



INSTRUCTION MANUAL

MT915

2-IN-1 CABLE IDENTIFIER & DIGITAL MULTIMETER



Contents

Page no

1. Applications General.....	4
2. Front Panel Description.....	4
2.1. Transmitter Description.....	4
2.2. Receiver Description.....	4
2.3. Digital Multimeter Description.....	4
3. Specifications & Technical Data.....	5
3.1. DMM.....	5
3.2. Transmitter.....	6
3.3. Receiver.....	6
4. Measuring Procedure.....	6
4.1. Transmitter & Receiver Operation.....	6
4.2. Beep Alarm Test.....	7
4.3. Voltage Check.....	7
4.4. Digital Multimeter Test.....	7
4.5. AC/DC Current Measurements.....	7
4.6. Resistance Measurements.....	7
4.7. Continuity Check.....	8
4.8. Diode Test.....	8
4.9. Max Hold Button.....	8
4.10. Hold Button.....	8
4.11. Auto Power Off.....	8
4.12. Replacing the Fuses.....	9
4.13. Battery Replacement.....	9

1. APPLICATIONS GENERAL

The MT915 is a transmitter/receiver device which enables one person to instantly match up ends of individual cores at either end of a multi-core cable. With the remote kit it can tester cables installed far away either on wall plate or patch panel. Digital multimeter function make it easy to measure DC/AC voltage, DC/AC current, Resistance, Continuity & Diode.

2.FRONT PANEL DESCRIPTION

2.1. Transmitter Description

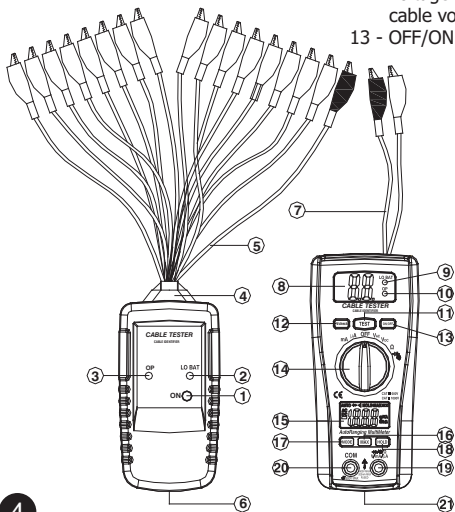
- 1 - OFF/ON switch (Transmitter) 4.3 Voltage check
- 2 - Low battery indicator (Transmitter)
- 3 - Operation indicator (Transmitter)
- 4 - Cable plug (Transmitter)
- 5 - Alligator clips with cables of transmitter (CH1 to CH16& reference cable)
- 6 - Battery cover & compartment (Transmitter)

2.2. Receiver Description

- 7 - Alligator clips of receiver (CH1 & reference cable)
- 8 - LED display (blue 2bit) (Receiver)
- 9 - Low battery indicator (Receiver)
- 10 - Operation indicator (Receiver)
- 11 - Tester switch for receiver test or test cable of put through and cable disconnection & identify
- 12 - Voltage check switch for on cable voltage check
- 13 - OFF/ON switch (Receiver)

2.3 Digital Multimeter Description

- 14 - Function switch
- 15 - 3 1/2 digit (2000 count) LCD display for DMM functions
- 16 - Max hold button
- 17 - Mode button
- 18 - Data hold button
- 19 - COM input jack
- 20 - V, uA, mA, Q input jack
- 21 - Battery cover &compmen (Receiver&DMM)



3. SPECIFICATIONS & TECHNICAL DATA

3.1. DMM

Function	Range	Accuracy
DC Voltage	200mV,	$\pm(0.5\% \text{ rdg} + 3d)$
	2.000V, 20.00V,	$\pm(1.0\% \text{ rdg} + 3d)$
	200.0V, 600V	$\pm(1.0\% \text{ rdg} + 3d)$
AC Voltage 50-60Hz	2.000V, 20.00V	$\pm(1.0\% \text{ rdg} + 5d)$
	200.0V, 600V	$\pm(1.5\% \text{ rdg} + 10d)$
DC Current	200.0 μ A, 2000 μ A	$\pm(1.5\% \text{ rdg} + 3d)$
	20.00mA, 200.0mA	$\pm(2.0\% \text{ rdg} + 3d)$
AC Current	200.0 μ A, 2000 μ A	$\pm(1.8\% \text{ rdg} + 8d)$
	20.00mA, 200.0mA	$\pm(2.5\% \text{ rdg} + 8d)$
Resistance	200.0 Ω	$\pm(0.8\% \text{ rdg} + 5d)$
	2.000k Ω , 20.00k Ω	$\pm(1.2\% \text{ rdg} + 3d)$
	200.0k Ω	
	2.000M Ω	$\pm(2.0\% \text{ rdg} + 5d)$
	20.00M Ω	$\pm(5.0\% \text{ rdg} + 8d)$

Function	Range
Max input voltage	600V AC/DC
Diode Test	Test current 1mA max., open circuit voltage of 1.5V typical
Continuity Check	Audible signal if the resistance is <150 Ω
Display	2000 count 3 -1/2 digit LCD
Over range indication	LCD displays "OL"
Polarity	Minus (-) sign for negative polarity.
Low Battery Indication	"BAT" symbol indicates low battery condition.
Input Impedance	>7.5M Ω (VDC & VAC)
AC Response	Average responding
ACV Bandwidth	50Hz to 60Hz
Auto Power Off	15 minutes (approximately)
Fuse	mA, μ A ranges; 0.2A/250V fast acting Fuse
Batteries	9V battery and two "AAA" batteries
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-10°C to 50°C (14°F to 122°F)
Weight	308g
Size	162 x 74.5 x 44.0mm
Standard	IEC61010-1 CAT III-600V Pollution degree II, CE Approved

