



Reference Manual

UH28C

High Voltage Tester

Preliminary Remarks :

Check if the delivery is complete. Take care about probably small parts (plugs etc.).
Check for transportation damage, probably not all are visible at the outside box. In case of damage inform the carrier immediately.

1. General

The present tester is built and tested to EN 61010-1 and has left the factory in a proper condition satisfying safety requirements. To maintain this condition and to ensure safe operation, the user will have to observe the instructions and warnings given in these operating instructions and in DIN VDE 0104 (EN 50 191).

The tester UH28C is intended for indoor use and it may only be used as a tester set for high voltage tests (hipot tests).

2. Technical data

Connection to power supply	230 V 50 Hz
Current input	8 A max.
Power cable	included in the scope of delivery

Provision must be made for a socket outlet with earth contact 230 V 50/60 Hz for connection to the power supply.

See to it that the earth-wire terminal of the power cable used and of the power socket is intact. Any interruption of the earth wire may cause the device to become unsafe. Therefore, make sure that the earth wire is never interrupted.

Measuring range and tolerances

<u>Voltmeter</u>	0 ... 5 kV
Tolerance	2,5 % (from upper range value)
<u>Amperemeter</u>	0 ... 10 mA switchable to 0 ... 100 mA
Tolerance	2,5 % (from upper range value)
Short circuit current	max. 400 mA
<u>Type of current</u>	AC (Mains frequency)

Fuses:

In the power supply connector:	2 fine-wire fuses (10 x 25 mm) each 8 A slow-blowing
At the rear panel :	1 fine-wire fuses (10 x 25 mm) 2 A slow-blowing
In the device interior:	2 fine-wire fuses (10 x 25 mm) each 0.5 A slow-blowing

For replacement never use other than equivalent fuses.
Never rewire fuses.

Environmental conditions

Temperature	5 to 40° C
Relative humidity	80 % not condensating
Altitude	max. 2000 m above sea level

3. UH28C with HV Test Pistol HTP06N

3.1 Guard the working area

Using 2 HV Test pistols the working area has to be guarded, see also EN 50 191 :

3.1.1 Protection of people that are not engaged with this HV test

People that are not engaged with this HV test are to be protected against coming too close to the high voltage and to the test object by :

- > Barriers (chains or bars)
- > Warning signs as " " and "High Voltage - Danger to life"
- > Warning light WK 28

3.1.2 Protection of the testing person

the testing person is protected by

- > Using of 2 test pistols, one in each hand (similar to an 2-hand-control)
(it is not accepted to use 1 test pistol only or to operate both test pistols using 1 hand only)
- > HV is isolated from the supply mains and insulated against earth. Therefore the test object must be also insulated against earth, otherwise this protection is worthless.
- > Emergency cut off device mounted outside of the barrier

3.2 Getting Started

12-pol Plug (delivered with UH28C) : plug it into the rear connector.

Warning lights WK 28 : plug their cables into the red and green connectors at the rear.

HV Test Pistols HTP06N : plug their cables into the HV outlets (13) at the front panel.

Mains cable (delivered with UH28C) : plug it into the rear connector.

3.3 Switch on HV

Key Switch (1) : switch to "1" - green signal light at front panel and green warning light are on.

Push button "2" : green signal light at front panel and green warning light are off, the red lights are on.

Push button "3" : the red lights still are on, the yellow signal light at the front panel is on, HV is switched on.

3.4 Adjust

3.4.1 Adjust voltage

Adjust voltage using radio button (11).

3.4.2 Adjust trip current

Select range 0...10 oder 0 ... 100 mA using button (9) .

Push button (7) : As long you hold it, the momentary trip current is displayed on the ammeter. Adjust it using the screw (8) located below this button.

3.5 Check trip function

Just shorten the 2 test pistols - HV is switched off, the internal buzzer sounds.

3.6 Burn mode

To locate a fault use burn mode: Key switch (14) into pos. "burn", then switch on HV as described above. On fault the internal buzzer will sound immediately but HV now is switched off app. 1,5 s delayed.

