Coaxial and UTP Cable Tester

CT10

User Manual

Please read these instructions carefully before operating the unit and keep for further reference.

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Please read this instruction carefully before operating the product and keep it for further reference. All examples and pictures used here are for reference only.
The contents of this manual are subject to change without notice.

CAUTION:

- Make sure to read this user's manual thoroughly before using this product.
- Keep this user's manual to use this product properly.
- Avoid installing places as: over 50°C or below -10°C / near rain, snow or high humidity / near oil or gas / with vibration or shock / exposed to direct sunlight or outside / near strong magnetic, high frequency(RF) or power cables. It may reduce the performance or cause malfunction of the product.
- If this product is left unused or uncharged for a long time, the performance of battery may degrade. Regular charging is recommended.
- Do not disassemble the product or put foreign materials such as metallic objects.
- Do not connect and use any device above rated capacity of this product. It may cause malfunction or fire.
- The warranty period of battery is 6 months after the date of purchase.
- When replacing battery, do not disa ssemble the product arbitrarily. Please contact our service center.
- Li-ion Polymer battery (3.7V / 900mAh) is built in the product. Do not disassemble or short circuit (short) the battery.
- When charging the product, make sure to check the operational power supply voltage before inputting power.
- Strong shock or vibration may cau se device failure, so use with caution.
- If you let the product in abnormal state as smoke or smell, it may cause fire or electric shock. In this case, stop operating the product and contact the place of purchase or our service center for professional advice.
- Measuring media (cable) should be coaxial & UTP cable.
- Refer to the user's manual for problems or questions besides above. Contact our service center if you need assistance from a professional technician.
- Do not use the car USB charger as it may explode due to high temperature. (Do not keep this device in the vehicle because there is a risk of explosion due to high temperature inside the car in summer when charging with the car USB.

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Contents

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The Genie CT10 is a coaxial and UTP cable tester and is a "must have" accessory for the professional installer. Operating for up to 3 hours continuously from fully charged (6 hours for coaxial), this extremely useful device will detect faults up to 200m on UTP cable and up to 1.8km (RG-6) for coaxial. The CT10 is very simple to operate with a clear 1.5" high definition display.

1.1 Product Features

- Coax / UTP cable tester, cable length and mapping, open, short status check
- Measuring Coax cable up to 1.8km, UTP cable up to 200m, measure UTP cable up to 600m with BNC to RJ45 connector (1p)
- 1.5" high definition OLED display
- Cable loop resistance measurement function
- Calibration function : add the measurements of your own cable data, maximum storable cable data : Coax: 8, UTP: 8
- Built-in rechargeable battery for up to 3 hours in continuous use
- Built-in basic cable data, various cable data built-in (Coax: 8 types, UTP: 4 types)

1.2 Packing

|					
CT10	Carry Case	USB Charging Cable	BNC to TB Connector	BNC-A-JJ	BNC to RJ45 Connector

User Manual

USB charging cable, carry case, BNC to TB connector, BNC to RJ45 connector and BNC-A-JJ are supplied as a one one-time consumable item and are able to be purchased separately.
- Use USB 2.0 Mini Type Type-B Plug for USB charging cable
- Regular charging is required, as battery may discharge and degrade when the product is uncharged for a long time.
- Battery is a consumable item. (The warranty period of the battery is 6 months. If performance of battery degrades, it is able to be replaced in a service centre.)
- Car USB charging is not guaranteed. (Do not keep the product in vehicle.)

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1.3 Specification

Functions	Display	1.5" OLED
	Cable Test Type	BNC Coaxial / RJ45 UTP (T568A, 568B)
	Maximum Length – Coax Cable	10m ~ 1.8km (RG-6)
	Maximum Length – UTP Cable	5m ~ 200m (UTP) / 150m (STP)
	Minimum Calibration Length	Over 100m recommended
	Error Rate (BNC, RJ45)	±5% (After Calibration)
	Compatible Connector Type	BNC, RJ45
	Coaxial Cable Loop Resistance	300Ω (Max)
	Cable Map Display	OLED (#1 – #8)
Others	Battery Type	3.7V Rechargeable lithium battery 900mAh
	Recharge Port	USB 2.0 Mini-B Type, Over DC5V 600mA (USB charger)
	Full Charge Time / Continuous Use Time	2h 30m / RJ45 (3h), BNC (6h)
	Temperature	-10℃ ~ +50℃
	Humidity	0 ~ 80%
	Case	ABS UL94V-0
	Dimensions	120 × 74 × 33 mm
	Weight	210g

