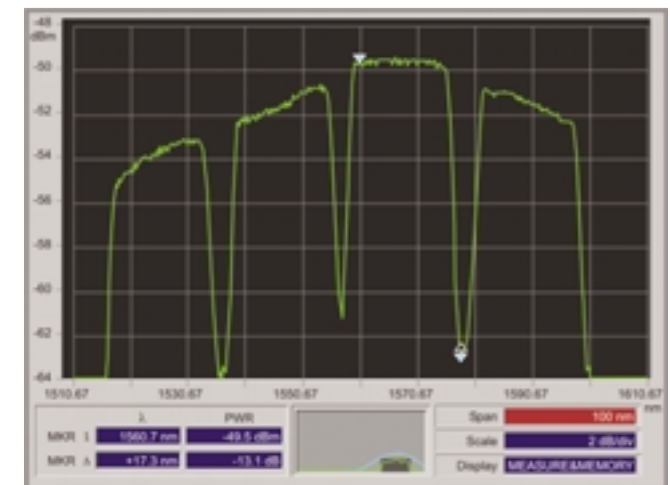
Optionally, the **PROLITE-60** can be delivered with a SLED (Superluminescent Light Emitting Diode) light source. These sources are providing a light of a wide spectral content, covering a wavelength range of around 100nm



To study the optical spectral response of the devices used in a fibre optic communication system is essential for the success of a project. This applies not only during the design and production process but also during system implementation

### Response of optical filters and amplifiers

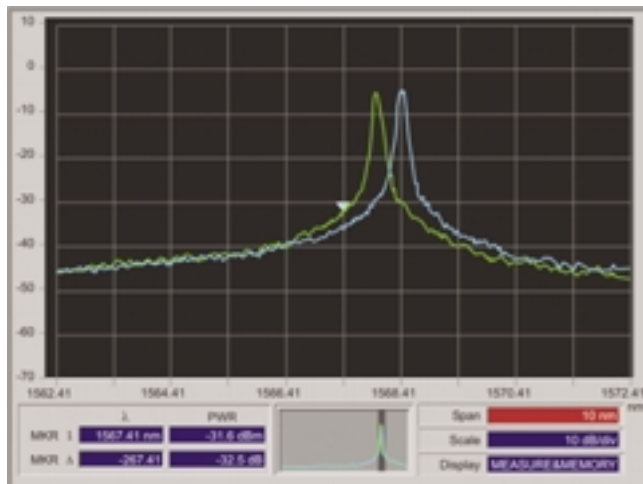
Optical filters, amplifiers and other network devices can be conveniently analysed using the SLED output and the different on screen presentation options that the instrument includes. Direct access to the SPAN and AMPLITUDE controls allow a very fast characterisation of the device under test. This is not only useful in the laboratory but also in field use applications to for instance, identify devices that could be involved in the wrong operation of an optical fibre link.



## High features at a reasonable cost

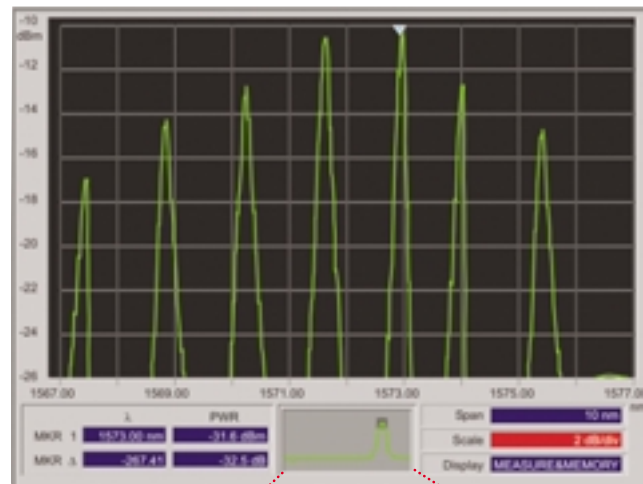
### Trace memory

A measurement can be stored in memory for later display and comparison with the present measurement. This can be very useful for a number of applications, for instance, to observe the wavelength drift and the power drift of a light source.



### Reference Display

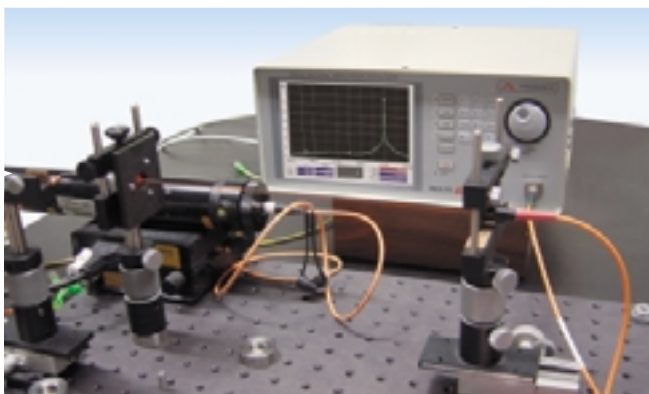
The analyser allows a great flexibility to present the signal on screen in the most convenient way for the specific application. This includes selection of different portions of the signal both in the vertical and horizontal axis. For convenience, so that the user is aware at any time of the portion of the whole spectrum being displayed, the **PROLITE-60** shows in a smaller window in the bottom of the screen a Reference Display with indication of the whole spectrum and the part being magnified.



### Double Marker

The wavelength and the optic power measured at the point indicated by the marker number one are displayed in the first position. The wavelength and power difference between the marker one and marker two are displayed in the second position.

	λ	PWR
MKR 1	1573.00 nm	-31.6 dBm
MKR Δ	-267.41	-32.5 dB



## The first truly portable

### Connectors

The instrument is available with most of the usual types of connectors. The required connector has to be selected with the order.



Optionally a universal input connector can be selected and with the use of conversion adapters different types of connectors can be used.

