



D&A Instruments OBS-3+ Sensor Application Note #15

Overview

This Sensor Application Note provides additional information to wire and configure the D&A Instruments OBS-3+ Turbidity Sensor for use with a Campbell CR800/850 or CR1000 MCU programmed using MultiLogger. These instruments may be wired directly to the panel or connected using multiplexers. A 4-wire multiplexer is generally required.

This application note applies to the voltage output device, with full-scale output of 5000mV. Contact Canary Systems for application assistance with other models including the 4-20mA type.

Wiring

| Description | Color | Direct Connect | Mux |
|-----------------------------------|-------|----------------|-----|
| 1X Low Range Output ¹ | Blue | SE Input | 1H |
| 4X High Range Output ¹ | White | SE Input | 1H |
| Output Ground | Green | AG | 1L |
| Power In (5-16V) | Red | SW-12 | 2H |
| Power Ground | Black | G | 2L |
| Shield | Brown | AG | S |

¹ You need to decide which output range to use, only 1 output range is generally used.

Channel Configuration

Note the **Gage Type | Make of Turbidity | D&A Instrument**, then select the appropriate **Model** to match the input channel wiring. For example if the 4X High Range Output is connected to SE 11 (note Blue wiring codes on panel) then select **OBS3+SECh11**.

Normally the Polynomial Coefficients are used to convert the mV readings to Turbidity (NTU). Select Polynomial as the Conversion Method on the Channel Configuration form. Select the appropriate coefficients to match the output range of the instrument. Normally 2 sets of coefficients are supplied, one for the Low Range output, a second for the High Range output.

Note: The coefficients are expressed incorrectly on the D&A Instrument Calibration Certificate. They are in the reverse order. In other words, the coefficient shown as A, is actually C, and C is actually A. The B coefficient is unchanged.

When using the OBS-3+ with a multiplexer it is not necessary to switch the 12V power. It may be desirable to remove the SW12 instruction from the applicable instruction file. With the correct Model selected press the gear button located to the left of the Model selection. This will load the instruction file into a text editor. Note the 2 instruction lines at the top and bottom that contain the SW12 instruction. Delete those lines and then press **Save**.

Contact Canary Systems for application assistance with configuring the Burst mode monitoring sequence.