HIGHTEST
TECHNOLOGY







GENERAL CATALOGUE 2022



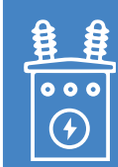




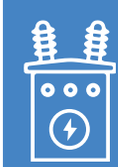


HIGHTEST TECHNOLOGY LIMITED
4F Great Northern Works, Hartham Lane, Hertford, Hertfordshire,
SG14 1QN, United Kingdom.
Tel: +44 203 900 2710, +44 203 287 2302
info@hightest.co.uk // sales@hightest.co.uk // www.hightest.co.uk

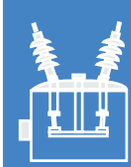
HIGHTEST
TECHNOLOGY



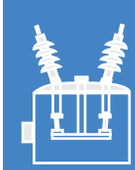
Turns Ratio Meter



Winding Resistance Tester



Contact Resistance Tester



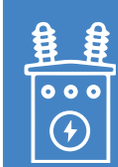
Circuit Breaker Analyser



Vacuum Bottle Tester



Transformer Analyser



Combined Substation Test Equipment



HIGHTEST Technology Ltd. is a leading manufacturing company based in the UK which produces highly precise test equipment. We mainly focus on the development, manufacture, and marketing of Transformer test systems. We have several years of experience in the field of developing and producing high-end test equipment. Customer satisfaction is our prime motto. We supply our test equipment worldwide to Transformer manufacturers, Electrical utilities, general contractors and service companies. Our test equipment is designed and produced according to the most widely adopted international standards. As we value our customers the most, our well-experienced team always provide excellent after-sales support and technical assistance.

UK: +44 203 900 2710, +44 203 287 2302
info@hightest.co.uk // sales@hightest.co.uk





TURA-01
Single-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer

TURA-01 is designed using advanced engineering technology to measure the turns ratio of single-phase and three-phase transformers.

TURA-01 has easy, fast and accurate turns ratio measurement features for current, voltage and power transformers using its user-friendly software.

TURA-01 is one of the most accurate devices with its wide range (0.8 to 33,000) ratio measurement capability and high precision (0.08 %).

Besides the ratio measurement, TURA-01 can also measure excitation current, phase angle, polarity, and ratio error.

Even though TURA-01 has a single-phase cable configuration, users can make three-phase transformer tests as well.

TURA-01 can show all kinds of connection diagrams on its display which can change depending on transformer configuration. The operator doesn't need to search for any connection diagram.

TURA-01 has a wide operation range from high excitation current transformers to high powered power transformers at substations with the 1V, 4V, 10V, 40 V and 100 V AC test voltage generation capability.

A 4.3-inch TFT touch display allows TURA-01 to show all measurement results on a single screen.

USB, Bluetooth (Option) and Flash Memory features allow TURA-01 to control, record and store measurement results (up to 100 Test Records).

With the HighTest Data Management Platform (DMP Software), users can control TURA-01 and analyse measurement results on PC.

Operators can easily print the measurement results with the 2.25-inch built-in Printer of TURA-01.

Multi-language capability and user-friendly operation menu make it easy to control TURA-01, even by less trained staffs.

By using the optional TPA-03 Three-Phase Adapter, users can make three-phase connections and can test all phases simultaneously.

TURA-01 is a light, compact and rugged device with the protection class IP67 (case closed).





Features

- Turns Ratio Measurement
  (Single-phase and three-phase measurement)
- Ranges from 0.8 to 33,000 Ratio Measurement
- High Accuracy (0.08 %)
- 1V, 4V, 10V, 40 V and 100 V AC Test Voltages
- Ratio Error Measurement
- Excitation current, phase angle, polarity measurement
- Magnetic Balance (Required optional TPA-03)
- Built-in Battery & Printer
- Internal memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 4.3-inch TFT touch display
- Expansion feature with optional accessory TPA-03 (Three-Phase Adapter)

Technical Specifications

Measurement Parameters	Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Magnetic Balance (Required TPA-03)		
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and Three-Phase)		
Test Voltages	CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40 & 100 V		
Ratio Range	0.8 – 33,000		
Accuracy	**Mode**	**Ratio**	**Accuracy**
	CT Mode (1V -4 V)	0.8-399 400-4000	0.08 % 0.1 %
	PT Mode(10 V- 100 V)	0.8-5000 5001-12000 12001-33000	0.08 % 0.15 % 0.5 %
Phase Angle Measurement	0-360 Degree, ±0.2 degree (±1 digit)		
Excitation Current	2 A, 2 % of reading (±1 mA)		
Power Supply	100-240 V, 47/63 Hz		
Built-in Battery	Yes, 14.4 V 3.45 Ah		
Memory	Up to 100 records (include up to 25 tap results)		
Printer	2.25-inch built-in printer		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (Model: TURA-01 BLUE)		
PC Software	DMP Software		
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	3.8 kg		
Temperature	Working: -10 °C to +60 °C ; Storage: -30 °C to +70 °C		
Humidity	95% RH Non-condensing		
Protection Class	IP67 (case closed)		
Set of Package	TURA-01, Power Cable, Ground Cable , 5 m Test Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Soft Carrying Case		
Options	Hard Carrying Case, TPA-03 Three-Phase Adapter, Bluetooth (factory install option)		

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

Ordering Information

TURA-01
Single-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer

TURA-01 BLUE
Single-Phase Transformer Turns Ratio Tester with Built-in Battery, Bluetooth & Printer



TURA-03
3Φ Transformer Turns Ratio Tester with Built-in Printer

TURA-03 is designed using advanced engineering technology to measure the turns ratio of single-phase and three-phase transformers.

TURA-03 has easy, fast and accurate turns ratio measurement features for current, voltage and power transformers using its user-friendly software.

By using ANSI/IEEE C57.12.90 measurement method TURA-03 can produce precise results. TURA-03 is one of the most accurate devices with its wide range (0.8 to 50,000) ratio measurement capability and high precision (0.08 %).

Besides the ratio measurement, TURA-03 can also measure excitation current, phase angle, polarity, ratio error and magnetic balance. Even though TURA-03 has three-phase cable configuration, users can also make single-phase transformer tests as well.

TURA-03 can detect vector groups automatically. TURA-03 has a wide operation range from high excitation value current transformer to high powered power transformer at substations with 1V, 4V, 10V, 40V, 100V and 250V AC test voltages generation capability.

A 7-inch TFT touch display allows TURA-03 to show all measurement results on a single screen. USB, Bluetooth (Option) and Flash Memory features allow TURA-03 to control, record and store measurement results (up to 100 Test Records).

With the HighTest Data Management Platform (DMP Software), user can control TURA-03 and analyse measurement results. Operators can easily print the measurement results with the 2.28-inch built-in Printer of TURA-03.

Multi-language capability and user-friendly operation menu make it easy to control TURA-03, even by less trained staffs. TURA-03 can control tap changer (raise and lower) via its tap changer outputs.

TURA-03 is a light, compact and rugged device with the protection class IP67 (case closed).

In addition to ratio tests, TURA-03 can be used to perform Magnetic Balance Test as well.