1.4 Product Dimensions

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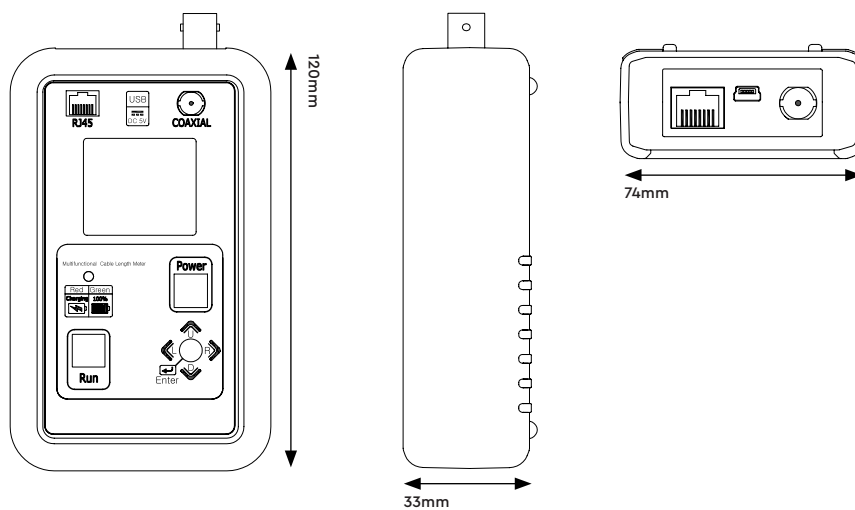
1. RJ-45: UTP cable connection port.

2. Power Input Input: Built-in battery charging port. USB Cable (DC 5V/500 mA)

3. BNC: Coaxial cable connection port.

4. Display: 1.5 inch OLED

5. Power Button: Press for more than 2 sec. to turn ON/OFF.

6. Direction Switch: Switch to set menu.
   - To set menu, control with ▲▼ , ◄► direction switch
   - To activate Enter Key, press the direction switch.

7. Run Button: Button to measure cable.
   - Used for cable measurement.
   - When Green LED is on, press the switch to start measurement

8. Charge Status LED
   - Red – Charging
   - Green – Charging done

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3.1 Measure Menu

When power is on, Measure Menu is displayed as the initial menu screen. Select the Type and Cable and press Run button for less than 3 seconds to display 1 time measured value and save it to LIST. Press Run button for over 3 seconds to display 8 times measured value and save them to LIST.

The cable length of BNC and RJ45 is saved to LIST in Cable Length menu, and loop resistance value is saved to LIST in Loop Resistance menu.
* 1 Type: Control direction key ◀▶ to select among BNC, RJ45 and Loop Resistance Type
* Cable: Control direction key ◀▶ to select LOAD DATA of BNC, RJ45 Type Cable
* Menu: Press Enter key to move to sub sub-menu according to the selected Type

In ' 2 Cable ' menu, 'USER' cannot be mo dified or deleted because it is a LOAD DATA that the calibrated value is initialised.

1. BNC Type (Coaxial Cable) Setting and Measurement
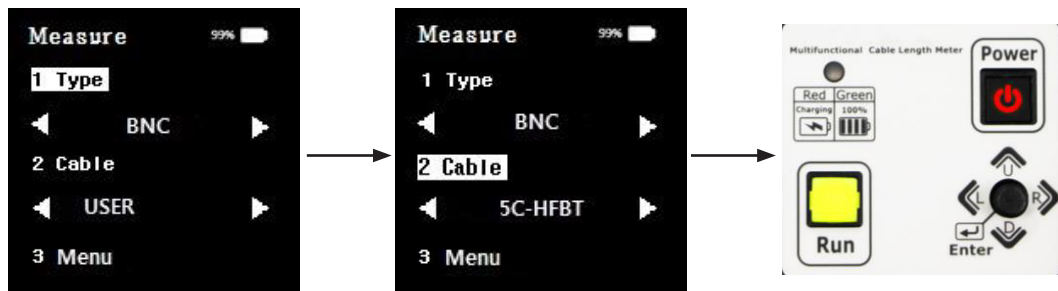
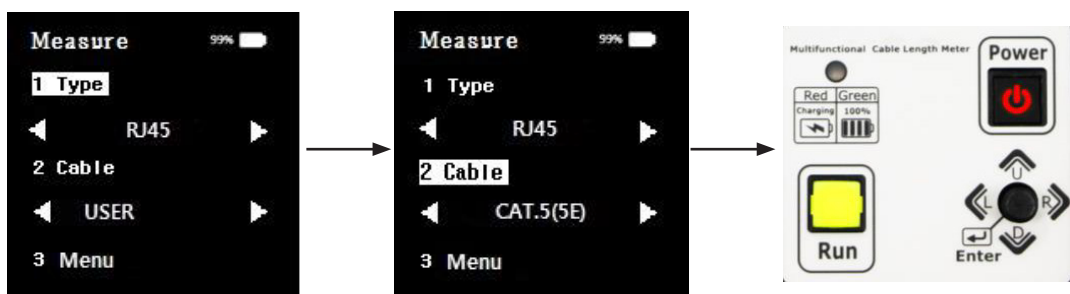Press Run (Green LED ON) button to measure.

