

POWERTEST

vebo
amirakbiri



CE

www.powertest.in

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History of Vebko Amirkabir

Vebko is a science-based company, established in 2014 by order of the science and technology vice-president of Iran to manufacture national relay tester device under the supervision of Amirkabir university of technology. The first industrial product of this company entered the market in 2015 and so far, more than 750 relay tester devices were sold to important industrial centers of electricity, oil and gas as well as some universities.

AMT105 is a universal solution to testing all types of relays and protective equipment, circuit breakers, thermal cables and sensors as well as power, current, voltage and capacitor-voltage transformers. Because of these features, this device is capable of testing different kinds of relays and protective equipment :

Six 32A current (64A in three-phase mode, 128A in single-phase mode), six 300V voltage sources (1200V in single-phase mode), current and voltage combination cable, 8 analog binary inputs, 2 DC analog current and voltage inputs with high accuracy, 4 binary outputs, DC voltage Source (420 V).

Certificates & Testimonials

Certified by

- ▶ Iran Power Grid Management
- ▶ Tavanir Co.
- ▶ Niroo Reaearch institute
- ▶ IMIDRO
- ▶ Thermal Power Plants Holding
- ▶ Sanjesh koosha



Certificate related to calibration and certification of Vebko Community

CE Certificate obtained from IMQ

"We offer Three years comprehensive Warranty on our product Ensuring complete protection and peace of mind for our Customers."



Capabilities of AMT105

Software Specifications

1. Capable of testing a wide range of Static, Electromechanical & Numerical relays
2. Capable of reading, editing & creating all XRio & Rio files
3. Capable of Transient testing
4. Capable of point-to-point or End-To-End testing
5. Built-in GPS & Wi-Fi Modules
6. Automatically performing tests
7. Comprehensive Report of tests
8. Capable of automatically filling out the test sheets of different companies
9. Compatible with Windows XP, 8, 10, 11
10. Android & iOS application for easy operation
11. Autosave, redo & undo options
12. Manual HTML file in various languages
13. Using bootloader technology to update firmware
14. A host of training videos

Capable of testing power transformers

1. Winding resistance measurement
2. No-Load current measurement
3. Magnetic balance test
4. Tap Changer continuity measurement
5. Ratio (TTR) measurement
6. Vector group test
7. Demagnetizing of transformers
8. Leakage reactance measurement

Capable of testing current transformers (CT)

1. Excitation (Saturation) - KPV test
2. Hysteresis curve test
3. Ratio using current or voltage measurement
4. polarity using current or voltage test
5. Phase error measurement
6. Winding resistance measurement
7. Secondary burden measurement

Capable of testing transducers & Meters

1. Highly precise in testing of transducers & meters
2. Equipped with a pulse counter to automatically Read energy & to test ENERGY METER

Capable of testing VT/CVT

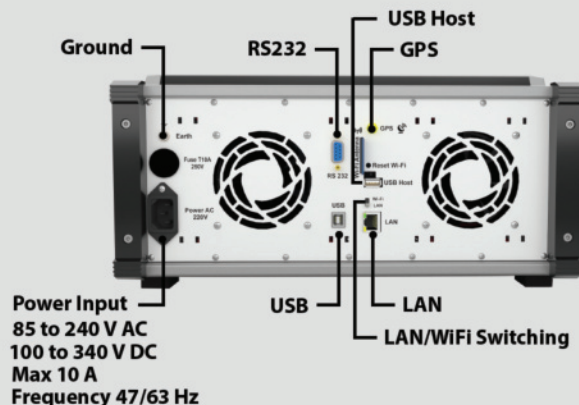
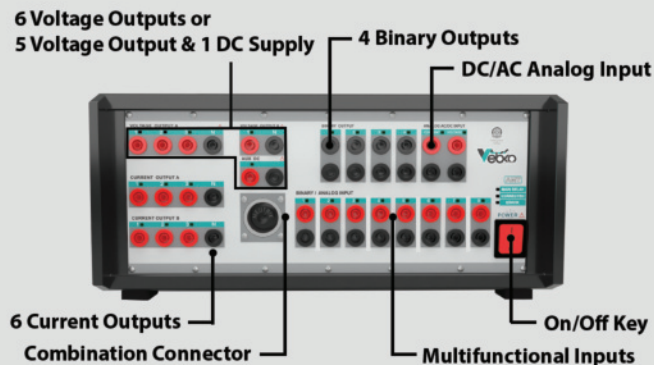
1. Ratio & Polarity test
2. Winding resistance measurement
3. Short Circuit impedance measurement
4. Excitation test