Features

- Turns Ratio Measurement (Single-phase and three-phase measurement)
- Ranges from 0.8 to 50,000 ratio measurement
- High Accuracy (0.08 %)
- 1V, 4V, 10V, 40V, 100V and 250V AC test voltages
- 1V, 4V, 8V, 10V, 40V, 100V and 250V AC test voltages
- Ratio Error Measurement
- Excitation Current, Phase Angle, Polarity Measurement, Magnetic Balance
- Built-in Printer
- Automatic vector group detection feature
- Internal memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 7-inch TFT touch display

Technical Specifications

Measurement Parameters	Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Vector group detection, Magnetic Balance
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and Three-Phase)
Measurement Method	ANSI/IEEE C57.12
Test Voltages	CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40, 100 & 250 V
Optional Test Voltages	1, 4, 8, 10, 40, 100, 250 V
Ratio Range	0.8 – 50,000
Phase An gle Measurement	0-360 Degree, ±0.2 degree (±1 digit)
Excitation Current	0 to 2 A
Excitation Current Accuracy	±0.1 mA
Power Supply	100-240 V, 47/63 Hz,
Battery	Yes, 14.4 V 3.45 Ah Optional (Models: TURA-03B, TURA-03B BLUE)
Memory	Up to 102 records (include up to 25 tap results) Unlimited Storage using an external USB
Printer	2.28-inch Built-in Printer
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth(Models: TURA-03 BLUE & TURA-03B BLUE)
PC Software	DMP Software
Display	7-inch TFT touch display
Dimensions	16.7” x 13.4” x 6.8” (424 mm x 340 mm x 173 mm)
Weight	7.1 kg (*models with battery*)
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	TURA-03, Power Cable, Ground Cable , 5m Standard Test Cable Set, 10m Extension Cable Set, Tap Changer Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard Carrying Case, Bluetooth (factory install option), Battery (factory install option)

Ordering Information

TURA-03 — Three-Phase Transformer Turns Ratio Tester with Built-in Printer

TURA-03 BLUE — Three-Phase Transformer Turns Ratio Tester with Built-in Bluetooth & Printer

TURA-03B — Three-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer

TURA-03B BLUE — Three-Phase Transformer Turns Ratio Tester with Built-in Battery, Bluetooth & Printer



TURA-X
TRUE 3Φ Transformer Turns Ratio Tester with Built-in Printer

TURA-X is designed using advanced engineering technology to measure the turns ratio of single-phase and three-phase transformers.

Turns ratio measurement of phase-shifting transformers can be done by using TURA-X. It has fast, easy and accurate turns ratio measurement features for current, voltage and power transformers using its user-friendly software.

By ANSI/IEEE C57.12.90 measurement method TURA-X can make precise results. TURA-X is one of the most accurate devices with its wide range ratio (0.8 to 50,000) measurement capability and high precision (0.08 %).

Besides the ratio measurement, TURA-X can also measure excitation current, phase angle, polarity and ratio error.

Even though TURA-X has three-phase cable configuration, users can make single-phase transformer tests as well.

TURA-X can detect vector group automatically. TURA-X has a wide operations range from high excitation value current transformer to high powered power transformer at substation with the 1V, 4V, 10V, 40 V, 100 V, 250 V and 430 V AC test voltages generation capability.

A 7-inch colour touch display allows TURA-X to show all measurement results on a single screen.

USB, Bluetooth (Option) and Flash Memory features allow TURA-X to control, record and store measurement results (up to 100 Test Record).

With the HighTest Data Management Platform (DMP Software), users can control TURA-X and analyse measurement results.

Operators can easily print the measurement results with the 2.28-inch built-in Printer of TURA-X.

Multi-language capability and user-friendly operation menu make it easy to control TURA-X, even by less trained staffs.

TURA-X can control tap changer (raise and lower) via its tap changer outputs. TURA-X is a light, compact and rugged device with the protection class IP67 (case closed).

In addition to ratio tests, TURA-X can be used to perform Magnetic Balance Test as well.



Features

- Turns Ratio Measurement (Single-phase and TRUE three-phase measurement)
- Ranges from 0.8 to 50,000 ratio measurement
- High Accuracy (0.08 %)
- 1V, 4V, 10V, 40V, 100V, 250V & 430V AC test voltage
- Ratio Error Measurement
- Magnetic Balance Test
- Excitation Current, Phase Angle, Polarity Measurement
- Automatic vector group detection feature
- Internal memory, USB Flash Drive
- PC control via USB cable
- Built-in Printer
- Optional Battery
- Optional Bluetooth control and communication
- 7-inch TFT touch display

Technical Specifications

Measurement Parameters	Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Vector group detection, Magnetic Balance		
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and TRUE Three-Phase)		
Measurement Method	ANSI/IEEE C57.12		
Test Voltages	CT Mode Single-Phase : 1 V and 4 V PT Mode; TRUE Three-Phase (Phase to Neutral): 1, 4, 10, 40, 100 & 250 V PT Mode; TRUE Three-Phase (Phase to Phase): 1, 4, 10, 40, 100, 250 & 430 V		
Ratio Range	0.8 – 50,000		
Accuracy	Mode	Ratio	Accuracy
	CT Mode (1V-4 V)	0.8000- 399.99 400.00- 4000.0	0.08 % 0.1 %
	PT Mode(10 V- 430 V)	0.8000- 5000.0 5000.1- 12000 12001- 50000	0.08 % 0.15 % 0.5 %
Phase Angle Measurement	0-360 Degree, ±0.2 degree (±1 digit)		
Excitation Current	2 A, 2 % of reading (±1 mA)		
Accuracy	Range	Resolution	Accuracy
	Up to 1.0000 mA	0.2 µA	0.25 % rdg ± 500 µA
	1.0000 mA to 10.000 mA	1 µA	0.25 % rdg ± 500 µA
	10.000 mA to 100.00 mA	10 µA	0.25 % rdg ± 500 µA
	100.00 mA to 2000.0 mA	100 µA	0.25 % rdg ± 500 µA
Power Supply	100-240 V, 47/63 Hz		
Battery	Yes, 14.4 V 3.45 Ah Optional (Models: TURA-XB & TURA-XB BLUE)		
Memory	Up to 100 records (include up to 25 tap results)		
Printer	2.28-inch Built-in Printer		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (Models: TURA-X BLUE & TURA-XB BLUE)		
PC Software	DMP Software		
Display	7-inch TFT touch display		
Dimensions	16.7″ x 13.4″ x 6.8″ (424 mm x 340 mm x 173 mm)		
Weight	7.1 kg (models with battery)		
Temperature	Storage: -10 °C to + 60 °C ; Working: -30 °C to + 70 °C		
Protection Class	IP67 (case closed)		
Set of Package	TURA-X, Power Cable, Ground Cable , 5m Standard Test Cable Set, 10m Extension Cable Set, Tap Changer Cable Set, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag		
Options	Hard Carrying Case, Battery, Bluetooth (factory install option)		
Ordering Information	**TURA-X**, True Three-Phase Transformer Turns Ratio Tester with Built-in Printer		
	TURA-X BLUE, True Three-Phase Transformer Turns Ratio Tester with Built-in Bluetooth & Printer		
	TURA-XB, True Three-Phase Transformer Turns Ratio Tester with Built-in Battery & Printer		
	TURA-XB BLUE, True Three-Phase Transformer Turns Ratio Tester with Built-in Battery, Bluetooth & Printer		

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



WINRES-20
20 A Winding Resistance Tester with Built-in Printer

WINRES-20 is designed using advanced engineering technology to measure the winding resistance of transformers.

WINRES-20 can measure current, voltage, power transformer windings and shunt resistors.

Applying up to 20 A Direct Current allows WINRES-20 to measure the resistance of the transformers fast and accurate.

The smart design of the WINRES-20 makes easier to determine the end of measurement automatically according to users' decision.

WINRES-20 can measure two resistance values simultaneously with its two voltage measurement channels.

Users can prefer to test two primary or two secondary or one primary and one secondary winding according to the configuration of transformers.

Beginning from 0.1 µΩ resistances, WINRES-20 can measure up to 100,000 Ω resistance.

WINRES-20 discharges the measured circuit after each test. For inductive load, WINRES-20 can demagnetise the load.

The temperature measurement input enables one to connect an optional sensor to WINRES-20 and perform temperature correction automatically.

WINRES-20's intelligent software allows controlling the current flow if there is a failure in the current circuit. With this feature, WINRES-20 procures added safety to users.

A 7-inch TFT touch display allows WINRES-20 to show all measurement results on a single screen.

WINRES-20 can be controlled by USB and optional Bluetooth interface and users can record/store measurement results.