Cable Status: OPEN

Control direction key ▲▼ to set PAGE.
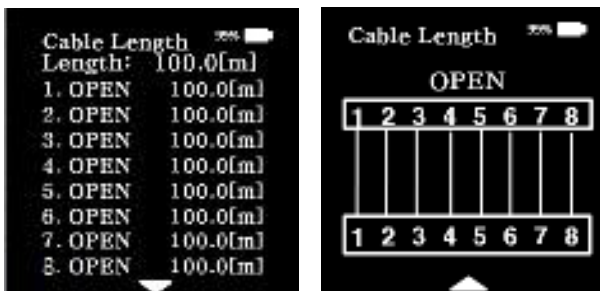
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Cable Status: SHORT

Control direction key ▲▼ to set PAGE.

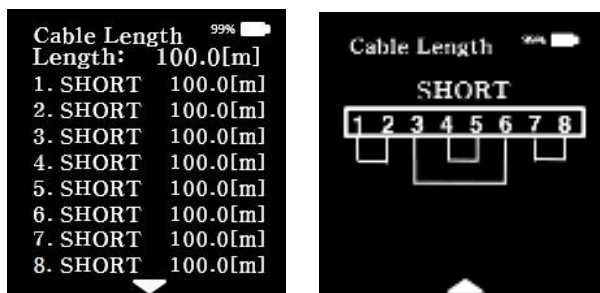**2. RJ45 Type (UTP Cable) Setting and Measurement**

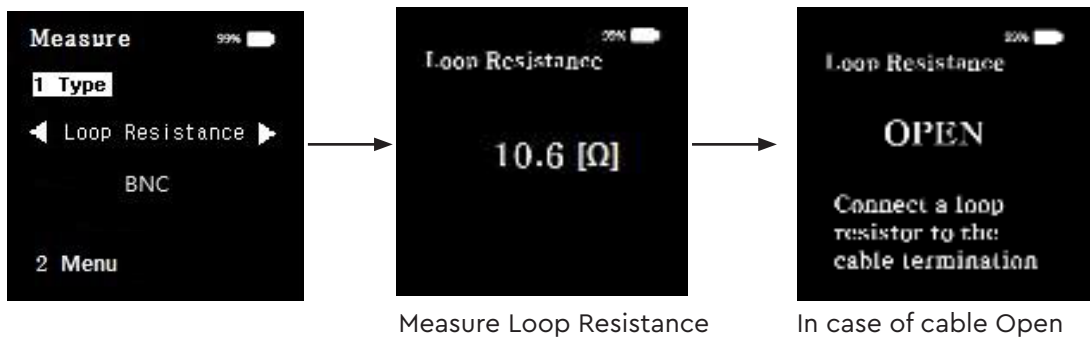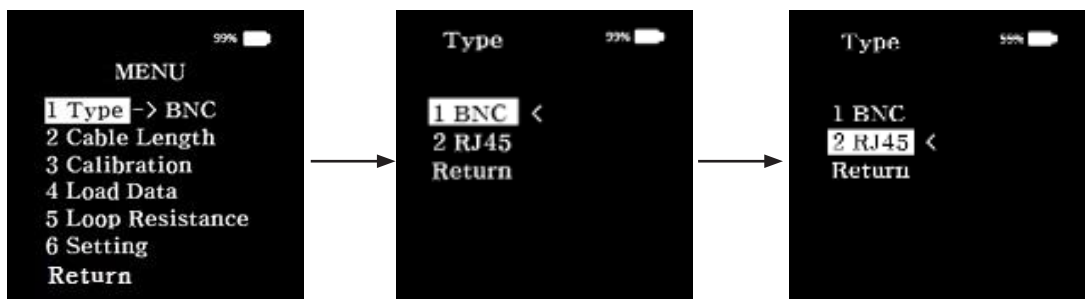Press Run (Green LED ON) button to measure.

Cable Status: OPEN

Control direction key ▲▼ to set PAGE.

Cable Status: SHORT

Control direction key ▲▼ to set PAGE.

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Loop Resistance: Measure Loop Resistance of Coaxial Cable

Measure Loop Resistance   In case of cable Open

Press Run (Green LED ON) button to measure.

