



Transformers and Rotating Machines Test Equipment

PT.
BINTANG DELTA MANDIRI



About Us

The brand “DV Power”, with headquarters in Stockholm (Sweden), has since 2000 developed light and ingenious test solutions for transformers, circuit breakers, batteries and electrical safety.

The company was founded by a group of engineers with **extensive** knowledge and experience in the power electronics technology area.

Today our DV Power products are sold all over the world – in over 100 countries.

We are still focusing on extensive research and development. **Thanks to all our customers that provide us with continuous valuable feedback and various case studies**, we are able to design even better products that **meet** the needs of our customers.

Our success is solely based on extensive research, development and fast commercial application.

About DV-Power Test Equipment

DV Power test equipment covers solutions for testing power, distribution, instrument transformers, and rotating machines. With our products, it is possible to perform a wide range of tests for each group of equipment.

For power and distribution transformers two most essential tests are winding resistance and turns ratio. Besides these, our products can perform many other tests, such as frequency response, excitation current, vector group detection, on-load tap changer DVtest (DRM), demagnetization, and heat run test.

For instrument transformers (CTs, VTs, and CVTs) a variety of special tests can be performed (knee point, turns ratio,

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polarity, demagnetization, winding resistance, burden test, and insulation resistance).

For rotating machines, with DV-Power test equipment, user can measure winding resistance with a wide range of testing currents for testing small to extra-large units.

All specifications herein are valid at ambient temperature of + 25 °C and standard accessories. Specifications are subject to change without notice.



Transformer Test Equipment



● - Standard ○ - Optional

Description	TWA Advanced	TWA Standard	RMO-TT	RMO-TD	RMO-TW	TRT Advanced	TRT Standard	TWR-H	RMO-TH	TRT-H	DEM	FRA500	CVA500
Transformer Winding Resistance IEC 60076-1, IEEE C57.152	●	●	●	●	●			●	●				
DVtest (DRM) – OLTC Analysis IEC 60214-1	●	●	●	●	●								
Heat Run Test IEC 60076-2	●	●	●	●	●								
OLTC Vibration Test	●		●										
Transformer Demagnetization	●	●	●	●	●			●	●		●		
Transformer Turns Ratio IEC 60076-1, IEEE C57.152						●	●	●		●			
Transformer Excitation Current IEEE C57.152						●	●	●		●			
Transformer Phase Angle Measurement						●	●	●		●			
Automatic Vector Group Detection IEC 60076-1						●	●						
Magnetic Balance Test						●	●						
Sweep Frequency Response Analysis IEC 60076-18, IEEE C57.149												●	
CT Knee Point IEC 60044-1, 61869-2, IEEE C57.13													●
CT, VT Turns Ratio IEEE C57.13						●	●	●		●			●
CVT Turns Ratio						○							●
CT, VT, CVT Polarity IEC 61869-1, IEEE C57.13						●	●	●		●			●
CT, VT, CVT Winding Resistance IEC 60044-1, 61869-2, IEEE C57.13	●	●	●	●	●			●	●				●
CT, VT, CVT Burden													●
CT, VT, CVT Insulation Resistance													●
CT Demagnetization IEEE C57.13	●	●	●	●	●			●	●		●		●

OLTC Analysis



DVtest method (also known as Dynamic Resistance Measurement - DRM method) is an offline, non-destructive testing method for checking the condition of on-load tap changer (OLTC). It is based on a DC current being injected through a winding and an on-load tap changer (OLTC) as it moves through all of its positions. Also, OLTC motor current and OLTC vibration can be recorded simultaneously with test current. DVtest provides useful information about an OLTC condition without the OLTC removal from the transformer main tank, which is expensive and time consuming job. The DVtest (DRM) graph pinpoints the exact location of defects indicated by a high level of gasses, or the Buchholtz operation causing tripping the transformer out of the service. This method is complementary to DGA (Dissolved Gas Analysis) method.

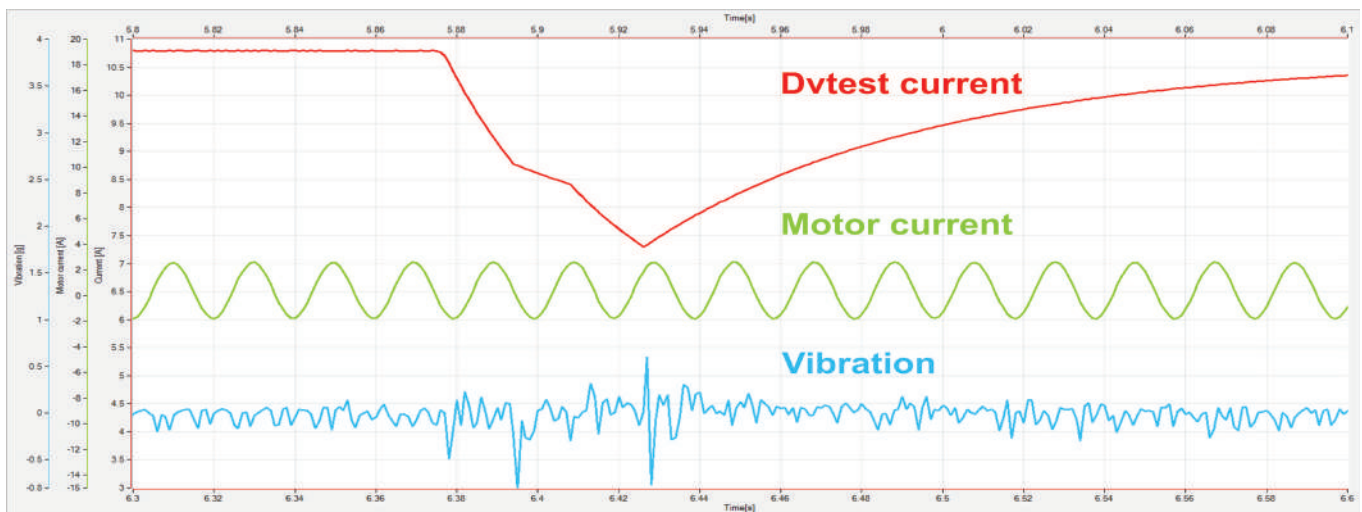
The AC and/or DC current monitoring channel and vibration monitoring channel enable recording the OLTC mechanical drive motor current and vibration during the

