

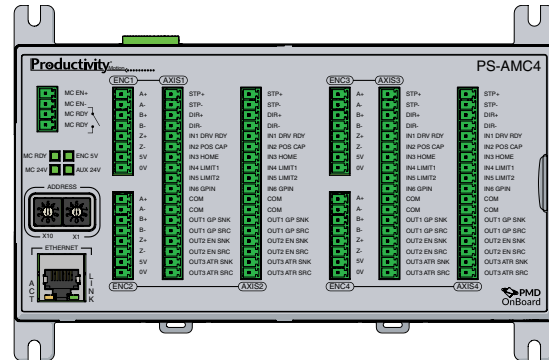
AMC Specifications	
Style	DIN rail or panel mount
Communications	10/100 Ethernet (RJ45), Supports Productivity Series Remote I/O protocol
Module	1-, 2-, 3-, or 4-axis open loop controller with encoder input, pulse output & GPIO
Max Switching Frequency	1MHz
Number of High Speed Channels	1, 2, 3, or 4 High Speed Input, 1, 2, 3, or 4 High Speed Output
Number of General Purpose I/O	6 General Purpose Inputs per axis, 3 General Purpose Outputs per axis
Encoder Input	Quadrature, Differential line receiver, 5VDC
Pulse Output	Step and Dir, Differential Line Driver, 5VDC

AMC Status Indicators	
MC RDY	LED is ON when Motion Controller is ready
MC 24V	LED is ON when 24VDC is applied and within spec to the MC 24V
ENC 5V	LED is ON when the AMC +5VDC is available for use with encoders
AUX 24V	LED is ON when 24VDC is applied and within spec to the AUX power terminal or a jumper is installed between AUX & 24V power terminals

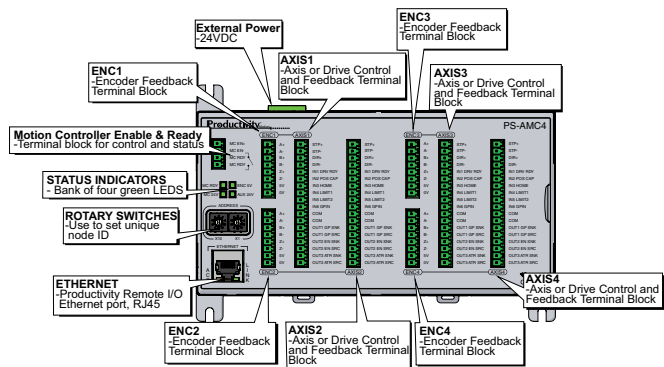


Productivity Motion Controller PS-AMC1, PS-AMC2, PS-AMC3, PS-AMC4

The Productivity Advanced Motion Controllers provide easy to use motion control. Motion configuration and programming is integrated into the Productivity Suite software. One, two, three or four axis control are provided, based on model.



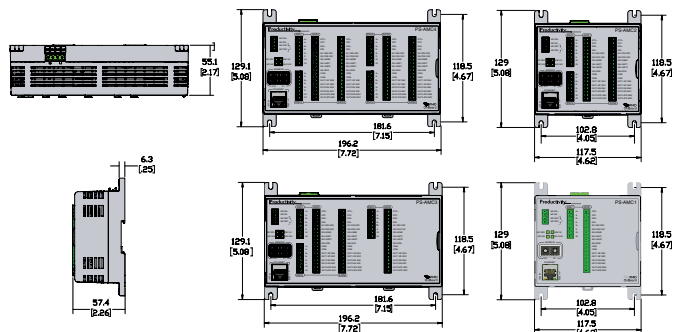
Specifications	1
Status Indicators	1
Front Panel	2
Programming Instructions	2
Axis Pulse Output Specifications	3
Enable Input & Ready Output Specifications	3
Axis Encoder Input Specifications	3
Axis Output Specifications	4
Axis Input Specifications	4
Setup Time	4
Power Specifications	5
Mounting Clearance and Orientation	5
Component Specifications	6
Ethernet Specifications	6
Wiring Diagrams	7
General Specifications	8
Removable Terminal Block Specifications	8
Warning	8



The PS-AMC modules are configured in the Productivity Suite Hardware Configuration tool.

Instructions in Productivity Suite support:

- Relative and absolute positioning
- Velocity mode movement
- Trapezoidal movement
- Jerk smoothing
- Registration corrections
- Homing
- Electronic gearing profiles
- Rotary table control
- Flying cutoff control
- Motion sequence control



Refer to the Productivity Suite Help File topics for detailed information on configuration and use.

