



CIMON - PLC *S*

PROGRAMMABLE LOGIC CONTROLLER

Block Type PLC-S

- CM3-SB16MDTF
- CM3-SB16MDCF



General Specifications

Items	Specification			Standards	
Ambient Temp.	-10°C~65°C			-	
Storage Temp.	-25°C~80°C			-	
Ambient Humidity	5~95%RH, Non-condensing			-	
Storage Humidity	5~95%RH, Non-condensing			-	
Vibration	For discontinuous vibration				IEC 61131-2
	Frequency	Acceleration	Amplitude	Times	
	5≤f<9Hz	-	1.75mm	X,Y,Z Each direction, 10times	
	9≤f≤150Hz	9.8m/s ² {1G}	-		
	Continuous vibration				
	Frequency	Acceleration	Amplitude	Times	
	5≤f<9Hz	-	3.5mm	X,Y,Z Each direction, 10times	
9≤f≤150Hz	4.9m/s ² {0.5G}	-			
Shocks	<ul style="list-style-type: none"> • Max. impact acceleration : 147m/s²{15G} • Authorized time : 11ms • Pulse wave : Sign half-wave pulse (3 times each in X,Y,Z) 			IEC 61131-2	
Noise	Square wave impulse noise	± 2,000V		CIMON standard	
	Electrostatic discharge	± 4kV (Contact), ± 8kV (Air)		IEC 61131-2 IEC61000-4-2	
	Radiated electro-magnetic field noise	80~1000 MHz,10V/m		IEC 61131-2 IEC61000-4-3	
	Fast Transient Burst noise (Voltage)	CPU, Power	2kV	IEC 61131-2 IEC61000-4-4	
Digital/Analog I/O (AC)		2kV			
Digital/Analog I/O (DC)		1kV			
Communication					
Ambient Conditions	No corrosive gas or dust				
Altitude	2,000m or less				
Pollution	2 or less				
Cooling	Natural air cooling				

General Specifications

Items		Specification	Remark
Power		DC 12 - 24V	-
Program Control Method		Cyclic execution of stored program, Time Driven Interrupt	-
I/O Control Method		Indirect method, Directed by program instruction	-
Program Language		LD(Ladder Diagram), IL(Instruction List), SFC(Sequential Function Chart)	-
Data Processing Method		32bit	-
Instructions	Sequence	55 Instruction	-
	Application	389 Instruction	-
Processing speed (Sequence)		300 ns/Step	-
Program capacity		10K Step	-
Maximum I/O points		DI 8pts / DO 8pts	-
Operation mode		Remote Run, Remote Stop	-
Back-up method		K address by (Latch) parameter	-
Total program		128	-
Program type	Scan	Scan, Subroutine, Cold/Hot Start initialization, Periodic Interrupts	-
	Periodic Interrupts	Maximum 15 scan program (Minimum period :10ms)	-
	Special	PID , HSC, Positioning	-
	Communication	User Protocol(Serial) Comm. Program, MODBUS/RTU Master, High-speed PLC Link	-
	Etc.	SFC, FBD (Function Block Diagram)	-
Self-diagnosis function		Detect delay of scan time, memory, I/O, Power Supply	-
Re-start		Cold, Hot Restart	-
Maximum Expansion		No Expansion	-
Device memory	X	8 pts (X00 – X07)	Bit
	Y	8 pts (Y10 – Y17)	Bit
	M	8192 pts (M0000 - M511F)	Bit
	L	4096 pts (L0000 - L255F)	Bit
	K	4096 pts (K0000 - K255F)	Bit
	F	2048 pts (F0000 - F127F)	Bit
	T	512 pts (T0000 – T0511)	Word
	C	512 pts (C0000 – C0511)	Word
	S	100 states x 100 set (00.00 - 99.99)	-
	D	10000 words (D0000 - D9999)	Word
	Z	1024 words (Call Stack : Z0000 - Z0063, Z1000 - Z1063)	Word
Q	8192 pts (Q0000 – Q511F)	Bit	
R	16 pts (Index)	-	
High Speed Counter		20Kpps (In case of 2Ph. 2Multi. Max 10Kpps)	-
Positioning		X axis: Position/Speed control 100Kpps Y axis: Position control 5Kpps, Speed control 100kpps	-
PID		32 Channels, Auto-Tuning	-
Comm. Channel		USB Loader, RS232C (1CH, universal), RS485 (1CH, universal), Ethernet (10/100Mbps auto-detect)	-
Etc.		Real number operation, Online edit	-

General Specifications

► Device

- Input : X
- Sub Relay : M
- Timer : T
- Data Device : D
- Link Relay : L
- Special Relay : F
- Output : Y
- Keep Relay : K
- Counter : C
- Sub Data Device : @D
- Step control Relay : S
- Index register : R

► Device Address

- Bit Data : [Device] + [Card No.] + [Bit No.]

