



Vebko Amirkabir Co.

**AMT**  
**105**  
**205**



CE

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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 850 relay tester devices were sold to important industrial centers of electricity , oil and gas as well as some universities.

AMT 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.

AMT 205 Six 32A current (64A in three-phase mode, 128A in single-phase mode), In less than 300 milliseconds, there is a three-phase current of 70A and a single-phase current of 200A. 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).

AMT 105 Six 32A current (64A in three-phase mode, 128A in single-phase mode), four 150V voltage sources (450V 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 (212 V).

## Certificates & Testimonials

### Certified by

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



CE Certificate Obtained from IMQ

Certificate related to calibration and certification of Vebko community

### AVL List

- ▶ Khorasan Steel Complex Co.
- ▶ Khuzestan Steel Co.
- ▶ Qom Combined Cycle Co.
- ▶ Provider Members of Niroo Research Institute
- ▶ Bandar Abbas Oil Refining Co.
- ▶ Khozestan Oxin Steel Co.
- ▶ Hormozgan Steel Co.
- ▶ Pars Oil and Gas Co.
- ▶ Petroleum Vendor List Iranian
- ▶ Zarand Iranian Steel Co.
- ▶ Marun Petrochemical Co.
- ▶ Pasargad Oil Co.
- ▶ National Iranian Copper Industry Co.
- ▶ Khorasan Petrochemical Co.

# Relay Tester AMT

## Capabilities of AMT

### Software Specifications

1. Capable of testing a wide range of static, electromechanical & numerical relays
2. Capable of reading, editing & creating all XRio & Rio les
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. Supporting Android & iOS apps
11. Autosave, redo & undo options
12. Manual HTML file in Persian , English , Germany , Spanish
13. Using bootloader technology to update firmware
14. A host of training videos

### Capable of testing power transformers

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

### Capable of testing current transformers (CT)

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

### Capable of testing transducers & Meters

1. Highly precise in testing transducers & meters
2. Equipped with a pulse counter to automatically read energy

### Capable of testing VT/CVT

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

### Capable of testing CB

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

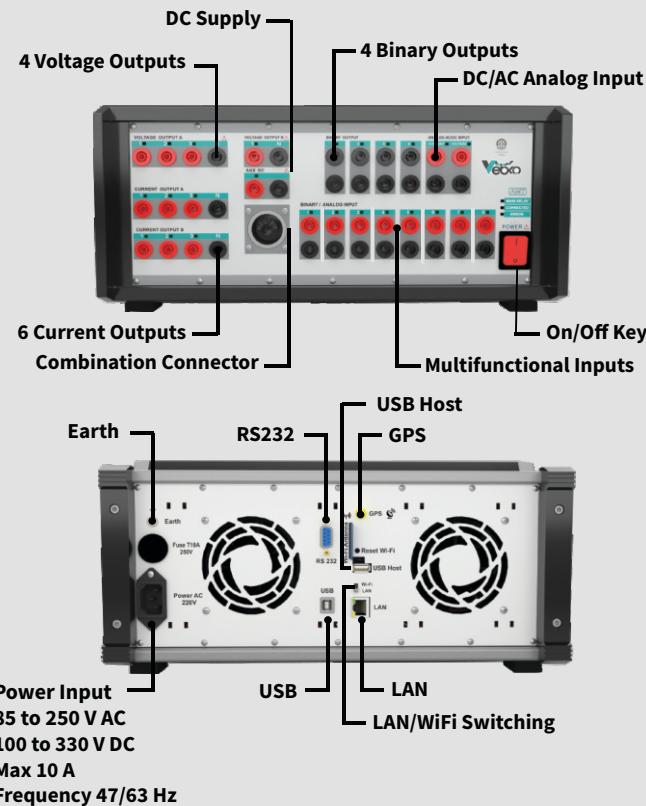
### Capable of testing Reclosers

Cable for testing the following Reclosers :  
Noja, Tavrida, Entec, Schneider, Eaton Cooper & ...

