



Application Note #1222

DMC-1425/3425 Configuration Options

The latest hardware revision of the DMC-1425/3425 is revision E and it includes changes to the way the controllers are configured. In hardware revisions A-D, the user had to order the controller with either -STEPPER or -XSTEP in order to have it configured for different motor types and these motor types were set for the life of the controller. In revisions E and newer the user can select the motor types with a combination of jumper and software settings. The first part of this paper will go over configuring a DMC-1425/3425 revision E or newer, and the second part will go over configuring hardware revisions A-D.

Hardware Revisions E or Newer

The controller can still be ordered with the -STEPPER or -XSTEP options, but this simply means that the proper jumpers will be installed at the factory. The user will still be able to change the type of motors controlled in the field. The following describes the three different motor configurations possible.

Configuration #1: X and Y axis both servo

-Note: On the DMC-1425 with both axes configured as servo there is only one amp enable signal. If two amp enable signals are required, please consult the factory.

Jumper settings for DMC-1425

JP1 “Y Step” - No Jumper
 JP2 “SMX” and “SMY” - No Jumper
 JP3 Both jumpers installed on MC

Pin out for J3 (37 pin connector) on DMC-1425

Pin 21 - Motor Command X
 Pin 2 - Amp Enable X/Y
 Pin 19 - Motor Command Y

ICM-1460 Jumper settings and pin out description

-L1_AEN to AEN jumper installed on JP6

Terminal 4 - Motor Command X
 Terminal 3 - Amp Enable X/Y
 Terminal 38 - Motor Command Y

Configuration #2: X axis servo and Y axis stepper

-Note: Y axis must be the stepper axis in this configuration. In addition, in this configuration an amp enable signal is not available.

Jumper settings for DMC-1425

JP1 “Y Step” - Jumper Installed

JP2 “SMX” and “SMY” - Jumper only installed on SMY

JP3 Both installed on MC

Pin out for J3 (37 pin connector) on DMC-1425

Pin 20 - Step Y

Pin 2 - Direction Y

Pin 21 - Motor Command X

ICM-1460 Jumper settings and pin out description

-Install all jumpers on JP6

Terminal 4 - Motor Command X

Terminal 3 - Direction Y

Terminal 9 - Step Y

Configuration #3: X and Y axis stepper

-Note: The Y Step is now being output through the same pin as the error which means that at times the red LED will be on when there are no errors.

Jumper settings for DMC-1425

JP1 “Y Step” - Jumper installed

JP2 “SMX” and “SMY” - Both jumpers installed

JP3 Both jumpers installed on SD

Pin out for J3 (37 pin connector) on DMC-1425

Pin 2 - Direction Y

Pin 20 - Step Y

Pin 21 - Step X

Pin 19 - Direction X

ICM-1460 Jumper settings and pin out description

-Install all jumpers at JP6

Terminal 38 - Direction X

Terminal 4 - Step X

Terminal 3 - Direction Y

Terminal 9 - Step Y

Hardware Revisions A-D

The DMC-1425 and DMC-3425 are available in three versions: standard, XSTEP option, and STEPPER option. The standard version controls two servomotors. Controllers with the XSTEP option control one servomotor and one stepper motor (must be x axis). Controllers with the STEPPER option control two stepper motors.

DMC-1425/3425: These units come from the factory hardware-configured to control two servomotors; use the MT (motor type) command to configure the proper servomotor polarities.

DMC-1425/3425-XSTEP: These units come from the factory hardware-configured to control a stepper motor on the x-axis and a servomotor on the y-axis; use the MT command to configure the proper motors and polarities.

DMC-1425/3425-STEPPER: These units come from the factory hardware-configured to control two stepper motors; use the MT command to configure the proper stepper motor polarities.

The ICM-1460 is an interconnect module available in two versions used to breakout the 37 pin DMC cable to a terminal strip. Special care is needed when wiring the ICM-1460 as the pin-outs on the ICM-1460 are different from the 37 pin DMC cable. Take special care if not using our ICM-1460 to breakout the terminations. Terminal numbers listed below are for the ICM-1460.

ICM-1460 w/ DMC-1425/3425 Controlling 2 Servomotors:
Terminal 4 ACMD x-axis motor +/- 0-10v motor command
Terminal 38 ACMD2 y-axis motor +/- 0-10v motor command

ICM-1460 w/ DMC-1425/3425-XSTEP Controlling 1 Stepper and 1 Servomotor:
Terminal 4 ACMD x-axis step
Terminal 38 ACMD2 x-axis direction
Terminal 9 ERROR y-axis motor +/- 0-10v motor command

ICM-1460-STEPPER w/ DMC-1425/3425-STEPPER Controller two Stepper Motors:
Terminal 4 ACMD x-axis step
Terminal 38 ACMD2 x-axis direction
Terminal 9 ERROR y-axis step
Terminal 3 AMPEN y-axis direction

The DMC-1425/3425 have jumpers that must be configured properly for correct operation. These jumpers are set at the factory but it is advisable to confirm jumper settings before initial use.

DMC-1425/3425: Both JP3 jumpers to MC JP2 SMX jumper off

DMC-1425/3425-XSTEP: Both JP3 jumpers to SD JP2 SMX jumper on

DMC-1425/3425-STEPPER: Both JP3 jumpers to SD JP2 SMX jumper on

When using the ICM-1460 and ICM-1460-STEPPER with the DMC-1425/3425 (and DMC-1415/3415), terminal 5 PULSE/AI1 and terminal 6 DIR/AI2 are analog inputs only; these terminals have no stepper pulse and direction function.

When using the ICM-1460 with the DMC-1410/11/12/17, terminal 5 PULSE/AI1 and terminal 6 DIR/AI2 provide pulse and direction for the x-axis; there are no analog inputs on these controllers.

If the AMPEN (amp enable) and/or ERROR signals are needed for your application, please consult Galil for alternate solutions.

If you have any questions regarding these options or their implementation, please contact Galil's applications engineering team at support@galilmc.com or 800-377-6329.