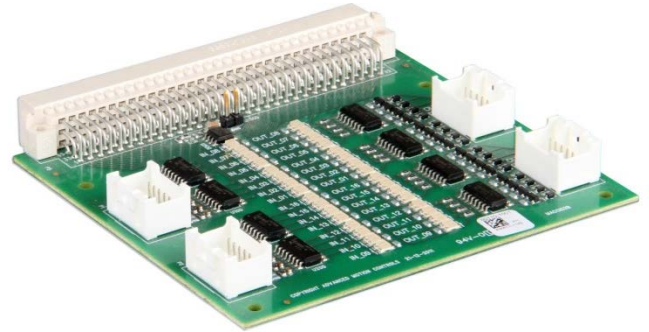


**Description**

The Motion Automation Control Card (MACC) family are general purpose motion/automation controllers with embedded Click&Move® programming capability.

Most applications for the MACC platform require digital and/or analog input/output hardware elements. *ADVANCED* Motion Controls® offers a wide range of input/output modules to fulfill any application requirement. These modules are partial or fully customizable to fit the application specifications and budget.

The MACC102 module is a minimal solution for simple applications, using switches as input devices and LEDs or small signal relays on the output.



# Click&Move®

Automation Solution

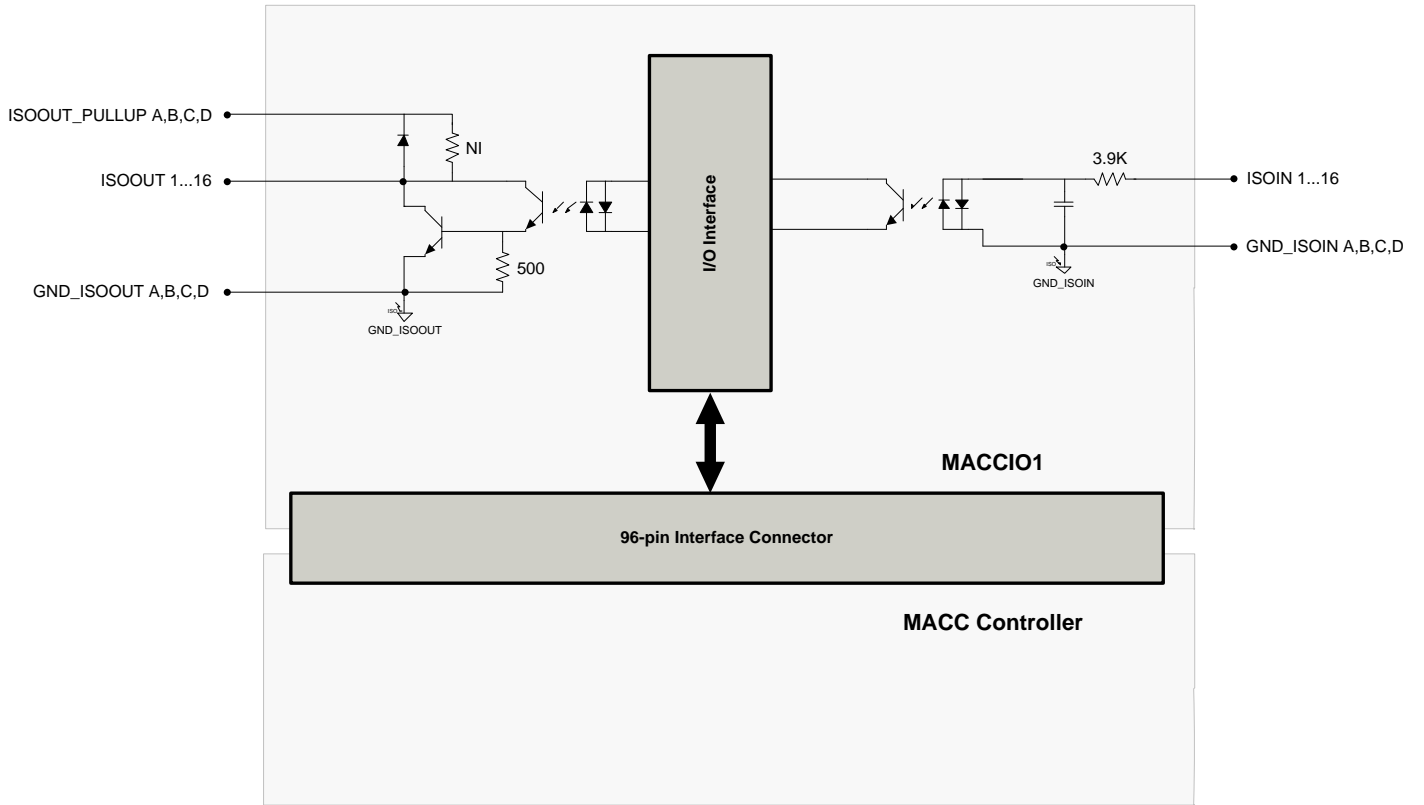
**FEATURES**

- 16 optocoupled digital inputs
- 16 optocoupled digital outputs
- Fits standard DIN rail plastic case

**COMPATIBLE CONTROL CARDS**


- MACC02
- MACC11

**BLOCK DIAGRAM**



**SPECIFICATIONS**

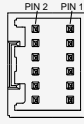
Power Specifications		
Description	Units	Value
DC Supply Voltage	VDC	Directly from the MACC, no external power supply required
I/O Specifications		
