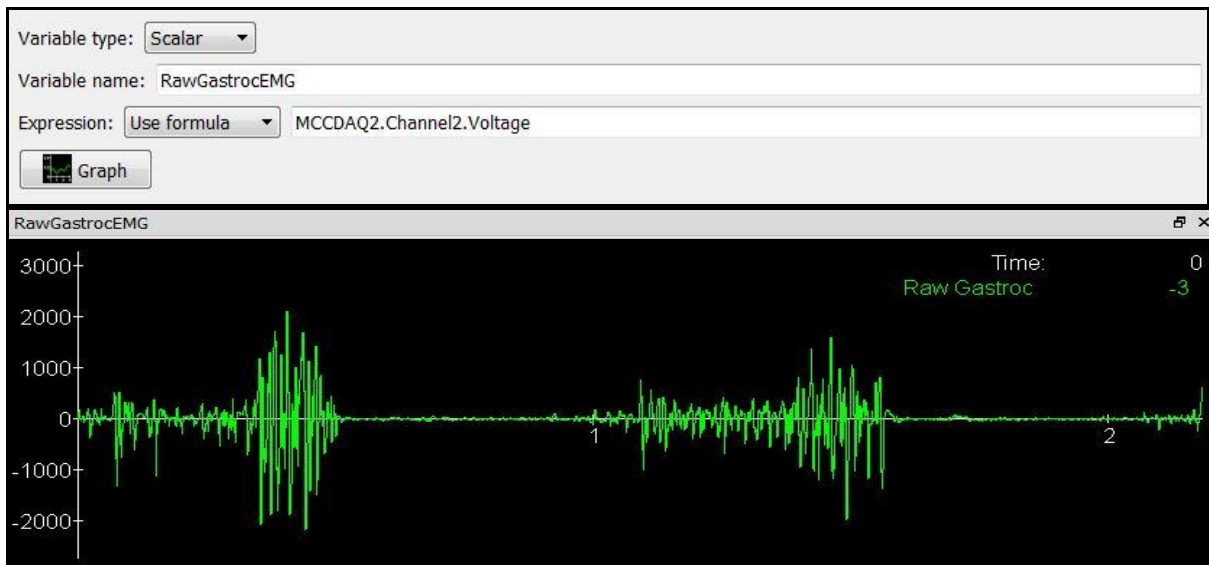


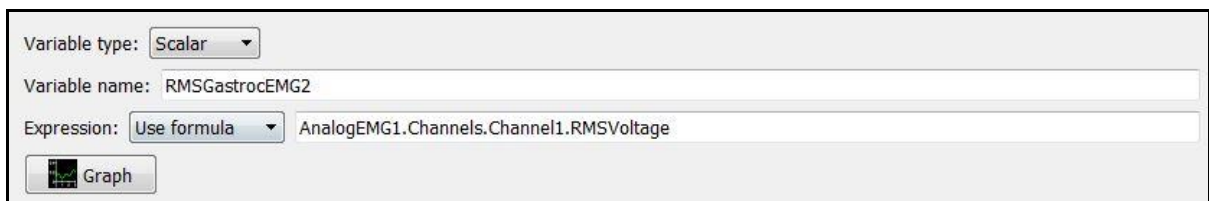
[The MotionMonitor xGen Software Guide: MVC EMG Signal Analysis](#)

The following document provides instructions for conducting maximum voluntary contraction signal analysis with EMG data within *The MotionMonitor xGen*.

