

PLC / Embedded computer

CUBLOCTM

**User Manual
Version 2.5**

"Everything for Embedded Control"

COMFILE
TECHNOLOGY

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Hardware Features

CUBLOC have the following features:

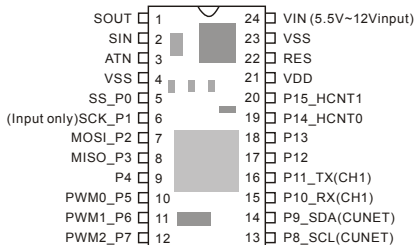
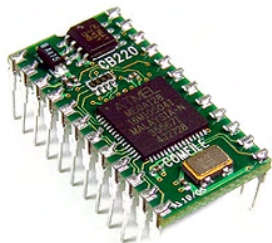
- (BASIC and Ladder Logic) 80KB or 200KB Flash Memory
- BASIC Execution Speed : 36,000 Instr./sec
- LADDER Execution Speed : 10ms Scan time
(Turbo Mode \approx 100 Micro Second)
- Data Memory for BASIC: 2 to 51KB
- Data Memory for LADDER: 1 to 4KB
- EEPROM Memory: 4KB
- 16 to 91 I/O pins (Ports)
- 10 bit, 16 Channel ADC
- 8 to 16bit, 3 to 12 Channel PWM (DAC)
- UART (H/W RS232C ports) 4 Channels
- RS232C port PC interface
- RTC chip included (CB290)

Model Comparison Chart

Feature	CB220	CB280	CB290	CB405
Program Memory	80KB	80KB	80KB	200KB
Data Memory	BASIC 2KB LADDER 1KB	BASIC 2KB LADDER 1KB	BASIC 24KB LADDER 4KB	BASIC 51KB LADDER 4KB HEAP 55KB
Battery Backup	N/A	N/A	Available	Available
EEPROM	4KB	4KB	4KB	4KB
I/O ports	16	49 + 2	91 + 2	64 + 2
Package	24 pin DIP	64 pin Module	108 pin Module	80 pin Module
ADC	8 Channel	8 Channel	8 Channel	16 Channel
PWM	3 Channel	6 Channel	6 Channel	12 Channel
RS232	2 Channel	2 Channel	2 Channel	4 Channel
External Interrupt	None	4	4	4
HIGH COUNT INPUT	2 Channel	2 Channel	2 Channel	2 Channel
RTC	None	None	Yes	None

CB220

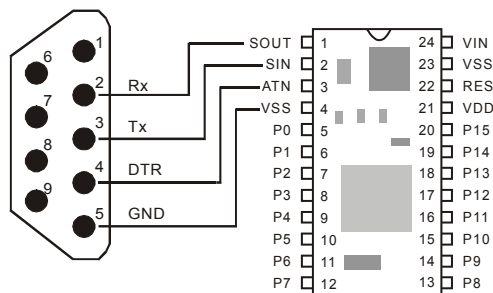
CB220 is comes as a 24pin DIP type package. It has 16 I/O ports and an internal 5V power regulator.



CB220

Port	Pin	I/O	Port Block	Explanation
SOUT	1	OUT		DOWNLOAD SERIAL OUTPUT
SIN	2	IN		DOWNLOAD SERIAL INPUT
ATN	3	IN		DOWNLOAD SERIAL INPUT
VSS	4	POWER		GROUND
P0	5	I/O	Block 0	ADC0 / SPI SS
P1	6	Input		ADC1 / SPI SCK
P2	7	I/O		ADC2 / SPI MOSI
P3	8	I/O		ADC3 / SPI MISO
P4	9	I/O		ADC4
P5	10	I/O		PWM0 / ADC5
P6	11	I/O		PWM1 / ADC6
P7	12	I/O		PWM2 / ADC7
P8	13	I/O	Block 1	CuNET SCL
P9	14	I/O		CuNET SDA
P10	15	I/O		RS232C Channel 1 RX
P11	16	I/O		RS232C Channel 1 TX
P12	17	I/O		
P13	18	I/O		
P14	19	I/O		High Count channel 0
P15	20	I/O		High Count channel 1
VDD	21	I/O		5V Output/Input
RES	22	IN		RESET Input (LOW signal resets!)
VSS	23	IN		GROUND
VIN	24	IN		5.5V to 12V Input Power

SIN, SOUT, ATN are connection pins to the PC/XPORT for DOWNLOAD, DEBUG, and MONITORING. All CUBLOC models have SOUT, SIN, ATN pins and you can connect to the PC serial cable as shown below.



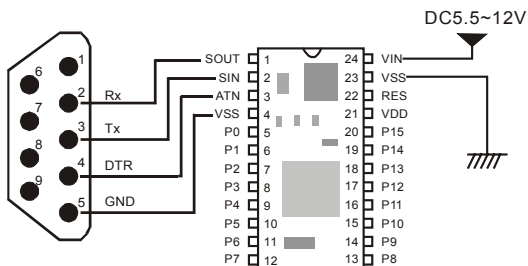
Other pins are mostly I/O ports. The user may select which ports (pins) to use as INPUT or OUTPUT. When set to INPUT, the pin enters a HIGH impedance state whereas when set to OUTPUT, the pin either outputs LOW or HIGH. The maximum current coming out of the output ports is 25mA. The user is free to choose which I/O ports he/she will use for which purpose (such as AD, PWM, etc...).

Supplying power to the CB220

CB220 has an internal 5V power regulator that accepts anything between 5.5 to 12V of power.

It will produce a stable 100mA 5V. When using the internal regulator, voltage can be inputted to pin 24 and 5V will output on pin 21. If 5V is used for power, the user may simply connect to pin 21. If your application requires more than 100mA of current that can be supplied by the internal regulator, please use a separate power supply.

Method 1



Method 2

