

**DANBRIDGE
DENMARK**

research
production
education

12 KV NON-DESTRUCTIVE INSULATION TESTER TYPE JP 12

INDICATES IONISATION VOLTAGE
SEPARATE VOLTAGE AND CURRENT METERS
MEASURES ON EARTHED OBJECTS
DESIGNED FOR CONTINUOUS OPERATION
INHERENTLY SAFE TO USE



This equipment offers considerable advantages for the testing of electrical insulation in components, materials etc. It provides an indication of the safe working voltage and in addition in many cases information may be obtained regarding the properties of the insulation. The instrument provides an audible indication of the onset of ionisation in the test object. Ionisation usually starts at a voltage well below the breakdown voltage, and the working voltage must always be below the ionisation voltage for safe operation.

The test object is not damaged during tests so that grading of components etc. may be performed in addition to the normal rejection tests.

The instrument is very useful both in the laboratory for design tests and quality inspection and in the workshops for production testing etc. It is inherently safe in operation when correctly used and is very simple to operate.

GENERAL DESCRIPTION

The insulation tester type JP12 comprises a high frequency generator supplying the test voltage. This may be varied continuously by a potentiometer up to a maximum of 12 kV dc. The output voltage is indicated on a meter with 2 ranges in order to allow accurate measurement at lower voltages.

The test voltage is fed through a screened coaxial

cable to an insulated test prod. A safety switch is incorporated in the handle of the test prod. On closing this switch the high tension is switched on through a relay thus providing a maximum of safety for the operator.

A socket is provided on the instrument so that if required the relay may be operated remotely e.g. when employing a safety cage. The "low" terminal of the test voltage is earthed directly so that earthed objects may be easily tested and in addition hum disturbances are largely eliminated.

If ionisation occurs in the test object low voltage pulses are developed at the high tension terminal. These pulses are fed into a 3-stage amplifier driving a crystal-type loud-speaker. Thus even very minute discharges provide an audible noise in the loud-speaker.

The amplifier gain may be adjusted by a potentiometer to suit the local noise level.

Any leakage current in the test object may be checked by a microammeter on the front panel. Resistance may be calculated from the voltmeter and microammeter readings if required.

The instrument is of robust construction and designed for continuous use. — The instrument is inherently safe to operate, as the output current is limited to a safe value by the high generator impedance, the safety switch also reducing the risk of accidental contact with points at high tension.

the blue line instruments.....

SPECIFICATION

OUTPUT VOLTAGE

2 ranges 0-6 kV and 0-12 kV dc. Monitored on voltmeter. Source impedance about 10 Megohms. Max. current less than 1 mA.

CURRENT INDICATION

Leakage current indicated on built-in microammeter, 100 μ A full scale. A silicon rectifier shunted across the meter provides an effective overload protection.

TEST LEADS

High tension supplied to test object by coaxial cable and test prod with built-in pressbutton switch for test voltage. Low tension lead connected to earth. Socket provided for external switch for test voltage.

INDICATION OF IONISATION

A 3-stage amplifier feeds a loud-speaker providing an audible indication of ionisation. Amplifier gain continuously adjustable by a potentiometer. An output socket provides for external indication, using phones or an oscilloscope.

VALVES

3-EF86 (American type 6267), 2-EL36 (American type 6CM5), 1-DY87 (American type 1S2A).

MAINS SUPPLY

100 to 130 volts and 200 to 260 volts, 50 to 60 c/s.

POWER CONSUMPTION

40 to 70 watts depending on output voltage.

MOUNTING

Cabinet in blue plasticcoated aluminium with front panel in light-grey enamel.

DIMENSIONS

340 wide $\times$ 240 high $\times$ 265 deep mm. (13½ $\times$ 9½ $\times$ 10½ inch).

WEIGHT

11 kilos (24 lbs).

WE RESERVE THE RIGHT TO DEViate FROM THIS SPECIFICATION



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