In case setting up Laptop or PC for the onfield test is difficult; users can record data to the device's internal memory (up to 100 Test Records) or to an external USB flash memory.

With the HighTest Data Management Platform (DMP Software), users can control WINRES-20, analyse and manage measurement results using a PC.

Operators can easily print the measurement results with the 2.28-inch built-in Printer of WINRES-20.

WINRES-20 has an optional battery power feature which allows users to make tests even when there is no electricity.

Multi-language capability and user-friendly operation menu make it easy to control WINRES-20, even by less trained staffs.

Three-Phase Adaptor TPA-03 (optional accessory) allows connecting all primary and secondary sides concurrently, whereby users can select either to test the resistance of all phases or selective phases.

With the TPA-03 option, WINRES-20 can control tap changer (raise and lower) with its tap changer outputs.

WINRES-20 is a light, compact and rugged device with the protection class IP67 (case closed).

Features

- 2-channel resistance measurement
- Measurements from 0.1 µΩ to 100,000 Ω
- 0.001 A to 20 A DC adjustable current output
- High accuracy (0.1%)
- Test Voltage 50 V
- Demagnetisation feature
- On-Load Tap Changer Test
- Built-in printer (2.28-inch)
- Data Management Platform (DMP Software) allows WINRES-20 analyse and manage results on PC
- Battery Power (Option)
- Internal memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 7-inch TFT touch display
- Temperature correction (1 input, optional sensor)
- User-friendly operation menu
- Optional accessory TPA-03 (Three-Phase Adapter) makes WINRES-20 outputs concurrently connectable to primary and secondary sides of three-phase power transformers.

Technical Specifications

Measurement Parameters	2-channel resistance			
Test Voltage	50 V			
Current output	From 0.001 A to 20 A DC (User-selectable)			
Resistance Measurement	From 0.1 µΩ to 100,000 Ω			
Accuracy	**Current Value**	**Resistance Value**	**Accuracy**	**Resolution**
	1 mA - 10 mA	Up to 100 kΩ	0.1 % rdg 0.1 % of Fs	100 µΩ
	10 mA - 100 mA	Up to 5 kΩ	0.1 % rdg 0.1 % of Fs	10 µΩ
	100 mA - 1 A	Up to 500 Ω	0.1 % rdg 0.1 % of Fs	10 µΩ
	1 A	Up to 50 Ω	0.1 % rdg 0.1 % of Fs	1 µΩ
	20 A	Up to 2.5 Ω	0.1 % rdg 0.1 % of Fs	0.1 µΩ
Demagnetisation	Yes			
Power Supply	100-240 V 47/63 Hz			
Built-in Battery	Yes, 14.4 V 6.9 Ah Optional (Models: WINRES-20B, WINRES-20B BLUE)			
Memory	Up to 500 records (recommended for better device performance)			
Printer	2.28-inch built-in printer			
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth (Models: WINRES-20 BLUE & WINRES-20B BLUE)			
PC Software	DMP Software			
Display	7-inch TFT touch display			
Dimensions	16.7” x 13.4” x 6.8” (424 mm x 340 mm x 173 mm)			
Weight	7 kg (*models with battery*)			
Temperature	Working: -10 °C to + 60 °C ; Storage: -30 °C to + 70 °C			
Humidity	95% RH Non-condensing			
Protection Class	IP67 (case closed)			
Set of Package	WINRES-20, Power Cable, Ground Cable , 1x 5m Current Cable Set, 2 x 5m Voltage Cable Set, USB Cable, Tap Changer Cable Set, Jumper Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag			
Options	Hard carrying case, Battery, Bluetooth (factory install), Three-Phase Adapter TPA-03, Temperature Sensor, 10m Long Cable Sets for Current and Voltage channels			

Ordering Information

WINRES-20 — 20A Winding Resistance Tester with Built-in Printer

WINRES-20 BLUE — 20A Winding Resistance Tester with Built-in Bluetooth & Printer

WINRES-20B — 20A Winding Resistance Tester with Built-in Battery & Printer

WINRES-20B BLUE — 20A Winding Resistance Tester with Built-in Battery, Bluetooth & Printer



TRIORES-20 SERIES
20A Three-Phase Winding Resistance Tester with Built-in Printer

TRIORES-20 Series is designed using advanced engineering technology to measure the winding resistance of transformers.

TRIORES-20 Series can measure current transformers, voltage transformers and power transformer windings. Applying up to 20A Direct Current allows TRIORES-20 Series to measure the resistance of the transformers fast and accurate.

The smart design of the TRIORES-20 Series makes easier to determine the end of measurement automatically according to users' decision.

TRIORES-20's measurement channels are designed in such a way that it can measure both three-phase and single-phase transformers' winding resistance. Simultaneous primary & secondary measurement without disconnecting and reconnecting cables. Users need to connect the test cables just one time to measure all three phases while testing three-phase transformers.

Beginning from 0.1 μΩ resistances, TRIORES-20 Series can measure up to 100,000 Ω resistance. TRIORES-20 Series discharges the measured circuit after each test. Dynamic resistance (OLTC) measurement of on-load tap changers, which can be performed simultaneously on all three phases, or a single phase.

For inductive load, TRIORES-20 Series can demagnetise the load. The temperature measurement input enables one to connect an optional sensor to TRIORES-20 Series and perform temperature correction automatically.

TRIORES-20 Series's intelligent software allows controlling the current flow if there is a failure in the current circuit. With this feature, TRIORES-20 Series procures added safety to users.

A 7-inch TFT touch display allows TRIORES-20 Series to show all measurement results on a single screen. TRIORES-20 Series can be controlled by USB and optional Bluetooth interface and users can record/store measurement results.

In case setting up Laptop or PC for the field test is difficult; users can record data to the device's internal memory (up to 100 Test Records) or to an external USB flash memory.

With the HighTest Data Management Platform (DMP Software), users can control TRIORES-20 Series, analyse and manage measurement results using a PC.

Operators can easily print the measurement results with the 2.28-inch built-in Printer of TRIORES-20 Series. TRIORES-20 Series has an optional battery power feature which allows users to make tests even when there is no electricity.

Multi-language capability and user-friendly operation menu make it easy to control TRIORES-20 Series, even by less trained staffs.

TRIORES-20 Series can control tap changer (raise and lower) with its tap changer outputs. TRIORES-20 Series is a light, compact and rugged device with the protection class IP67 (case closed).



TRIORES-20

Features

- Fully Automatic Three-phase and single-phase resistance measurement
- Simultaneous primary & secondary measurement without disconnecting and reconnecting cables
- Measurements from 0.1 μΩ to 100,000 Ω
- 0.001 A to 20 A DC adjustable current output
- High accuracy (0.1%)
- Test Voltage 50 V
- Demagnetisation feature
- Dynamic resistance (OLTC) measurement
- Heat-run test
- Built-in printer
- Optional Battery
- Internal memory, USB Flash Drive
- PC control via USB cable
- Optional Bluetooth control and communication
- 7-inch large colour touch display
- Temperature correction (1 input, sensor optional)
- Data Management Platform (DMP Software) allows to control TRIORES-20, analyse and manage results on PC

Technical Specifications

Measurement Parameters	Three-phase and single-phase resistance measurement
Test Voltage	50 V (Continuous)
Current output	From 0.001 A to 20 A DC (User-selectable)
Resistance Measurement	From 0.1 μΩ to 100,000 Ω
Accuracy	1%
Resolution	5 digits
Demagnetisation	Yes
Power Supply	100-240 V 47/63 Hz
Battery	14.4 V 6.9 Ah battery (Optional) (Models: TRIORES-20B, TRIORES-20B BLUE)
Memory	Up to 100 records (include up to 25 tap results) Unlimited Storage using an external USB
Printer	2.28-inch built-in printer
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Optional Bluetooth(Models: TRIORES-20 BLUE, TRIORES-20B BLUE)
PC Software	DMP Software
Display	7-inch TFT touch display
Dimensions	(16.9 × 12.9 × 9.3)” (429 x 328 x 236) mm
Weight	9 kg (models with battery)
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	TRIORES-20, Power Cable, Ground Cable , 2x 5m H&X Measurement Cable Set, 2x 10m H&X Extension Cable Set, 5m Tap Changer Cable Set, USB Cable, Jumper Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard carrying case, Battery, Bluetooth (factory install), Three-Phase Adapter TPA-03, Temperature Sensor, 10 m (33 ft.) Long Cable Set

