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Find the *Galil Motion Control ICM-20100* at our website: *Click HERE*

Chapter 3 ICM-20100

Introduction

The ICM-20100 interconnect module provides D-Sub connections between the DMC-21x3 series controllers and other system elements, such as amplifiers, encoders, and external switches. The ICM-20100 provides access to the signals for up to 4 axes (two required for 5 or more axes).

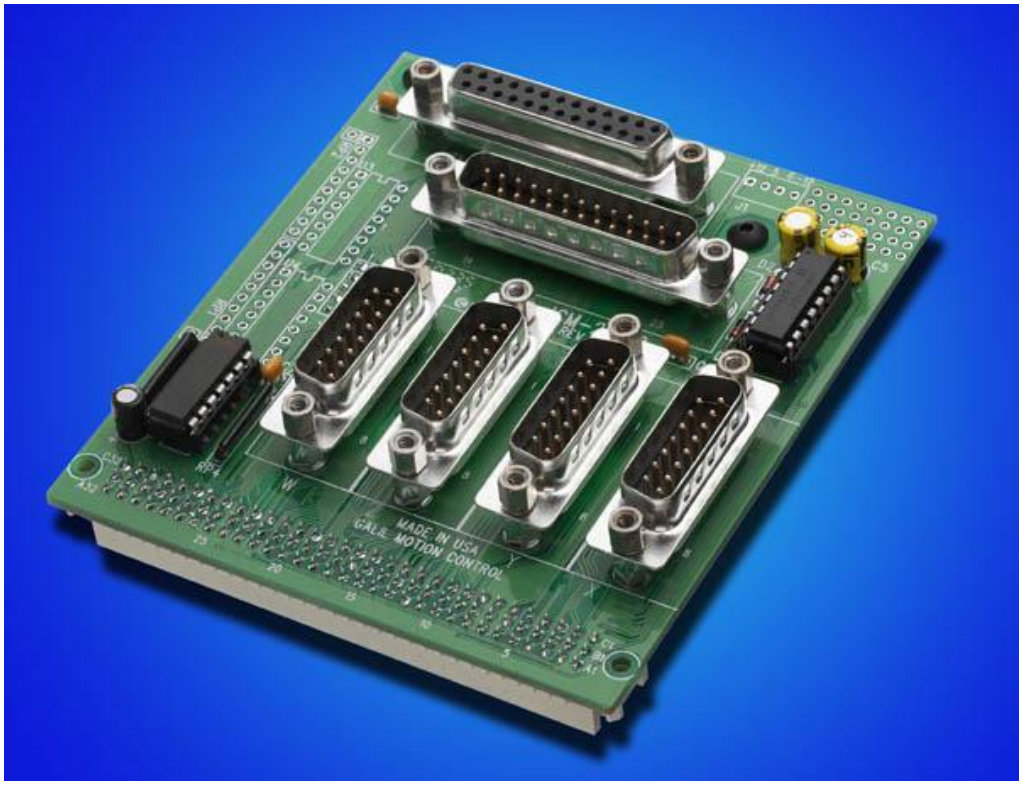
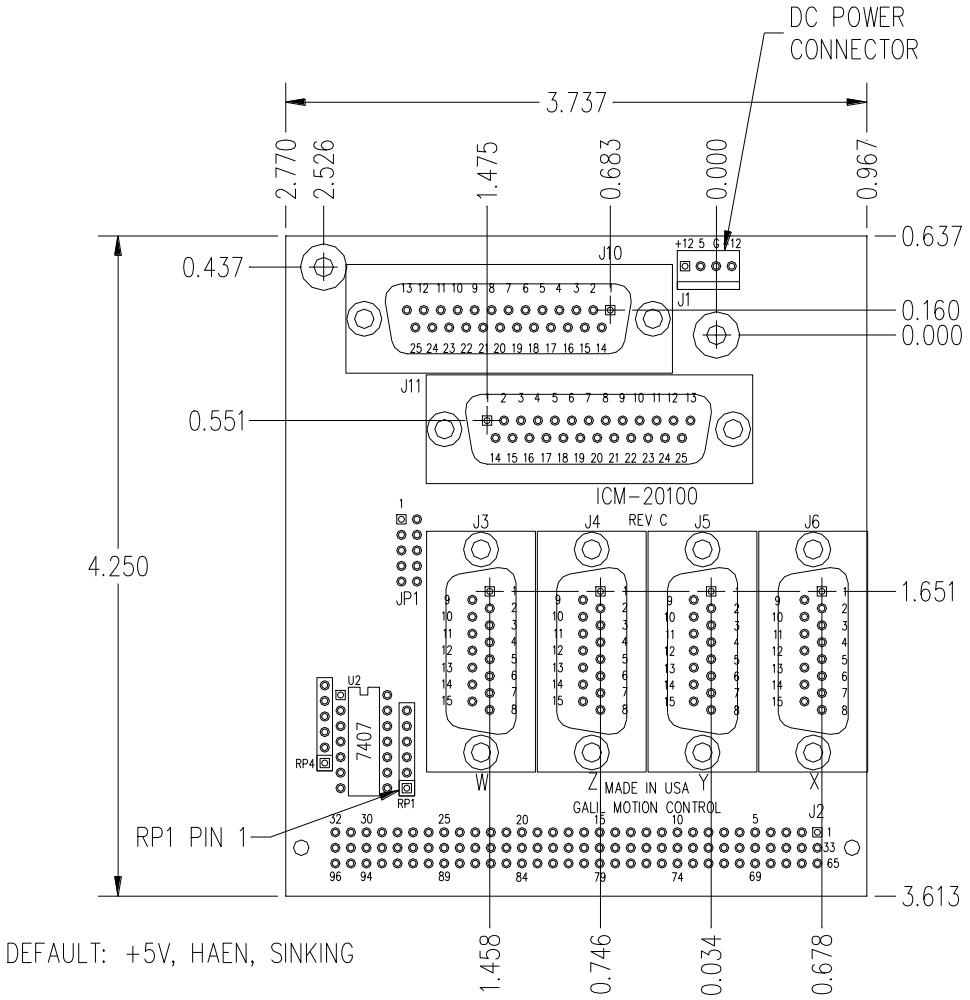


