

Emcee Electronics Model 1152 (2018 Model)

Digital Conductivity Meter (ASTM D2624)

- Continuous standard electrical conductivity range from 0 to 2000 picosiemens per metre (pS/m)
- Available in other standard and non-standard conductivity ranges
- Large digital, liquid crystal display
- Reliable advanced integrated circuit design technology
- Self-check calibration with field adjustment capability
- Capable of storage tank and tanker truck measurement with extension cable or cable reel kit
- Automatic over range and low battery indication
- Electronics housed in a rugged cast aluminium case coated with solvent resistant paint equipped with a detachable stainless steel probe
- Approved intrinsically safe design for use in hazardous environments by Underwriters Laboratories (UL), Canadian Standards Association (CSA), and LCIE
- Intrinsically safe Ex ia IIA T4 Ga, II 1 G

EMCEE DIGITAL CONDUCTIVITY METER

Convenient,
Reliable,
Accurate Measurement
of Electrical
Conductivity



Model 1152 Meter



Cable Reel Kit



Detachable Probe

Applications The Model 1152 Digital Conductivity meter provides a measurement of electrical conductivity of fluids in conductivity units (CU), which are defined as picosiemens per meter in ASTM D 2624. The rugged Electro-mechanical design of the Model 1152 meter facilitates ease of use for both laboratory and field applications. Initially the meter was designed and developed for safety reasons to measure the electrical conductivity of hydrocarbon fuels, particularly jet fuels. Subsequently, The meter was modified with other conductivity ranges to accommodate measurement of a variety of fluids for different applications.

Safety Hydrocarbon fuels typically have low electrical conductivity and consequently, are susceptible to retaining a static charge. Static charges are induced especially when the fuel is pumped at high rates through filters. Due to the relatively low conductivity, the static charge does not readily dissipate and is retained for a considerable period of time. This condition can result in an explosion and/or fire. Since conductivity is a function of temperature, it is very important to record the fuel temperature at which the measurement was performed.

Process Controls In addition to safety reasons, electrical conductivity of fluids can be monitored for process control. Proper addition and mixing of various ingredients can be monitored at different stages of production. These applications are not limited to hydrocarbons, but have been expanded to other products such as paints, solvents, inks and other non-organic items.

Theory of Operation The Emcee Model 1152 meter consists of an electronics assembly and a detachable stainless steel probe. The probe, which is similar to a capacitor having concentric electrodes, is immersed in the fluid up to the set of holes closest to the electronics assembly. Depressing the "M" pushbutton causes a relatively small direct current to flow through the fluid between the electrodes. The current is amplified in the electronics assembly and is displayed on the liquid crystal display in picosiemens per meter (pS/m).

Specifications

Range	0-1999 pS/m	Calibration	Internal source, field adjustable
Resolution	± 1pS/m (0-2,000 range)	Power	Battery 3 x 6V Alkaline
Accuracy	2% of reading	Op Temp Range	0 – 75C (32-165°F)
Over-Range	'1' on left side of display	Carrying Case	Hard solvent-resistant, moulded plastic
Controls	2 Pushbuttons M (easure), C (alibration)	Certification	Intrinsically safe Ex ia IIA T4, II 2 G
Display	Liquid crystal, 3.5 digits	Approvals	ASTM D2624, IP274, ISO 6297
Safety Ground	Banana jack on electronics assembly		ASTM D1655, Def Stan 91-091



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Emcee Electronics Model 1152 Digital Conductivity Meter (ASTM D2624) Changes made for 2018 model

Old Model



2018 Model



Mechanical Switches

- Open Holes for adjustment
- Open socket for Ground Lead
- 4mm Banana plug for Ground lead

Membrane Switches

- Holes sealed with set screws
- Enclosed Socket for Ground Lead
- 2mm Banana plug for Ground lead

Changes eliminate or reduce liquid intrusion into the unit
Improve durability and ruggedness of the unit.



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