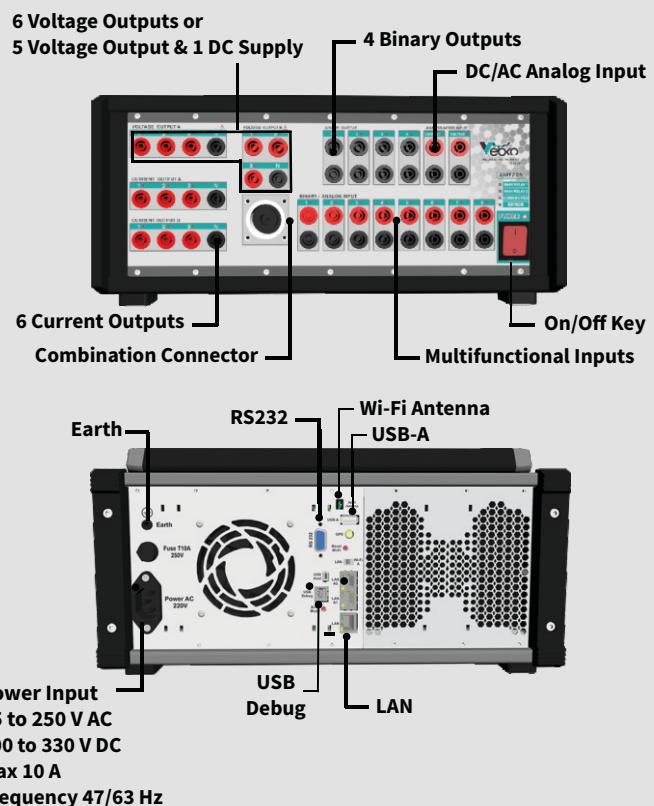
# Relay Tester AMT

## Tester Hardware Features

**AMT105**



**AMT205**



### A summary of electrical & physical characteristics of the device

#### Power Supply AMT105

Power supply range	85-240 VAC or 100-330VDC
Input frequency range	47-63 Hz
Consumption	up to 2 KVA
Nominal current	3 A at 230 VAC
Connection	According to IEC60320

#### High Voltage, Low Current Generators AMT105 (Input Voltage $\geq$ 220V)

<b>Voltage</b>	4 Phase (L-N)	AC: 4 X 0 ... 150 V DC: 4 X 0 ... 210 V
	Series and parallel	Yes
	Resolution	400 $\mu$ V
	Accuracy	Guar.: 0.15% of rd. + 0.015% of rg. Typ.: 0.05% of rd. + 0.005% of rg.
<b>Current</b>	No	

#### Power Supply AMT205

Power supply range	85-240 VAC or 100-330VDC
Input frequency range	47-63 Hz
Consumption	up to 3 KVA
Nominal current	5 A at 230 VAC
Connection	According to IEC60320

#### High Voltage, Low Current Generators AMT205 (Input Voltage $\geq$ 220V)

<b>Voltage</b>	4 Phase (L-N)	AC: 6 X 0 ... 300 V DC: 6 X 0 ... 420 V
	Series and parallel	Yes
	Resolution	800 $\mu$ V
	Accuracy	Guar.: 0.15% of rd. + 0.015% of rg. Typ.: 0.05% of rd. + 0.005% of rg.
<b>Current</b>	Normal Mode: 6 Phase (L-N) Internal Booster Mode time < 200ms: 6 Phase (L-N)	
	Normal Mode	AC: 6 X 0 ... 0.25 A DC: 6 X 0 ... 0.4 A
	Internal Booster Mode	AC: 6 X 0 ... 0.85 A DC: 6 X 0 ... 1.2 A
	Series and parallel	Yes
	Resolution	20 $\mu$ A
	Accuracy	Guar.: 0.15% of rd. + 0.015% of rg. Typ.: 0.05% of rd. + 0.005% of rg.





# Relay Tester AMT

Binary Outputs AMT105		
Type	Electro mechanical relay contacts	-
Control	Software controlled	
Number	4	
Maximum Voltage in open mode	Electro Mechanic	750V (Rms)
	No	
Maximum Current	Electro Mechanic	10A (Rms)
	No	
Break Capacity AC	Electro Mechanic	Smax
	No	
Break Capacity DC	Electro Mechanic	Pmax
	No	
Recording	No	
Protection	No	
Galvanic Isolation	4 Group (1+1+1+1)	
LED	Green (1 Color)	

