DV power

Product Catalog

Smart test devices for reliable electric power systems







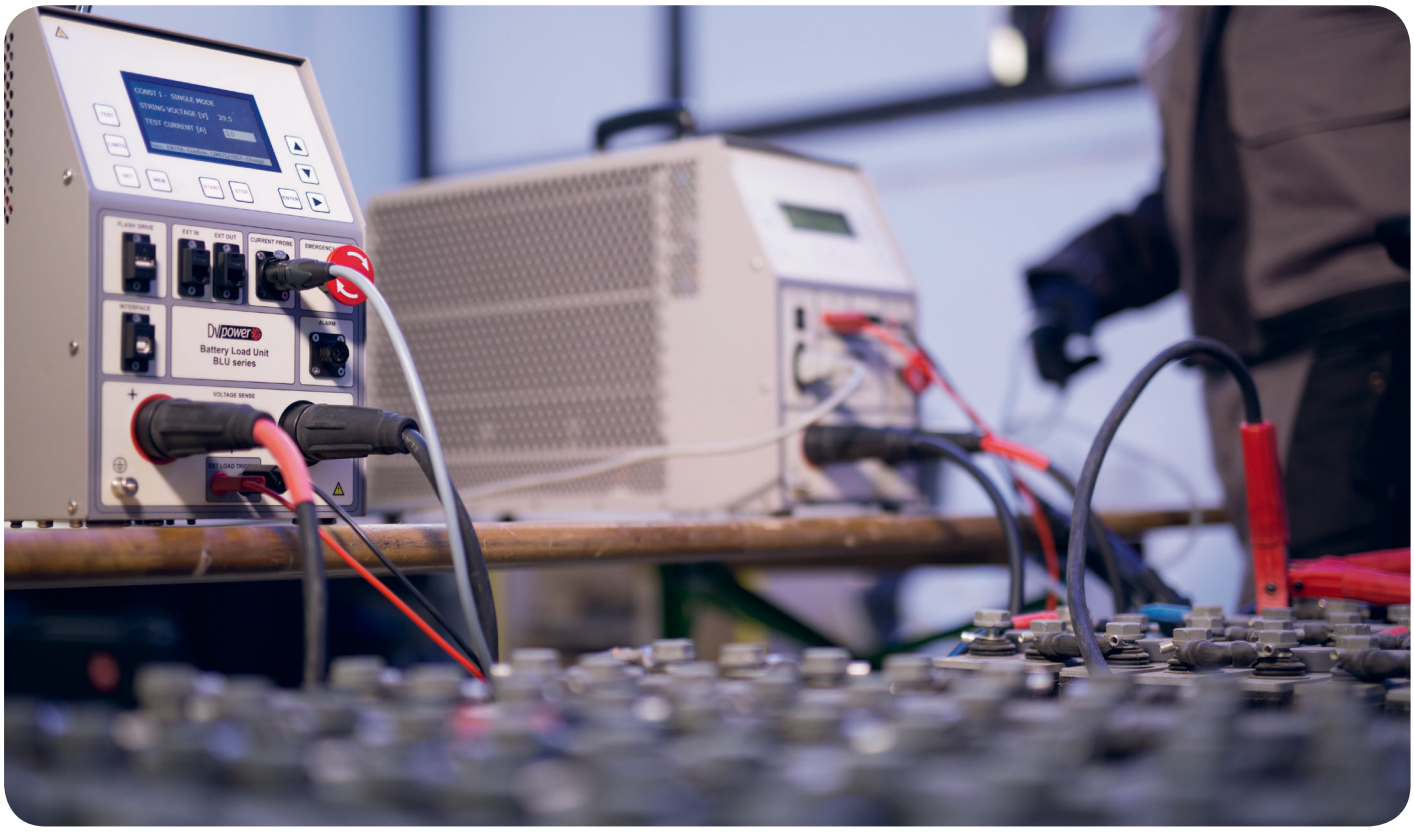
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Battery Test Equipment

Battery Test Equipment



Applications	Products
Capacity measurement *(IEC 60896-11, IEC 60896-21, IEEE 450, IEEE 1188, IEEE 1106, NERC PRC-005-02)*	**BLU-A, BLU-T, BLU-V and BLU-C Series**
Cell voltage measurement *(IEC 60896-11, IEC 60896-21, IEEE 450, IEEE 1188, IEEE 1106, NERC PRC-005-02)*	**BVR Series**
Cell temperature measurement *(IEC 60896-11, IEC 60896-21, IEEE 450, IEEE 1188, IEEE 1106)*	**BVR Series**
Internal resistance measurement *(IEC 60896-11, IEC 60896-21, IEEE 450, IEEE 1188, IEEE 1106, NERC PRC-005-02)*	**IBAR**
Battery monitoring systems *(IEEE 1491)*	**BVS Series**
Battery charging procedures *(IEEE P 2405, IEEE 1184)*	**BAC Series**

Battery Load Unit (BLU) - BLU-C Series

BLU800C - Universal Battery Capacity Tester



Applications

- Battery capacity testing
- Determination of battery's state of health
- Individual cell voltage and inter-cell connection monitoring capabilities with BVS
- Testing the battery while in service

Main Features

- Battery voltage range: 5,25 – 800 V DC
- Discharge power: up to 32 kW
- Discharge current: up to 100 A
- Lightweight: 21,0 kg (46.3 lbs)
- Real-time monitoring on 7 inch touch screen display
- BVS system fully controlled by BLU-C
- Automated battery, cell and intercell voltage measurement during the capacity test
- Testing batteries while in service
- Expandable for larger banks using BXL Extra Load Units
- Test resume (no data loss) in case of interrupted power supply

Overview of the BLU-C Series maximum currents for various battery voltages is presented in the tabled below.

Battery voltage	6 V		12 V		24 V		48 V		60 V	
Min-Max voltage (V)	5,25	7,05	10,5	14,1	21,0	28,2	42,0	56,4	52,5	70,5
BLU300C	55		115		185		220		220	
BLU500C	55		115		185		220		220	
BLU800C	25		50		100		100		100	

Battery voltage	110 V		120 V		220 V		240 V		480 V				640 V	
Min-Max voltage (V)	96,3	129,3	105,0	141,0	192,5	258,5	210,0	300,0	300,0	500,0	500,0	564,0	564,0	800,0
BLU300C	150		140		75		70		-				-	
BLU500C	150		140		75		70		40			-	-	
BLU800C	100		100		100		100		50				40	



Battery Test Equipment

BLU-A, BLU-T, BLU-V Series and BXL Series

Overview of the BLU-A, BLU-T and BLU-V Series maximum currents for various battery voltage ranges with the minimum achievable battery voltage of 5,25 V is presented in the table below. Maximum currents available by using BXL Series devices are also presented in the table.

