

ECAT-M801

EtherCAT Master

Features

- Up to 32-axis motion control
- Up to 64 slave module
- Slave operation (SDO, PDO)
- Axis homing
- Axis position, velocity control
- Axis synchronized motion (E-GEAR, E-CAM)
- Virtual axis
- Multi group motion control
- Multi-axis linear interpolation
- 2/3 axis circular interpolation
- Helical interpolation
- On board DI/DO
- On board encoder with compare trigger output
- Support CiA402 driver and ICP DAS stepper motor driver motion control API
- Support ICP DAS slave module DI/DO, AI/AO
- Hardware emergency stop

Introduction

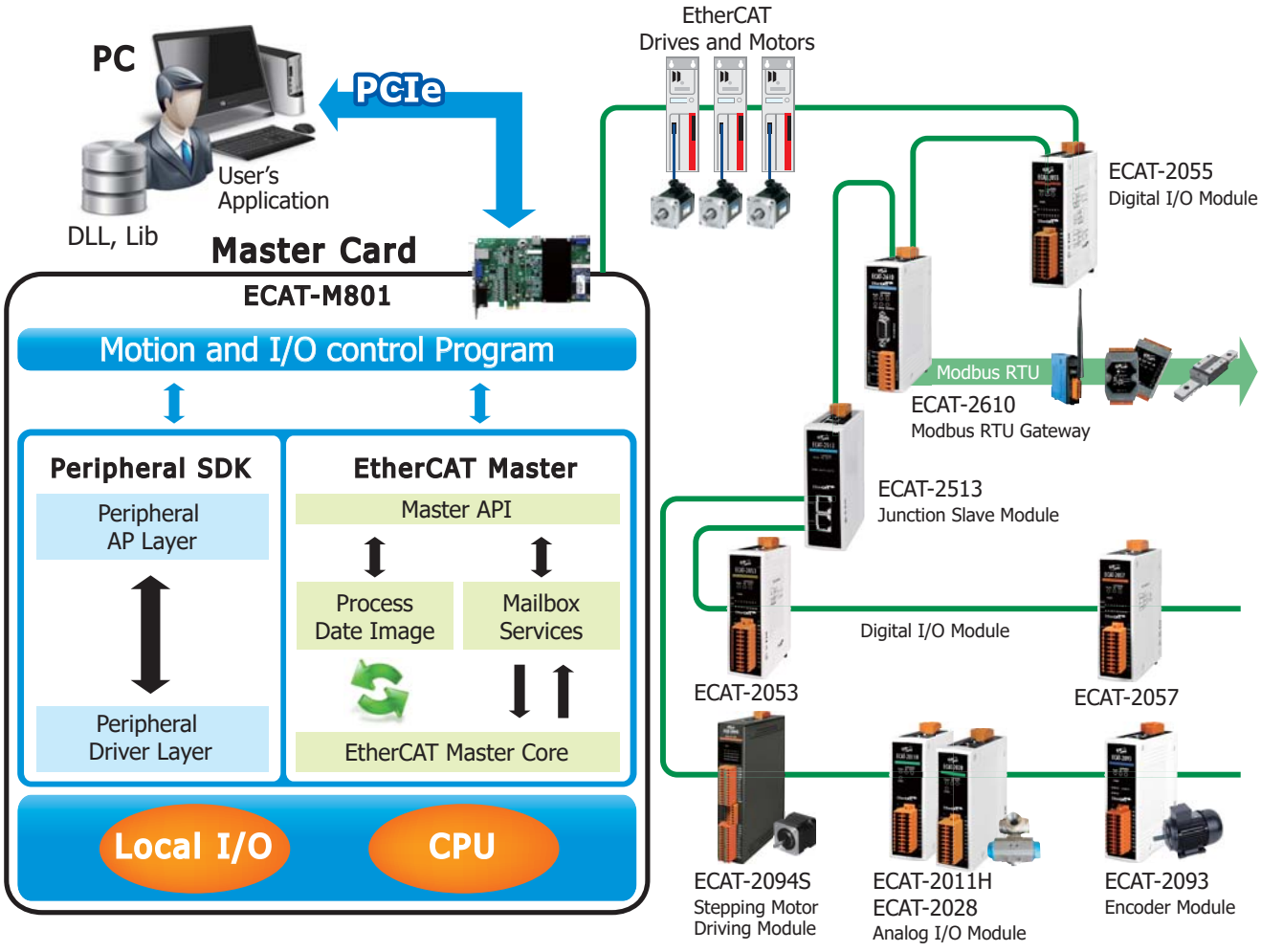
EtherCAT (Ethernet for Control Automation Technology) is an open, high-performance fieldbus system that makes Ethernet technologies available at the I/O level. EtherCAT provides flexible wiring, fast communication and many other nice features. It needs a master to control many slaves. ICP DAS provides PC master cards, for users to build their applications including motion control. These cards can offer multi-axis motion and I/O control functions by their own built-in CPU. In this way, the CPU loading of PC can be reduced dramatically. In the mean while, ICP DAS also provides many I/O slave modules for users to choose from. Since EtherCAT technology is an industrial standard, those modules can work together in a system with 3rd-party EtherCAT slaves as well.

