

Overview:

PMX-4EX-CR is a compact 4-axis motion controller core module with all the functionalities of the PMX-4EX-SA controller but in a module form for easy and cost-effective integration to your motion system.

Size:

- 1.6 x 2.0 x 0.5 inch (40.6 x 50.8 x 12 mm)

Connectors:

- Two 40 pin 2mm space dual row headers

Motion Specifications:

- 6M Pulse output rate
- Linear among any XYZU axes
- Arc / Circular coordinated motion on XY axes

Digital Input/Output Specifications:

- 4 x Pulse/Dir/Enable outputs
- 4 x Home/-Limit/+Limit inputs
- 4 x EA/EB/EI encoder inputs
- 4 digital inputs / 4 digital outputs
- 4 Position Latch inputs

(Note: All digital IO's are TTL 5V Compliant)

Analog Input / Output Specifications:

- 1 channel 10 bit analog input 0 to 3.3V
- 1 channel 10 bit analog output 0 to 3.3V

Communication Specifications:

- USB 2.0 (Transceiver included)
- RS-485 or RS-232 (Transceiver required)
- SD Card Interface for storage

Motion Program Specifications:

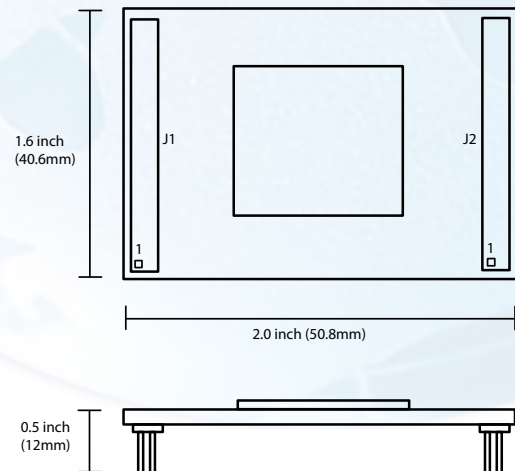
- Standalone programmable
- Multi-tasking/multi-thread program support
- BASIC-like text based programming language
- IF/ELSE/WHILE loop control
- Sub routine support
- Math function support
- 100 variable support

Power Specifications:

- 5VDC input 300mA



Dimensions:



Connector Pin Information:

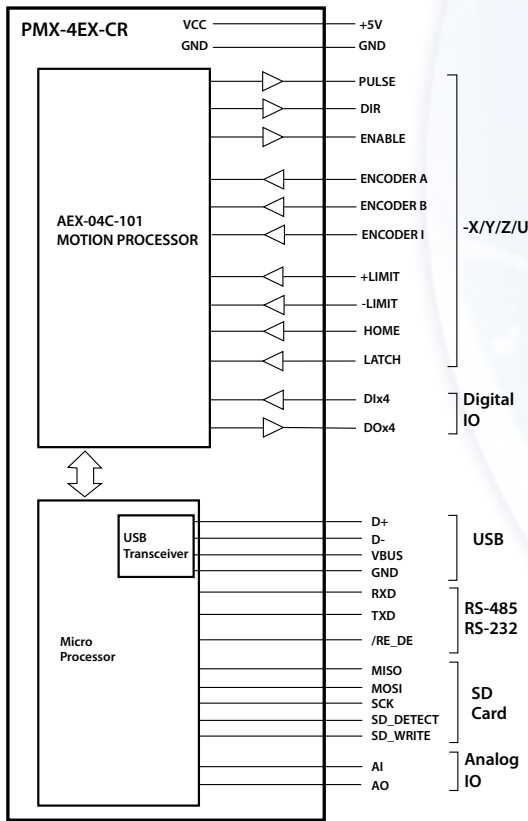
J1

VCC	1	2	VCC
VCC	3	4	VCC
DirX	5	6	PulX
PulY	7	8	EnaX
EnaY	9	10	DirY
DirZ	11	12	PulZ
PulU	13	14	EnaZ
EnaU	15	16	DirU
DO2	17	18	DO1
DO4	19	20	DO3
LX+	21	22	-LX
HX	23	24	LTCX
+LY	25	26	-LY
HY	27	28	LTCY
LZ+	29	30	-LZ
HZ	31	32	LTCZ
LU+	33	34	-LU
HU+	35	36	LTCU
GND	37	38	GND
GND	39	40	GND

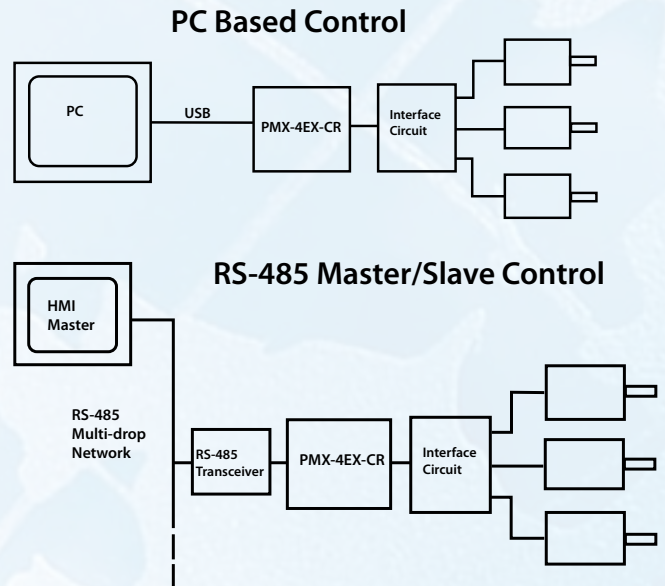
J2

VCC	1	2	VCC
VCC	3	4	VCC
VBUS	5	6	D-
/RE_DE	7	8	D+
TXD	9	10	RXD
AOUT	11	12	AIN
NSS	13	14	LED
MOSI	15	16	SD_DE
MISO	17	18	SD_WR
SCK	19	20	NC
EAX	21	22	EBX
EIX	23	24	EAY
EBY	25	26	EIY
EAZ	27	28	EBZ
EIZ	29	30	EAU
EBU	31	32	EIU
DI1	33	34	DI2
DI3	35	36	D4
GND	37	38	GND
GND	39	40	GND

Electrical Interface:



Application Examples:



Programming Examples:



Notes:

1. Pulse/Dir/Enable/Digital Outputs are interfaced through 5V tolerant bus transceivers
2. Encoder/Limits/Home/Latch/Digital Inputs are interfaced through 5V tolerant transceivers
3. USB signals go through the transceiver and does not need any external components
4. RS-485/232 signals RXD/TXD must go through a serial transceiver.
5. RE_DE is only necessary for RS-485
6. For detailed examples of interface circuits, refer to the manual.

PMX-4EX-CR comes with easy to use GUI software to test, program and debug the unit.

Evaluation Kit:



PMX-4EX-CR-EVB evaluation board is available to easily test the functions of the PMX-4EX-CR.

```

*****
PRG 0
WHILE 1 = 1
  EQ=1
  EQ=0
  WAITX
  EQ
  WAITX
  ENDWHILE
END
*****
PRG 1
WHILE 1 = 1
  IF EQ = 1
    AOUT
    SQ=0
    ELIF EQ = 1
    SQ=1
  ENDIF
  ENDWHILE
END
    
```

Programming language is text based BASIC-like language. Up to 4 Multi-tasking programs are supported.