		Maximum discharge current (A)								
Battery voltage (V)		BLU100A	BLU200A	BLU340A	BXL-A	BLU110T	BLU220T	BXL-T	BLU360V	BXL-V
Nom.	Min/ Max									
6	5,25	40	60	50	59	100	100	74	50	11
	7,05				80			100		15
12	10,5	80	120	100	119	150	200	156	100	26
	14,1				160			210		35
24	21,0	160	240	160	186	150	340	230	160	55
	28,2				250			310		75
48	42,0	160	240	160	186	150	340	230	160	115
	56,4				250			310		155
60	52,5	120	210	160	81	120	270	185	160	141
	70,5				110			250		190
110	96,3	110	140	160	119	-	-	-	160	96
	129,3				160					130
120	105,0	100	140	150	134	-	-	-	150	107
	141,0				180					145
220	192,5	55	75	110	67	-	-	-	110	85
	258,5				90					115
240	210,0	50	70	100	67	-	-	-	100	93
	300,0				90					125
480	300,0	-	-	-	-	-	-	-	65	34
	410,0									46
	410,0								55	46
	500,0									55
Weight (kg / lbs.)		12,8 / 28.2	14,5 / 32.0	20,6 / 45.4	12,5 / 28.0	12,8 / 28.2	15,1 / 33.0	12,5 / 28.0	20,6 / 45.4	16,0 / 35.0
Max Power (kW)		14,2	19,7	28,4	25,4	8,5	19,2	17,9	28,4	35,0

Battery Extra Load Unit - BXL Series

BXL-V - Universal and powerful extra load unit

Applications

- Support unit for battery capacity measurement
- Enables selecting higher discharge currents thus reducing test time

Main Features

- Used in a system with BLU to increase load capacity
- Battery voltage range: 5,25 – 500 V DC
- Discharge power: up to 35 kW
- Discharge current: up to 190 A
- Lightweight: 16,0 kg (35.0 lbs)
- Operation mode – Constant R
- User-selectable resistance values
- Discharge process controlled by BLU unit
- Parallel unit operation enabled



Battery voltage	6 V		12 V		24 V		48 V		60 V	
Min-Max voltage (V)	5,25	7,05	10,5	14,1	21,0	28,2	42,0	56,4	52,5	70,5
BXL-A max. current (A)	59	80	119	160	186	250	186	250	81	110
BXL-T max. current (A)	74	100	156	210	230	310	230	310	185	250
BXL-V max. current (A)	11	15	26	35	55	75	115	155	141	190

Battery voltage	110 V		120 V		220 V		240 V		480 V	
Min-Max voltage (V)	96,3	129,3	105,0	141,0	192,5	258,5	210,0	282,0	300	500
BXL-A max. current (A)	119	160	134	180	67	90	67	90	-	
BXL-T max. current (A)	-		-		-		-		-	
BXL-V max. current (A)	96	130	107	145	85	115	93	125	34	55

Battery Test Equipment

Battery Voltage Supervisor - BVS Series

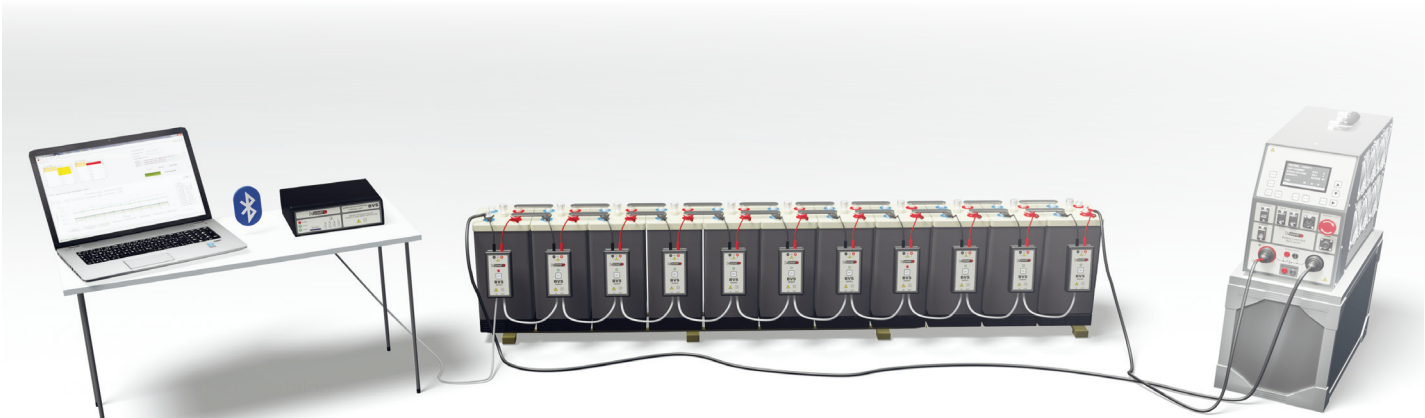
Applications

- String voltage and current monitoring using additional modules
- Monitors capacity testing performed with any load bank on the market
- Real time monitoring of cell and inter-cell connection voltages

Main Features

- Efficient analyzer for battery capacity testing
- Automated string and cell voltage, inter-cell connection voltage, string current and ambient temperature measurement during capacity test
- Can be used with different Load banks using additional string voltage and string current module
- Reliable and easy to operate

Series	BVS	BVS-4
		
Parameters	Cell Voltage, inter-cell connection voltage, ambient temperature, String Voltage (optional) String Current (optional) Cell temperature (optional)	Cell Voltage, inter-cell connection voltage, ambient temperature, String Voltage (optional) String Current (optional)
Number of measured cells	1 module measures 1 cell (or block of cells up to 30V)	1 module measures 4 cells
User interface	DV-B Win PC software or BLU-C Series (7'' touch screen)	DV-B Win PC software or BLU-C Series (7'' touch screen)
Data Transfer	Bluetooth, USB Cable to PC	Bluetooth, USB Cable to PC
Data sampling interval	1 sec max (depends on nb. of CVM)	1 sec max (depends on nb. of CVM)



Battery Voltage Recorder - BVR Series

BVR22 - Battery Voltage Recorder



Applications

- Cell/String voltage measurement
- Efficient support tool during battery capacity measurement
- Monthly inspections of large battery banks
- Detection of failing cells

Main Features

- Handheld – 0,7 kg (1.5 lbs)
- Voltage measurement range: ± 600 V
- Inter-cell connection voltage measurement range: ± 1000 mV
- Cell and ambient temperature measurements
- Current measurement using current clamps
- U+I mode for simultaneous measurement of string voltage and current during capacity test
- Automatically measures, time-stamps and stores cell/string (float) voltages
- Bluetooth communication with exernal density meter
- Easy transfer of measured data to DV-B Win software for further analysis

BVR11 - Battery Voltage Recorder



Applications

- Cell/String voltage measurement
- Efficient support tool during battery capacity measurement
- Monthly inspections of large battery banks
- Detection of failing cells

Main Features

- Handheld – 0,5 kg (1.1 lbs)
- Voltage measurement range: ± 500 V
- Ambient temperature measurement
- Automatically measures, time-stamps and stores cell/string (float) voltages
- Easy transfer of measured data to DV-B Win software for further analysis

Battery Resistance Tester - IBAR Series

IBAR – R - Battery Resistance Tester

Applications

- Tests flooded lead acid, VRLA, Ni-Cd, and Li-Ion batteries and strings
- Support tool during capacity test for cell voltage measurements
- Ideal test tool for maintenance, troubleshooting and performance testing of individual stationary batteries and battery banks
- Online battery testing with pass/warning/fail calculations



