

CM-113 Leakage (leakage current) clamp meter



AC
60A

Leakage current clamp meter equipped with a comparator

- Beeper sounds when the specified comparator value (1 mA to 20 mA) is exceeded
- Can be connected to a recorder for data recording
- Low-pass filter: Cuts high frequencies of 150 Hz or higher

General specifications

Display	3,200-count LCD, maximum display: 3,200
Sampling	2 times/second
Range switching	Manual ranging
Diameter of conductor under measurement	30 mm maximum
Power source	Two 1.5-V batteries
Dimensions/weight	212 (H) x 42 (W) x 30 (D) mm/220 g
Accessory provided	Two batteries (1.5 V), carrying case

	Range	Accuracy	
Alternating current	30/300mA	±1.0%rdg±5dgt	
	60A	(0-50A)	±1.0%rdg±5dgt
		(50.01A-60.0A)	±5.0%rdg±5dgt
Other functions	Analog output, maximum/minimum values, comparator (up to 20 mA), high-frequency cut-off, display hold, auto power off		

CM-112 Clamp adapter



AC/DC
400A

Connects to a measuring instrument to enable current measurement

- When connected to a measuring instrument capable of measuring 400 mV AC/DC, the CM-112 enables measurement up to 400 AAC/ADC.
- Specification: 0 to 400 AAC/ADC

ZM-510/520 Insulation resistance tester



- New JIS Standard series carrying the CE Marking
- Dust-proof and drip-proof construction; built-in timer
- Hot lead detection; electrostatic discharge function

General specifications

Power source	Six 1.5-V R6P batteries
Dimensions/weight	169 (H) x 148 (W) x 50 (D) mm/570 g
Accessory provided	Test leads, six batteries (1.5 V), alligator clip (black lead only), test prod (with test pin/red lead only), spare fuse

	ZM-510	ZM-520		
Standard measurement range	Rated voltage/resistance	50V/100MΩ	25V/5MΩ	
	Insulation resistance		125V/20MΩ	500V/100MΩ
		Effective measurement range	0.005-10MΩ	0.01-50MΩ
			0.01-20MΩ	0.05-100MΩ
	Center scale	0.2MΩ	1MΩ	
		0.5MΩ	2MΩ	
Precision	Output voltage on open circuit	Within 1.3 times the rated voltage		
	Rated measurement current	1 mA to 1.2 mA		
	Short current	Within 2 mA		
	Insulation resistance	First effective measurement range: ±5%		
Other functions	Alternating-current voltage	Second effective measurement range: ±10%		
		Scale outside the above ranges: Within 0.5 mm of the scale length		
	Timer function (continuous measurement for approximately three minutes), battery check (through indication on the scale face)	±3% of the maximum scale value		

Handheld measuring instruments

Digital multimeter
Digital clamp meters
Insulation resistance testers

Catalog



Digital multimeter
MM-300



Digital clamp meter for alternating-current/direct-current measurement
CM-211



Digital clamp meter for alternating-current measurement
CM-205



Insulation resistance tester
ZM-520

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MM-300

Digital multimeter



High-precision, compact digital multimeter

- 4,000-count large-format LCD
- High-precision, high-voltage, multi-functional pocket-sized model
- Allows measurement of maximum/minimum values and deviation

General specifications

Display	4,000-count LCD, 14-mm character height
Sampling	3 times/second
Range switching	Auto/manual ranging
Power source	One 3-V battery
Dimensions/weight	118 (H) x 78 (W) x 16 (D) mm/110 g
Accessory provided	Battery (3 V) installed

