

Megger[®]

DCM305E Earth Leakage Clampmeter

User manual

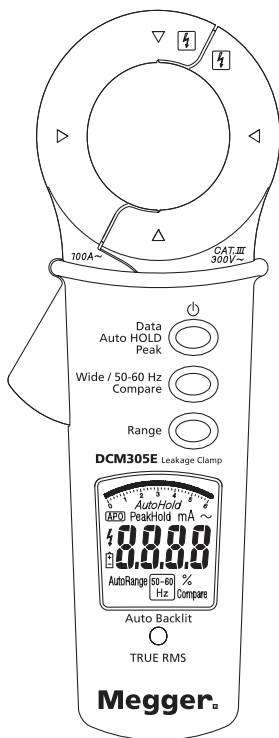
**Test Equipment
Depot**

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Phone 781-665-1400
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Visit us at www.TestEquipmentDepot.com



Read First

Safety Information

To ensure safe operation and service of the meter, follow these instructions.

Failure to observe warnings can result in severe injury or death.

- Avoid working alone so assistance can be rendered.
- Do not use the clamp meter if the instrument looks damaged
- Do not use the clamp meter if the tester is not operating properly or if it is wet.
- Use the clamp meter only as specified in the instruction card or the protection provided by the clamp meter may be impaired.
- Ensure hands are kept behind the barrier / hand guard when making measurements.
- Special precautions are necessary when operating in situations where exposed live parts at dangerous voltages may be encountered. Personal protective equipment (not supplied with the instrument) should be used.
- Use caution with voltages above 30 V AC RMS, or 60 V DC. These voltages pose a shock hazard.

CAT IV

Measurement category IV: Equipment connected between the origin of the low-voltage mains supply outside the building and the consumer unit.

CAT III

Measurement category III: Equipment connected between the consumer unit and the electrical outlets.

CAT II

Measurement category II: Equipment connected between the electrical outlets and the user's equipment.

Symbols as marked on the instrument and instruction card



Risk of electric shock



See instruction card



Equipment protected by double or reinforced insulation



Low battery



Earth



AC measurement



Conforms to EU directives



Application around hazardous exposed live conductors is permitted

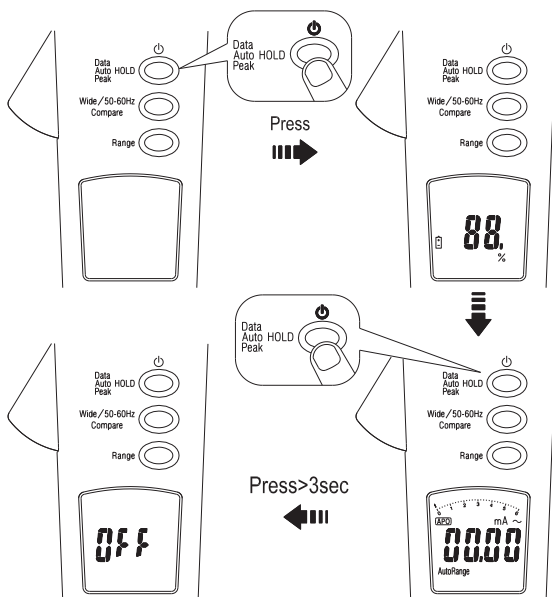


Do not discard or throw away this product

Caution

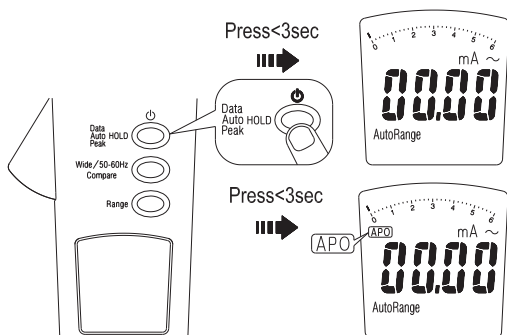
Take sufficient care not to apply shock, excessive vibration or force to the jaw. If the meter is used in the vicinity of equipment that generates large electromagnetic fields, the display may become unstable or the measurements may be subject to large errors.

