

Insite FAQ's

1) Does the unit need to be routinely calibrated?

The sensor undergoes a thorough and accurate test and calibration procedure before shipment from the factor. Calibration of the system at startup is not necessary or recommended. Calibration is recommended every 6 months to 2 years depending upon conditions (calibration is a simple single point calibration, as opposed to industry standard 3 or 5 point calibration). The sensor drifts less than 1 % per year.

2) Does the sensor need to be submerged in process at all times?

No, but it must be in process to record a measurement. The sensor can periodically become completely dry with no loss of accuracy, response time, or calibration. No soaking caps are required for storing the sensor.

3) The unit is reading a value that is known to be false, what must be done?

The sensor has heavy biological fouling and a new one is required. Recalibration will not solve this issue as recalibration to a sensor that is heavily fouled will not provide accurate results.

4) Can't access the menus?

Enter pass code or password.

5) Any routine maintenance?

None, as there are zero replacement parts and no consumables, although visual checks are recommended to be sure that no rags or debris have completely covered the sensor. A jet clean system is available to keep the unit clean, or a soft cloth can be used.

6) What do I do if my sensors get dirty, clogged up or film on them?

We have a built in jet clean system to prevent this.

7) The jet clean system does not keep the sensor cleaned?

The plant water pressure being supplied to the system must be between 35 and 50 psig, or if using air, the shop air must be between 40 and 60 psig. If insertion style analyzers are being used, the plant water or shop air must be at least 15 psig higher than the process in the line.

8) Why monitor for DO?

While there are almost as many specific reasons as there are treatment facilities, they generally fall into one of three general areas:

1. Reduce the amount of power required to run the blowers. This in turn will significantly reduce plant costs. In general, up to 70% of a facility's power consumption is for aeration. An industry association estimates that the average treatment facility could save up to 30% by automatically controlling aeration. This in turn reduces maintenance costs on the blowers.

2. Optimize the conditions in the basins to achieve the correct microbiological mix. This is especially important in BNR facilities.

3. Reduce the overall maintenance required to operate the biological reactors

9) What is the warranty?

2 years on everything except fixed single channel DO sensor which carries a 5 year warranty.

10) What is the max distance between sensor and electronics?

Up to 2,000 feet with a standard cable length of 25 ft.

11) What is the DO operating range and accuracy?

-20 to 70 degrees C with measuring range of 0 to 25 ppm and accuracy of +/- 0.05 ppm.

12) What is the TSS operating range?

0 to 65 degrees C with measuring range of 0 to 30,000 mg/l (only hold spec'd accuracy from 500 to 30,000 mg/l)

13) Are there different sensors based on the range of DO or TSS being measured?

Yes, we offer 4 different sensor heads depending upon range/amount of TSS being measured and the line/process area of the plant for which you are measuring.

14) I have an error of "Sensor not Responding"

This message indicates that the analyzer is not receiving any data from the sensor. This could be caused by either the sensor not being properly connected to the analyzer or a faulty sensor/analyzer electronics.

15) Unit shows an error of zero sensor?

The analyzer is indicating that a zero calibration operation is required for proper operation. This can occur if a new or different sensor has been connected to the analyzer. This would be indicated if the current counts are greater than 5% of the previous stored value.

16) Ambient error message?

This error message will be displayed if the sensor is exposed to too much ambient light, or the sensor has an LED of detector fault.

17) What is required at start-up of unit?

It is a true plug and play device, so just wire in power and it is ready to use from factory.

18) Are there any membranes or fill solutions?

No, this is the primary difference between our new optical technology and the previous membrane technology. There is zero routine maintenance, no consumables, and it is easier to use.

19) How does the sensor stand up to direct sunlight?

No, the Insite sensor is completely unaffected by direct sunlight, unlike some luminescent type sensors that can experience significant degradation with as little as one hour of exposure to direct, or even indirect sunlight. This damage is cumulative so pulling a sensor a couple of times a month for inspection or cleaning, a five minute job, could cause the sensor to fail in as little as six months.

20) How much energy does your unit consume?

Our fluorescent technology requires up to 10 times less power/energy than competing luminescent technologies.

21) How much drift is seen with your product?

Sensors drift less than 1% per year.

22) What is the expected life of the sensor?

Seven to ten years. During this time there are no consumables at all. No spare parts, no recharging kits, no replacement films, and no membranes or membrane cartridges

23) Can the sensor be calibrated in the field?

Yes, the sensor can be calibrated in the field. A simple calibration to a reference takes about a minute.

24) Are the sensors interchangeable, or do the sensors have to remain with a specific analyzer?

All Insite sensors can be moved at will. The microprocessor in the sensor will "talk" to the microprocessor in the analyzer, identifying itself. The analyzer will then configure itself to operate with that sensor.

25) What is the difference between fluorescence and luminescence?

While the two methods are similar, there is one key difference. Fluorescence, which is the method used by Insite, is the measurement of the immediate reaction of a material in response to an excitation energy source. Luminescence is the measurement of the time it takes the material to recover after the excitation energy source is removed. This method is the one in use by all other manufacturers currently marketing "optical" type DO systems.

26) What is the minimum flow required for the sensor to properly measure DO?

Unlike Clark type cells with a membrane, the Insite DO sensors do not require any flow. Clark type DO sensors actually consume oxygen to make the measurement so a new supply of oxygen must be continuously provided. The Insite sensor does not consume anything so no flow is needed to obtain a correct reading.

27) If the actual measuring area of the sensor is physically damaged, can this be repaired?

In the very unlikely event that the measuring surface is damaged it can be repaired. The cost of this repair is around \$200.00. We recently had a customer put a system (analyzer and sensor) in the back of a golf cart to take to the shop. The sensor did not quite make it into the cart and was left hanging out the back on the ground. The sensor was then dragged the entire trip back to the shop, a couple of thousand feet. The sensor looked like it was put under a grinder but it still worked. This says something about how hard it is to physically damage the sensor.

28) Can the Insite DO systems be used in very low oxygen environments, such as anoxic and anaerobic zones?

Yes, the Insite method of measuring DO is very accurate at extremely low ranges. There have been tests in which the unit performed very well in the 0.03ppm to 0.08ppm range.