Description	Units	Value
Isolated Digital Outputs		
Maximum Turn On Delay	µs	10
Typical Turn Off Delay	µs	130 (@ 240 ohm pull-up to 24V)
Typical Saturation Voltage	V	1 (@ 100 mA load)
Maximum Continuous Output Current	mA	100
Maximum Peak Output Current	mA	250 (@ 50% duty cycle)
Maximum Output Voltage	V	30
Isolated Digital Inputs		
Maximum Turn On Delay	µs	4 (@ 24 V input)
Maximum Turn Off Delay	µs	60
Minimum Input Voltage	V	18
Maximum Input Voltage	V	30
Mechanical Specifications		
Description	Units	Value
Agency Approvals	-	UL Pending, cUL Pending, CE Pending, RoHS II
Size (H x W x D)	mm (in)	99.9 x 80.0 x 11.5 (3.94 x 3.15 x 0.45)
Weight	g (oz)	53.9 (1.9)
Operating Temperature Range	°C (°F)	0 - 75 (32 - 167)
Storage Temperature Range	°C (°F)	-40 - 85 (-40 - 185)
I/O Connectors	-	12-pin, 2.00 mm spaced dual-row vertical or right-angled headers
MACC INTERFACE I/O Connector	-	96-pin, 2.54 mm spaced plug connector

Information on Approvals and Compliances	
	The RoHS II Directive 2011/65/EU restricts the use of certain substances including lead, mercury, cadmium, hexavalent chromium and halogenated flame retardants PBB and PBDE in electronic equipment.

