DDG-GY 4-20mA Output Inductive Conductivity Sensor User Manual

1.Parameters:

①Shell packaging material: PP;

②Range: 0~400mS/cm

③Output cable: 5 meters;

④Signal processor: external;

⑤Working temperature: 0℃~100℃

⑥Signal output type: current loop type (three-wire system)

⑦Output signal: 4~20mA, the maximum driving load is 400Ω.

⑧Working Power: 21V(Min) ~ 26V(Max) dc @ 70mA typ.

2.Current Ring Type Wiring Table:

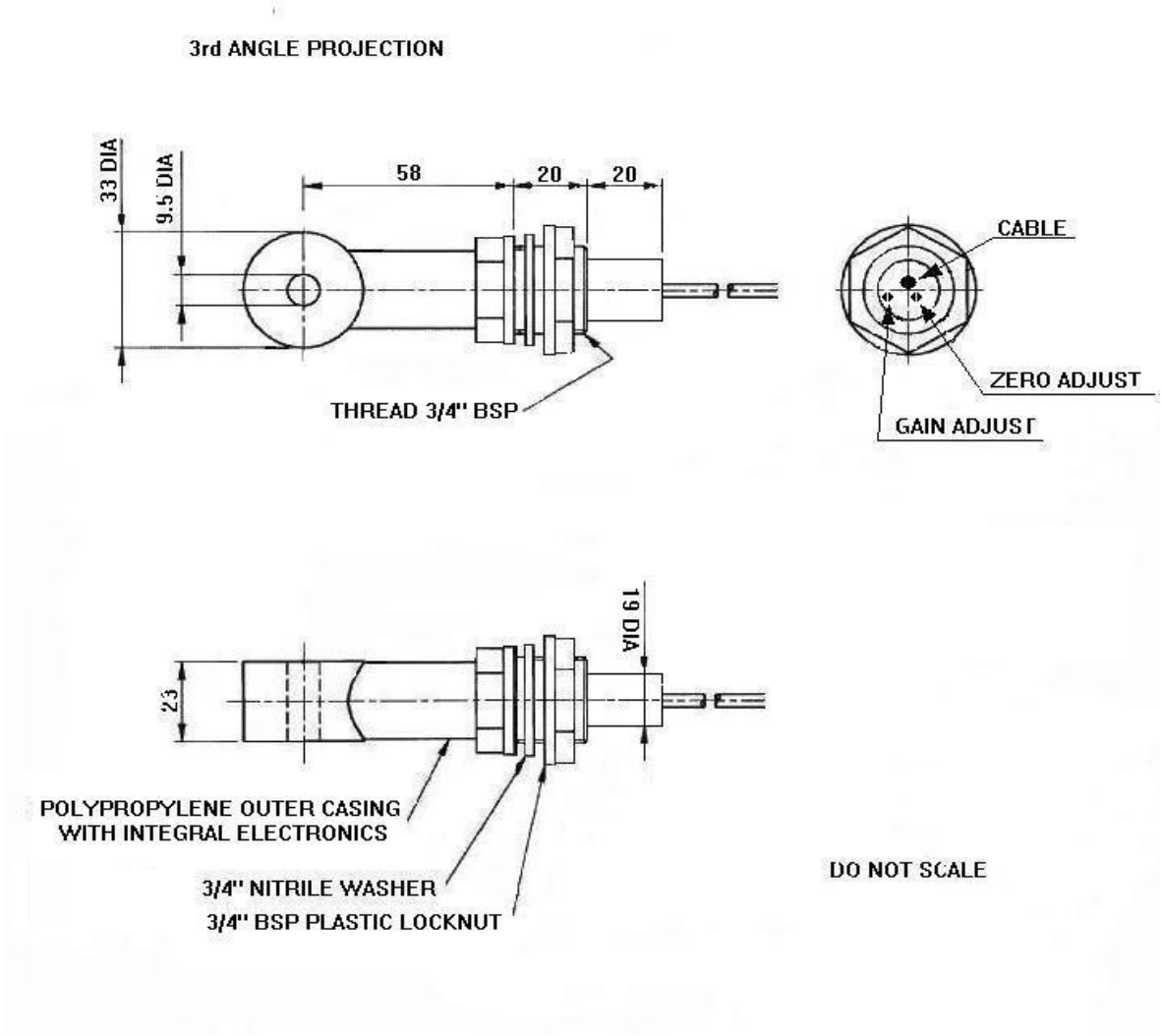
.Red wire: connect to power +12Vdc: 12V~24Vdc

.Yellow wire: Conductivity output 4-20mA;

.Green line: temperature output 4-20mA;

.Bare wire: Connect to power ground (GND).