Main Features

- Handheld – 0,6 kg (1.3 lbs)
- Quickly records and stores internal resistance, float voltage, and inter-cell connection resistance
- Automatic detection of resistance range
- Pass/Warning/Fail indication during testing based on set parameters
- Includes DV-B Win for detailed battery trending analysis

IBAR – C - Battery Conductance Tester

Applications

- Tests flooded lead acid, VRLA, Ni-Cd, and Li-Ion batteries and strings
- Support tool during capacity test for cell voltage measurements
- Ideal test tool for maintenance, troubleshooting and performance testing of individual stationary batteries and battery banks
- Online battery testing with pass/warning/fail calculations



Main Features

- Handheld – 0,6 kg (1.3 lbs)
- Quickly records and stores internal conductance, float voltage, and inter-cell connection resistance
- Automatic detection of resistance range
- Pass/Warning/Fail indication during testing based on set parameters
- Includes DV-B Win for detailed battery trending analysis

Battery Chargers - BAC Series

BAC30L - Universal Battery Charger

Applications

- Charging single Lead-acid, Ni-based and Li-ion cells
- Charging battery strings with voltages up to 60 V DC
- Replacement unit to the main battery charger
- Supports the main charger to speed up the charging process

Main Features

- Charging voltage: 1 – 60 V DC
- Charging current: up to 30 A
- Charging power: up to 1,8 kW
- Lightweight: 10,0 kg (22.0 lbs)
- Two charging modes available:
  - IU – constant current + constant voltage
  - UU – constant voltage + constant voltage
- Temperature compensation of output voltage



Specifications / BAC models	BAC30L	BAC25A
Charging voltage	1 – 60 V DC	10 – 300 V DC
Charging current	Up to 30 A	Up to 25 A
Charging power	Up to 1,8 kW	Up to 2,7 kW
Weight	10,0 kg / 22.0 lbs	10,0 kg / 22.0 lbs
Charging modes	IU and UU	IU and UU
Temperature compensation of output voltage	YES	YES

ACCESSORIES

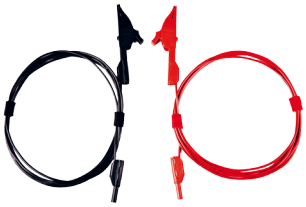
BLU / BXL SERIES



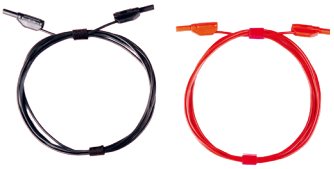
Current cables with aligator clamps (A4) isolated



Extension cables



Sense cables with dolphin clips



Cable set for BLU-BXL parallel operation



Cable for BLU-BLU parallel operation



Current probe 30/300 A



Cable bag

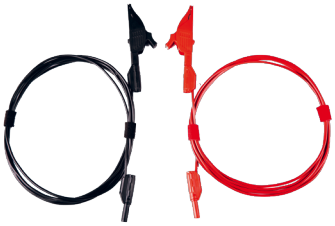


Transport case

BVR / BVS SERIES



Voltage sense cables *(BVR)*



Voltage Sense cables for CVM *(BVS)*



Communication cable for CVM *(BVS)*

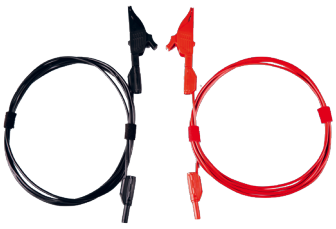


Current clamp 30/300 A *(BVR and BVS)*

BAC



Current cables



Voltage Sense cables



Transport case



Circuit Breaker Test Equipment

Circuit Breaker Test Equipment



Applications	Products
Timing of breaker main and PIR contacts *(IEC 62271-100)*	1-break/phase: **CAT3x, CAT-P, CAT-H** 2-breaks/phase: **CAT6x** 4-breaks/phase: **CAT12x** - including Dead Tank and GIS circuit breakers
Contact (static) resistance *(IEC 62271-1)*	**RMO** (all models) **CAT35, CAT65, CAT125** (200 A DC) **CAT36, CAT66, CAT126** (500 A DC)
Dynamic resistance measurement	**CAT35, CAT65, CAT125** (200 A DC) **CAT36, CAT66, CAT126** (500 A DC)
Motion and velocity *(IEC 62271-100)*	1 channel: **CAT34, CAT64** 3 channles: **CAT advanced series**
Motor mechanism charging time *(IEC 62271-100)*	**POB, SAT** **CAT3x** (except CAT31), **CAT6x** (except CAT61), **CAT12x**
Coil resistance *(IEC 62271-100)*	**SAT** **CAT advanced series**
Coil current *(IEC 62271-100)*	1 channel: **CAT-P** 2 channels: **POB, SAT, CAT Standard** (except CAT03) 3 channels: **CAT-H,** 6 channels: **CAT Advanced**
Minimum trip voltage *(IEC 56, ANSI C37.09)*	**POB, SAT**
Timing of auxiliary contacts *(IEC 62271-100)*	2 channels: **CAT standard series** (except CAT03) 6 channels: **CAT advanced series**
“First trip” test	**CAT-P** **CAT advanced series**

RMO Micro Ohmmeters

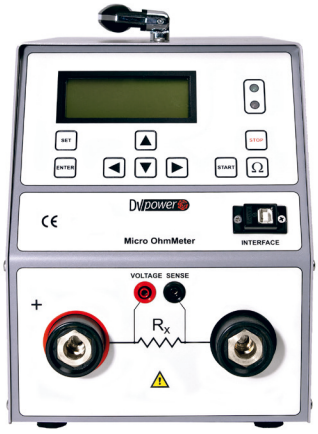
RMO600A - Micro Ohmmeters

Applications

- Switchgear resistance measurement according to IEC 62271-1
- Dead-tank circuit breakers testing (DTRtest mode)
- Bus bar joints, cable splices, welding joints resistance checking (PASS/FAIL criteria)
- Generator circuit breakers testing (HIGH PRECISION module)
- Resistance change monitoring (CONTIN mode)
- GIS connections quality check (HIGH PRECISION module; 1 – 20 µΩ range)

Main Features

- Lightweight only 8 kg / 17.6 lbs
- Test currents 5 A – 600 A DC
- High output voltage 5,9 V @ 600 A DC
- Measuring range 0,1 µΩ – 999,9 mΩ (expandable to 6 Ω)
- Typical accuracy ± (0,1 % rdg + 0,1% F.S.)
- Best resolution 0,1 µΩ
- Built-in thermal printer (optional)
- Standalone / PC controlled (DV-Win Software)



RMO200G - Micro Ohmmeter BEST SELLER

Applications

- Switchgear resistance measurement according to IEC 62271-1
- Testing in Both Sides Grounded conditions (BSG)
- Bus bar joints, cable splices, welding joints resistance checking (PASS/FAIL criteria)
- Dead-tank circuit breakers testing (DTRtest mode)
- Generator circuit breakers testing (HIGH PRECISION module)
- Resistance change monitoring (CONTIN mode)
- GIS connections quality check (HIGH PRECISION module; 1 – 20 µΩ range)
- Testing from remote locations (REMOTE CONTROL)