Ordering Information

TRIORES-20 — 20A 3-Phase Winding Resistance Tester with Built-in Printer

TRIORES-20 BLUE — 20A 3-Phase Winding Resistance Tester with Built-in Bluetooth & Printer

TRIORES-20B — 20A 3-PhaseWinding Resistance Tester with Built-in Battery & Printer

TRIORES-20B BLUE — 20A 3-Phase Winding Resistance Tester with Built-in Battery, Bluetooth & Printer



TRAN SERIES
3Φ Transformer Analyser with Built-in Printer

TRAN Series is designed using advanced engineering technology to measure the turns ratio and winding resistance of three-phase and single-phase transformers. TRAN has easy, fast and accurate measurement features using its user-friendly software.

TURNS RATIO MEASUREMENT

By using ANSI/IEEE C57.12.90 measurement method TRAN can produce precise results. TURA-03 is one of the most accurate devices with its wide range (0.8 to 50,000) ratio measurement capability and high precision (0.08 %).

Apart from the ratio measurement, TRAN can also measure excitation current, phase angle, polarity, ratio error and magnetic balance. Even though TRAN has three-phase cable configuration, users can also make single-phase transformer tests as well.

TRAN can detect vector groups automatically. It has a wide operation range from high excitation value current transformer to high powered power transformer at substations with 1V, 4V, 10V, 40V, 100V and 250V AC test voltages generation capability.

WINDING RESISTANCE MEASUREMENT

TRAN Series can measure winding resistance of current, voltage and power transformers. Applying up to 20A Direct Current allows TRAN Series to measure the resistance of the transformers fast and accurate. The smart design of the TRAN Series makes easier to determine the end of measurement automatically according to users' decision.

TRAN's measurement channels are designed in such a way that it can measure both three-phase and single-phase transformers' winding resistance. Simultaneous primary & secondary measurement without disconnecting and reconnecting cables.

Users need to connect the test cables just one time to measure all three phases while testing three-phase transformers. Starting from 0.1 μΩ resistances, TRAN Series can measure up to 100,000 Ω resistance.

TRAN Series discharges the measured circuit after each test. For inductive load, TRAN Series can demagnetise the load. The temperature measurement input enables one to connect an optional sensor to TRAN Series and perform temperature correction automatically.

TRAN Series' intelligent software allows controlling the current flow if there is a failure in the current circuit. With this feature, TRAN Series procures added safety to users.

GENERAL FEATURES

A 7-inch TFT touch display allows TRAN Series to show all measurement results on a single screen. TRAN Series can be controlled by USB and optional Bluetooth interface and users can record/store measurement results.

In case setting up Laptop or PC for the field test is difficult; users can record data to the device's internal memory or to an external USB flash memory. With the HighTest Data Management Platform (DMP Software), users can control TRAN Series, analyse and manage measurement results using a PC.

Operators can easily print the measurement results with the 2.28-inch built-in Printer of TRAN Series. TRAN Series has an optional battery power feature which allows users to make tests even when there is no electricity.

Multi-language capability and user-friendly operation menu make it easy to control TRAN Series. TRAN Series can control tap changer (raise and lower) with its tap changer outputs.

TRAN Series is a light, compact and rugged device with the protection class IP67 (case closed).

Technical Specifications

Measurement Parameters	3-Phase Turns Ratio Measurement, Excitation Current, Phase Angle, Polarity, Ratio Error (%), Vector group detection, Magnetic Balance; 3-Phase Winding Resistance Measurement
TURNS RATIO MEASUREMENT FEATURES	
Ratio Measurement Modes	CT Mode, PT Mode (Single-Phase and Three-Phase)
Measurement Method	ANSI/IEEE C57.12
Test Voltages	CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40, 100 & 250 V
Ratio Range	0.8 – 50,000
Phase An gle Measurement	0-360 Degree, ±0.2 degree (±1 digit)
Excitation Current	0 to 2 A
Excitation Current Accuracy	±0.1 mA
WINDING RESISTANCE MEASUREMENT FEATURES	
Test Voltage	50 V
Current output	From 0.001 A to 20 A DC (User-selectable)
Resistance Measurement	From 0.1 μΩ to 100,000 Ω
Accuracy	1%
Resolution	5 digits
Demagnetisation	Yes
GENERAL FEATURES	
Power Supply	100-240 V, 47/63 Hz,
Battery	14.4 V 6.9 Ah battery (Models: TRAN-B, TRAN-B BLUE)
Internal Memory	Yes
Printer	2.28-inch Built-in Printer
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B, Bluetooth(Models: TRAN- BLUE & TRAN- B BLUE)
PC Software	DMP Software
Display	7-inch TFT touch display
Dimensions	(16.9 × 12.9 × 9.3)” (429 x 328 x 236) mm
Weight	9.5 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	TRAN, Power Cable, Ground Cable , 2x 5m H&X Measurement Cable Set, 2x 10m H&X Extension Cable Set, 5m Tap Changer Cable Set, USB Cable, Jumper Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag
Options	Hard Carrying Case, Bluetooth (factory install option), Battery (factory install option)

Ordering Information

TRAN — Three-Phase Transformer Analyser with Built-in Printer

TRAN-BLUE — Three-Phase Transformer Analyser with Built-in Bluetooth & Printer

TRAN-B — Three-Phase Transformer Analyser with Built-in Battery & Printer

TRAN-B BLUE — Three-Phase Transformer Analyser with Built-in Battery, Bluetooth & Printer



SUWI SERIES
Mutlifunctional Substation Test device

SUWI Series is designed using advanced engineering technology to test power and control equipment in the substations. SUWI is an all in one device which can test Relay Timing, Transformer's Turns Ratio, Circuit Breaker Contact Resistance & Timing, and Fuses etc.

SUWI is a combined substation testing device with advanced features hence; named Substation Wizard that is SUWI. SUWI has easy, fast and accurate measurement features using its user-friendly software.

RELAY TIMING MEASUREMENT

SUWI can automatically test over current, over voltage, directional over current relays and frequency control relays. SUWI has a current output up to 110A AC/150A DC and a voltage output up to 150V AC/ 220V DC. It has four universal input modules.

TURNS RATIO MEASUREMENT

By using ANSI/IEEE C57.12.90 measurement method SUWI can produce precise results. SUWI is one of the most accurate devices with its wide range (0.8 to 33,000) ratio measurement capability and high precision (0.08 %).

Apart from the ratio measurement, SUWI can also measure phase angle and polarity. It has 1V, 4V, 10V, 40V and 100V AC test voltages generation capability. SUWI Series can measure turns ratio of current, voltage and power transformers.

LOW RESISTANCE MEASUREMENT/MICROOHM METER

SUWI can easily measure contact resistances of a circuit breaker, shunt, and disconnector by applying adjustable current from 1A to 150A. It can calculate the real values of the resistors by providing penetration with the feature of the continuous current application.

SUWI can measure resistance up to 5 Ω. It is capable of measuring static resistance of the contact points of the circuit breaker. SUWI can measure idle circuit breakers as well as dual grounded circuit breakers.

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 SUWI's user interface, the test can be performed in barely 15 seconds.

CIRCUIT BREAKER TIMING

Contact Timing Tests are performed to determine the optimal performance of the breakers. Contact timing tests are performed to compare the breakers' contact performance against the manufactures specifications.

