

CEM DT-6650 Multifunction Installation Tester



CEM DT-6650 Multifunction Installation Tester Instruction Manual

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CEM DT-6650 Multifunction Installation Tester



Product Information

General Specification:

- **Power Source:** Battery
- **Battery Life:** CAT Rating
- **Protection Classification:** Protection Rating
- **LCD Display:** Yes
- **Operating Temp:** As per specifications
- **Relative Humidity:** As per specifications
- **Storing Temp:** As per specifications
- **Operating Altitude:** As per specifications
- **Protective device:** Yes
- **Dimensions:** As per specifications
- **Weight:** As per specifications

Safety Information:

Meets BS EN61557 standards for electrical safety in low voltage distribution systems.

Technical Specifications:

- **LOOP Resistance:**
 - L- PE (Hi-Amp): Various ranges available
 - L- PE (No Trip): Various ranges available
- **LINE Resistance:**
 - L- N: Various ranges available

- **RCD (BSEN 61557-6):**

- Rcd Rating (I_n): Various test currents available
- Test current: $x1/2$, $x1$, $x2$, $x5$

Product Usage Instructions

Insulation Resistance Testing:

Ensure the tester is properly connected and set to the desired terminal voltage. Follow the specified ranges and resolutions for accurate readings.

Earth Resistance Testing:

Select the appropriate range based on the resistance to be measured. Connect the tester correctly and follow the resolution guidelines for accurate results.

RCD Testing:

Choose the desired test current and RCD form. Ensure correct polarity and timing accuracy for reliable RCD testing results.

FAQ (Frequently Asked Questions)

- **Q:** What is the battery life of the DT-6650 Multifunction Installation Tester?

A: The battery life is as per the CAT Rating specifications.

- **Q: Can the DT-6650 tester measure insulation resistance at different terminal voltages?**

A: Yes, the tester can measure insulation resistance at various terminal voltages ranging from 125V to 1000V.

- **Q: How accurate is the earth resistance measurement with the DT-6650 tester?**

A: The accuracy of earth resistance measurement is within the specified range of $+(2\%+30d)$ to ensure reliable results.

FEATURES

The DT-6650 is a rugged multifunction installation tester with 3.5" TFT colour LCD display; provides insulation resistance, earth resistance, loop impedance, voltage, RCD, PFG and PSC testing. It is designed with an in-built software system and ensures that the safety of electrical installations in domestic, commercial and industrial applications. DT-6650 can ensure that fixed wiring is safe and correctly installed. It's fast sampling and dual display, clear symbols and exceptionally wide viewing angle provides easy and safe readings.

- 3.5" TFT Colour display
- Fast high current loop test
- Variable RCD current mode for customized settings
- PASS/FAIL indication for RCD tests
- Select voltage measurement between L-N, L-PE and N-PE
- Support SD memory and USB and Blue tooth interface
- Internal Memory
- Safe Earth Volt Touchpad detects raised earth voltages $>50V$ indicating potentially dangerous situations

General Specification

- **Power Source** 12V DC (8 x 1.5V AA Size Alkaline batteries)
- **Battery Life** Average of 15hours
- **CAT Rating** CAT III 600V
- **Protection Classification** Double Insulation
- **Protection Rating** IP65
- **LCD Display** 320×240 dot matrix
- **Operating Temp** 0°C~ 45°C
- **Relative Humidity**
 - 95% (10°C~ 30°C) Non-condensing
 - 75% (30°C~ 40°C) Non-condensing
- **Storing Temp** -10°C~ 60°C
- **Operating Altitude** 2000m
- **Protective device** 500mA Fast response BS 88 Fuse
- **Dimensions** 10.5cm(L) x 22.5cm(W) x 13cm(H)
- **Weight** 1.56kg

Safety Information

This instrument has been tested according to the below regulations:

- EN 61326: Electrical equipment for measurement, control and laboratory use.
- EN 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements.
- BS EN61557: Electrical safety in low voltage distribution systems up to 1000V AC and 1500V DC

Technical Specifications

LOOP Resistance

- **L- PE (Hi-Amp)**

Range (Ω)	Resolution(Ω)	Accuracy
0.23 – 9.99	0.01	$\pm(4\% \text{ of reading} + 4 \text{ digits})$
10.0 – 99.9	0.1	
100 – 999	1	

- **Measuring Current:** 4.0 A
 - **Range of the Voltage Used:** 195V AC – 260V AC (50,60Hz)
- **L- PE (No Trip)**

Range (Ω)	Resolution(Ω)	Accuracy
0.23 – 9.99	0.01	$\pm(5\% \text{ of reading} + 6 \text{ digits})$
10.0 – 99.9	0.1	
100 – 999	1	

