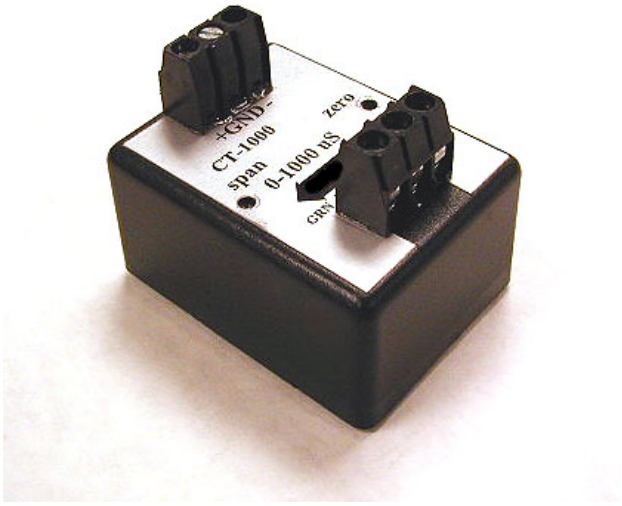
Specifications/Operating Instruction
Model CT-1000



General Description

The model CT-1000 (encapsulated miniature transmitter) is a 2-wire, 4-20mA blind conductivity transmitter featuring encapsulated construction, high performance and compact size.

Connect a conductivity cell of k=0.1 or 1.0 to it to then transform the output to a 4-20mA current proportional to the conductivity level. This output may be transmitter over 2 wires to a control location. The same 2 wires provide power to the transmitter. Any DC power supply from 12 to 36V DC may be used. There are two adjustments on the transmitter to standardize the conductivity output marked as "SPAN" and "ZERO". The output can be monitored with a loop-powered meter, a loop resistor or a multimeter during the standardization process.

SPECIFICATIONS

Input: ……. 0-100,000 uS (see range label on transmitter)
Output: ……4-20mA
Power Supply: ……12-36V DC
Load Resistor: ……0-750Ω at 24V DC
Linearity: …… ± 0.02uS
Operating Temperature Range: ……-25 to 70℃
Reverse Polarity Protection: ……Internal diode
Dimensions: ……1.5" x 2.0" x 1.0"
Maximum sensor to transmitter distance ….. DO NOT EXCEED 25ft.

Installation

1. Two 6-32 mounting holes 9” centers are provided. The transmitter can be mounted in a head, weather-proof box, or DIN rail.

2. The output wires are isolated from ground; connections are made at the terminal strip observing polarity to the terminals marked + , -out. These wires are to be connected to a DC power supply through a load resistor. The wires can be as long as necessary. Connect the ground terminal to earth ground.

3. The loop resistor can be either in the positive or negative power supply lead. The value of the loop resistor depends on the voltage required at the monitoring location. Calculate the required power supply voltage from the following equation:

   minimum $V_{power\ supply} = 12 + (0.02 \times R_{loop})$

   A convenient value for the loop resistor (R_{loop}) might be 250Ω and so the minimum power voltage would be:

   minimum $V_{power\ supply} = 12 + (0.02 \times 250) = 17V\ DC$

   The maximum supply voltage is 36V DC.

4. Connect sensor to transmitter by matching wire color to designated color on terminal block (i.e. electrode’s red wire to terminal block “RED”, …)

5. Turn the unit on end with the conductivity cell in the air and adjust the “ZERO” to an output current of 4.00mA

6. Put the conductivity cell in a conductivity solution that exceeds the highest expected value and adjust “SLOPE” to an output current of 20.00mA

7. SPECIAL NOTE: The transmitter is supplied with a 10K resistor in place of where the temperature compensation can be connected. Leave the resistor in place if your electrode does not have temperature compensation (2-wires only). Remove the resistor if your electrode has 3 wires.