Specifications

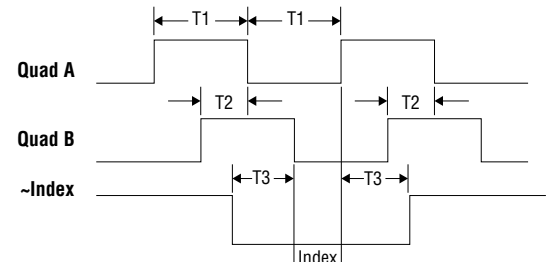
Axis Pulse Output Specifications	
Pulse Outputs	STEP, DIR
Output Signal Type, per Channel Select	RS422 Differential Line Driver
Output Volts	RS422 levels
Output Volts Maximum	5V
Protection for Overcurrent and Short Circuit to Power	Yes, Current limit and Thermal shutdown ¹
Protection Short to Ground	Yes
Overcurrent Trip Level	Output current limit $\pm 250\text{mA}$ max ¹
Maximum Continuous Output Current	$\pm 50\text{mA}$
Max Switching Frequency	1MHz

1. RS422 thermal faults auto reset after device cool down

Enable Input & Ready Output Specifications	
Ready Output	MC_RDY
Output Type	1 form A contacts
Output Rated Voltage	120VAC @ 3A, 30VDC @ 5A
Output Rated Current	3A/5A
Enable Input	MC EN \pm
Input type	Opto isolator
Input Voltage	24V @ 1.5 mA
Minimum ON Voltage	10V
Maximum OFF Voltage	2V

Axis Encoder Input Specifications	
Inputs	A \pm , B \pm , Z \pm
Input Pulse Type	Quadrature
Input Signal Type, Per Channel Select	RS422 Differential Line Receiver
Input Volts	RS422 levels
Input Volts Maximum	5V @ 15mA
Max Switching Frequency	1MHz
Power Supplied to Encoder	5V @ 200mA max
Encoder Pulse Width	400ns minimum
Dwell Time Per State	200ns minimum
Index Setup and Hold	0ns minimum

Quadrature Encoder Input



$$(\sim \text{Quad A} * \sim \text{Quad B} * \sim \text{Index})$$

T1 = Pulse Width

T2 = Dwell

T3 = Index Setup / Hold

Specifications

Axis Input Specifications

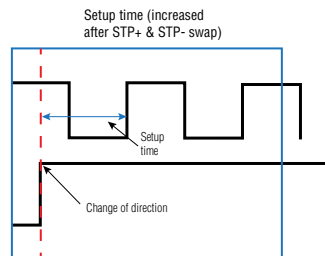
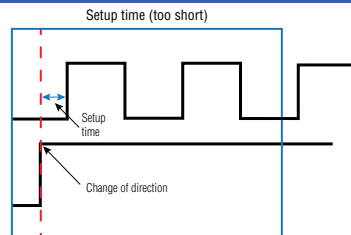
Input	IN1,IN2,IN3,IN4,IN5 & IN6
Input Type	Single ended, internally pulled up to 12V, Input "ON" when pulled down to 0V. Inputs are protected to -3.4 VDC to +50VDC, exceeding this can cause permanent damage but since no external voltage is applied this could only happen by miswiring.
Input Impedance	1.5 k Ω
Inputs Rated Current	6.5 mA typical @ 0V input
Input ON Voltage	0–2.3 V
Input OFF Voltage	9.6 V–12 V
Input Minimum ON Current	5mA
Input Maximum OFF Current	0.25 mA
OFF to ON Response Time	250ns
ON to OFF Response Time	250ns

Axis Output Specifications

Outputs²	OUT1 GP, OUT2 EN, OUT3 ATR	
Output Signal Type, Per Channel	Sink Open collector NPN transistor	Source Open collector PNP transistor
Operating Voltage¹	5–24 V	24V
Operating Voltage Maximum¹	26.4 V	26.4 V
Output Current Maximum	250mA	150mA
Output Voltage Drop	0.6 V @ 0.25 A	0.4 V @ 0.15 A
Maximum OFF to ON Response	25us	
Maximum ON to OFF Response	25us	
Protection Overcurrent or Short PWR/GND	None	

