

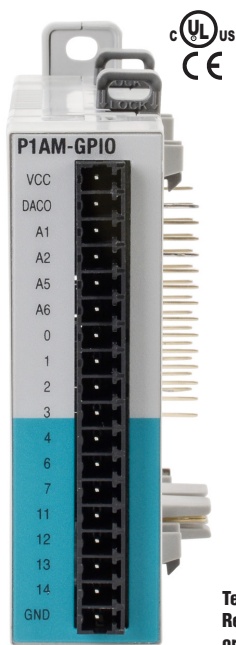
# Shields

## P1AM-GPIO

### Header Pin Breakout Module

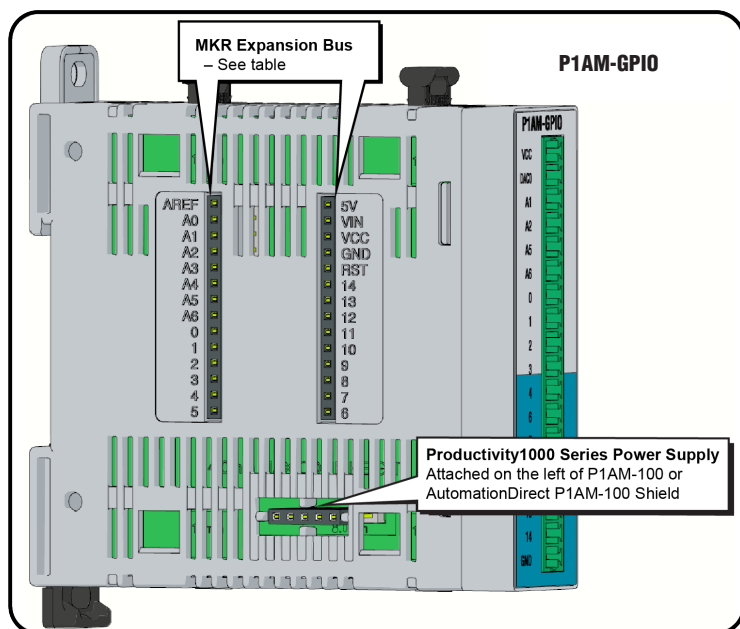
The P1AM-GPIO is a housed Arduino MKR form factor shield that brings a subset of the MKR header pins to the front faceplate with an 18-position terminal block. These pins include basic overvoltage,

undervoltage, and overcurrent protection. It connects to the left side of the P1AM-100 CPU and most Arduino MKR form factor shields.



General Specifications	
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)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Heat Dissipation	475mW
Enclosure Type	Open Equipment
Module Location	Connects to the left side of the P1AM-100 CPU.
Weight	56g (2.0 oz.)
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada & USA CE

Terminal block connector sold separately.  
Recommended connector options P2-RTB  
or P2-RTB-1.



MKR Expansion Bus Pins	
GPIO	A0–A6, 0–14
Analog Input Pins	A0–A6
Analog Output Pins	A0
PWM Pins	0–8, 10, A3, A4
Interrupt Pins	0, 1, 4–8, A1, A2
5V	5V supply output
Vin	5V regulated supply
VCC	3.3 V supply output
GND	Ground
RST	Reset
AREF	Analog Input Reference

#### Critical Notes:

Pins A3, A4, and 8–10 are used for the base controller.  
Do not exceed 46mA combined from pins 0, 1, and 4–10.  
Do not exceed 3.3 V on any I/O pin.  
Do not exceed 7mA on any I/O pin.  
Do not apply power to 5V or VCC

**!WARNING!**

Do not add or remove modules  
with field power applied!

# Productivity<sup>®</sup>Open Overview

ProductivityOpen leverages the modern processing power of Arduino and the proven industrial value of the Productivity1000 input and output modules. Make use of the wide variety of Arduino MKR form factor shields.