Binary Outputs AMT205		
Type	Electro mechanical relay contacts	
	Transistor	
Control	Software controlled	
Number	4	
Maximum Voltage in open mode	Electro Mechanic	750V (Rms)
	Transistor	50 V
Maximum Current	Electro Mechanic	10A (Rms)
	Transistor	50 mA
Break Capacity AC	Electro Mechanic	Smax
	Transistor	Smax
Break Capacity DC	Electro Mechanic	Pmax
	Transistor	Pmax
Sampling Rate	50 us	
Resolution	2 mA	
Accuracy	0.3 mA	
Detection	Over current	
Protection	Software Controlled: Time , Enable	
Type	Test o, Open Relays	
Galvanic Isolation	4 Group (1+1+1+1)	
LED	RGB (16 Million Color)	

AC/DC Current Measuring Input AMT105		
Range 2: 0 ... ± 800 mA	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	6 µA
	Shunt	1Ω
Range 3: 0 ... ± 35 mA	No	
Range 1: 0 ... ± 10 A	No	
Range 4: 0 ... ± 250 µA	No	
Recording	Resolution	400 µs
	Accuracy	Over current
Protection	Setting	Software Controlled: Time , Enable
	Type	Test o
Galvanic Isolation	1 Group	
LED	Green (1 Color)	

AC/DC Current Measuring Input AMT205		
Range 2: 0 ... ± 800 mA	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	6 µA
	Shunt	1Ω
Range 3: 0 ... ± 35 mA	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	0.3 µA
	Shunt	22Ω
Range 1: 0 ... ± 10 A	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	1.5mA
	Shunt	5mΩ
Range 4: 0 ... ± 82 µA	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	6 nA
	Shunt	3 KΩ
Recording	Resolution	12.5 µs
	Accuracy	Over current
Protection	Setting	Software Controlled: Time , Enable
	Type	Test o, Change to open circuit
Galvanic Isolation	1 Group	
LED	RGB (16 Million Color)	

# Relay Tester AMT

## AC/DC Voltage Measuring Input AMT105

Range 1: 0 ... ±400 mV(Peak)	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	3 μV
	Impedance	54.7826 KΩ
Range 2: 0 ... ±60 mV(Peak)	No	
Recording	Sampling Rate	400 μs
Protection	Detection	Over Voltage
	Setting	Software Controlled: Time , Enable
	Type	Test o
Galvanic Isolation	1 Group	
LED	Green (1 Color)	
<b>AUX. DC AMT105</b>		
Aux. DC	Any combination of 12 channels	0 ... 212 V 0 ... 0.4 A
<b>GPS AMT105</b>		
Internal GPS Module	yes	
Accuracy	8ns	
Time To Lock	10s	
Delay Adjustment	yes	
<b>Protocol AMT105</b>		
IEC61850	Goose Message	No
	SV	No
<b>Combination Cable AMT105</b>		
3 Voltage, 3 Current	Yes	
6 Current	Yes	
<b>PC Connection AMT105</b>		
WiFi	Yes	
LED	1 Port	
Programming USB Port	No	
<b>General Specifications AMT105</b>		
Weight	13kg	
Dimension	35cm-35cm-15cm	
Operating Temperature	-10 to 55° C	
Storage Temperature	-20 to 85° C	
Humidity	70%	

