

Safety Compact-Tester EST-USB



for all electrical safety tests
conform to all valid standards (CE-Marking)

High Voltage Test - PE-Conductor Test - Insulation Test - Leakage Current Test



Safety Test Unit in the 19" Desk top case 6U

On one hand manually
on the other fully automatic

The comfortable handling of the Safety Compact Tester is possible with a clearly arranged LCD Display offers a view of all necessary parameters, such as measured values, limit values, etc.. With only one control button all functions are adjustable via an easy menu selection. The Control System can handle one or more units. Standard is the integrated Centronics Interface to which a printer can be used without any special software. All measured values can be transferred to another computer via USB or RS232 Interface. If using more than one test unit the control system also offers in standard a fully automatic test procedure. The complete switching from High Voltage Test to PE-Conductor Test to Insulation Test and to Leakage Current Test is realized by the built in special high voltage relay matrix.

The Unit contains as an option the display and operation and the case with the necessary corresponding connectors. There are three different Base-Units available, which are connectable to the four different Safety Test Units. The Dual-Base-Unit for two Test Units can be combined individually with four possible cassettes Type: SL-E, ISO-E, AB-E and HV-E. The last is the Full-Base-Unit for all four Safety Test Units. The 19"- Base-Units are in desk top or in 19"- Rack version available.

Specification High Voltage Test Unit Type HV500AC/-DC

- High Voltage 0..5000V AC or (DC)
- Ramp function for rise and fall separately adjustable
- Adjustable Remaintime 1-99999 Sec.
- High Voltage- and current indication

Power max.	: 500 VA
Voltage	: 0-6000 Vac(dc)
Current	: 0-100 mA
Frequency	: 50 Hz
Resolution	: 12 Bit
Distortion factor	: < 5%

Specification High Voltage Test Unit Type HV60DC

- High Voltage 0..6000Vdc
- Ramp function for rise and fall separately adjustable
- Adjustable Remaintime 1-99999 Sec.
- High Voltage- and current indication

Power cont.	: 60 W
Voltage	: 0-6000 Vdc
Current max.	: 0-10 mA
Frequency	: DC
Resolution	: 12 Bit
Ripple	: < 1%

Specification PE Conductor Test Unit Type SL

- Four -wire measurement technique
- Adjustable Remaintime 1-99 Sec.
- Resistance, current- and voltage measurement
- Resistance limit value input
- Test current manually adjustable

Range	: 0...0,2Ohm
Current	: 5...30 Ac
Voltage max	: 15 Veff.
Genauigkeit	: < 1.5 %
Resolution	: 12 Bit
Distortion factor	: < 5 %

Short specification EST-USB		
Type	Description	Case
EST-USBD	Dual-base	19" rack / 3U / 540mm
EST-USB	Fully-base	19" rack / 6U / 540mm
SL	PE Conductor Test Unit	
ISO	Insulation Test Unit	
AB	Leakage Current Test Unit	
HV500AC	AC-High Voltage Test Unit	
HV500AC-DC	AC/DC-High Voltage Test Unit	
HV60DC	DC-High Voltage Test Unit	

Short specification Options EST-USB	
Option	Description
-IEEE	IEEE 488 Interface, Programming and measurement
-WL	Signal lamp set
-SLPS	PE conductor test pistol
-SLPK	PE conductor cable with clamb
-SB	Safety current protection - $I_{max} = U/600k\Omega$ (only for HV60DC)
-3P	3 Phasen Leakage current matrix, 32A, 3*253V Fixed voltage, no g/i

! Order example	: PE conductor and insulation test type in dual base unit EST-USBD-SL-ISO
! Caution	: In the base unit EST-USB2 the following combinations are possible HV60DC and SL or HV60DC and ISO or SL and ISO