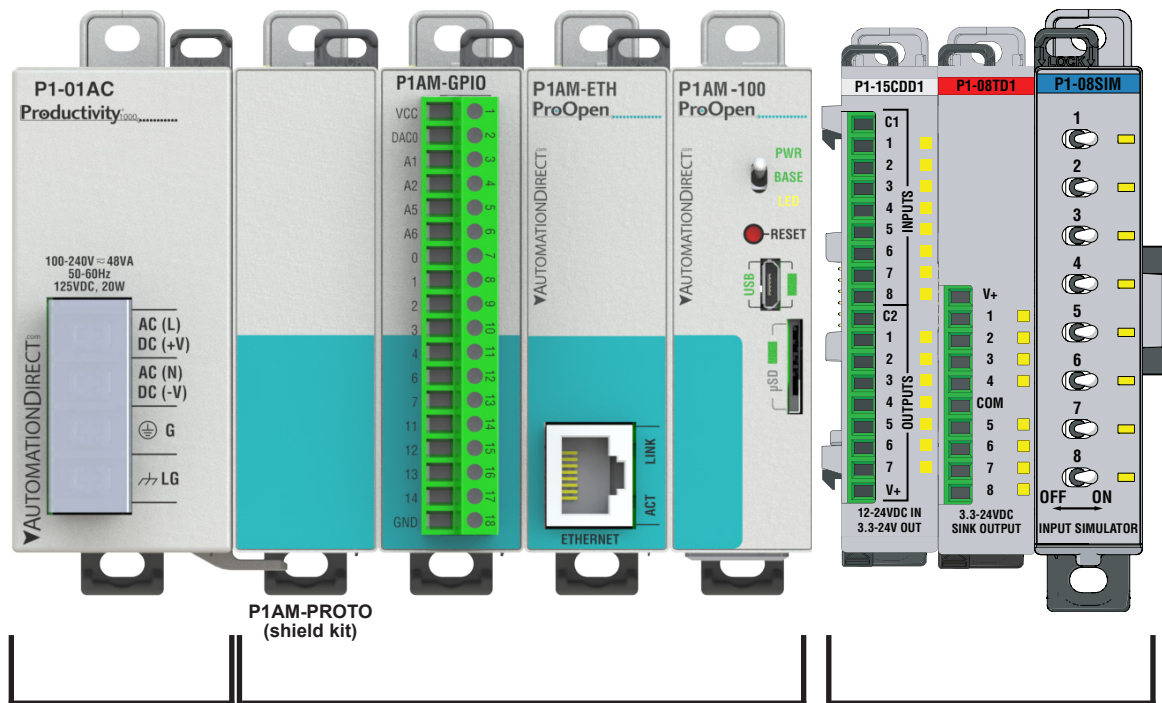
The P1AM-100 module is programmed with the Arduino IDE or ProductivityBlocks, an optional proprietary block programming environment.

## Features

- Supports Productivity1000 inputs and outputs modules
- Supports Arduino MKR form factor shields
- UL listed CPU
- UL listed ProductivityOpen branded shields



Productivity <sup>®</sup> Open Modules		
Part Number	Price	Description
<b>P1AM-100</b>		Arduino compatible CPU
<b>P1AM-ETH</b>		Ethernet shield
<b>P1AM-GPIO</b>		Extended I/O shield
<b>P1AM-PROTO</b>		Custom housing kit
<b>P1AM-START1</b>		Maker community start kit
<b>P1AM-START2</b>		Industrial community start kit



Productivity1000 Power Supply

The power of Arduino in ProductivityOpen.

Productivity1000 Input and Output Modules

# Productivity® Open Overview

## Productivity1000 I/O Modules

A variety of discrete and analog I/O modules from our Productivity1000 line are available for use with the P1AM-100.

Productivity1000 Modules			
Part Number	Number of Inputs	Description	
<b>Input Modules</b>			
P1-08SIM	8	Input Simulator Module	
P1-08ND3	8	Sinking/Sourcing 12–24 VDC Input	
P1-16ND3	16	Sinking/Sourcing 12–24 VDC Input	
P1-08NE3	8	Sinking/Sourcing 24V AC/DC	
P1-16NE3	16	Sinking/Sourcing 24V AC/DC	
P1-08NA	8	AC Isolated 100–240 VAC	
<b>Output Modules</b>			
	Number of Outputs		
P1-08TD1	8	Sinking DC Output	
P1-08TD2	8	Sourcing DC Output	
P1-15TD1	15	Sinking DC Output	
P1-15TD2	15	Sourcing DC Output	
P1-08TA	8	AC Output	
P1-08TRS	8	Isolated Relay Output	
P1-16TR	16	Relay Output	
<b>Input/Output Modules</b>			
	Inputs	Outputs	
P1-15CDD1	8	7	Input: Sinking/Sourcing; Output: Sinking
P1-15CDD2	8	7	Input: Sinking/Sourcing; Output: Sourcing
P1-16CDR	8	8	Input: Sinking/Sourcing; Output: Relay

Productivity1000 Modules			
Part Number	Number of Inputs	Description	
<b>Input Modules</b>			
P1-04AD	4	Analog Input (Current)	
P1-04ADL-1	4	Analog Input (Current)	
P1-04ADL-2	4	Analog Input (Voltage)	
P1-08ADL-1	8	Analog Input (Current)	
P1-08ADL-2	8	Analog Input (Voltage)	
P1-04RTD	4	RTD Input	
P1-04THM	4	Analog Thermocouple Input	
P1-04NTC	4	Analog Thermistor Input	
<b>Output Modules</b>			
	Number of Outputs		
P1-04DAL-1	4	Analog Output (Current)	
P1-04DAL-2	4	Analog Output (Voltage)	
P1-08DAL-1	8	Analog Output (Current)	
P1-08DAL-2	8	Analog Output (Voltage)	
<b>Input/Output Modules</b>			
	Inputs	Outputs	
P1-4ADL2DAL-1	4	2	Analog Input/Analog Output (Current)
P1-4ADL2DAL-2	4	2	Analog Input/Analog Output (Voltage)