3.2 Type: Measurement Mode Type Setting (BNC, RJ45)
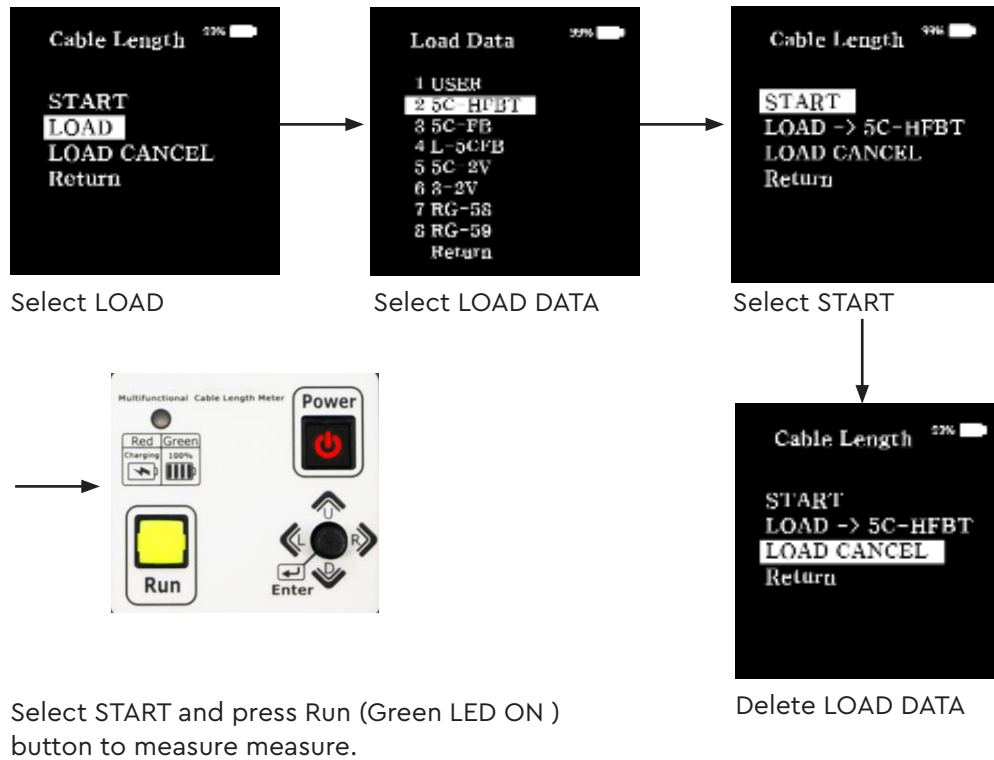

RJ45: Select UTP cable measurement mode

3.3 Cable Length: Cable Length and Status (Open, Short) Measurement

- START: In the menu, the Green LED lights up on Run button. To measure cable length, press Run button.
- LOAD: From LOAD menu, press Enter Key to select the cable to measure Calibration in Load Data. If you do not know the cable type, select USER.
- LOAD CANCEL: Delete the selected cable in LOAD menu.
- LIST: Press RUN button for less than 3 seconds to display 1 time measured value. Press RUN button for over 3 seconds to display 8 times measured value. Press Enter key to return to the previous menu.
- OPEN: Cable length is measured with nothing connected to the cable end. The cable is not short-circuited.
- SHORT: Cable length is measured with nothing connected to the cable end. The cable is short-circuited.
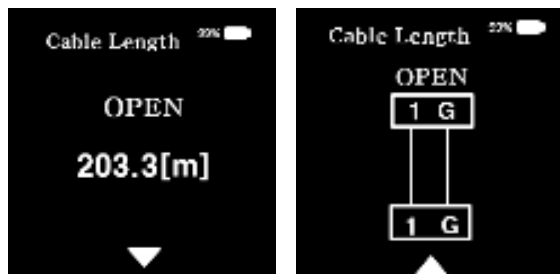
When the product is connected with cable, the measured value is displayed as OPEN, SHORT, Cable open or Too short depending on the internal condition of the product.
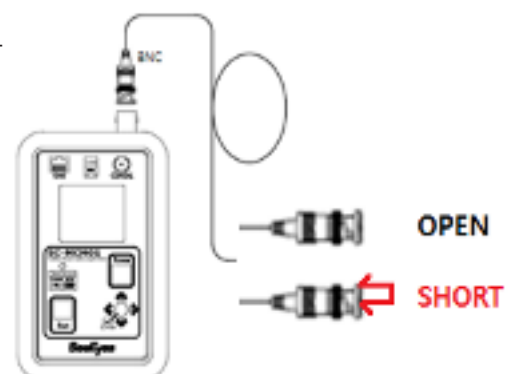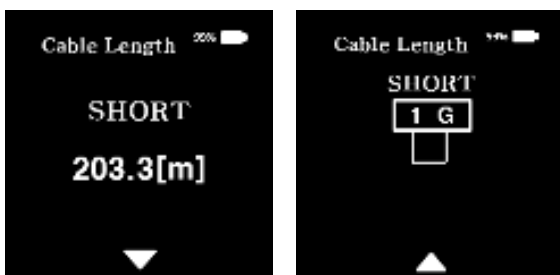
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BNC Type (Coaxial Cable) Setting and Measurement

Select LOAD   Select LOAD DATA   Select START

Select START and press Run (Green LED ON)
button to measure measure.

Delete LOAD DATA

Cable OPEN

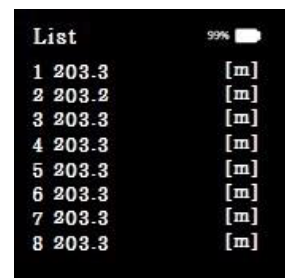Control direction key ▲▼ to set PAGE

Cable SHORT

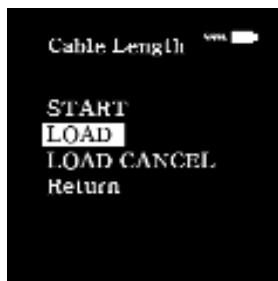Control direction key ▲▼ to set PAGE

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Select LIST Menu

1 time measurement
(press Run button
below 3 seconds)

1 time measurement
(press Run button
below 3 seconds)