**CONNECTOR INFORMATION**

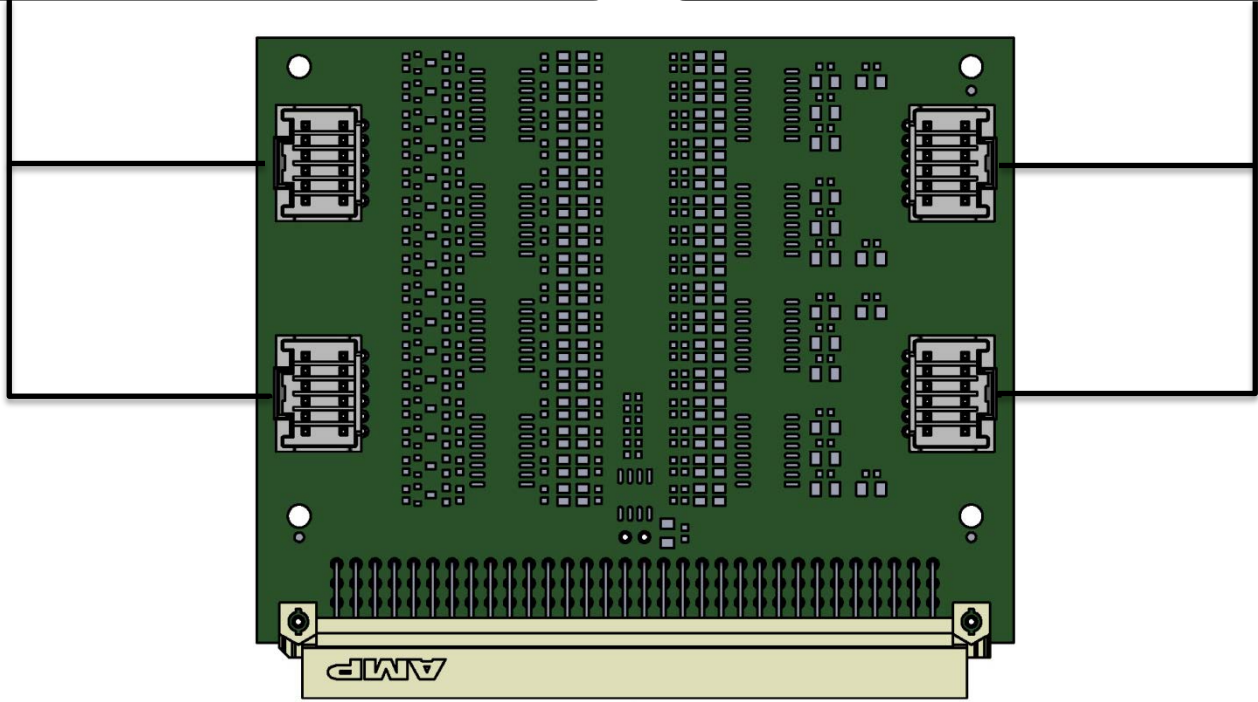
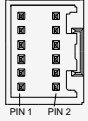
**P3 and P4 – Digital Output Connectors**

- 12-pin, 2.00 mm spaced dual-row vertical header (Molex P/N 55917-1210)
- Mating Connector (Molex: P/N 51353-1200)



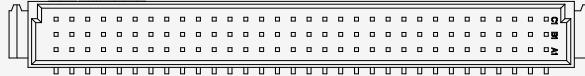
**P1 and P2 – Digital Input Connectors**

- 12-pin, 2.00 mm spaced dual-row vertical header (Molex P/N 55917-1210)
- Mating Connector (Molex: P/N 51353-1200)