Capable of testing circuit breakers (CB) & sectioners

1. Testing of opening & closing time of CB
2. Contact resistance measurement
3. Minimum voltage test operate CB

Relay Tester AMT105

Tester Hardware Features



A summary of electrical & physical characteristics of the device

Supported Standards → Goose, SV (Sample Value)

Binary Outputs , Relays*

Type	Electro Mechanical Potential-free relay contacts or SSR, software controlled	
Number	4	
Break Capacity AC	Vmax 250 V	Electro Mechanic I _{max} : 10 A SSR : I _{max} 10 mA
Break Capacity DC	Vmax 30V	Electro Mechanical I _{max} : 10 A SSR I _{max} 10 mA
Reading Current	Yes	

AC/DC Voltage Measuring Input

Measuring Range	R1 : 0 ... ± 400 mV , Accuracy : 20 μV , Resolution : 3 μV, Impedance : 54.7826 KΩ R2 : 0 ... ± 60 mV , Accuracy : 5 μV , Resolution : 0.5 μV, Impedance : 133.75 KΩ
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AC/DC Analog Binary Inputs*

Number	8
Nominal Input Ranges Accuracy Input Impedance	Range 1: 0 ... 4.5 V, Accuracy 150 μV Resolution: 35 μV, Impedance 493.75 KΩ Range 2: 0 ... 30 V, Accuracy 1 mV Resolution: 240 μV, Impedance 414.783 KΩ Range 3: 0 ... 180 V, Accuracy 10 mV Resolution: 1.5 mV, Impedance 405.267 KΩ Range 4: 0 ... 520 V, Accuracy 20 mV Resolution: 4 mV, Impedance 404.298 KΩ
Max. Input Voltage	300 Vrms
Galvanic Isolation	8 Group (1+1+1+1+1+1+1+1)

AC/DC Current Measuring Input*

Measuring Range Accuracy Resolution Shunt	Range 1 : 0 ... ± 10 A, Accuracy: 10 mA, Resolution: 1.5 mA, shunt: 5mΩ Range 2 : 0 ... ± 800 mA, Accuracy: 50 μA, Resolution: 6 μA, shunt: 1Ω Range 3 : 0 ... ± 35 mA, Accuracy: 2 μA, Resolution: 0.3 μA, shunt: 22Ω Range 4 : 0 ... ± 82 μA, Accuracy: 30 nA, Resolution: 6 nA, shunt: 3 KΩ
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*

Transient Input Buffer → 20,000,000 Sample

Input Overload Indication → Yes

Sample Rate → 133 Khz

Input Protection → Yes

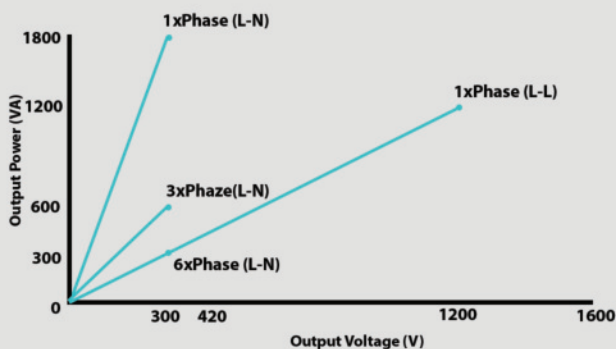
For AC value → Devide values to $\sqrt{2}$

