



SG-100M

Electronic Hydrometer / Liquid Density Monitor



Factory Initialization and Instruction

Read First: THIS UNIT HAS ALREADY BEEN FACTORY INITIALIZED

The Omega DP-25B-E-A meter used in the electronic module box is a digital programmable process meter. The initial calibration of this meter depends upon two benchmark points to establish linearity. This particular unit has already been initialized at the factory using two benchmark liquids at room temperature of 72 °F (22 °C). The meter can be reinitialized (recalibrated) at any time at the user's discretion – see enclosed instructions below for user initialization procedure for the Omega meter.

Note: This unit has already been factory initialized and has been designed for use in the density range indicated on the attached label on the back of the meter. Measurements outside of this range will not be valid. Probe must be placed vertically upright (cable on top) in liquid and liquid must cover the top of the cable connector on top of the probe for proper readings.

When probe is used in water-soluble liquids, simply soaking in water and agitating should be sufficient for cleaning. If probe needs to be completely dismantled for a more thorough cleaning, the probe – meter must be reinitialized (see instructions below) after being reassembled.

User Initialization Procedure

Note: This unit has already been factory initialized – procedure below is to be used only if user desires to do a self-initialization.

Connect the module to a 120 VAC power source. Turn the unit on – the digital meter display of the module becomes visible.

Start with two benchmark liquids of known density:

Place probe-head unit vertically upright and completely submerged (liquid must cover the top) in first benchmark liquid of known specific gravity (the lower value). See section 4.3.1 in the Omega Engineering manual for instructions to input the UN 1 value (this is the voltage output of the probe which has a value of 0 – 5 VDC) and the Rd 1 value (this is the desired meter display value which can have engineering units of specific gravity, density, Baume, Brix, or alcohol %).

Remove the probe from the first liquid and rinse in water and let dry before putting into the second benchmark liquid to avoid contamination.

Place probe unit vertically upright and completely submerged in second benchmark liquid of known specific gravity (the higher value). See section 4.3.1 in the Omega manual for instructions to input the IN 2 value and the Rd 2 value (this must be in same units as used for first liquid).

After the procedure in section 4.3.1 in the guide is completed, the meter is initialized and it provides a linearized output display of the density of the liquid in the preferred engineering units based on the above two input points.

The probe can now be secured vertically upright and completely submerged in a sample liquid and the digital display of the meter will indicate the specific gravity of the liquid in the particular chosen engineering units.

4 – 20 MA Operation Procedure

If the unit has an installed 4 – 20 mA output board, then the unit has already been factory initialized. The 4 – 20 mA analog output comes from the red (+)/black (-) terminals on the back of the electronic module box – be certain that the maximum load resistance across these terminals is less than 600 ohms. If the 4 – 20 mA board is installed and there is a desire or need for self re-initialization, then the procedure given in sections 4.10.2 and 4.13 in the Omega manual is to be followed.

Relay Operation

If this unit has installed relay operation (Omega meter DP-25B-E-AR), refer to pages 21 in the Omega manual for set point configuration. Meter has already been initialized for reading the specific gravity. Relay wires are coming out from the back of the meter.