Aljac MEMBER OF THE ELAFLEX GROUP

EMCEE MODEL 1152 DIGITAL CONDUCTIVITY METER

- RUGGED CAST ALUMINIUM HOUSING
- LARGE DIGITAL DISPLAY
- RANGE FROM 0 TO 1999 pS/m IN INCREMENTS OF 1 pS/m
- SELF CHECK CALIBRATION
- DETACHABLE STAINLESS STEEL PROBE
- CERTIFIED INTRINSICALLY SAFE FOR USE IN ZONE 1, EEx ia IIA T4 HAZARDOUS AREAS
- PLASTIC SOLVENT RESISTANT CARRY CASE

Introduction

Static electricity can build up in hydrocarbon fuels when they are pumped at high flow rates, particularly through line strainers and micronic filters. Hydrocarbon fuels inherently have a very low conductivity which means that they retain static electricity, and so any static charge generated in the fuel will not dissipate quickly. This can lead to a static electricity discharge with the associated risk of an explosion. It is however, quite common practice to blend anti static additives into the fuel to improve the conductivity and reduce the risk of a static discharge occurring.

The acceptable conductivity of Jet Fuel is specified between 50 and 600pS/m (at 15 degC) at the aircraft wing in the Defence Standard DEF STAN 91 -91 (latest edition) and the Joint Inspection Group document Aviation Fuel Quality Requirements For Jointly Operated Systems. However, in order to monitor the conductivity is is necessary to have a robust instrument which can be easily used in the field because as the fuel travels through the distribution system it is not uncommon for the conductivity to change as the levels of anti static additive become depleted.

Description

The EMCEE Model 1152 Conductivity Meter has been designed and developed specifically to measure the conductivity of Jet Fuel in order to quantify and minimise this potential hazard. It provides the ability to measure the electrical conductivity of liquids in Picosiemens per Meter (pS/m) as defined by ASTM D 2624 with an accuracy of 2% (±1 pS/m) over the range of 0-1999 pS/m.

The EMCEE Model 1152 has a large digit digital display and is battery operated, it is powered by readily available standard batteries (Eveready A544). The robust design and the fact that it is certified intrinsically safe in accordance with ATEX EEx ia IIA T4 means that the unit can be used to check the fuel conductivity in the field or in the laboratory, hence providing a truly universal method of measuring and monitoring the conductivity of Jet Fuel. The unit is fitted with a replaceable Stainless Steel probe and a detachable grounding wire.

The EMCEE Model 1152 has a self check calibration feature to ensure that it remains accurate throughout its service life. To complete the package the EMCEE 1152 is housed in a plastic impact and solvent resistant carry case.

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Operation

Fit the Probe to the Meter and connect the Grounding Cable to the Meter and to the metal sample container (not included).

Fill the sample container with fuel and wait approximately 2 minutes for any static charges to dissipate.

Depress the Measure button (Button M) with the probe OUT of the fuel. In approximately 3 seconds the reading should be 000 plus/minus 001.

The probe is then immersed in the fluid to be tested ensuring that it covers both sets of holes.

Pressing the M button causes a small current to flow through the fuel. The capacitive effect is amplified by the electronics and is shown on the display as a conductivity reading in pS/m.

Specification

Range: 0-1999 pS/m.
Resolution: 1 pS/m.
Accuracy: 2% of reading plus/minus 1 pS/m
Over Range Indicator: 1 on left hand side of display.
Calibration: Internal source, field adjustable.
Controls: 2 push buttons, M (measure) and C (calibration).
Display: LCD, 3 off 12mm digits 27mm high.
Grounding: Jack plug on Meter, crocodile clip on free end.
Power: 3 off Eveready A544 Batteries.
Operating Temperature: 0 to 75 °C.
Carry Case: Rigid solvent resistant moulded plastic.
Nett weight: 0.9 kg.

How To Order

EMCEE 1152 Kit.
Complete with a removable sensor probe, grounding cable, manual and plastic storage/ carry case.
Part Number: 0902000400