










VP-700-E
Voltage Tester

Instruction Manual

References marked on instrument or in instruction manual:

	IEC 60417 - Suitable for live working.
	Warning of a potential danger, comply with instruction manual.
	Caution! Dangerous voltage. Danger of electrical shock.
	Reference. Please use utmost attention.
	Continuous double or reinforced insulation complies with category II IEC 61140.
	Symbol for the marking of electrical and electronic equipment (WEEE Directive 2002/96/EC).
	Conformity symbol, the instrument complies with the valid directives. It complies with the EMV Directive and with the Low Voltage Directive.

The instruction manual contains information and references, necessary for safe operation and maintenance of the instrument.

Prior to using the instrument read the instruction manual and comply with it in all sections.

Failure to read the instruction manual or to comply with the warnings and references contained herein can result in serious bodily injury or instrument damage.

Introduction / Scope of Supply

The AMPROBE VP-700 instruments are voltage and continuity testers with phase rotation indication. The voltage testers are constructed in accordance with the newest safety prescriptions and guarantee safe and reliable measurement and testing. The risk of injury when transporting the instrument in clothing pockets or in the tool box is eliminated due to the fixed test probe cover.

The voltage testers AMPROBE VP-700 characterised by the following features:

- Constructed in compliance with DIN VDE 0682 Part 401, EN 61243-3
- Switchable Load (Load testing)
- DC and AC voltage measurement up to 690V
- Clear LED Indication
- Two pole phase rotation indication
- Fixed test probe cover eliminates risk of injury
- IP 64
- No batteries required

After unpacking, verify that the instrument is undamaged. The scope of supply comprises:

- 1 Voltage Tester VP-700
- 1 Manual
- 1 Test probe protectors (GS38)

Safety Measures

The AMPROBE VP-700 has been constructed and verified in compliance with the safety measures for voltage testers and has left the factory in safe and perfect condition. In order to maintain this condition, the user must follow the safety instructions in this manual.



- In order to avoid electrical shock, the valid safety and VDE regulations regarding excessive contact voltages must receive utmost attention, when working with voltages exceeding 120V (60V) DC or 50V (25V)rms AC. The values in brackets are valid for special ranges (for example medicine and agriculture).
- Prior to each test, ensure the proper condition of the test leads and the measuring instrument, e.g. broken cables or leaked batteries (if applicable).
- The instrument and the accessory must only be touched at the defined hand-held area. Touching the test probes must be avoided under all circumstances.
- This instrument may only be used within the ranges specified (refer to technical data) and within voltage systems up to 690V
- The measuring instrument may be used only in the measurement category it has been designed for!
- Prior to usage ensure perfect instrument function (e.g. on known voltage source).
- The voltage testers may no longer be used if one or several functions fail or if no functionality is indicated.
- Do not measure under damp conditions or outside.

- Perfect display is only guaranteed within a temperature range of -15°C up to + 55°C, at relative humidity <95%
- If the operator's safety cannot be guaranteed, the instrument must be removed from service and protected against use.
- Safety is no longer ensured in the following cases:
 - obvious damage
 - when the device no longer performs the desired tests
 - excessive storage under unfavourable conditions
 - strain through transport
 - leaking batteries (if applicable)
- For all the work, the accident prevention regulations of the commercial and industrial worker's compensation insurance carriers for electric installations and equipment must be heeded.

Appropriate Usage

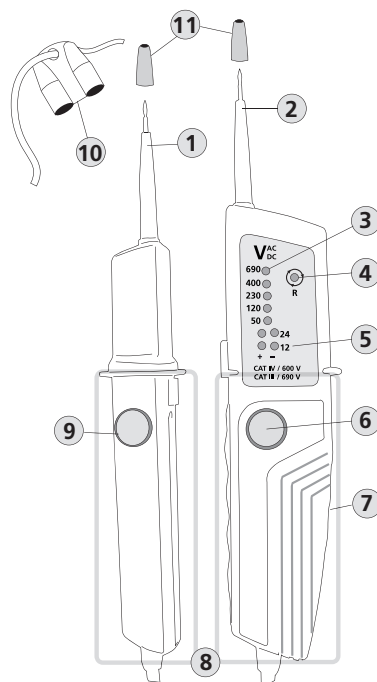
The instrument may only be used under those conditions and for those purposes for which it was built. For this reason, in particular the safety references , the technical data including environmental conditions and the usage in dry environments must be followed.



- When modifying or changing the instrument, the operational safety is no longer ensured.
- The instrument may only be opened by an authorised service technician.


Control Elements and Connections


- 1 Handle test probe - (L1)
- 2 Instrument test probe + (L2)
- 3 LED-row for voltage display
- 4 LED for phase rotation (right)
- 5 LED Polarity indication and 12 V
- 6 Push button for additional load
- 7 Contact Electrode (capacitive, integrated)
- 8 Hand-held area
- 9 Push button for additional Load
- 10 Test probe cover
- 11 Test probe protector (GS38)




Carrying out Measurements

Preparation and Safety Measures


 For any test measurement the safety references have to be respected. Prior to any usage, a functional test has to be carried out.


