



AMI TENS Ltd.

Instruments for Irrigation and Fertilization control

Installation & Operation of Analog Tensiometers (models A420/A02)

Analog Tensiometer- General description

General:

1. Normally, the **Analog Tensiometer** is supplied with the transducer threaded into the Device's body. Please do not try to unscrew the transducer or the cable connector. Improper use may damage the sealing of the device or the cable connection.
2. Despite that, if you have already got the transducer separately, or there is a need to replace it, please wrap the transducer's thread with a Teflon stripe and screw the device manually but firmly inside. **Do not use mechanical tools.**

Installation and operation:

3. Prior to installation dip the ceramic tip for about 2 hours or more, in order to fill the small pores with water.
4. Open the Top Cap and fill the tensiometer with clean water, up to about 1 Cm. lower than the edge.
5. Add about 1cc of Chlorine solution (for home use) to prevent algae growth. Be careful not to add too much. it may damage the sensor.

Alternatively, you may cover the transparent part from sun light, with Alminum foil or any other material.)

6. Add water up to the edge and close the top cap firmly, better by hand only, till the rubber seal is well closed.

Connection to a controller/Data logger:

6. At First, connect the transmitter wires to the controller's input ports (view the wiring diagram)
7. Define the sensor type and characteristics in the control device. (this definition might depend on different controllers program, but the principles are quite similar in most devices in the market):

Currency Sensor (A420): the sensor type is **4-20mA output**, in which the low limit value is 4mA and the high limit is 20mA.

Voltage Sensor (A-02): The sensor type is **0-2V** whereas the low limit is 0V and the high limit is 2V. (in case the specific control program doesn't offer a configuration of 0-2V, but only other configurations, such as 0-5 V or 0-10V etc., you can define the sensor limits as per further instructions).

8. Definition of calculated values: First, define the measured units, such as Centibar/ Milibar/ Kpa etc. Secondly, set the minimum and maximum values for the measured data (for instance: 0 and 100Cb or 0 and 1000Mb.)

9. *Note: in case the voltage sensor's definition is different than 0-2, you need to set the maximum so that when the measured voltage will be 2 the calculated value will be 100Cb (or 1000Mb). (example: if the definition of sensor is 0-5V, we set Low value=0 but high value=250. when the output will be 2V the calculated value will be 100)*

Now we proceed to the Calibration process:

13. Dip the connected tensiometer in free water, whereas the water level should cover up the ceramic cap, not more. Hold the tensiometer vertically.