OLTC operation. The motor current and vibration waveforms are plotted on the same DVtest (DRM) graph and can help in detecting OLTC mechanical problems. Motor current channel allows triggering DVtest recording using OLTC motor current, which is useful for reactance-type OLTCs.

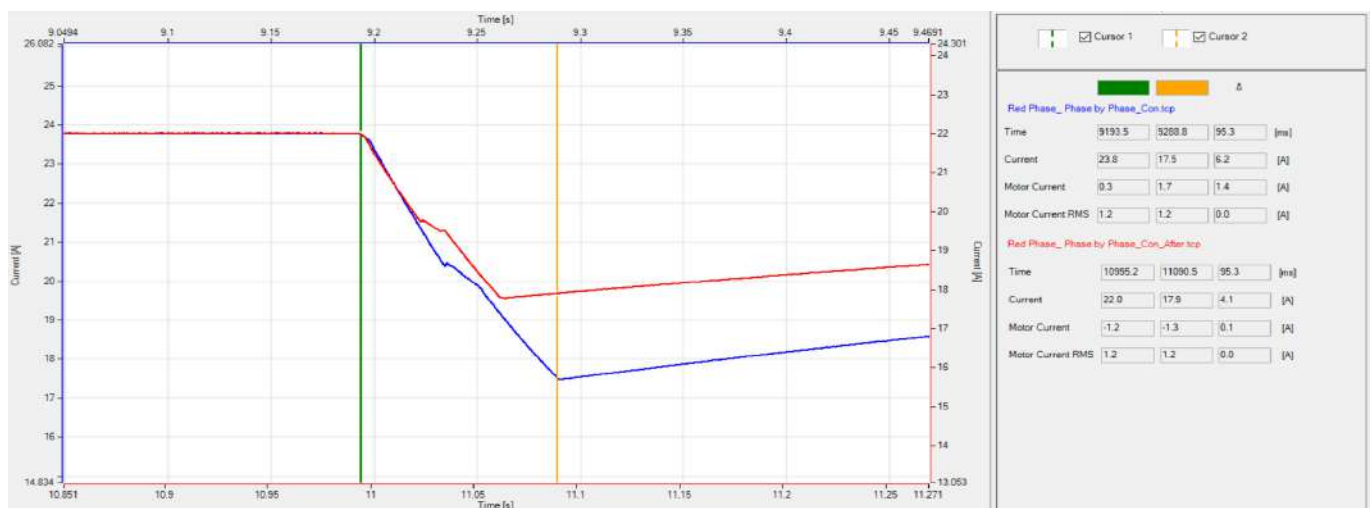
The DVtest graph irregularities can indicate the OLTC problems such as:

- High resistance contacts in the tap selector
- Loose contacts in the tap selector
- Burned, loose contacts in the diverter switch
- Broken resistors in the diverter switch
- Abnormal arcing
- Misaligned contacts
- Contact bounce
- Mechanical and motor problems
- Phase synchronization problems

Typical DVtest (DRM) graph with motor current and vibration signals



Comparison of two OLTC DVtest (DRM) graphs



Tap Changer and Transformer Winding Analyzers



TWA Advanced Series

Applications

- Three-phase winding resistance measurement
- DVtest (dynamic resistance measurement)
- Automatic demagnetization
- OLTC vibration testing
- Evaluation of OLTC synchronization between phases
- Measurement of OLTC motor current

Main Features of TWA500 (TWA500X-N-W3)

- Measurement range: $0,1 \mu\Omega - 10 \text{ k}\Omega$
- Typical accuracy: $\pm (0,1 \% \text{ rdg} + 0,1 \% \text{ F.S.})$
- One-time cable setup
- All 6 windings measured in one test
- Simultaneous measurement of HV and LV winding
- Fast measurement, enabled by special transformer saturation algorithms
- Automated test mode
- Special mode for simultaneous 3-phase measurement
- OLTC DVtest (dynamic resistance measurement)
- OLTC motor current monitoring channel
- Vibration testing of OLTC
- Rapid automatic demagnetization
- Automatic discharge circuit
- Built-in temperature measurement channel
- Interchangeable test leads with TRT Series
- Large 10.1" graphical touch-screen display



Main Features of TWA400 (TWA400X-N-01)

- Measurement range: $0,1 \mu\Omega - 10 \text{ k}\Omega$
- Typical accuracy: $\pm (0,1 \% \text{ rdg} + 0,1 \% \text{ F.S.})$
- One-time cable setup
- All 6 windings measured in one test
- Simultaneous measurement of HV and LV winding
- Fast measurement, enabled by special transformer saturation algorithms
- Automated test mode
- Special mode for simultaneous 3-phase measurement
- OLTC DVtest (dynamic resistance measurement)
- OLTC motor current monitoring channel
- Vibration testing of OLTC
- Rapid automatic demagnetization
- Automatic discharge circuit
- Built-in temperature measurement channel
- Interchangeable test leads with TRT Series
- Large 7" graphical touch-screen display