	Range	Resolution	Accuracy	Input resistance
Direct-current voltage	400mV	100µV	±0.5%rdg±3dgt	100MΩ or higher
	4.0V	1mV		11MΩ (approx.)
	40V	10mV		10MΩ (approx.)
Alternating-current voltage	400V/600V	100mV/1V	±1.0%rdg±3dgt	
	4.0V	1mV	±1.5%rdg±5dgt	11MΩ (approx.)
	40V/400V	10mV/100mV		10MΩ (approx.)
Resistance	Range	Resolution	Accuracy	Test current
	400Ω	0.1Ω	±1.5%rdg±4dgt	0.2mA or smaller
	4.0kΩ	1Ω	±1.0%rdg±3dgt	50µA or smaller
	40kΩ	10Ω		5µA or smaller
	400kΩ	100Ω		0.5µA or smaller
	4.0MΩ	1kΩ	±3.0%rdg±3dgt	50nA
40MΩ	10kΩ	±7.0%rdg±3dgt		
Open circuit voltage: Approximately 0.44 V				
Other functions	Frequency, duty ratio, continuity test, diode test, electrostatic capacity, maximum/minimum values, deviation value, display hold, auto power save			

0.5% classDC/V

CM-205

Digital clamp meter for alternating-current measurement



Optimal for switchboard measurement

- One key switch enables all operations
- Highly twist-resistant; beak-shaped clamp head provides easy attachment
- The auto power-off function automatically cuts off the power source after 10 minutes.
- The auto-ranging function eliminates annoying range switching.
- Display hold function
- Carrying case and spare fuse provided

General specifications

Display	4,000-count LCD, maximum display: 4,301
Sampling	2.5 times/second
Range switching	Auto ranging
Diameter of conductor under measurement	27 mm maximum
Power source	One 3-V battery
Dimensions/weight	150 (H) x 52 (W) x 20 (D) mm/110 g
Accessories provided	Battery (3 V) installed, spare fuse, carrying case

	Range	Accuracy
Alternating current	40A/200A	±1.8%rdg±5dgt
Other functions	Display hold, auto power off	

CM-207

Digital clamp meter for alternating-current measurement



Large-format clamp tester that provides a full range of measurement functions including frequency measurement

- Both auto-ranging and range hold (where the range is fixed to a specified range) measurement enabled
- Dust-proof and drip-proof case construction protects the unit's interior from dust and drips

General specifications

Display	4,000-count LCD, maximum display: 4,999
Sampling	3 times/second
Range switching	Auto ranging
Diameter of conductor under measurement	55 mm maximum
Power source	One 9-V battery
Dimensions/weight	250 (H) x 92 (W) x 39 (D) mm/470 g
Accessory provided	Test leads, battery (9 V), carrying case

	Measurement range	Accuracy
A a.c./Hz-%	Alternating current	(50Hz-60Hz) (40Hz-1kHz)
	400A (0-600A)	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	2000A (0-1000A)	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	(1001A-)	±3.0%rdg±5dgt
	Frequency	5Hz-4.999kHz ±0.2%rdg±2dgt
	Duty ratio	Not regulated
V a.c./V d.c./Hz-%	Alternating current voltage	(40Hz-400Hz) (401Hz-1kHz)
	4/40/400/600V	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	Direct-current voltage	400mV/4/40/400/600V
	400mV/4/40/400/600V	±1.2%rdg±3dgt
	Frequency	1Hz-100kHz ±0.2%rdg±2dgt
	Duty ratio	0.1%-99.9% ±2%rdg±2dgt
Resistance	400Ω	±5%rdg±5dgt
	4k/40k/400kΩ	±1.0%rdg±3dgt
	4MΩ	±3.0%rdg±4dgt
	40MΩ	±5.0%rdg±7dgt
Other functions	continuity test, diode test, electrostatic capacity, maximum/minimum values, deviation value, range hold, display hold, auto power save	

CM-208

Digital clamp meter for alternating-current/direct-current measurement



All-purpose clamp meter that is optimal for electrical facility and vehicle maintenance/inspection

- Allows continuity tests, diode tests, and measurement of electrostatic capacity
- Measurement of maximum/minimum values, peak hold, deviation measurement
- Dust-proof and drip-proof case construction protects the unit's interior from dust and drips.