Main Features

- Lightweight – only 8 kg / 17,6 lbs.
- Test currents 5 A – 200 A DC
- Typical accuracy ± (0,1 % rdg + 0,1% F.S.)
- Best resolution 0,01 µΩ (with built-in High Precision module)
- Current clams input for BSG (Both Sides Grounded)
- Remote control input
- Built-in thermal printer (optional)
- Standalone / PC controlled (DV-Win Software)



RMO-H3 - Handheld Micro Ohmmeter

Applications

- Switchgear resistance measurement according to IEC 62271-1
- Medium-voltage circuit breaker testing with Kelvin's probes
- 2-way connection for High-voltage circuit breaker testing:
  - Short cables for direct measurement on terminals (from crane basket)
  - Long cables for traditional measurement method (from ground)
- Bus bar joints, cable splices, welding joints resistance checking (PASS/FAIL criteria)

Main Features

- Handheld – only 0,95 kg / 2.1 lbs
- Regulated current from 1 A to 300 A DC
- High output voltage (enables use of long cables)
- Measuring range 0,1 µΩ – 3000 mΩ
- Typical accuracy ± (0,1 % rdg + 0,1 % FS)
- 1000 test results storage
- Bluetooth communication with DV-Win software
- IP54 mechanical protection rating
- High capacity battery (ensures a full-day testing)



RMO series model selection	**RMO-A series** *Powerful and lightweight Micro Ohmmeters with IP43 protective rating*	**RMO-G series** *Micro Ohmmeters with Both Sides Grounded and Remote control features*	**RMO-H series** Handheld, battery operated micro ohmmeters
			
Models	RMO100A, RMO200A, RMO300A, RMO400A, RMO500A, RMO600A	RMO100G, RMO200G, RMO300G, RMO400G, RMO500G, RMO600G, RMO800G	RMO-H1, RMO-H2, RMO-H3
Test current	Up to 600 A	up to 800 A DC	Up to 300 A DC
SINGLE / CONTIN test	YES	YES	SINGLE
DTRtest mode	YES	YES	NO
Both Sides Grounded	NO	YES (with current clamps)	YES
High-Precision Module	YES (optional)	YES (optional)	NO
Built-in thermal printer	YES (optional)	YES (optional)	NO

CAT Standard series

Circuit Breaker Analyzer & Timer CAT64

Applications

- Simultaneous timing measurement of up to 6 (2 breaks per phase) main and pre-insertion resistor contacts
- Evaluation of synchronization (simultaneity) between the circuit breaker poles
- Auxiliary contacts timing measurement
- A measurement of displacement, damping time and average velocity of moving parts
- Resistance measurement of the pre-insertion resistors
- A measurement of the coil currents, simultaneously for 2 coils

Main Features

- Simple and easy to operate
- 6 timing channels (3x2) for main and pre-insertion resistor contacts
- 3 timing channels for auxiliary inputs
- 2 coil control and coil current measurement channels
- Option for external triggering of measurement
- 2 configurable analog channels
- 1 motion transducer input for analog and digital transducers



CAT Standard series models	CAT03	CAT31	CAT34	CAT61	CAT64
					
Main contacts and preinsertion resistors contacts timing channels	3	3	3	6	6
Auxiliary contacts timing channels	NO	3	3	3	3
Coil control	NO	YES	YES	YES	YES
Coil current measurement channels	NO	2	2	2	2
External trigger channels	2	2	2	2	2
Analog input channels	NO	NO	2	NO	2
Transducer input channels	NO	NO	1	NO	1
Thermal printer (built-in)	Optional	Optional	Optional	Optional	Optional

Circuit Breaker Test Equipment

CAT Advanced Series

Circuit Breaker Analyzer & Timer CAT126

Applications

- Simultaneous timing measurement of up to 12 (4 breaks per phase) main and pre-insertion resistor contacts
- Evaluation of synchronization (simultaneity) between the circuit breaker poles
- Auxiliary contacts timing measurement
- "First trip" test
- Dynamic resistance measurement
- A measurement of displacement, damping time and average velocity of moving parts
- Resistance measurement of the pre-insertion resistors
- A measurement of the coil currents, simultaneously for 6 coils
- Contact (static) resistance measurement
- Vibration measurement

Main Features

- Safe and fast testing (Both Sides Grounded feature)
- 12 timing channels for (3x4) for main and pre-insertion resistor contacts
- 6 timing channels for auxiliary contacts
- 6 coil control and coil current measurement channels
- Option for external triggering of measurement
- 3 motion transducer inputs for analog and digital transducers
- 6 configurable analog channels
- Built-in Micro Ohmmeter 500 A



CAT Advanced series models	CAT3X	CAT6X	CAT12X
	CAT35 / CAT36	CAT64A / CAT65 / CAT66	CAT124A / CAT125 / CAT126
			
Main contacts and preinsertion resistors contacts timing channels	3	6	12
Auxiliary contacts timing channels	6	6	6
Coil control	YES	YES	YES
Coil current measurement channels	6	6	6
Analog input channels	6	6	6
Transducer input channels	3	3	3
Thermal printer (built-in)	Optional	Optional	Optional
Both Side Grounded (built-in)	Optional	Optional	Optional
“First trip” test	YES	YES	YES
Micro ohmmeter	200 A / 500 A	NO / 200 A / 500 A	NO / 200 A / 500 A
High precision module (Optional)	YES	NO / YES / YES	NO / YES / YES
Dynamic resistance measurement	YES	NO / YES / YES	NO / YES / YES
Vibration measurement	YES	YES	YES

CAT-P - Handheld Circuit Breaker Analyzer and Timer

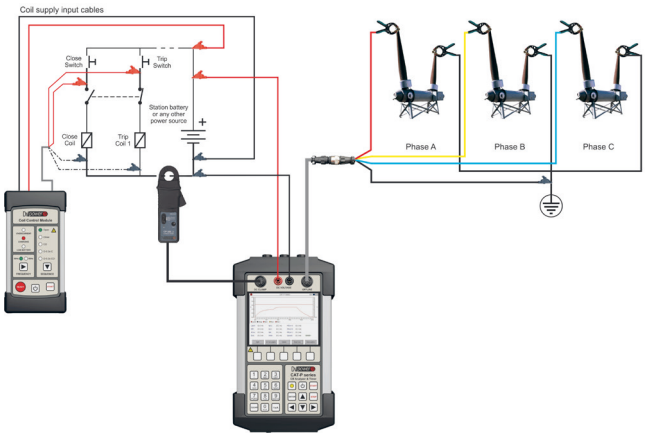
Applications

- Main contacts timing measurement
- Main contacts bounce time measurement
- First trip test
- Resistance and timing measurement of the pre-insertion resistors (if present in the circuit breaker)
- OPEN and CLOSE coils current measurement
- Auxiliary contact timing measurement
- DC supply voltage measurement
- Actuation of circuit breaker's OPEN and CLOSE coil via Coil Control Module

