

## MCG 350 Average Temperature Probe

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### Average Temperature Probe

The MCG 350 (ATP) represents state-of-the-art temperature measurement, and is accepted worldwide to use as a standard for custody transfer inventory and corrected volumes. The MCG 350 Average Temperature Probe (ATP) allows gauges and transmitters to sense temperature through the change of resistance in the probe. The MCG 350 possesses a series of temperature sensitive elements which all extend to the bottom of the probe. The MCG 350's multiple element probe allows the gauge to select the longest element covered by the product, providing the most accurate temperature reading.



### Resistance Temperature Detector

The Resistance Temperature Detector (RTD) measures multiple spot temperatures by outputting a resistance change to a gauge or transmitter. This change in resistance, which is directly proportional to temperature, is detected by a precision input bridge circuit in the transmitter. In addition to two element leads, a third reference lead is provided. The reference lead is used to remove lead wire resistance from the measurement of the temperature elements.

### Average Temperature Converter

The MCG 2350 is a stand-alone average temperature converter. Accepting its input from an average temperature probe with up to 14 elements, the unit multiplexes these inputs to give a digital output that corresponds to the product temperature. The MCG 2350 is available in two resolution ranges (0.1° C and 0.01° C). The housing is an explosion proof enclosure and includes a critical intrinsic safety (I.S.) barrier, allowing for the use of either explosion proof probes or I.S. probes. The MCG 2350 is normally connected directly to other L&J Engineering models via a serial connection, to give the transmitter average temperature capabilities. The MCG 2350 is UL/C-UL and ATEX/CENELEC Approved.

## Features

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- High Accuracy ( $\pm 0.5^{\circ}\text{F}$ ) Temperature Measurement
- Temperature Averaging
- Temperature Conversions

## Applications

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- Temperature Measurement for Inventory or Process Control
- Volume Correction for Custody Transfer Application
- Temperature Averaging

## Specifications:

### Resistors:

Copper, loop wound  
100 ohms @ 25° C (77°F) Copper  
100 ohms @ 0° C (32°F) Platinum Characterized

### Accuracy:

0.5°F(0.3°C) from 0(18°C) - 200°F(93°C), 1.0°F(0.6°C) above 200° F(93°C).

### Standard Connections:

3/4" NPS, other NPS, NPT and flanged connections available

### Maximum Temperature:

212°F(100°C) for standard unit, high temperature unit available

### Lead Wires:

No. 20 AWG vinyl insulated wire in PVC Jacket

### Flexible Hose:

316 Stainless Steel standard

### Hose Assemble Test:

125 psig

### Insulation Test:

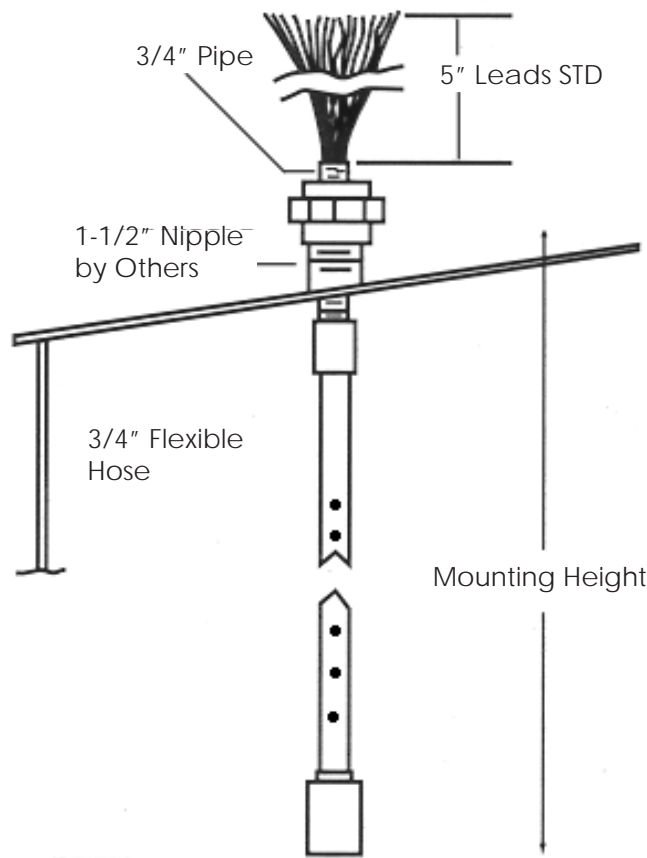
600 V RMS, Resistors to housing

### Approvals:

ABS Approved

**NOTE:** all lead wires are hermetically sealed at the top hose fitting. Units furnished in 5' lead wires, Longer lengths are available.

## Dimensions



All designs subject to change. Certified dimensions and specifications available upon request.