Power Off / On

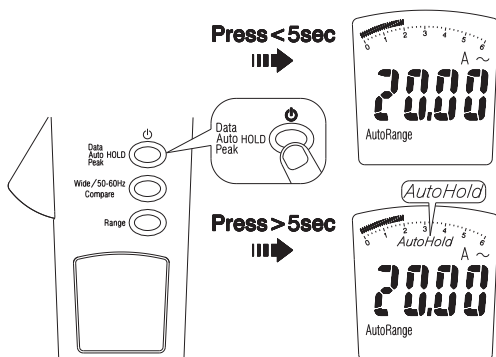


- The instrument displays battery capacity when powering up. Replace batteries when 0% is displayed.

Auto Power Off Enable / Disable



Auto Hold Enable / Disable

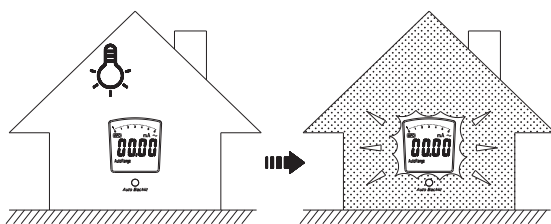


In the AUTOHOLD mode, if the measured value remains within ± 10 counts over 10 measuring cycles the instrument will beep 3 times; the measured value will be held on the display and "AUTOHOLD" will be displayed.

Subsequently if the measured value changes by ± 10 counts, the instrument will beep; "AUTOHOLD" will disappear and the instrument will revert to displaying the new readings until the next AUTOHOLD conditions are met.

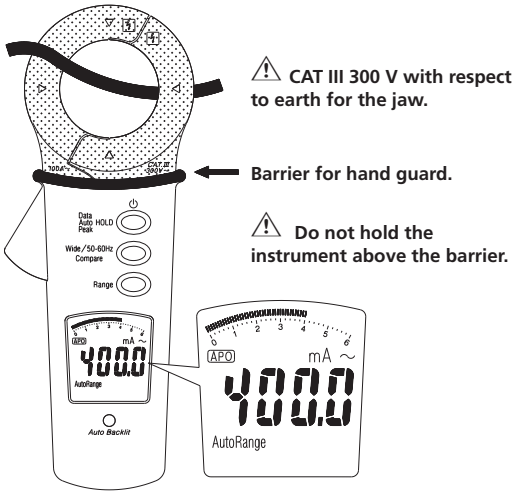
Note: When the AUTOHOLD activates, the displayed reading will be held for 3 seconds if the clamp jaws are removed from the conductor/s. During this time the HOLD key may be pressed to hold the reading indefinitely.

Auto Backlight



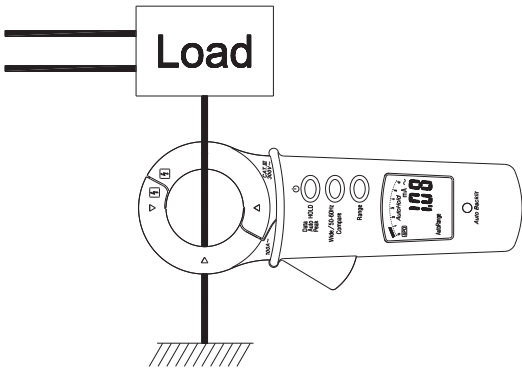
The Auto backlight on the display activates automatically when the instrument is used in very poor light locations