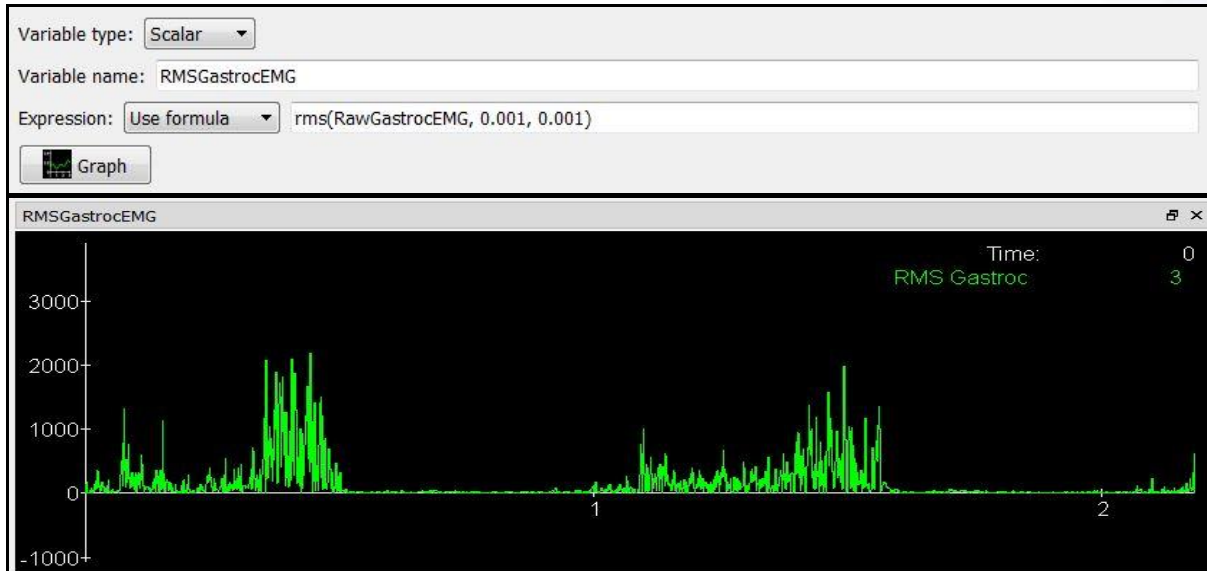
1. The signal of interest should be defined as a scalar variable and mapped to the corresponding channel of the technology (analog or digital) that was used to collect the EMG data.



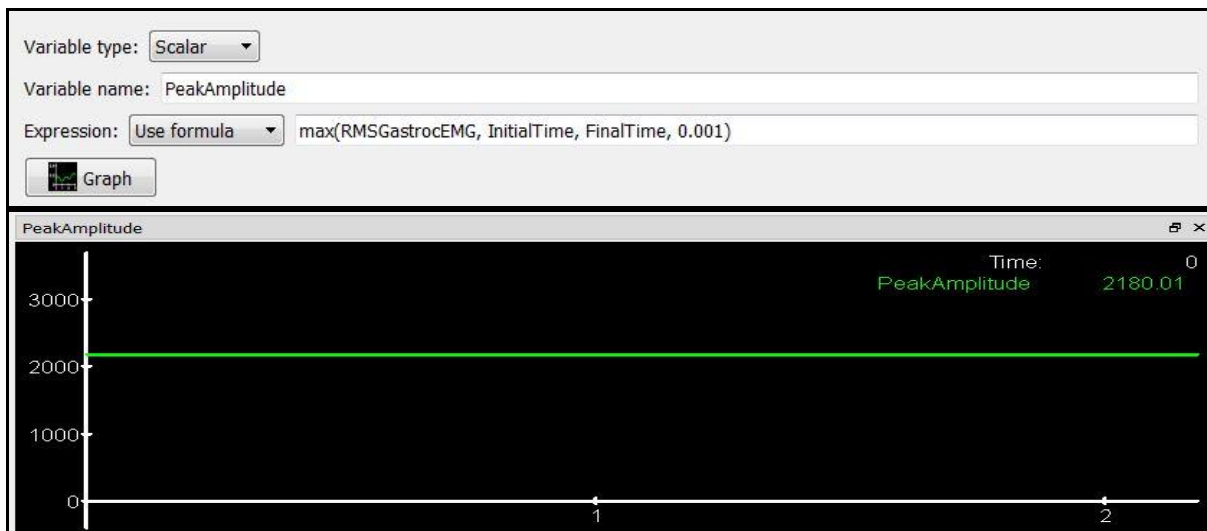
*When collecting analog signals, the **AnalogEMG** device under the hardware node can be enabled. This allows the user to output the root mean squared (RMS) signal directly. If this has been configured step 2 can be skipped.*




- The RMS of the signal can be calculated using the $rms(X, Period, Interval)$ operator, where X is the scalar variable of interest, Period is the total time period (centered on the current time), and Interval that is the step size (in seconds) for evaluating your time period. The period and interval will depend on the measurement rate at which the data was collected at.



- The maximum value of the RMS signal can then be calculated using the $max(X, StartTime, StopTime, Interval)$ operator, which defines the maximum value for a Scalar, X, that occurred over a time period defined by StartTime and StopTime, and Interval that is the step size (in seconds) for evaluating your time period.



4. Finally you can use this max value to compute percent MVC outputs for the respective muscle contraction.

Variable type:	Scalar
Variable name:	PercentMVC
Expression:	Use formula (RMSTGastrocEMG/PeakAmplitude)*100
 Graph	