

## TT014: Measure Analog Voltage

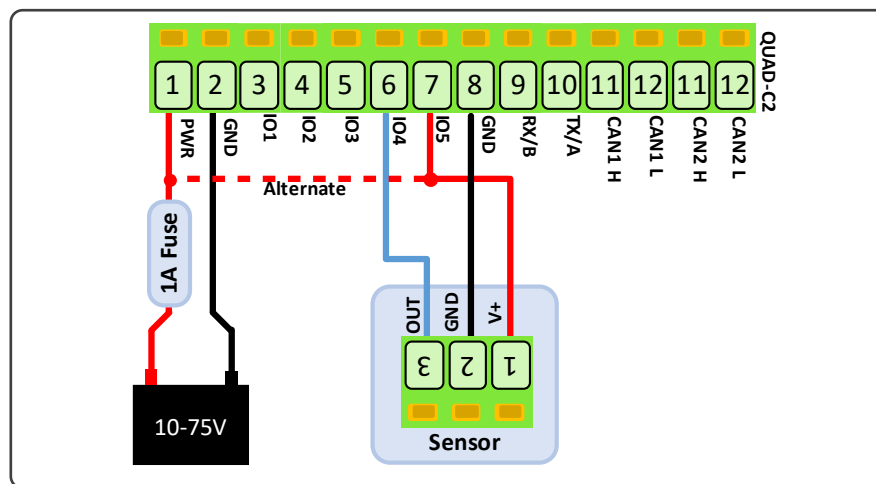
This technical tip shows how to measure a variable voltage using the QUAD-C2. The QUAD has five channels that can be used to measure voltage. IO5 is used to power the sensor with Vin or an internally generated voltage. Alternatively the sensor could have been powered by Vin directly in which case IO5 would not be required.

### Sensor Parameters

Part Number	BTT-O25-2
Type	Outside Air Temperature Transmitter
Output	0 – 10V
Calibration	0V = -40°C, 10V = 60°C
Power	13V to 36V DC
Supplied by	<a href="#">Macquarrie Corporation</a>



Voltage Out Temperature Sensor



QUAD-C2

Setting (General IO)	Value	Comment
VSET Voltage	20	The internal booster will generate 20V even when no supply is available

Setting (IO4)	Value	Comment (Measurement IO)
Name	Fridge Temp	A meaningful name for the sensor data
Interval	1	1 means the sensor is sampled on every base interval
Default State	OFF	Do not apply any output to the measurement pin.
Measurement State	No Change	Do not apply any output to the measurement pin. OFF will also be ok.
Measurement Time	1 sec	Sensor will be measured 1 sec after power is applied to allow sensor boot.
Measure Voltage	Enabled	We will measure the 0-10V supplied by the sensor
Current – Calibrated Units	°C	The unit of measure for the calibration. ALT-0176 to generate the °.
Current - Calibration Low In	0	Lowest voltage that will be output by the sensor
Current - Calibration High In	10	Highest voltage that will be output by the sensor
Current - Calibration Low Out	-40	The datasheets specifies that 0V represents -40°C
Current - Calibration High Out	60	The datasheets specifies that 10V represents 60°C
Current - Alerts	Optional	Set if required.

Setting (IO5)	Value	Comment
Name	Temp Supply	A meaningful name for the sensor data
Interval	1	1 means the sensor is sampled on every base interval
Default State	OFF	Keep the output off when not in a measurement state
Measurement State	VSET	Apply VSET to the sensor during measurement. This could also have been VIN.
Measurement Time	2 sec	Make this longer than the Measurement Time of IO4