

## Warning!

Please read the user manual included in this work as it contains important information related with safety of installation and use of the device.

Only persons who read the user manual may use the device.

The user manual must be kept because it may be required in the future. The device is to be used exclusively for purposes specified in this user manual.

The device must be unpacked prior to starting-up. After removing the packaging make sure the device is in working order. If the product has defects, it should not be used until it is repaired.

The product is intended for use at home and commercial use and may not be used for other than intended use.

The manufacturer is not liable for damages resulting from not adhering to the rules contained in the user manual, therefore, we recommend to follow the aforementioned safety rules for operation and maintenance of the device. In this way you will ensure yourself safety and avoid causing damage to the device.

The manufacturer and the supplier are not liable for losses or damages arising out of the product, including financial or intangible losses, loss of profits, income, data, pleasure from use of the product or other products related with it - indirect, incidental or consequential loss or damage. The above provisions apply whether the loss or damage concerns:

1. Deterioration of quality or the lack of operation of the products or products related with it due to damage as well as the lack of access to the product when it is undergoing repair, which results in stoppage the loss of user's time or a break in business activity;
2. Improper results of operation of the product or products related with it;
3. It applies to losses and damages according to any legal category, including negligence and other losses, termination of a contract, expressed or implied guarantee and strict liability (even if the manufacturer or the supplier was notified about the possibility of occurrence of such damages).

### Safety measures:

Particular attention at designing was directed to quality standards of the device where ensuring safety of operation is the most important factor.

The device must be secured against contact with caustic, staining and viscous fluids.

The device was designed in such a way that it restarts operation when power supply is restored after a break.

**Attention! We recommend using protections to further protect the device from possible overvoltages in installations. Surge protectors are effective protection against accidental pass to the device voltages higher than the rated. Damages caused by pass the voltages higher than specified in manual, are not under warranty.**

Turn off the device before transporting it.

Prior to connecting the device to a power source check whether the supplied voltage is consistent with rated voltage specified in the user manual.

### Proper product disposal:

A marking of a crossed out waste bin indicates that the product may not be disposed together with other household waste in the entire EU. To avoid possible damage to the natural environment of health due to uncontrolled waste disposal, therefore, it should be handed over for recycling, propagating in this way sustainable use of natural resources.

To return a worn-out product, use a collection and disposal system of this type of equipment or contact a seller from whom it was purchased. He will then be recycled in an environmentally-friendly way.

Optical reflectometer (OTDR) with a multi-functional AHD, HD-CVI, HD-TVI, IP camera tester with many additional functions necessary during initialization CCTV and fiber optic installations.



Optical time-domain reflectometer (OTDR):	<ul style="list-style-type: none"> <li>• Optical wavelength : 1310 nm / 1550 nm,</li> <li>• Dynamic range : 28/26 dB</li> <li>• Wide measuring range <math>\leq 105</math> km</li> <li>• Accuracy : <math>\pm (1 \text{ m} + 5 \times 10^{-5} \times \text{distance} + \text{sampling interval})</math></li> <li>• Connectors : FC / SC</li> <li>• Measurement duration : 5 s, 10 s, 15 s, 30 s, 1 min, 2 min, 3 min</li> </ul>
Optical power measurement:	Optical power measurement in fiber optic networks (ST and SC adapters) Optical wavelength : 850, 1300, 1310, 1490, 1550, 1625 nm Range : -70 ... +10 dBm
VLS (VFL) - Visual Fault Locator of fiber cable:	Laser LD, 650 nm, 10 mW Range 8 km
Video standard:	<ul style="list-style-type: none"> <li>• AHD - 8 Mpx,</li> <li>• HD-CVI - 8 Mpx,</li> <li>• HD-TVI - 8 Mpx,</li> <li>• TCP/IP - 8K,</li> <li>• CVBS - PAL / NTSC</li> </ul>
Display:	5.4 " Retina - capacitive touch screen, 1920 x 1152 px
Video input:	<ul style="list-style-type: none"> <li>• 1 pcs AHD / HD-CVI / HD-TVI / CVBS - BNC socket,</li> <li>• 1 pcs HDMI, 60 fps, 4K</li> <li>• 1 pcs VGA</li> </ul>
Video output:	1 pcs HDMI, 30 fps, 4K
Port LAN:	2 pcs - PoE cameras and switches support
Audio input:	1 pcs Mini Jack
Audio output:	1 pcs Mini Jack
Video signal level meter:	—