AC Current

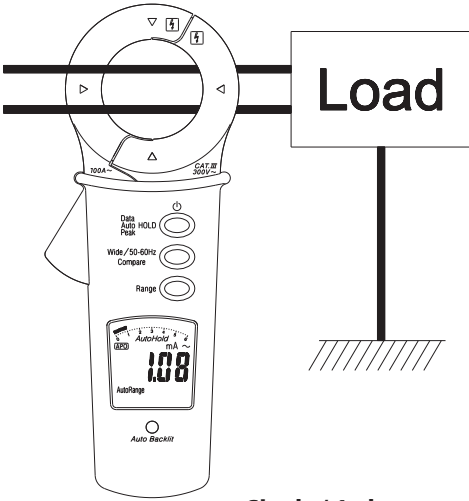


Leakage Current Measurement

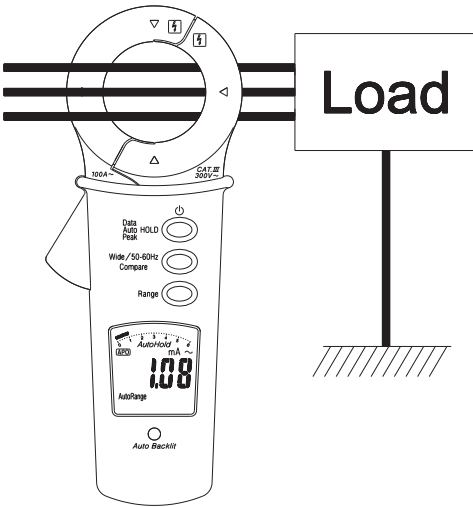
Recommended applications of instrument with respect to conductors.



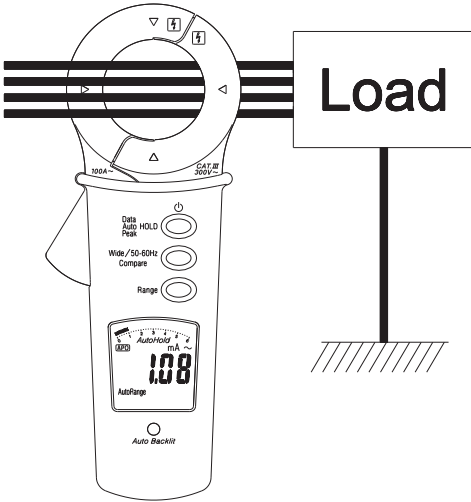
Note: Measurements made on the earth conductor only will indicate current in the earth conductor but not the entire installation.



Single / 1 phase

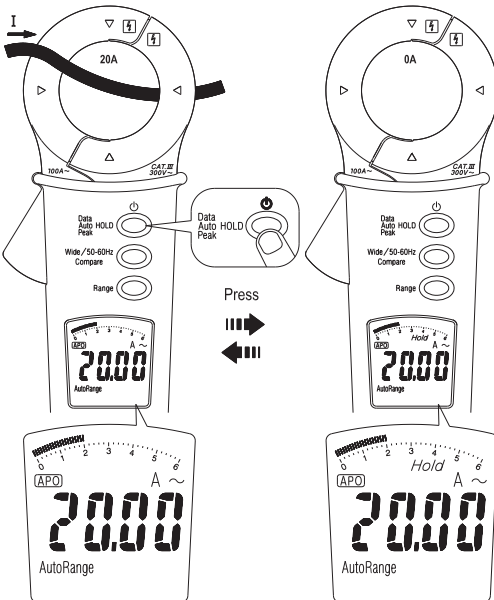


3 wire / 3 phase



4 wire / 3 phase + neutral

Data Hold

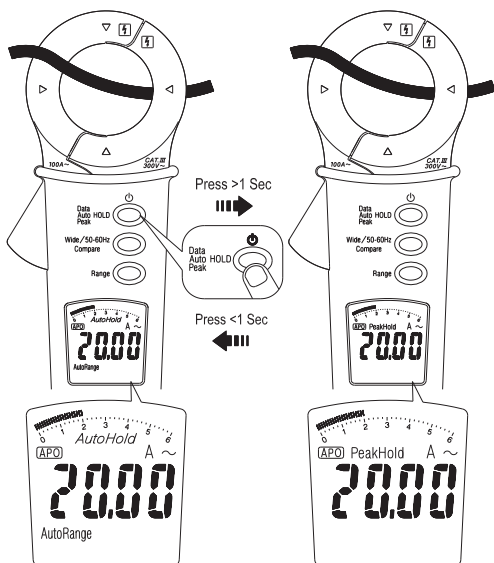


Note: Data Hold beep guard

The internal sounder will beep continuously with the LCD display flashing in the Data Hold mode when the measured signal is 50 counts larger than the LCD reading.