Hardware Specifications

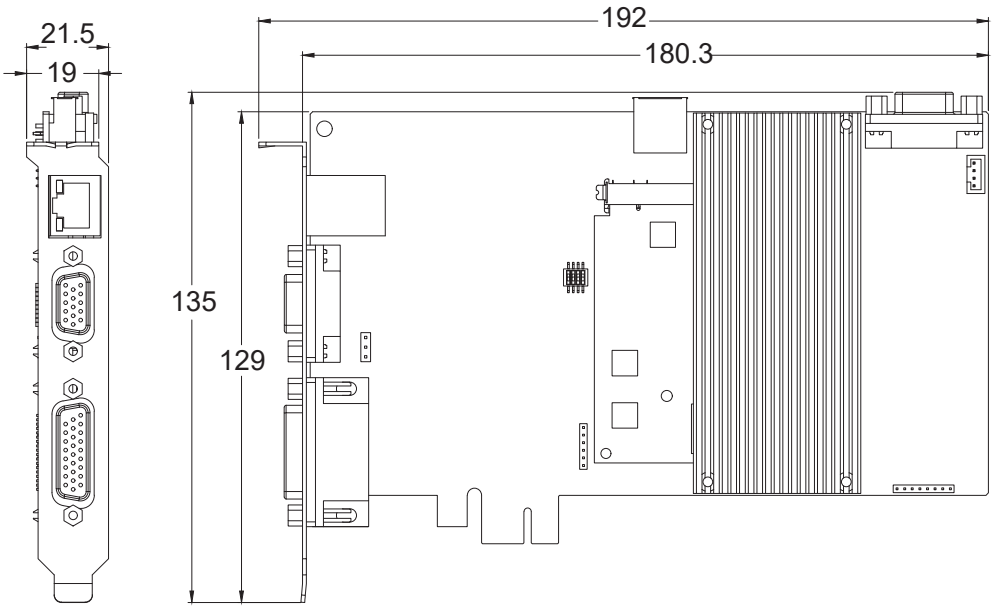
Model	ECAT-M801
Communication Interface	
Ethernet Port	1 x RJ-45, 100 BASE-TX
Protocol	EtherCAT
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
No. of Slave Node	Max. 64
No. of Motion Control	Max. 32-Axis Synchronously
General	
Bus Type	PCI Express x1
Connector	RJ45 x1 DB-26 (Female) DB-15 (Female)
Operating Temperature	05°C~+605°C
Storage Temperature	-20°C~+70°C
Humidity	0 ~ 90% RH, Non-condensing
Dimensions (L x W x D)	192 mm x 135 mm x 21.5 mm
Digital Output	
Channels	13
Type	Sink (open collector)
Load Voltage	+24 V
Max. Load Current	100 mA/ch
Isolation Voltage	3000 Vrms

Model	ECAT-M801
Digital Input	
Channels	13
Type	Wet (Sink/Source)
On Voltage Level	+19 V ~ + 24 V
Off Voltage Level	+11 V Max.
Isolation Voltage	3000 V
Encoder	
Axis	2
Type	Quadrant, CW/CCW, Pulse/Dir.
Speed, Resolution	1 MHz, 32-bit
Compare Trigger Output	2-ch

☑ Applications



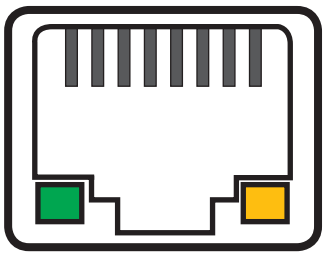
☑ Dimensions (Units : mm)