Device : X, Y, M, K, L, F, Card No.: 10Dec(Decimal). 3 Characters

Bit No.: 16Hex. 1 Character

Ex) X0100-> 10Dec.(word) + 16Hex(Last Bit) : [10th Address and 0th bit]

- Word Data : [Device] + [Card No.]

Device : D, Z, T, C, Card No.: 10Dec. 4 Characters

Ex) D0100-> 10Dec.(word) : [100th word Address]

- Timer, Counter Output : [Device] + [Bit No.]

Device : T, C, Bit No.: 10Dec 4 Characters

Ex) T0100-> 10Dec.(word) : [T 100th Bit Address]

- Step Controller I/O : [Device] + [Card No.] + [.] + [Step No.]

Device : S

Card No.: 10Dec. 2 Characters, Step No.: 10Dec. 2Characters

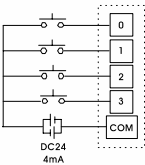
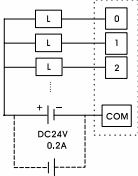
Ex) Sxx.xx -> xx is 10Dec. (0~99)

- assign Bit Device to Word : [Device] + [Card No.] + [0]

Device : X, Y, M, K, L, F, Card No.: 10Dec. 3 Characters

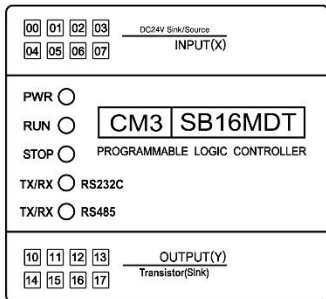
Ex) X010-> 10Dec. (word), : [X 10th Address]

I/O Specification

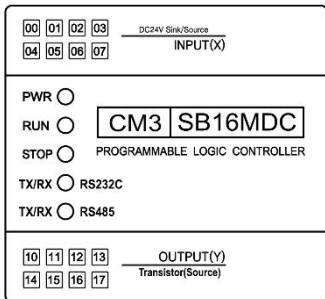
Item	DC Input	TR Output
Rated I/O Voltage	DC 24V DC 12/24V (High Speed Counter)	DC 12/24V
Rated I/O Current	4mA	1point 0.2A, COM 2A
On V/A	DC 10V (Ch : 1~4) / 3mA, DC 14V (Ch : 5~8) / 3mA	-
Off V/A	DC 8V (Ch : 1~4) / 1mA, DC 12V (Ch : 5~8) / 1mA	-
Response time	3ms or less	1ms or less
Operation indicator	Input ON, LED ON	Input ON, LED ON
Insulation method	Photo coupler insulation	Photo coupler insulation
Input method	SINK/SRC	-
Output method	-	SINK/SOURCE (Separate Models)
Method	 <p>DC24 4mA</p>	 <p>DC24V 0.2A</p>

Names of Part and Mode Change

► Names of Parts

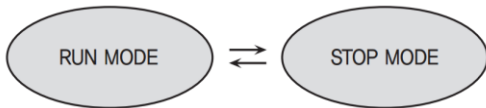


CM3-SB16MDT



CM3-SB16MDC

► Mode change



- Operation mode is changed by mode switch.
- The mode can be changed through CICON but when power reset, RUN/STOP mode is decided through switch position.

CPU module Features

► Built-in Function

- PID Control

It operates 32 LOOP PID without PID module.

- I/O reservation

It scans module at designated slot.

It refers to reservation function which writes a program without I/O change in case of expansion, damage or replacement.

- Online Edit

Program can be edited while Run mode.

► Features

- 20Kpps High Speed Counter (2 Channel) Built-in

2PH. 2 / 4 Multi. (2PH. 2Multi – 10Kpps) Input mode possible, Voltage input type (Open collector)

- 100kpps 2axis Pulse Output built-in. (Positioning)

Pulse + Direction Output, Position/Speed/Speed-Position, Position-Speed Control.