Tap Changer and Transformer Winding Analyzers



TWA Standard Series

Applications

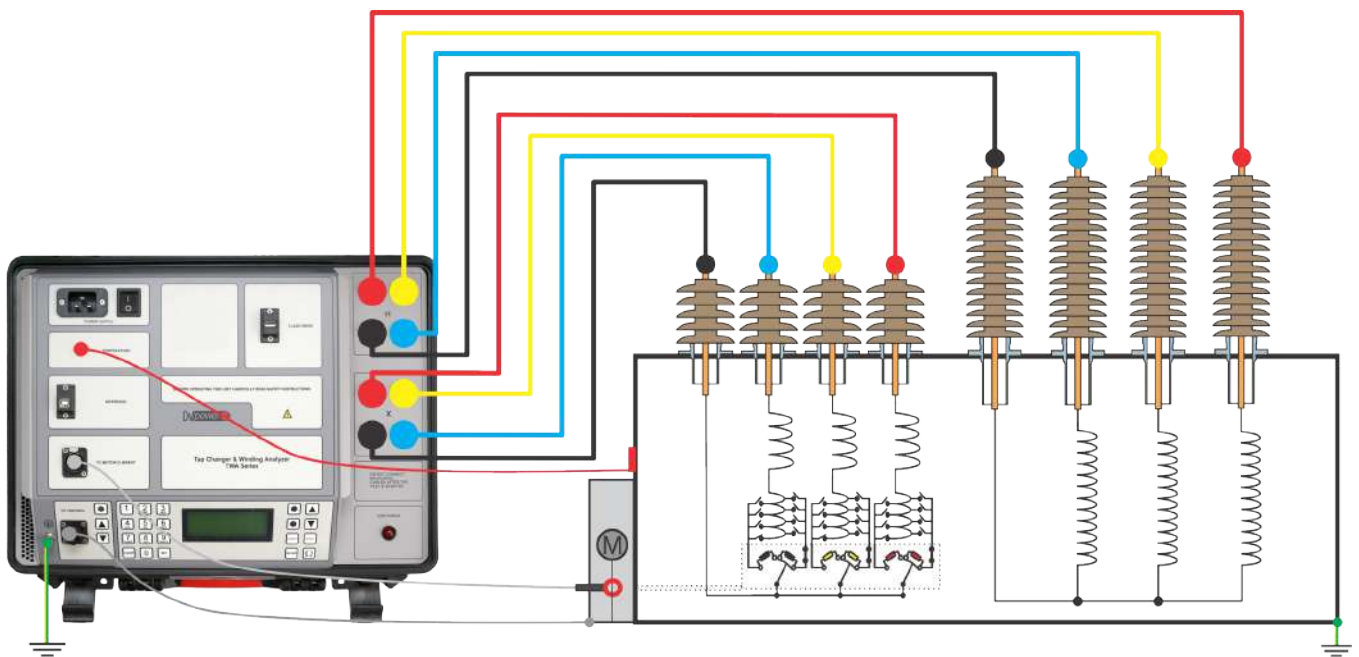
- Three-phase winding resistance measurement
- DVtest (dynamic resistance measurement)
- Automatic demagnetization
- Evaluation of OLTC synchronization between phases
- Measurement of OLTC motor current

Main Features of TWA40D (TWA40DX-N-03)

- Measurement range: $0,1 \mu\Omega - 10 \text{ k}\Omega$
- Typical accuracy: $\pm (0,1 \% \text{ rdg} + 0,1 \% \text{ F.S.})$
- One-time cable setup
- All 6 windings measured in one test
- Simultaneous measurement of HV and LV winding
- Fast measurement, enabled by special transformer saturation algorithms
- Automated test mode
- Special mode for simultaneous 3-phase measurement
- OLTC DVtest (dynamic resistance measurement)
- OLTC motor current monitoring channel
- Rapid automatic demagnetization
- Built-in temperature measurement channel
- Interchangeable test leads with TRT Series



Connection of TWA to a test object



Tap Changer and Transformer Winding Analyzers



TWA Models Comparison



● - Standard ○ - Optional

Model	TWA500	TWA400	TWA40D	TWA25A
Max. Test Current (Winding Res. Test)	25 A DC	25 A DC	25 A DC	25 A DC
Max. Test Current (OLTC Synchr. Test)	40 A DC	40 A DC	40 A DC	
Resistance Measurement Range	0,1 $\mu\Omega$ – 10 k Ω	0,1 $\mu\Omega$ – 10 k Ω	0,1 $\mu\Omega$ – 10 k Ω	0,1 $\mu\Omega$ – 10 k Ω
Typical Accuracy	\pm (0,1 % rdg + 0,1 % F.S.)	\pm (0,1 % rdg + 0,1 % F.S.)	\pm (0,1 % rdg + 0,1 % F.S.)	\pm (0,1 % rdg + 0,1 % F.S.)
DVtest	Via standalone device & DV-TR software	Via standalone device & DV-TR software	Via DV-TR software	Via DV-TR software
DVtest Sampling Rate [ms]	0,1	0,1	0,1	4
Simultaneous 3-Phase Winding Res. Test	Via standalone device & DV-TR software	Via standalone device & DV-TR software	Via DV-TR software	
3-Phase OLTC Synchronization Test	Via standalone device & DV-TR software	Via standalone device & DV-TR software	Via DV-TR software	
OLTC Motor Current Measurement	Via standalone device & DV-TR software	Via standalone device & DV-TR software	Via DV-TR software	
Automated Test Mode	Via standalone device & DV-TR software	Via standalone device & DV-TR software	Via DV-TR software	Via DV-TR software
“Heat Run” Test Mode	Via DV-TR software	Via DV-TR software	Via DV-TR software	Via DV-TR software
Demagnetization	●	●	●	●
OLTC Vibration Test	●	●		
Temp. Measurement Channels	1	1	1	1
Display	10.1" graphical touch-screen display	7" graphical touch-screen display	Backlit LCD	Backlit LCD
PC Communication	USB & Ethernet	USB & Ethernet	USB or RS232	USB or RS232
Built-In Printer		○		
Weight [kg]	15,9	15	12,8	12,8
Dimensions (W x H x D) [mm]	505 x 257 x 409	543 x 218 x 427	478 x 194 x 389	478 x 194 x 389

