

DOMA 4-20mA DISSOLVED OXYGEN TRANSMITTER INSTRUCTIONS

How Dissolved Oxygen Sensors Work

Your DO sensor uses galvanic electrochemistry to generate its output in mV. The mV output is proportional to the concentration of oxygen in the water or air. DO probes do not measure oxygen directly. They measure the partial pressure of oxygen in the water, which is directly proportional to the percent saturation of oxygen in the water. The concentration (mg/L or ppm) can be calculated based upon the oxygen solubility, temperature, salinity, and total atmospheric pressure. Your Dissolved Oxygen Probe consist of a cathode, anode, and an electrolyte separated from your process fluid by an oxygen permeable membrane. The oxygen passing through the membrane reacts with the cathode, giving up electrons, which produce an electrical current.

The DOMA Transmitter

Some customers will connect the dissolved oxygen sensor to a PLC or the other device that requires a 4-20mA input signal. The DOMA transmitter provides this capability in a low-cost, simple package. The built-in electronic circuit converts the DO1200/H sensor's millivolt signal to a 4-20mA signal. Two ranges are available, DOMA-10 (0-100% = 4-20mA) and DOMA-20 (0-200% = 4-20mA) A separate 12-36V DC power supply (user supplied) is required to power each DOMA.

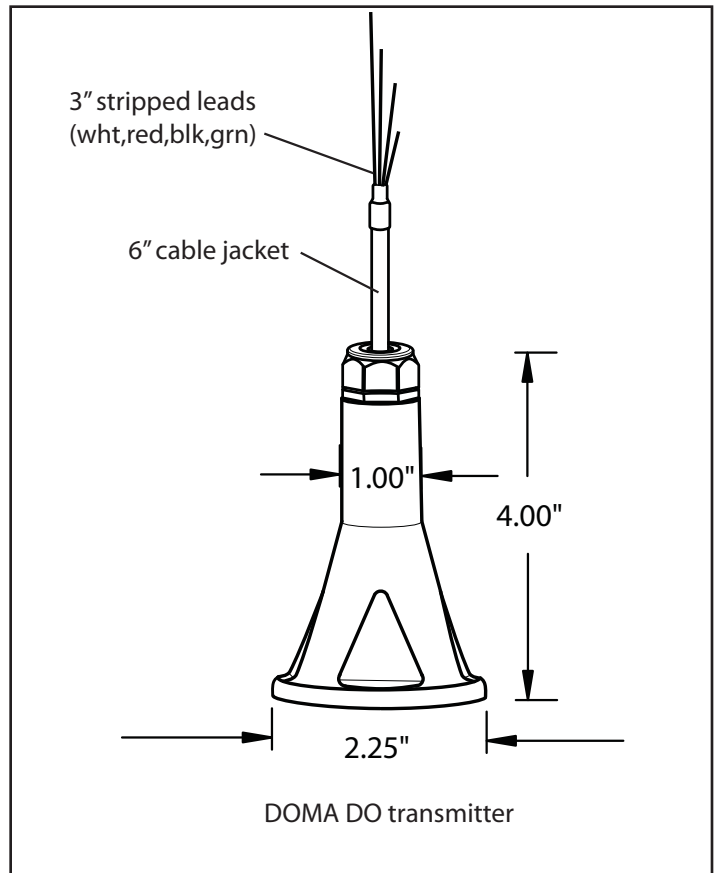
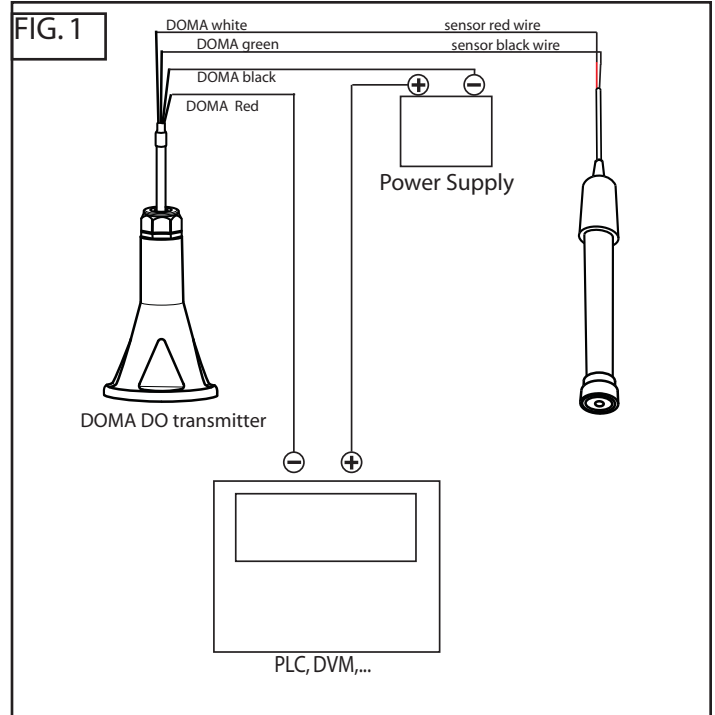
Electrical Connections

First connect the sensor to the power supply DOMA as follows:

DOMA white wire to Red wire of Sensor
 DOMA green wire to Black wire of Sensor

DOMA red wire to - input of PLC or 4-20mA device
 DOMA black wire to - lead of power supply

Power supply + to PLC + input
 (See FIG. 1)



SPECIFICATIONS	
DOMA-10:	Output at 100% saturation (PTFE membrane): 18-20mA Output at 0% saturation (PTFE membrane): <4.5mA
DOMA-20:	Output at 100% saturation (PTFE membrane): 10-12mA Output at 200% saturation (PTFE membrane): 18-20mA Output at 0% saturation (PTFE membrane): <4.5mA