

Application Note #1453

Description of the ICM-19540 Breakout Module

The ICM-19540 is a breakout module that attaches to the AMP-19540 for easy screw terminal connections to the signals coming from the Aux IO and axis D-sub connectors.

The pin-out for the screw terminals can be seen in Fig. 1 below.



Fig. 1– Image of ICM-19540 screw terminals with labeling

Pinout

Aux I/O	
01 PWM/MCMD Z	23 W Latch/Input 4
02 Output 6	24 X Latch/Input 1
03 Output 8	25 PWM/MCMD X
04 Output 5	26 X Home
05 Output 2	27 Y Home
06 Abort (see Appendix A)	28 Z Home
07 Input 6	29 W Home
08 Z Latch/Input 3	30 Error Out
09 SIGN/AEN Y	31 PWM/MCMD W
10 Output Compare	32 5V
11 Reverse Limit X	33 5V
12 Reverse Limit Y	34 Ground
13 Reverse Limit Z	35 Ground
14 Reverse Limit W	36 Input 8
15 Forward Limit W	37 Input 5

16 SIGN/AEN W
17 SIGN/AEN Z
18 Output 7
19 Output 4
20 Output 1
21 Output 3
22 Input 7

38 Y Latch/Input 2
39 PWM/MCMD Y
40 SIGN/AENX
41 Forward Limit X
42 Forward Limit Y
43 Forward Limit Z
44 Reset

X Axis
01 I+ X
02 B+ X
03 A+ X
04 AB+ X
05 GND
06 I- X
07 B- X
08 A- X
09 AA- X
10 Hall X A
11 AA+ X
12 AB- X
13 Hall X B
14 Hall X C
15 5V

Y Axis
01 I+ Y
02 B+ Y
03 A+ Y
04 AB+ Y
05 GND
06 I- Y
07 B- Y
08 A- Y
09 AA- Y
10 Hall Y A
11 AA+ Y
12 AB- Y
13 Hall Y B
14 Hall Y C
15 5V

Z Axis
01 I+ Z
02 B+ Z
03 A+ Z
04 AB+ Z
05 GND
06 I- Z
07 B- Z
08 A- Z
09 AA- Z
10 Hall Z A
11 AA+ Z
12 AB- Z
13 Hall Z B
14 Hall Z C
15 5V

W Axis
01 I+ W
02 B+ W
03 A+ W
04 AB+ W
05 GND
06 I- W
07 B- W
08 A- W
09 AA- W
10 Hall W A
11 AA+ W
12 AB- W
13 Hall W B
14 Hall W C
15 5V

External Amplifiers or Drives

If an external drive or amplifier is to be used with the AMP-19540 and ICM-19540, the motor command and enable signals must be configured. This is accomplished by placing jumpers across the appropriate pins at locations X, Y, Z, and W on the AMP-195x0, near the J1 connector. See figure 3.