Figure 3 ICM-20100

Layout



Drawing Not to Scale. For Reference Only. Dimensions are inches

Figure 4 ICM-20100 Layout

Board Dimensions are 3.7" x 4.25". See Application Note #1231 for Hole Locations.

Pinout

J6	X-Axis 15-pin Male D-sub
1	Forward limit X
2	Home X
3	5V
4	A- X
5	B- X
6	I- X
7	Amp enable X
8	Sign/dir X
9	Reverse limit X
10	Ground
11	A+ X
12	B+ X
13	I+ X
14	Motor command X
15	PWM/step X

J5	J5 Y-Axis 15-pin Male D-sub
1	Forward limit Y
2	Home Y
3	5V
4	A- Y
5	B- Y
6	I- Y
7	Amp enable Y
8	Sign/dir Y
9	Reverse limit Y
10	Ground
11	A+ Y
12	B+ Y
13	I+ Y
14	Motor command Y
15	PWM/step Y

J4	J4 Z-Axis 15-pin Male D-sub
1	Forward Limit Z
2	Home Z
3	5V
4	A- Z
5	B- Z
6	I- Z
7	Amp enable Z
8	Sign/dir Z
9	Reverse limit Z
10	Ground
11	A+ Z
12	B+ Z

J3	W-Axis 15-pin Male D-sub
1	Forward Limit W
2	Home W
3	5V
4	A- W
5	B- W
6	I- W
7	Amp enable W
8	Sign/dir W
9	Reverse limit W
10	Ground
11	A+ W
12	B+ W

13	I+ Z
14	Motor command Z
15	PWM/step Z

13	I+ W
14	Motor command W
15	PWM/step W

J10	Aux Encoders 25-pin Female D-Sub
1	Reset *
2	AB- W
3	AA- W
4	AB- Z
5	AA- Z
6	AB- Y
7	AA- Y
8	AB- X
9	AA- X
10	5V
11	5V
12	+12V
13	NC
14	Error Output *
15	AB+ W
16	AA+ W
17	AB+ Z
18	AA+ Z
19	AB+ Y
20	AA+ Y
21	AB+ X
22	AA+ X
23	Ground
24	Ground
25	-12V

J11	I/O 25-pin Male D-Sub
1	Ground
2	Latch X/Input 1
3	Latch Z/Input 3
4	Input 5
5	Input 7
6	Abort *
7	Output 1
8	Output 3
9	Output 5
10	Output 7
11	Ground
12	NC
13	NC
14	5V
15	Latch Y/Input 2
16	Latch W/Input 4
17	Input 6
18	Input 8
19	Encoder-compare output
20	Output 2
21	Output 4
22	Output 6
23	Output 8
24	5V
25	NC
	* Active Low Signal

Amplifier Enable

The standard configuration of the AMPEN signal is TTL active high. In other words, the AMPEN signal will be high when the controller expects the amplifier to be enabled. The polarity and the amplitude can be changed. To change the polarity from active high (5 volts= enable, zero volts = disable) to active low (zero volts = enable, 5 volts= disable), replace the 7407 IC with a 7406 (U2). Note that many amplifiers designate the enable input as 'inhibit'.