Tap Changer and Transformer Winding Analyzers



Accessories



H and X cables compatible with TWA and TRT series



Tap changer control cable



Temperature sensor



ICP accelerometer with connecting cable and mounting tools



Grounding cable



Transport case for 500 series



Cable plastic case - large size



Cable plastic case - medium size



Cable plastic case - small size



Cable plastic case with wheels - large size



Cable bag



TWA-TRT switchbox



Current clamp 30 / 300 A power supplied from the instrument



Bluetooth communication module



Test shunt 150 A / 150 mV

Tap Changer and Transformer Winding Analyzers



RMO-TT Series

Applications

- Three-channel winding resistance measurement
- "Heat run" test - hot spot temperature measurement
- Single-phase DVtest (dynamic resistance measurement) of OLTCs
- Single-phase automatic transformer demagnetization
- Measurement of OLTC motor current
- OLTC vibration testing

Main Features of RMO100TT (RMO100TT-N-1)

- Measurement range: $0,1 \mu\Omega - 100 \text{ k}\Omega$
- Typical accuracy: $\pm (0,1 \% \text{ rdg} + 0,1 \% \text{ F.S.})$
- Test current: 5 mA – 100 A DC (The most powerful portable winding ohmmeter on the market)
- Automated test mode
- OLTC DVtest (dynamic resistance measurement)
- OLTC motor current monitoring channel
- Rapid automatic demagnetization
- Automatic discharge circuit
- Vibration testing of OLTC
- Built-in tap changer control unit
- Four temperature measurement channels



RMO-TD Series

Applications

- Three-channel winding resistance measurement
- "Heat run" test - hot spot temperature measurement
- Single-phase DVtest (dynamic resistance measurement) of OLTCs
- Single-phase automatic transformer demagnetization
- Measurement of OLTC motor current

Main Features of RMO60TD (RMO60TD-N-03)

- Measurement range: $0,1 \mu\Omega - 100 \text{ k}\Omega$
- Typical accuracy: $\pm (0,1 \% \text{ rdg} + 0,1 \% \text{ F.S.})$
- Test current: 5 mA – 60 A DC
- OLTC DVtest (dynamic resistance measurement)
- Automated test mode
- OLTC motor current monitoring channel
- Rapid automatic demagnetization
- Automatic discharge circuit
- Built-in tap changer control unit
- One temperature measurement channel



Tap Changer and Transformer Winding Analyzers



RMO-TW Series

Applications

- Three-channel winding resistance measurement
- "Heat run" test - hot spot temperature measurement
- Single-phase automatic transformer demagnetization
- Detection of interruptions during the OLTC operation

Main Features of RMO50TW (RMO50TW-N-02)

- Measurement range: 0,1 $\mu\Omega$ – 100 k Ω
- Typical accuracy: \pm (0,1 % rdg + 0,1 % F.S.)
- Test current: 5 mA – 50 A DC
- OLTC verification
- Automatic resistance measurement
- Rapid automatic demagnetization
- Automatic discharge circuit
- One temperature measurement channel



• - Standard ○ - Optional

Model	RMO100TT	RMO60TT	RMO40TT	RMO60TD	RMO40TD	RMO25 TD	RMO50TW	RMO30TW	RMO20TW	RMO10TW
Max. Test Current	100 A	60 A	40 A	60 A	40 A	25 A	50 A	30 A	20 A	10 A
No. of Temp. Meas. Channels	4	4	4	1	1	1	1	1	1	1
DVtest Sampling Rate [ms]	0,1	0,1	0,1	0,1	0,1	0,1	4	4	4	4
OLTC Motor Current Measurement	•	•	•	•	•	•				
Demagnetization	•	•	•	•	•	•	•	•	•	•
Auto Discharge	•	•	•	•	•	•	•	•	•	•
OLTC Vibration Test	•	•	•							
Built-In TC Control Unit	•	•	•	•	•	•				
USB Flash Drive	•	•	•	•	•	•				
Built-In Printer	○	○	○	○	○	○	○	○	○	○
Weight [kg]	15,5	13,5	13,5	13,2	13,0	13,0	8,5	8,5	8,0	8,0

Tap Changer and Transformer Winding Analyzers



Accessories



Current & sense cables with TTA clamps



Current & sense cables with TTA clamps



Current cables with TTA clamps



Current cables with battery clamps (B1)



Sense cables with TTA clamps



Current connection cable with battery clamps (B1)



