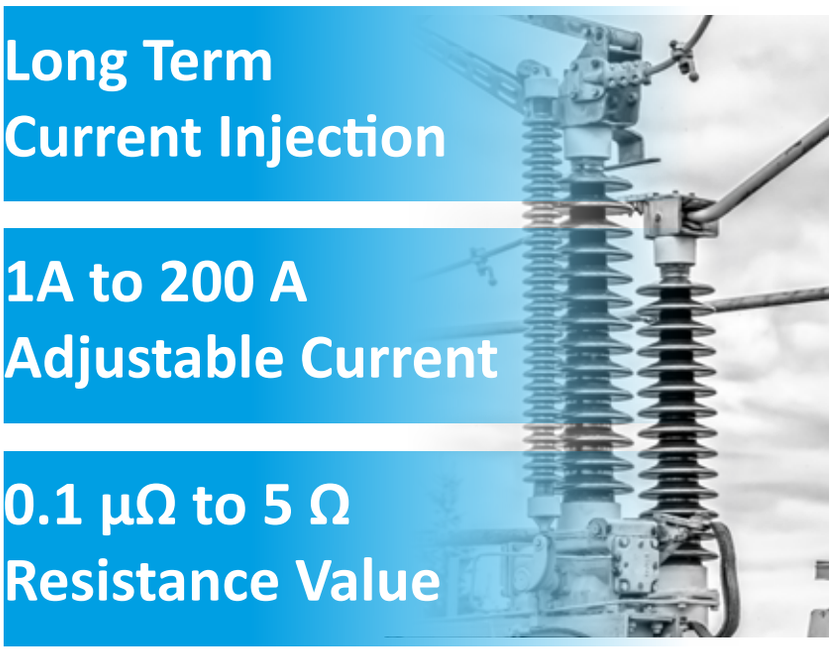

ARES-200
200 A DC Micro-ohm Meter with Built-in Printer

ARES-200 is a micro-ohmmeter produced using advanced engineering technologies which can apply up to 200 A current.With its easy-to-use software, ARES-200 can easily measure contact resistances of circuit breaker, shunt & disconnector by applying adjustable current from 1 A to 200 A.

It can calculate the real values of the resistors by providing penetration with the feature of the continuous current application. ARES-200 can measure from 0.1 µ Ω to 5 Ω. The ARES-200 is capable of measuring static resistance of the contact points of the circuit breaker.

There is also an “Auto-Test” mode available on ARES-200, which enables to start testing automatically just by connecting the leads of the sensor cables across the two points of the current path and makes it highly convenient when measuring an array of resistance values in a circuit breaker contact.

ARES-200 can measure idle circuit breakers as well as the earthed circuit breakers on both sides. The optional current clamp will be able to measure the part of the current going through the ground line during the test and make the calculations considering this component. The frequently used test models can be saved as templates and the tests can be performed more rapidly and quickly.

Thanks to the quick test feature of the ARES-200 user interface, the test can be performed in barely 15 seconds. The 4.3-inch touch colour display shows all measurement results manifest on a single screen.With an easy-touse user-friendly interface, the ARES-200 guides operators to perform tests quickly.

ARES-200’s flash memory feature allows controlling, recording and storing measurement results (up to 100 Test Records). And also the user can copy test records using a USB drive.

Operators can easily print the measurement results with the 2.25-inch built-in printer of ARES-200 and can prepare on-field reports easily.

The HighTest data management platform (DMP software) can also be used to control ARES-200 remotely by a PC and the measurement results can be easily analysed and stored in the PC.

With the ARES-200’s Bluetooth option, tests can be started remotely via DMP software and the results can be transferred to the PC. Thus, on-field tests can be performed even by a single person.

With ARES-200’s temperature measurement channel, the temperature values of the measured sample can be taken and calculated according to the desired temperature value. ARES-200 is a compact, rugged device with protection class IP67 (case closed) which weighs only 9 kg.

Why do we measure contact transition resistance on breakers?

When high current passes over the switchyard, circuit breakers open the circuits or at the points where high current passes it acts as closing switches. Resistance value measured in periodic control of circuit breaker should be the same as the resistance value in the closed position which is very important for system safety.

High resistance values may cause local hotspots, voltage drops, fire risk, unplanned power failure, and extra energy loss in the system. Maximum accuracy measurement with the 4-wire method (kelvin method) will indicate whether the breaker contacts are properly contacted, if there is any corrosion on the contacts, or it shows if there is an effect that increases the resistance.

ARES-200 can apply up to 200 A current through its current cable and measure the voltage drop on both sides of the resistance with the sense terminal. Thus the calculated resistance value displayed on ARES-200 is not affected by the resistance of the measuring cable.

