

WIREFATH

SURVEILLANCE



WPS-CCTV-TESTER

**MULTI-FUNCTION
TESTER**

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IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus in or near rain or moisture.

1. Read and keep these instructions for future reference.
2. Do not use this apparatus near water.
3. Clean only with a dry cloth.
4. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where it exits from the apparatus.
5. Only use attachments/accessories specified by the manufacturer.
6. To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the AC receptacle.
7. This is CLASS II apparatus with double insulation, and no protective earth provided.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1 OVERVIEW

The WPS-CCTV-TESTER was developed for the on-site installation and maintenance of surveillance video monitoring systems. It can be used for displaying video to set up the scene for a camera (positioning, zoom, focus), testing data and controlling PTZ, generating video pattern images, capturing RS485 and testing Cat5e/6 cable. Digital multi-meter for voltage and continuity testing is also available. The easy operation and portability makes it simple for the CCTV technician to install and maintain CCTV systems, improving work efficiency and reducing labor costs.

1.1 Features

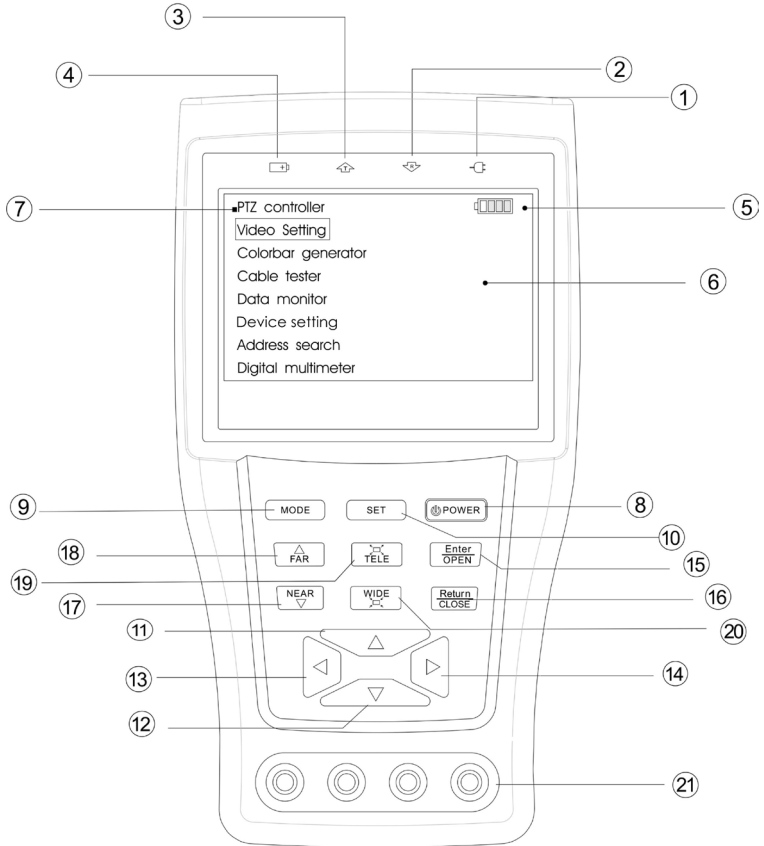
- 3.5"Color LCD Display (960(H)× 240 (V) resolution)
- Video Level testing(video signals measured in IRE or mV)
- 12VDC 1A power output for camera
- Audio input testing
- Digital multi-meter (voltage, current, resistance and capacitance)
- PTZ control - Pan/tilts the P/T unit, zooms in/out the lens, adjusts the focus, aperture, sets and selects a preset position
- PTZ continuing rotate test
- Video display - Automatically adapts and displays the video format of NTSC/ PAL
- LCD Brightness/Contrast/Color Saturation adjustments
- Video Generating - PAL/NTSC multi-system colorbar video generator
- Data analyst. Captures and analyzes RS485 controlling data
- Cable testing -Verify connector pin mapping and continuity of Cat5e/6 or telephone cable
- Supports RS232 ,RS485 and RS422; baud rate ranging from 150, to 19200bps
- Multi-protocol - Supports more than twenty PTZ protocols such as PELCO-D
- PTZ address scanning, search up the ID of PTZ camera
- Lithium Ion Polymer Battery (3.7V DC 3000mAh). Up to 12 hours for normal use after charging for 4 hours