The breakers OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN and OPEN-CLOSE-OPEN operations are timed in milliseconds (ms) and cycles and then compared with the manufacturers' specifications to determine the performance of the circuit breaker. SUWI can perform 3-phase circuit breaker timing test; open, close, open-close, close-open, open-close-open timings, coil current measurement as well as internal and external trigger operations.

GENERAL FEATURES

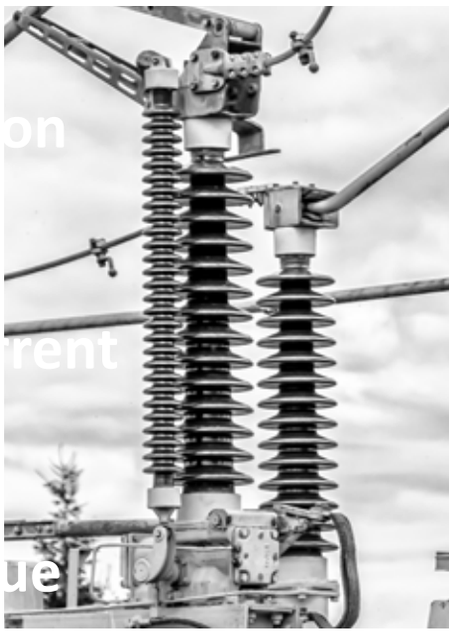
A 7-inch IPS 1024x600 pixel touch panel display allows SUWI Series to show all measurement results on a single screen. Users can record test results to the device's 8GB internal memory or an external USB flash memory.

With the HighTest Data Management Platform (DMP Software), users can analyse and manage measurement results using a PC. Multi-language capability and user-friendly operation menu make it easy to control SUWI Series. SUWI Series is a light, compact and rugged device with the protection class IP67 (case closed).

Technical Specifications

Measurement Parameters	**Relay Timing Tests** (over current relays, over voltage relays, directional over current relays, frequency control relays); **Turns Ratio Measurement**, Phase Angle, Polarity, Ratio Error (%); **Microohmmeter/Low Resistance Tests** (Circuit breaker contact resistance and shunt resistance) **Circuit breaker timing test** (3-phase circuit breaker timing tests; open, close, open-close, close-open, open-close-open timings, coil current measurement, internal and external trigger operations)
PROTECTION RELAY TIMING MEASUREMENT FEATURES	
Current Outputs	Up To 110 A AC (magnitude and frequency adjustable) 150 A DC
Voltage Outputs	150 V AC (magnitude and frequency adjustable)
Universal Input Modules	4 input module; Binary wet/dry Up to 300 V AC and DC voltage measurement
TURNS RATIO MEASUREMENT FEATURES	
Ratio Measurement Modes	CT Mode PT Mode (Single-Phase and Three-Phase)
Test Voltages	CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40 & 100 V
Ratio Range	0.8 – 33,000
Excitation Current	0 to 2 A
Excitation Current Accuracy	±0.1 mA
LOW RESISTANCE MEASUREMENT FEATURES/MICROOHM METER	
Measurement Modes	Static Dual ground Resistance Measurement
Auto Test Mode	Yes
Test Current	1 A to 150 A DC
Measurement Range	Up to 5 Ω
CIRCUIT BREAKER TIMING MEASUREMENT FEATURES	
Measurement Parameters	Contact Timing (O, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal and External Trigger Operations
Timing Windows	1s, 10s, 20s
Timing Accuracy	0.05% rdg ± 0.1 ms
Contact detection	Yes
Trigger input voltage	24 – 300 V DC or AC_{peak}
Breaker Initiate Capacity	20 A, 300 V DC or AC_{peak}
Initiate current reading range	0 – 20A DC, 5 kHz
GENERAL FEATURES	
Power Supply	100-240 V, 47/63 Hz,
Internal Memory	Yes
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B
PC Software	DMP Software
Display	7-inch IPS 1024x600 pixel touch panel display
Dimensions	(16.9 × 12.9 × 9.3)” (429 x 328 x 236) mm
Weight	9.5 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)





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





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!



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.*





CIBRE-L3 SERIES
3-Contact Circuit Breaker Timer with Built-in Printer

CIBRE-L3 Series, 3-Contact Circuit Breaker Timers are designed using advanced engineering technology to test contact timings of circuit-breakers.

CIBRE-L3 Series have fast, easy and accurate measurement features by its user-friendly software.

CIBRE-L3 Series are battery-powered devices (optional feature), which allow users to perform tests even without power supply during field tests.

Why do we need to test circuit breakers?

It is very important to test circuit breakers regularly. Contact Timing Tests are performed to determine the optimal performance of the breakers.

The testing can determine improper breaker operations in case of system fault and to improve system reliability.

Contact Timing Tests

Contact timing tests are performed to compare the breakers' main & resistor contact performance against the manufactures specifications.

The breakers OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN and OPEN-CLOSE-OPEN operations are timed in milliseconds (ms) and cycles and then compared with the manufacturers' specification to determine the performance of the circuit breaker.

CIBRE-L3 Series feature with a 4.3-inch large colour touch display, which is visible under both bright sunlight as well as dim light conditions.

Operators can easily print the measurement results with the 2.25-inch built-in printer of CIBRE-L3 Series.

The results can also save to a USB flash drive or to the device's internal memory.

Multi-language capability and user-friendly operation menu make it easy to control CIBRE-L3 Series.

CIBRE-L3 Series devices are light-weight, compact and rugged with the protection of IP67 (case closed) which makes it perfect for the field test.





Features

- Contact Timing (O, C, O-C, C-O & O-C-O)
- 3 Dry Contact Inputs
- Timing Accuracy: 0.05% rdg ± 0.1 ms
- Timing Windows: 1s, 10s & 20s
- Contact Detection Range: Closed ≤20 Ω & Open ≥5000 Ω
- Optional Battery
- Optional Bluetooth Communication
- 2.25” Built-in Printer
- 4.3” TFT Touch Colour Display
- Lightweight and Portable
- Protection Class IP67 (case closed)

CIBRE-L3 Series

Technical Specifications

Measurement Parameters	Contact Timing (O, C, O-C, C-O & O-C-O)		
Dry Contact Inputs	3 dry input channels (each detects main)		
Timing Windows	1s, 10s, 20s		
Timing Resolution	1 s duration	10 s duration	20 s duration
	± 50 µs	± 500 µs	± 1 ms
Timing Accuracy	0.05% rdg ± 0.1 ms		
Dry contact channel protection	Fuses and Diodes protection, All contacts grounded until test		
Contact detection range	Closed	≤20 Ω	
	Open	≥5000 Ω	
Resistor detection range	20Ω- 5000Ω		
Trigger input voltage	24 – 300 V DC or AC_{peak}		
Dry contact input protection	Diode Protection/ ESD		
Breaker Operations	OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN, OPEN-CLOSE-OPEN		
Breaker Initiate Capacity	20 A, 300 V DC or AC_{peak}		
Initiate current reading range	0 – 20A DC, 5 kHz		
Input Power	100-240 V, 47/63 Hz		
Battery	Yes, 14.4 V 3.45 Ah (**Optional**; Models: CIBRE-L3B & CIBRE-L3B BLUE)		
Display	4.3-inch Colour Touch Display		
Memory	Up to 200 records		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B Bluetooth (Factory install option; Models: CIBRE-L3 BLUE & CIBRE-L3B BLUE)		
Printer	2.25-inch Built-in Printer		
Dimensions	12.5″ x 10.1″ x 6.0″ (318 mm x 257 mm x 152 mm)		
Weight	3 kg (*models with battery*)		
Working Temperature	-10 °C to +60 °C		
Humidity	95% RH non-condensing		
Protection Class	IP67 (case closed)		
Scope of Supply	CIBRE-L3 device, 6m Contact Cable, 10m Contact Extension Cable, 1m Initiate Cable, 5m Initiate Extension Cable, 1m External Trigger Cable, 5m External Trigger Extension Cable, Power Cord, Ground Cable, USB Cable, Printer Paper (2x), USB Flash Drive, Instruction Manual (soft copy), Soft Carry Bag		
Ordering Information	**CIBRE-L3**, 3-Contact Circuit Breaker Timer with Built-in Printer		
	CIBRE-L3 BLUE, 3-Contact Circuit Breaker Timer with Built-in Bluetooth & Printer		
	CIBRE-L3B, 3-Contact Circuit Breaker Timer with Built-in Battery & Printer		
	CIBRE-L3B BLUE, 3-Contact Circuit Breaker Timer with Built-in Battery, Bluetooth & Printer		

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





CIBRE-L6 SERIES
6-Contact Circuit-Breaker Timer with Built-in Printer

CIBRE-L6 Series, 6-Contact Circuit Breaker Timers are designed using advanced engineering technology to test contact timings of circuit-breakers.