Current connection cable with TTA clamps



ICP accelerometer with connecting cable and mounting tools



Temperature sensor



Tap changer control cable



Grounding cable



Cable bag

Tap Changer and Transformer Winding Analyzers



Accessories



Cable plastic case - medium size



Current clamp 30 / 300 A power supplied from the instrument



Test shunt 150 A / 150 mV



Cable plastic case - small size



Cable plastic case - large size



Cable plastic case with wheels - large size

Transformer Turns Ratio Testers



TRT Advanced Series

Applications

- Turns ratio measurement of single and three-phase transformers
- Excitation current measurement
- Phase angle measurement
- Automatic vector group detection
- Verification of demagnetization process
- Magnetic balance test
- Turns ratio and polarity verification of instrument transformers

Main Features of TRT500 (TRT500X-N-W3)

- Single-phase test voltages from 1 V to 500 V AC (in combination with CVT20 it can output up to 5 kV AC for testing capacitive voltage transformers)
- True three-phase test voltages from 1 V to $3 \times 290\sqrt{3}$ V AC
- Turns ratio range: 0,8 – 50 000
- Turns ratio resolution: 5 digits
- The best turns ratio accuracy: $\pm 0,03$ %
- Large 10.1" graphical touch-screen display
- Built-in tap changer control unit
- Built-in thermal printer 112 mm (optional)
- PC communication: Ethernet and USB
- Interchangeable test leads with TWA Series



Main Features of TRT400 (TRT400X-N-03)

- Single-phase test voltages from 1 V to 430 V AC
- True three-phase test voltages from 1 V to $3 \times 250\sqrt{3}$ V AC
- Turns ratio range: 0,8 – 50 000
- Turns ratio resolution: 5 digits
- The best turns ratio accuracy: $\pm 0,03$ %
- Large 7" graphical touch-screen display
- Built-in tap changer control unit
- Built-in thermal printer 58 mm (optional)
- PC communication: Ethernet and USB
- Interchangeable test leads with TWA Series



Transformer Turns Ratio Testers



TRT Standard Series

Applications

- Turns ratio measurement of single and three-phase transformers
- Excitation current measurement
- Phase angle measurement
- Automatic vector group detection
- Verification of demagnetization process
- Magnetic balance test
- Turns ratio and polarity verification of instrument transformers

Main Features of TRT63A (TRT63AX-N-03)

- Single-phase and true three-phase test voltages from 1 V to 250 V AC
- Turns ratio range: 0,8 – 50 000
- Turns ratio resolution: 5 digits
- The best turns ratio accuracy: $\pm 0,03\%$
- Backlit LCD display
- Built-in tap changer control unit
- Built-in thermal printer 58 mm (optional)
- PC communication: USB or RS232
- Interchangeable test leads with TWA Series



TRT Models Comparison



● - Standard ○ - Optional

Model	TRT500	TRT400	TRT250	TRT100	TRT63	TRT33	TRT03
Max. Test Voltage	500 V	430 V	250 V	170 V	250 V	100 V	100 V
Sequential 3~	●	●	●	●	●	●	●
Simultaneous 3~	●	●	●	●	●	●	
Test Templates	●	●	●	●	●	●	
Cap. Voltage Transf. Testing	○						
Display	10.1" touch	7" touch	7" touch	7" touch	LCD	LCD	LCD
PC Interface	USB & Ethernet	USB & Ethernet	USB & Ethernet	USB & Ethernet	USB or RS232	USB or RS232	USB or RS232
Weight [kg]	10,5	9	9	9	9	8	8
Dimensions (W x H x D) [mm]	505 x 257 x 409	478 x 194 x 390	478 x 194 x 390	478 x 194 x 390	478 x 194 x 390	478 x 194 x 390	478 x 194 x 390

Transformer Turns Ratio Testers



Accessories



H and X cables compatible with TWA and TRT series



Tap changer control cable



Grounding cable



Bluetooth communication module



Transport case for 500 series



Cable plastic case - large size



Cable bag



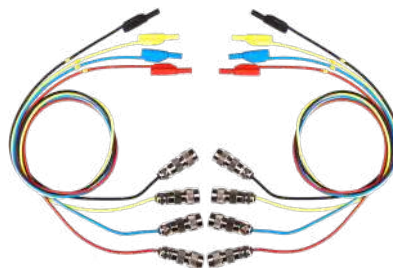
Cable plastic case - small size



TWA-TRT switchbox



TRT-C verification calibrator



H & X winding test leads set for TRT-C



CVT20 extension transformer



H test cable set



X test cable set



High voltage cable set

Handheld Transformer Testers



Turns Ratio & Winding Resistance Tester - TWR-H

Applications

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

Main Features of TWR-H (TWRH000-N-01)

- Single-phase connection to a transformer
- Handheld device with internal battery (user-replaceable)
- Test current up to 2 A DC for HV side
- Test current up to 10 A DC for LV side
- Winding resistance measurement range: $1 \mu\Omega - 3 \text{ k}\Omega$
- Winding resistance measurement typical accuracy: $\pm (0,5 \% \text{ rdg} + 0,5 \% \text{ F.S.})$
- Test voltage up to 40 V AC
- Turns ratio measurement range: 0,8 – 20 000
- Turns ratio measurement typical accuracy up to $\pm 0,1 \%$
- Dimensions: 170 x 310 x 58 mm / 6.69 x 12.21 x 2.28 in
- Weight: 1,4 kg / 3.1 lbs



Turns Ratio Tester - TRT-H

Applications

- Turns ratio measurement
- Excitation current measurement
- Phase angle measurement

Main Features of TRT-H (TRTH000-N-02)