### Internal battery

The instrument is delivered with a NiMh internal battery with built-in charger. It can be mains operated through universal 100-240 Vac input. The battery allows 3 hours of minimum autonomy from fully charged status.

The **PROLITE-60** is an ideal instrument for many type of applications in the optic field. Thanks to its low weight, reduced dimensions, rough use proof design and built in battery operation it also becomes ideal for any type of field type operation.

### Connection to PC

The communications port with PC is possible through 25 pins parallel, 9 pins RS-232 type and Ethernet connectors.



SPECIFICATIONS	PROLITE-60	Cycle time	5 s
<b>Wavelength</b> Range Span Resolution Accuracy Stability	1250 nm to 1650 nm 400 nm to 10 nm 0.150 nm ± 0.8 nm ± 0.2 nm	<b>Optical connector</b>	FC/PC
		<b>Display</b>	6.4" TFT color
		<b>Power supply</b> Mains supply Autonomy	100-240 V AC 3 h approx.
		<b>Mechanical features</b> Dimensions Weight	294 (W) 126 (H). x 274 (D).mm. 5.7 k
<b>Power</b> Dynamic range Accuracy Flatness Stability OSNR (Selectivity at 1550 nm) @ 25 GHz (± 0.2 nm) @ 50 GHz (± 0.4 nm) @ 100 GHz (± 0.8 nm)	-60 dBm to 10 dBm ± 1 dB ± 0.5 dB ± 0.2 nm 18 dB 25 dB 30 dB	<b>Broadband source (optional)</b>	1550 nm SLED light source (please ask for other wavelengths)
		<b>Universal optical connector (optional)</b>	SC, FC, E-2000, ST, DIN
<b>Polarisation dependency</b>	<1dB		



## **PROLITE-63B** Low cost optical power meter

- ✓ **Wide dynamic range, great capacity of power metering.**
- ✓ **Digital communication with PROLITE-55 light source for auto wavelength recognition.**

The **PROLITE-63B** is a functional and intelligent optical power meter. Under the situation of laboratory, LANs, WANs and CATV as well as long distance optical network, the optical power meters, together with **PROMAX** LASER sources can be used to identify optical fiber, measure optical attenuation, verify continuity and evaluate fiber link transmission quality.

Its memory capacity extends up to 999 data items. **PROLITE-63B** enables data transfer to a PC via USB connection. With the software, the data sheet can be saved as MS Excel or TXT, and printed out directly.



- ✓ **Referencing function.**
- ✓ **Memory capacity of 999 data items; enables data transfer to a PC via USB connection.**
- ✓ **LCD backlight for easy operation in darker environments.**
- ✓ **More connectors are optional and interchangeable by the user.**
- ✓ **Two powering systems: Internal rechargeable batteries or AC adaptor.**
- ✓ **Wide dynamic range and high power measurement capability.**
- ✓ **High accuracy and Stabilized.**
- ✓ **Auto poweroff function: saves the power and low power consumption allows extended operation in the field.**
- ✓ **Interchangeable fiber-optic adapters.**



## **PROLITE-63B** Low cost optical power meter

SPECIFICATIONS	PROLITE-63B - Low cost optical power meter
Calibrated Wavelengths Detector Type Accuracy (*) Resolution Linearity Back Light Reference Value Measuring Range USB Interface Data Storage Wavelength Recognize Tone Detection (Hz)	850 / 1300 / 1310 / 1490 / 1550 / 1625 nm InGaAs $\pm 0.2$ dB $\pm 1$ nW 0.01 dB $\pm 5$ % Yes Yes -70 to +10 dBm @1550nm Yes Yes $\geq -40$ dB 270, 1K, 2K $\geq -40$ dB
POWER SUPPLY Auto Power Off	4 x Ni-MH 2500 mAh batteries or 6 V AC/DC Adaptor Yes
MECHANICAL FEATURES Dimensions Weight	W. 76 x H. 160 x D. 45 mm 270 g

(\*) Accuracy at 1550nm, CW, 23 $\pm$ 3°C, Relative Humidity  $\leq$ 70%, with FC connector.

# SELECTIVE OPTICAL POWER METER FOR FTTH-xPON

The **PROLITE-67** is an instrument to measure **simultaneously and in a selective way** the three wavelengths used in fiberoptics. Thanks to this feature, you can certify any installation according to the new telecommunications policy.

Connecting the fibre cable that comes from the distribution centre to the OLT plug and the fibre cable that goes to the user to the ONT plug, it takes measures without interrupting the service.

It has a Visual Fault Locator, which emits a visible laser light (continuous or intermittent) that allows the user to locate cuts or breaks, identify fibres, etc.



**selective  
filter**

ATTENUATION TEST			
$\lambda = 1310 \text{ nm}$	-0.1	ATT dB	✓
$\lambda = 1490 \text{ nm}$	-0.1	ATT dB	✓
$\lambda = 1550 \text{ nm}$	-0.0	ATT dB	✓

*Attenuation Test function*

OPTICAL LOSS TEST SET			
1310 nm	-0.4 dBm	+0.1 dB	-0.4 dBm
PASS			THR: 00
1490 nm	-0.1 dBm	+0.1 dB	-0.0 dBm
PASS			THR: 01
1550 nm	-0.3 dBm	+0.0 dB	-0.2 dBm
HIGH			THR: 02

*Optical Loss Test Set function*

xPON POWER METER			
UP	1310 nm	DWN1	1490nm
	-1.8 dBm		-14.0 dBm
			THR: 01 ✓
		DWN2	1550nm
			-50.0 dBm
			THR: 02 ↓

*xPON Power Meter function*

## ✓ ATTENUATION TEST and OLTS functions

They allow the user to certify fiber-optic installations according to current regulations. In combination with a triple laser source (**PROLITE-105**) they take individualized measurements for three wavelengths (1310, 1490 and 1550 nm) and displays them simultaneously on screen.

## ✓ LOSSES function

It measures insertion losses defining a reference value.