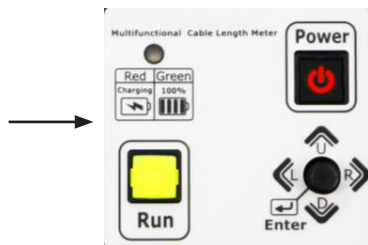**RJ45 Type (UTP Cable) Setting and Measurement**
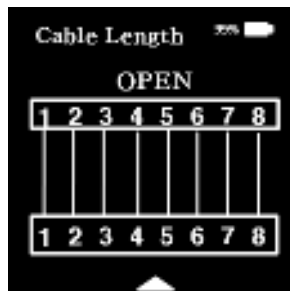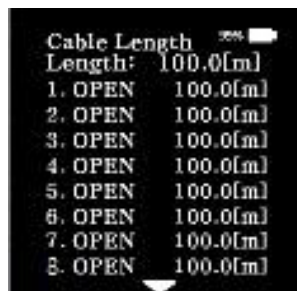

Select LOAD

Select LOAD DATA

Select START

Select START and press Run
(Green LED ON) button to measure.
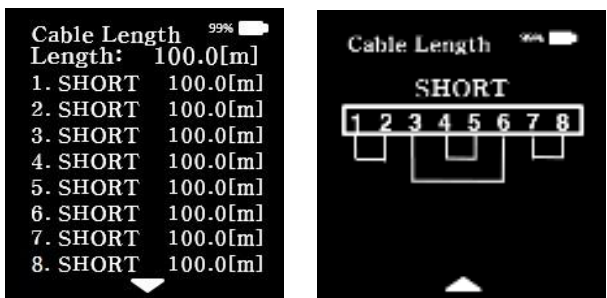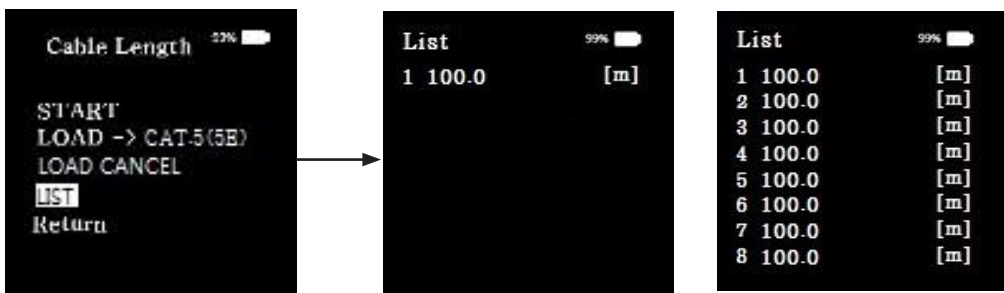
Cable OPEN

Control direction key ▲▼ to set PAGE.

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Cable SHORT

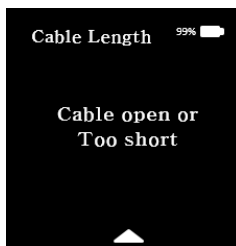Control direction key ▲▼ to set PAGE

Select LIST Menu

1 time measurement
(press Run button
below 3 seconds)

1 time measurement
(press Run button
below 3 seconds)

When measuring coaxial cable, if the cable is not connected or the cable length is below 10m, the measured value is displayed as Cable open or Too short.


When measuring UTP cable, if the cable is not connected or the cable length is below 5m, the measured value is displayed as Cable open or Too short.

If the RJ45 connector of UTP cable is not connected properly or the cable length is too short, the measurement error rate may increase or decrease. (Especially for cables below 10m, the error rate may increase or decrease.)

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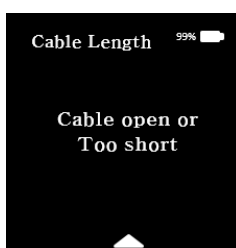
3.4 Calibration

Calibrate the cable that the user want to measure to the length and create Load Data as standard.
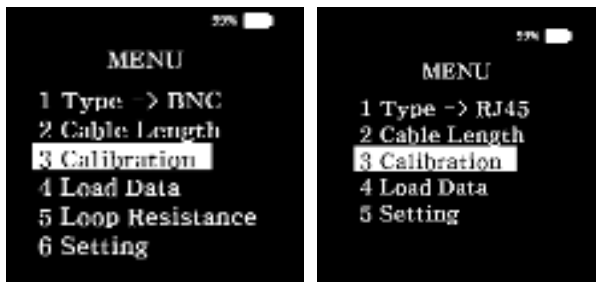
START: When set in menu, Green LED lights up on the Run button. Press the Run button to measure the cable status.

It is able to measure the cable status several times by pressing Run button with Green LED on.

If the measured cable has an error compared to the standard value, use U, D(▲▼) Key to change the calibrated value, press Enter Key to enter LOAD DATA NAME setup menu, and U, D(▲▼) Key to set the cable name.

When the setting is completed, press Run Key to display stored location (LOAD2~LOAD8) and NOT SAVE setting, and use U, D(▲▼) Key to set the storage location.

