

JCI 140 Static Monitor

Including the JCI 140F, JCI 140X and JCI 140XF

The JCI 140 is a compact instrument for easy detection and measurement of static electricity and for assessment of risks in practical situations.

General Description

The **JCI 140 Static Monitor** is a compact, easy to use instrument for direct non-contact measurement of surface voltage. It is available in 3 options: F – Fast Response, X – Extended Range & XF - Fast Response Extended Range. From a distance of 100 mm the 3½ digit liquid crystal display indicates surface voltage to a resolution of 1 Volt (standard version) on the most sensitive range. This makes it particularly easy to find even low levels of static charge and to make measurements with confidence.

As a field mill instrument there is no need to switch-on in a static free environment, no need for measurements to be made within a limited time and no need to worry about the influence of air ionisation – which are all concerns with simple ‘induction probe’ type instruments. The novel mode of operation of the JCI 140, with no earthing of the rotor (the instrument must still be earthed), provides quiet, stable operation with long operational life.

The JCI 148 and JCI 146 are compatible modular voltmeter adapters for use with the JCI 140. Both instruments enable direct measurement of voltages on live conductors using a probe. The JCI 140, when used with the JCI 148, can measure voltages up to 20kV dc and the JCI 146 can measure voltages up to 60kV dc. The very high input resistance of these systems eliminates the loading effects suffered by many high voltage voltmeters and high voltage adapters for multimeters. The JCI 147 is a compatible modular Faraday Pail adaptor for use with the JCI 140. It allows direct measurement of charge (in nano Coulombs) on items placed in the Faraday Pail up to 20nC.

Benefits:

- > Indicates surface voltage
- > Extended range version available for higher voltages
- > Fast version available for AC fields (-3dB at 400Hz)
- > Field mill technology avoids the zeroing required for Induction Probe Type Monitors
- > Full scale of 19.99kV (standard version) with 1V resolution on the most sensitive range.



Specification

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|-----------------|--|
| Ranges: | 2kV & 20kV full scale 1V and 10V resolution at 100m (JCI 140 / JCI140F only) *JCI 140/F versions only (20kV & up to 50kV for JCI 140X / XF, with precautions as per the manufacturer's instructions) |
| Response: | -3dB at ~120Hz ($\pm 2.5\%$ Hz) for standard JCI 140/X -3dB at ~400Hz ($\pm 2.5\%$ Hz) for JCI140F/XF |
| Zero Stability: | Within $\pm 10V$ on 2kV range (JCI 140 / JCI140F only) |
| Accuracy: | Within $\pm 2\%$ FSD |
| Linearity: | Within $\pm 1\%$ FSD |
| Display: | 3½ digit LCD indicating surface voltage in kilovolts at 100mm with polarity and 'LO BATT' Audio indication |
| Audio alarm: | Pulsing audio output when reading above user set alarm level |
| Signal outputs: | Via 8 pin miniature DIN socket |
| Power Supply: | PP3 Battery or JCI142 external mains adapter |
| Dimensions: | 34x66x150mm overall. Weight: 320g. |



JCI 140 on the JCI 125 Zero Check Chamber



JCI 140 with the JCI 169 Feet

Optional Extra Accessories & Services

- > JCI 143 Analogue Output Cable
- > JCI 142 External Mains Adapter
- > JCI 169 Permanent Mounting Feet
- > Digital USB Oscilloscope & Data Logger
- > Basic and enhanced calibration available to BS7506: Part 2:1996
- > E-field cross calibration also available
- > JCI 125 Zero Check Chamber

Compatible Modular Instruments

- > JCI 148 Electrostatic Voltmeter Adapter
- > JCI 147 Faraday Pail Adapter

DEKRA Process Safety

The breadth and depth of expertise in process safety makes us globally recognised specialists and trusted advisors. We help our clients to understand and evaluate their risks, and work together to develop pragmatic solutions. Our value-adding and practical approach integrates specialist process safety management, engineering and testing. We seek to educate and grow client competence to provide sustainable performance improvement. Partnering with our clients we combine technical expertise with a passion for life preservation, harm reduction and asset protection. As a part of the world's leading expert organisation DEKRA, we are the global partner for a safe world.

Process Safety Management (PSM) Programmes

- > Design and creation of relevant PSM Programmes
- > Support the implementation, monitoring, and sustainability of PSM Programmes
- > Audit existing PSM Programmes, comparing with best practices around the world
- > Correct and improve deficient Programmes

Process Safety Information/Data (Laboratory Testing)

- > Flammability/combustibility properties of dusts, gases, vapours, mists, and hybrid atmospheres
- > Chemical reaction hazards and chemical process optimisation (reaction and adiabatic calorimetry RC1, ARC, VSP, Dewar)
- > Thermal instability (DSC, DTA, and powder specific tests)
- > Energetic materials, explosives, propellants, pyrotechnics to DOT, UN, etc. protocols
- > Regulatory testing: REACH, UN, CLP, ADR, OSHA, DOT
- > Electrostatic testing for powders, liquids, process equipment, liners, shoes, FIBCs

Specialist Consulting (Technical/Engineering)

- > Reactive chemical, self-heating, vent sizing, and thermal instability hazards
- > ATEX / DSEAR & hazardous area classification
- > Mechanical equipment ignition risk assessment
- > Transport & classification of dangerous goods
- > COMAH & SEVESO compliance
- > PHA support & facilitation
- > LOPA & SIL
- > Occupied buildings risk assessment
- > Fire engineering
- > Cybersecurity

We have offices throughout North America, Europe, and Asia.

For more information, visit www.dekra-process-safety.co.uk

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Would you like to get more information?

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