Features

- Contact Resistance Measurement
- Adjustable Current: 1 A to 200 A
- Measurement Range from 0.1 µ Ω to 5 Ω
- Typical Accuracy: 0.1%
- Static Resistance Measurement
- Dual Ground Test Mode
- Auto Test Mode
- Built-in Printer
- Optional Current Clamp
- Internal Memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 4.3-inch TFT touch Display
- Protection Class: IP67 (case closed)

Technical Specifications

Measurement Parameter	Contact Resistance
Measurement Modes	Static Resistance, Dual ground
Auto Test Mode	Yes
Test Current	1 A to 200 A
Measurement Range	0.1 µΩ to 5 Ω
Accuracy	Typical: 0.1% ± 0.1% Fs, Guaranteed: 0.5% ± 0.1% Fs
Power Supply	100-240 V 47/63 Hz
Memory	Up to 200 records with 25 intervals for each
Test Plan	Up to 6 plans
Printer	2.25-inch Built-in Printer
Current Clamp	Yes (Optional)
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (factory install option)
PC Software	DMP Software
Display	4.3-inch TFT touch display
Dimensions	16.7” x 13.4” x 6.8” (424 mm x 340 mm x 173 mm)
Weight	9 kg
Working Temperature	-10 °C to + 60 °C
Storage Temperature	-30 °C to + 70 °C
Humidity	95% RH non condensing
Protection Class	IP67 (case closed)
Set of Package	ARES-200, Power Cable, Ground Cable , 10m Standard Test Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard Carrying Case, Length Customised Cables, Bluetooth (factory install option), Current Clamp

*Specifications are valid at/under 25 °C temperature. *Contents subject to change without notice.*

Ordering Information

ARES-200 — 200 A DC Micro-ohm Meter with Built-in Printer

ARES-200 BLUE — 200 A DC Micro-ohm Meter with Built-in Bluetooth & Printer

Dynamic Resistance Measurement

1A to 200 A Adjustable Current

0.1 µΩ to 5 Ω Resistance Value

ARES-200D
200 A DC Micro-ohm Meter with Built-in Printer

ARES-200D is a micro-ohmmeter produced using advanced engineering technologies which can apply up to 200 A current. With its easy-to-use software, ARES-200D can easily measure contact resistances of circuit breaker, shunt, disconnector by applying adjustable current from 1A to 200A.

It can calculate the real values of the resistors by providing penetration with the feature of the continuous current application. ARES-200D can measure from 0.1 µ Ω to 5 Ω. ARES-200D is capable of measuring static and dynamic resistance of the contact points of the circuit breaker. ARES-200D can measure idle circuit breakers as well as dual grounded circuit breakers. The optional current clamp will be able to measure the part of the current going through the ground line during the test and make the calculations considering this component.

The frequently used test models can be saved as templates and the tests can be performed more rapidly and quickly. Thanks to the quick test feature of the ARES-200D user interface, the test can be performed in barely 15 seconds.

The 4.3-inch touch colour display shows all measurement results manifest on a single screen. With an easy-to-use user-friendly interface, the ARES-200D guides operators to perform tests quickly. ARES-200D's flash memory feature allows controlling, recording and storing measurement results (up to 200 Test Records). And also the user can copy test records using a USB drive. Operators can easily print the measurement results with the 2.25-inch built-in printer of ARES-200D and can prepare on-field reports easily.

The HighTest data management platform (DMP Software) can also be used to control ARES-200D remotely by a PC and the measurement results can be easily analysed and stored in the PC.

With the ARES-200D's Bluetooth option, tests can be started remotely via DMP software and the results can be transferred to the PC. Thus, on-field tests can be performed even by a single person.

With ARES-200D's temperature measurement channel, the temperature values of the measured sample can be taken and calculated according to the desired temperature value. ARES-200D is a compact, rugged device with IP67 protection class (case closed) which weighs 9 kg.

Why do we measure contact transition resistance at breakers?

When high current passes over the switchyard, circuit breakers open the circuits or at the points where high current passes it acts as closing switches. Resistance value measured in periodic control of circuit breaker should be the same as the resistance value in the closed position which is very important for system safety.

High resistance values may cause local hotspots, voltage drops, fire risk, unplanned power failure, and extra energy loss in the system. Maximum accuracy measurement with the 4-wire method (kelvin method) will indicate whether the breaker contacts are properly contacted, if there is any corrosion on the contacts, or it shows if there is an effect that increases the resistance.

ARES-200D can apply up to 200 A current through its current cable and measure the voltage drop on both sides of the resistance with the sense terminal. Thus the calculated resistance value displayed on ARES-200D is not affected by the resistance of the measuring cable.

Why Dynamic Resistance Meter?

In the circuit breakers, the time-dependent graph of the measured resistance when the breaker is switched from closed to open can be obtained to determine whether the contacts are deformed. This cannot be detected by measuring the circuit breaker only in the closed position. For this reason, dynamic resistance measurement is done on circuit breakers.

