

Objective

Configure the 590 V4 or 590 Plus V5 drive for Torque control with selectable Speed control mode

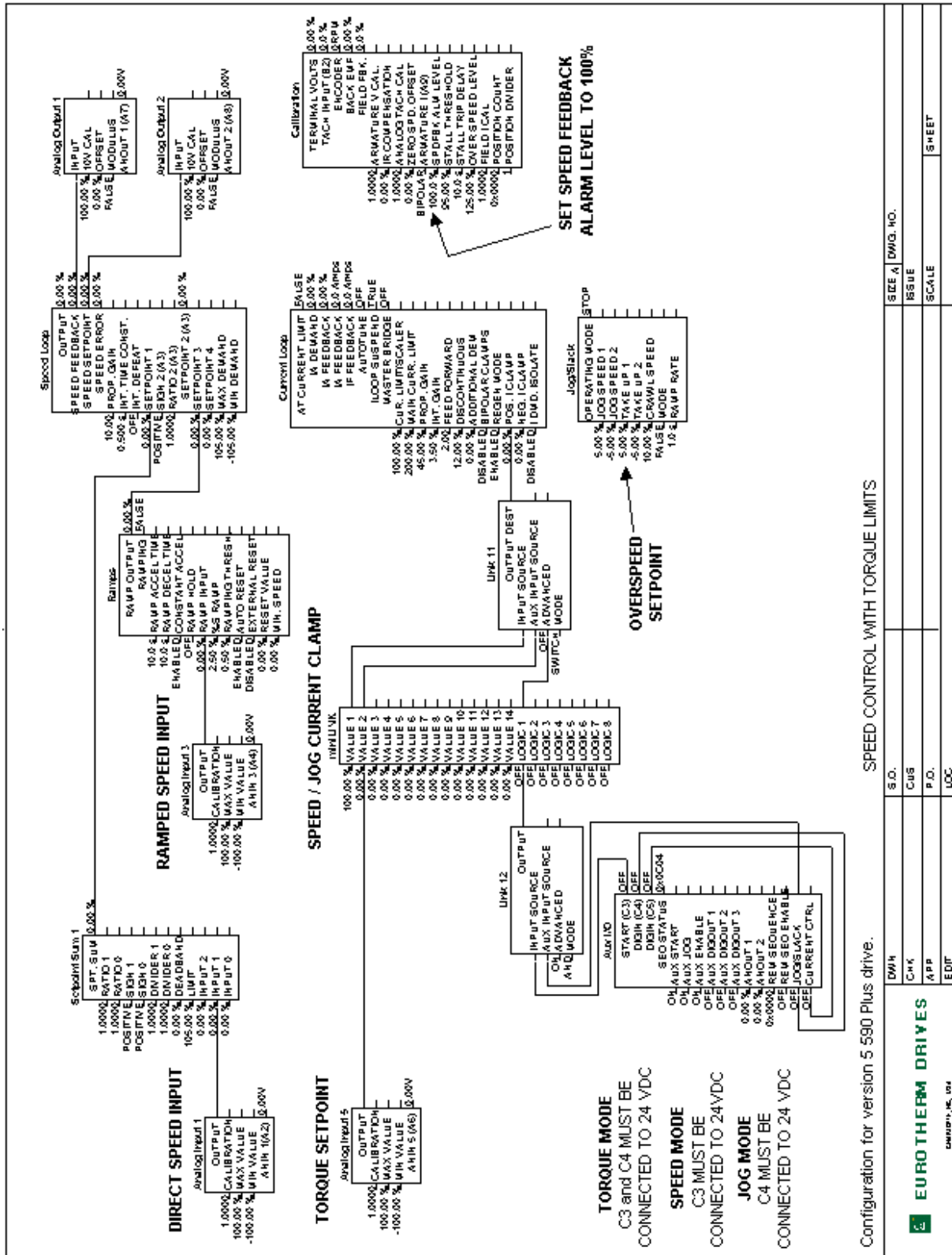
Equipment

590 / 590+ DC drive, computer with ConfigEd Lite (> v.5.08) installed.

Procedure

1. Launch ConfigEd Lite on the computer. For details, see ConfigEd Lite manual RG352747.
2. Under FILE::NEW, open up the default configuration of the drive you have, (example: default5.590).
Note: Ensure that the name on the lower left corner matches the drive.
3. Transfer the miniLINK, LINK 11 and LINK 12 function blocks on page 2 to page 1 (the miniLINK is being used as a staging post / triggering block.). It may be necessary to clear some space on the page 1 prior to transferring the blocks.
4. Program miniLINK Value 1 with a value of 100%. This will be the current clamp when using the Speed mode or Jog mode.
5. Connect the output of Analog Input 5 to the miniLINK Value 2. This will be the current clamp when in the torque mode.
6. Connect Value 1 and Value 2 of the miniLINK to the LINK 11 INPUT SOURCE (Value 1) and LINK 11 AUX INPUT SOURCE (Value 2).
7. Program LINK 11 mode to SWITCH.
8. Connect the LINK 11 output to Current Loop::POS I CLAMP.
9. Connect Logic 1 of the miniLINK to the ADVANCED input of LINK 11.
10. Connect C3 input on the Aux. I/O block to the INPUT of LINK 12.
11. Connect JOG/SLACK (make the connection on the right side of the block) input on the Aux. I/O block to the AUX. INPUT of LINK 12. The existing Jog input connection will remain connected.
12. Program LINK 12 mode as an AND gate, and the ADVANCED mode to ON.
13. Connect the output of LINK 12 to Logic 1 of the miniLINK.
14. Select either Analog input 1 (A2) or Analog input 3 (A4) for your speed reference input. If Analog input 1 is selected the speed reference will go directly to the Speed Loop. If Analog input 3 is selected the speed reference will go through the Ramps block before it connects to the Speed Loop. *Additionally if both analog signals are used they will sum together and cause an incorrect speed reference setpoint. Unused analog inputs should have the calibration values set to 0.00% (this will negate any signal present on the analog input).*
15. The drive will operate in the SPEED mode when C3 is energized with 24 vdc.
16. The drive will operate in the JOG mode when C4 is energized with 24 vdc.
17. The drive will operate in the TORQUE mode if C3 and C4 are both energized. An overspeed setpoint is required to cause the speed loop to saturate. The overspeed (Take Up 1) setpoint is in the Jog/Slack function block. Using this method of control the motor will only be allowed to reach the speed reference plus the amount of overspeed programmed in the Jog/Slack function block.
18. Refer to the ConfigEd Lite drawing attached for more detail.

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