

6412

6412⁺



Technical data

Basic Function		6412/6412 ⁺		
Measure mode	Measuring range	Resolution	Basic accuracy	
Resistance	0.010~0.099Ω	0.001Ω	±(1%+0.01Ω)	
	0.10~0.99Ω	0.01Ω	±(1.5%+0.01Ω)	
	1.0~49.9Ω	0.1Ω	±(1%+0.1Ω)	
	50.0~99.5Ω	0.5Ω	±(2%+0.5Ω)	
	100~199Ω	1Ω	±(3%+1Ω)	
	200~395Ω	5Ω	±(6%+5Ω)	
Current Only for 6412	400~590Ω	10Ω	±(10%+10Ω)	
	600~1300Ω	20Ω	±(20%+20Ω)	
	0~80mA	0.05mA	±(2.5%+1mA)	
	80~650mA	0.5mA	±(2.5%+2mA)	
	650mA~4A	5mA	±(2.5%+10mA)	
	4~30A	10mA	±(2.5%+20mA)	

Basic Function		140 Clamp leaker	
Range	30mA~300mA 30A/300A	Range	0.00mA~9.99mA
Sampling rate	Approx. 2times/s	Accuracy	±1.2%±5dgt
Resolution	0.01mA		±1.5%±5dgt
Measuring range	0.00~300.0A(50/60Hz)	Measurement accuracy (below 231, 70%RH)	0.00A~9.99A ±1.2%±5dgt
Test way	CT pincer points		10.0A~99.9A ±1.5%±5dgt
Power	DC 3V Button-type battery LR44*2 or SR44*2		100A~199.9A ±2%±5dgt
Rate Power	Approx. 5mW		200.0A~300.0A ±4%±5dgt

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140D



Special Function	6412	6412 ⁺	140
Low battery indication	✓	✓	✓
Date hold/storage	✓	✓	✓
Auto power off	✓	✓	✓
Relative humidity	10%~90%	10%~90%	
Working environment	-10℃~55℃	-10℃~55℃	0~40℃
Outer magnetic field	<40A/m	<40A/m	
Outer electric field	<1V/m	<1V/m	
Unit measuring time	1s	1s	
Resistance measuring frequency	>1KHz	>1KHz	
Highest resolution of Resistance measuring	0.001Ω	0.001Ω	
Frequency of measured current	50Hz sine		
Storage measuring data	99group	99group	60 group
Setting range of resistance critical value alarm	1~199Ω	1~199Ω	
Setting range of current critical value alarm	1~499mA	1~499mA	
Protection scale	Double insulated	Double insulated	
Operation way	Auto range	Auto range	Auto range
Clamp size	32mm	32mm	40mm
Power	6V(4×1.5V)	6V(4×1.5V)	DC 3V

Accuracy (23℃±3℃, below 70%RH)	±2%rdg±5dgt(23±5℃, below 75%rh)
Display Mode	4digits LCD display
LCD Dimension	35mm×21.5mm; display area: 32mm×15mm
Sampling Rate	about 2 times/s
Frequency	AC 45Hz ~ 400Hz
Polar Indication	Automatic identification, display "-" symbol
Wire Position	The tested wire in the center of the clamp jaw
Range Shift	Automatically
Line Voltage	Line measurement below DC 600V
RS232 Interface	With RS232 interface, storage data can be uploaded to computer, software monitoring
Communication Parameter	Baud rate:9600, data bit 8, stop bit 1, check bit NONE
Data Storage	99units, display FULL symbol indicate storage full
Data Hold	Data hold function: DH symbol display
Overflow display	Exceed measure range overflow function: OL symbol display
Auto Shut Down	5 Minutes after power on, the meter shuts down automatically without any operation to reduce battery consumption
Battery Voltage	While battery voltage decreases to around 7.2V, will display low battery voltage symbol: , and remind to replace the battery
Meter Weight	210g
Working Current	20mA

Technical Specifications 140D

CT Size	16mm×18mm
Meter Size	215mm×61mm×32mm
Function	Measurement of car dark current, leakage current and other AC/DC current, leakage current
Power Supply	Zn-Mn dry battery 6F22 9V
Test Mode	Clamp CT, Non-contact measurement
Range	0mA~60.0A AC/DC
Resolution	1mAAC/DC

Working Temperature	-10℃~50℃, below 80%rh
Limit Temperature Error	-10℃~0℃ and 40℃~50℃, the maximum increase in error is 2%rdg
Storage Temperature	-10℃~60℃, below 70%rh
Insulating Strength	AC3700V/rms (between the core and outside shell)
Suitable Safety Standard	IEC1010-1, IEC1010-2-032, pollution, etc. 2, CAT III(600V)

Technical data

Model	6415	6415A
Features	Bench top	Box top
Function	Grounding resistance, soil resistivity, DC resistance, grounding voltage, AC current, leakage current measurement	
Range	Two-three-four-wire grounding resistance measurement: 0.00Ω~30.00kΩ Grounding resistance measurement by selection method: 0.00Ω~3000Ω Double-clamp method grounding resistance measurement: 0.01~100Ω Grounding voltage: AC0.0V~100.0V Soil resistivity: 0.00Ωm~9000Ωm AC current: AC 0.00mA~600.0A	
Measurement mode	Precision four-wire, three-wire method, simple two-wire, selection method, double-clamp method to measure grounding resistance	
Measurement method	Two-three-four-wire method measurement: pole-changing method, test current 20mA Max Selection method measurement: pole changing method, test current 20mA Max Double clamp method: non-contact mutual inductance measurement method, test current 1mA Max Soil resistivity: quadrupole method (Wenner method) DC resistance: pole changing method AC current: average value rectification (clamp) Grounding voltage average value rectification (between P(S)-ES interface)	
Backlight	Controllable white screen backlight, suitable for use in dark places	
Display	4-digit large LCD display with backlight	
Measurement indication	LED flashing indication during measurement, LCD countdown display	
Measurement time	AC current: about 2 times/second; grounding voltage: about 2 times/second; grounding resistance: about 7 seconds/time	
Measurement frequency	more than 5000 times (short circuit test, test once, stop for 30 seconds and test again)	
Line voltage	measurement below AC 600V	
Communication interface	With RS232 interface, the stored data can be uploaded to the computer through the software	
Data storage	2000 groups	
Overload protection	Measuring ground resistance: AC 280V/3 seconds between each port of C(H)-E, P(S)-ES	
Insulation resistance	above 20MΩ (500V between circuit and case)	
Withstand voltage	AC 3700V/rms (between circuit and case)	
Power supply	DC 9V (6 pcs R14S 1.5V zinc-manganese dry battery, continuous standby for 300 hours)	DC 8.4V (rechargeable battery, continuous standby for 300 hours)
Accessories	Meter: 1; Grounding probe: 4; Simple test lead: 2; USB communication cable: 1; CD: 1; Meter bag: 1; Special charger: 1	
Standard test lines	red 20m, black 20m, yellow 10m, green 10m each	
Auxiliary ground rods	4φ 10mm×150mm	
Simple test lines	red 1.6m, black 1.6m each	
Communication line	RS232 communication line 1, length 1.5m	
Current clamp	blue and black plugs, red and black plugs each	
Current clamp size	185mm×115mm×43mm	
Current clamp diameter	φ68mm	
Power	DC 7.4V 2600mAh rechargeable lithium battery	
Current clamp lead length	2m	
Color	Black + Orange	
LCD size	128mm×75mm; display area: 124mm×67mm	
Weight	1232g	2560g
Size	215mm×190mm×95mm	280mm×260mm×160mm
Standard inner packing	Neutral kraft carton	



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6415A