## ✓ LOGGER function

It stores up to 500 acquisitions per function. Measures of each wavelength and all related data are saved. Later they can be checked or transferred to a PC.

## ✓ POWER METER function

This feature allows you to measure optical power at wavelengths corresponding to networks RFoG or xPON. The instrument is connected in "pass-through" mode, that is, it measures simultaneously the Upstream and Downstream signal power **without interrupting the service**.

## ✓ USB to PC connection

The **PROLITE-67** has an USB plug to connect to the PC and obtain reports, print measures and upgrade the firmware.

# SELECTIVE OPTICAL POWER METER FOR FTTX-xPON

SPECIFICATIONS	PROLITE-67
Bandwidth OLT/OPM input  ONT (upstream channel) input ONT/OPM-OLT insertion loss Polarization dependent loss ONT, OLT connectors Internal Fibre optic Dynamic Range ONT/OPM input OLT (Burst) input Accuracy Modulation	1310 nm 1490 nm 1550 nm 1100 - 1700 nm < 1.2 dB < 0.2 dB SC/APC 9/125 µm  -50 dBm at 20 dBm -32 dBm at 20 dBm ± 0.5 dB <sup>1</sup> Automatic detection at 230 Hz / 1 kHz / 2 kHz / 3 kHz
<b>VISUAL FAULT LOCATOR</b> LASER type Wavelength Optical Power Modulation Connector	FP 650 nm -2 dBm (monomode fibre / class 2) 1 Hz / 50% Universal Receptacle 2.5 mm
<b>USB INTERFACE</b>	Type-B Mini USB female connector. For data transferring, threshold values editing and firmware updating
<b>ALIMENTATION</b> Battery Low Battery Indicator Operating time Battery Charging External Voltage Consumption Mains Adapter	7.4 V Li Ion battery Graphic indicator on screen Approx. 10 h By fast internal charger  12 V DC 13 W From 90 V to 250 V, 50-60 Hz (Included)
<b>MECHANICAL FEATURES</b> Dimensions Weight	W. 180 x H. 95 x D. 50 mm 459 g. (battery and safety case included)
<b>INCLUDED ACCESORIES</b>	Mains Adapter 90 - 250 V AC, Feeder cable car, Mains cord CEE-7, Data Transfer Cable USB to PC, Cable USB(A)M-MiniUSB (B) M, CD-ROM PROLITE-67, User's Manual
<b>OPTIONAL ACCESSORIES</b>	1.25 - 2.5 mm VFL adapter, Transport suitcase

<sup>1</sup> OLT input: 1310 nm, 1490 nm, 1550 nm (-10 dBm)  
 ONT input: 1310 nm / 1600 nm (> -28 dBm)



# FTTH ANALYSER & SELECTIVE OPM



FTTH ANALYSER

GPON SELECTIVE METER

12:53:11

-7.9 -32 -54.5 +8.8 -35.5

THRESHOLD ONT Out

LOSSES ONT THRESHOLD LOSSER REF

PROLITE 77

FTTH Analyser

Made in EU

The quality, our benchmark

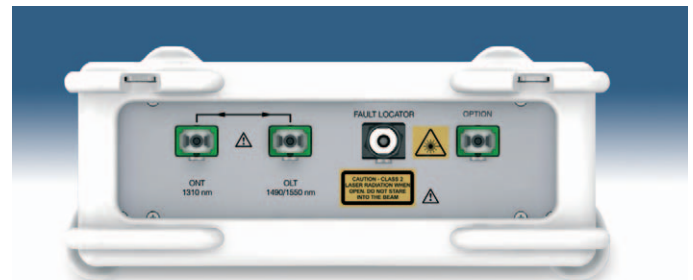
## FTTH ANALYSER & SELECTIVE OPM



optional:  
**C band**

### Professional measurements

- FTTH portable analyser for FTTx/PON systems, optimised for GPON architecture.
- Filtered measurements, individualized and simultaneous for the three wavelengths that are used in fibres (1490 and 1550 nm for Downstream and 1310 nm for Upstream).
- Up to 10 groups of configurable threshold values: Maximum and minimum values per wavelength.
- High selectivity in measuring each wavelength.
- Relative measurement: Estimation of losses with respect to a configurable reference value.
- Expandable to channel analyser module in C-band.
- Attenuation test. Selective filters at three wavelengths.