Key Action : Run (measuremeasure) → U, D(▲▼) calibratecalibrate) → Enter → U, D, L, R R(▲▼ ◄►) Key (set DATA NAME) → Run (set save) → U, D, L, R R(▲▼ ◄►) Key (select Load Data store location location) → Enter

If a cable error occurs when measuring Cable Length after Calibration, the user can perform additional Calibration to correct the error value to an arbitrary value.

Caution: Delete the cable name in LOAD using LOAD CANCEL and proceed calibration.

DATA NAME Character: Consists of English capital letter (A~Z), number 0~9 and 7 special character. It is able to input maximum 10 characters.

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3.5 Load Data

The default calibration value s are stored. It is able to save the values calibrated by user in Load Data. Select DATA and press Enter Key to change the setting of selected DATA.

SELECT: The selected DATA is automatically set to Cable Length LOAD.

After changing DATA NAME, press SELECT to save or change change.

NAME EDIT: Change the cable name by U, D, L, R(▲▼ ◄▶) Key.
The NAME of USER cannot be changed changed.

DELETE: Delete selected Load Data.
USER cannot be deleted deleted.

Built-in Load Data of Coaxial Cable

#	CABLE	Manufacturer	#	CABLE	Manufacturer
1	5C-HFBT	KUMKANG	5	3C-2V	YUJIN
2	5C-FB	TACHII	6	RG-58	DAEKYONG
3	L-5CFB	CANARE	7	RG-59	DAEKYONG
4	5C-2V	LS			

Built-in Load Data of UTP cable

#	CABLE	Manufacturer
1	CAT.5(5E)	LS
2	CAT.6	LS
3	STP CAT.5E	LS

Cable length measure ment or LOOP resistance value may vary depending on cable standard or specifications. Make sure to proceed Calibration (refer to 5 5–3) when applying additional is required additional to built built-in Load Data.
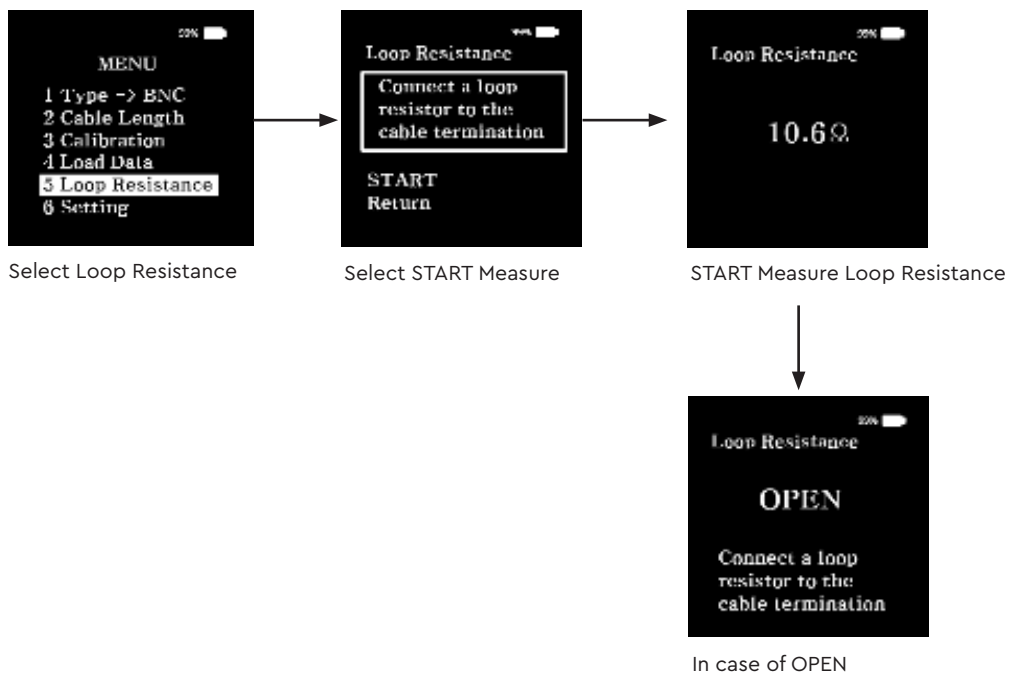
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3.6 Loop Resistance: Measure Coaxial Cable Loop Resistance

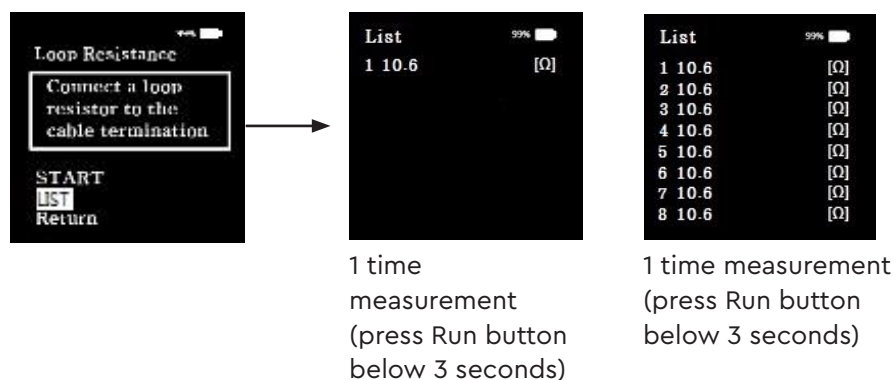Available in BNC Mode . Measure loop resistance of coaxial cable.
When measuring, connect BNC to TB Connector to the cable end and set the switch to Loop.

