



CDS-1000 Series

Conductivity Sensors

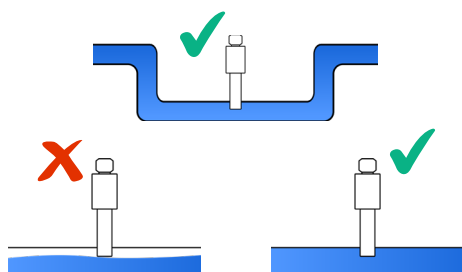
Operating & Installation Instructions

NOTES

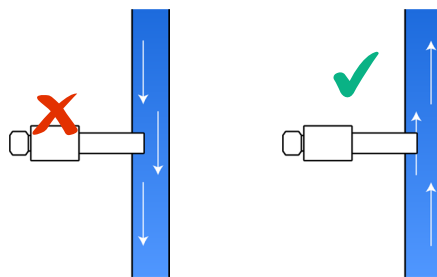
- CDS-1000 Series sensors are fully compatible with AT Systems controllers.
- Each electrode is a quality product and is individually tested and Packaged.
- CDS-1000 series conductivity sensors have one-year warranty (Terms & conditions apply).
- CDS-1000 Series conductivity sensors are available for different conductivity and temperature ranges. To choose a sensor that is most suitable for your process, please refer to the model selection guide.
- Handle the sensor with care to avoid any physical damage.
- Make sure that the electrical connections are secure and are kept clean and dry.
- Disconnect power before installing or servicing the sensor.

INSTALLATION

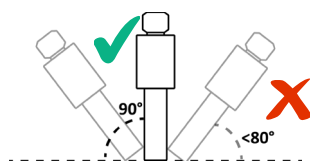
- Sensor must be installed in a line which does not run dry.



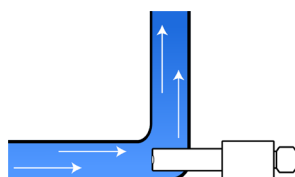
- For accurate and stable readings, In a vertical line, sensor must be installed in a line where flow is upwards for improved contact and consistent flow.



- Sensor must be installed perpendicular to the line. Maximum angle of sensor to the line is 80°.



CDS-1004 has opening at the bottom leading to the sensor electrodes, so it **must be installed at the edge of a line** to ensure optimal contact with the electrodes to get accurate readings.



Tighten the sensor at the designated point before tightening the sensor cable. Tightening the sensor cable before sensor can result in wire breakage. **Physical damage is not covered in warranty.**

- When screwing the sensor into a designated fitting, maximum allowed torque is 5Nm.
- Avoid over tightening to prevent any physical damage to the sensor.
- Sensors are provided with 5 meter wire. So sensors should be installed with 5 meter from the controllers installation points. If distance with the controller and the sensor is more than 5 meters, an offline housing is required (use of offline housing increases the response time of the sensor).
- If the line is smaller than sensor and sensor cannot be installed in the line, use offline housing.
- There should be no joints in the connections or it can cause deviation in readings.
- Avoid installing two probes in the same housing for accurate readings.

CALIBRATION

Calibration procedure is described in detail in the controller user manual. Following points should be kept in mind when calibrating:

- Before calibration, rinse the electrode thoroughly with distilled water.
- It is advised to use different calibration solutions every time for better results.
- While calibrating, do not put two sensors in the same container.
- Stir the sensor in calibration solution slowly and steadily while calibrating.
- Sensor must be dipped enough in calibration solution that the solution is touching the sensor electrodes.
- Depending on the fluid, use following temperature coefficients to get accurate readings.

Solution	Temperature Coefficient Range (%/°C)
Acids	1.0 - 1.6
Bases	1.8 2.2
Salts	2.2- 3.0
Drinking / Raw Water	2.0
Permeate / Pure Water	5.2

CLEANING

- Clean the sensor by rinsing it with distilled water.
- If there are deposits that cannot be cleaned by rinsing, a soft cloth or a soft brush can also be used.
- A detergent can also be used to soften the deposited impurities.

MAINTENANCE

- Sensor should be cleaned once every month and calibrated once every two months for accurate readings.
- In case of inconsistent readings, calibration should be performed. If the problem still persists, check the wire connections and inspect the sensor for physical damage.
- Adjust the cleaning and calibration cycle depending on the application and process parameters.

SERVICE LIFE & WARRANTY

- CDS-1000 Series sensor come with one-year warranty. Physical damage is not entertained under warranty terms.
- If there is a defect in material or manufacturing, please contact AT Systems with proof and detailed description of the issue.

DISPOSAL



- Do not dispose off the sensor in waste bin after use.
- Observe country specific laws and regulations for waste management and disposal to properly dispose off the sensor.