



Quick Start Guide: Scaling a Channel using ICP100

Purpose: This guide is used to review how to connect a channel to a Q.series module and scale the channel to engineering units.

Requirements:

- Controller has already been configured using test.commander.
- Attached measurement module (A101 in this example).
- Sensor

Procedure:

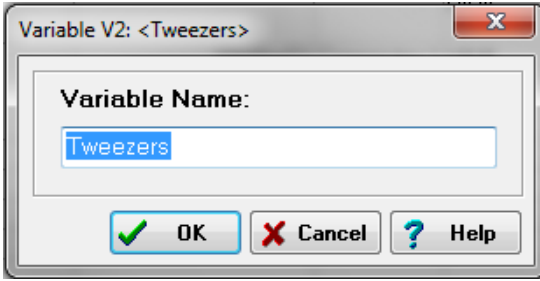
1. If it has not yet already been performed, use the Quick Setup Guide for the Q.series to prepare the controller and organize the project. (quick-connection-guide.pdf)
2. Double-click on the channel that needs to be configured. In this example, we will be using the channel below called Tweezers on an A101 module.

Q.bloxx A101 (1/1) Undef		
A	V2: Voltage	
A	V3: Tweezers	
V	V4: TC 1_A104	Setpoint
V	V5: MAX TC 1_A104	Arithmetic

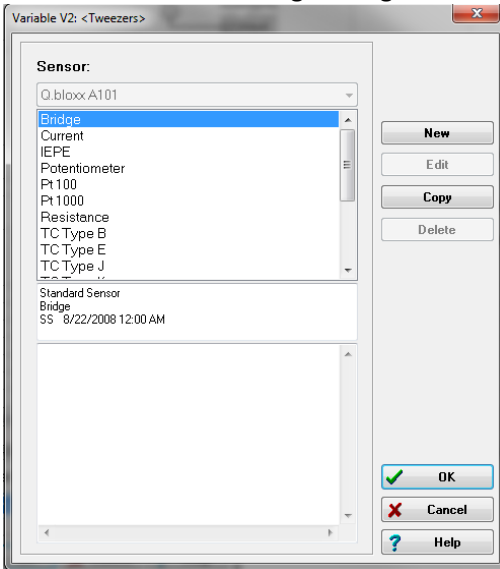
3. The module will open in ICP 100:

Info	Variable Settings	Module Settings			
Type	Variable Name	Sensor Type of Connection Terminals Format/Adjustment Range/Error			
V1	AI Voltage	Voltage Single Ended	Connector 1	{,fff,fff [V]	-10.000 10.000
V2	AI Tweezers	Bridge Resistive Full 4 Wire	Connector 2	{,fff,fff [mV/V]	-2.400 2.400
V3	SP TC1_A104			{,fff,fff [°C]	Independent
V4	AR MAXTC1_A104			{,fff,fff [°C]	
V5	SP RESET			{,fff,fff	Independent
V6	DO DO_ALARM	Process Out	Connector 1	{,fff,fff	Independent

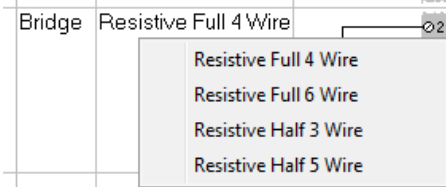
4. For this example, we are concerned with V2.
5. Double-click on the cell under Variable Name to change the name of the channel. Click OK to confirm.



- Double-click on the cell under Sensor to change the sensor. Select the sensor and click OK to confirm. We will be using a Bridge for this example.



- There are more options available for each sensor. Double-click on the cell under Type of to select the specific type of sensor being used. We have a full 4-wire bridge for this example.



- Based on the sensor type and location of the channel in the project, the Connection and Terminals column will display how to wire the sensor (which connector and which pins).