1. General Purpose / Resistive Loads

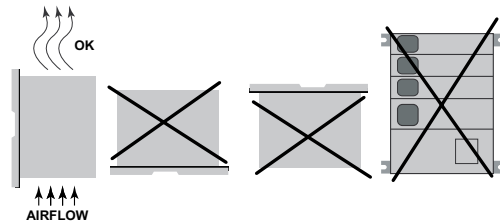
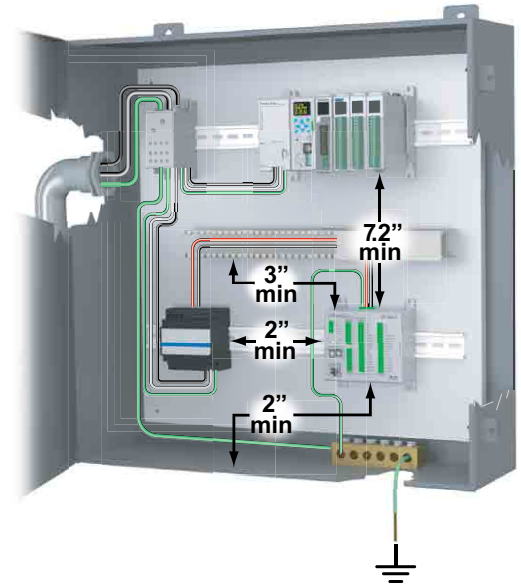
2. Outputs should be diode clamped if driving inductive loads.



Note: On some devices the duration of the setup time between a change of direction and the rising edge of the first step pulse can be too short. Swapping the step output wires (STP+ to STP- and STP- to STP+) on the stepper or the AMC module will eliminate this issue by increasing the setup time between the change of direction and the rising edge of the first step pulse. Some driver devices, such as servo drives, have input polarity selections in their configurations to deal with this type of issue. Changing the servo drive polarity should also have the same effect.

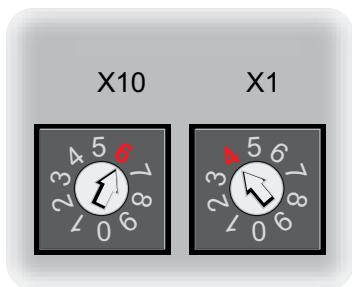
Mounting Clearance and Orientation

Power Specifications	
External Power	24V +10/-15%, Class 2
Maximum Voltage	26.4 V
Minimum Voltage	20.4 V
Maximum Power Consumption	PS-AMC1 20W
	PS-AMC2 31.5W
	PS-AMC3 44W
	PS-AMC4 61W

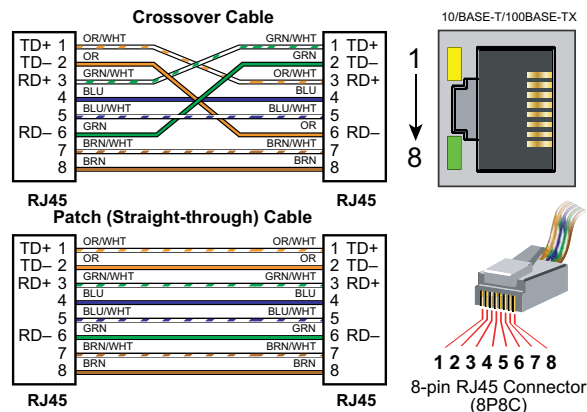


Port Specifications

Component Specifications	
Node ID	Use the two rotary switches to set a unique node ID, between 1–99 for each AMC X1 (0–9) and X10 (0–9). The image below represents Node ID 64
Module Power	Connect 24VDC power to the 4-pin terminal block located on the top of the unit
RJ45 Port	10/100 Ethernet communications from the master PLC for command signals and firmware update. Supports Productivity Series Remote I/O protocol.
Mounting	35mm DIN rail mounting and 4-corner screw tabs for surface mount