## AC/DC Voltage Measuring Input AMT205

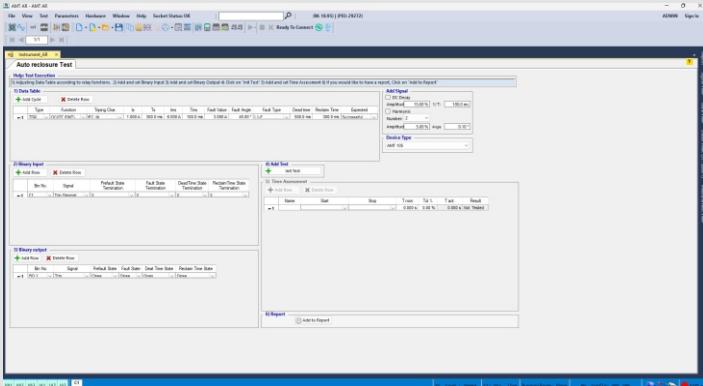
Range 1: 0 ... ±400 mV(Peak)	Accuracy	0.05% of rg.
	Accuracy (Avg)	0.02% of rg.
	Resolution	54.7826 KΩ
	Impedance	3 μV
Range 2: 0 ... ±120 mV(Peak)	No	
Recording	Sampling Rate	400 μs
Protection	Detection	Over Voltage
	Setting	Software Controlled: Time , Enable
	Type	Test o
Galvanic Isolation	1 Group	
LED	Green (1 Color)	
<b>AUX. DC AMT205</b>		
Aux. DC	Any combination of 12 channels	Max Voltage : 1200 V , 0.4 A Max Current : 8 V , 210 A
<b>GPS AMT205</b>		
Internal GPS Module	yes	
Accuracy	8ns	
Time To Lock	10s	
Delay Adjustment	yes	
<b>Protocol AMT205</b>		
IEC61850	Goose Message	yes
	SV	yes
<b>Combination Cable AMT205</b>		
3 Voltage, 3 Current	Yes	
6 Current	No	
<b>PC Connection AMT205</b>		
WiFi	Yes	
LED	1 Port	
Programming USB Port	Yes	
<b>General Specifications AMT205</b>		
Weight	14kg	
Dimension	35cm-35cm-15cm	
Operating Temperature	-10 to 55° C	
Storage Temperature	-20 to 85° C	
Humidity	70%	

# Relay Tester AMT

## Brief List of Specications

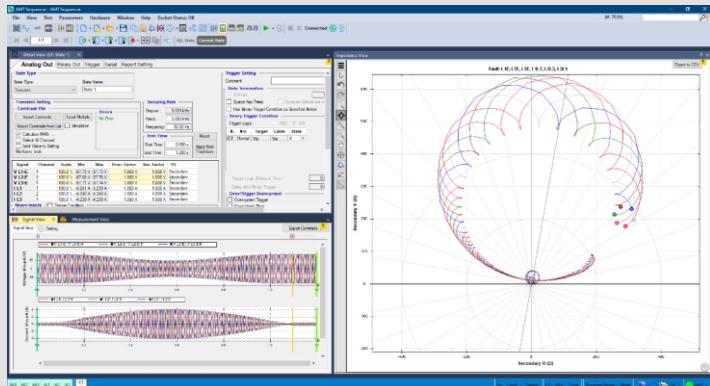
### AMT Autoreclosure

Used To Test Reclosure From Entec, Tavrida ...



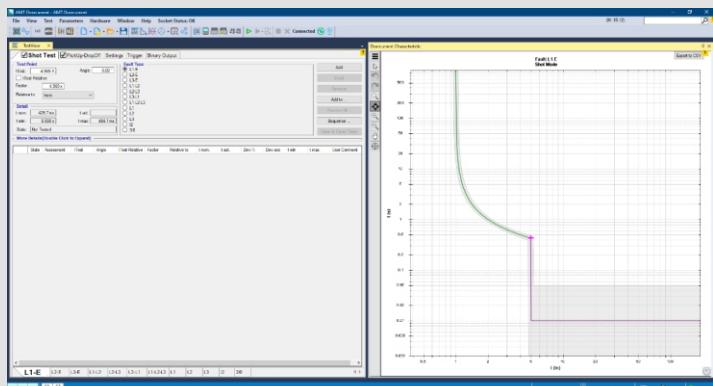
### AMT Sequencer

Used to design tests that employ the normal, Quick Step Ramp, Continuous Ramp, Harmonic, Transient



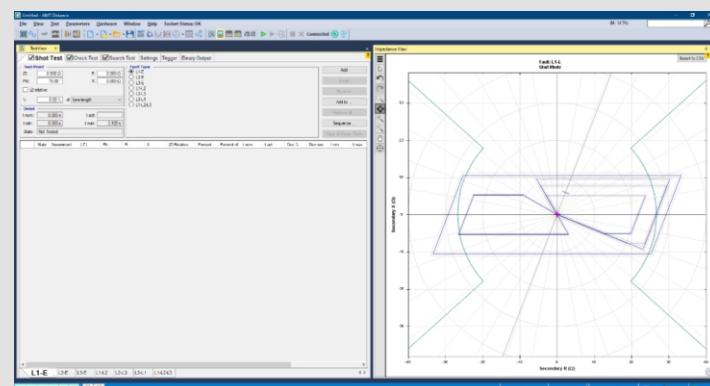
### AMT Overcurrent

Used to test current functions like 51/50/67 etc.



