JCI 155v6 Charge Decay Analyser

Data Sheet

The JCI 155v6 is a compact instrument for easy and direct measurement of the ability of materials to dissipate static electricity.

Many of the risks and problems presented by static electricity relate to the influence of retained electrostatic charge. This is the potential created by the charge retained on a surface. The suitability of a material in a particular situation may therefore be judged in terms of the maximum surface voltage attained and the time it takes to dissipate

The JCI155v6

The version 6 is the latest in our highly successful and unique range of Charge Decay Time Analysers. A high voltage corona discharge deposits a patch of charge on the surface of the subject material and a fast response electrostatic field meter measures the voltage generated by this charge. It also measures how quickly this voltage falls as the charge migrates away. Corona charging is a simple way to simulate practical charging events, allowing control of initial surface voltage and charge polarity. It is applicable to all types of surfaces - whether uniform or with localised conducting features and provides consistent, reproducible results that are not affected by corona exposure.

An intuitive, user-friendly display now includes a large LCD screen for both textual and graphical presentation of results using just 5 menu driven active operator keys. Full versatility in setting configuration and test parameters is provided by the instrument firmware and display and the analyser may be used independently or connected via USB link to a PC running our proprietary associated JCI Graph software.

Benefits

- User friendly interface with simple setup of run parameters & settings
- Integral graphical LCD display with dimmable back light
- Calculation and display of capacitance loading (in conjunction with JCI 176 - Charge Measuring Sample Support)
- Portable, can be used with or without a PC
- Download test data to JCI Graph software for further analysis.

Specification features & deliverables

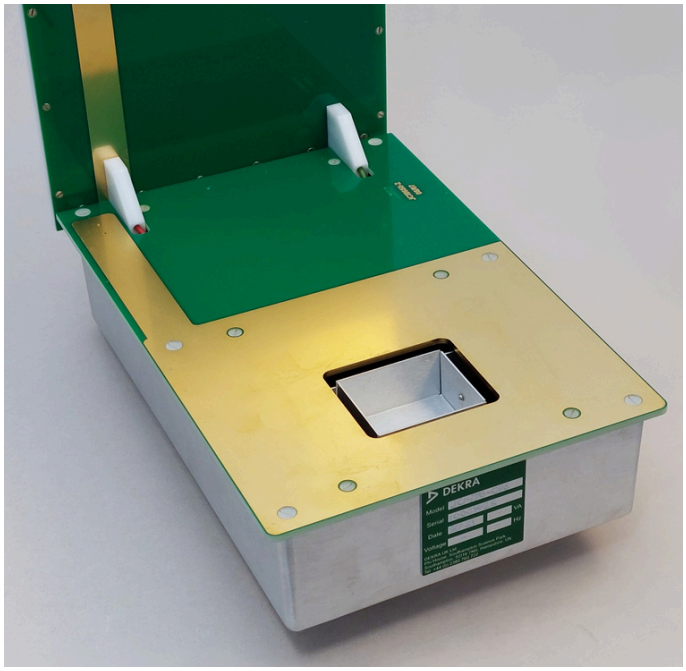
CONTROLS	• Power ON key at lower left-hand corner of top panel. • 5 keys under liquid crystal display. • Active Key assignment showing buttons available for use. • Key functions cover initiation of charge decay test runs, inspecting data from the most recent as well as earlier runs, graphical display of results with zoom/unzoom functions, selecting and editing test conditions and aborting operations, test description viewing for test run comparison of data. • Corona voltage polarity change-over rotary switch
DISPLAYS	• Large Interactive LCD Display (112x60mm) • LED indication of connection to external mains power supply • LED indication that corona charging is active • On screen LCD indication that batteries are in 'fast charge' mode (unless fully charged)
TEST AREA	• 45x54mm aperture in instrument baseplate
SAMPLE SUPPORT ACCESSORIES	The unit may be placed directly on a test material surface but sample support apparatus are available: • JCI 166 Sample Support Unit: sheet material support for open and earthed backing tests. • JCI170 and JCI172: Powder sample support: Can be easily put in place and removed so that the base plate of the JCI155v6 stands off a few millimetres to reduce risk of powder dispersal to the air by action of the air dam. • JCI 176 Charge Measuring Sample Support: open and earthed backing support for film and layer samples up to 5mm thick with measurement of the corona charge received by the sample. • JCI173: powders and liquids (within the JCI176)