Left View | Front View

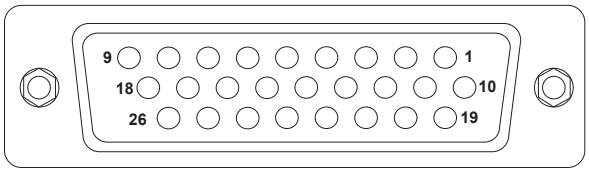
☑ Pin Assignments

RJ1



CON1

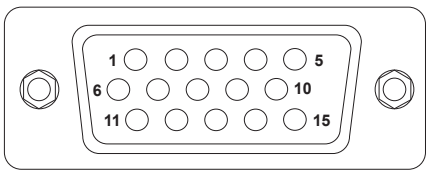
26-pin Female D-sub Connector



Pin Number	Pin Assignment	Pin Number	Pin Assignment	Pin Number	Pin Assignment
1	DI0	10	DO0	19	DI8
2	DI1	11	DO1	20	DI9
3	DI2	12	DO2	21	DI10
4	DI3	13	DO3	22	DI11
5	DI4	14	DO4	23	DO8
6	DI5	15	DO5	24	DO9
7	DI6	16	DO6	25	DO10
8	DI7	17	DO7	26	DO11
9	EXT. GND	18	EXT. PWR		

CON2

15-pin Female D-sub Connector

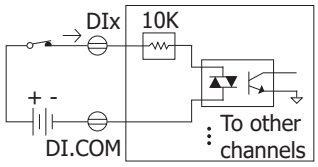
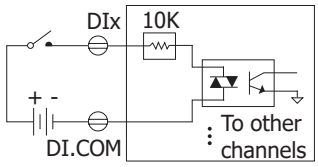
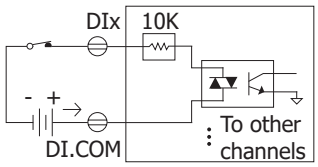
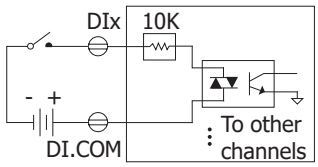


Pin Number	Pin Assignment	Pin Number	Pin Assignment	Pin Number	Pin Assignment
1	1A-	6	1A+	11	CMP 1+
2	1B-	7	1B+	12	CMP 1-
3	2A-	8	2A+	13	CMP 2+
4	2B-	9	2B+	14	CMP 2-
5	EXT GND	10	DI12	15	DO12

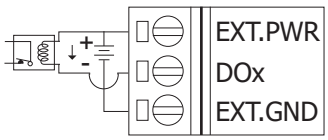
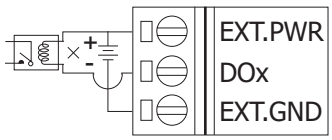
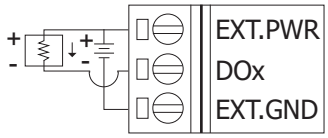
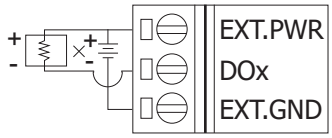
ECAT-M801

☑ Wire Connections

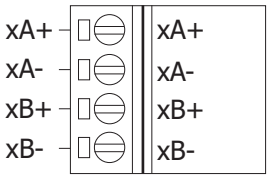
Digital Input

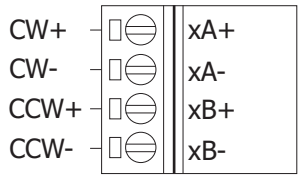
Digital Input	Readback as 1	Readback as 0
Sink	+19 ~ +24 VDC	OPEN or < 11 VDC
		
Source	+19 ~ +24 VDC	OPEN or < 11 VDC
		

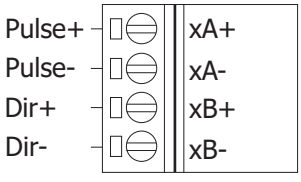
Digital Output

Digital Output	ON State Readback as 1	OFF State Readback as 0
Driver Relay		
Resistance Load		

Encoder

Counter Type	
A/B Phase	

Counter Type	
CW/CCW	

Counter Type	
Pulse/Dir	

☑ Ordering Information

ECAT-M801 CR	EtherCAT Master, 13-channel Digital I/O, 2-Axis Encoder