 The test probe protectors (11) can be removed before tests. For removal pull the protectors from the test probes.


 The application of the test probe protectors may be required by national regulations or standards (i.e. GS38)


Function test / Self test:

Test the voltage tester on a known source.


 The voltage testers may no longer be used if one or several functions fails or if no functional reliability can be detected.

 The voltage display of the instruments works without batteries at > 24 V (AC/DC).

 The instrument is equipped with an internal load enabling the tripping of an residual current device (RCD) of 10 mA or 30 mA.

 For voltage tests (L towards PE) in systems with RCD, the RCD may be tripped. To avoid RCD tripping push the press buttons for RCD tripping (6 and 9) together.

Voltage Test

 Without activation of the two push buttons following voltage steps are displayed: 24 V, 50 V, 120 V, 230 V, 400 V, 690 V (AC/DC).

By activation of the two push buttons (6 and 9) a lower impedance is switched on. This can be used for the elimination of inductive and capacitive ghost voltages. Additionally the LED's + 12 V and - 12 V will be active.

The duration of the test at lower impedance (load test) depends on the measured voltage.

Due to limitation of internal temperature, the test time will be limited automatically.

Observe safety measures. Connect both test probes to test object.

- From a voltage of approx. 24 V the voltage tester switches on automatically.
- The voltage is indicated by LED.
- For AC voltages the "+" and "-" LEDs are both illuminated.
- The voltage tester has a LED row with the values 12 V, 24 V, 50 V, 120 V, 230 V, 400 V, 690 V.
- For DC voltage, the polarity of the voltage displayed refers to the instrument test probe (2).
- By activation of the two push buttons the internal load is switched on and the + 12 V / - 12 V LED will illuminate additionally

Voltage Test with RCD Trip Test

During voltage tests in systems equipped with RCD, a RCD can be tripped at a nominal residual current of 10mA or 30mA.

For this the voltage between L and PE is tested and both push buttons (6 and 9) must be pressed. The RCD will tripp.

Phase rotation Indication

The voltage testers are equipped with a double-pole phase rotation indicator.



The safety measures have to be met.

The rotary phase indication is always active. The symbol © (4) is always displayed. However, the phase rotation can only be determined within a three-phase system. Here, the instrument indicates the voltage between two external conductors.


- 1) Connect the instrument test probe (2) with the supposed phase L2 and the handle test probe (1) with the supposed phase L1.
- 2) Embrace both handles completely

Signifies that the supposed phase L1 is the actual phase L1 and the supposed phase L2 is the actual phase L2, phase rotation is right, the LED © (4) is illuminated.

When re-testing with exchanged test probes the LED © (4) should not illuminated.

Maintenance

When using the tester in compliance with the instruction manual, no particular maintenance is required. If functioned contact your nearest authorized service center.

 If the device is not used for an extended period of time, the batteries must be removed to prevent the risk of leaking batteries and damage to the device (if applicable).

Cleaning

Prior to cleaning, remove voltage tester from all measurement circuits. If the instrument is dirty after daily usage, it is advisable clean it by using a damp cloth and a mild household detergent. Never use acid detergents or dissolvents for cleaning. After cleaning, do not use the voltage tester until complete drying.

Technical Data

Voltage Test

Voltage range	.....12...690 V AC/DC
LED row	.....±12, ±24, 50, 120, 230, 400, 690 V
Tolerance	.....EN 61243-3 / DIN VDE 0682-401
Frequency range	.....DC, 40...70 Hz
Internal Load	.....approx. 2,4 W at 690 V
Test current	.....≤ 3,5 mA (without use of push buttons)
Switchable Load	..... approx. 140 W bei 690 V (with use of push buttons, temporary)
Testcurrent with load	.....≤ 200 mA (with use of push buttons)
Operation time (DT)	.....30 s
Recovery time	.....240 s
Power Supply	.....from test object
Auto-Power-On	.....> 12 V AC/DC with use of push buttons
	.....> 24 V AC/DC without use of push buttons

Phase Rotation Indication

Voltage Range	.....100...400 V AC (against earth)
Frequency range	.....40...70 Hz

Environment Conditions

Temperature range	.....-15°C...55°C
Humidity	.....max. 95% rel. humidity (31°C) .....max. 45% rel. humidity (45°C)
Height above sea level	.....0...2000 m
Measurement category	.....CAT IV / 600 V, CAT III / 690 V
Pollution degree	.....2
Protection degree	.....IP 64
Safety complying to	.....EN 61243-3 / DIN VDE 0682-401
Weight	.....approx. 255 g
Dimensions (HxBxT)	.....approx. 280 x 78 x 35 mm

**LIMITED WARRANTY and
LIMITATION OF LIABILITY**

AMPROBE instruments are subject to strict quality control. However, should the instrument function improperly during normal use, you are protected by our 24 month warranty (valid only with invoice). We will repair free of charge any defects in workman-ship or material, provided the instrument is returned unopened and untampered with. Damage due to dropping or incorrect handling is not covered by the warranty. If the instrument shows failure following expiry of warranty, our service department can offer you a quick and economical repair.