# Electrical Conductivity of Aviation and Distillate Fuels

## test method

**For determination of the electrical conductivity of aviation and distillate fuels with and without a static dissipater additive. The test normally gives a measurement of the conductivity when the fuel is uncharged, that is, electrically at rest (known as the rest conductivity).**

## portable digital conductivity meter

- Continuous standard electrical conductivity range from 0 to 2000 picosiemen per meter (pS/m)
- Available in other conductivity ranges
- LED illuminates during automatic test cycle (3 seconds)
- Temperature measured and displayed in Celsius and Fahrenheit
- Data stored (non volatile) until next test cycle is performed
- Hermetically sealed
- Text presentation of operational status
- Automatic over range and low battery indications
- Single push button operation
- Digital, liquid crystal display
- Powered by 3 standard lithium cells
- Listed by UL and LCIE as Intrinsically Safe

The portable digital conductivity meter provides a measurement of electrical conductivity of fluids in conductivity units (CU), which are defined as picosiemens per meter in ASTM D2624. The rugged electro/mechanical design facilitates ease of use for both laboratory and field applications. The meter was designed and developed for safety reasons to measure the electrical conductivity of hydrocarbon fuels, particularly jet fuels. Additional pre-amp versions are available to accommodate measurement of a variety of fluids for different applications.

The portable digital conductivity meter consists of an electronics assembly and a stainless steel probe. The probe, which is similar to a capacitor having concentric electrodes, is immersed into the fluid, up to the set of holes. During the read cycle a relatively small direct current flows 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). This data is then stored in non-volatile memory and can be retrieved until the next read.

## ordering information

| catalog no. | description |
|---|---|
| **K11420** | Portable Digital Conductivity Meter |

### accessories

| | |
|---|---|
| **K11420-1** | CU Calibration Box Set (Low 10pS/m) |
| **K11420-2** | 50ft. Cable Assembly |
| **K11420-3** | 100ft. Cable Assembly |
| **K11420-5** | CU Calibration Box Set (High 10pS/cm) |

**K11420 Portable Digital Conductivity Meter**

## specifications

Conforms to the specifications of:
ASTM D2624
Range: 0 – 2000 pS/m
Resolution: ±1 (0 – 2k pS/m)
Accuracy: 2% of Reading
Controls: 1 Pushbutton, dual function
Display: Liquid Crystal, 5 Digits
Ground: Banana jack on electronics assembly
Power: Battery, 3 Each, 3 Volt Lithium
Temperature Range: 32° to 165°F (0° to 75°C)
Carrying Case: Hard, solvent resistant, molded plastic

**Scope of Delivery**

| | |
|---|---|
| Electronics Assembly | Carrying Case |
| Stainless Steel Probe | Instruction manual on CD |
| Lithium Battery (3) | Certificate of Calibration |
| Ground Lead | UL and ULC Approved |

**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.

**Dimensions** wxdxh,in.(cm)
7.5x2.25x1.7 (19.05x5.72x4.32)
Probe Dia = 0.75 in. (1.91cm)
Net Weight: 8.2 oz (232.5g)

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