Relay Tester AMT105



Voltage Generators*

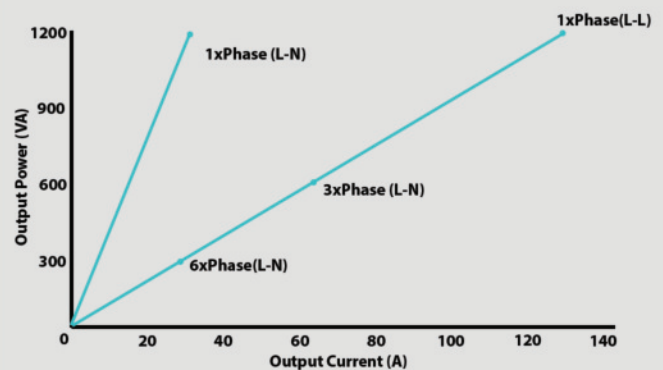
Power & Range Setting	6 Phase (L-N)	AC: 6 X 0 ... 300V(300 VA at 300 V)
		DC: 6 X 0 ... 420 V(300 W at 420 V)
	3 Phase (L-N)	AC: 3 X 0 ... 300 V(600 VA at 300 V)
		DC: 3 X 0 ... 420 V(600 W at 420 V)
	1 Phase (L-N)	AC: 1 X 0 ... 300V(1800 VA at 300 V)
		DC: 1 X 0 ... 420 V(1800 W at 420 V)
	1 Phase (L-L)	AC: 1 X 0 ... 1200 V(1200 VA at 1200 V)
		DC: 1 X 0 ... 1680 V(1200 W at 1680 V)



Phase Resolution / Accuracy	0.0001 / 0.1 from 0 to 360
Resolution / Accuracy	0.8 mV / 0.01% or 10 mV at No load
Frequency Resolution / Accuracy	1 μHz / 1 μHz from 0 to 10000 Hz
Max. Compliance Voltage	420 VPK
Connection Banana Sockets	4 mm (0.16 in) banana sockets / combination socket (1,2,3,N)
Short Circuit / Overcurrent Protection	Yes

Current Generators*

Power & Range Setting	6 Phase (L-N)	AC: 6 X 0 ... 32 A(300 VA at 32 A)
		DC: 6 X 0 ... 32 A(300 W at ± 32 A)
	3 Phase (L-N)	AC: 3 X 0 ... 64 A(600 VA at 64 A)
		DC: 3 X 0 ... 64 A(600 W at ± 64 A)
	1 Phase (L-N)	AC: 1 X 0 ... 32 A(1200 VA at 32 A)
		DC: 1 X 0 ... 32 A(1200 W at ± 32 A)
	1 Phase (L-L)	AC: 1 X 0 ... 128 A(1200 VA at 128 A)
		DC: 1 X 0 ... 128 A(1200 W at ± 128 A)



Phase Resolution / Accuracy	0.001° / 0.1° from 0° to 360°
Resolution / Accuracy	85 μA / 0.01% or 1 mA
Frequency Resolution / Accuracy	1 μHz / 1 μHz from 0 to 2500 Hz
Max. Compliance Voltage	36 VPK
Connection Banana Sockets	4 mm (0.16 in) banana sockets / 32 A continuously
Connection Combination Socket	Group A/B(15 A continuously max)
Overcurrent Protection	Yes
Maximum Neutral Current	32 Amp

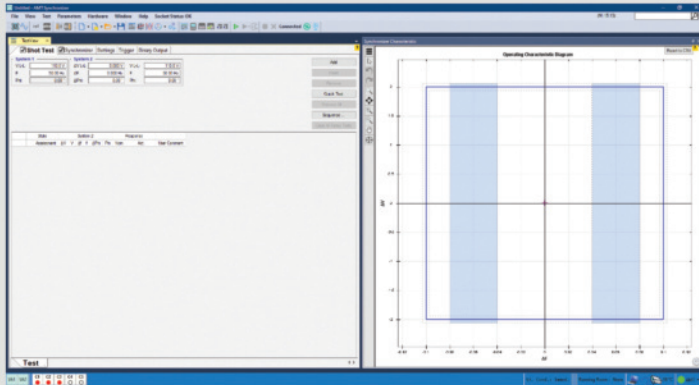
*

LED	Yes	Generation Sampling Rate	133 KHz
Capability of using voltage output as current output & current output as a voltage output	Yes	Capability of Showing the current & Voltage of the injected value	Yes