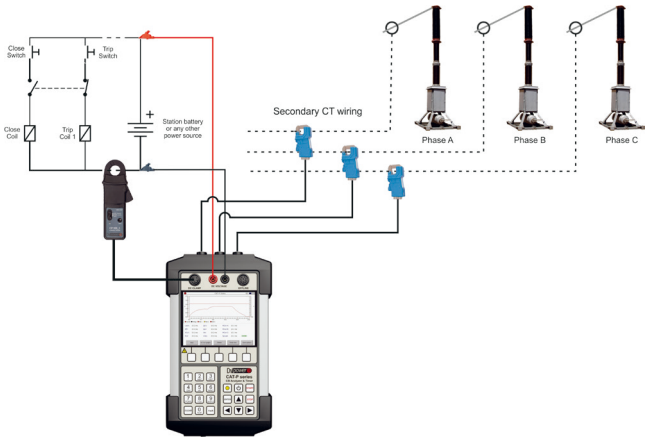
Main Features

- Compact and ergonomic design - only 1,4 kg (3.1 lbs)
- Internal battery power supply (user replaceable)
- Battery operation for up to 8 hours
- Touch screen color display 5.7 inch
- Coil control (via external module) for OPEN and CLOSE coil
- Offline and online (First trip test) testing of circuit breakers





Offline testing: CAT-P and Coil Control Module connection to dead tank circuit breaker with one breaking element per phase



Online testing: CAT-P connection to live tank circuit breaker with one breaking element per phase

CAT-H - Handheld Circuit Breaker Analyzer and Timer

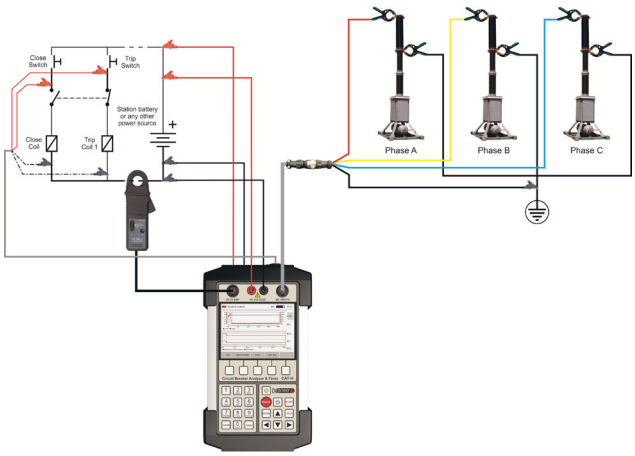
Applications

- Main contacts timing measurement
- Main contacts bounce time measurement
- Resistance and timing measurement of the pre-insertion resistors (if present in the circuit breaker)
- OPEN and CLOSE coils current measurement
- Auxiliary contact timing measurement
- DC supply voltage measurement
- Actuation of circuit breaker's OPEN and CLOSE coil

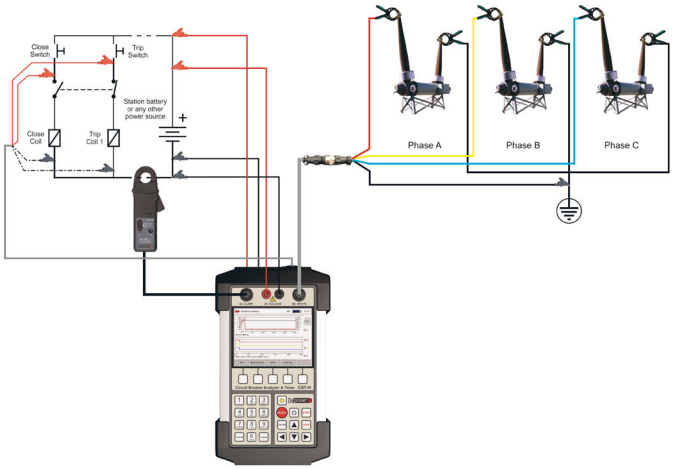
Main Features

- Compact and ergonomic design - only 1,6 kg (3.5 lbs)
- Internal battery power supply (user replaceable)
- Battery operation for up to 8 hours
- Touch screen color display 145 mm (5.7 inch)
- Coil control (built-in) for OPEN and CLOSE coil





CAT-H connection to live tank circuit breaker with one breaking element per phase



CAT-H connection to dead tank circuit breaker with one breaking element per phase

Circuit Breaker Test Equipment

POB40AD II series - Ideal Circuit Breaker Commissioning Tool

Applications

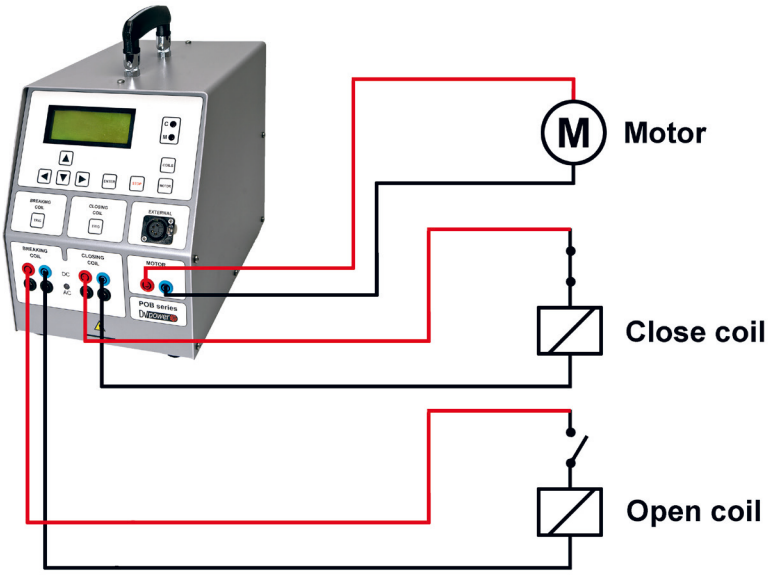
- Commissioning power supply for spring-charging motors and coils
- Minimum Trip Voltage test of circuit breaker coils
- General power supply or temporary battery charger

Main Features

- Ideal commissioning portable device
- Developed for use in harsh switchyard and industrial environments
- Lightweight – up to 10,6 kg / 23.4 lbs
- Ripple-free DC voltage
- DC Output from 10 V – 300 V
- AC Output from 10 V – 250 V



Connecting the POB series to a test object



SAT40A II Series - Smart Power Supply & Advanced Commissioning Tool

Applications

- Commissioning power supply for spring-charging motors and coils
- Variable DC/AC power supply
- Minimum Trip Voltage test of circuit breaker coils
- Coil resistance tester
- General power supply or temporary battery charger