General specifications

Display	4,000-count LCD, maximum display: 9,999
Sampling	3 times/second
Range switching	Auto ranging
Diameter of conductor under measurement	55 mm maximum
Power source	One 9-V battery
Dimensions/weight	193 (H) x 60 (W) x 34.5 (D) mm/300 g
Accessory provided	Test leads, battery (9 V), carrying case

	Measurement range	Accuracy
A a.c./A d.c./Hz	Alternating current	400A (400-600A) ±1.5%rdg±5dgt
	1000A (601-1000A)	±1.5%rdg±5dgt
	Direct current	400A (400-600A) ±1.5%rdg±3dgt
	1000A (601-1000A)	±1.5%rdg±3dgt
	Frequency	1Hz-1kHz ±0.2%rdg±2dgt
	Duty ratio	10%-90% ±2.0%rdg±2dgt
V a.c./V d.c./Hz-%	Alternating-current voltage	4/40/400/600V ±1.0%rdg±3dgt (40-400Hz)
	Direct-current voltage	400mV/4/40/400/600V ±1.0%rdg±3dgt
	Frequency	1Hz-49.99kHz ±0.2%rdg±2dgt
	Duty ratio	10%-90% ±2.0%rdg±2dgt
Resistance	400Ω	±1.5%rdg±5dgt
	4k/40k/400kΩ	±1.0%rdg±3dgt
	4MΩ	±4.0%rdg±5dgt
	40MΩ	±6.0%rdg±5dgt
Other functions	Continuity test, diode test, electrostatic capacity, maximum/minimum values, peak hold, deviation value, display hold, auto power save	

AC/DC 1000A

CM-209

Digital clamp meter for alternating-current/direct-current measurement



Enables checking of the frequency and duty ratio while alternating current/voltage measurement is being performed

- The respective maximum/minimum values can be measured while alternating current, voltage, and resistance measurements are being performed.
- Dust-proof and drip-proof case construction protects the unit's interior from dust and drips.

General specifications

Display	4,000-count LCD, maximum display: 5,120
Sampling	3 times/second
Range switching	Auto/manual ranging
Diameter of conductor under measurement	55 mm maximum
Power source	One 9-V battery
Dimensions/weight	250 (H) x 92 (W) x 39 (D) mm/500 g
Accessory provided	Test leads, battery (9 V), carrying case

	Measurement range	Accuracy
A a.c./A d.c./Hz	Alternating current	(50Hz-60Hz) (40Hz-1kHz)
	400A (0-600A)	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	2000A (0-1000A)	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	(1001A-)	±3.0%rdg±5dgt
	Direct current	400/2000A ±1.5%rdg±5dgt
	Frequency	1Hz-4.999kHz ±0.2%rdg±2dgt
V a.c./V d.c./Hz-%	Alternating-current voltage	(40Hz-400Hz) (401Hz-1kHz)
	4/40/400/600V	±1.5%rdg±5dgt ±3.0%rdg±5dgt
	Direct-current voltage	400mV/4/40/400/600V ±1.2%rdg±3dgt
	Frequency	1Hz-100kHz ±0.2%rdg±2dgt
Resistance	Duty ratio	0.1%-99.9% ±2.0%rdg±2dgt
	400Ω	±1.5%rdg±5dgt
	4k/40k/400kΩ	±1.0%rdg±3dgt
	4MΩ	±3.0%rdg±4dgt
40MΩ	±5.0%rdg±7dgt	
Other functions	Continuity test, diode test, electrostatic capacity, maximum/minimum values, deviation value, peak hold, display hold, auto power save	

AC/DC 2000A

CM-211

Digital clamp meter for alternating-current/direct-current measurement



A clamp meter of extraordinary versatility, with a four-item display of multiple measurement elements

- The following parameters can be displayed concurrently while alternating current/voltage measurements are being performed.
 - Frequency/duty ratio/pulse width
 - Maximum value/minimum value/mean value and their duration
- Output terminal provided for connection to an oscilloscope or recorder
- Dust-proof and drip-proof case construction protects the unit's interior from dust and drips

General specifications

Display	4,000-count LCD, maximum display: 9,999
Sampling	1,000 times/second
Range switching	Auto/manual ranging
Diameter of conductor under measurement	55 mm maximum
Power source	One 9-V battery or AC adapter (sold separately)
Dimensions/weight	250 (H) x 92 (W) x 39 (D) mm/500 g
Accessory provided	Test leads, battery (9 V), carrying case