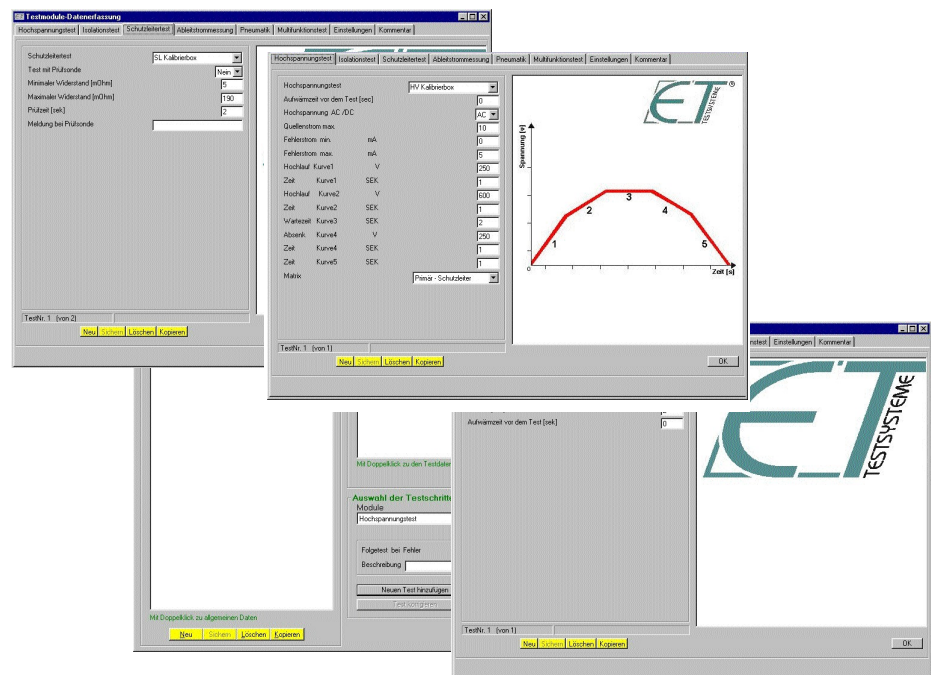
Specification Insulation Test Unit Type ISO	
<ul style="list-style-type: none"> Test voltage 500 VDC Adjustable test time 1-99999 Sec. Resistance measurement 0,5-50MΩ Resistance limit value input Safety current limitation < 4mA 	
Range	: 0,5....50M Ω
Current	: < 4 mA
Voltage	: 500 Vdc
Accuracy	: < 1.5 %
Resolution	: 12 Bit
Ripple	: < 1 %

Specification Leakage Current Test Unit		
Type AB	Type AB-3P	
<ul style="list-style-type: none">• Operation mode A1/A2 chooseable• Adjustable test time 1-99999 Sec.• Leakage current- and test voltage meas.• Current limitation value input seperated for A1 and A2		
Range	: 0...5 mA	Only as single unit available 1-99999 Sec. Leakage current- and L1 meas. Fixed voltage 3 x 253V / N no regulation, no galvanic isolation, 32 A each Phase
Mode	: A1/A2	Normal and all Single Fail
Test voltage max	: 270 Vac	3 x 253V against N
Accuracy	: < 1.5 %	< 1.5 %
Resolution	: 12 Bit	12 Bit
Phase	: 1	3

Unit Description EST-USB



- Manual Operation :** The manual operation works the same way as you have been used to so far. There is a color touch display with a potentiometer and with that you can adjust exactly i.e voltage or current. The choice of functions follows by turning or by pressing the potentiometer.
- Automatic Operation :** There are numerous automatic functions available. Voltage and current curves with limit values can be programmed. The file can be called up any time.
- Indication**
- Measurement Values :** The measured values are displayed as numerical values and diagrams. The limit values or the envelope curves can also be shown.
- Standard Equipment :** The extensive standard equipment of the safety tester EST-USB consists of USB and RS 232 interface, safety lamp output, safety test hood and start contact input and automatic testing via software.
- Software EEHV/EST :** For control the unit without the option manual operation and for data store the software is available.



