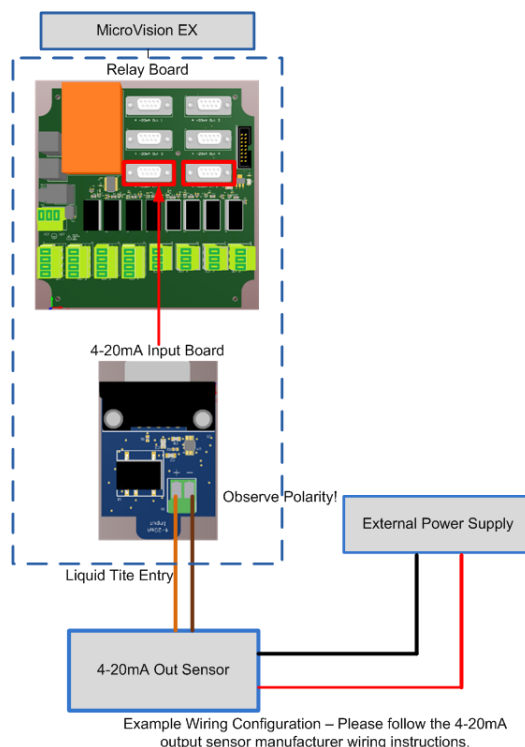


The MicroVision EX has an optional accessory of a 4-20mA input board, UGK-MILIN. This accessory can be installed on the relay board of the MicroVision EX inside the MicroVision EX enclosure and be programmed to interface with a variety of different probe types. One of the common 4-20mA sensors which the MicroVision EX is preconfigured to support is a 4-20mA fluorometer. These probes report a 4-20mA signal which correlates to a PPB signal of PTSA or fluoroscein.

Setup of Probe:

- Follow all of the manufacturer's recommendations for installing the probe tee into the piping assembly.
- With the MicroVision EX powered down, install the UGK-MILIN board and connect the 4-20mA loop from the probe to the 4-20mA input board inside the MicroVision EX and wire power to the probe according to the manufacturer's specifications. Do not power the probe from the MicroVision EX. Ensure all wiring is correct and all of the polarities have been observed.
- When installing a 4-20mA input board, be sure to populate the boards sequentially, starting with slot 1. Once the probe and additional hardware is installed and all exposed cabling has been protected from its environment you can power on the MicroVision EX.
- Firstly you must enable the 4-20mA Input board. This can be done in Menu -> Configure -> 4-20mA Input. Enable the appropriate peripherals here.
- Secondly you must configure the input. From the home screen Menu -> Settings -> 4-20mA In X where X represents the number of the peripheral being configured. Specify the type by selecting type, for a fluorometer probe the units would be PPB scroll and select PPB a "<" symbol will appear next to the units when they are selected.
- Next calibrate the signal from the probe, go up one menu and then select calibrate.
- One way to calibrate the probe would be to perform an air calibration on the low point. Keep the probe suspended out of any solution and configure the low point at 0 PPB, this should correlate to a signal of approximately 4mA. Similarly deionized water can be used. Make sure the probe is clean of any contaminants prior to doing this; follow the manufacturer's cleaning recommendations. To lock in the calibration of the low point the user must enter through the top line with all 0's being entered until the cursor moved down to the second line then pause.
- Now you must configure the high point, this can be done either by using a buffer solution of 100 PPB or inserting the probe into the probe tee and taking a sample of tower water. Enter in the correlating value to the high point of the fluorometer probe. Either 100 PPB





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Fluorometer Probe Install and Setup



Agriculture
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in the case of using a buffer solution or the measured reading from the tower sample. Enter the value on the bottom line to lock in your high point. Your mA signal should adjust when exposed to trace chemical. If you get a probe calibration error try reconfiguring the low point.

Your probe should now be configured. At this point you can now configure a setpoint control timer if you would like to control a relay based on the signal from the 4-20mA input.

- Go to the timer menu, Menu->Timers
- Select the Setpoint control timer
- Choose the type, 4-20mA input 1 or 2, depending on which was configured
- Then you can configure the behavior of the timer.
- A typical configuration
 - Setpoint Type: Falling
 - Setpoint: 120 PPB
 - Differential: 20 PPB
 - Limit Timer: 00:30
 - Limit Alarm: Turn Relay OFF
 - Alarm Setp't: High – 160PPB
Low – 100PPB

This program will activate a relay when the probe input goes below 120 PPB and remain on until the signal is above 140 PPB. If the relay remains on for 30 minutes then it will shut off and enter an alarm state. Should the reading go above 160 PPB or below 100 PPB, an alarm will trigger.