



Datasheet



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PT18-10
PT30-10

High Voltage DC Cable Test Systems



PT30-10

Features

- $\pm 18\text{kVdc}$ output voltage (PT18-10)
 $\pm 30\text{kVdc}$ 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
- Zero-volt interlock
- 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 to 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 of $\pm 18\text{kVdc}$ (PT18-10) or $\pm 30\text{kVdc}$ (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 $10\mu\text{F}$ at 18kV or $4\mu\text{F}$ 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 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 $\div 10$ push button is operated.

The HV output from the unit uses a high quality plug and socket system, allowing for easy cable replacement.

A range of AC & DC high voltage systems are available from T&R Test Equipment with outputs up to $\pm 30\text{kVdc}$ and 100kV ac.

Unit type	Voltage	Current
PT15-10S	-15kVdc	10mA
PT18-10	$\pm 18\text{kVdc}$	10mA
PT30-10	$\pm 30\text{kVdc}$	10mA
KV5-100	5kVac	100mA
KV15-80	15kVac	80mA
KV30-40	30kVac	40mA
KV30-100	30kVac	100mA
KV50-100	50kVac	100mA
KV50-200	50kVac	200mA
KV100-100	100kVac	100mA



KV50-100



KV30-40



T&R Test Equipment Ltd



PT18-10 & PT30-10 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 $\pm 18\text{kV}$	5mA	10mA
PT30-10	0 to $\pm 30\text{kV}$	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	$\pm 1.5\%$ of full scale
PT30-10	0-30kV	$\pm 1.5\%$ 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	$\pm 2.5\%$ of full scale
	1mA	$\pm 2.5\%$ of full scale
PT30-10	10mA	$\pm 2.5\%$ of full scale
	1mA	$\pm 2.5\%$ 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 20k Ω 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 10 μF per output from 18kV, and the PT30-10 can discharge a maximum load capacitance of 4 μF per output from 30kV.

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

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
Resistance	30k Ω	60k Ω
Maximum discharge energy	3.6kJ	7.2kJ
Maximum discharge capacitance from max output voltage	15 μF	11 μF

Supply Requirements

PT18-10	115V $\pm 10\%$ 50/60Hz 1ph 600VA max 240V $\pm 10\%$ 50/60Hz 1ph 600VA max
PT30-10	115V $\pm 10\%$ 50/60Hz 1ph 1000VA max 220V $\pm 10\%$ 50/60Hz 1ph 1000VA max 240V $\pm 10\%$ 50/60Hz 1ph 1000VA 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.

Temperature Range

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

Dimensions	Weight
PT18-10	471x144x362mm 17kg
PT30-10	471x191x362mm 25kg

Accessories

Supply lead, spare fuse, operating manual, output leads, DP20/DP40 discharge probe, earth lead.



PT18-10



DP20 Discharge probe



PT30-10

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LOCATIONS

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