Languages :	The indication of the language is English and German	EAQ
Automatic Mode :	The automatic mode offers the possibility to generate an automatic test process consisting of various tests such as measurement of voltage and current, trace process, ramp function, etc.. The test process can be stored as a file with an optional name.	AC SOURCES
Result of Measurement :	The determined result of measurement in the automatic test can either be printed right after the test or any time later via the Software EEHV/EST.	EDQ
Storage of Measurement Data :	It is possible to store the measurement data (records). The software works with Windows XP, 7 and windows 10	DC SOURCES
Choose Test :	In the main menu single tests can be chosen the button. High voltage, PE conductor, insulation and leakage voltage test can be called up each for a manual or an automatic test. The change into an automatic test, the on- and off-switching of the helpline and the calling up for the basic adjustments are possible.	ExL
Test Auto / Manu :	Each of the four safety tests can be started in the basic menu "Manu". Changeable parameters can be adjusted by the tipturn. The measured values will be displayed digital and by a graphic on the display. In the operating mode auto the parameters of the last stored automatic test will be called up. The test will be started and it runs fully automatically. The test result will be shown in the display at the end of the test with PASS for good and FAIL for error.	ELECTRONIC LOADS
Serial Number Input :	The serial number input is possible via Software EEHV/EST	EST
		SAFETY TEST UNITS
		ERS
		RELAY SCANNER
		EE
		TEST SYSTEMS

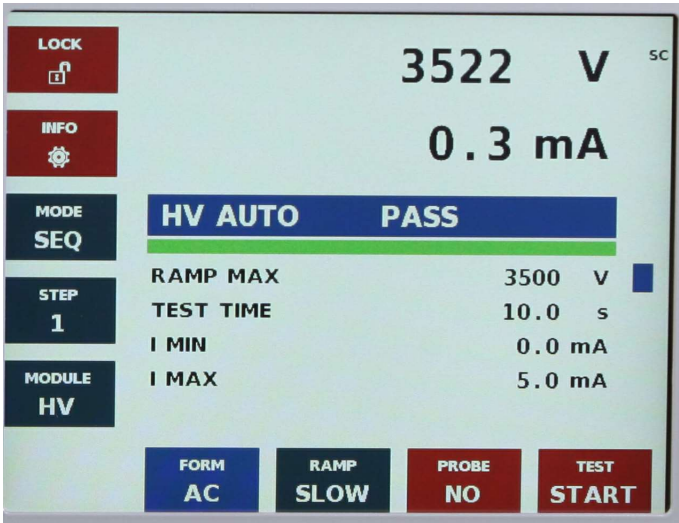
Description EST-USB



High Voltage Test :

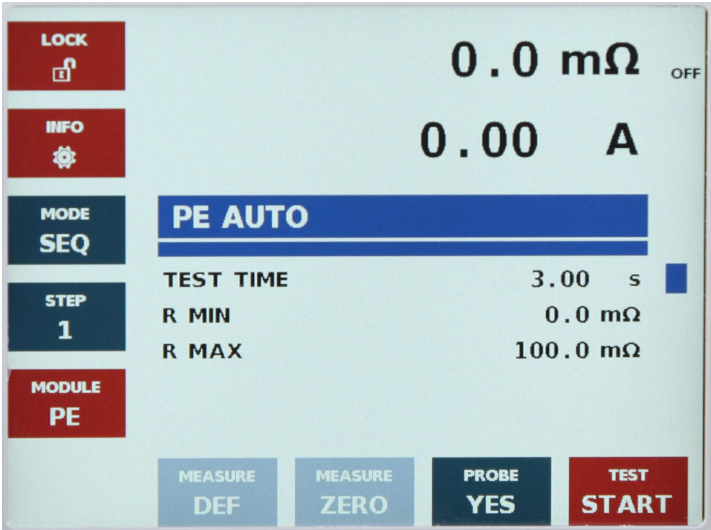
In the operating mode “Auto” the value of the high voltage, the maximum current, the minimum and maximum switch off current as well as the rise time, the waiting time and the fall time of the voltage ramp of the last stored automatic test can be directly taken over or through previously calling up of the function presetting, optionally changed. In the operating mode “Manu” the unit can be used as a conventional high voltage source. The output voltage is being increased by simply turning the button. The switch off current value is automatically taken over from the last stored specification, however it is changeable before the start of the tester.