CIBRE-L6 Series have fast, easy and accurate measurement features by our user-friendly software.

CIBRE-L6 Series are battery-powered devices (optional feature), which allow users to perform tests even without power supply during field tests.

Why do we need to test circuit breakers?

It is very important to test circuit breakers regularly. Contact Timing Tests are performed to determine the optimal performance of the breakers.

The testing can determine improper breaker operations in case of system fault and to improve system reliability.

Contact Timing Tests

Contact timing tests are performed to compare the breakers' main & resistor contact performance against the manufactures specifications.

The breakers OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN and OPEN-CLOSE-OPEN operations are timed in milliseconds (ms) and cycles and then compared with the manufacturers' specification to determine the performance of the circuit breaker.

CIBRE-L6 Series feature with a 4.3-inch large colour touch display, which is visible under both bright sunlight as well as dim light conditions.

Operators can easily print the measurement results with the 2.25-inch built-in printer of CIBRE-L6 Series.

The results can also save to a USB flash drive or to the device's internal memory.

Multi-language capability and user-friendly operation menu make it easy to control CIBRE-L6 Series.

CIBRE-L6 Series devices are light-weight, compact and rugged with the protection of IP67 (case closed) which makes it perfect for the field test.





Features

- Contact Timing (O, C, O-C, C-O & O-C-O)
- 6 Dry Contact Inputs
- Timing Accuracy: 0.05% rdg ± 0.1 ms
- Timing Windows: 1s, 10s & 20s
- Contact Detection Range: Closed ≤20 Ω & Open ≥5000 Ω
- Optional Battery
- Optional Bluetooth Communication
- 2.25” Built-in Printer
- 4.3” TFT Touch Colour Display
- Light-weight and Portable
- Protection Class IP67 (case closed)

CIBRE-L6 Series

Technical Specifications

Measurement Parameters	Contact Timing (O, C, O-C, C-O & O-C-O)		
Dry Contact Inputs	6 dry input channels (each detects main)		
Timing Windows	1s, 10s, 20s		
Timing Resolution	1 s duration	10 s duration	20 s duration
	± 50 µs	± 500 µs	± 1 ms
Timing Accuracy	0.05% rdg ± 0.1 ms		
Dry contact channel protection	Fuses and Diodes protection, All contacts grounded until test		
Contact detection range	Closed	≤20 Ω	
	Open	≥5000 Ω	
Resistor detection range	20Ω- 5000Ω		
Trigger input voltage	24 – 300 V DC or AC_{peak}		
Dry contact input protection	Diode Protection/ ESD		
Breaker Operations	OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN, OPEN-CLOSE-OPEN		
Breaker Initiate Capacity	20 A, 300 V DC or AC_{peak}		
Initiate current reading range	0 – 20A DC, 5 kHz		
Input Power	100-240 V, 47/63 Hz		
Battery	Yes, 14.4 V 3.45 Ah (**Optional**; Models: CIBRE-L6B & CIBRE-L6B BLUE)		
Display	4.3-inch Colour Touch Display		
Memory	Up to 200 records (recommended for better device performance)		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B Bluetooth (Factory install option; Models: CIBRE-L6 BLUE & CIBRE-L6B BLUE)		
Printer	2.25-inch Built-in Printer		
Dimensions	12.5″ x 10.1″ x 6.0″ (318 mm x 257 mm x 152 mm)		
Weight	3.5 kg (*models with battery*)		
Working Temperature	-10 °C to +60 °C		
Humidity	95% RH non-condensing		
Protection Class	IP67 (case closed)		
Scope of Supply	CIBRE-L6 device, 6m Contact Cable (2x), 10m Contact Extension Cable (2x), 1m Initiate Cable, 5m Initiate Extension Cable, 1m External Trigger Cable, 5m External Trigger Extension Cable, Power Cord, Ground Cable, USB Cable, Printer Paper (2x), USB Flash Drive, Instruction Manual (soft copy), Soft Carry Bag		
Ordering Information	**CIBRE-L6**, 6-Contact Circuit Breaker Timer with Built-in Printer		
	CIBRE-L6 BLUE, 6-Contact Circuit Breaker Timer with Built-in Bluetooth & Printer		
	CIBRE-L6B, 6-Contact Circuit Breaker Timer with Built-in Battery & Printer		
	CIBRE-L6B BLUE, 6-Contact Circuit Breaker Timer with Built-in Battery, Bluetooth & Printer		

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





CIBRE-30
3-Contact Circuit Breaker Analyser with Built-in Printer

CIBRE-30, 3-Contact Circuit Breaker Analyser is designed using advanced engineering technology to test contact timings of circuit breakers.

CIBRE-30 has fast, easy and accurate measurement features by its user-friendly software.

CIBRE-30 is a battery-powered device (optional feature), which allows users to perform tests even without power supply during field tests.

Why do we need to test circuit breakers?

It is very important to test circuit breakers regularly. Contact Timing Tests and Motion tests are performed to determine the optimal performance of the breakers. The testing can determine improper breaker operations in case of system fault and to improve system reliability.

Contact Timing Tests

Contact timing tests are performed to compare the breakers' main & resistor contact performance against the manufactures specifications.

The breakers OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN & OPEN-CLOSE-OPEN operations are timed in milliseconds (ms) and cycles and then compared with the manufacturers' specification to determine the performance of the circuit breaker.

Motion Tests

CIBRE-30 can use to perform motion tests such as Transducer Speed, Stroke and Bounce. Slower transducer speed can reduce the breaking capacity of the main contact while faster speed can cause mechanical damage to the damping components and cause excessive vibration. So it is necessary to test the transducer speed to compare it with manufacture's specifications.

CIBRE-30 features with a 7-inch large colour touch display, which is visible under both bright sunlight as well as dim light conditions.

Operators can easily print the measurement results with the 2.28-inch built-in printer of CIBRE-30. The results can also save to a USB flash drive or to the device's internal memory.

Multi-language capability and user-friendly operation menu make it easy to control CIBRE-30.

CIBRE-30 is a light-weight, compact and rugged device with the protection of IP67 (case closed) which makes it perfect for the field test.