- Single-phase connection to a transformer
- Handheld device with internal battery (user-replaceable)
- Test voltage up to 40 V AC
- Turns ratio measurement range: 0,8 – 20 000
- Turns ratio measurement typical accuracy up to $\pm 0,1 \%$
- Dimensions: 170 x 310 x 58 mm / 6.69 x 12.21 x 2.28 in
- Weight: 1,4 kg / 3.1 lbs



Handheld Transformer Testers



Winding Resistance Tester - RMO-TH

Applications

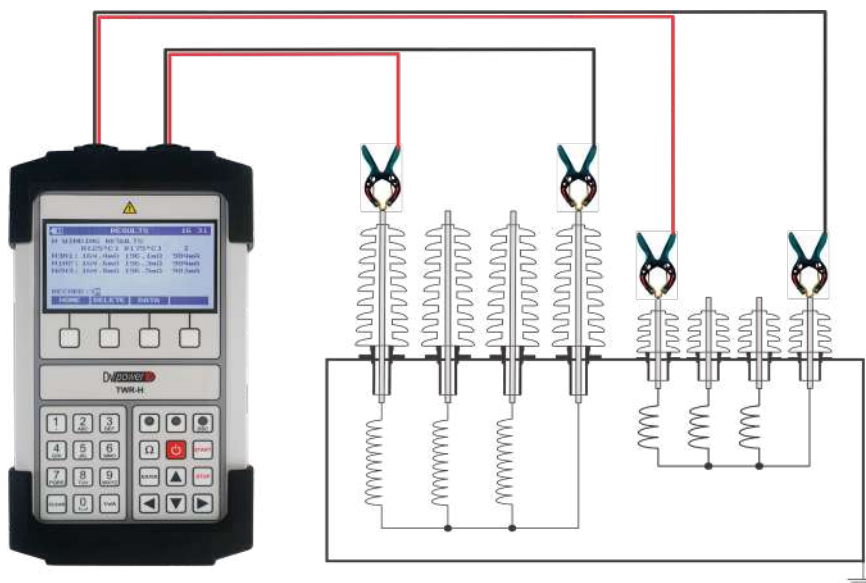
- Winding resistance measurement
- Demagnetization

Main Features of RMO-TH (RMOTH00-N-02)

- Single-phase connection to a transformer
- Handheld device with internal battery (user-replaceable)
- Test current up to 2 A DC for HV side
- Test current up to 10 A DC for LV side
- Winding resistance measurement range: $1 \mu\Omega - 3 \text{ k}\Omega$
- Winding resistance measurement typical accuracy: $\pm (0,5 \% \text{ rdg} + 0,5 \% \text{ F.S.})$
- Dimensions: 170 x 310 x 58 mm / 6.69 x 12.21 x 2.28 in
- Weight: 1,4 kg / 3.1 lbs



Connection of handheld tester to test object



Handheld Transformer Testers



Accessories



H winding current and sense cables with small TTA clamps



X winding current and sense cables with small TTA clamps



Jumper cable with small TTA clamps



Test shunt 150 A / 150 mV



Cable bag



Plastic transport case

Sweep Frequency Response Analyzer



FRA500

Applications

- Potential mechanical and electrical problems detection in power transformers
- Quick test where fingerprint is compared to a post event response
- Reliable detection of the mechanical movements in transformers caused by earthquakes, transport, or mechanical impacts due to short-circuit forces after a failure

Main Features of FRA500 (FRA500X-N-03)

- Sweep frequency range: 0,1 Hz – 25 MHz
- Dynamic range: > 150 dB
- PC communication: USB and Bluetooth
- Battery backup (optional)
- Typical sweep time: < 20 s
- Superior frequency response in noisy environment
- Point spacing: log, linear, or both
- Sample points per sweep: 2 000 points per decade (32 000 points total)



Sweep frequency response analysis trace



Sweep Frequency Response Analyzer



Accessories



Large C-clamp



Small C-clamp



Coaxial signal cable - generator/reference



Coaxial signal cable - measure



Verification cell



Coaxial cable for verification cell



Flat ground cable



Ground cable with clip



Ground cable



Bluetooth adapter



Transport case

Multi-tap Current and Voltage Transformer Analyzer



CVA500

Applications

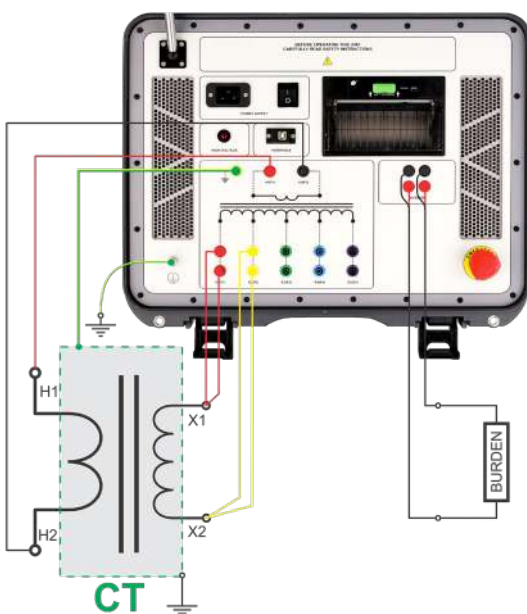
- Saturation curve and knee point of CTs
- Turns ratio, polarity, and phase angle tests of CTs, VTs and CVTs
- Demagnetization of CTs
- Insulation resistance of CTs, VTs and CVTs
- Winding resistance of CTs, VTs and CVTs
- Burden test of CTs, VTs, and CVTs

Main Features of CVA500 (CVA500X-N-W3)