Menu High Voltage



PE Conductor Test :

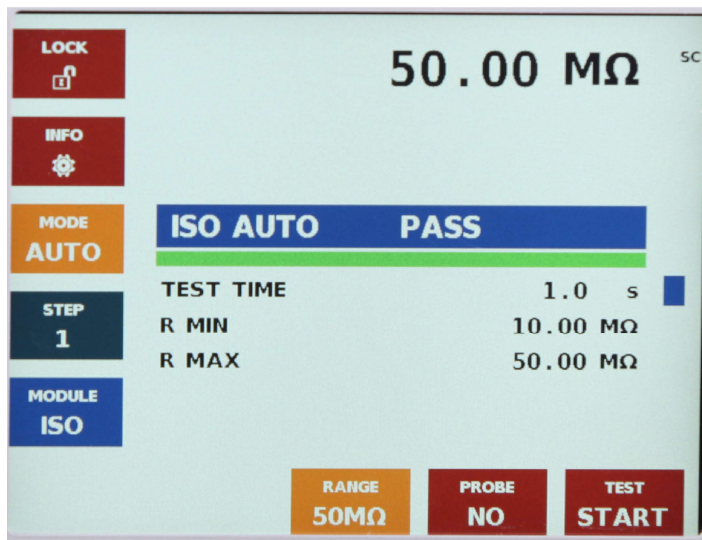
The operating mode “Auto” of the minimum permissible and the maximum permissible resistance as well as the test time have to be set when testing the PE conductor connection. These parameters are available from the last stored test file but can be changed if requested, also. In the operating mode “Manu” the test is started when pressing the tipturn and the measured resistance is indicated. The manual test can take place up to 99 seconds and ends after expiration of this time frame automatically as long as the test has not been stopped by the user, by pushing the button.



Menu PE Conductor

Insulation Test :

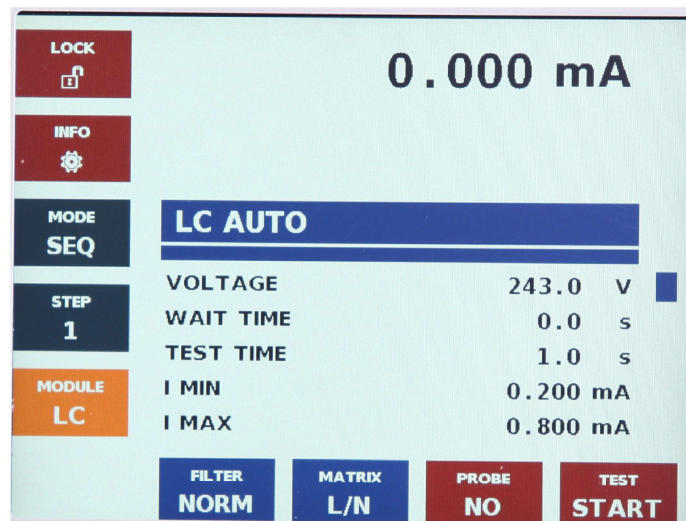
The insulation test is carried out with its fixed voltage of 500 Vdc. The parameter minimum permissible and maximum permissible resistance and the test time are adjustable. In the “AUTO” test these values are automatically taken over from the last processed automatic test and are immediately available after calling up the function. With the Manu test the voltage is applied to the unit under test and the measured resistance is displayed digitally and graphically. The test lasts 99 seconds maximum..



Menu Insulation Test

Leakage Current Test :

In the operating mode “AUTO” the supply voltage of the unit under test, the choice of the matrix for A1 or A2, the minimum and maximum permissible leakage current and the test time can be changed. By choosing the matrix the according wiring of L and N are graphically illustrated ahead at the test. The automatically recorded values of the automatic test can be taken over by simply pushing the button and the test can be started immediately after calling up of function. In the operating mode “MANU” supplied voltage of the unit under test is being increased or decreased by turning the button after the start.



Menu Leakage Current