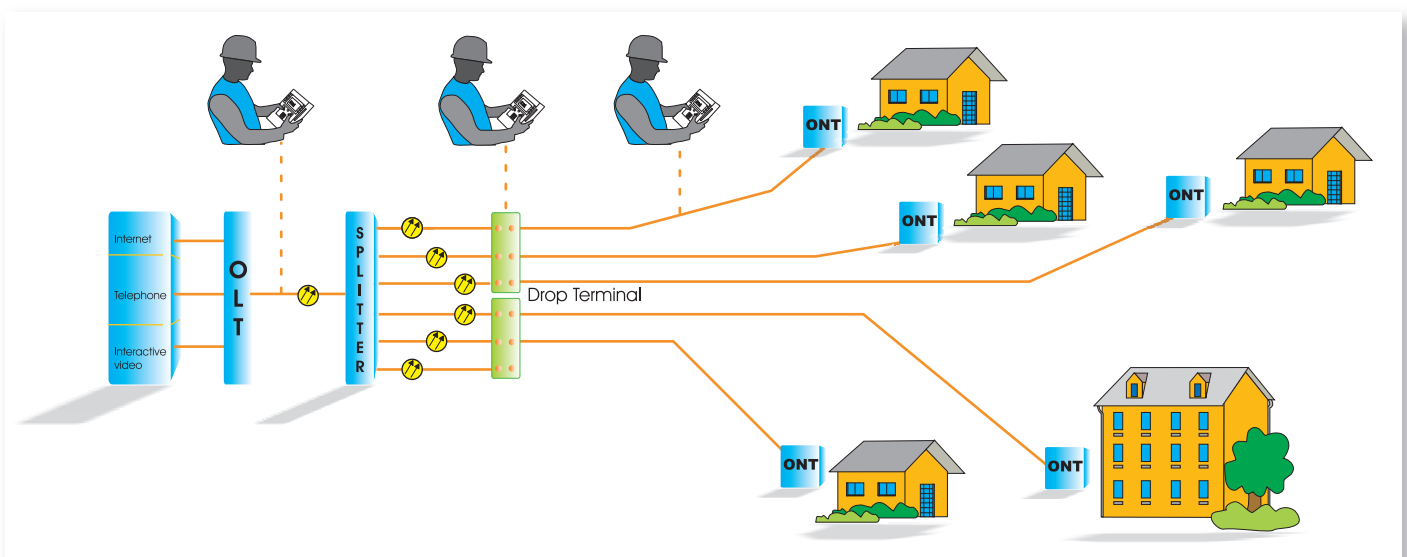


### Fibre Optics networks

**GPON** are networks based on FTTx/PON technology, which provide speeds over 1 Gbps, using only passive elements.

**GPON** (Gigabit Passive Optical Network): This is the technology used in most applications in which the optical fibre is passed up to the user (**FTTH** Fibre To The Home).

The user has an **ONT** device (Optical Network Termination) that communicates with a device on the **OLT** (Optical Line Termination) network. This **OLT** transmits the Downstream signal permanently while responses of **ONT** users are pulsed.

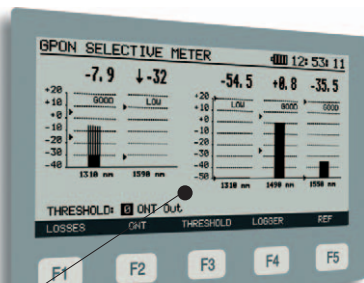




## FTTH ANALYSER & SELECTIVE OPM

### Very intuitive graphical environment: Fast display of measures on screen

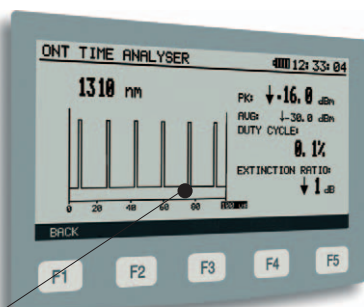
- Graphical (bars) and numerical representation of power.
- Shows simultaneously the 3 wavelengths in the screen.
- Status LEDs: GREEN (within threshold values), RED (below threshold values) and ORANGE (above threshold values).
- Simultaneous display of Upstream signal low and peak values.
- It allows the user to configure threshold values for each wavelength
- It displays messages indicating the power over the threshold value (LOW, OK, HIGH).



Selective GPON meter

### Easy to use, Plug and Play!

- Just connect the fibre and read the results.
- Directionality at the measurement: It avoids confusion between OLT and ONT.
- Pass-through ONT and OLT connection, allowing full communication while performing the measurements.
- Ambidextrous keyboard. Charge indicator on screen.
- Keyboard shortcuts to the most important functions.



ONT time analyser

### Upstream analysis in detail

- Graphical representation of the upstream signal over time.
- High resolution of pulses (up to 50  $\mu$ s). Duty Cycle and Extinction Ratio measurement.

### Attenuation Test: a quick way to certify the wiring

- Connect a pulse generator, such as the **PROLITE-105**, in the head-end and check the quality of reception for each wavelength at each network outlet with the **PROLITE-77B**.
- The **PROLITE-105** can generate sequentially three pilots independently, without intervention of an operator: just a single person to check the whole system!

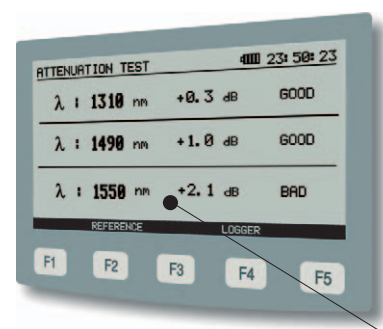


### Visual Fault Locator: It quickly detects any problem

- Visible laser of 650 nm for the visual fault location in interconnections. Beam emission in continuous or pulse mode.
- LED laser in operation warning indicator.
- UNIVERSAL output laser connector.

### Ideal for fieldwork

- 13 cm screen (5 ") backlit and contrast adjustable.
- Silicone protective cover: protects the instrument and facilitates holding it.
- Integrated slider covers keep input and output connectors from dust.
- Rechargeable, long operating time Li-Ion battery.
- Carrying case with belt included.



Selective attenuation test

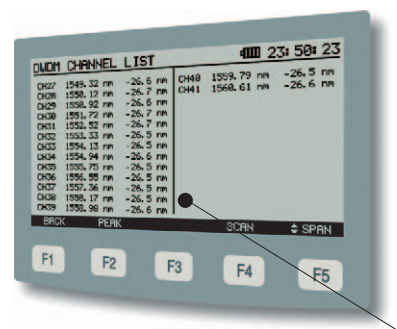
## FTTH ANALYSER & SELECTIVE OPM

### Data management: Keep measurement records of each installation

- It stores up to 100 records on the equipment memory.
- Each record comprises measures for 3 wavelengths: Date and time of acquisition, absolute measures, state regarding threshold, relatives measures.
- Data transfer to a computer via USB.
- Unique software for data management supplied with the equipment.



LOGGERS REPORT - FTTH ANALYZER - GPON METER - PROLITE 75									
LOGGERS 00 - HUB BALMES 34 - BCN		20:20:57		23 FEB 2009					
INPUT	PWR dBm	QLT	AVG dBm	REL PWR dB	Reference values	Thresholds	Group 00 user		
ONT 1310 nm	-13.5	GOOD	-20.6	-18.5	13.0 dB at 20:20:15 2 feb 2009	-20.0 dBm to 5.0 dBm			
OLT 1490 nm	-23.5	LOW	-28.5	-28.5	13.0 dB at 20:20:25 2 feb 2009	-20.0 dBm to 5.0 dBm			
OLT 1550 nm	-40	NO SIGNAL	-40	-40	13.0 dB at 20:20:35 2 feb 2009	-10.0 dBm to 20.0 dBm			



DWDM channel list

### Spectrum analyser in C-band OP-077-S option

- Specially designed for ITU G692 channels separated by 100 GHz (0.8 nm) in C band (1529-1564 nm).