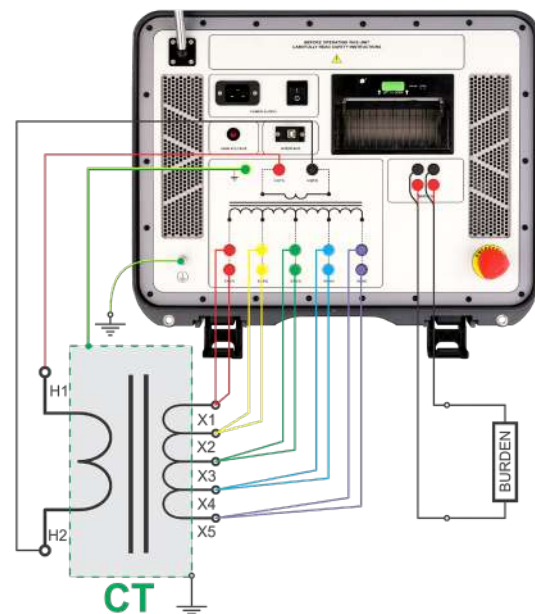
- Solution for testing CTs, VTs, and CVTs
- Multi-tap CTs testing with a single-step cable setup
- Full range of CT tests performed automatically
- Variable test voltage up to 2 kV
- Tests using nominal frequency 50 or 60 Hz
- Test voltage up to 1 kV DC for insulation resistance test
- CT burden test with currents up to 5 A
- VT/CVT burden test with voltage up to 110 V
- Turns ratio accuracy up to $\pm 0,02\%$
- Knee point voltage accuracy up to $\pm 0,05\%$
- Winding resistance accuracy up to $\pm (0,2\% \text{ rdg} + 2 \text{ m}\Omega)$
- Insulation resistance accuracy up to $\pm (3\% \text{ rdg} + 0,2 \text{ per G}\Omega)$
- 10.1-inch touch screen display
- Built-in thermal printer 112 mm / 4.4 in
- Dimensions 505 x 257 x 409 mm / 19.9 x 10.1 x 16.1 in
- Weight 21.4 kg / 47.2 lbs



Connection of CVA500 to a single-tap CT



Connection of CVA500 to a multi-tap CT



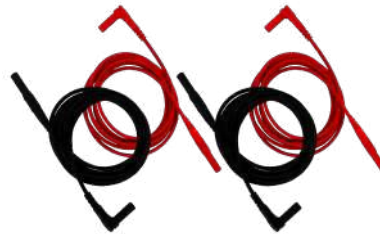
Multi-tap Current and Voltage Transformer Analyzer



Accessories



Transport case for 500 series



Primary side cables set with banana plugs



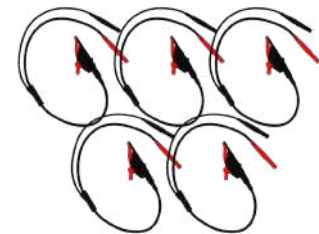
TTA clamps with banana plugs (red and black)



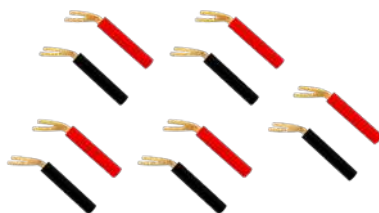
Dolphin clips (red and black)



Secondary side cables set with banana plugs



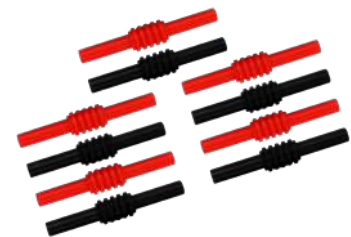
Secondary side cables set with dolphin clips (Kelvin)



Cable lug adapter set



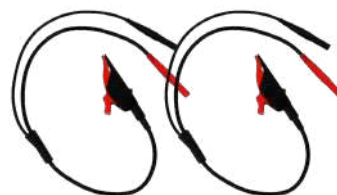
Flex wire adapter set



Cable coupler set



Grounding cable set with dolphin clip



Burden cables set with dolphin clips (Kelvin)



Ground cable



Cable bag



Safety strobe light with cable

Transformer Demagnetizer



DEM Series

Applications

- Demagnetization

Main Features of DEM60R (DEM60RX-N-03)

- Fully automatic demagnetization
- Calculation of remanent magnetism
- Demagnetization currents up to 60 A DC
- Demagnetization progress graph
- Three-phase connection to a transformer
- Automatic discharge circuit



