

Paint Test Equipment – UK

data sheet

Electrostatic Gun High Voltage Meter



The Powdatest Electrostatic High Voltage Meter is a precision instrument that measures both electrostatic spray gun high voltages and discharge currents.

With the Powdatest, any electrostatic sprayer can now quickly measure the voltage at the spray gun tip. This corona point is where the electrostatic voltage must be maintained at the correct voltage. The spray gun high voltage can be up to 100kV and can be either a positive or negative charge. Using the Powdatest, the actual gun voltage can be quickly and accurately measured.

There can be many reasons why the spray gun voltage may not be correct: poor calibration, dirt and grease contamination, poor cable connections, and cable breakages, all of which could affect the actual gun voltage but not be shown on the spray equipment displays. The Powdatest offers a safe, simple and quick test to establish the correct voltage and is particularly useful for multi-gun systems.

The ability to accurately measure the discharge current during spraying is very important. The Powdatest will allow the operator to determine the optimum gun position and to detect the amount of powder applied before back-ionisation occurs. This is useful to allow spray gun systems with a set discharge current control to be quickly and easily tested.

Calibration Certificate with traceability to UKAS is an optional extra. The Certificate is supplied in a paper format and is available online through the Calibration Portal (under Browse Categories) on our website. The Calibration Portal will list all your equipment that is calibrated by Paint Test Equipment, showing the renewal dates and allowing Calibration Certificates to be viewed at any time.

Supplied with High Voltage Measuring Probe, Current Test Cable, Earth Cable and foam-filled Carrying Case.



Electrostatic High Voltage Meter Specifications

Part No	Range Voltage	Range Current	Resolution Voltage	Resolution Current	Accuracy	Cal Cert Part No
E2001	0–100kV	0–200μA	0.1kV	0.1μA	1%	NE001

Voltage Measurement

Connect the earth cable to the threaded TNC connector on the Powdatest. Connect the High Voltage Probe via the connecting cable to the outside right-hand side BNC connector (the Powdatest picture shows the location of both connectors).

Ensure that the earth lead is securely connected to earth or ground.

Switch the Powdatest on by pressing the Mode keypad. The red voltage kV indicator will illuminate and the display will register approximately 00.0. Holding the High Voltage Probe handle only, place the tip of the High Voltage Probe onto the high voltage to be measured. The Powdatest will display this voltage and will also show its polarity, for example if the display shows -46.6 the voltage has a negative charge.

To obtain the electrostatic gun potential, depress the gun's On switch whilst it contains no powder. Always keep the High Voltage Probe glass surface clean, as dirt or other contaminants could affect the measurement accuracy. To clean the glass: use a small amount of methylated spirit on a clean duster. Do not use any other type of cleaning agent.

To switch the Powdatest off, press the Mode keypad twice when in voltage mode. The Powdatest will automatically switch itself off after approximately 10 minutes from switch on.

Current Measurement

Ensure that the object to be sprayed is insulated from earth.

Connect the current cable (BNC to croc clips) to the centre BNC connector on the Powdatest. Connect the Black croc clip to a good earth connection. Connect the Red croc clip to the object (in the Powdatest picture, the centre BNC socket not connected is the current socket).

Switch the Powdatest on by pressing the Mode keypad twice. The green μA indicator will illuminate. Commence spraying the object. The Powdatest will now display the current between the object and earth. This current will be high initially and reduce as the coating is applied.

To switch the Powdatest off, press the Mode keypad once when in current mode.