Features

- Contact Timing (O, C, O-C, C-O and O-C-O)
- Motion Tests (Transducer Speed, Stroke, Bounce)
- 3 Dry Contact Inputs
- Timing Accuracy: 0.05% rdg ± 0.1 ms
- Timing Windows: 1s, 10s & 20s
- Contact Detection Range: Closed ≤20 Ω &
- Open ≥5000 Ω
- Optional Battery
- Optional Bluetooth Communication
- 2.28" Built-in Printer
- 7" TFT Touch Colour Display



Technical Specifications

Measurement Parameters	Contact Timing (O, C, O-C, C-O & O-C-O), Motion Tests (Transducer Speed, Stroke, Bounce)		
Dry Contact Inputs	3 dry input channels (each detects main) and insertion resistor contacts		
Timing Windows	1s, 10s, 20s		
Timing Resolution	1 s duration	10 s duration	20 s duration
	± 50 µs	± 500 µs	± 1 ms
Timing Accuracy	0.05% rdg ± 0.1 ms		
Dry contact channel protection	Fuses and Diodes protection, All contacts grounded until test		
Contact detection range	Closed	≤20 Ω	
	Open	≥5000 Ω	
Resistor detection range	20Ω- 5000Ω		
Trigger input voltage	24 – 300 V DC or AC_{peak}		
Dry contact input protection	Diode Protection/ FSD		
Breaker Operations	OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN, OPEN-CLOSE-OPEN		
Voltage sensing input range	V1 (Analogue Input)	V2 (Presence/Absence Detector)	
	0 – 250 V DC or AC_{peak}	24 – 300 V DC or AC_{peak}	
Breaker Initiate Capacity	20 A, 300 V DC or AC_{peak}		
Digital Travel Transducer Input	5V/12Vdc TTL		
Initiate current reading range	0 – 20A DC, 5 kHz		
Input Power	100-240 V, 47/63 Hz		
Built-in Battery	Yes, 14.4 Vdc 6.9 Ah (Optional; Models: CIBRE-30B, CIBRE-30B BLUE)		
Display	7-inch Colour Touch Display		
Memory	Up to 200 records (recommended for better device performance)		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B Bluetooth (Factory install option; Models: CIBRE-30 BLUE & CIBRE-30B BLUE)		
Dimensions	16.9" x 12.9" x 9.3" (429 mm x 328 mm x 236 mm)		
Weight	8.2 kg (*models with battery*)		
Working Temperature	-10 °C to + 60 °C		
Humidity	95% RH non-condensing		
Protection Class	IP67 (case closed)		
Scope of Supply	CIBRE-30, 6m Contact Cable, 10m Contact Extension Cable, 1m Initiate Cable, 5m Initiate Extension Cable, 1m External Trigger Cable, 5m External Trigger Extension Cable, 1m Voltage Measurement Cable, 5m Voltage Measurement Extension Cable, Power Cable, Ground Cable, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), Cable Bag		
Options	325 mm Linear Encoder, Rotary Encoder, Battery, Bluetooth		
Ordering Information	**CIBRE-30**, 3-Contact Circuit Breaker Analyser with Built-in Printer		
	CIBRE-30 BLUE, 3-Contact Circuit Breaker Analyser with Built-in Bluetooth & Printer		
	CIBRE-30B, 3-Contact Circuit Breaker Analyser with Built-in Battery & Printer		
	CIBRE-30B BLUE, 3-Contact Circuit Breaker Analyser with Built-in Battery, Bluetooth & Printer		

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





CIBRE-60
6-Contact Circuit Breaker Analyser with Built-in Printer

CIBRE-60, 6-Contact Circuit Breaker Analyser is designed using advanced engineering technology to test contact timings of circuit breakers.

CIBRE-60 has fast, easy and accurate measurement features by its user-friendly software.

CIBRE-60 is a battery-powered device (optional feature), which allows users to perform tests even without power supply during field tests.

Why do we need to test circuit breakers?

It is very important to test circuit breakers regularly. Contact Timing Tests and Motion tests are performed to determine the optimal performance of the breakers. The testing can determine improper breaker operations in case of system fault and to improve system reliability.

Contact Timing Tests

Contact timing tests are performed to compare the breakers' main & resistor contact performance against the manufactures specifications.

The breakers OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN & OPEN-CLOSE-OPEN operations are timed in milliseconds (ms) and cycles and then compared with the manufacturers' specification to determine the performance of the circuit breaker.

Motion Tests

CIBRE-60 can use to perform motion tests such as Transducer Speed, Stroke and Bounce. Slower transducer speed can reduce the breaking capacity of the main contact while faster speed can cause mechanical damage to the damping components and cause excessive vibration. So it is necessary to test the transducer speed to compare it with manufacture's specifications.

CIBRE-60 features with a 7-inch large colour touch display, which is visible under both bright sunlight as well as dim light conditions.

Operators can easily print the measurement results with the 2.28-inch built-in printer of CIBRE-60. The results can also save to a USB flash drive or to the device's internal memory.

Multi-language capability and user-friendly operation menu make it easy to control CIBRE-60.

CIBRE-60 is a light-weight, compact and rugged device with the protection of IP67 (case closed) which makes it perfect for the field test.



Features

- Contact Timing (O, C, O-C, C-O and O-C-O)
- Motion Tests (Transducer Speed, Stroke, Bounce)
- 6 Dry Contact Inputs
- Timing Accuracy: 0.05% rdg ± 0.1 ms
- Timing Windows: 1s, 10s & 20s
- Contact Detection Range: Closed ≤20 Ω & Open ≥5000 Ω
- Optional Battery
- Optional Bluetooth Communication
- 2.28" Built-in Printer
- 7" TFT Touch Colour Display
- Light-weight and Portable
- Protection Class IP67 (case closed)

Technical Specifications

Measurement Parameters	Contact Timing (O, C, O-C, C-O & O-C-O), Motion Tests (Transducer Speed, Stroke, Bounce)		
Dry Contact Inputs	6 dry input channels (each detects main) and insertion resistor contacts		
Timing Windows	1s, 10s, 20s		
Timing Resolution	1 s duration	10 s duration	20 s duration
	± 50 µs	± 500 µs	± 1 ms
Timing Accuracy	0.05% rdg ± 0.1 ms		
Dry contact channel protection	Fuses and Diodes protection, All contacts grounded until test		
Contact detection range	Closed	≤20 Ω	
	Open	≥5000 Ω	
Resistor detection range	20Ω- 5000Ω		
Trigger input voltage	24 – 300 V DC or AC_{peak}		
Dry contact input protection	Diode Protection/ FSD		
Breaker Operations	OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN, OPEN-CLOSE-OPEN		
Voltage sensing input range	V1 (Analogue Input)	V2 (Presence/Absence Detector)	
	0 – 250 V DC or AC_{peak}	24 – 300 V DC or AC_{peak}	
Breaker Initiate Capacity	20 A, 300 V DC or AC_{peak}		
Digital Travel Transducer Input	5V/12Vdc TTL		
Initiate current reading range	0 – 20A DC, 5 kHz		
Input Power	100-240 V, 47/63 Hz		
Built-in Battery	Yes, 14.4 Vdc 6.9 Ah (Optional; Models: CIBRE-60B & CIBRE-60B BLUE)		
Display	7-inch Colour Touch Display		
Memory	Up to 200 records (recommended for better device performance)		
Communication	USB 2.0/1.1 Standard-A, USB 2.0/1.1 Standard-B Bluetooth (Factory install option; Models: CIBRE-60 BLUE & CIBRE-60B BLUE)		
Printer	2.28-inch Built-in Printer		
Dimensions	16.9" x 12.9" x 9.3" (429 mm x 328 mm x 236 mm)		
Weight	8.2 kg (*models with battery*)		
Working Temperature	-10 °C to + 60 °C		
Humidity	95% RH non-condensing		
Protection Class	IP67 (case closed)		
Scope of Supply	CIBRE-60, 6m Contact Cable (2x), 10m Contact Extension Cable (2x), 1m Initiate Cable, 5m Initiate Extension Cable, 1m External Trigger Cable, 5m External Trigger Extension Cable, 1m Voltage Measurement Cable, 5m Voltage Measurement Extension Cable, Power Cable, Ground Cable, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), Cable Bag		
Ordering Information	**CIBRE-60**, 6-Contact Circuit Breaker Analyser with Built-in Printer		
	CIBRE-60 BLUE, 6-Contact Circuit Breaker Analyser with Built-in Bluetooth & Printer		
	CIBRE-60B, 6-Contact Circuit Breaker Analyser with Built-in Battery & Printer		
	CIBRE-30B BLUE, 6-Contact Circuit Breaker Analyser with Built-in Battery, Bluetooth & Printer		

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





VABO-80
80 kV Circuit-Breaker Vacuum Bottle Tester with Built-in Printer

VABO-80 is designed using advanced engineering technology to test circuit-breaker vacuum bottles up to 80 kV DC.

