ACS800 BI-POLAR ANALOG OUTPUT

Description:

This document will detail a method to provide bi-polar analog outputs with the standard 0-20ma drive analog output. It uses a two block AP program to bias the signal so that the 0-20ma analog output simulates a bi-polar output to represent a negative to positive range.

Title for the main body of the document:

ACS800 Simulated bi-polar analog outputs

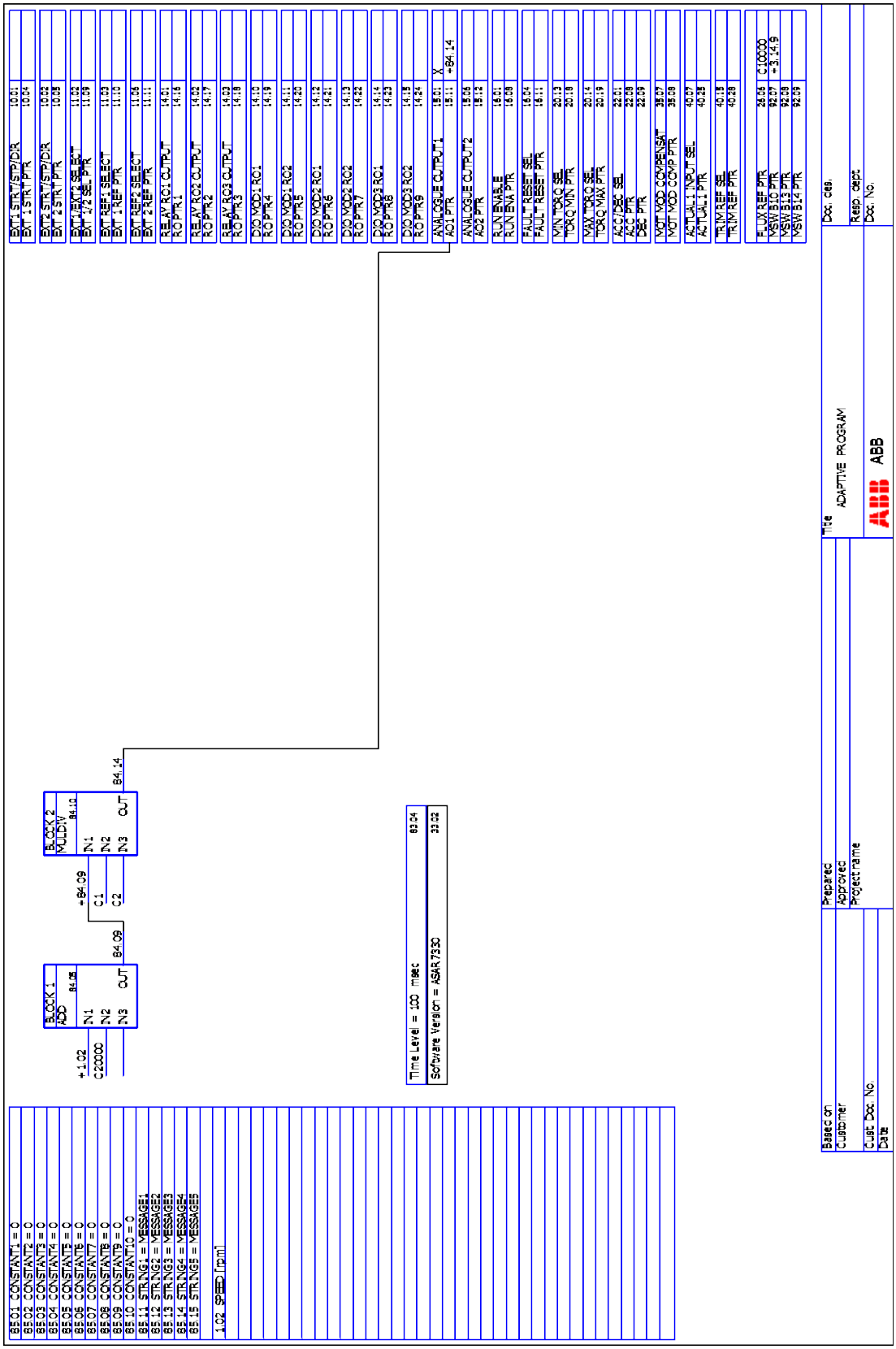
Documents or other reference material:

3AFE 64527274 Rev C / EN Application Guide, Adaptive Programming

Corrective Actions:

None

Author: Randy Sloyer, RAE		Date: June 15, 2014
External	Industry – Industrial	Document #: LVD-EOTN88U-EN Revision: A
Product Categories: ACS800		



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The simple AP program shown on the previous page creates a 0 to 20 ma output from the drives speed signal in such a way as to show full reverse speed as 0 ma and full forward speed as +20 ma. Zero speed will be biased to 10 ma. Converting this current output to voltage with a 500 ohm resistor provides a 0 to 10 volt output which can drive an analog or digital meter to show the full negative to positive speed range.

This method can be used with other bi-polar signals such as torque by simply changing the input defined in parameter 84.06, the IN1 signal of AP block 1. No scaling changes are required as the drive provides fieldbus scaled values when pointed to actual values. This biasing requires the value of 20,000 to be added to the signal in block 1 and the resulting value divided by 2 with block 2 which transforms the value as shown here:

Input	Output
-20000	0
0	10000
20000	20000