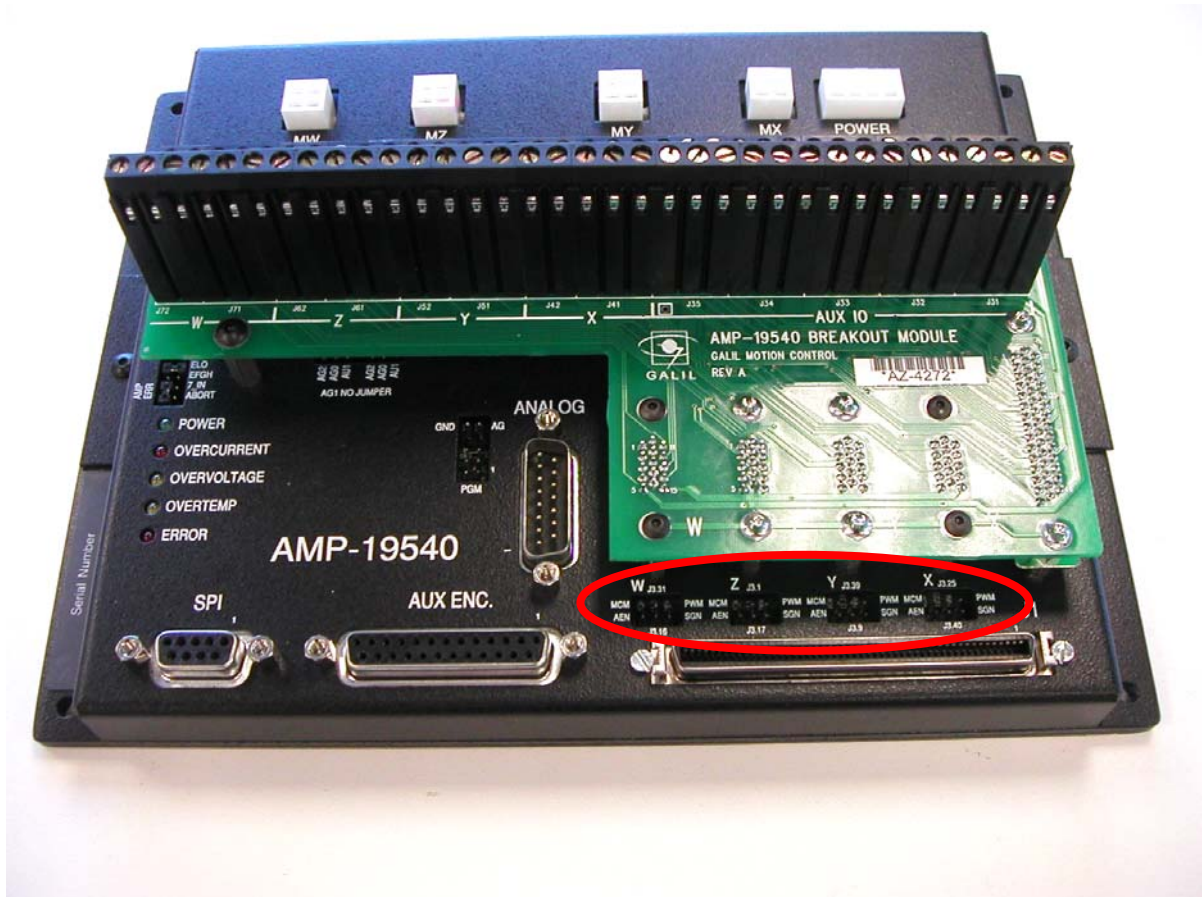
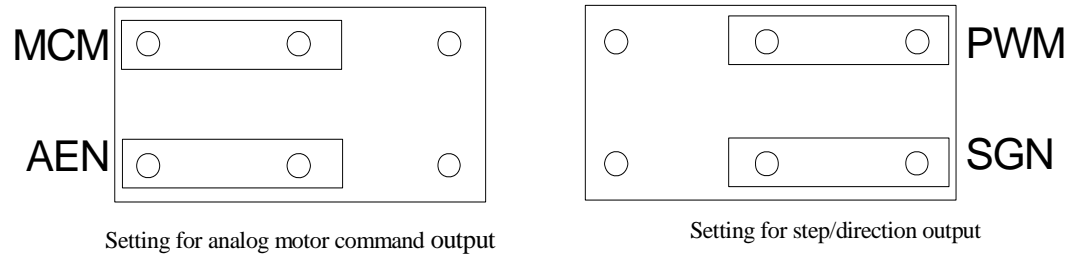


Fig 3. External Drive: Configuring the Proper Amplifier Signals to the ICM

There are two rows of three pins per axis. Install the jumpers on the MCM and AEN side of each row if the axis drives an external servo amplifier (other than the AMP-19520/40). That axis's PWM and SGN digital outputs will be inaccessible.

Install the jumpers on the PWM and SGN side of each row of pins if the axis drives an external stepper drive (or external PWM-input servo amplifier). That axis's MCM and AEN outputs will be inaccessible. Additionally, the SM jumper(s) must be installed on the controller for those axes configured for PWM output.

External Amplifiers or Drives: Jumper Details



MCM

This jumper across MCM & J3.xx brings that axis's Motor Command analog output to the J3.xx screw terminal location.

AEN

This jumper across AEN & J3.xx brings that axis's Amplifier Enable digital output to the J3.xx screw terminal location.

PWM

This jumper across PWM & J3.xx brings that axis's Pulse Width Modulation digital output to the J3.xx screw terminal location.

SGN

This jumper across SGN & J3.xx brings that axis's Sign(direction) digital output to the J3.xx screw terminal location.