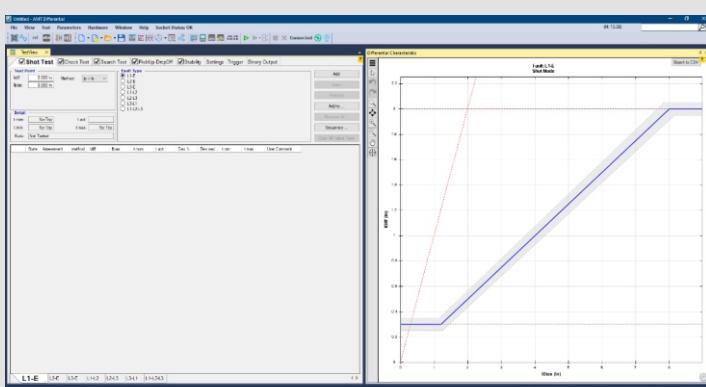
### AMT Distance

Used to test Impedance functions



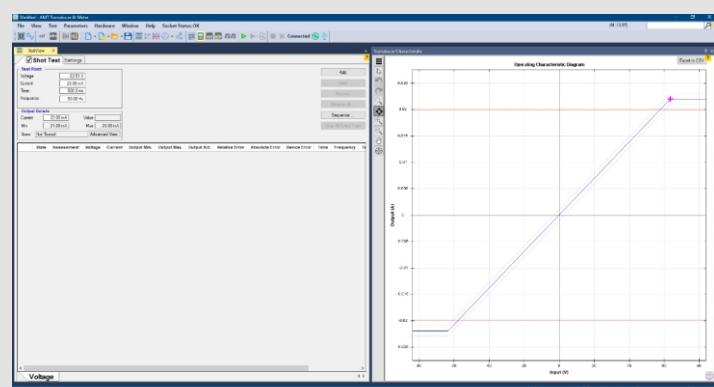
### AMT Differential

Used to test differential function



### Transducer & Meter

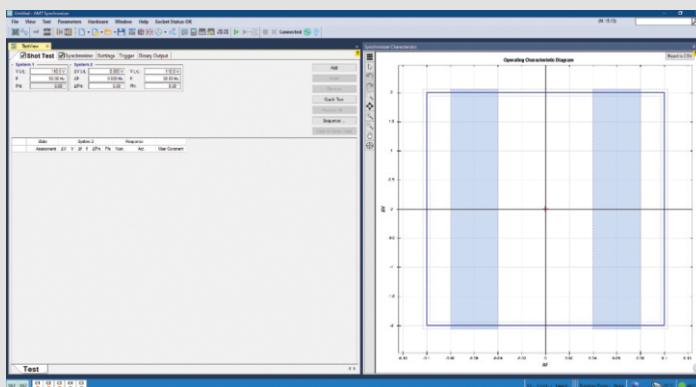
Used to test Transducer & Meter.