START: When set in menu, Green LED lights up on the Run button. Press the Run button to measure the cable loop resistance.

LIST: Press RUN button for less than 3 seconds to display 1 time measured value. Press RUN button for over 3 seconds to display 8 times measured value. Press Enter key to return to the previous menu.
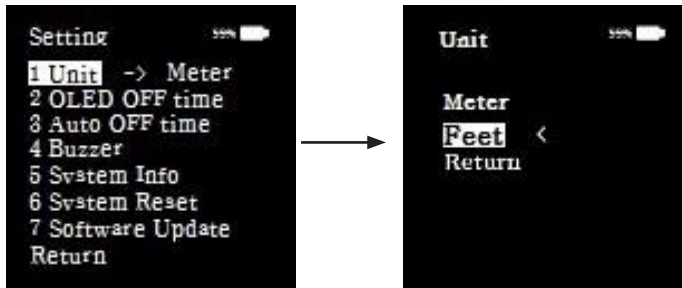

| Select Loop Resistance | Select START Measure | START Measure Loop Resistance |

In case of OPEN

LIST Menu

1 time measurement (press Run button below 3 seconds)

1 time measurement (press Run button below 3 seconds)

3.7 Unit Setting

Set measurement unit as Meter or Feet in Setting menu. Press Enter button to change the setting.

3.8 Setting

- Unit: Set cable measurement unit (to be supported supported).
- Language: Set system language (E nglish supportedupported).
- OLED OFF time: Set OLED auto off time (OFF/1 min/30 sec/15 sec).
- Auto OFF tim e: Set system auto off (OFF/2 hours /1 hours /30 min mins/15 min mins).
- Buzzer: Set buzzer ON/OFF OFF.
- System Info: Display system version.
- System Reset: Set system initialisation. In Default All mode, press Enter Key to initialize the whole system system.
- Software U pdatepdate: Set software update update.

At the time of shipment, the product is updated as latest version. If you need to update the product, refer to the update guide.

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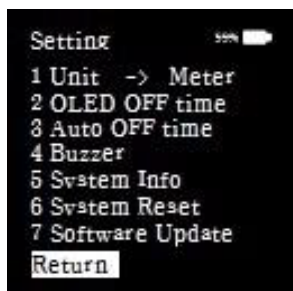
4.0 Battery Status Indicator

Status	Battery Indicator	LED Indicator
Charging	⚡	Red LED
Charging complete	▮	Green LED
Charger not connected	99% ▮	LED OFF

- USB 2.0 MINI MINI-B Type (factory supplied) is recommended to use.
- Make sure to use over DC5V 1.5A for USB adapter charger.
- The remaining battery level is displayed, so it is able to manage the battery efficiently by controlling the charging time.
- While the product is charging, the remaining battery level is not displayed.
- If the battery is running low, the product is automatically turned OFF. Connect the USB charger and use the product.
- Continuous use hour may vary depending on the measurement mode and cable length.
- The measured value may be displayed differently depending on the Load Data value and the cable type.
- The maximum measured length of cable may vary depending on the cable manufacturer.
- If the connected cable is not the same specification with calibrated cable, measurement error may occur.
- If the USB cable is disconnected while the battery is charging, the stabilization process may take one or several minutes. (The shorter charging time is, the longer stabilisation time is).
- If you conne ct the product while power (PoE, PoC) is on, it may damage the product. Please turn the power off and measure.
- BNC must be correctly tightened when connecting coaxial cable to the Cable Tester Tester. (If not, operation error may occur. occur.)

- When measuring c able while connected to camera, DVR or other devices, the measurement result may displayed as Open or Short according to the cable length. Or the cable length may be measured differently depending on the type of device. Please measure while the power of ofde vice is off. (If a video is output from other devices, it may affect the measurement of cable. To measure the accurate length, the cable end should be Open.)
- When connecting coaxial products, the measured value may be displayed as OPEN, SHORT or Cable open or Too short (when not measured) depending on the power ON/OFF status and product specifications.
- When measuring coaxial cable, it is able to get accurate length and OPEN, SHORT length of cable if you measure the both ends of cable. When the cable i s normal, the measured values are same if you measure the both ends of cable.
- (When the cable is OPEN, it is able to check short short-circuited length if BNC to TB Connector is set to LOOP (SHORT), connected to the cable end and the measured status is OPEN.
- When the measured status is SHORT, it is able to check SHORT length if BNC to TB Connector is set to LOOP (SHORT), connected to the cable end and the measured status is SHORT).