SPECIFICATIONS	PROLITE-77B	Power supply	
<b>Attenuation test</b> Triple band selective input Measurement range Complementary LASER source	1310 nm, 1490 nm, 1550 nm From -50 dBm to 20 dBm PROLITE-105	Battery Low Battery screen Indicator Battery Charging Mains Adapter AL-103	Li Ion (7.4 V – 4.8 Ah) Graphic indicator (four levels) By fast internal charger 100 a 240 V AC/ 50-60 Hz / 12 V DC
<b>GPON/RFoG Measures</b> Operating Wavelength Range Double band ONT input (Up.)  OLT Input (Downstream) Insertion Loss (ONT-OLT) Polarization depending on loss Isolation 1330 nm ~ 1490/1550 nm 1490 nm ~ 1550 nm Optical Connectors ONT, OLT Internal Fibre optic Dynamic Range (dBm)	1310 ±40 nm (GPON) 1625 ±50 nm (RFoG) 1490 ±10 nm and 1550 ±10 nm < 1.2 dB < 0.2 dB  > 50 dB > 50 dB SC/APC SMF-28E -35 to 20 (ONT), -55 to 20 (OLT)	<b>OP-077-S option</b> Wavelength range Dynamic range Input power per channel Bandwidth Channel separation Sweep time Absolute power accuracy Power repeatability Return loss Operating temperature Storage temperature Fibre type	Optical analyser in C-band From 1529 nm to 1564 nm From -50 dBm to +20 dBm From -50 to +10 dBm @1 dB: ± 0.1 nm / @20 dB: ± 0.7 nm 100 GHz 2 s (full C band) ± 1 dB max. ± 0.1 dB max. -40 dB max. From 0 to 50 °C From -40 to 85 °C 9/125 mm SM
<b>Fault locator</b> LASER type Optical Power Intensity Modulation Connector	FP, 650 nm -2 dBm (Mono Mode) / Class 2 1 Hz / 50% Universal Receptacle 2.5 mm	<b>Mechanical Features</b> Dimensions and weight  <b>Included Accessories</b> AL-103 AA-103 FD-90 CA-005	W. 160 x H. 230 x D. 50 mm / 1.4 kg  Mains Adapter Car lighter charger Carrying bag Mains Cord Battery, Instruction Manual

## FTTH TRIPLE LASER SOURCE

The **PROLITE-105** laser light source emits light at three wavelengths that are used to transmit data through optical fibre on FTTx networks: 1310, 1490 and 1550 nm. It allows selecting easily the desired wavelength by means of direct access keys, in order to generate a modulated signal or to activate the automatic operation mode.

These light sources may be modulated with 270 Hz (1310 nm), 1 kHz (1490 nm) and 2 kHz (1550 nm). They are modulated at different frequencies to measure the attenuation of the fibre for the three wavelengths in combination with a power meter (such as **PROLITE-67** or a **PROLITE-77**). Usually this measure is required to certificate telecommunications infrastructures.



LASER light source  
PROLITE-105

ATTENUATION TEST			
$\lambda = 1310 \text{ nm}$	-0.1	ATT dB	✓
$\lambda = 1490 \text{ nm}$	-0.1	ATT dB	✓
$\lambda = 1550 \text{ nm}$	-0.0	ATT dB	✓



Selective optical power meter  
PROLITE-105

## FTTH TRIPLE LASER SOURCE

SPECIFICATIONS	PROLITE-105
Wavelengths generated Tolerance Spectral width (DFB laser) Spectral drift Output connector Output power Stability / time 1 h 8 h Stability / temperature	1310 nm, 1490 nm and 1550 nm $\pm 10$ nm a 25 °C < 1nm 0.1 nm/°C typ. Tipo SC / APC 0 dBm $\pm$ 1dB on SM fibre (10 min Warmup) 0.1 dB at temperatures $\pm 1$ °C from 0 to 40 °C 0.2 dB at 25 °C 1 dB typ. From 0 °C to 40 °C (10 min Warmup)
INTERNAL MODULATION 1310 nm 1490 nm 1550 nm	270 Hz 1 kHz 2 kHz
POWER SUPPLY Battery Low Battery Indicator Battery operation time External Voltage Power Consumption Network charging adaptor	Li-Ion battery LED light indicator 25 h. approx. in SEQ mode  12 V DC 12 W From 90 V to 250 V; 50-60 Hz (included)
MECHANICAL FEATURES Dimensions Weight	180 mm (W) x 95 mm (H) x 50 mm (D) 500 g
INCLUDED ACCESORIES	Car lighter adapter, Mains adapter 90-250 V AC, Power cable CEE-7, Carrying case
ACCESORIOS OPCIONALES	Transport suitcase



## PL-575 Fibre optics “Low Cost” Measurement kit

The **PL-575 Kit** includes a light source **PROLITE-55** model and a **PROLITE-57** optical power meter. Both instruments are designed under the “low cost” philosophy and are equipped with the basic functions for the certification of optical distribution facilities.

Through established measurement routines, the operator can develop the proper measurements protocol. The installer takes a starring role in the mechanics of measurement and interpretation.



### PROLITE-57 Optical meter

**PROLITE-57** is a portable, high quality PON optical power meter for FTTx networks using PON technologies (*Passive Optical Network*). It is capable to measure all three signals (1310 nm, 1490 nm and 1550 nm). The simple operation and accurate measurement make it an ideal tool for xPON networks installation, certification and troubleshooting.