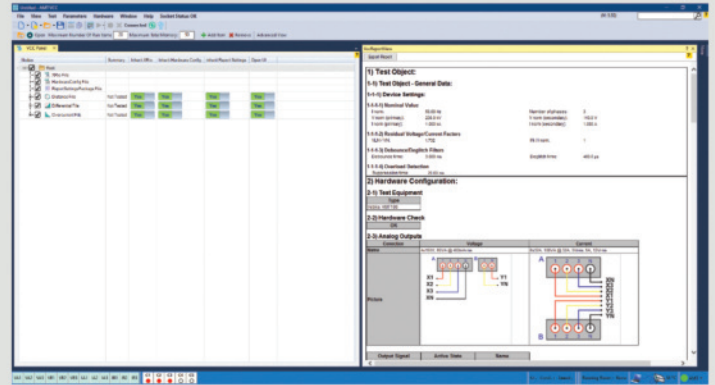
Relay Tester AMT105

AMT Synchronizer



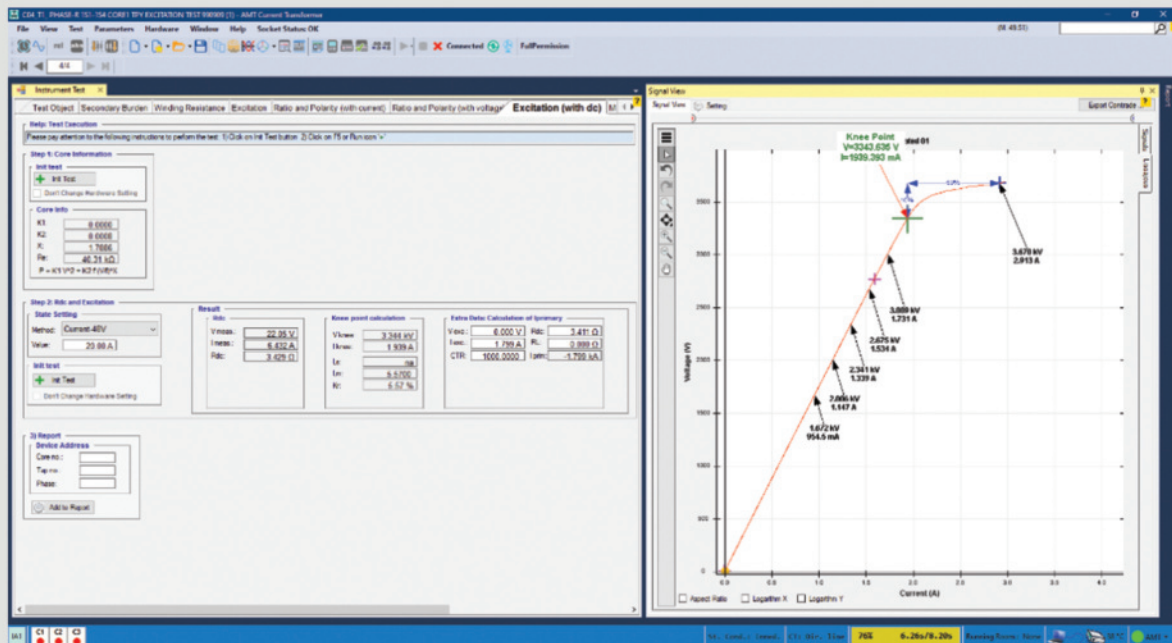
VCC

Used to successively run the tests designed for a relay



Current Transformer

Used to test various classes of CT.