CORONA EXCITATION VOLTAGE	• High voltage supply (internal feedback stabilised) providing positive and negative potentials to ca 10kV and 6ms to 50msec duration (with delimited configuration setting accessible to JCI 255 users). • Direct measurement by software of corona voltage and current.
SURFACE VOLTAGE LIMITS	50V to about 3kV Max, depending on rate of charge dissipation.
TIMING RANGE	Charge decay times from below 50ms to over 100,000 seconds.
OPERATION	• Direct operation by integral NiMH rechargeable batteries providing about 5 hours continuous operation. • Automatic progressive shut down by software with advice on LO BATT condition. • 18V supply connection indicated by red LED for battery charging • Automatic zero setting by software: with plate advanced at start of each test. Zero stable within +5V over long duration runs.
BATTERY CHARGING	NiMH batteries are recharged whenever the JCI 155 is connected to the mains supply (115V or 240V). Charging time is about 2 hours. LCD indication of fast recharge operation.
CONNECTIONS	• 18V charger input via 2.5mm DC power connector. Red LED indication of mains power supply active • 8w mini DIN connector for linking to JCI 176 for sample charge measurements • Earth Connection on durable dot • New USB Connector link to PC
SOFTWARE	• Proprietary firmware in ROM for operation of integral microcomputer • Data stored to on board memory card. • JCI-Graph: Windows 11 compatible software for transfer of data and display and analysis of instrument observations.
DIMENSIONS	173 x 216 x 67 mm
PACKAGING	Supplied in carrying case with mains AC adapter, USB port connecting cable, 8w - 8w mini DIN cable for linking to JCI 176, earth bonding lead.

The JCI176 Charge Measuring Sample Support

Using a JCI 155v6 with a JCI 176 Charge Measuring Sample Support allows measurement of the corona charge received by the sample and calculation of the 'Capacitance Loading' experienced by charge on the surface. A high Capacitance Loading can mean relatively low surface voltages for a given amount of charge, which will often be indicative of a less problematic material.

The JCI176 can be used with the powder and liquid sample holder JCI173 to allow testing on a range of products.



Optional extra accessories & services

- JCI 170 & JCI 172 Sample Support
- JCI 166 Sample Support
- JCI 176 Sample Support
- JCI 173 Powder/Liquid Support Insert
- JCI 255 Calibration Unit
- Calibration
- JCI Graph Software

DEKRA Organisational & Process Safety

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DEKRA Organisational and Process Safety are a behavioural change and process safety consultancy company. Working in collaboration with our clients, our approach is to assess the process safety and influence the safety culture with the aim of making a difference.
In terms of behavioural change, we deliver the skills, methods, and motivation to change leadership attitudes, behaviours, and decision-making among employees. Supporting our clients in creating a culture of care and measurable sustainable improvement of safety outcomes is our goal. The breadth and depth of expertise in process safety makes us globally recognised specialists and trusted advisors. We help our clients understand and evaluate their risks, and we work together to develop pragmatic solutions. Our value-adding and practical approach integrate specialist process safety management, engineering, and testing. We seek to educate and grow client competence in order to provide sustainable performance improvement. Partnering with our clients, we combine technical expertise with a passion for life preservation, harm reduction and asset protection.
We are a service unit of DEKRA SE, a global leader in safety since 1925 with over 48,000 employees in 60 countries and five continents. As a part of the world's leading expert organisation DEKRA, we are the global partner for a safe world.
We have offices throughout North America, Europe, and Asia.

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Would you like more information?

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