To change the voltage level of the AMPEN signal, note the state of the resistor pack on the ICM-20100. When pin 1 of the resistor matches pin 1 of the RP1, the output voltage is 0-5 V. To change to 12 volts, pull the resistor pack and rotate it so that pin 1 is on the 12 volt side. Pin 1 of the resistor will be marked with a designator, pin 1 of location RP1 can be determined by the square through hole on the circuit board denoting pin 1. If you remove the resistor pack, the output signal is open collector, allowing the user to connect an external supply with voltages up to 24V. Note that any external pull-up resistor should limit the current draw to 10 mA

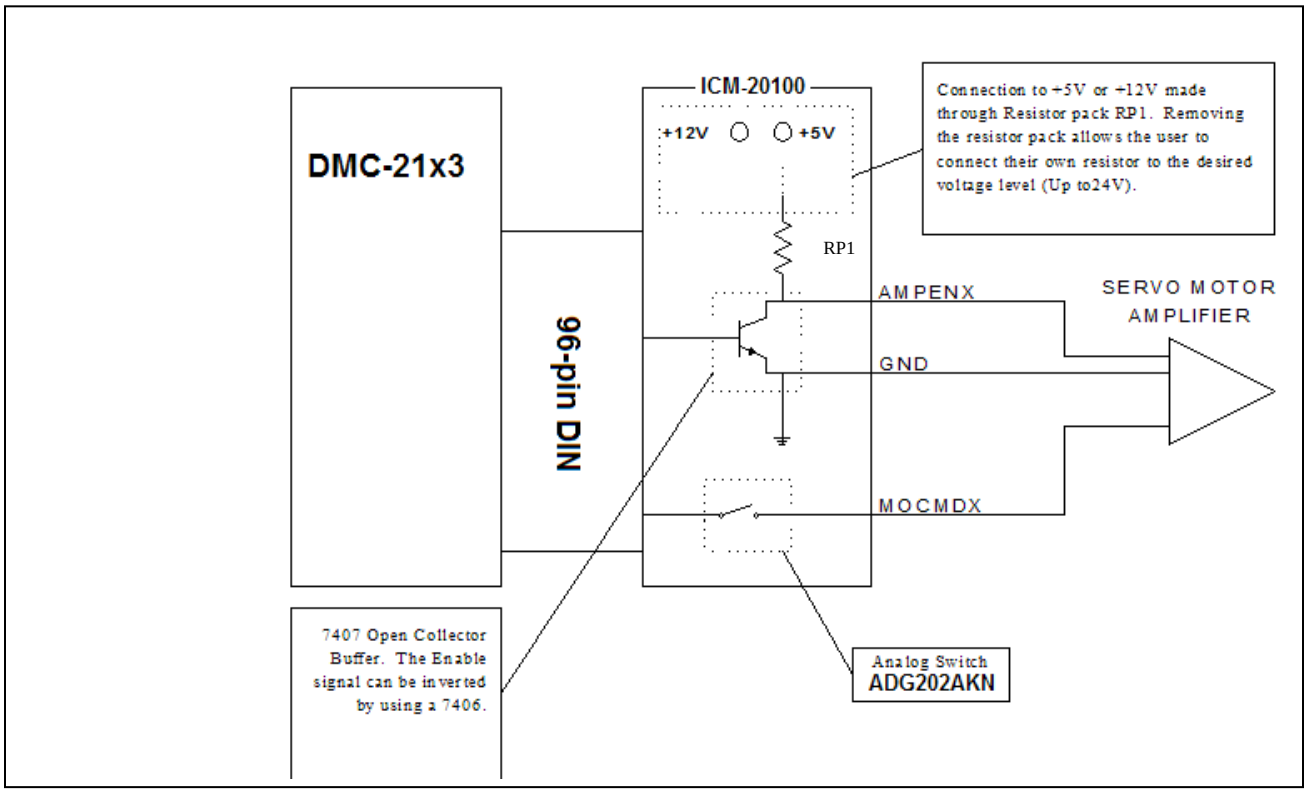


Figure 5 ICM-20100 Amplifier Enable Circuit

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