- ✓ Designed for field and lab testing.
- ✓ PASS/FAIL mode. User definable threshold value.
- ✓ Battery operation for more than 20 hours.



### PROLITE-55 Triple LASER source

**PROLITE-55** LASER light source offers 1310 nm, 1490 nm and 1550 nm wavelengths for accurate fiber testing, especially in FTTx. This compact instrument operates in either continuous wave (CW) mode or modulated mode.

- ✓ Easy-to-use, straight forward operation.
- ✓ LCD backlight for easy operation in dark environments.



### Pigtails for calibration

Connecting them between the light source and the power meter, they allow the calibration of the measurements taken by the latter.



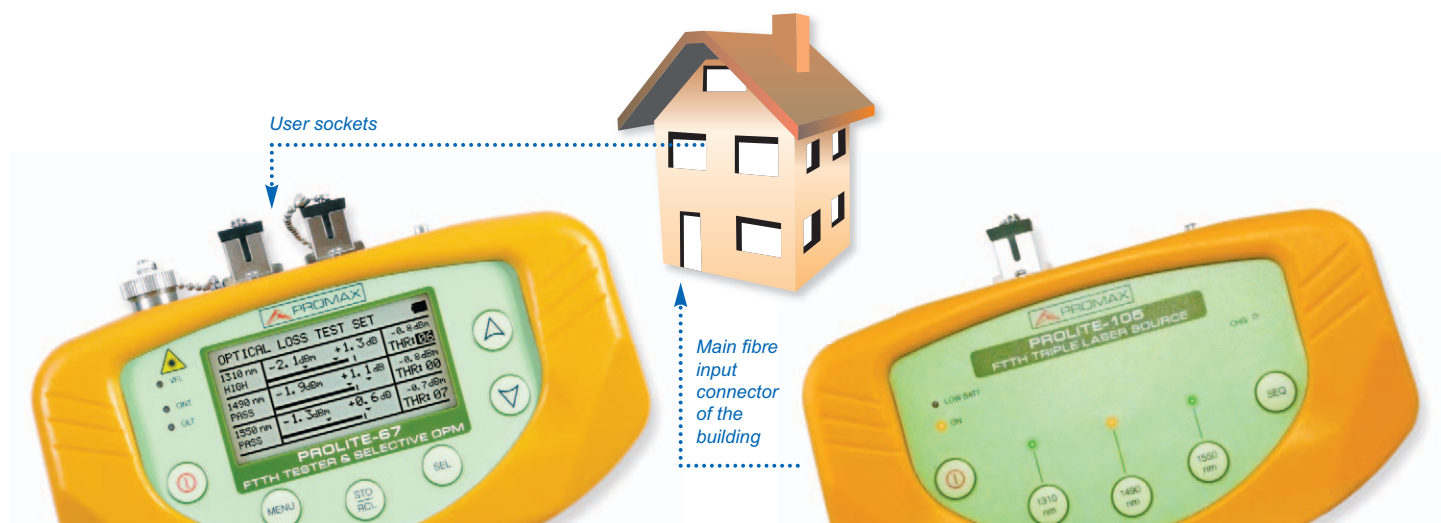
### Hard suitcase for transport

Suitcase rigid and resistant, ideal to protect the kit from bumps, shakes and weather.



## PL-675 Fibre optics Basic Measurement kit

Designed for the certification of a fibre optics network in a building. It allows a single operator to certify all the optical fibre outlets by connecting the **LASER source (PROLITE-105)** to the main fibre input connector of the building and emitting simultaneously the test signals, while the operator verifies the optical signal power in each outlet by using the **PROLITE-67 selective power meter**.



### PROLITE-67 Selective OPM

The **PROLITE-67** is an instrument designed to measure simultaneously and in a selective way the three wavelengths used in optical fiber. Thanks to this feature, you can certify any installation according to the new telecommunications policy. It allows to take measurements without interrupting the service.

It has a Visual Fault Locator, which emits a visible laser light (continuous or intermittent) that allows the user to locate cuts or breaks, identify fibres, etc.

- ✓ Selective meter of losses and Optical Power at 3 wavelengths (OLTS).
- ✓ Selective Optical Power Meter (OPM).
- ✓ Power Meter FTTH-GPON (xPON Meter).
- ✓ Visual Fault Locator Device (VFL).
- ✓ Output for Certificates of Measurement.



### Pigtails for calibration

Connecting them between the light source and the power meter, they allow the calibration of the measurements taken by the latter.

### PROLITE-105 3-wavelength LASER source

Emits light at three wavelength that are used to transmit data through optical fibre on FTTH networks: 1310, 1490 and 1550 nm. It allows selecting easily the desired wavelength by means of direct access keys, in order to generate a modulated signal or to activate the automatic operation mode.

These light sources may be modulated to measure the attenuation of the fibre for the three wavelengths in combination with a power meter. Usually this measure is required to certificate telecommunications infrastructures.

- ✓ Triple laser source for certification of FTTH optical fibre at wavelengths 1310, 1490 and 1550 nm.
- ✓ Low-frequency modulation selectable for each wavelength. Sequential mode for automatic measurements in combination with a Prolite-67.
- ✓ Optional version at 1310, 1550 and 1625 nm.