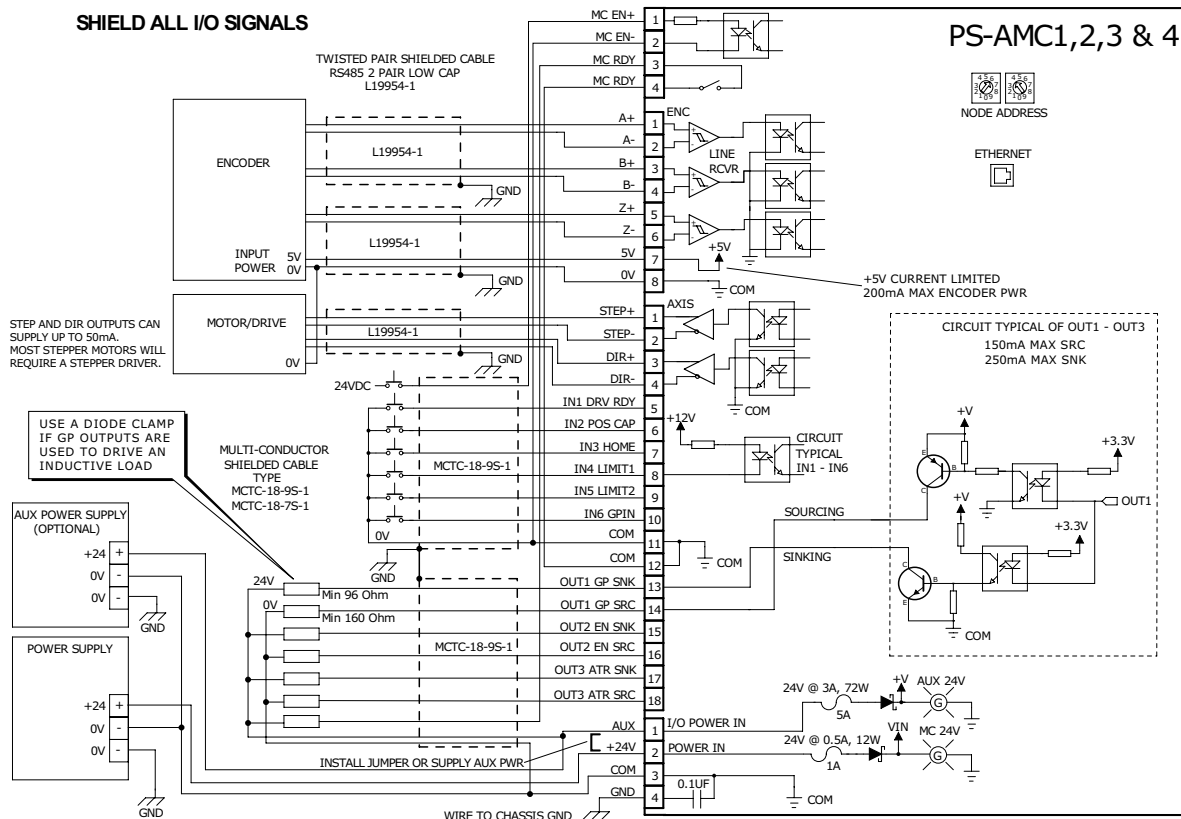


Ethernet Specifications	
Port Name	ETHERNET
Description	Standard transformer isolated Ethernet port with built-in surge protection for communicating to the Productivity CPU
Transfer Rate	10 Mbps and 100 Mbps (auto-crossover)
Port Status LED	GREEN LED is solid when network LINK is established at 10M or 100M. YELLOW LED flashes when port is active (ACT).



Wiring Diagrams

SHIELD ALL I/O SIGNALS



WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

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Terminal Block Specifications

Positions	4 Position Power	4 Position MC EN/RDY	8 Position Encoder Feedback	18 Position Axis Control
Pitch	5mm	3.81 mm		
Wire Range**	28–12 AWG Solid Conductor 30–12 AWG Stranded Conductor	28–16 AWG Solid Conductor 30–16 AWG Stranded Conductor		
Conductors	*USE COPPER CONDUCTORS, 75°C* or equivalent.			
Screw Driver	0.1 in (2.5 mm) Maximum*			
Screw Size	M2.5			
Screw Torque	4.5 lb-in (0.55 N-m)	2.5 lb-in (0.30 N-m)		

*Recommended Screw Driver TW-SD-MSL-1 **Stripping Length 7–8 mm

PCON-KIT2 includes:

- (1) 4 position power terminal block
- (1) 4 position MC EN/RDY terminal block
- (2) 8 position Encoder feedback terminal block
- (2) 18 position axis control terminal block

Also, the 18 position axis control terminal block is available individually as part number

P2-RTB or **P2-RTB-1**

General Specifications

Productivity CPU compatibility	All CPUs with Remote Ethernet Port
Controller Supported per CPU	Up to four AMC modules per P2000 or P3000 CPU One AMC module per P1000 CPU
Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-20° to 70°C (-4° to 158°F)
Humidity	5 to 95% (non-condensing)
Altitude	2,000 meters max
Pollution Degree	2
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Overvoltage Category	II
Heat Dissipation	PS-AMC1 3900mW PS-AMC2 5900mW PS-AMC3 7900mW PS-AMC4 9900mW
Enclosure Type	Open Equipment
Field to Logic Side Isolation	1800VAC applied for 1 second
Insulation Resistance	>10MΩ @ 500VDC
Controller Location	Connected to Productivity CPU via Remote I/O Ethernet Port (Local Ethernet Network)
Weight	PS-AMC1 453.6 g (16oz) PS-AMC2 498.9 g (17.6 oz) PS-AMC3 635g (22.4 oz) PS-AMC4 680g (24oz)
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada & USA CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*

*See CE Declaration of Conformance for details.

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