# User Manual

Code: CS-R5-50H

OPTICAL REFLECTOMETER (OTDR) WITH CCTV TESTER **CS-R5-50H**

Video signal generator:	—
Serial ports:	RS-485
Protocols:	Support for over 30 RS485 protocols : Pelco-D, Pelco-P, YAAN, YAAN-O, YAAN-1, SAMSUNG, PANASONIC, Lilin-FAST, Lilin-MLP2, MOLYNX, MINKING A01, Fastrax, CBC, LC-NEW, WV-CS850, SONY-EVI, LG-MULTIX, DAT-SD, VICON, Vcltp, DH-YTC 06, Santachi, Bosch OSRD, TeleEye DM2, HD 600, Hikvision, KALATEL ASC, AD 168(M-B), SAMSUNG SPD, Siemens, Cohu, MINKING B01, ALEC
Baud rates:	150, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 115200 b/s
LAN (twisted-pair) or telephone cables testing:	UTP cables or phone lines connecting test with RJ-45 connectors
RS-485, lines test:	Data analysis from control device (the commands are displayed in hexadecimal)
Wi-Fi Module:	✓
Identification the wire in the group of wires:	✓
Audio test:	✓
Digital multimeter:	—
TDR reflectometer:	Detecting and locating a cable break or short circuit, 180 m (max)
Operation as power source:	<ul style="list-style-type: none"><li>• 5 V DC / 2 A from USB port</li><li>• 12 V DC / 3 A</li><li>• 24 V DC / 2 A</li><li>• 48 V (PoE, LAN), 24 W</li></ul>
Battery power supply:	<ul style="list-style-type: none"><li>• Li-Ion battery 5200 mAh</li><li>• 12 V DC / 2 A (power adapter included)</li></ul>
Estimated battery operation time:	max. 10 hours
Operation:	Graphical menu - touch control and by using the buttons



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Main features:	<ul style="list-style-type: none"><li>• Optical time-domain reflectometer (OTDR)</li><li>• AHD cameras test</li><li>• HD-CVI cameras test</li><li>• HD-TVI cameras test</li><li>• PAL/NTSC cameras test</li><li>• IP cameras test - Supported image compression methods : H.265, H.264, MJPEG</li><li>• Searching and view of IP cameras compatible with Onvif</li><li>• Motor units and PTZ (Speed Dome) cameras control</li><li>• IP cameras view from embedded applications - DH test tool, Hik test tool, UNV Test Tool, HuaWei Tool, TP-Link tool</li><li>• EZView</li><li>• Embedded Internet browser - Google Chrome</li><li>• LAN connections monitoring</li><li>• IP addresses scanner</li><li>• PING - test the link using ICMP packets</li><li>• Detection of the connected port in switch</li><li>• LAN (twisted-pair) cables testing</li><li>• The Cable tracer application - easy cable location in a disordered bundle</li><li>• PoE cameras and switches support</li><li>• PoE power meter</li><li>• DC 5V / 12V / 24V / 48V power source</li><li>• TDR reflectometer</li><li>• Optical power meter</li><li>• VLS (VFL) - Visual Fault Locator of fiber cable</li><li>• Data monitor - serial port data analysis RS-485</li><li>• Audio test</li><li>• Hotspot - Wi-Fi</li><li>• Playback the records</li><li>• VLC Media Player application installed - the ability to play multimedia files in many popular formats (.mp3, .mp4, .avi, .mpeg and others)</li><li>• Calculator</li><li>• Quickoffice package installed - creation and reading of .docx text documents, .xlsx spreadsheets and .pptx multimedia presentations</li><li>• Flashlight built-in</li><li>• The ability to change the display theme and background</li><li>• Android 10</li></ul>
Operation temp:	-10 °C ... 50 °C
Permissible relative humidity:	30 % ... 90 %
Weight:	0.87 kg
Dimensions:	212 x 148 x 49 mm
Supported languages:	Polish, English, Bulgarian, Czech, French, Greek, Spanish, German, Portuguese, Russian, Turkish, Italian
Guarantee:	2 years

Front panel (main menu options visible):



Bottom view:



Top view:



Rear view:

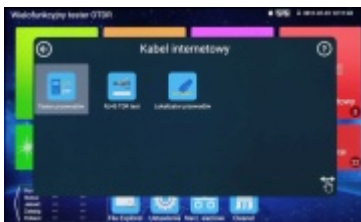
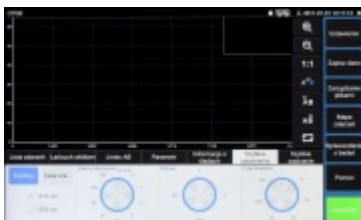


Place for battery:





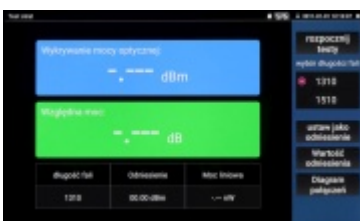
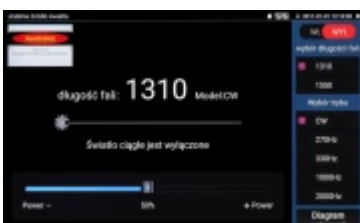
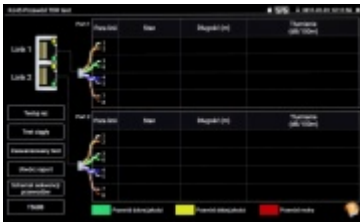
Main menu:





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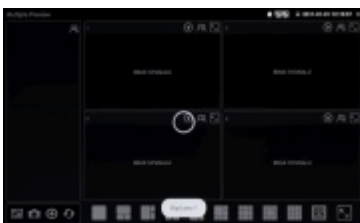
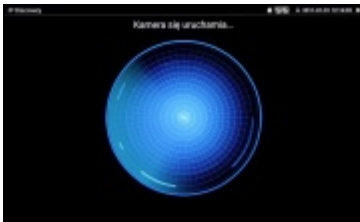
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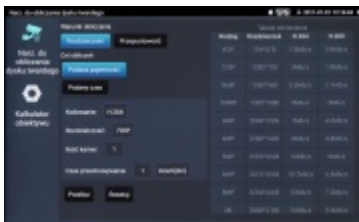
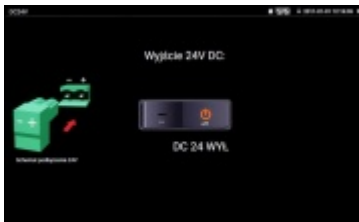
Port	Speed	Quality	Signal	Power	Energy	Temperature	Power
LAN1	x	x	x	x	x	x	x
LAN2	x	x	x	x	x	x	x



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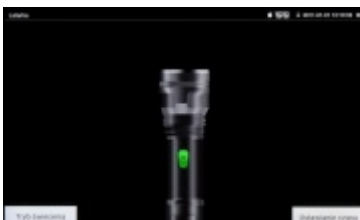
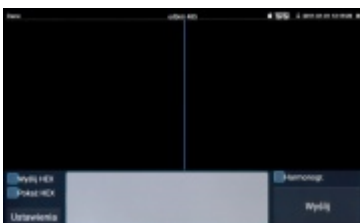
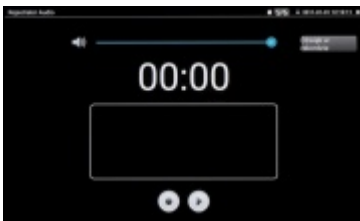


DELTA-OPTI Monika Matysiak; <https://www.delta.poznan.pl>  
POL; 60-713 Poznań; Graniczna 10  
e-mail: delta-opti@delta.poznan.pl; tel: +(48) 61 864 69 60



# User Manual

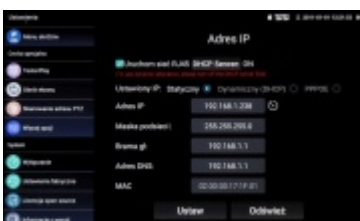
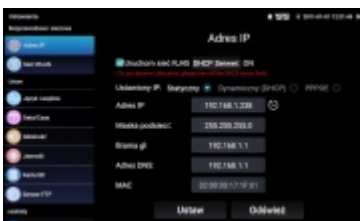
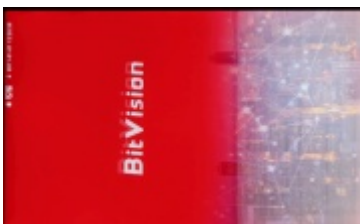
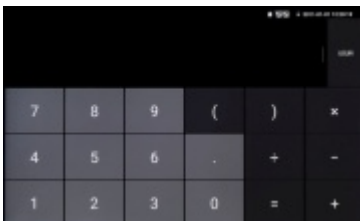
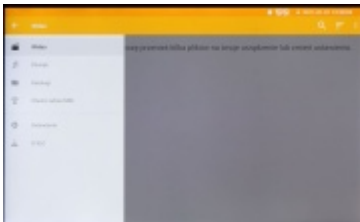
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In the kit:



The tester with accessories housed in a handy bag:





## PACKAGE

Dimensions (L x W x H): 0x0x0 mm	Gross Weight: 0 kg
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