Secondary
burden

Winding
resistance

Phase
error

Polarity using
current or
voltage

Ratio using
current or
voltage

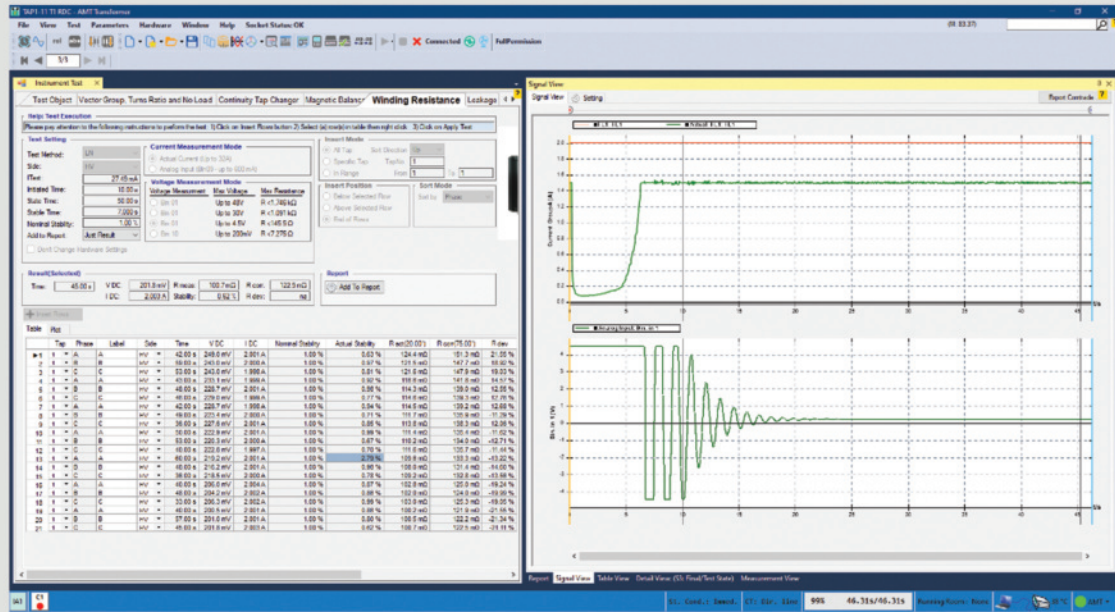
Hysteresis
curve

Excitation
(Saturation)

Relay Tester AMT105

Transformer

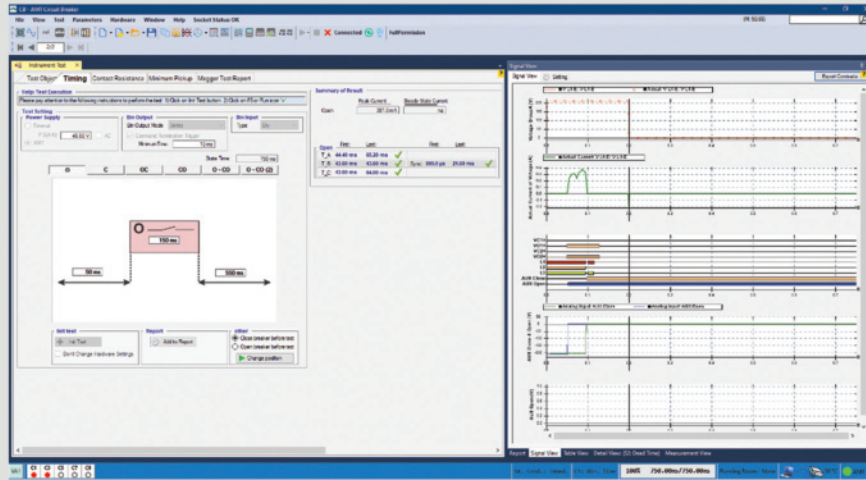
Used to perform different transformer tests



Relay Tester AMT105

Circuit Breaker

Used to MV & HV circuit breaker tests.