- **Measuring Current:** < 15mA
- **Range of the Voltage Used:** 195V AC – 260V AC (50,60Hz)

LINE Resistance

• L- N

Range (Ω)	Resolution(Ω)	Accuracy
0.23 – 9.99	0.01	$\pm(4\% \text{ of reading} + 4 \text{ digits})$
10.0 – 99.9	0.1	
100 – 999	1	

- **Measuring Current:** 4.0 A
- **Range of the Voltage Used:** 195V AC – 260V AC (50,60Hz)

• RCD (BSEN 61557-6)

- **Rcd Rating (I_n):** 10mA, 30mA, 100mA, 300mA, 500mA and 1A.
- **Test current:** x1/2, x1, x2 and x5

Accuracy at applied test current

Test current	Accuracy
x1/2	$\pm(1\% \text{ of reading} + 1 \text{ digits})$
x1	$\pm(1\% \text{ of reading} + 1 \text{ digits})$
x2	$\pm(1\% \text{ of reading} + 1 \text{ digits})$
X5	$\pm(1\% \text{ of reading} + 1 \text{ digits})$

- **Form of the Test Current:** Sine wave form (AC), Pulse wave form (DC)
- **RCD Form:**
 - General (G – non-delayed),
 - Selective (S – time-delayed)
- **Initial Polarity of the Test Current:** 0°, 180°
- **Voltage Range:** 195V AC – 260V AC (50Hz,60Hz)
- **Accuracy of the Timing of the RCD:** $\pm (10\% \text{ of reading} + 1 \text{ digits})$
- **Resolution of the RCD Timing:** 0.1ms

Voltage and Frequency

Measurement Range (V) / AC-DC	Resolution (V)	Accuracy
80 – 500	1	±(2% of reading + 2digits)

Measurement Range (Hz)	Resolution (Hz)	Accuracy
45 – 65	1	±2Hz

Insulation Resistance

Terminal Voltage	Range	Resolution	Accuracy	Test Current	Short circuit current
125V(0%~+10%)	0.125~4.000 MΩ	0.001MΩ	±(2%+10)	1mA @load125kΩ	≤1mA
	4.001~40.00 MΩ	0.01MΩ	±(2%+10)		
	40.01~400.0 MΩ	0.1MΩ	±(4%+5)		
	400.1~1000 MΩ	1MΩ	±(5%+5)		
250V (0%~+10%)	0.250~4.000 MΩ	0.001MΩ	±(2%+10)	1mA @load250kΩ	≤1mA
	4.001~40.00 MΩ	0.01MΩ	±(2%+10)		
	40.01~400.0 MΩ	0.1MΩ	±(3%+2)		
	400.1~1000 MΩ	1MΩ	±(3%+2)		
500V(0%~+10%)	0.500~4.000 MΩ	0.001MΩ	±(2%+10)	1mA @load500kΩ	≤1mA
	4.001~40.00 MΩ	0.01MΩ	±(2%+10)		
	40.01~400.0 MΩ	0.1MΩ	±(3%+2)		
	400.1~1000 MΩ	1MΩ	±(4%+5)		
1000V (0%~+10%)	1.000~4.000 MΩ	0.001MΩ	±(3%+10)	1mA @load1MΩ	≤1mA
	4.001~40.00 MΩ	0.01MΩ	±(2%+10)		
	40.01~400.0 MΩ	0.1MΩ	±(3%+2)		
	400.1~1000 MΩ	1MΩ	±(4%+5)		

Low Ohm

Range	Resolution	Accuracy
0.00~99.99Ω	0.01Ω	+(2%+30d)
100.0~999.9Ω	0.1Ω	+(2%+6d)
1000~2000Ω	1Ω	

Earth resistance

Range	Resolution	Accuracy	Max. open Circuit Voltage	Overload Protection
0.000~2.000Ω	0.001Ω	+(1.5%+30)	5.0V	250Vrms
2.00~20.00Ω	0.01Ω	+(1.5%+3)		
20.0 ~200.0Ω	0.1Ω			
200 ~2000Ω	1Ω	+(1.5%+5)		

Accessories

Carrying Case, Test Leads, Test Cut, Instruction Manual, Battery, Test Certificate.

Contact:

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Documents / Resources

	CEM DT-6650 Multifunction Installation Tester [pdf] Instruction Manual DT-6650 Multifunction Installation Tester, DT-6650, Multifunction Installation Tester, Installation Tester, Tester
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References

- [cem-instruments.in](http://www.cem-instruments.in)

- [CEM Home | CEM Instruments India](#)
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