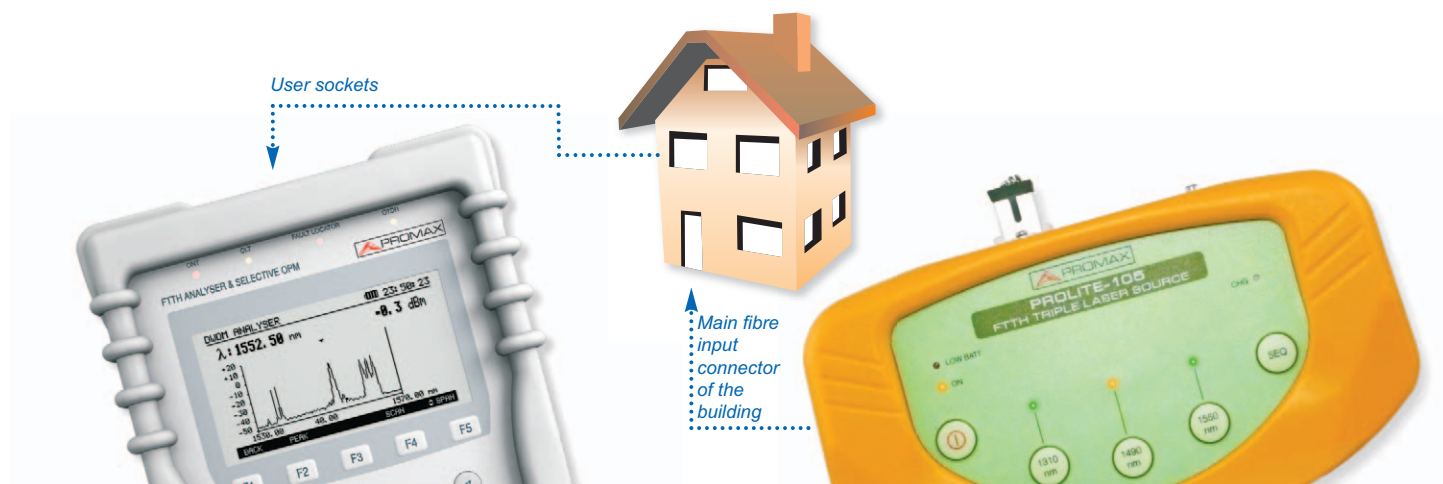


### Hard suitcase for transport

Suitcase rigid and resistant, ideal to protect the kit from bumps, shakes and weather.

## PL-775 Fibre optics advanced measurement kit

Designed for the certification of a fibre optics network in a building. It is composed of a **PROLITE-105 LASER source** and an **advanced selective optical power meter (PROLITE-77B)** that has features such as losses measurements, ONT measurement, power measurement and spectrum analyser optional module. By using both instruments, a single operator can certify the fibre optics network.



### PROLITE-77B Selective OPM

The **PROLITE-77B** is optimized for analysis, installation and maintenance of fibre optics networks based on GPON architecture, that is, networks based on technology FTTH / PON, that provide speed over 1 Gbps.

Provides filtered measurements, individualized and simultaneous for the three wavelengths that are used in fibres (1490, 1550 and 1310 nm). Optionally, a Spectrum Analyser module is available designed specially for ITU G692 channels separated by 100 GHz (0.8 nm) in **C band**.

- ✓ Selective meter of losses and Optical Power at 3 wavelengths (OLTS).
- ✓ Optical Return Loss Meter (ORL).
- ✓ Power Meter FTTH-GPON (xPON Meter).
- ✓ Expandable. It allows enabling FTTH services.
- ✓ Visual Fault Locator Device (VFL). Certificates.



### Pigtails for calibration

Connecting them between the light source and the power meter, they allow the calibration of the measurements taken by the latter.

### PROLITE-105 3-wavelength LASER source

Emits light at three wavelength that are used to transmit data through optical fibre on FTTH networks: 1310, 1490 and 1550 nm. It allows selecting easily the desired wavelength by means of direct access keys, in order to generate a modulated signal or to activate the automatic operation mode.

These light sources may be modulated to measure the attenuation of the fibre for the three wavelengths in combination with a power meter. Usually this measure is required to certificate telecommunications infrastructures.

- ✓ Triple laser source for certification of FTTH optical fibre at wavelengths 1310, 1490 and 1550 nm.
- ✓ Low-frequency modulation selectable for each wavelength. Sequential mode for automatic measurements in combination with a PROLITE-67.
- ✓ Optional version at 1310, 1550 and 1625 nm.



### Hard suitcase for transport

Suitcase rigid and resistant, ideal to protect the kit from bumps, shakes and weather.

## FIBRE OPTICS FUSION SPLICER



Litium battery

Includes cleaver,  
stripper, peg, alcohol  
dispenser bottle...

- ✓ Automatic fusion splicing on 3 axis (X,Y, Z). Maximum accuracy.
- ✓ Fibre aligning by means of core aligning method
  - ✓ Single or simultaneous axis view.
  - ✓ Fibre core can be display clearly.
  - ✓ 5.7" colour LCD display. Temperature and atmospheric pressure indicators.
  - ✓ Auto check quality of cleaved end face.
  - ✓ Small bulk and light weight.
  - ✓ Inner light to set fibre at night.
  - ✓ Inner heater.
  - ✓ Simple operation menu.
  - ✓ 8 seconds splice time and 30 seconds heat time.
  - ✓ Adjustable parameters.
  - ✓ Storage of splice result: 5000 results (10 parameters).
  - ✓ Fusion data results exported to an external USB flash drive.
  - ✓ VGA interface to connect to a projector.
- ✓ It includes cutter, stripper and hard carrying case for the complete fusion set transport.

SPECIFICATIONS	PROLITE-40B
Applicable fibres	Monomode (ITU-T G.652), Multimode (ITU-T G.651), DS (ITU-T G.653), (ITU-T G.657), NZDS (ITU-T G.655)
Fibre cleaved length	10 ~ 16mm
Fibre diameter	Cladding diameter: 80 ~150 µm. Coating diameter: 100~ 1000 µm
Fibre Count	Single
Fibre aligning method	Core aligning
Return loss	> 60dB
Actual average splice loss	0.02dB (SM), 0.01dB (MM), 0.04dB (DS), 0.04dB (NZDS)
Splicing mode	Automatic, half-automatic and manual modes
Splicing program	10 (SM), 10 (MM), 10 (DS), 10 (NZDS)
Typical Splicing time	Typical 8 sec, with standard SM fibre
Protection sleeve length	60mm, 40mm and a series of micro sleeves
Storage of splice result	5000 results, 10 parameter per result
Tension test	2N
Fibre display and magnification	400X (X or Y view), 200X (X and Y view)
Heating time for protection sleeves	Typical 30 sec
Electrode life	4000
No.of splice/heating with battery	Typical 220 cycles (splice/tube heat) with inner Li-battery
Display screen	5.7" and 640x480 pixel colour LCD display, with temperature and atmospheric pressure indicators.
Terminals	USB (fusion data results exported to an external USB flash drive) and VGA (for projector).
Power supply	AC 100-240V with AC adapter; inner Li-battery. 3:30 h charge time
Included accessories	Cutter, stripper, AC adapter, spare electrodes, fusion protection sleeves, alcohol dispenser bottle, tweezers, dust blowing pear, carrying case for the complete set
Dimensions	140 mm (L) x 150mm (W) x160mm (H)
Weight	2.8 Kg including battery