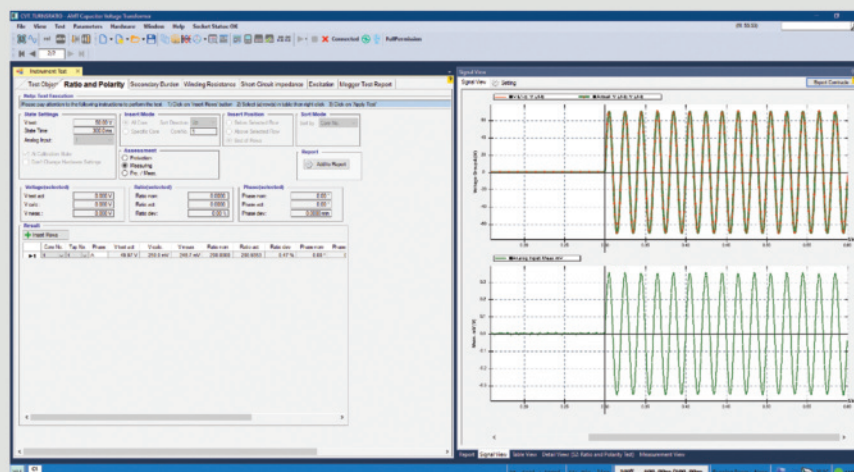
Minimum
Power Voltage

Testing the
opening &
closing time

Contact Resistance
Measurement

CVT


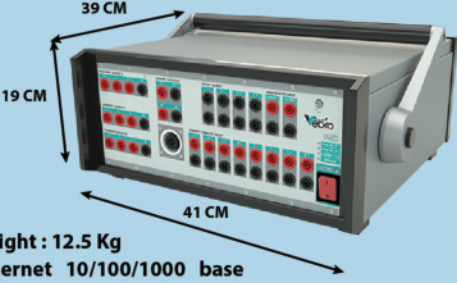






















Used to test various classes of CVT



Relay Tester AMT105



Equipment in Transportation Case

							
Tester Suitcase		AMT 105 Relay Tester		Shoulder Bag		Transformer Test Cable	
AMT1001	Qty : 1	AMT1003	1	AMT1002	1	AMT1015	3
							
Transformer Test Clamp		Clamp Cover		Combination Cable		Ethernet Cable	
AMT1016	8	AMT1028	8	AMT1004	1	AMT1007	1
							
Capacitor Box		Flexible test load adaptive with retractable sleeves 4 mm safety plugs 30 cm long , 32 A		USB Cable for Programmer		Jumper, Flexible, 6 cm Long for paralleling current triple A and B	
AMT1020	Qty : 1	AMT1011	4	AMT1026	4	AMT1014	4
							
Serial Dongle		Flexible terminal adapters 2.5 cm , 4 mm , 32 A		Cable Lug Adapter 4 mm		Ground Cable	
AMT1020	1	AMT1009	12	AMT1010	12	AMT1008	1
							
Trans Bag		Suitcase Cover		Screw driver		Bag A	
AMT1025	1	AMT1026	1	AMT1022	1	AMT1027	1
							
				Optical sensor for testing meter		GPS Antenna	
							
				Load Cable		Trans Cables Holder	
				AMT1012		AMT1005	
				4		5	
				AMT1013		5	
				AMT1017		1	
				1		16	

Relay Tester AMT105



Clients



and many more...

Training and Software

➤ The AMT105 relay tester is widely recognized as one of the best multifunction devices in the market, and it has no comparable competition.

➤ **Tutorials :**

Our Tutorials are very comprehensive and can be accessed for free on our website/Youtube in the form of videos, in several different languages.

<https://powertest.in/download/tutorials>



➤ **Software :**

You can download all Technical Specifications from the Vebko website, and you can also download the software. Software is always Free and without any License requirement.

<https://powertest.in/download/software>



Relay Tester AMT105



AMT 105 has Global presence, with Distribution in over 30 countries worldwide.

We offer 24x7 Support on Whatsapp/Telegram, Ensuring that our Customers can reach us at any time for Assistance.



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