1.2 Package Contents

- (1) WPS-CCTV-TESTER
- (1) Cat5e/6 cable Tester
- (1) BNC Cable
- (1) Safety Strap
- (1) Power Supply
- (1) Lithium Ion Polymer Battery
- (2) Multi-Meter Test Leads (1 Red / 1 Black)
- (1) RS485 Data Cable with 2 conductor plug
- (1) Audio Connection Cable with 3.5mm Stereo plug and Clips
- (1) Camera Power Cable
- (1) UTP Cat5e/6 Cable Tester
- (1) Operation Manual

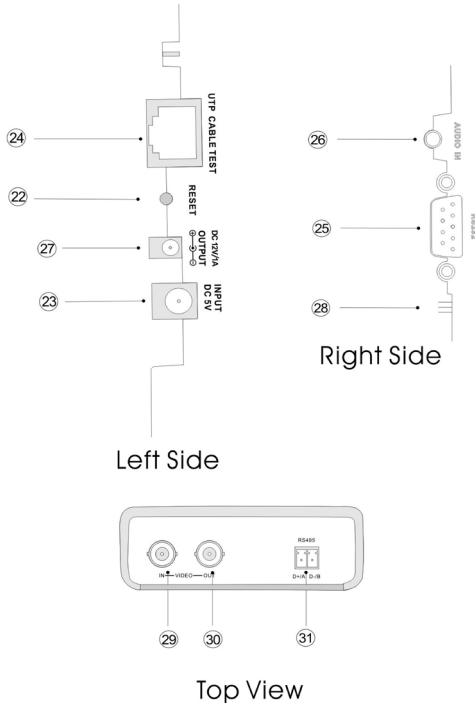
2 FRONT AND REAR PANEL

2.1 Front Panel



1. Power Indicator: Illuminates GREEN when tester is powered on.
2. Data-Reception Indicator: Illuminates RED while the data is being received.
3. Data-Transmission Indicator: Illuminates RED while the data is being transmitted.
4. Charge Indicator: Illuminates RED while the battery is being charged. Once the charging is complete, the indicator turns off automatically.
5. Battery Level Indicator: Displays the amount of battery charge remaining.
6. Main-menu: Displays main functions of WPS-CCTV-TESTER.
7. Sub-menu: Shows and sets the values of functions.
8. Power: Press & Hold for 2 seconds to turn tester On/Off; Press to turn PTZ controller menu On/Off.
9. Mode: Displays the main-menu; Use the  or  keys to navigate to desired menu item.
10. Set: Press to set parameters within certain sub menus.
 11. Up: Scroll up to menu item or adjust parameter.
 12. Left: Enter a sub-menu, or reduce the value of the parameter.
 13. Right: Enter a sub-menu, or increase the value of the parameter.
 14. Down: Scroll down to menu item or adjust parameter.
 15. Enter/Open: Confirm the setting of parameters, or open the aperture.
 16. Return/Close: Return or cancel while setting parameters, or close the aperture.
17. Near: Focus the image IN.
18. Far: Focus the image OUT.
19. TELE: zoom in the image.
20. WIDE: zoom out the image.
21. Digital multi-meter connections.

2.2 Side Panels



- 22. Reset all settings to default.
- 23. External power supply (5V DC): It is highly recommended to use the supplied power adapter.
- 24. UTP cable port: use with supplied UTP Cat5e/6 cable tester.
- 25. RS232 interface: RS232 communication for the PTZ.
- 26. Audio input: 3.5mm stereo
- 27. 12V DC 1A power output: output 12V DC power for camera
- 28. Tester speaker
- 29. Video In: Composite BNC
- 30. Video Out: Composite BNC
- 31. RS485/422 Interface: RS485/RS422 communication for PTZ.

3 PREPARATION FOR USE

3.1 Installing the Battery

1. Remove the tester from the protective case
2. Remove the battery door located on the left side of the tester
3. Connect the battery cable to the socket located towards the top of the tester
4. Install the door back onto the tester
5. Insert the tester into the protective case

3.2 Charging the Battery

Before using the tester for the first time, fully charge the battery.



