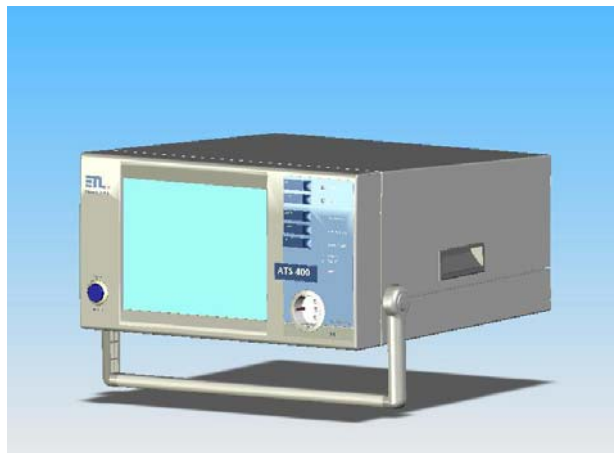


Product Information Sheet



400 Series Automatic Test Systems

Summary

An individual Combination Tester

The universal test system was especially developed for the rough everyday industrial usage in laboratories, workshops as well as a semi- or fully automatic component in a production line. As the tester is put together using various modules it allows an optimum combination for different tests.

- A universal tester that fulfils nearly all safety standards to test electrical safety.
- Combination tester for safety and function tests.
- Conforms to CE standards, safety techniques as required by the EN 50191 (01/2001 version).
- Menu controlled test runs: manually and fully automatic.
- Switching of the tests is automatically via a relay matrix (extendable). Therefore contact with the test object only has to be made once.
- the combination of test paths, test parameters and limit values as well as the order of the test vectors can be freely programmed by the user.
- Various equipment, LC-display or large TFT-display with touch screen and status display, can be used.
- Acoustic and optical warning signals – for definite recognition of faulty test objects.
- Power-on self-test and permanent intelligent fault management.
- Ramp function for Hi pot test.
- Monitoring of the test cables for cable breakage and contact.
- Test plan database and result memory.
- fully developed apparatus periphery for PLC, RS232, CAN, driver, printer, barcode reader or Ethernet, USB, keyboard, PS/2 etc.
- PC-driver for customer specific applications (DLL, Active-X and LabView) available.
- Output of the test results as a tape print-out, or optionally as a protocol, file or in a database.
- Freely programmable entries and exits, digital interface for status display and remote control.
- PLC/24 VDC for digital programme selection of pre-set test programmes.
- Connections for safety circuits and warning lamps as required by EN 50191.
- Customer specific solutions through individual adaptation of the electrics, mechanics and software.
- Capable of updates - your future safe investment.

Available test modules

Hi Pot Test

All test modules are electronically controlled, the discharging of the test object is monitored and the voltage is potential free. Special features include cable breakage and contact monitoring as well as automatic start and ramp function.

- AC test module up to 5,000 V AC with a minimum 500 VA capability and short circuit current from min. 200 mA
- AC test module up to 5,000 V AC, current restricted without special adjustments to the way it is built.

- DC test module up to 7,500 V DC, current restricted.

Safety Lead Test

All safety lead test modules are built with 4-lead-measuring-technique. The test current is started after contact with the start button is made and is electronically controlled. The test status and test results are shown on an LED display, without having to watch the test equipment.

- AC test module with 0 - 10 A power source, test voltage < 12 V AC or < 6 V AC
- AC test module with 0 - 35 A power source, test voltage < 12 V AC or < 6 V AC

Insulation Resistance Test

there are no contact protection measures needed as with all ETL insulation testing equipment due to the safety power restricted voltage source. All equipment has a measuring port built in for connecting a test probe to enable testing of Class 2 test objects. All equipment can be run with a special test probe with a result LED and start button. The test status and the test results are shown on an LED display without having to watch the test equipment.

- DC test module with 0 - 500 V voltage source, current restricted
- DC test module with 0 - 1,000 V voltage source, current restricted

through-put Test

Resistance current values:	10 – 1,000 Ω
Test voltage:	0 - 40 V DC, electronically adjustable
Measurement path:	Between L and N

Function Test and Capability measurement

Supply to the test object:	Mains voltage or adjustable source 1- and 3-phases
Maximum power rating:	16 A
Measurement:	Measurement or calculation of current, voltage, capability and phase angle

Current Leakage Test

Current leakage measurement:	Protective lead current and contact current
Procedure:	A and B
Measurement model:	Various that are switchable

Resistance measurement, temperature measurement, revolutions measurement, pressure measurement and much more.