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- When connecting IP camera, the measured value is displayed as PAIR OK, OPEN or SHORT. (Please make sure to use the product while the power of IP camera is not applied).
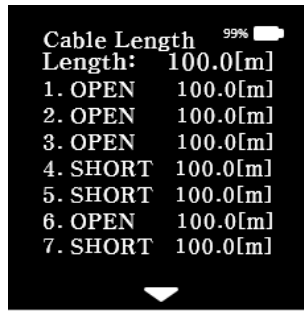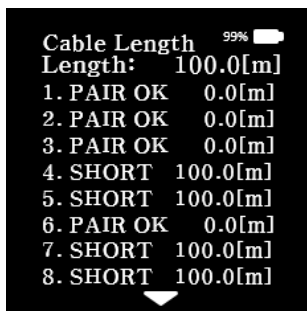

- When connecting IP products, the measured value may displayed as PAIR OK, OPEN, SHORT or Cable open or Too short (when not measured) depending on the power ON/OFF status and product specifications.

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5.0 Connection Diagram and Connectors

RJ45 (UTP Cable)

BNC (Coaxial Cable)
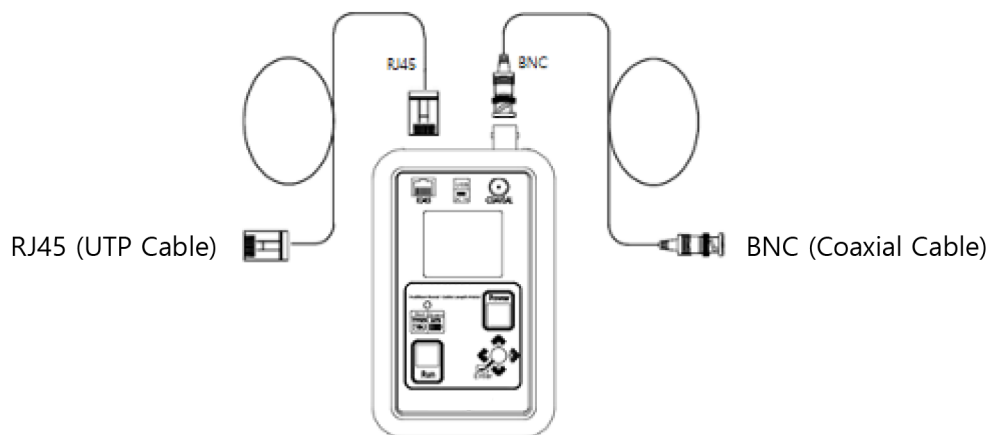
### 5.1 How to Use BNC to TB Connector and BNC to RJ45 Connector
How to measure long length UTP cable by BNC (BNC to RJ45 Connector)
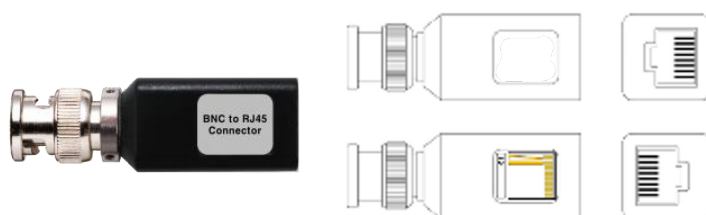
- Use to measure cables installed over long distance of 10m ~ 600m 600m.
- Use to measure UTP cable in BNC mode. Calibrate the cable to be measured, save the result in Load Data and measure the cable with the saved data.
- When measuring cable length, use the set(calibrated) Load Data set by user.
- Length Measurement is only available in 1 Pair (No.1 and 2 in T 568A, 568B Type).

5.2 How to Measure Loop Resistance of Coaxial Cable
Loop Resistance & BNC to TB Connector
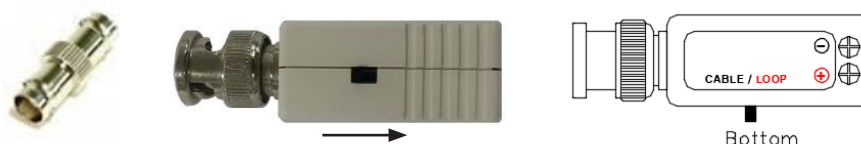
- Use to measure Loop resistance of coaxial cable.
- Connect the coaxial cable to the Cable Tester (BNC). Before measuring, connect BNC to TB Connector with Straight Adaptor Jack Jack-Jack connected to the end of the coaxial cable. The switch of the connector should be set as LOOP.
- If the product is connected to the cable, the loop resistance is not measured and displayed as OPEN.

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5.3 How to Measure Cable Length by using BNC to TB Connector
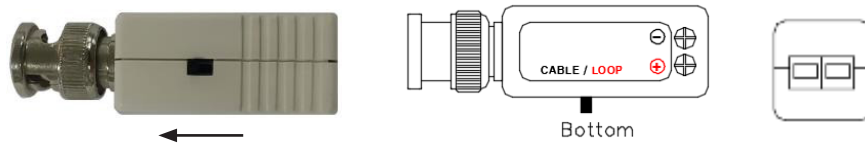
- Connect BNC to TB Connector to the BNC of the Cable Tester and connect the cable at the terminal block of the connector . Set the switch of the connector as CABLE. (It is able to measure cables without BNC connector or UTP RJ45 connector.)

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