Main Features

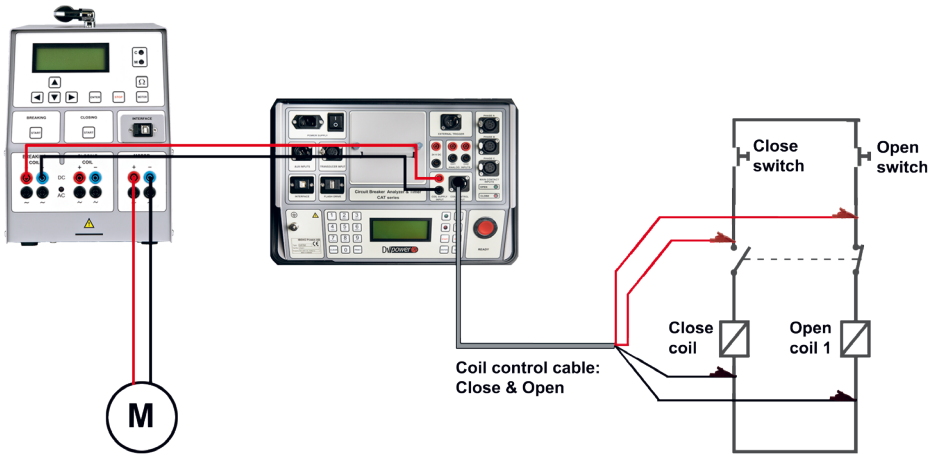
- Ideal advanced commissioning portable devices
- Developed for use in harsh environment
- Advanced reporting ability with DV-Win
- Ability to work with CAT Advanced Series as unique test set
- Most powerful AC motor output in the market - up to 40 A
- Coil resistance measuring capability
- Ripple-free DC voltage
- Temperature channel for checking of temperature and temperature-rise according to IEC 62271-1



	Load voltage	Max current	Max load interval
SAT40A II Series	110 V	30 A	25 sec
		24 A	80 sec
	230 V	15 A	25 sec
		12 A	80 sec

Note: Output voltages and currents depend upon mains power supply voltage

CAT and SAT connection principle



Electrical Safety Test Equipment

GGT500 - Ground Grid Tester

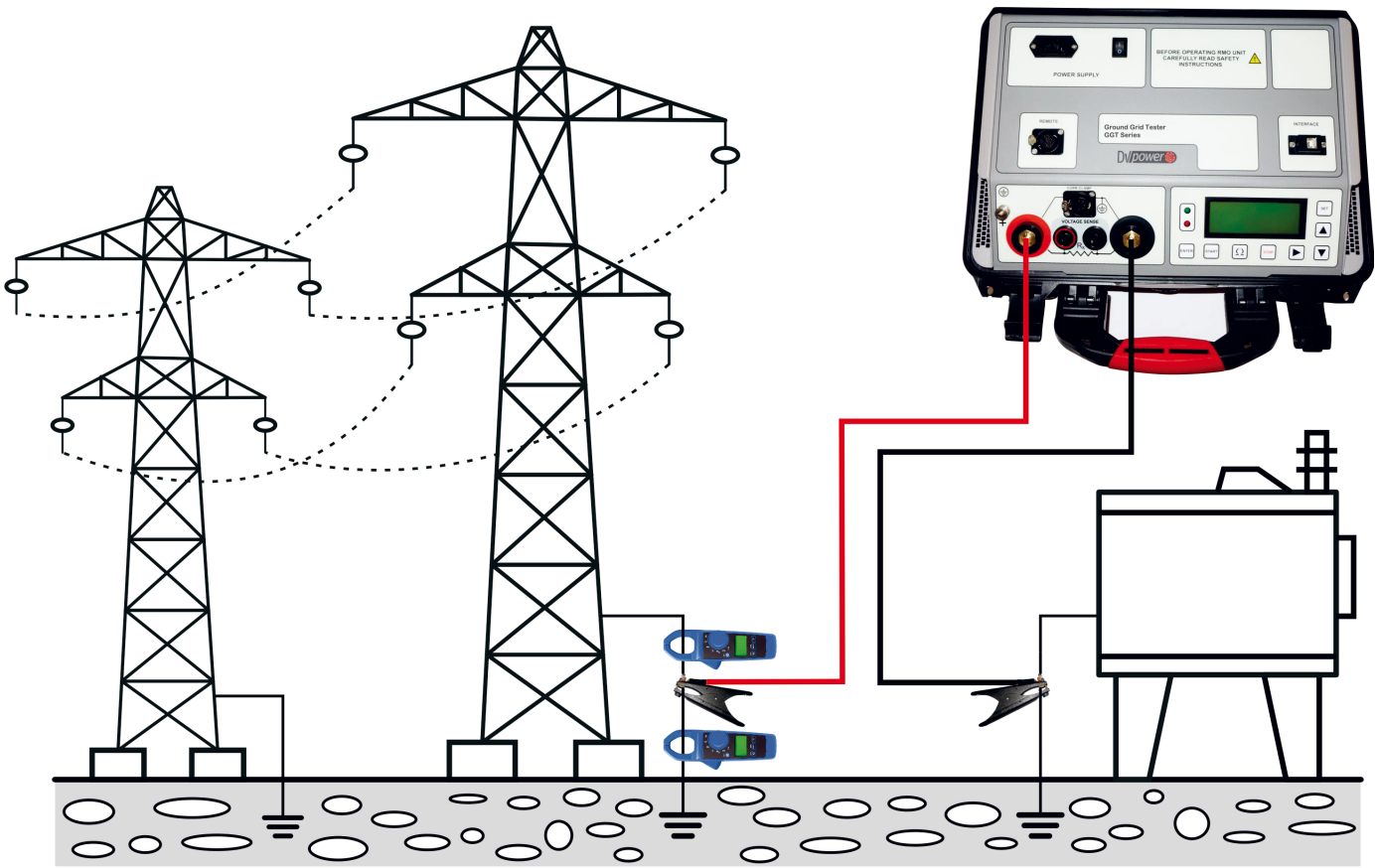
Applications

- Testing from remote locations (REMOTE CONTROL)
- Condition of Substation Ground Grid
- Resistance change monitoring (CONTIN mode)
- Testing in Both Sides Grounded conditions (BSG)
- Dead-tank circuit breakers testing (DTRtest mode)
- Automatically regulated test ramp



Main Features

- Ground Grid Tester with 300 A of testing current
- Micro Ohmmeter with test current up to 500 A DC
- Lightweight – 9,9 kg / 21.8 lbs
- Typical accuracy ± (0,1 % rdg + 0,1 % FS)
- Test Both Sides Grounded (BSG) Circuit Breakers



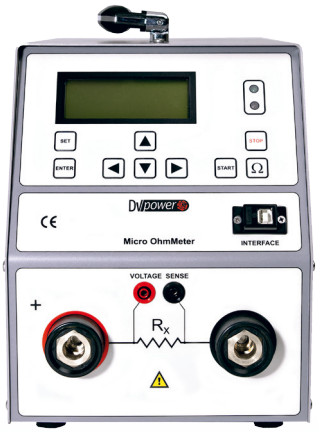
RMO-E series - Protective earth (Bonding) resistance meter

Applications

- Ideal for testing the protective bonding (grounding) of equipment
- Switchgear resistance measurement according to IEC 62271-1
- Resistance change monitoring (CONTIN mode)
- Resistance checking (PASS/FAIL criteria)

Main Features

- Up to 100 A DC testing current
- Weighs only 8 kg / 17.6 lbs
- 2 test modes: SINGLE / CONTIN
- Measuring range: 0,1 μΩ – 25,00 Ω
- Best resolution 0,1 μΩ
- Typical accuracy ± (0,1 % rdg + 0,1 % FS)
- Optional thermal printer