VABO-80 has fast, easy and accurate measurement features by its user-friendly software.

VABO-80 is a battery-powered device (optional feature), which allows users to perform tests even without power supply during on-field tests.

Users can select the test voltages from 10kV to 80kV DC with step voltages of 1kV and the test time can be defined by the user from 5 seconds to 2 minutes.

The leakage current preset values of VABO-80 are100 µA, 200 µA and 300 µA.

After setting the output voltage and test time with a predefined cutoff for leakage current, the test can be performed. After the execution of the test, if the leakage current doesn't exceed the preset leakage current value, then the screen will show "TEST PASSED".

In the case, if the leakage current exceeds the preset value, then the voltage will be immediately turned off and shows "TEST FAILED" on the screen.

In the case of HV presence, the HV indicator on the device illuminates with an audible tone.

VABO-80 features with a 4.3-inch large colour touch display, which is visible under both bright sunlight as well as dim light conditions.

With the HighTest Data Management Platform (DMP Software), users can analyse and manage measurement results on PCs.

Operators can easily print the measurement results with the 2.25-inch built-in printer of VABO-80. The results can also save to a USB flash drive or to the device's internal memory.

Multi-language capability and user-friendly operation menu make it easy to control VABO-80.

VABO-80 is a light-weight, compact and rugged device with the protection of IP67 (case closed) which makes it perfect for field tests.

WHY DO WE TEST A VACUUM BOTTLE INTERRUPTER?

Fast and reliable protection are the most important in case of any faults occuring in the electrical power system.

If the circuit breaker does not succeed in clearing the fault at the appropriate moment, the resulting accident can be dangerous in terms of both personnel injury and equipment damage and causing heavy losses.

Even though circuit breakers can be very reliable, they tend to gather dirt, moisture, and contaminants on the poles and on the exterior surface of the interrupter which may cause insecurity during operation, and once the air finds its way into the interrupter and leakage starts to appear, the vacuum bottle becomes unreliable.

For the mentioned above reasons and more, Vacuum bottle interrupter must be tested and maintained to ensure proper operation during electrical faults.

Insulation integrity test is recommended by the manufacturers of circuit breakers and well documented in international test standards as IEC and IEEE.

Testing high voltage circuit breakers present a series of challenges. HIGHTEST's knowledge and unrivalled experience within the power circuit breaker industry resulted in the designing of VABO-80.

This lightweight and impressive device tests vacuum interrupters by applying DC high voltage up to 80 kV.

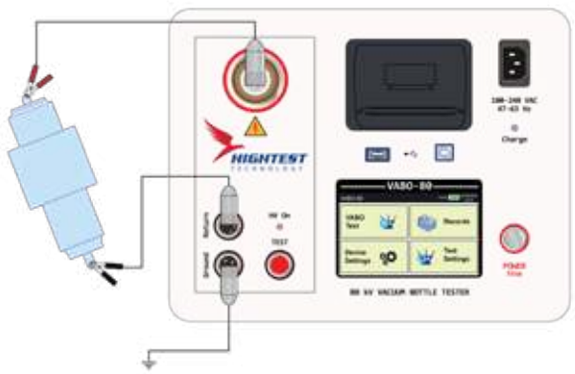


Illustration:Circuit Breaker Vacuum Bottle Testing with VABO-80

Features

- Circuit Breaker Vacuum Bottle Interrupter Testing
- Automatic Testing
- 10 kV to 80 kV DC with 1 kV step voltages
- High Accuracy (1.5 %)
- 100 µA, 200 µA and 300 µA leakage current preset value
- Battery (Option)
- 2.25-inch Built-in Printer
- Internal memory (storage up to 200 records)
- External Memory- USB flash drive
- PC Software
- 4.3-inch TFT touch colour Display
- IP67 Protection Class (case closed)
- Light-Weight

Technical Specifications

Measurement/Test	Circuit Breaker Vacuum Bottle
Output Voltage	10 kV to 80 kV DC with 1 kV step voltages
Output Ripple Voltage	2% at 20 kV- 80 kV ; 3% at 10 kV
Discharge Time	< 3 seconds
Leakage Current Preset Value	100 µA, 200 µA and 300 µA
Accuracy	Typical: 1.5 %
Input Power	100-240 Vac, 47/63 Hz
Built-in Battery	Yes, 14.4 V 3.45 Ah (Optional; Model – VABO-80B)
Display	4.3-inch TFT touch Display (visible under bright sunlight and dim light)
Internal Memory	Up to 200 records (recommended for better device performance)
Communication	USB (USB 2.0/1.1 Standard-A and USB 2.0/1.1 Standard-B)
PC software	DMP Software
Printer	2.25-inch Built-in Printer
Test Plan	Up to 6 plans
Dimensions	12.5” x 9.8” x 8.0” 318 mm x 249 mm x 203 mm
Weight	4 kg (model with battery)
Operating 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	VABO-80, Power Cable, Ground Cable , 3m Test Cable, USB Cable, Printer Paper (x2), USB flash drive, Instruction Manual (Soft Copy), DMP Software, Soft Cable Carrying Case
Options	Hard Carrying Case, Battery (Optional; Model – VABO-80B)

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

Ordering Information

VABO-80 — 80 kV Circuit-Breaker Vacuum Bottle Tester with Built-in Printer

VABO-80B — 80 kV Circuit-Breaker Vacuum Bottle Tester with Built-in Battery & Printer

UPCOMING DEVICES..

PICU-SERIES Primary Injection Tester (Launching on June 2022)



Features

- Primary injection testing of protective relays
- Time measurement
- Electronic current generation
- Test curret ranges upto 1000A
- Fully automatic
- Compact and lightweight
- 4.3” colour touch display
- User-friendly operation menu
- Internal memory, USB Flash Drive
- PC control via USB cable
- IP67 protection
- Multi-language menu

PICU-1000 series is designed using advanced engineering technology to test primary injection of protective relays. PICU-1000 series is applicable on protection relays to test the time delay.

4.3” TFT touch display allows to show all measurement results on a single screen. It can be controlled by USB and users can record/store measurement results. In case setting up Laptop or PC for the field test is difficult; users can record data to the device’s internal memory or to an external USB flash memory. Multi-language capability and user-friendly operation menu make it easy to control, even by less trained staffs.It is a light, compact and rugged device with the protection class IP67 (case closed).

Battery Test Device (Launching on December 2022)

Features

- Capacity measurement of high power batteries
- Discharging current up to 1500A
- Can test without disconnecting the battery
- PC control and analysis with DMP software
- Convenient portable design
- Built-in printer
- Battery Power (Option)
- Internal memory, USB Flash Drive
- 7-inch TFT touch display
- User-friendly operation menu
- Lightweight

NOTES

HighTest Technology Ltd. is a leading manufacturing company based in the UK which produces highly precise test equipment. We mainly focus on the development, manufacture, and marketing of Transformer test systems. We have several years of experience in the field of developing and producing high-end test equipment. Customer satisfaction is our prime motto. We supply our test equipment worldwide to Transformer manufacturers, Electrical utilities, general contractors and service companies. Our test equipment is designed and produced according to the most widely adopted international standards. As we value our customers the most, our well-experienced team always provide excellent after-sales support and technical assistance.

HIGHTEST TECHNOLOGY

HIGHTEST TECHNOLOGY LIMITED
4F Great Northern Works, Hartham Lane, Hertford, Hertfordshire, SG14 1QN, United Kingdom
Tel: +44 203 900 2710, +44 203 287 2302
info@hightest.co.uk www.hightest.co.uk

• Distributor / Representative