The Charge indicator will illuminate RED while the battery is charging; this indicator will turn OFF once the battery is approximately 90% charged.

3.3 Power Button

Press & hold the power button for 2 seconds to turn the tester On or Off.

4 OPERATION

4.1 PTZ Controller

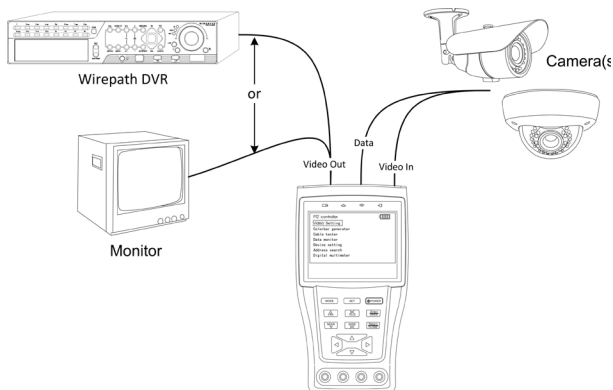
Display the input video images. Pan/tilt the P/T device and zoom in/ out the image. Setup the controlling parameters such as protocol, communication port, baud rate, PTZ ID, pan/tilt speed; set and call preset position.

4.1.1 PTZ Connections

The following connections should be confirmed before use:

- Video In to the output of camera
- RS485 connector to the PTZ connection on the camera or controlling device.

Note: RS485 connection accepts 6V max.



4.1.2 PTZ Settings



A. Protocol: Select the protocol according to the protocol of the PTZ camera. 21 popular protocols are available (Pelco D, etc).

B. Port: Select the communication port to control the PTZ camera (RS232/422/485).

C. Baud: Select the baud rate according to baud rate of the PTZ camera (150, 300, ... , 19200bps).

D. Address: Set the ID according the ID of PTZ camera. (0~254, BOSCHOSRD 1~16384).

Press or to adjust address, press **TELE** or **WIDE** for step 100 adjustments.

E. Pan Speed: Sets the pan speed of PTZ camera (0~63)

F. Tilt Speed: Sets the tilt speed of PTZ camera (0~63)

G. Set PS: Setup preset position (0~128)

1. Set the camera to desired PTZ position.
2. Press **SET** key to enter PTZ controller submenu
3. Navigate to **SET PS** and then press or key to select the preset position number.
4. Press **ENTER** key to complete preset position setting or preset **RETURN** key to display preset position setting.

H. Go PS: Call the preset position (0~128). The PTZ camera will go to the desired preset position.

1. Navigate to **GO PS** and then press or key to select the preset position number.
2. Press **ENTER** key to complete preset position selection or preset **RETURN** key to cancel preset position selection.



4.1.3 Camera OSD

Accessing the OSD menu and preset of the PTZ camera may vary with control systems (DVR, PTZ Controllers, etc.) from different manufacturers. Read the manufacturer's operation manual of the control system for details.

4.1.3.1 Wirepath Surveillance Cameras OSD

1. Navigate to **PTZ CONTROLLER** to enter PTZ controller mode.
2. Press **SET** to enter PTZ controller sub-menu.
3. Set **PROTOCOL** to match the setting of the camera
4. Set **PORT** to match the setting of the camera
5. Set **BAUD** to match the setting of the camera
6. Press **SET** to store the changes
7. Press **ENTER** to open the cameras OSD

4.1.3.2 PTZ OSD

1. Navigate to **PTZ CONTROLLER** to enter **PTZ** controller mode.
2. Press **SET** key to enter PTZ controller sub-menu.
3. Navigate to **GO PS**.
4. Press  or  key to select the preset number 64, and then press ENTER key to display PTZ OSD menu.

Preset PTZ Positions

Preset	Action
33	Open Auto-flip function
34	Reset zero point of PTZ camera
64	Enter the main menu of the PTZ camera
95	Enter the main menu of the PTZ camera or stop the PATTERN recording.
96	Run pattern-1
97	Run preset tour-1
98	Run frame Scan
99	Run Auto scan

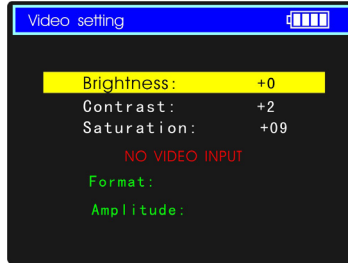
4.1.4 PTZ Continuing Scan Test

PTZ continuing rotate test is used to verify PTZ Rotation:

1. Press & Hold a direction button (e.g.  or ). The camera will begin rotating.
2. Press the POWER button, then release. Camera will rotate continuously.
3. Press any direction key to stop the camera from rotating.