Type of	Connection	Terminals
Single Ended		Connector 1
Resistive Full 4 Wire		Connector 2

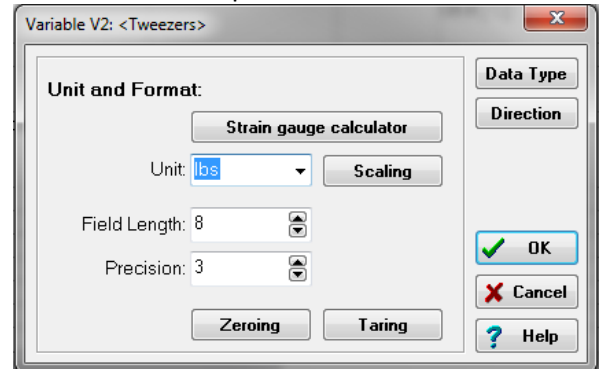
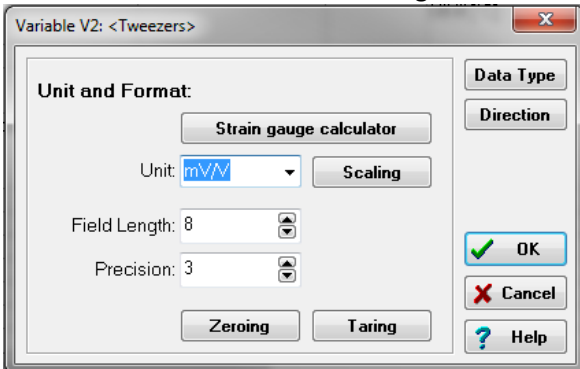
- At this point, we recommend wiring the sensor you are using to the measurement module.



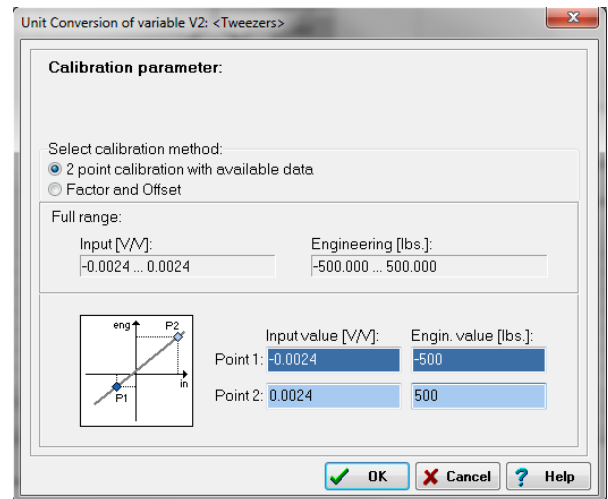
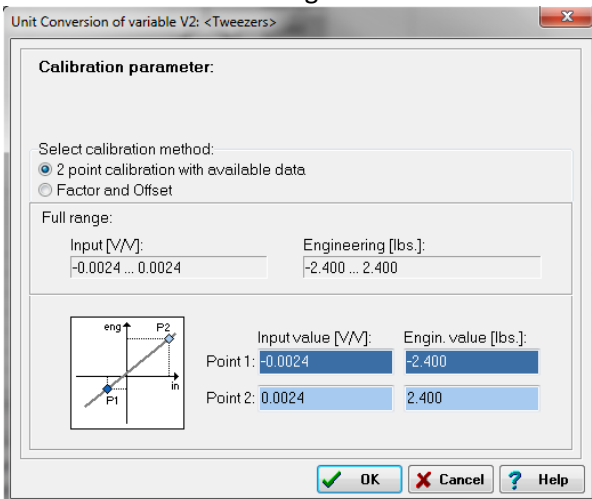
10. Depending on the module being used and the type of sensor, ICP 100 will already display the default unit to be used. For this example, since we are using a bridge input, the sensor uses mV/V as our suggested units.

Format/Adjustment	Range/Error
f,fff.fff [V]	-10.000 10.000
f,fff.fff [mV/V]	-2.400 2.400

11. Double-click on the cell under Format/Adjustment column. The following window will appear. The option to use the default unit is possible but to scale to engineering units, manual enter the desired unit and click on the Scaling button. We will use lbs. for this example.

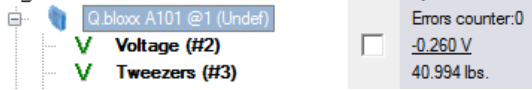


12. The unit conversion window appears.
- Under Input value is the raw signal the module is reading. (± 2.4 mV/V is being shown as ± 0.0024 V/V). Point 1 is the low end of the range and Point 2 is the high end of the range.
 - Under the Engineering value is the desired units to be displayed and saved. For this example ± 2.4 mV/V will correspond to ± 500 lbs.
 - Click OK to confirm settings.





13. Click OK on the Unit and Format window.
14. Save the settings in ICP 100.
15. Update the project to the controller.
16. Notice that the channel is now displaying in Engineering Units of lbs.



Contact us today if you have any further questions!