## OPTICAL FIBRE FUSION SPLICER

- ✓ Anti-shock protector
- ✓ Fibre aligning by means of core aligning method
- ✓ FASTER splicing: 7 s splicing, 25 s heating
- ✓ Applicable fibers: SM, MM, DS and NZDS

Fusion splicer model **PROLITE-41** from **PROMAX** is one of the **smallest and lightest** optical fiber splicing equipment available in the market today, featuring the **fastest splicing speed**.

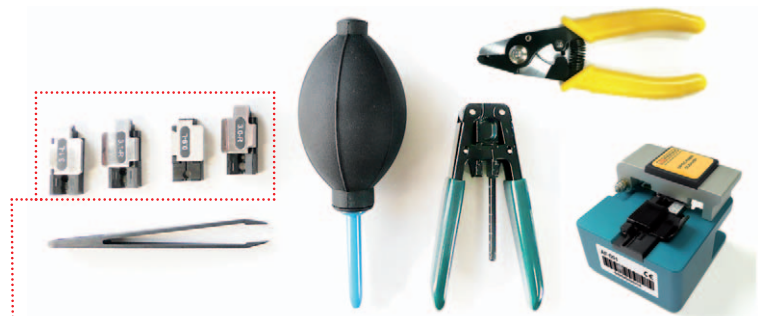
**PROLITE-41** uses advanced Optical Core Alignment fiber adjustment technology. Adopt four motors drive, have fiber adjustment function, it is not only used for FTTx environments, but also can be used for the trunk line of a telecommunication system.

Fusion Splicer **PROLITE-41** is a mini-type fusion splicing machine built in a titanium alloy body designed to be waterproof and dustproof. It includes an **anti-shock protector**.



### Details that make the difference

- ✓ Includes accessories for **immediate operation**: two strippers (for fibre and for drop cable), cleaver, dust blowing pear, isopropyl alcohol dispenser...
- ✓ Higher resolution LCD with configurable **screen orientation**
- ✓ **Replaceable** Heating Unit
- ✓ **Interchangeable** fiber holders
- ✓ **USB** Port



### Interchangeable Fiber Holders

User-replaceable fiber holders can be swapped at any time using a fast and safe magnet-guided fitting.

## OPTICAL FIBRE FUSION SPLICER

SPECIFICATIONS	PROLITE-41 OPTICAL FIBRE FUSION SPLICER
Applicable Fibers	SM(Single mode), MM(Multi-mode), DS(Dispersion shift), NZDS(Non zero dispersion shift)
Return Loss	≥ 60dB
Average Fusion Loss	0.03dB (SM) / 0.02dB (MM) / 0.06dB (DS) / 0.06dB (NZDS)
Fiber Diameter	Cladding diameter: 125 μm. Coating diameter: 250 μm ~ 900 μm
Fiber Adjustment Mode	Both core alignment and cladding alignment
Pull Test	2N
Magnification	115x (X/Y axis) / 230x (X axis or Y axis)
Screen	LCD 4.3"
Splice Results Storage	5000 groups of the latest records
Fusion splice Model	Prestore: 40 groups, User define: 80 groups.
Fusion splice Duration Time	7s
Heating time	35 s (60 mm) / 28 s (40 mm).
Loss Estimation of Fusion Splice	Yes
Lighting Mode	Internal High-brightness LED supply convenience for night work
Electricity Show	LCD show the remaining electricity accurately
Power supply	11.1 V user-replaceable lithium battery. Equipment can be used while charging the battery Typically work 180 times (Fusion splicing/Heating) 3 h Up to 500 times 12V direct charging port, convenient for quick charging External Power Adapter, Input: AC100 ~ 240V. Output: DC 13.5V/5A
Internal battery	
Battery capacity	
Battery charging time	
Battery cycle life	
Car Power Supply	
AC adaptor	
External Ports	USB 2.0 Port
Mechanical features	150 (D.) × 160 (W.) × 140 (H.) mm. (including antishock protector) 1.6 kg (without battery), 1.8kg (including battery)
Dimensions	
Weight	
Included accessories	Anti-shock protector, fibre drop cable stripper, optical fibre stripper, cleaver, dust blowing pear, isopropyl alcohol dispenser, tweezers, interchangeable fibre holders, AC adapter, carrying case



## OP-040B Fusion kit extension

*Designed for owners of a PROLITE-41 or PROLITE-40B fusion kits (optical fibre fusion splicer + cleaver + stripper)*

The **OP-040B** is an expansion for the **PROLITE-40B** and **PROLITE-41** fusion kits containing the most important tools and equipment to perform cost-efficient connections: microscope, cleaning items etc. It has all the required elements to ensure successful outcomes.



**AF-004**

Isopropyl alcohol cleaning wipes



**AF-007**

Fibre disposal unit



**AF-008**

Kevlar® scissors



**AF-009**

Connector cleaner



**AF-010**

SC/APC pre-polished connectors



**AF-011**

Mechanical splicer



**PROLITE-IIB**

Mini Visual Laser Source



**LAMP**

LED headlamp



**SUITCASE**

Transport and storage suitcase



Items can also be ordered separately