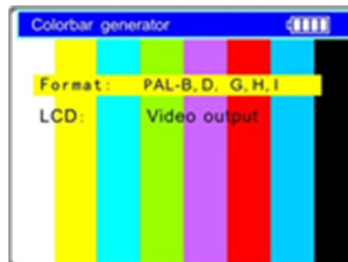
4.2 Video Setting

Customizes the brightness, contrast and saturation of the LCD Display according to the environment. The signal from the connected camera is analyzed to automatically set the display to the appropriate format (PAL/NTSC).



1. Press the **▲** or **▼** key to select the desired setting.
2. Press the **◀** or **▶** key to change the value. Press **ENTER** to save the change or press **RETURN** key to give up the change.
3. The Video Format and Video Level will be displayed in the lower portion of the screen. If there is no video signal at the Video IN port of the WPS-CCTV-TESTER, the type of NTSC or PAL , and Video Level will not be displayed.

4.3 Colorbar Generator



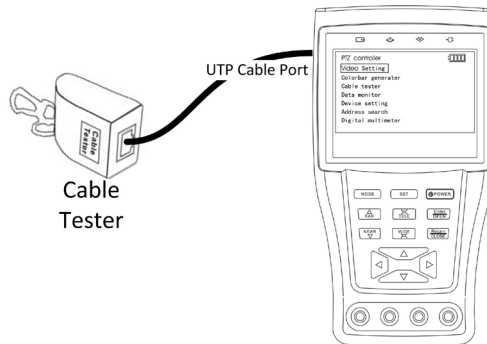
Outputs or receives different forms of video color bar to test monitor, video cable or other equipment.

1. Press the **▲** or **▼** key to select the desired setting.
2. Press the **◀** or **▶** key to change the value.
3. Press **ENTER** key to save the change or press **RETURN** key to give up the change.

4.4 UTP Cat5e/6 Cable Tester

Tests UTP Cat5e/6 cable or telephone cable.

1. Connect Cat5e/6 cable or telephone cable with the WPS-CCTV-TESTER and cable tester.



2. Select **CABLE TESTER** from the Main menu.

The status of the cable is displayed:

The left side shows the number of connectors (8) on the WPS-CCTV-TESTER.

The right shows the corresponding pins on the Cable Tester with the number of the cable tester.

A red X indicates that the cable pin is open or shorted.



4.5 Data monitor

Displays the command data from RS232 or RS485 controlling system.

1. Connect the RS485 or RS232 interface of controlling system with the RS485 or RS232 interface of the WPS-CCTV-TESTER (In case of RS485, A to A, B to B).
2. Press **SET** key and then press **▲** or **▼** key to select communication port according to the system connection. Press **SET** key to save the change.
3. Press **▲** or **▼** key to select the baud rate according to the baud rate of controlling system and then press **SET** key to save the change and capture command data from controlling system.
4. Press **RETURN** key to clear the screen.

4.6 Device setting

Sets the parameters of the WPS-CCTV-TESTER



- A. Auto Poweroff: Sets the amount of time for auto shut-down.
Disabled: Disables Auto Poweroff
Time for Auto Poweroff: 5 to 60 min in 5 min increments
- B. Keypad tone: Enables or Disables keypad tone when key is pressed.
- C. Language: Selects language of OSD menu
- D. Brightness: Sets the brightness of OSD menu and background.
0 – Dim
7 - Bright
- E. Address search: Enables or Disables PTZ Address Search menu.

Changing Settings

1. Press **▲** or **▼** key to select the desired setting.
2. Press **◀** or **▶** to change the value.
3. Press **ENTER** to save the change or press **RETURN** key to give up the change.