ACCESSORIES

CAT SERIES



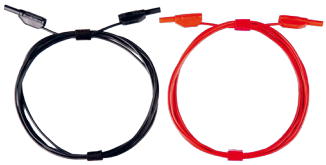
Main contact cables with SCT clamps (two breaks per phase)



Main contacts extensions cables



Coil control cable with banana plugs



Coil supply cable set with banana plugs



Current cables with battery clamps



Sense cables with alligator clamps



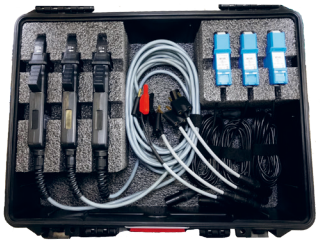
Cable bag



Transport case



Cable plastic case with wheels



First trip test kit



Current DC clamp 30/300 A



AC Current clamp 1 A / 1 V



Linear analog transducer



Doble transducer adapter



Three phase rotary transducer kit

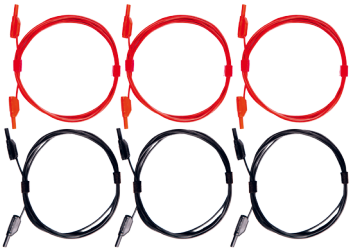


Digital rotary transducer

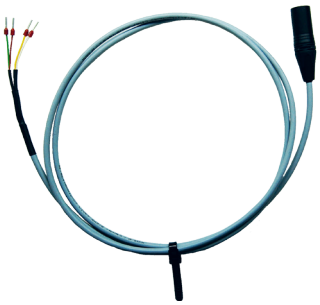
POB, SAT SERIES



Transport case



Cable set



External Trigger cable

RMO SERIES



Current cables with battery clamps



Extension current cables



Sense cables with alligator clamps



Current DC clamp 30/300 A



Test shunt



Cable bag



Transport case



Remote control

ACCESSORIES

RMO-H SERIES



Current cables and Sense cables with TTA clamps



Current cables with battery clamps



Sense cables with alligator clamps



Current cables and Sense cable with Kelvin probes



Transport case with included device accessories and cables



Screws for current cables connectors and Carrying strap





Transformer Test Equipment

Transformer Test Equipment



Applications supported by DV Power transformer test equipment include:

Applications	Products
Winding resistance measurement *(IEC 60076-1, IEEE C57.152)*	1-phase: **RMO-T**, **TWR-H** 3-phase: **TWA**
DVtest - Analysis of On-Load Tap changers *(IEC 60214-1)*	0.1 ms sampling: **RMO-TD , RMO-TT, TWA40D** 4 ms sampling: **RMO-TW, TWA25A, TWA400**
Heat run test *(IEC 60076-2)*	**RMO-T, TWA**
Vibration testing	**RMO-TT, TWA400**
Demagnetization process	**RMO-T, TWA, DEM60C, TWR-H**
Turns ratio measurement of power transformers (IEC 60076-1, *IEEE C57.152*)	**TRT** (all models), **TWR-H**
Turns ratio verification of instrument transformers (IEC 60076-1)	**TRT** (all models except TRT03 & TRT30), **TWR-H**
Turns ratio measurement of capacitive voltage transformers	**TRT4x in combination with CVT40**
Excitation current measurement *(IEEE C57.152)*	**TRT** (all models), **TWR-H**
Phase angle measurement	**TRT** (all models), **TWR-H**
Automatic vector group detection (IEC 60076-1)	**TRT** (all models)
Magnetic balance test	**TRT** (all models)

RMO-TW, TD and TT Series – Tap Changer Analyzers & Winding Ohmmeters

Series	RMO-TT			RMO-TD			RMO-TW			
Model	100TT	60TT	40TT	60TD	40TD	25TD	50TW	30TW	20TW	10TW
Maximum test current	100 A	60 A	40 A	60 A	40 A	25 A	50 A	30 A	20 A	10 A
Temperature measurement channels	4			1			1			
Resistance measurement channels	3			3			3			
DVtest sampling resolution	0,1 ms			0,1 ms			4 ms			
Tap changer motor current measurement	YES			YES			NO			
Demagnetization	YES			YES			YES			
Automatic discharge function	YES			YES			YES			
Vibration testing	YES			NO			NO			
Built-in tap changer control unit	YES			YES			NO			
USB Flash drive	YES			YES			NO			
Thermal printer (built-in)	Optional			Optional			Optional			
Accuracy	±(0,1% rdg + 0,1% F.S.)			±(0,1% rdg + 0,1% F.S.)			±(0,1% rdg + 0,1% F.S.)			

RMO100TT - Tap Changer Analyzer & Winding Ohmmeter

Main Features

- The most powerful portable winding ohmmeter on the market, providing test current up to 100 A DC
- Three resistance measurement channels
- On-load tap changer dynamic resistance measurement
- 4 temperature measurement channels
- Vibration measurement
- Rapid automatic demagnetization
- AC current monitoring channel for tap changer motor current measurement
- Built-in tap changer control unit
- Fully automated test procedure with no need for user input during OLTC test



Transformer Test Equipment

Applications

- Three-channel winding resistance measurement
- Heat Run Test - hot spot temperature measurement
- Measurement of on-load tap changer external tank vibrations using an accelerometer
- A single-phase automatic transformer demagnetization
- Measurement of on-load tap changer motor current by using a dedicated channel
- Single Phase dynamic resistance measurement (DVtest) of on-load tap changers

RMO60TD - Tap Changer Analyzer & Winding Ohmmeter

Applications

- Three-channel winding resistance measurement
- Measurement of on-load tap changer motor current by using a dedicated channel
- Single Phase dynamic resistance measurement (DVtest) of on-load tap changers
- A single-phase automatic transformer demagnetization
- Heat Run Test - hot spot temperature measurement

Main Features

- Test current 5 mA - 60 A DC
- Three resistance measurement channels
- On-load tap changer dynamic resistance measurement
- One temperature measurement channel
- Rapid automatic demagnetization
- AC current monitoring channel for tap changer motor current measurement
- Built-in tap changer control unit
- Fully automated test procedure with no need for user input during OLTC test



Winding Ohmmeter RMO50TW

Applications

- Three-channel winding resistance measurement
- Detection of interruptions during the operation of on-load tap changers (OLTC)
- A single-phase automatic transformer demagnetization
- Heat Run Test - hot spot temperature measurement

Main Features

- Test current 5 mA - 50 A DC
- Three resistance measurement channels
- On-load tap changer verification
- One temperature measurement channel
- Rapid automatic demagnetization
- Lightweight – only 8,5 kg / 18,7 lbs



Tap Changer and Winding Analyzer

TWA400 – Tap Changer and Winding Analyzer

Applications

- Three-phase winding resistance measurement
- Dynamic resistance measurement / DVtesting of on-load tap changers
- A three-phase or single-phase automatic transformer demagnetization
- An evaluation of synchronization between on-load tap changer phases
- A measurement of on-load tap changer motor current by using a dedicated channel

Main Features

- One-time cable connection to up to 8 terminals, enabling faster and safer testing
- Advanced tap changer analysis using graphical DVtest method with 10 kHz sampling rate
- Fast measurement
- Automated test mode
- 7” graphical touchscreen display
- Automated discharge process
- Special mode for simultaneous 3-phase measurement
- Built-in temperature measurement
- Typical accuracy: ± (0,1 % rdg + 0,1 % F.S.)



