

SERVICE BULLETIN

ISE Calibration

The ISE input is capable of taking any of the ISE types that we supply. Different calibration techniques and facilities are provided for different sensor types and applications. The options available are:

1. Output in mg/l or V.
2. Offset and gain calibration.
3. Positive or negative ISE slope (for example, Fluoride ISE output decrease with increasing concentration).
 1. Reference value of “-1” will reset channel calibration to defaults
 2. Reference value of “-2” sets the mg/l slope to +1.
 3. Reference value of “-3” sets the mg/l slope to -1.

It is important to understand which of these options is required before calibration.

Although there might be some sensor drift shortly after installation, field data has demonstrated that it is possible to achieve stable readings over the long term. In waste water applications, sample flow should ensure that the ISE sensing surface is kept clean, and a small flow cell is provided to assist with this.

1. Select ISE channel, when channel is selected, the name (ISE) appears to the right of the ‘Calibrate Channel’ text.
2. The values in the “Current Value” and “Measured Value” will go to “0”, and the message “Please Wait” appears at the bottom of the page. When “Please Wait” is no longer displayed, the calibration values are updated and current.
3. Wait for current readings to appear in the “Current Value” Box and “Measured Value” Box. This could take up to a minute for the first reading. Note: the measured and current values will not be the same. The current value should be the same as the valued displayed in the status page.
4. **NEW INSTALLATIONS ONLY:**

Calibration of Ammonium ISEs

1. Enter a reference value of “-1” to reset the channel (this will ensure the correct initial configuration).

2. Wait for an update – the “Current Value” should be a voltage.
3. Continue with step 5.

Calibration of Fluoride ISEs

1. Enter a reference value of “-1” to reset the channel (this will ensure the correct initial configuration).
2. Enter a reference value of “-3” to use a negative slope – The output of a Fluoride ISE becomes more negative with increasing concentration.
3. Wait for an update – the “Current Value” should be a voltage.
4. Continue with step 5.
5. Make sure that the tick box labelled “mg/l” is selected:

Reference Value

 Use mg/l ISE only

This configures the ISE input channel to calculate mg/l. See training manual for details on the calculation.

6. Enter Reference Value (obtained from taking a reference measurement of the water) in the “Reference Value” box. Take care to ensure that the reference water has reached a stable temperature and that this is representative of the water in the pipe. It is preferable to calibrate at a value less than 5mg/l, to set the zero offset of the sensor. Values greater than this will adjust the gain. The default gain is generally accurate enough for most applications. If in doubt, contact customer support.
7. Press the “Set” button, “Busy” will appear in the “Measured Value” Box until calibration has been completed. This will take 15 seconds. Wait to check that the new value is accurate. If not repeat.
8. The “Current Value” will be the same as the “Reference Value”.
9. Select another channel. If calibration is complete, select “None” before navigating away from the page.