4.7 PTZ Address Scanning

Note: Isolate the PTZ camera with other PTZ cameras before searching. Otherwise all the PTZ cameras in the same system will pan at the same time.

1. Press **MODE** to enter the Device Setting menu.
2. Press **◀** or **▶** to set **ADDRESS SEARCH** to ON. Press **ENTER** to confirm.
3. Press **MODE** to switch to the sub-menu.
(**Note:** The system returns to OFF after shutdown and the scan sub-menu closes automatically.)
4. Press **SET** key to select protocol, communication port, and communication rate the same as the PTZ camera.
5. Press **NEAR** or **FAR** key, the address values will constantly increase or decrease.






NEAR: The tester will search continuously from 1 to 256. Once the camera pans to the right, press any key to stop searching.

FAR: The tester will search continuously from 256 to 1. Once the camera pans to the right, press any key to stop searching.




WIDE: The tester will search step by step from 1 to 256. When the ID is searched, the PTZ camera will stop panning.

4.8 Digital Multi-meter

4.8.1 Multi-meter Functions






	Auto range
	Data Hold
	Relative Measuring
	Function Select
	Manual Range

4.8.2 Multi-meter Symbols

U	DC Voltage Measuring	U~	AC Voltage Measuring
A	DC Current Measuring	A~	AC Current Measuring
Ω	Resistance Measuring		Continuity Testing
	Diode Testing		Capacitance Measuring

4.8.2.1 DC Voltage Measuring

WARNING: Do not input voltage higher than 660V DC. Voltages above 660V DC can damage the tester.

1. Connect the black test lead to the COM jack and the red test lead to the V jack.
2. Press   to select U
3. Enter the desired range to measure
 - Press  key to select Auto Range
 - Press   to select the desired range manually

Available Range:






 - 0.000V to 6.6V
 - 00.00V → 66V
 - 000.0V → 660V
 - 000.0mV → 660mV
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD. The polarity of the red lead connection is indicated along with the voltage value.

Note:

- When OL is displayed, it indicates over range situation and the higher range should be selected.
- When the value scale to be measured is unknown beforehand, set the range selector at the highest position.

4.8.3 AC Voltage Measuring

WARNING: Do not input voltage higher than 660V AC. Voltages above 660V AC can damage the tester.






1. Connect the black test lead to the COM jack and the red test lead to the V jack.
2. Press   to select U~
3. Enter the desired range to measure
 Press  key to select Auto Range
 Press   to select the desired range manually
 Available Range:
 0.000V to 6.6V
 00.00V → 66V
 000.0V → 660V
 000.0mV → 660mV
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD. The polarity of the red lead connection is indicated along with the voltage value.

Note:

- When OL is displayed, it indicates over range situation and the higher range should be selected.
- When the value scale to be measured is unknown beforehand, set the range selector at the highest position.

4.8.4 DC Current Measuring

WARNING: Before connecting to the tester, power off the circuit to be tested.






1. Connect the black test lead to the COM jack and the red test lead to the mA jack.
2. Press   to select A
3. Enter the desired range to measure
 Press  key to select Auto Range
 Press   to select the desired range manually
 Available Range:
 0.000A to 6.6A
 00.00A → 66A
 000.0A → 660mA
 000.0mA → 10A (connect to 10A Socket)
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD.

Note:

- When OL is displayed, it indicates over range situation and the higher range should be selected.
- When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- The maximum current of mA socket is 660mA, current over this value may cause damage to the tester.
- The maximum current of 10A socket is 10A, current over this value may cause damage to the tester.

4.8.5 AC Current Measuring

WARNING: Before connecting to the tester, power off the circuit to be tested.






1. Connect the black test lead to the COM jack and the red test lead to the mA jack.
2. Press   to select A~
3. Enter the desired range to measure
 Press  key to select Auto Range
 Press   to select the desired range manually
 Available Range:
 0.000V to 6.6mA
 00.00V → 66mA
 000.0V → 660mA
 000.0mV → 10A (connect to 10A Socket)
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD.

Note:

- When OL is displayed, it indicates over range situation and the higher range should be selected.
- When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- The maximum current of mA socket is 660mA, current over this value may cause damage to the tester.
- The maximum current of 10A socket is 10A, current over this value may cause damage to the tester.