3.Dimensional drawing (PP material shell, 4~20mA current loop output, built-in signal processor):



(Product does not include lock nut)

Relevant data are subject to change without prior notice, the actual product shall prevail

The actual picture of the probe (PP material shell, 4~20mA current loop output, built-in signal processor):

4.Calibration And Debugging

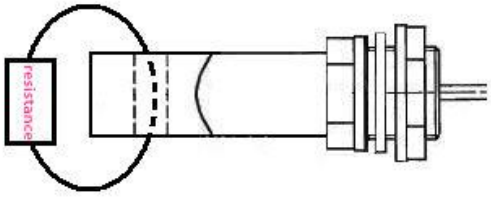
Each electrodeless sensor has a unique zero point and measuring range. Therefore, after the field installation, when calibrating the sensor for the first time, zero calibration is required. Zero calibration provides the best measurement accuracy. The sensor measuring range is calibrated in different ways so that the best measuring accuracy can be maintained periodically. Over time, certain processes such as viscous suspensions can clog the sensor ring bore, which can cause slight measurement errors. The length of time for calibration and the rate of measurement drift can vary with each use and its specific conditions.

Ⅰ. Debugging of current loop conductivity: see Figure V1.2

①When calibrating, the probe should be placed in air at 25°C ± 2°C, and make sure the sensor is dry and clean: Connect the wires according to the wiring table, and connect the ammeter and the sampling resistor R (about 200Ω) in series to GND;

②Zero calibration: after power-on, turn the zero potentiometer to make the value of the ammeter 4.000±0.001mA;

③Adjust the gain: in the ring hole of the sensor, pass a precision resistor of 50.00Ω (when the range is 400mS/cm), then close the head and tail (see the detection diagram), and turn the gain potentiometer to make the value of the ammeter. For: 7.416±0.001mA

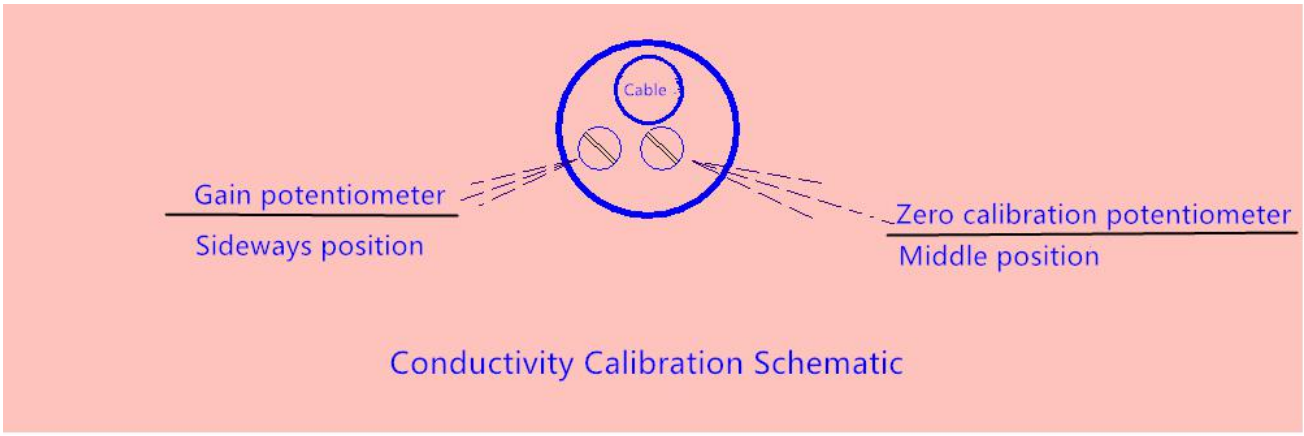


Schematic Diagram

④Repeat steps 2 and 3 one more time to complete (note: when performing step 2, the resistance should be opened).

(or calibrate with a standard conductivity meter, or calibrate with a standard solution)

Note: Measured conductivity=[(current output mA value-4mA)/16mA]*range end value



Ⅱ. Temperature calibration (implemented by the secondary instrument):

Application:

- Water Resources and Waste water Treatment Engineering
- Monitoring of heating and air conditioning systems, condensing towers (dilution control)
- Monitoring of metalworking process washes
- Monitoring of incoming and outgoing water in sewage treatment plants
- Concentration detection of cleaning system washing liquid before bottling of beverages and alcohol
- Concentration detection of washing liquid in CIP pipeline online cleaning system
- Concentration monitoring
- Washing liquid concentration detection of vehicle washing equipment

5.Precautions for use

①Wrong wiring will cause the sensor to work abnormally!

②The threaded port and the above parts must be completely isolated from the solution to be tested. After being immersed in the liquid for a long time, the sensor will be destroyed!

③ In order to ensure the accurate measurement of the sensor, it is recommended to keep a space of 20mm around the sensor to prevent other substances from approaching the sensing area. The proportional coefficient will change with different spatial distances, and the parameters should be balanced and compensated.

④When installing, the circular hole in the sensing area is upward or inclined upward, which can avoid occasional air bubbles (or use software filtering method to filter out); suspend the sensor in the solution to prevent contact with the container (such as simply place it at will). It will cause measurement error), and the probe should be kept still during the measurement;

⑤The working temperature of the built-in signal processing sensor is 0~50℃, and the working temperature of the external signal processing sensor is 0~100℃.

⑥If the power is turned off for a long time, the conductance value will drift slightly within 5 to 15 minutes.

⑦When installing, do not attempt to secure the connection by twisting the "ring" end of the sensor, as this will cause the sensor housing to break.

⑧ When wiring, do not run the probe's cable through any conduit with AC or DC power. Electrical signals may interfere with sensor signals.