Available variations

Premium X4

The X4 variation has got a micro-controller based operating part and is driven either remote controlled via an external PC or standalone.

- Graphic-display for status display and parameter changes via rotating potentiometer.
- Fully developed equipment periphery for PLC, RS232, CAN, driver, printer or customer specified extensions.
- Plastic covered keyboard for input of results and starting tests.

Premium X8

The X8 Variation has a PC-based operating part and is usually operated standalone. The input of information is very comfortable via a large TFT touch screen display (800 x 600 / ca. 236 x 174,3 mm). Remote control is also possible with this variation.

Features:

- With data management DataView
- Test plan editor
- Results and test plan memory
- User administration
- Automatic test plan selection e.g., via barcode reader
- Language selection and more

Additional ports:

- Keyboard entry and mouse
- 2 x USB
- Ethernet / LAN
- External VGA-port
- Printer port, for example for an A4 protocol print out

Extendable features:

- Long distance maintenance via ETL-Viewer
- Status information via e-mail

Features

- **Monitoring the test leads for conductor breakage and monitoring the contact with the test object**
For highest process safety, so that in the event of a product liability case it can be proved that the test object has been tested.
- **Ramp function**
For particularly easy-on-product testing.

- **Automatic start: when the test pistol HTP06C (Patent) is triggered then there is a start signal. The voltage is only activated when the electrical contact has been made with the test object.**
This protects the test object from surge peaks and ensures the correct test time.
- **Voltage regulation**
For constant test voltage irrespective of any mains voltage fluctuations.
- **Safety circuit with two controlled relays**
The best safety techniques as required by the EN 50191.
- **Measurement of current and voltage directly on the high voltage side**
For accurate measurement.
- **User administration**
to prevent inadvertent adjustment of the test parameters.
- **Potential free high voltage**
For maximum safety.
- **Fault indication: acoustic, optical and via the port**
For reliable detection of defective products.
- **Acoustic signal at the commencement and completion of testing**
For safe operation and fatigue-free working.
- **4-lead-measuring-technique with separate source (power) and Sensepfad (measurement)**
This eliminates resistance of the measurement and connection leads of the test object.
- **Start button on the test probe**
The turning on of the power source after contact has been made prevents damage to the surface of the test object.
- **Results display in the grip of the test probe**
To increase comfort when testing, the test person has always got the result status in view without direct visual contact with the tester.
- **Monitoring of the test current during the PE-test**
To monitor the standard minimum current.
- **Display showing the type of fault**
For fast narrowing down of the fault.
- **Remote control mode**
For fully automatic remote control of the test equipment via a PC or PLC.
- **Set up**
Individual setting of the start options, language, performance of the digital entries and exits, ramp options, options for the contact and conductor breakage monitoring, and much more.
- **Updates available via the port**
For customers individual requirements via long distance maintenance.

Ports and connections

- **Ethernet / LAN**
to connect to the customers own network, e.g. to save results directly..
- **2 x USB**
to remote control and connect further memory media and other USB-based extensions (e.g. WLAN)
- **Keyboard port**
To connect an external keyboard and for a barcode reader.
- **Mouse port**

- To connect a mouse.
- **Control port**
digital interface to a PLC terminal, a foot switch or a result or operating panel with signals such as Start, Stop, Pass/Fail and Test in Progress.
 - **RS232 / PC port**
To connect with a PC. All settings are possible using this connection – the desired test values are automatically set by the equipment.
Further, the port allows a permanent data collection, as well as control of the status information. On the PC side, there is a data management package – DataView or a driver for your own PC applications available.
 - **RS232 / ASCII-print out**
For direct connection to a terminal programme or protocol printer. In contrast to the PC remote control, the results are permanently transferred in ASCII-format. the print out language is adjustable.
 - **CAN-Interface**
To extend the testing system for additional features and further extensions. As many ETL-appliances and CAN components can be connected to each other as required and remote controlled via the port.
 - **Port extensions**
For revolution and analogue entries.
 - **Safety circuit**
for implementation of the safety circuit as required by the EN 50191. There are 3 possible switching possibilities in order to comply with standards when testing using test pistols, test enclosures or within a transfer line.
 - **Signal light connection**
to connect a signal light combination, each with a red and a green high visibility beacon as required by the EN 50191.