4.8.6 Resistance Measuring

WARNING: Before connecting to the tester, power off the circuit to be tested..



1. Connect the black test lead to the COM jack and the red test lead to the Ω jack.
2. Press   to select Ω
3. Enter the desired range to measure
 Press  key to select Auto Range
 Press   to select the desired range manually
 Available Range:
 0.000 Ω to 660 Ω
 00.00 Ω to 6K Ω
 000.0 Ω to 66K Ω
 000.0 Ω to 660K Ω
 000.0 Ω to 6M Ω
 000.0 Ω to 66M Ω
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD.

Note:

- When OL is displayed, it indicates over range situation and the higher range should be selected.

4.8.7 Continuity Testing

WARNING: Before connecting to the tester, power off the circuit to be tested.



1. Connect the black test lead to the COM jack and the red test lead to the ∇ jack.
2. Press   to select ∇
3. Connect test leads across the source or load under measurement.
4. The result is displayed on the LCD.

Note:

- When OL is displayed, resistance is $>660 \Omega$ or the circuit is open.

4.8.8 Diode Testing

WARNING: Before connecting to the tester, power off the circuit to be tested.






1. Connect the black test lead to the COM jack and the red test lead to the Ω jack.
2. Press   to select \gg
3. Connect test leads across the source or load under measurement.
4. If continuity exists (resistance $<50 \Omega$), a tone will be heard from the built in buzzer
5. The result is displayed on the LCD.

Note:

- Tester shows the approximate voltage drop of the diode.
- When OL is displayed, the connection to the diode is reversed.

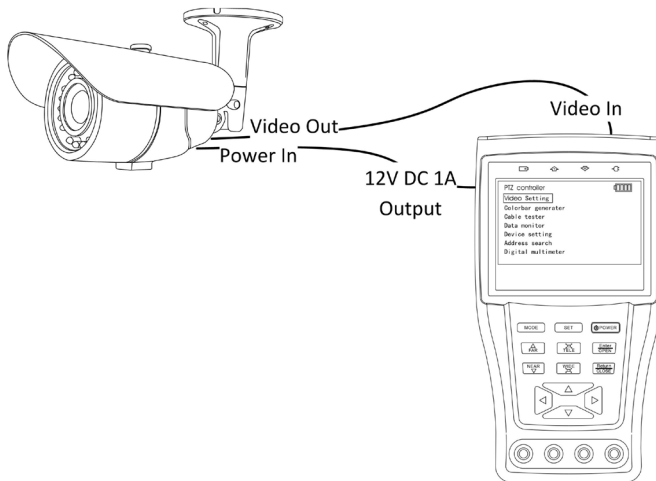
4.8.9 Capacitance Measuring

WARNING: Before connecting to the tester, verify that the capacitor has been fully discharged.

1. Connect the black test lead to the COM jack and the red test lead to the ∇ jack.
2. Press   to select \neq
3. Enter the desired range to measure
Press  key to select Auto Range
Press   to select the desired range manually
Available Range:
0.000nF to 6.6nF
00.00nF to 66nF
000.0nF to 660nF
0.000uF to 6.6uF
00.00uF to 66uF
000.0uF to 660uF
0.000mF to 6.6mF
00.00mF to 66mF
4. Connect test leads across the source or load under measurement.
5. The result is displayed on the LCD.

4.8.10 DC12V 1A Power Output

Power the camera with 12V DC 1A power output from the tester.

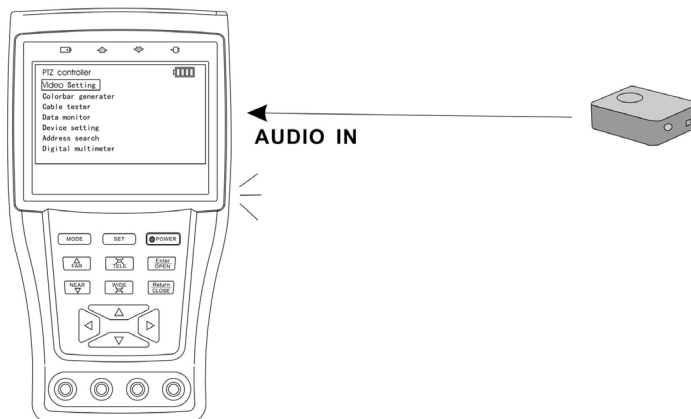


Note:

- Don't connect the 12V DC 1A OUTPUT port to any connection outputting voltage to avoid damaging the tester.
- Don't connect the 12V DC 1A power to the power input port of the CCTV tester to avoid damaging the tester.
- When the requirement of the camera is higher than 1A, the CCTV tester will enter protection mode. Disconnect all the connections of the CCTV tester and then connect the CCTV tester with power adaptor to resume testing.