# Relay Tester AMT

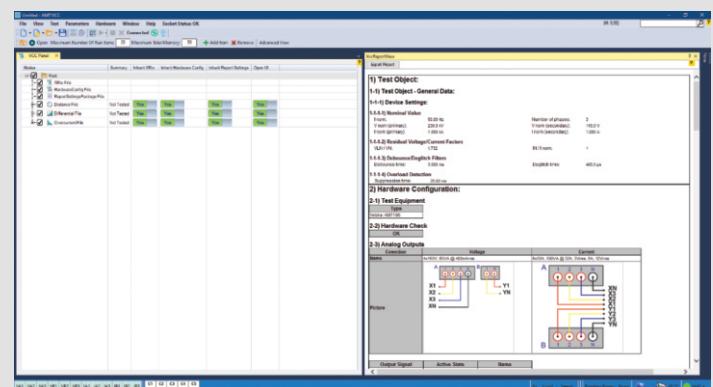
## AMT Synchronizer

Used to test synchronizer relay



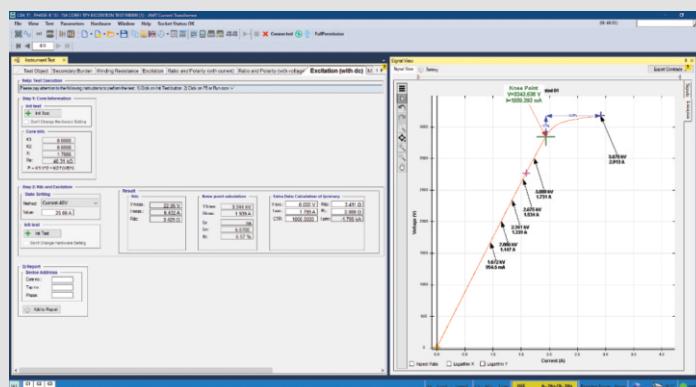
## VCC

Used to successively run the tests designed for a relay



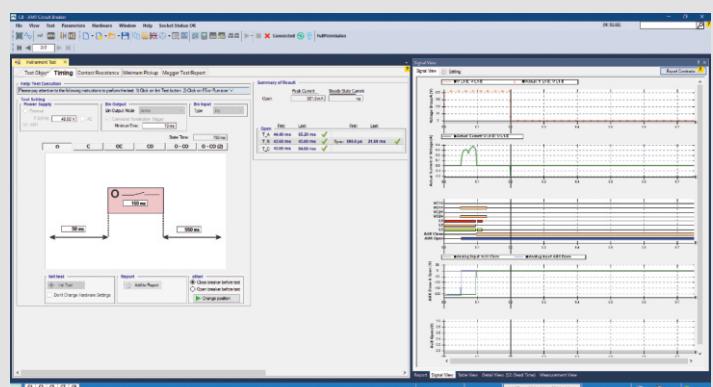
## Current Transformer

Used to test various classes of CT.



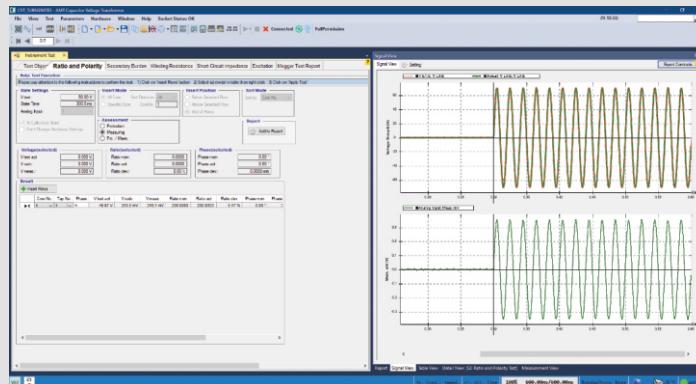
## Circuit Breaker

Used to MV & HV circuit breaker tests.



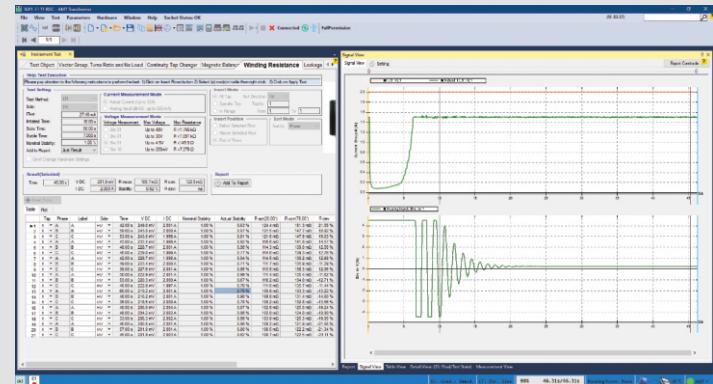
## CVT

Used to test various classes of CVT



## Transformer

Used to perform different transformer tests



# Relay Tester AMT

## Vendor List

Line	Company names	National ID	Field	Domestic / Foreign	Nationality	Specifications	Product Category	Province	City	Address	Phone	Fax	Update Date	Description
656	Vebko Amirkabir remonitoring power quality	14004384990	Manufacture	Domestic	Iran	Relay protection tester AMT & Multifunction protection relay AMR	67	Qazvin	Qazvin	5th Floor, Building No 76, Parastar Boulevard, Norouzian Boulevard	+982833692361	+982833632038	2017/11/05	Self Declared

