

Electrical Conductivity of Hydrocarbons by Precision Meter

test method

For the determination of the “rest” electrical conductivity of aviation fuels and other similar low-conductivity hydrocarbon liquids in the range from 0.1 to 2000 pS/m

precision conductivity meter

- Capable of being modified to provide higher conductivity ranges
- Optional capability to measure sample temperature
- Mechanical design of the Conductivity (KSLA) Cell allows accurate self measuring of the test sample volume (100 mL)
- Electronic circuitry automatically samples and holds the reading
- Large five digit liquid crystal display
- Internal self check calibration of all electronic circuits
- Ease of disassembly and cleaning of the Conductivity Cell
- Completely self contained powered by 6 standard 9 volt batteries monitored by a low battery indicator

A specific volume (100-mL) of test sample is introduced between the two concentric electrodes in the Cell. Using a triaxial cable, the Cell is connected to a sensitive dc ammeter in the Console and a dc voltage is applied between the two electrodes. Due to the physical geometry of the Cell, the Cell constant is stable and calculable. Thus, the resultant peak current is readily transformed and digitally displayed as picosiemens per meter (pS/m), also commonly known as conductivity units (CU). As defined in ASTM Standard Test Method D 4308, a CU is equal to a picosiemen per meter (1 CU = 1 pS/m). The enclosure technique employed in the Cell precludes the need for external screening from stray electrical fields.

ordering information

catalog no.	description
K11430	Precision Conductivity Meter, 0 - 20,000 pS/m, without Temperature Probe
K11431	Precision Conductivity Meter, 0 - 2,000 pS/m, with Temperature Probe
K11432	Precision Conductivity Meter, 0 - 200,000 pS/m, without Temperature Probe
K11433	Precision Conductivity Meter, 0 - 20,000 pS/m, with Temperature Probe
K11434	Precision Conductivity Meter, 0 - 200,000 pS/m, with Temperature Probe



K11430 Precision Conductivity Meter

specifications

Conforms to the specifications of:

ASTM D4308

Range: 0 – 2000 pS/m

0 – 20,000 pS/m

0 – 200,000 pS/m

Applications

Many applications require highly accurate “rest” electrical conductivity measurements of fluids ranging in values from less than one pS/m to several thousand. “Rest” conductivity is the electrical conductivity at the initial instant of current measurement after a dc voltage is impressed between electrodes (reciprocal of the resistance of uncharged fluid in the absence of ionic depletion or polarization). The Precision Conductivity Meter was originally designed to precisely measure the conductivity of hydrocarbon fuels only. Limiting factors are the viscosity of the fluid and the conductivity level to be measured. However, electrical conductivity of other fluids can be measured and/or ranges of the instrument can be modified to accommodate higher conductivity values than the standards offered.

Applications

Electronics Assembly
Batteries
Console
Instruction manual on CD
KSLA Fuel Cell
Certificate of Calibration
Interconnecting Cable Assembly