Transformer Test Equipment

TRT Series – Three-Phase Transformer Turns Ratio Testers

TRT400 - Three-Phase Transformer Turns Ratio Testers

Applications

- Turns ratio measurement
- Phase angle measurement
- Excitation current measurement
- Automatic vector group detection
- Magnetic balance test

Main Features

- Single-phase test voltages up to 430 V AC
- True three-phase test voltages up to 3x250√3V AC
- The best turns ratio accuracy of 0,03%
- Large 7” graphical touch screen display
- Automatic vector group detection
- Interchangeable test leads with Three-phase Winding Ohmmeters & Tap Changer Analyzers TWA instruments



TRT100 - Three-Phase Transformer Turns Ratio Testers

Applications

- Turns ratio measurement
- Phase angle measurement
- Excitation current measurement
- Automatic vector group detection
- Magnetic balance test

Main Features

- Single-phase test voltages up to 170 V AC
- True three-phase test voltages up to 3x100√3V AC
- The best turns ratio accuracy of 0,05%
- Large 7” graphical touch screen display
- Automatic vector group detection
- Interchangeable test leads with Three-phase Winding Ohmmeters & Tap Changer Analyzers TWA instruments



TRT devices are divided into 6 series, based on the maximum test voltage, turns ratio test type and display.

Series	Maximum test voltage	Turns ratio test type	Display
TRT400	430 V AC	Both sequential 3~ & simultaneous 3~	7" graphical touch screen
TRT100	170 V AC	Both sequential 3~ & simultaneous 3~	7" graphical touch screen
TRT63	250 V AC	Both sequential 3~ & simultaneous 3~	LCD
TRT4x	125 V AC*	Both sequential 3~ & simultaneous 3~	LCD
TRT3x	100 V AC	Both sequential 3~ & simultaneous 3~	LCD
TRT03	100 V AC	Sequential 3~	LCD

** Combined with Extension Transformer CVT40 it can output 5 kV AC single-phase, specially for testing capacitive voltage transformers, see the next page*

TWR-H - Handheld Turns Ratio and Winding Resistance Tester

Applications

- Winding resistance measurement
- Demagnetization
- Turns ratio measurement
- Excitation current measurement
- Phase angle measurement

Main Features

- Handheld device
- Internal battery power supply (user replaceable)
- Test current up to 2 A DC for H side
- Test current up to 10 A DC for X side
- Test voltage up to 40 V AC



Transformer Test Equipment

DEM60C – Three-Phase Transformer Demagnetizer

Applications

- Automatic demagnetization of single-phase and three-phase transformers

Main Features

- Maximum demagnetization current 60 A DC
- Three-phase connection to a transformer
- Recording demagnetization process graph in real time
- Built-in automatic discharge circuit for complete user safety



RMO-M Series - Motor & Generator Winding Ohmmeters

Applications

- Detection of turn-to-turn and phase-to-phase shortcircuits in the motor / generator windings
- Three-channel Winding resistance measurement
- Resistance measurement of solder joints between the windings, welding joints, cable splices and any non-inductive test objects
- Detection of problems with connections and contacts on the rotating machine

Main Features

- Test currents 5mA - 100 A
- Lightweight 8 kg/ 17.6 lbs
- Measurement range 0,1 μΩ - 1 kΩ
- Accuracy 0,1%
- Resolution up to 0,1 μΩ
- Three resistance measurement channels
- Automatic discharge circuit
- Advanced Heat Run test algoritm



ACCESSORIES

TWA SERIES



H & X winding test cable set



Current clamps
(used with TWA40D)



Tap changer control cable



Transport case



Test shunt



Temperature sensor



Bluetooth communication
module

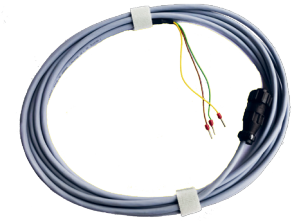
TRT SERIES



H & X winding test cable set



Bluetooth communication
module



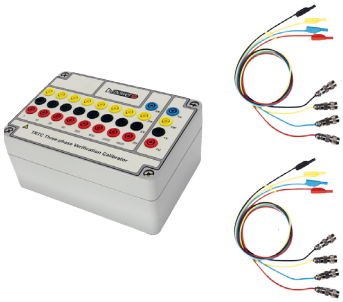
Tap changer control cable



Transport case



CVT40 with cables
(used with TRT4x series)



TRTC Verification
Calibration with cables



Cable bag

ACCESSORIES

RMO-T SERIES



Current and sense cables with TTA clamps



Sense cables with TTA clamps



Current connection cable with TTA clamps



Tap changer control cable *(used with RMO-TD and RMO-TT)*



Current clamps *(used with RMO-TD and RMO-TT)*



Temperature sensor



Transport case *(used with RMO-TD and RMO-TT)*



Transport case *(used with RMO-TW)*



Cable bag



Bluetooth communication module



Test shunt

DEM60C



Current cables with TTA clamps



Transport case



Cable bag

Smart test devices for reliable electric power systems

IBEKO Power AB, with headquarters in Stockholm (Sweden) and best known through the brand **"DV Power"**, has since 2000 developed radically light and ingenious test solutions for transformers, circuit breakers and batteries.

Today our DV Power products are sold all over the world – **in over 90 countries** – and we are still focusing on extensive research and development. Thanks to all our customers that provide us with continuous case studies and feedback, we are able to build even better products that serve our customers need.

WARRANTY

DV Power provides a **three year warranty** on all our products. This is a guarantee to our customers they will receive the highest quality instrumentation available.

Our products are

- PORTABLE
- POWERFUL - Extremely high power output
- USER-FRIENDLY - Completely automated test procedure
- EFFICIENT - Modern switching techniques, power electronics, sophisticated design
- ACCURATE - Typical accuracy of our products is ± 0,1 %
- ROBUST - The rigid design makes our products ideal for use in high voltage substation and industrial environments
- ROBUST - The rigid design makes our products ideal for use in high voltage substation and industrial environments

IBEKO Power AB is ISO 9001: 2015 Certified Company.

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OUR SUPPORT

DV Power customer support center provides a wide range of services

- Technical support
- Product maintenance and calibration
- Feature upgrades
- Training
- Webinars
- Seminars

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support@dv-power.com

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USAsupport@dv-power.com

Equipment service

Before contacting us, please have following information ready

- serial number of your DV Power test device
- information about object being tested, problem description and possibly message(s) reported by our test device
- DV-Win and DV-B Win software version installed on your PC
- your PC information: manufacturer, operating system and language, security programs like firewalls and anti-virus software
- contact details: name, company name, phone number, e-mail address

Additionally, it is very helpful to include screenshots of the relevant status and error messages.