PT18-10 mk2
PT30-10 mk2

High Voltage DC Cable Test Systems

PT30-10

Features

- ±18kVdc output voltage (PT18-10)
  ±30kVdc output voltage (PT30-10)
- 10mA output capability
- Both voltage and current metered on HV outputs
- Automatic earth system for dumping capacitive loads
- HV output plug & socket system
- Key operated supply switch to prevent unauthorised operation
- Automatic mains voltage selection
- Visual indication of test piece failure

T&R Test Equipment is a market leader in the field of protection test equipment. The range includes primary and secondary current injection equipment up 6000A, voltage sources, micro-ohmmeters and high voltage test systems up to 100kV.

The PT18-10 and PT30-10 high voltage dc test sets are designed to perform tests on installed cable and jointing systems. The units have a variable output voltage with a maximum or ±18kVdc (PT18-10) or ±30kVdc (PT30-10). Both units have a maximum charging capability of 10mA. A zero-volt interlock is fitted that prevents the output being switched on unless the output control is at zero.

The units include an automatic load discharge system that discharges the cable under test when the output is switched off or a breakdown occurs. The internal dumping system can discharge a maximum of 2.5kJ on each output, corresponding to 10μF at 18kV or 4μF at 30kV. In the event of a test object failure, the overload circuit will automatically switch off the output voltage and earth the output via the internal discharge circuit. A manual discharge probe is also supplied as standard with both units, allowing higher load capacitances to be safely discharged.

The mk2 units introduce automatic 115/230V mains voltage selection, allowing easy transition between site voltages.

The output voltage is metered by two large, linear, analogue instruments marked 0-20kV (PT18-10) or 0-30kV (PT30-10). Test object current is metered by two further analogue instruments with 0-10 scale marking. The meters read 0-10mA directly, or 0-1mA when the ÷10 push button is operated. The HV output from both units use a high quality plug and socket system, allowing for easy cable replacement.

The PT18-10 and PT30-10 are part of a comprehensive range of AC & DC high voltage systems available from T&R Test Equipment. The line-up includes cable test sets from ±18kV to ±30kV dc and pressure test systems up to 100kVac.

PT18-10

T&R Test Equipment Ltd

PT18-10 mk2 & PT30-10 mk2 Specification

Output

All of the PT series cable test systems have high quality high voltage output connectors, and are supplied with detachable, partially screened output cables

Unit type	Voltage	Continuous	5 minutes
PT18-10	0 to ±18kV	5mA	10mA
PT30-10	0 to ±30kV	5mA	10mA

The above intermittent on times must be followed by an off time of 15 minutes, and is based on an ambient temperature of 25°C.

Metering

The positive and negative output voltages on the PT series are metered on the HV output by separate analogue instruments.

Unit	Range	Accuracy
PT18-10	0-20kV	±1.5% of full scale
PT30-10	0-30kV	±1.5% of full scale

The output current on both of the outputs is metered by a dual range analogue instrument. The 1mA range is selected by the ÷ 10 pushbutton adjacent to the mA meter.

Unit	Range	Accuracy
PT18-10	10mA	±2.5% of full scale
	1mA	±2.5% of full scale
PT30-10	10mA	±2.5% of full scale
	1mA	±2.5% of full scale

Overload Protection

The PT18-10 and PT30-10 are protected by an overload trip on the output that operates at 12mA.

Load Discharge System

The PT18-10 and PT30-10 are fitted with an automatic internal load discharge system that grounds the load via a 20kΩ resistor on each output when the output is switched off. The discharge system is rated to dissipate 2.5kJ once every 15 minutes on each output. The PT18-10 can discharge a maximum load capacitance of 10μF per output from 18kV, and the PT30-10 can discharge a maximum load capacitance of 4μF per output from 30kV.

DP20 Discharge probe

Unit	PT18-10	PT30-10
Maximum discharge energy	2.5kJ	2.5kJ
Maximum discharge capacitance from unit max output voltage	10μF	4μF

The PT series units are supplied with a DP20 or DP40 manual discharge probe to allow the discharge of higher capacitance loads.

	PT18-10	PT30-10
Discharge probe supplied	DP20	DP40
Discharge probe max discharge voltage	20kV	40kV
Resistance	30kΩ	60kΩ
Maximum discharge energy	3.6kJ	7.2kJ
Maximum discharge capacitance from DP max rated voltage	15μF	11μF

Supply Requirements

PT18-10 mk2 115V/230V±10% auto-selecting
50/60Hz 1ph 600VA max

PT30-10 mk2 115V/230V±10% auto-selecting
50/60Hz 1ph 750VA max

Protection and Safety

The output of the unit is protected by an overload trip, and the input and control supplies are protected by fuses.

The PT18-10 and PT30-10 are designed to meet the requirements of BS EN61010.

An earth terminal is provided on the units which must be connected to a low impedance local earth (lead not supplied as standard).

Temperature Range

Storage -20°C to 60°C Operating 0°C to 45°C

Dimensions		Weight
PT18-10	471x144x362mm	17kg unit only
		25kg including bag & leads
PT30-10	471x191x362mm	25kg unit only
		32kg including bag & leads

Standard Accessories

Both units:	Supply lead, spare fuse, operating manual, 5m HV output leads, 5m output earth lead.
PT18-10	DP20 discharge probe, carry case, lead bag.
PT30-10	DP40 discharge probe, carry case including space for leads

Optional Accessories

	PT18-10 part no.	*PT30-10 part no.*
10m HV leads	A063-193	A064-111
10m earth lead	A064-112	A064-112
15m HV leads	A063-172	A064-100
15m earth lead	A064-101	A064-101
20m HV leads	A064-156	A064-156
20m earth lead	A064-157	A064-157

Note: Due to the company's continuous research programme, the information above may change at any time without prior notification. Please check that you have the most recent data on the product.

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