- Max. 4communications can be work simultaneously. (USB, RS232, RS485, Ethernet)

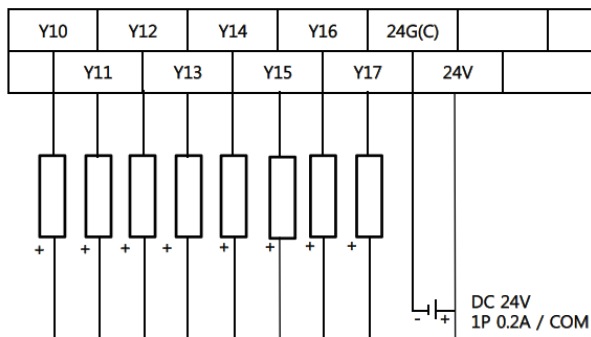
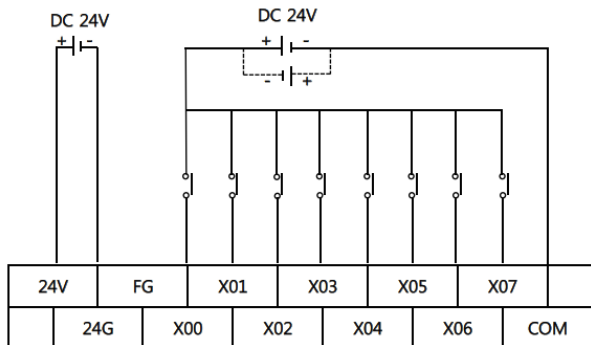
CIMON HMI, MODBUS RTU/TCP, High-speed PLC Link, Protocol program(User protocol), Loader protocol, Remote access & up/down load supported.

- Memory (10K Step)

- Data reserved in case of power cut

Built-in Flash memory enabling permanent backup of program without any separate battery.

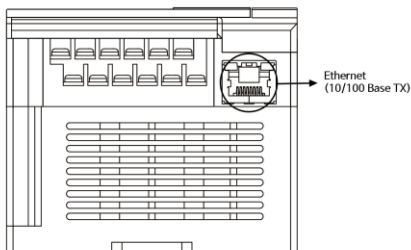
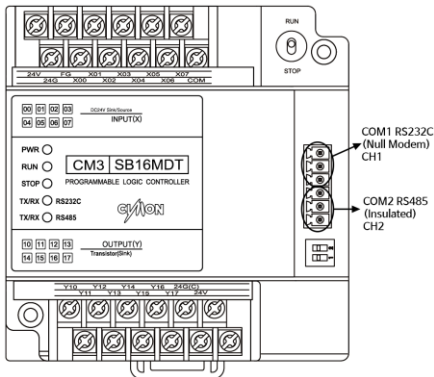
CPU I/O Pin Map




Built-in Comm. Specification

Items		RS232C	RS485	Ethernet
Comm. Protocol	CIMON HMI Protocol	CIMON HMI Protocol		
	CICON Protocol	○	○	○
	User Protocol	○	○	X
	MODBUS/RTU	Master/Slave	Master/Slave	Slave
Types	Data Bit	8 Bit		-
	Stop Bit	1 or 2 Bit		-
	Parity	Even / Odd / None		-
Synchronization		Asynchronous		-
Transmission speed		1200 ~ 38400		10/100 Mbps

Communication Interface

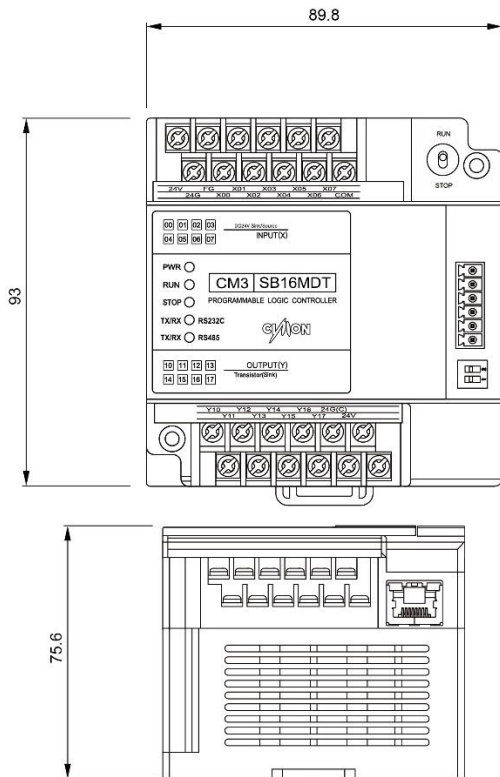


► Serial Port PIN Map

	PIN	NAME	COMM
	1	1	TX
2	2	RX	
3	3	GND	
4	4	D+	RS485
5	5	D-	
6	6	SG	

Dimension

(Unit: mm)



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