	Measurement range	Accuracy
A d.c. + V d.c.	Direct current	400/2000A ±1.5%rdg±3dgt
	Direct-current voltage	40/400/600V ±1.0%rdg±3dgt
A a.c. + Hz %/ms	Alternating current	400/2000A ±1.5%rdg±3dgt
	Frequency	10Hz-25kHz ±0.2%rdg±2dgt
	Duty ratio	1%-99% ±5.0%rdg±2dgt
	Pulse width	0.1mS-100mS ±5.0%rdg±2dgt
V a.c. + Hz %/ms	Alternating-current voltage	40/400/600V ±1.5%rdg±3dgt
	Frequency	10Hz-25kHz ±0.2%rdg±2dgt
	Duty ratio	1%-99% ±5.0%rdg±2dgt
	Pulse width	0.1mS-100mS ±5.0%rdg±2dgt
Resistance	4k/40kΩ ±1.0%rdg±2dgt	
Other functions	Temperature, continuity test, diode test, maximum/minimum values, mean value, peak hold, deviation value, output terminal, display hold, auto power save	

- Options
 - Temperature probe RIC-110
 - AC adapter PU-110-02

AC/DC 2000A

CM-114

Digital clamp meter for alternating-current/direct-current measurement



An AC/DC clamp that displays both alternating current and voltage: optimal for vehicle and machine maintenance

- Two electrical elements are displayed concurrently on the LCD while they are being measured.
- Output terminal provided for connection to an oscilloscope or recorder
- Dust-proof and drip-proof case construction protects the unit's interior from dust and drips

General specifications

Display	4,000-count 2-item LCD, maximum display: 9,999
Sampling	15 times/second; 3.75 times/second when both direct current and direct-current voltage measurements are being performed in the normal mode
Range switching	Auto ranging
Diameter of conductor under measurement	36 mm maximum
Power source	One 9-V battery or AC adapter (sold separately)
Dimensions/weight	200 (H) x 64 (W) x 33 (D) mm/310 g
Accessory provided	Test leads, battery (9 V), carrying case

	Measurement range	Accuracy
A d.c. + V d.c.	Direct current	400/1000A (400.0A) ±1.5%rdg±3dgt
	(400-600A)	±1.5%rdg±1dgt
	(601-1000A)	±3.0%rdg±3dgt
	Direct-current voltage	40/250V (40V) ±1.0%rdg±3dgt (250V) ±1.0%rdg±1dgt
A a.c. + Hz %/ms	Alternating current	(50Hz-60Hz) (40Hz-400Hz)
	400/1000A (400.0A)	±1.5%rdg±3dgt ±2.5%rdg±3dgt
	(400-600A)	±1.5%rdg±1dgt ±2.5%rdg±1dgt
	(601-1000A)	±3.0%rdg±3dgt ±4.0%rdg±3dgt
	Frequency	10.0Hz-4000Hz ±0.5%rdg±1dgt
	Duty ratio	0.0%-99.9% ±3.0%rdg±3dgt
V a.c. + Hz %/ms	Pulse width	1.0mS-999.9mS ±0.5%rdg±3dgt
	Alternating-current voltage	40/250V (50Hz-60Hz) ±1.0%rdg±3dgt (40Hz-400Hz) ±1.5%rdg±3dgt
	Frequency	10.0Hz-4000Hz ±0.5%rdg±1dgt
	Duty ratio	0.0%-99.9% ±3.0%rdg±3dgt
Resistance	Pulse width	1.0mS-999.9mS ±0.5%rdg±3dgt
	4k/20kΩ (4kΩ)	±1.0%rdg±3dgt (20kΩ) ±1.0%rdg±1dgt
Temperature*1	-30°C-150°C ±1.0%rdg±3dgt	
Other functions	Peak/maximum/minimum values, deviation value, display hold, output terminal	

*1 The temperature probe (RIC-110), sold separately, is required.

- Options
 - Temperature probe RIC-110
 - AC adapter PU-110-02

AC/DC 1000A