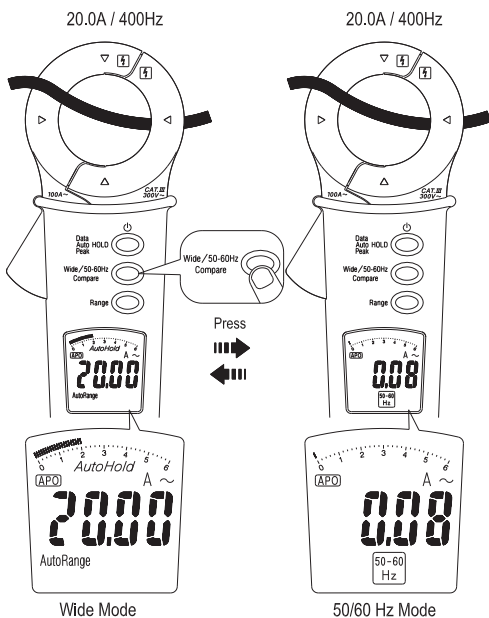
Peak Hold

(forcing into the manual range mode)



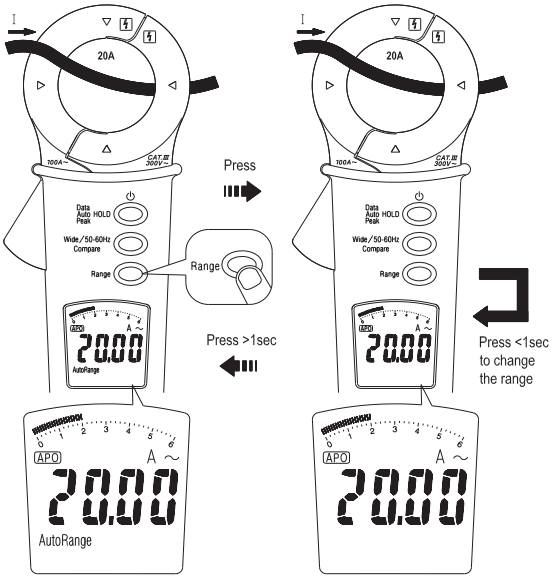
Low Pass Filter

(forcing into the manual range mode)

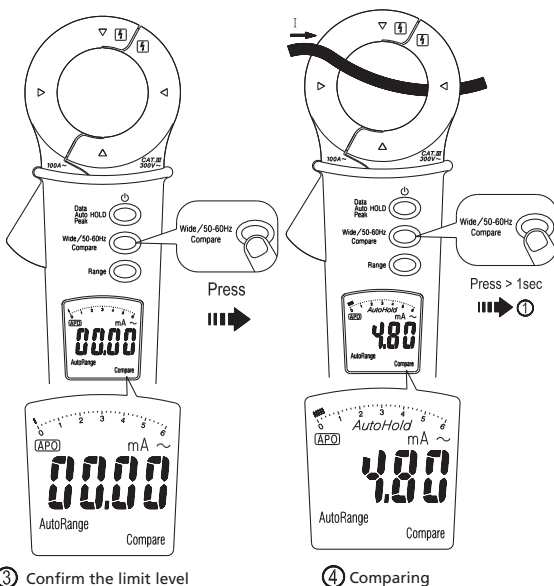
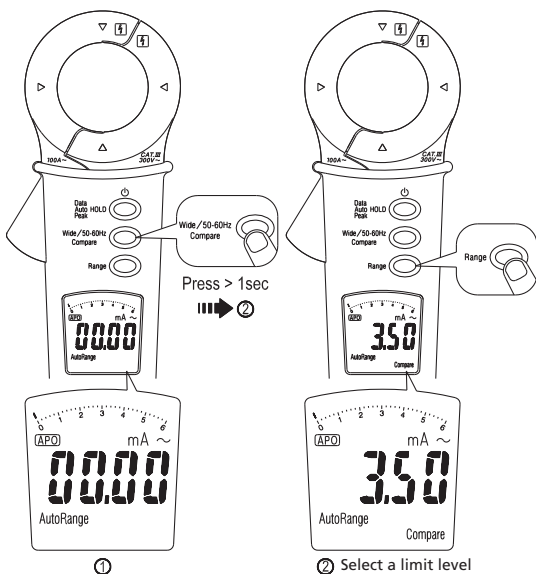


