DCM305E
Earth Leakage Clampmeter



- **0.001 mA resolution**
- **Up to 100 A AC**
- **TRMS reading**
- **Low pass filter to aid stability of readings**
- **Auto, data & peak hold**
- **40 mm jaw**

DESCRIPTION

The DCM305E is designed to check earth leakage currents; however the upper range enables TRMS AC current measurements of up to 100 A. TRMS meters can measure both pure, undistorted, sinusoidal AC waveforms and non-sinusoidal AC waveforms which can contain pulse trains, triangles, spikes and other ragged waves.

The instrument has six ranges: 6 mA, 60 mA, 600 mA, 6 A, 60 A, 100 A with a minimum resolution of 0.001 mA on the 6 mA range.

Either auto or manual ranging can be selected.

Harmonics / electrical noise on the cables / circuit under test can give rise to incorrect readings so the DCM305E features a low pass filter (50/60 Hz) which vastly improves measurements on these particular circuits.

A compare function is also featured which has 3 pre-set leakage limits (0.25, 0.50, 3.5 mA) which when selected offers a visual indication and audible warning when the pre-set limit is exceeded.

For those hard to read measurements, where accessibility is a problem, auto hold and data hold features have been incorporated to aid measurements. A peak hold option is also featured on this instrument.

An auto-backlight also aids easy viewing of the 6000 count display.

The 40 mm jaw has been designed to allow measurements on both insulated and non-insulated conductors.

Safety has been enhanced with inclusion of a tactile hand barrier / hand guard in the instrument case design.

To save battery life an automatic power off feature will switch the clamp off if no readings have been made during a 20 minute period.

The instrument is pocket sized, light weight, rugged and easy to use, making it an ideal choice for the electrical industry.

APPLICATIONS

A typical application for the DCM305E would be a measurement of earth leakage current in a circuit where the RCD keeps tripping out unexpectedly.

The measured result will quickly identify whether the earth leakage current present is excessive causing the RCD to trip or if the RCD itself is very sensitive / faulty. Earth leakage can be the result various undetected faults in the installation or a faulty appliance.

Cable insulation deterioration, cable damage or the ingress of moisture into areas where exposed terminals are present may give rise to earth leakage current.

FEATURES

- 0.001 mA resolution
- 100 A range for standard AC current measurements
- Compare feature
- Low pass filter
- Analogue bargraph display for trending

SPECIFICATIONS

Display: 6000 count

Measuring function: TRMS Leakage current and load current

Ranges: 6.000 mA / 60.00 mA / 600.00 mA / 6.000 A / 60.00 A / 100.0 A

Basic accuracy: ± (1.0 % + 3d)

AC Current:

Range	Resolution	Accuracy
6 mA	0.001 mA	0 ~ 10 A ±(1 % reading + 8 digits) 10 ~ 50 A ±(2 % reading + 10 digits) 50 ~ 100 A ±(10 % reading + 10 digits)
60 mA	0.01 mA	
600 mA	0.1 mA	
6 A	0.001 A	
60 A	0.01 A	
100 A	0.1 A	

Frequency response (61 ~ 400 Hz):
0 ~ 10 A
±(2 % reading + 11 digits)
10 ~ 50 A
±(10 % reading + 11 digits)
50 ~ 100 A
±(35 % reading + 11 digits)

Low Pass Filter

Range	Resolution	Accuracy
6 mA	0.001 mA	0 ~ 10 A ±(2 % reading + 8 digits) 10 ~ 50 A ±(3 % reading + 10 digits) 50 ~ 100 A ±(12 % reading + 10 digits
60 mA	0.01 mA	
600 mA	0.1 mA	
6 A	0.001 A	
60 A	0.01 A	
100 A	0.1 A	

Accuracy specified at operating temperature: 23° C ± 5° C <80% RH

Resolution: 0.001 mA

Operating frequency range: 50 - 400 Hz

Sampling rate: 5 times / second

Data, auto, peak hold: User Selectable

Low pass filter: 50 / 60 Hz

Low pass filter cut-off frequency: Approximately 100 Hz with an attenuation characteristic of approximately -24 dB / octave

Compare pre-set limits: 0.25, 0.50, 3.50 mA

Jaw size: 40 mm (750 mm conductor size)

Maximum jaw opening: 43 mm

Overload: "OL"

Low battery: 

Auto power off: 20 minutes of inactivity

Operating temperature: 0 °C - 50 °C

Storage temperature: -20 °C - 60 °C

Operating Altitude: ≤2000 m

Temperature coefficient: 0.2 x (Spec. Accuracy) / °C, <18 °C, >28 °C

Power Supply: 2 x 1.5 V alkaline AAA / LR03

Battery life: 60 hours

Size: 78 mm (W) x 203 mm (H) x 42 mm (D)

Weight: 300 g

Safety: EN61010-1 CAT III 300 V

EMC: EN61326-1

ORDERING INFORMATION

Description	Part number
Earth leakage clampmeter	2009-574

Description	Part number
Included accessories	
Carrying case	

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