



# AIMING ANTENNAS ANALYZING DOCSIS INSTALLING FIBRE

## RANGER *mini*



THE COST-EFFECTIVE "ALL-IN-ONE"  
COMPACT ANALYZER FOR RF, CATV  
AND OPTICAL FIBRE



### TERRESTRIAL ANTENNAS

*Compatible with  
DVB-T, DVB-T2 and  
ISDB-T standards*



### SATELLITE ANTENNAS

*Allows pointing  
and adjusting DVB-S  
and DVB-S2 dishes*



### DOCSIS BAND ANALYZER

*It can be used to  
diagnose CATV  
networks*



### OPTICAL FIBRE ANALYSIS

*Integrated RF to  
optical converter,  
perfect for HFC networks*

*Optical fibre features available as an option.*

# INSTALLING TV AERIALS AND SATELLITE DISHES

## SPECTRUM ANALYSIS WITH DIGITAL TV SIGNAL QUALITY METER

The ultra compact **RANGER mini** field strength meter and its spectrum analyzer allow tapping a TV channel in its touch screen to get access to its quality measurements. It's that simple.

The **RANGER mini** is a small, handy and extremely lightweight device. Its rugged design is impact-resistant and protects the device from adverse conditions during its use in the field.



**INCLUDES ANALOGUE AND FM MEASUREMENTS**



### LNB SUPPLY

The instrument can feed 13 V, 18 V and send the 22 kHz tone.



### MULTISTANDARD

It can be used at almost any location in the world.



### DATALOGGER

Automatic measurements to analyze the performance of extensive networks.

## Quality measurements

Ensure the proper reception of the television services. Power, MER, preBER and postBER in a single screen together with the constellation diagram to evaluate the television reception quality at a glance.



## Point ant tap

The touch screen interface allows tuning a channel in the band just by pressing on. It is the most intuitive way of using the spectrum analyzer.



# HFC NETWORKS DEPLOYMENT AND MAINTENANCE

## DOCSIS BAND COMPATIBLE. QAM AND ANALOG MEASUREMENTS

The ultra compact **RANGER mini** meter is compatible with the latest DOCSIS technologies such as DBG (DOCSIS Bonding Group). Its spectrum analyzer allows a clear identification of the SC-QAM, DOCSIS 3.0 and DOCSIS 3.1 carriers.

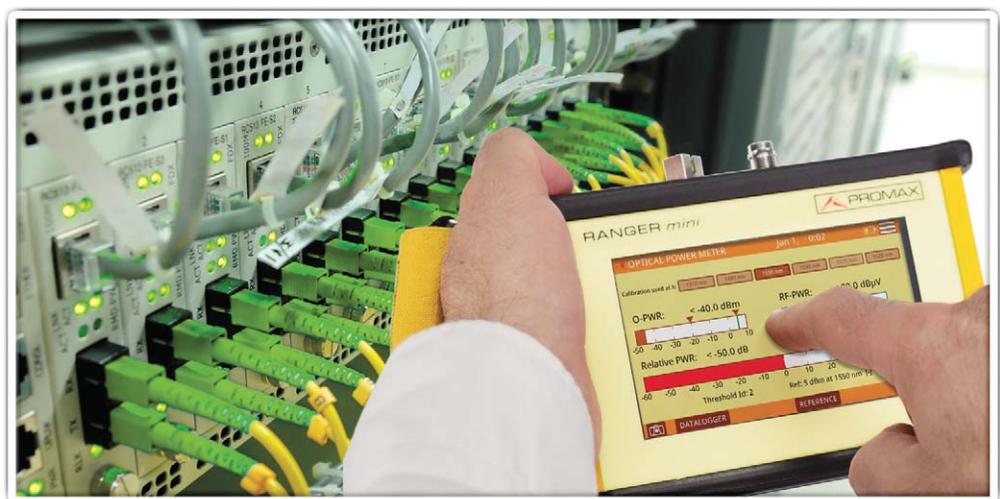
This makes even more versatile the **RANGER mini**, the most compact and cost-effective meter available today.



# OPTICAL FIBRE MEASUREMENTS FOR HYBRD HFC NETWORKS

## OPTIONAL OPTICAL TO RF INTERNAL CONVERTER

Using fiber is a growing trend in HFC networks today. The **RANGER mini** can include optionally an optical measurements input to allow the field technicians not only performing optical power measurements, but also all the RF measurements related to RFoG thanks to the optical-to-RF internal converter.



SPECIFICATIONS	RANGER mini Ultra compact low cost field strength meter
<b>SPECTRUM ANALYZER</b> Tuning range Tuning mode Bandwidth resolution Frequency tuning resolution Dynamic measuring range Measuring range in screen Max input level Units DOCSIS DBG tuning Upstream analyzer Satellite LNB supply Configuration Standard TV channel plans Customized channel plans Reference line Trace	From 5 to 2700 MHz By frequency or by channel 230 kHz or 2 MHz 10 kHz From -50 dBmV to 60 dBmV 50 dB 70 dBmV dBmV, dBμV, dBm DOCSIS 2.0, DOCSIS 3.0 and DOCSIS 3.1 16x8 channels From 5 to 2000 MHz From 950 to 2150 MHz 13 V, 18 V, 22 kHz tone CCIR, EIA, HRC, IRC, OIRL, FCC (channel plans depending on region) Up to 30 From -60 dBmV to 60 dBmV Normal, Max hold and Min hold
<b>STANDARDS &amp; MEASUREMENTS (ANALOGUE)</b> Terrestrial and Analogue TV Analogue CATV FM	Level, A/V, C/N CSO, CTB, HUM Level, Audio carrier demodulation
<b>STANDARDS AND MEASUREMENTS (DIGITAL)</b> Terrestrial DVB-T, DVB-T2, ISDB-T Satellite DVB-S, DVB-S2 CATV QAM Annex A, QAM Annex B DOCSIS 2.0, DOCSIS 3.0 DOCSIS 3.1	Power, MER, preBER, post V. BER, Constellation diagram Power, MER, preBER, pre L. BER, Constellation diagram Power, MER, preBER, postBER, Constellation diagram Power, MER (on QAM channels), BER, Constellation diagram, Upstream channel analysis Power, MER (estimated COFDM), Constellation diagram, Upstream channel analysis
<b>FUNCTIONS</b>	SCAN, TILT, Input voltage, RF power meter
<b>INPUTS AND OUTPUTS</b>	RF, USB, Ethernet, Power supply
<b>SCREEN</b>	5" Touch screen TFT LCD
<b>MECHANICAL FEATURES</b> Dimensions Weight	177 (W.) x 117 (H.) x 30 (D.) mm 700 gr
<b>POWER SUPPLY</b> Internal Li-Po battery Battery operation time Recharging time Consumption	7.6 V, 3 Ah >4 hours in continuous operation 3 h up to 80% (turned off) 12 W

	OPTICAL MEASUREMENTS OPTION
<b>OPTICAL POWER METER</b> Optical band Connector Dynamic range Calibrated wavelengths	From 1100 nm to 1700 nm SC-APC From -50 dBm to 10 dBm (accuracy 0.5 dB) 1310, 1490, 1550, 1625 nm
<b>OPTICAL TO RF CONVERTER</b> Optical band RF band Dynamic range Measurement tools	From 1100 nm to 1700 nm (optical band pass filter as special option) From 45 to 1700 MHz From -15 dBm to 10 dBm Spectrum analyzer, SCAN, TILT and Downstream DOCSIS analyzer