4.8.11 Audio Input Test

Test the audio from DVRs, microphones, and other audio devices. Note: no adjustments for input or output are provided in the tester.



5 SPECIFICATIONS

5.1 6.1 General Specifications

Signal mode	NTSC/PAL (Auto sync)
Display	3.5 inch Color TFT-LCD (960 x 240 resolution)
LCD adjustment	Brightness, Contrast, Saturation adjustable
Video IN/OUT	1 channel BNC Input & 1 channel Output
Video Output Mode	1.0 Vp-p
Level test	Video signals measured in IRE or mV
Communication	RS232, RS422 simplex and RS485
PTZ Protocol	Compatible with more than 20 protocols such as PELCO-D/P, Samsung, Panasonic, Lilit, etc.
Baud Rate	150, 300, 600, 1200, 2400, 4800, 9600,19200bps
Color bar generation	Output NTSC/PAL colorbar video signals for monitor testing or video cable.
Digital Multi-meter	Voltage, current, resistance, capacitance measuring, continuity testing, diode testing.
UTP cable test	Yes
Audio input	Yes
Data Monitor	Captures and analyzes the command data from a controlling device such as a DVR or PTZ controller
Power Adapter	5V DC, 2A
Battery	Built-in 3.7V Lithium polymer battery, 3000mAh
Rechargeable	4 hour charging time, 12 hour operation time
Power Output	12V DC 1A power for camera
Working Temperature	14°F ~ 122°F
Working Humidity	30%-90%
Dimension/Weight	6.93" x 3.7" x 1.42" .75 lb

5 5.2 Multi-meter Specifications

Counts: -6600~+6600

Conversion rate : 3 times/s

Current modes for clamp meter with ZERO function

DC Voltage

Range	Accuracy	Resolution
660mV (Manual range)	$\pm (0.3\%+4)$	0.1mV
6.6V		1mV
66V		10mV
660V		100mV

AC Voltage

Range	Accuracy	Resolution
660mV (Manual range)	$\pm (1.5\%+6)$	0.1mV
6.6V	$\pm (0.8\%+6)$	1mV
66V		10mV
660V		100mV

DC Current

Range	Accuracy	Resolution
6.6mA	$\pm (0.5\%+3)$	1uA
66mA		10uA
660mA		100uA
10A	$\pm (1\%+5)$	10mA

AC Current

Range	Accuracy	Resolution
6.6mA	$\pm (0.5\%+3)$	1uA
66mA		10uA
660mA		100uA
10A	$\pm (1\%+5)$	10mA

Resistance

Range	Accuracy	Resolution
660Ω	$\pm (0.8\%+5)$	0.1Ω
6.6KΩ	$\pm (0.8\%+2)$	1Ω
66KΩ		10Ω
660KΩ		100Ω
6.6MΩ		1KΩ
66MΩ	$\pm (1.2\%+5)$	10KΩ

Continuity

Range	Function
»)	Built-in buzzer will sound, if resistance is lower than 50 Ω

Diode

Range	Resolution	Function
✚	1mV	Display: reads approximate forward voltage of diode.

Capacitance

Range	Accuracy	Resolution
6.6nF	$\pm (0.5\%+20)$	1pF
66nF	$\pm (3.5\%+8)$	10pF
660nF		100pF
6.6 μ F		1nF
66 μ F		10nF
660 μ F	$\pm (5\%+8)$	100nF
6.6mF		1 μ F
66mF		10 μ F

6 WARRANTY

Two-Year Limited Warranty

This Wirepath™ product has a 2-year Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified or disassembled. Products to be repaired under this warranty must be returned to SnapAV or a designated service center with prior notification and an assigned return authorization number (RA).

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