UX36-AC-20-0025-OGT

High Voltage Tester

20 000 V AC / 25 mA

Product Information Sheet

PRÜFTECHNIK

Short summary - overfiew

Item number	202118
Test voltage	500 – 20 000 V AC, PI – regulated
Test current, limit	0,5 - 25 mA
Power	> 500 VA
Short circuit current	> 25 mA
Testing time	1 s - 99 min, endless
Grounded on one side	for applications with fixed high voltage cabling or safety test cage

Functions and range of application

- Over limit trip and peak detection
- Voltage ramp, key panel interlock, minimum current monitoring
- Remote-controllable (DLL, ASCII, LabVIEW, C#, DataView, Digital-IO)
- 15 programmable sets of parameters
- Signalling: Acoustic, optical and via interface
- Safety circuit including two interlock safety relays

Universal usage

- Individual test device
- In semi-automatic test stations
- In all-automatic test stations

Remote-controllable

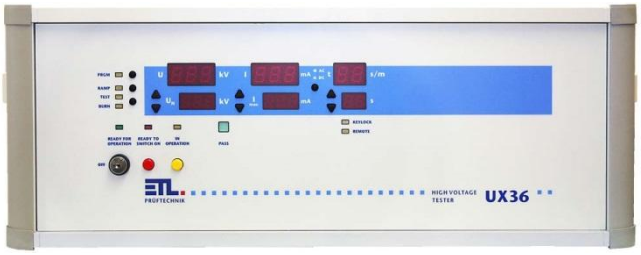
- Control interface (RS232) for remote control by PC (DLL, ASCII, LabVIEW, C# or GUI software Dataview)
- Digital interface for remote control by PLC (Start, Stopp, In Operation, Failed, Passed)

Usage

- Testing with fixed cables and two-hand operation
- Testing with safety test cage (automatic protection against direct contact)
- Semi- or fully- automatic testing on a production line.

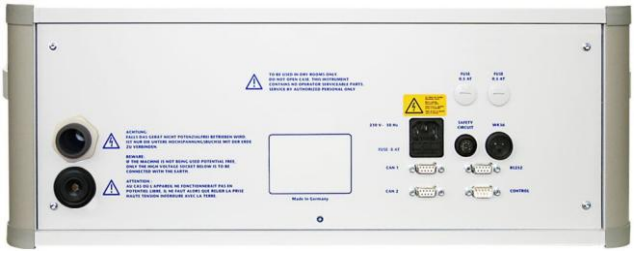
Device views

Front side



- LED – display elements
- Display of preset and actual values: Voltage, current, testing time
- Pushbuttons for setting-up test parameters
- Function selection buttons
- Signalling: danger, test running, test fail, type of fault

Back side



Interfaces and connections

- Control interface / Digital IO
- RS232 Interface
- ETL CAN bus for controlling peripheral equipment (Relay matrix, etc...)
- Safety circuit, signal lights
- Fuses, Mains voltage

Detailed functional description

Shut-down over limit detection and peak detection
Insulation fault of the test object can be detected by several criteria. Insulation fault alarm will be triggered by a current over limit exceedance or by a special peak detection in order to detect even low-energy spikes.

Voltage ramp and detection of disruptive discharge voltage
The voltage ramp can be switched on in addition. Parameters like rise time and fall time are freely selectable. The voltage ramp enables safe testing and it is absolutely necessary for testing to norms which require special voltage curves. The voltage at which an isolation fault is detected, will be permanently displayed as a flashing value.

Key panel interlock
The key panel interlock prevents incorrect setting of parameters. It can be set up individually. For example all pushbuttons may be locked. Also desired functions can be left unlocked.

Test device for operating "Stand-Alone" or remotely controlled via interface
The test device can be controlled by a Windows software (user interface software DataView), by a self created custom software application (LabView, DLL, C#), simple command parameters (ASCII) or digitally with a PLC (Digital-IO).

Freely programmable sets of parameters
15 freely programmable sets of parameters are available for recalling test parameters.

Signalling: Acoustic, optical and communication interface
Faulty test objects can be reliably identified. Indication lights will also flash additionally.

Safety circuit including two forcibly guided safety relays
The safety technology is designed according to EN 50191.

Measuring of current and voltage directly on the high voltage section
Direct measurement guarantees absolute accurate test results.

Regulated test voltage
Continously PI-controlled (power integral) test voltage is stabilized regardless of fluctuations in the mains voltage.

High voltage
The test voltage is grounded on one side. Only for applications with fixed high voltage cabling (2. HV-pole, grounded).

Individual setup
Start options, language, behaviour of digital IO interface, voltage ramp options, options for connection and cable break monitoring, etc.

Updatable via interface
For customer specific adaptions and updates.

Interfaces

Control interface / Digital-IO
Digital interface for connection to a PLC, footswitch or a remote panel including signalling of start, stop, good result, bad result, faulty test object and in operation.

RS232 / PC-interface
For Computer connection. All parameters are selectable in a major control program. The defined test values will be automatically adjusted by the test device. The RS232 interface also allows permanent data logging and controlling of status information.
PC-software options are: The data management software DataView or drivers (DLL, ASCII, LabVIEW, C#) for your own application.

