

# P-Series PLC on a Chip®

P-Series PLC on a Chip Development Kit



The P-Series PLC on a Chip Development Kit is a development tool for the P-Series PLC on a Chip. Included is the complete library of documentation required to apply P-Series PLC on Chip at the module and integrated circuit level, the development board and the EZ LADDER Toolkit software.

This package allows you to develop and test your hardware designs utilizing on-board circuitry and providing a solderable 'perf' board for circuit prototyping. While the P-Series PLC on a Chip hardware design is in process; the development kit allows ladder diagram development and completion of the project in shorter time. Once the hardware is complete, simply download and run your application without any re-programming.

The P-Series PLC on a Chip Module plugs into the development board using dual row connectors and through the development board you gain access to the PLC on a Chip Module's I/O and features.

The development board provides the necessary power requirements for the PLC on a Chip Module, only requiring a 12VAC or 12VDC input using the provided terminal block or barrel connector (allowing power from a wall-mount power supply. In addition to the power supply, the development board provides the programming port connections via a 9-pin DSUB connector (male). Additional headers are provided that accept serial port modules (RS232, RS422 and RS485).

Additional features such as SD Card and Ethernet are located on the PLC on a Chip Module. On the development board, multiple "P" connector thru-hole solder pads are provided for access to additional module features and a solderable 'perf' board area is ideal for prototyping thru-hole circuits.

The **PLCDK-P13-01** P-Series PLC on a Chip® Development Package contains the following:

Qty	Part Number	Description
1	PLCMOD-P13-512210	PLC on a Chip® Module with 256K Flash, 2 Serial Ports, 2 Can Ports
1	BM-1070401-02	P-Series PLC on a Chip Development Kit Board
1	PLCDKCD-P13-01	P13 Devkit Flash Drive with EZ LADDER, Design Documentation
1	PLCDKPS	Wall Mount Power Supply
1	126-102860	Null Modem Cable
1	138-106865	USB to RS232 Serial Adapter

Serial Port Modules are purchased separately.

## PLCDK-P13-01 SPECIFICATIONS

### P-Series PLC on a Chip® Module

PLCMOD-P13-512210				
System Capacity				
Flash Memory	256K Bytes			
EEPROM Memory	3500Bytes			
RAM Memory	32K Bytes			
Power Supply	3.3VDC			
Real Time Clock	Yes			
Package Type	PCB			
Size	3.625" x 3.125" x 1.00"			
Temperature Range	- 40 to 85 Degrees C			

Communications*	
Serial Ports	1 TTL Programming Port
	4 TTL Multipurpose Ports
ASCII / RTU Communications	Yes
Modbus Master / Slave	Yes
Serial Ports Baud Rate	up to 115200 Bps
CAN Ports	Up to 2, OptiCAN, J1939,
	NMEA 2000
Ethernet Port	Yes. Program or Modbus TCP
SD Card Port	Mico SD Card Socket

02 04.1.1.0.1	
Input / Output*	
SPI Serial Interface Port	2, TTL Level
I <sup>2</sup> C Bus	3, TTL Level
A/D Inputs	8 Channels, 0-3.3VDC, 12 Bit
A/D Outputs	1 Channel, 0-3.3VDC, 10 Bit
PWM Outputs	12 Channels, 32 Bit (TTL)
Counter / Timer Inputs	3 Inputs, 32 Bit (TTL)
Quadrature Inputs	1 Input, A, B, Index (TTL)
LCD Port	Yes (TTL)
Keypad Port	5 Row / 4 Column Matrix
Digital I/O	Up to 143 Digital I/O Points

<sup>\*</sup>All quantities show are maximum available each category. As pins share functions, not all features may be available. Consult the PLC on a Chip Module Datasheet for details.

#### **Optional Accessories**

PLCDK-RS232	Serial Port Module, RS232
PLCDK-RS422	Serial Port Module, RS422
PLCDK-RS485	Serial Port Module, RS485

#### **Development Kit Main Board**

BM-1070401-02				
Input Power	12VAC or 12 VDC			
Program Port	RS232			
Watchdog LED	Yes			
Serial Port Module Slots	3			
Power Supplies	+5VDC, +3.3VDC, 12VDC			
Other Connections	P4 - P6, 60 Pin Solder Pads			
Circuit Area	2.25" x 3.0" Solderable Pads			
Size with I/O Modules	9.85" x 8.28" x 1.7"			
Mounting	Rubber Feet / Screw Hole			

#### BM-1070401-02



#### PLCMOD-P13-512210



**NOTE:** Specifications are subject to change without notice.