TECHNICAL NOTE

SETTING UP THE EASY 8 MODULE

There are various commands available to the operation of the Easy 8 module. These commands range from reading data from the module to setting parameters in the module. Some of the parameters will affect the operation and weight readings of the module. The commands are:

Zero – used to zero the gross weight in the event of drift or changes in the dead load of the scale.
Tare – used to zero the net weight.
Cal Low – used to set the low reference point in a calibration.
Cal High – used to set the high reference point in a calibration.
Get Version – used to read the version of the firmware in the module.
Read Configuration – used to read the parameter settings in the module.
Set Configuration – used to set the parameters in the module.
Get Cmd Status – used to read the status returned after running a command.
Set Sensitivity – Resets the gain of the A/D converter, sets filter and turns fir filter on/off. This adjusts the gain of the converter to get better resolution with different mv/v ratings of the load cells.
Save – used to save settings to non volatile memory.
Read Weight and Status – used to read the weights and status of the scale.

Running the commands:

If the user is using the sample code downloaded from the Hardy web site, with the exception of the Read Weight and Status function block, the ladder logic has each function block set up on its own rung that would be triggered by setting a bit. This bit would be reset after the function block has completed with a reset bit at the end of the rung.

The order of the commands for setting up a new module would normally be:
Set Sensitivity
Set Configuration
Cal Low
Cal High
Save

Set Sensitivity CMD has three parameters for its inputs. The sensitivity setting will have an affect on the calibration and a new calibration should be run if this setting is changed. These parameters are: (Set these values prior to triggering the command.)
New Sensitivity – set to match the sensitivity rating of the load cells.
Filter setting – Set (0-2 settings) for filter cutoff of 1.0 Hz, 3.5 Hz, or 7.0 Hz.
Bypass – set on to bypass the filter or off to filter at set frequency.

Set Configuration CMD will set up the parameters used for calibration and the operation of the module. These parameters are: (Set these values prior to triggering the command.)
Averages – number of readings to average together for a more stable reading to report. Range 1-255.
Motion Tolerance – tolerance of changes in weight to determine if the scale is considered in motion (weight changing). Range: needs to be a positive value.
Cal Low Ref – reference weight that will be used for the low point of calibration. Range: 0 or above.
Cal High Ref – Reference weight that will be used for the high point of the calibration. Range: Must be higher than Cal Low Ref.

Cal Low CMD – Will set the low reference point for the scale calibration. Set the condition of the scale so that it has the amount of live weight equal to the Cal Low Ref weight setting. If the setting is 0, then this would be an empty scale (ignoring dead load). Trigger the cal Low command to set the low point in the calibration.
NOTE: The **Get Status** should be run after this command to read back the status of the command for a pass/fail indication. This would be for information only to get the status and/or the failure code in the event of the command failing.
Cal High CMD – Will set the high reference point for the scale calibration. Place the amount of the cal High Reference weight on the scale. Once this weight is on the scale, trigger the Cal High cmd to set the High point in the calibration.
NOTE: The **Get Status** should be run after this command to read back the status of the command for a pass/fail indication. This would be for information only to get the status and/or the failure code in the event of the command failing.
Save CMD – Trigger this command once you have completed the setup and calibration of the module. This will save the settings and calibration into non-volatile memory so you will not lose the settings with a power cycle.

Once you have the above commands set and run, you should be receiving weight and status readings. The rest of the commands would be used based on your needs. Some of the commands will only read back settings in the module which can be used to verify your settings. Others would be commands used in your process if needed.