Accessories



Current cables with TTA clamps



Mains power cable EU 16 A



Grounding cable



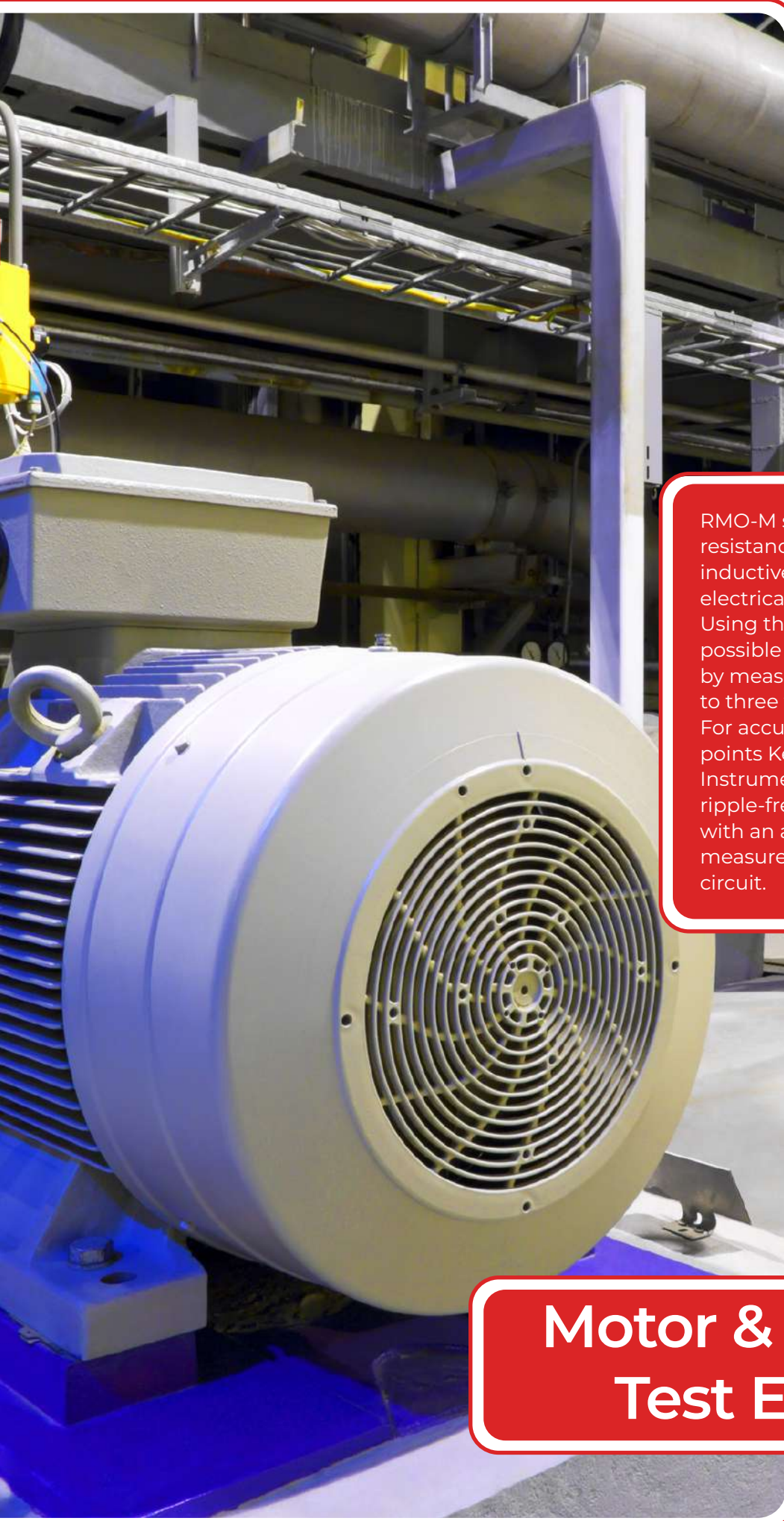
Bluetooth communication module



Cable bag



Cable plastic case - large size



RMO-M series provide winding resistance measurement of inductive test objects such as electrical motors and generators. Using the RMO-M series, it is possible to reduce the testing time by measuring the resistance of up to three windings simultaneously. For accurate measurement, a four-points Kelvin method is used. Instruments generate a true DC ripple-free current (up to 300A) with an automatically regulated measurement and discharging circuit.

Motor & Generator Test Equipment

Motor & Generator Winding Analyzer



RMO-M Series

Applications

- Resistance measurement of low voltage inductive loads (rotating machines)
- Detection of winding problems (open winding, turn-to-turn short, phase-to-phase short, bad solder joints)
- Three-channel winding resistance measurement
- Resistance measurement of resistive test objects
- Power circuit testing

Main Features of RMO300GM (RMO300M-N-03)

- Measurement range: 0,1 $\mu\Omega$ – 999,9 m Ω
- Typical accuracy: \pm (0,1 % rdg + 0,1 % F.S.)
- Test current: 5 A – 300 A DC (The most powerful portable DC winding resistance tester for rotating machines)
- Phase-to-phase resistance measurement
- Simultaneous measurement of all phases
- Automatic discharge circuit
- One temperature measurement channel



● - Standard ○ - Optional

Model	RMO300GM	RMO100M	RMO50M
Test Current	5 A – 300 A	5 mA – 100 A	5 mA – 50 A
Resistance Measurement Range	0,1 $\mu\Omega$ – 999,9 m Ω	0,1 $\mu\Omega$ – 1,0 k Ω	0,1 $\mu\Omega$ – 1,0 k Ω
Typical Accuracy	\pm (0,1 % rdg + 0,1 % F.S.)	\pm (0,1 % rdg + 0,1 % F.S.)	\pm (0,1 % rdg + 0,1 % F.S.)
No. of Temperature Channels	1	1	1
Auto Discharge	●	●	●
USB Flash Drive	●		
Display	Backlit LCD	Backlit LCD	Backlit LCD
PC Communication	USB or RS232	USB or RS232	USB or RS232
Built-In Printer		○	○
Dimension (W x H x D) [mm]	503 x 406 x 193	198 x 250 x 350	198 x 250 x 350
Weight [kg]	14,6	8,0	8,0

Motor & Generator Winding Analyzer



Accessories



Current cables with alligator (A4) clamps



Current cables with battery (B1) clamps



Current & sense cables with TTA clamps



Sense cables with alligator clamps (A2)



Sense cables with TTA clamps



Current connection cable with battery (B1) clamps



Test shunt 600 A/60 mV



Transport bag



Cable plastic case - medium size

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