



Parameter Emulation Via Analog Output



Application Note



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Revision History

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1 About this Application Note

This application note explains how to setup and configure the Agito driver to emulate a parameter of the user's choice as an analog value via the analog output.



The following topics will be covered in this document,

- PCSuite configuration steps
- Relevant keywords summary

2 Configuration Setup (via PCSuite)

2.1 Analog Output Settings

The steps below explain how to configure the controller for parameter emulation via analog output.

- Under the  tab, navigate to the  page.

First, select the output to be used.

Then, check the option to “use for monitoring”.

Next, condition the signal via the scaling factor and analog offset. The scaling factor is calculated by the formula 2^n , where n is the value that the user inputs. E.g., To scale the value by 2 times, use a value of 1. And to scale the value by 1/8, use a value of -3.

Lastly, select the parameter to be emulated.

Analog outputs *(When an analog output is used to connect to an external analog amplifier, the settings here have no effect.)*

Output number: 1	HW info: X5 pin 16	Analog Offset: 0 mV
<input type="radio"/> Direct command: <input checked="" type="radio"/> Or use for monitoring:		
Scaling: 0		
Axis: A	Category: Velocity	Keyword: Vel
Source: AVel[3]		Index: 3 - Main encoder average

3 Param Emulation via Analog Output Related Keywords

Keyword	Description
AOutOffset[]	<p>AOutOffset specifies the analog offset in mV to the analog output. The index indicates which analog output it pertains to.</p> <p>E.g., AOutOffset[1] = 400 adds a 400mV offset to the command for analog output 1.</p>
AOutMode[]	<p>AOutMode specifies if the analog output is in direct mode or monitoring mode (emulation mode).</p> <p>AOutMode = 0 sets the mode to direct mode. AOutMode = Complex CAN Code (CCC) sets the mode to monitoring mode.</p> <p>In direct mode, the user specifies the analog value to output using the keyword AOutPort.</p> <p>In monitoring mode (parameter emulation), the user specifies the parameter to emulate by setting AOutMode to the CCC of the parameter. For ease, use PCSuite to compose the CCC. Alternatively, refer to the CCC Definition document for more information on how to compose CCC manually.</p>
AOutShifts	<p>AOutShifts specifies the factor by which to scale the output when in monitoring mode.</p> <p>AOutShifts = n sets the scaling factor to 2ⁿ.</p> <p>E.g., To scale the value by 2 times, use a value of 1. And to scale the value by 1/8, use a value of -3.</p>