- The cut-off frequency of the low pass filter is about 100 Hz with an attenuation characteristic of approximately -24 dB / octave.

Auto Range / Manual Range

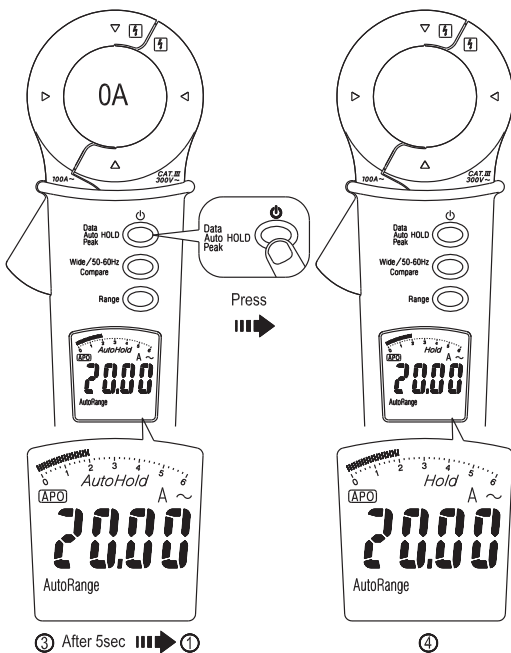
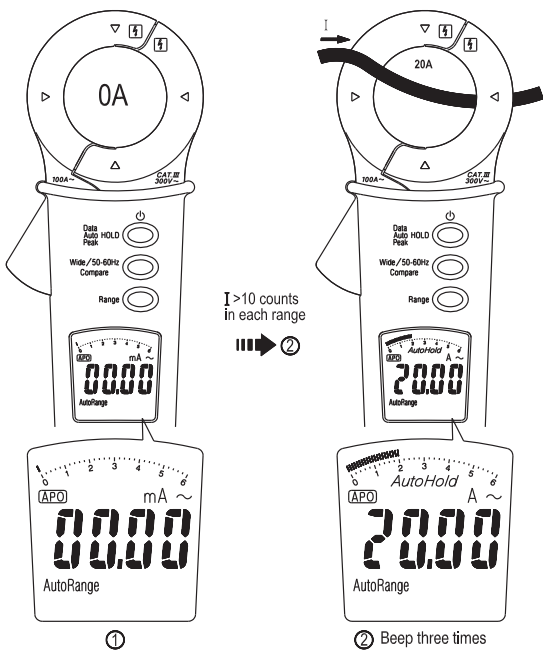


Comparator

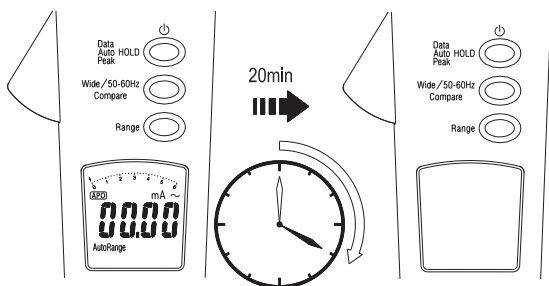


- The instrument offers 3 limit values (0.25 mA, 0.5 mA and 3.5 mA)
- The internal sounder will beep continuously with the LCD display flashing when measured value exceeds the confirmed limit level.