**P5 – MACC Interface I/O Connector**

- 96-pin, 2.54 mm spaced plug connector
- I/O Module control card interface



**PIN FUNCTIONS**

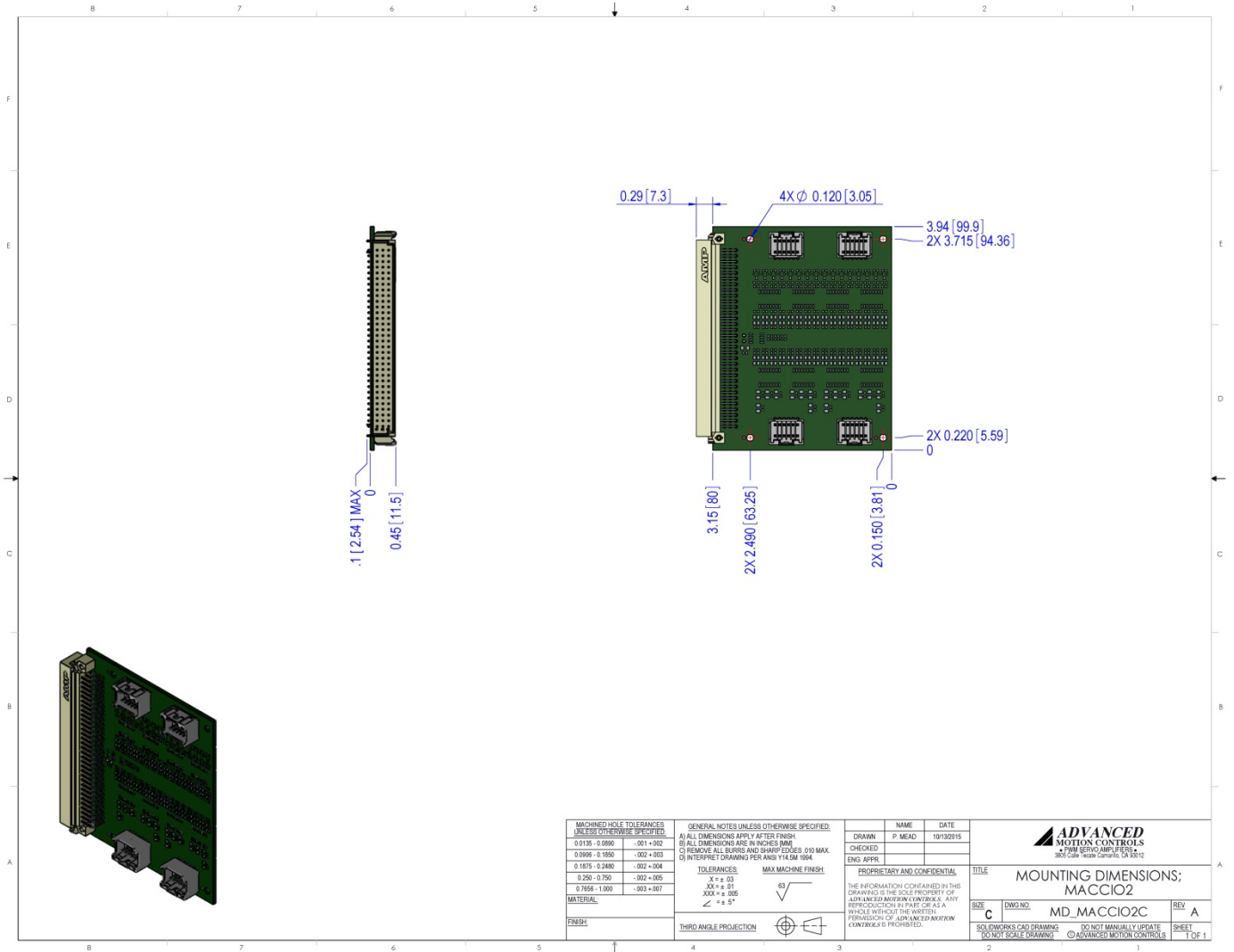
P1 – Isolated Digital Inputs Connector			
Pin	Name	Description / Notes	I/O
1	GND_ISOIN_B	Input common for ISOIN_5...ISOIN_8	-
2	GND_ISOIN_A	Input common for ISOIN_1...ISOIN_4	-
3	ISOIN_8	Isolated digital input	I
4	ISOIN_4	Isolated digital input	I
5	ISOIN_7	Isolated digital input	I
6	ISOIN_3	Isolated digital input	I
7	GND_ISOIN_B	Input common for ISOIN_5...ISOIN_8	-
8	GND_ISOIN_A	Input common for ISOIN_1...ISOIN_4	-
9	ISOIN_6	Isolated digital input	I
10	ISOIN_2	Isolated digital input	I
11	ISOIN_5	Isolated digital input	I
12	ISOIN_1	Isolated digital input	I