RS232 / ASCII printout
Direct connection for a terminal program or to a protocol printer. Results are sent by the device in ASCII format and can be read from the interface alternatively to the other software options. The output language is adjustable.

CAN-Interface
Expansion of the test system by add-on features and by further extensions. Any number of ETL test devices and CAN-components may be attached to this interface in a row and can be remotely controlled.

Safety circuit
For integrating an adequate custom safety circuit regarding EN 50191. Three different circuit arrangements are available for standardized testing with test pistols, test cages or transfer lines.

Signal light connector
For connecting a signal light combination consisting of red and green allround lights. According to EN 50191.

Specifications, device characteristics

Test voltage

Setup range	500 – 20 000 V AC
Resolution, Digit	10 V
Measurement inaccuracy, precision	1 % of measured value +/- 2 Digits
Frequency of voltage	50 Hz / 60 Hz, depending on mains frequency
Curve shape	sine-shaped according to EN 61180, depending on mains
Voltage stability	regulated output voltage, PI-regulated
Power	> 500 VA
Zero-voltage switching	test voltage on- off- switching occurs on zero crossing
Voltage ramp	freely programmable
Display for actual value	LED-Display 13 mm, red
Display for desired value	LED-Display 10 mm, red

Test current

Setting range, threshold value	0,5 - 25 mA
Resolution / Digit	0,1 mA
Measurement inaccuracy, precision	1 % of Reading +/- 3 Digits
Short-circuit current	> 25 mA / > appr. 2 400
Burn function	burning the faulty area (max. burning time is 1 s)
Display for actual value	LED-Display 13 mm, red
Display for desired value	LED-Display 10 mm, red

Testing time

Setting range, testing time	1 s - 99 min, continous
Setting range, ramp time	0,5 s - 99 s
Resolution up to 10 s	0,1 s (Digit)
Reolution display > 10 s	1 s
Measurement inaccuracy, precision	+/- 1 Digit
Start testing time	The test time does not start before the desired test voltage has been reached.
Minimum testing time	1 s
Display for actual value	LED-Display 13 mm, red
Display for desired value	LED-Display 10 mm, red

General data

Mains supply	230 V, 50 Hz / 60 Hz
Mains connection	Schuko-plug
Tolerance mains voltage	+/- 10%
Current consumption	max. 2,5 A
Fuse	8 A, T, 5 x 20 mm, 250 V
Displays	LED, permanently shown actual and desired values
Setting of test parameters	manually or all-automatic via interface (ASCII, DLL, LabVIEW, C#, DataView)
Programming	15 sets of parameters, freely programmable

Signalling	acoustic, optical and over interface
Outputs back panel	1 x high voltage output (1-poled socket) 1 x ground connection by earth connector (2. HV-pole, grounded)
Dimensions (W x H x D)	590 x 210 x 420 mm
Weight	appr. 32 kg
Casing	Die-cast aluminium, Polymer, RAL 7035
Basic equipment	manual, mains cable, safety circuit plug
Calibration	incl. certificate of factory-calibration traceable to national standards, DAkkS-calibration according to DIN EN ISO/IEC 17025 optional available

Environmental conditions

Casing	IP20
Humidity	max. 80 %, non condensing
Allowed range of temerature	+ 5 to + 40 °C
Max. hight above sea level	2.000 m
Cooling	passive, active cooling optional available

Interfaces

Control- / Digital-IO	start, stop, GOOD / BAD result, test running
RS232 for remote control	computer connection for terminal programming and controlling by customer specific software applications, optional usage of a protocol printer
CAN Interface	for expanding the test system by additional devices

Additional functions

Voltage ramp	The voltage ramp time is freely programmable. The test voltage will ramp up to the desired value. Testing then start when this value has been reached.
Fault detection	switch off on threshold value and by peak detection
Minimum-current monitoring	permanent monitoring during the whole testing process

Expanded device-Setup

Ramp function	individual setup
Ramp options	individual setup for ramp-up time and ramp-down options
Locking of pushbuttons	individual setup
Signal-configurator	individual setup for digital result outputs
Buzzer-options	individual setup of acoustic signals
LED-display	individual LED brightness
Start options	individual setup of start modes
Language and mode selection for external printer	printout at pass, fail, continous or switch off Formats: List or CSV

Start options for testing

Start via safey circuit	The test can be started with the closing of the testing cage.
Start button on the device	front panel button for test-start
Start by serial interface	triggered by a PLC or a PC
Start by digital interface	Digital I/O for example by a footswitch, PLC or a push button
Start options	individual setup of start modes

Outputs – DUT, secutity components

High-Voltage outputs	1 x high voltage output (HIPAS25, single-pole socket, OD Ø 4 mm) 1 x ground connection by earth connector
Safety circuit	allows the connection of a safety circuit according to EN 50191
Signal-light connector	for connecting a combined green/red signal light according to EN 50191

Electrical safety and norms

EN 61010-1	safety regulations for electrical measurement, control- and lab- equipment
EN 61326-1	electrical measurement, control- and lab- equipment – EMC-requirements
EN 61000-3-3/EN 61000-3-2	Electromagnetic compatibility (EMC)
EN 50191	erection and operation of electrical test equipment
EN 60598-1	luminaire / Part 1: General requirements and tests
Contamination level	2
Protection class	1