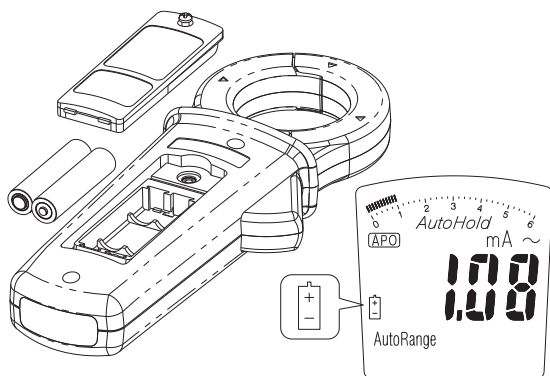
Auto Hold



Auto Power Off



Battery Replacement



Maintenance

Do not attempt to repair this meter. It contains no user-serviceable parts. Repair or serving should only be performed by qualified personnel.

Cleaning

Periodically wipe the case with a dry cloth and detergent, do not use abrasives or solvents.

WEEE Directive

The crossed out wheeled bin symbol on the instrument and on the batteries is a reminder not to dispose of them with general waste at the end of their life.

Megger is registered in the UK as a Producer of Electrical and Electronic equipment. The registration No is; WEE/DJ2235XR.

Users of Megger products in the UK may dispose of them at the end of their useful life by contacting B2B Compliance at www.b2bcompliance.org.uk or by telephone on 01691 676124.

Users of Megger products in other parts of the EU should contact their local Megger company or distributor.

Battery Disposal

Batteries in this product are classified as Portable Batteries under the Batteries Directive. Please contact Megger Ltd for instructions on the safe disposal of these batteries.



For disposal of batteries in other parts of the EU contact your local distributor.

Megger is registered in the UK as a producer of batteries.

The registration number is BPRN01235.

Specifications

General Specifications

LCD display digits :	6000 count large scale LCD readout.
Measuring rate :	5 times / sec.
Over range display :	Shows the real value for "100 A" and shows "OL" for other ranges.
Automatic power off time :	Approximately 20 minutes after power on without operations.
Low battery indicator :	 is displayed. Replace the battery when the indicator  appears in the display.
Power requirement :	1.5 V x 2 batteries AAA / LR03
Battery type and life :	Alkaline 60 hours.

Environmental Conditions

Indoor Use.

Pollution degree :	2
Calibration :	One year calibration cycle.
Operating temperature :	0°C ~ 30 °C (≤ 80% RH) 30°C ~ 40 °C (≤ 75% RH) 40°C ~ 50 °C (≤ 45% RH)
Storage temperature :	-20 to +60 °C, 0 to 80% RH (batteries not fitted).
Operating altitude :	2000 m (6562 ft)
Conductor Size :	40 mm diameter.
Shock vibration :	No shock, No vibration to the jaw tips.
Temperature coefficient :	0.2 x (Specified accuracy) / °C, < 18 °C, > 28 °C
EMC :	EN 61326-1
Overvoltage category :	IEC 61010-1 300 V CAT III

Accuracy is \pm (% reading + number of digits) at 23 °C \pm 5 °C < 80% RH.

AC Current

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

* Digit rolling ±3 digits.

Frequency Response (61~400 Hz) :

0A ~ 10A
±(2% reading + 11 digits)
10 ~ 50A
±(10% reading + 11 digits)
50 ~ 100A
±(35% reading + 11 digits)

Position Error: ±1% of reading.

Additional Accuracy by Crest Factor (C.F.):

Add 1.0% for C.F. 1.4 ~ 2.0.
Add 2.5% for C.F. 2.0 ~ 2.5.
Add 4.0% for C.F. 2.5 ~ 3.0.

Max. Crest Factor:
1.6 for 6000 ~ 5000 digits
2.0 for 5000 ~ 3000 digits
3.0 for 3000 ~ 0 digits

Influence of external magnetic field of adjacent wires :
0.04% typical value.

Low Pass Filter

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

* Digit rolling ±3 digits.

Attenuation characteristic: approximately -24 dB/octave

Cut-off frequency : 100 Hz