P2 – Isolated Digital Inputs Connector			
Pin	Name	Description / Notes	I/O
1	GND_ISOIN_D	Input common for ISOIN_13...ISOIN_16	-
2	GND_ISOIN_C	Input common for ISOIN_9...ISOIN_12	-
3	ISOIN_16	Isolated digital input	I
4	ISOIN_12	Isolated digital input	I
5	ISOIN_15	Isolated digital input	I
6	ISOIN_11	Isolated digital input	I
7	GND_ISOIN_D	Input common for ISOIN_13...ISOIN_16	-
8	GND_ISOIN_C	Input common for ISOIN_9...ISOIN_12	-
9	ISOIN_14	Isolated digital input	I
10	ISOIN_10	Isolated digital input	I
11	ISOIN_13	Isolated digital input	I
12	ISOIN_9	Isolated digital input	I

P3 – Isolated Digital Outputs Connector			
Pin	Name	Description / Notes	I/O
1	GND_ISOOUT_B	Output common for ISOOUT_5... ISOOUT_8	-
2	GND_ISOOUT_A	Output common for ISOOUT_1... ISOOUT_4	-
3	ISOOUT_8	Isolated digital output	O
4	ISOOUT_4	Isolated digital output	O
5	ISOOUT_7	Isolated digital output	O
6	ISOOUT_3	Isolated digital output	O
7	ISOOUT_B	Output pull-up for ISOOUT_5... ISOOUT_8	-
8	ISOOUT_A	Output pull-up for ISOOUT_1... ISOOUT_4	-
9	ISOOUT_6	Isolated digital output	O
10	ISOOUT_2	Isolated digital output	O
11	ISOOUT_5	Isolated digital output	O
12	ISOOUT_1	Isolated digital output	O

P4 – Isolated Digital Outputs Connector			
Pin	Name	Description / Notes	I/O
1	GND_ISOOUT_D	Output common for ISOOUT_13... ISOOUT_16	-
2	GND_ISOOUT_C	Output common for ISOOUT_9... ISOOUT_12	-
3	ISOOUT_16	Isolated digital output	O
4	ISOOUT_12	Isolated digital output	O
5	ISOOUT_15	Isolated digital output	O
6	ISOOUT_11	Isolated digital output	O
7	ISOOUT_D	Output pull-up for ISOOUT_13... ISOOUT_16	-
8	ISOOUT_C	Output pull-up for ISOOUT_9... ISOOUT_12	-
9	ISOOUT_14	Isolated digital output	O
10	ISOOUT_10	Isolated digital output	O
11	ISOOUT_13	Isolated digital output	O
12	ISOOUT_9	Isolated digital output	O

**MOUNTING DIMENSIONS**



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## CUSTOMIZATION INFORMATION

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ADVANCED Motion Controls also has the capability to promptly develop and deliver specified products for OEMs with volume requests. Our Applications and Engineering Departments will work closely with your design team through all stages of development in order to provide the best servo drive solution for your system. Equipped with on-site manufacturing for quick-turn customs capabilities, ADVANCED Motion Controls utilizes our years of engineering and manufacturing expertise to decrease your costs and time-to-market while increasing system quality and reliability. Feel free to contact Applications Engineering for further information and details.

### Examples of Customized Products

- |                                |                                   |
|--------------------------------|-----------------------------------|
| ▲ Optimized Footprint          | ▲ Tailored Project File           |
| ▲ Private Label Software       | ▲ Silkscreen Branding             |
| ▲ OEM Specified Connectors     | ▲ Optimized Base Plate            |
| ▲ No Outer Case                | ▲ Increased Current Limits        |
| ▲ Increased Current Resolution | ▲ Increased Voltage Range         |
| ▲ Increased Temperature Range  | ▲ Conformal Coating               |
| ▲ Custom Control Interface     | ▲ Multi-Axis Configurations       |
| ▲ Integrated System I/O        | ▲ Reduced Profile Size and Weight |

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All specifications in this document are subject to change without written notice. Actual product may differ from pictures provided in this document.

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