## Equipment in Transportation Case



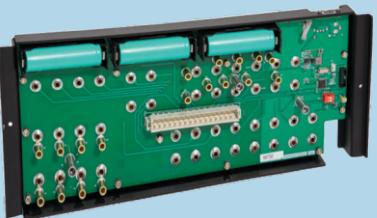
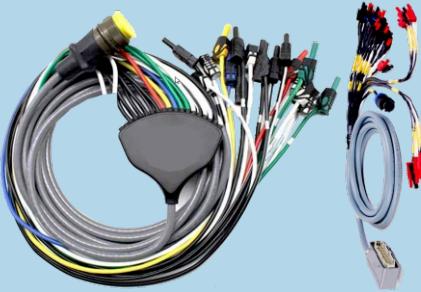
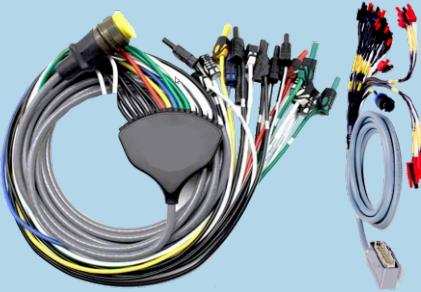
Tester Transportation Case		AMT205 Relay Tester					AMT105 Relay Tester									
AMT1001	Qty : 1	AMT1050		Qty : 1	AMT1003		Qty : 1									
Transformer Test Clamp		Clamp cover	Combination Cable	Ethernet Cable	Power Cable	Crocodile Clips to Contacting Pins or Screw Bolts	Transformer Test Cable	Shoulder Bag								
AMT1016	8	AMT1028	8	AMT1004	1	AMT1007	1	AMT1006	1	AMT1012	4	AMT1015	3	AMT1002	1	1

Capacitor Box	Flexible test load adaptive with retractable sleeves 4 mm safetyplugs 30 cm long , 32 A	Programming USB cable	Flexible test load adaptive with retractable sleeves 4 mm safetyplugs 10 cm long , 320 A	Cable ties (Velcro fastener) Black , 150 mm long	Load Cable						
AMT1011	4	AMT1026	1	AMT1014	4	AMT1026	1	AMT1013	5	AMT1005	5
AMT1019	1										
AMT1020	1	12	12	1	1						
AMT1023	1	AMT1024	1	AMT1025	1	AMT1021	16				

# Relay Tester AMT

## Accessories

(\*) : Needs Base Module

	(*)		(*)	
<b>Base Module</b>	Bass Module	AMT1030	CB Test Module	AMT1031
	CT And CVT Test Module	AMT1033		
	Transformer Test Module	AMT1032		Relays Tester And High Voltage Module
	AMT1039			Calibration Module
	AMT1035			AMT1035
	10 Milli OHM Shunt Module	AMT 1038		High Voltage Linear Regulator Module
	AMT 1046			Insulation Resistance Measuring Module
	AMT 1040			Arc-Flash Module
	AMT 1051			AMT 1051
	Electronic Relays Test Module	AMT1034		Recloser Cable
	AMT1053			Current Clamp
		AMT1054		AMT1054

## Contact Information

### International Office

Turkey / Istanbul / Buyukcekmece / Pinartepe Mah. / Okten sk. / No: 10D  
Contact : Mostafa Hajati Tel : +905013673174  
[m.hajati@vebko.org](mailto:m.hajati@vebko.org) Info@vebko.org

# Relay Tester AMT

**OUR BUSINESS RELATIONSHIP WITH  
Raya Farhour Anoush (RFACo)**

**INTERNATIONAL REPRESENTATIVE OF  
VEBKO AMIR KABIR COMPANY**



# Relay Tester AMT



## FOR THE EXPORT OF RELAY TESTER & EQUIPMENT

Raya Farhour Anoush is the International Representative of Vebko Amir Kabir Company For Exporting Relay Tester & Equipment with more than 21 active representatives worldwide: Brazil, India, Pakistan, England, Saudi Arabia, Australia, Croatia, Morocco, Indonesia, Iran, Iraq, Nigeria, Philippines, South Africa, Thailand, Turkey, Malaysia, United Arab Emirates, Bahrain, Oman, Uruguay



**Vebko Amirkabir Co.**

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