Features

- Contact Resistance Measurement
- Adjustable Current: 1 A to 200 A
- Measurement Range from 0.1 µ Ω to 5 Ω
- Typical Accuracy: 0.1%
- Dynamic Resistance Measurement
- Static Resistance Measurement
- Dual Ground Test Mode
- Auto Test Mode
- Built-in Printer
- Optional Current Clamp
- Internal Memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 4.3-inch TFT touch Display
- Protection Class: IP67 (case closed)

Technical Specifications

Measurement Parameter	Contact Resistance
Measurement Modes	Static, Dynamic & Dual ground Resistance Measurement
Auto Test Mode	Yes
Test Current	1 A to 200 A
Measurement Range	0.1 µΩ to 5 Ω
Accuracy	Typical: 0.1% ± 0.1% Fs, Guaranteed: 0.5% ± 0.1% Fs
Power Supply	100-240 V 47/63 Hz
Memory	Up to 200 records with 25 intervals for each
Test Plan	Up to 6 plans
Printer	2.25-inch Built-in Printer
Current Clamp	Yes (Optional)
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (Model: ARES-200D BLUE)
PC Software	DMP Software
Display	4.3-inch TFT touch display
Dimensions	16.7” x 13.4” x 6.8” (424 mm x 340 mm x 173 mm)
Weight	9 kg
Working Temperature	-10 °C to + 60 °C
Storage Temperature	-30 °C to + 70 °C
Humidity	95% RH non condensing
Protection Class	IP67 (case closed)
Set of Package	ARES-200D, Power Cable, Ground Cable , 10m Standard Test Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard Carrying Case, Length Customised Cables, Bluetooth (factory install option), Current Clamp

*Specifications are valid at/under 25 °C temperature. *Contents subject to change without notice.*

Ordering Information

ARES-200D

200A DC Micro-Ohm Meter with Dynamic Resistance Measurement feature (model with built-in Printer)

ARES-200D BLUE

200A DC Micro-Ohm Meter with Dynamic Resistance Measurement feature (model with built-in Bluetooth & Printer)

Only 3 kg!

Static Resistance Measurement

Battery powered

Extra Light-Weight Micro-ohmmeters

HARE SERIES
Digital Micro-ohmmeter

HARE Series is a micro-ohmmeter manufactured by using advanced engineering technologies which can apply up to 100A/ 200A/ 300A test current.

With its easy-to-use software, HARE Series can easily measure contact resistance of circuit breaker, shunt and disconnector by applying adjustable test current up to 100A/ 200A/ 300A depending on the model.

HARE Series can measure from 0.1 µ Ω to 5 Ω and capable of measuring static resistance of the circuit breaker's contact points. HARE Series can also measure idle circuit breakers.

The 4.3-inch colour touch screen displays all measurement results on a single screen.

With a user-friendly interface, the HARE Series guides operators to perform tests quickly.

HARE Series' flash memory feature allows storing around 1000 records. Users can copy test records by using a USB drive.

HARE Series is a very compact, rugged device with IP67 protection class (case closed) which weighs only 3 kg.

FEATURES

- Portable Contact Resistance Tester
- 0.4A to 100A Adjustable test current (HARE-100)
- 0.4A to 200A Adjustable test current (HARE-200)
- 0.4A to 300A Adjustable test current (HARE-300)
- Up to 5 Ω resistance measurement
- 0.1 µΩ resolution
- Automatic discharge
- High EM interferences protection
- Battery powered
- Ultra-fast measurement
- Light-weight
- 4.3" Resistive touch colour display (visible under sun light)
- User-friendly operation menu
- Internal memory
- USB Flash Drive
- IP67 Protection case

Ordering Information

HARE-100	100A DC Micro-Ohm Meter with Rechargeable Battery
HARE-200	200A DC Micro-Ohm Meter with Rechargeable Battery
HARE-300	300A DC Micro-Ohm Meter with Rechargeable Battery

Technical Specifications

Measurement Parameter	Contact Resistance				
Measurement Modes	Static Resistance Measurement				
Adjustable Test Current	0.4A to 100A (HARE-100) 0.4A to 200A (HARE-200) 0.4A to 300A (HARE-300)				
Measurement Range	0.1 µΩ to 5 Ω				
Accuracy & Resolution	**Nominal Resistance**	**Full Range Display**	**Resolution**	**Recommended Test Current**	**Typical Accuracy**
	1 mΩ	999.9 µΩ	0.1 µΩ	50 – 300 A	±0.1% rdg ± 0.1% Fs
	10 mΩ	9.999 mΩ	1 µΩ	10 – 300 A	±0.1% rdg ± 0.1% Fs
	100 mΩ	99.99 mΩ	10 µΩ	5 – 30 A	±0.1% rdg ± 0.1% Fs
	1 Ω	999.9 mΩ	0.1 mΩ	1 – 3 A	±0.1% rdg ± 0.1% Fs
	5 Ω	4999 mΩ	1 Ω	0.4A	±1% rdg ± 1% Fs
Power Supply to charge the battery	100-240 V 47/63 Hz				
Memory	Up to 1000 records				
Test Plan	Up to 6 plans				
PC Software	DMP Software (Reporting only)				
Display	4.3-inch TFT touch display				
Dimensions	12.5” x 10.1” x 6.0” (318 mm x 257 mm x 152 mm)				
Weight	3 kg				
Working Temperature	-10 °C to + 60 °C				
Storage Temperature	-30 °C to + 70 °C				
Humidity	95% RH non condensing				
Protection Class	IP67 (case closed)				
Set of Package	HARE device, Rechargeable Battery, Power Cord, 1.5m Measurement Cable Set, USB				

*Specifications are valid at/under 25 °C temperature. *Contents subject to change without notice.*