3.7 Switch off HV

Switch off key switch (1) "mains".

4. UH28C with test cage SICAB or DOCAB

4.1 Guard the working area

Using test cage SICAB or DOCAB you have a test station with positive protection against direct contact. Barriers are not necessary.

4.2 Getting started

Plug in HV plugs of the test cage into the HV outlets (13) of UH 28 C
Plug in control cable of the test cage into the rear remote connector of UH28C

Install the control cable so that damage or short to earth is not possible!

4.3 Starting HV test

Put your test object into the test cage and connect it there to the HV terminals. Close the test cage. Depending on the mode of test cage, HV is now switched on or you switch it on manually using the push button at the front of the test cage.

On a faulty test object HV is switched off immediately and the buzzer of UH28C sounds.

On good test object HV remains switched on until the test cage is opened.

Optionally the test cage can be delivered with built-in timer.

5. UH28C in automatic testsystem

5.1 Integration into 19"-rack

UH28C is a table top model only. For installation into 19"-Rack the model UH28C-R (19-inch, 4 HE, IP 00) is available.

The rear 12-pole plug-in connector is used for remote control, see 5.2.6

Note: The mating plugs are available from the manufacturer.
(Ordering information: "12-pole plug with cover").

5.2 Remote control

The rear 12-pole plug-in connector is used for remote control

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5.2.1 Bridge Pin a6 - b6

Pin a6 always must be bridged to b6.

5.2.2 protective circuit, Pin a3 - b5

HV cannot be switched on as long the protective circuit is open. As soon a3 - b5 is closed; UH28C switches from "green" to "red". Usually a safety switch (that's contacts open inevitably) is used operated by the door of the test cage: Opening the door opens the contact. So HV cannot be switched on as long the door is opened.

Use contacts for 230 Vac , at least 6 A.

Never use micro switch or electronically sensors.

Install the control cable so that damage or short to earth is not possible!

5.2.3 Switch on and off HV

a) Manually with buttons

HV on : shorten Pin a6 - a1

HV off : shorten Pin a6 - b1

b) Automatic test systems

Use 1 interface relay, see example at 5.2.6

5.2.4 Signal "No Go", Pin a2 - b3

Internal relay contact closes as long the buzzer sounds.

5.2.5 Signal "HV is on", Pin a6 - b4

Mains is switched to those pins as long HV is switched on. We recommend to use that signal to indicate "Go" or "No Go", see 5.2.6

5.2.6 Example

Interface relay k1 is operated by your control unit,

interface relay k2 needs coil voltage 230 Vac. It's contact is read by your controller.

As the protective circuit is closed, switch on HV by activating relay k1. Then just wait for the required test time.