3.2. TRANSMITTER

Function	Range
Display	Two red LED lamps
Alligators	17 Croc clips-red*16,black*1
Cable resistance	30K Ohm max
Power	9V battery
Power current	1.8mA
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-10°C to 50°C (14°F to 122°F)

3.2. RECEIVER

Function	Range
Display	Two digit blue LED display
Alligators	2 Croc clips-red*1,black*1
Power	9V battery
Power current	23mA
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-10°C to 50°C (14°F to 122°F)
Continuity test	Beep if less than 100Ω
Cable voltage check	5V to 16V DC

4. MEASURING PROCEDURE

4.1. Transmitter & Receiver Operation

1. At one end of the cable, connect one of the transmitter terminals marked "CH1 to CH16" to each core of the cable under tester. Connect the "COM" reference lead (black alligator) of the transmitter to a core which is the only known one.
2. At the other end of the cable, connect the "COM terminal" (black alligator) of the receiver. When the "input terminal" (red alligator) of the receiver is successively touched on the cores of the cable under test, the relevant number of the way is indicated on the display of the receiver (1-16).

Operation example 1: Cable trace test

Operation example 2: Metal water pipe trace test

CAUTION: Though the units already build in the protection circuit, do not apply voltage that is over 50V (AC or DCV) to any alligator clips of the transmitter & receiver. Otherwise the instruments may be permanently damaged.

4.2. Beep alarm test

1. Press the "TEST" button in on the Cable Identifier.
2. Connect the 2 Croc Clips to both sides of a cable to check the continuity. If the cable is fine a beep sound will be heard.

CAUTION: Beep if less than 100Ω.

4.3. Voltage Check

1. Press the "V check" button to down use receiver of 2 Croc clips.
2. Connect the Black alligator to the "COM" reference and connect the Red alligator to the cable port, if two digit blue LED display is " UU " this proves the cable has voltage. Only check is mainly voltage.

CAUTION: Check voltage range at 5V to 16V DC.

4.4. Digital Multimeter Test

4.4.1. AC/DC Voltage Measurements

1. Insert the black test lead into the negative COM terminal and the red test lead into the positive V terminal.
2. Set the function switch to VAC or VDC position.
3. Connect the test leads in parallel to the circuit under test.
4. Read the voltage measurement on the LCD display.

CAUTION: Do not measure AC/ DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

4.5. AC/DC Current Measurements

1. Set the function switch to the $\mu\text{A}/\text{mA}$ position.
2. Insert the black test lead into the negative COM terminal and the red test lead into the positive $\mu\text{A}/\text{mA}$ terminal.
3. For current measurements up to 2000 μA DC/AC, set the function switch to the mA position
4. Press the MODE button to indicate "DC" / "AC" on the display.
5. Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
6. Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
7. Apply power to the circuit.
8. Read the current in the display



4.6. Resistance Measurement

1. Set the function switch to the Ω position.
2. Insert the black test lead into the negative COM terminal and the red test lead into the positive Ω terminal.

3. Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
4. Read the resistance in the display



WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.

4.7. Continuity Check

1. Set the function switch to the  position.
2. Insert the black test lead into the negative COM terminal and the red test lead into the positive Ω terminal.
3. Press the MODE button to indicate  on the display
4. Touch the test probe tips to the circuit or wire you wish to check.
5. If the resistance is less than approximately 150Ω , the audible signal will sound. If the circuit is open, the display will indicate "OL".

WARNING: To avoid electric shock, never measure Continuity on circuits or wires that have voltage on them.

4.8 Diode Test

1. Set the function switch to the  position.
2. Press the MODE button to touch the test probes to the diode indicate the  on the display. under test. Forward voltage will typically indicate 0.400 to 0.700V. Reverse voltage will indicate "OL". Shorted devices will indicate near 0V and an open device will indicate "OL" in both polarities

4.9. MAX Hold Button

To hold the highest reading on the LCD

1. Press the MAX hold button. The meter reading will not change as readings change
2. Press the MAX hold button again to return to normal operation.

4.10. Hold Button

The Data Hold function allows the meter to "freeze" a measurement for later reference

1. Press the "DATA HOLD" button to "freeze" the display, the "HOLD" indicator will appear.
2. Press the "DATA HOLD" button to return to normal operation.

4.11. Auto Power Off

The auto off feature will turn the meter off after 15 minutes.

4.12. Replacing the Fuses

1. Disconnect the test leads from the meter.
2. Remove the protective rubber holster.
3. Remove the battery cover (two "B" screws) and the battery.
4. Remove the four "A" screws securing the rear cover.
5. Lift the center circuit board straight up from the connectors to gain access to the fuse holders.
6. Gently remove the old fuse and install the new fuse into the holder.
7. Always use a fuse of the proper size and value (0.2A/250V fast blow for the 200mA range).
8. Align the center board with the connectors and gently press into place.
9. Replace and secure the rear cover, battery and battery cover.

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the fuse cover.

4.13. Battery Replacement

1. Both for the transmitter or receiver, when the "Low battery indicator" is lit, it is necessary to replace the battery. Measurements may still be made several hours after the low battery indicator.
2. Remove the bottom cover and secure the screw.
3. Replace old battery with fresh two 1.5V AAA or 9V type battery.
4. Replace the bottom cover and secure the screw.







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