

IEEE 488



- Voltage: 0 to 6 kV DC and AC
- Output voltage rise, fall and hold time programmable
- Storage of configurations
- Breakdown detection mode: current variations ΔI - current threshold I_{max} - combination of ΔI and I_{max} .
- Storage of voltage and current breakdown

APPLICATIONS

Microprocessor based dielectric strength tester, particularly suited for test laboratories and control departments because of the high sensitivity of the current breakdown detector (adjustable by 1 μ A step) and because of the PLC (option) or IEEE488 remote control capability.

CHARACTERISTICS

Output voltage

- DC or 50 Hz/60 Hz AC.
- Adjustment in 2 ranges: 0 to 3 kV and 0 to 6 kV.
- Direct reading on kilovoltmeter directly connected to the output terminals.
- Accuracy $\pm(1.5\% + 10V)$.
- Breakdown voltage and current (I_{max} mode) stored.

Stability

- For a line power voltage variation $\pm 10\%$, output voltage variation $< 1\%$.

Internal resistance

- 0 to 3 kV range = 0.3 M Ω .
- 0 to 6 kV range = 1.2 M Ω .

Short-circuit current

- 0 to 3 kV range: ≤ 10 mA.
- 0 to 6 kV range: ≤ 5 mA.

Polarity

- Positive pole grounded.

Ripple

- $\leq 1\%$ for $I_{out} = 100 \mu A$.

Breakdown detection

- 5 detection modes are available:
- Minimum current threshold I_{min} which insures that the probe is properly connected to the unit under test. It is adjustable from 0 to 9999 μA with a resolution of 1 μA .
 - Current variation ΔI . Amplitude adjustable from 100 μA to 5 mA. Impulse width ΔT : 10 μs .
 - Maximum current threshold I_{max} . adjustable from 100 μA to 9999 μA .
 - Combination of $\Delta I + I_{max}$. This mode make the unit completely insensitive to the resistance and the capacitance of the sample under test.
 - Combination $\Delta I + I_{max} + I_{min}$. In addition to the preceding mode, the proper connection to the probe is guaranteed.

- No breakdown detection mode available.

Elimination of measurement errors on capacitive circuits

- The "Deltatest" detector automatically computes the difference between the current normally flowing through the sample under test $I = (U/Z)$ and that arising suddenly when a breakdown occurs ($I' = U/Z + I$ fault).

Breakdown indication

- Indication on LCD readout and audio signal.
- Storage of the breakdown voltage and leakage current.
- A PASS/FAIL text is displayed in large characters on the display.
- Memory cleared by a reset.

Cut off of the high voltage source

- After a test or in the event of a breakdown the HV primary is cut off when the first line power hardware crosses zero, without possible overvoltage.
- The capacitance of the sample and the internal capacitance are simultaneously discharged.
- Time constant < 1 s. per μF .

Leakage current monitoring

- In the range 0 - 10 mA by 9 000 points digital indicator.
- Accuracy: $\pm (2\%$ of the reading + 10 digits).

Timer

- Applied voltage rise, fall and hold time independently adjustable from 1 to 999 seconds.

PROGRAMMING

The PC7P can be programmed manually using the front panel keyboard or by a personal computer using an IEEE488 interface.

Computer programming

- The built-in IEEE488 interface allows all the functions available on the PC7P to be programmed by computer which can also receive the test results: voltage, current, trip, etc...

MEMORY

The PC7P includes a memory function which allows to store 16 different configurations (voltage, current, time,

breakdown...). This function is abled by pressing the MEMO button. All configurations can be recalled with the RECALL function.

PROTECTIONS

Instrument

- By slow-blow fuse.

Operator

- No HV as long as the safety interlock is open.

Of the unit under test

- Immediate breakdown detection.
- Voltage immediately cut off on the HV transformer primary (no overvoltage).
- Output terminals shorted and capacitances discharged.

GENERAL CHARACTERISTICS

Presentation

- Table top unit.
- Metal housing equipped with retractable strut feet.

Dimensions

- Height : 131 mm
- Width : 445 mm
- Depth : 380 mm

Weight

- 14 kg.

Power

- 230 V $\pm 10\%$ or 115V $\pm 10\%$.
- Single phase, 47 / 63 Hz.

Consumption

- 40 VA off load 70 VA at maximum load.

Operating temperature

- 0 $^{\circ}C$ to +50 $^{\circ}C$.

Storage temperature

- -20 $^{\circ}C$ to +70 $^{\circ}C$.

OPTIONS

01: Rear panel HV output including a HV cable which cannot be disconnected. It is supplied with a banana plug at the end. This option is particularly useful for ATE system applications.

03: PLC remote control:

- 8 inputs
- 6 outputs.

OPTIONAL ACCESSORIES

TE35

- Standard test probe, connection on front panel.

TE50

- Test pistol. Measurement starts when pulling the trigger.

C0120

- HV cable with connection on the front panel but without the hand probe. Used for integration in ATE systems.

C0160-03

- Red/green light to indicate presence or absence of high voltage.

A08

- Remote control foot switch.

KRD3

- Rack mount kit.

CS1-05

- Security chamber.