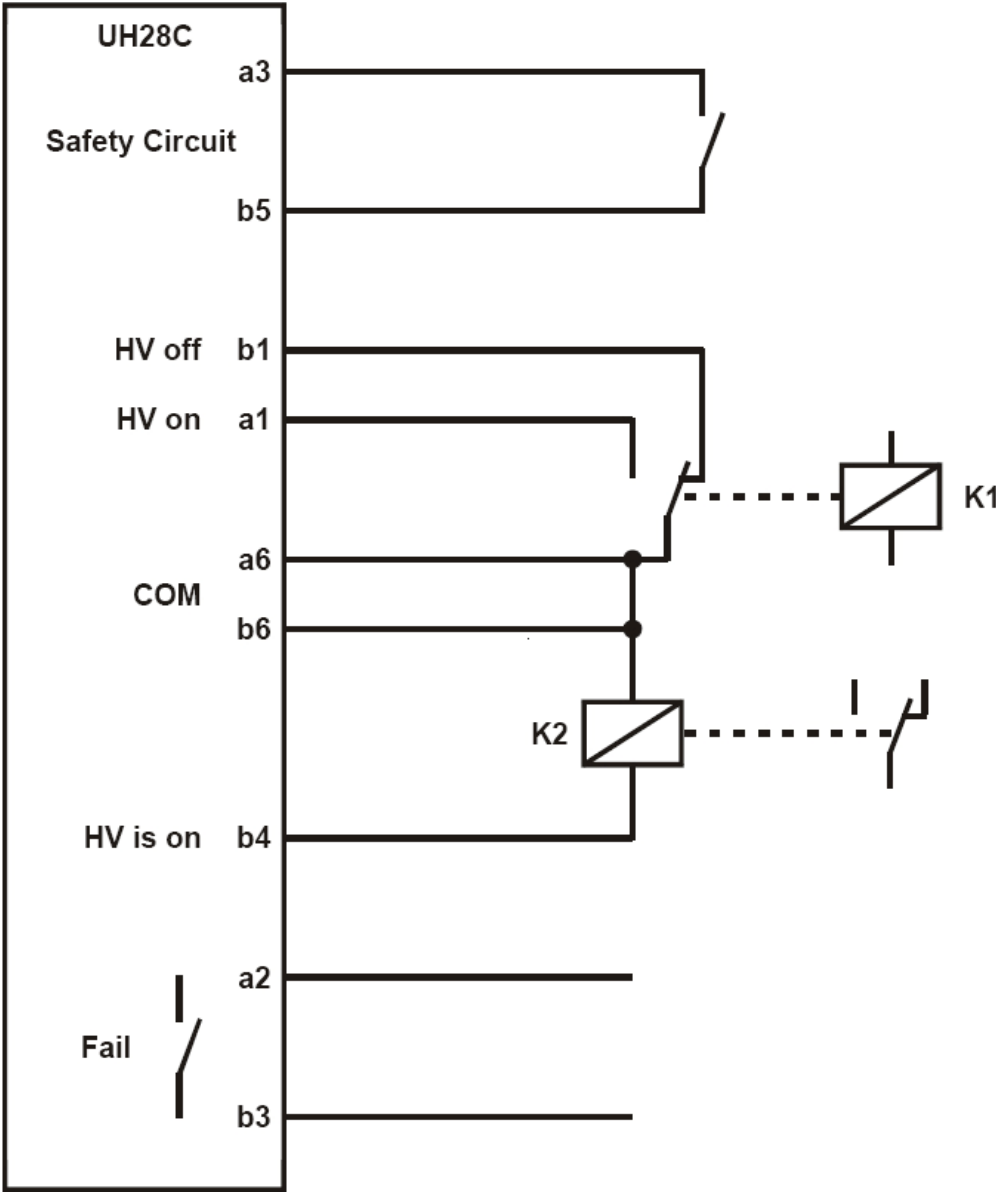
As the test time has passed read the contact of relay k2:

HV is still switched on - test result is "Go"

HV is off - test result is "No Go"

Now switch off HV by deenergizing k1.

Description 12-pole connector



6. Safety instructions

Pull power plug before opening the device.

UH28C is a device of safety class I.

Ensure that the earth-wire connection of the used power cable and of the power socket is in a perfect condition. Any interruption of the earth wire may cause the device to become unsafe. Therefore, an interruption of the earth wire is non-permissible.

This test set supplies high voltage of high power. The safety requirements noted in this manual and in EN 50 191 have to be observed. Never touch the high voltage or the test object during the test !

7. Maintenance

It is recommended to check the power supply line and the supply lines to the test object for their perfect condition regularly. Defective parts must be exchanged or put out of service.

Use original spare parts exclusively.

Proper function can be checked with a so-called "defect specimen" (test object with built-in fault).

The manufacturer will calibrate the device on request (factory calibration certificate or DKD calibration certificate).

8. Warranty and after sales service

The warranty period is twelve months beginning with the date of delivery. Within the warranty period, parts which demonstrably become useless because of poor material or workmanship will be repaired or replaced free of charge, if sent freight paid to us or to a customer service agency named by us.

Please avoid intervention of your own, because this will result in a loss of your claims.



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