

CIMON MICRO-S

Brick Type PLC-S

- CM3-SB16MDTF
- CM3-SB16MDCF
- CM3-SB32MDTF
- CM3-SB32MDCF



General Specifications

Items	Specification				Standards
Ambient Temp.	-10℃~55℃				-
Storage Temp.	-25℃~80℃				-
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	• Max. impact acceleration : 147m/s ² {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
		CM3-SB16MDTF CM3-SB16MDCF	CM3-SB32MDTF CM3-SB32MDCF	
Power		DC 12 ~ 24V	DC 20 - 24V	-
Current Consumption		120mA	330mA	
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	DI 16pts / DO 16pts AI 2 pts / AO 2pts	-
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)	16 pts (X00 – X0F)	Bit
	Y	8 pts (Y10 – Y17)	16 pts (Y10 – Y1F)	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)		-

General Specifications

Positioning	X axis: Position/Speed control 100Kpps Y axis: Position control 5Kpps, Speed control 100kpps	TR Output Only
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

Items	Description				Remark
AD/DA	Analog Input (Current / Voltage)		Analog Output (Current / Voltage)		32-points module exclusive
No. of Channels	2 CHANNEL		2 CHANNEL		
Current/Voltage	CURRENT	VOLTAGE	CURRENT	VOLTAGE	
Input/Output Range	0 ~ 20 mA	0 ~ 5 V 0 ~ 10 V	4 ~ 20 mA	0 ~ 10 V	
Digital Output	12BIT (0~4000)				
Average	0 ~ 255				
Resolution	1 / 4000		1 / 3000	1 / 4000	
Conversion Speed	Each scan				
Power	Shares 24V power with CPU (Power not insulated)				
COM	Shared AD/DA Voltage / Current COM (1 POINT COM)				
Precision	± 1% (Full Scale)				

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

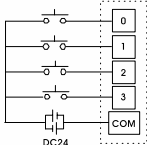
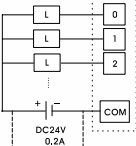
Ex) Sxx.xx -> xx is 10Dec. (0~99)

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

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

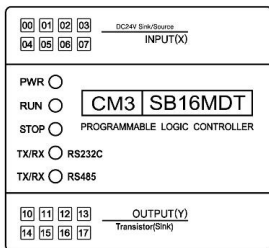
Ex) X010-> 10Dec. (word), : [X 10th Address]

I/O Specification

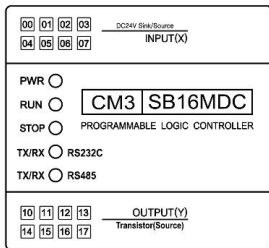
Item	DC Input	TR Output	
Module	Common (All Modules)	CM3-SB16MDT CM3-SB16MDC	CM3-SB32MDT CM3-SB32MDC
Rated I/O Voltage	DC 24V DC 12/24V (High Speed Counter)	DC 12/24V	
Rated I/O Current	4mA	24Vdc, 0.2A/Point, 8 Points/COM Total 1COM (1COM 1A)	24Vdc, 0.2A/Point, 8 Points/COM Total 2COM (1COM 1A)
On V/A	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/SOURCE Combined	-	
Output method	-	SINK/SOURCE (Separate Models)	
Method			

Names of Part and Mode Change

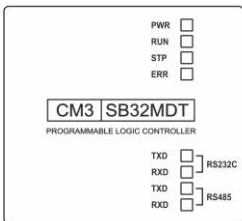
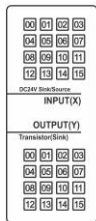
► Names of Parts



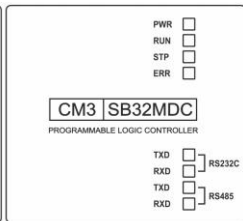
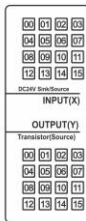
CM3-SB16MDT



CM3-SB16MDC



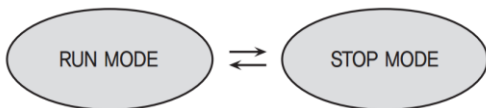
CM3-SB32MDT



CM3-SB32MDC

Names of Part and Mode Change

► 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)**

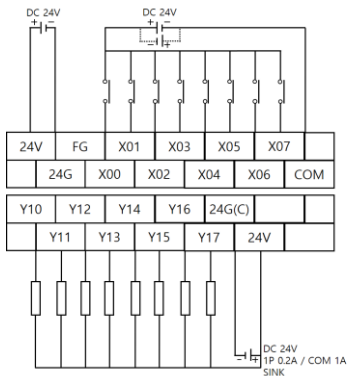
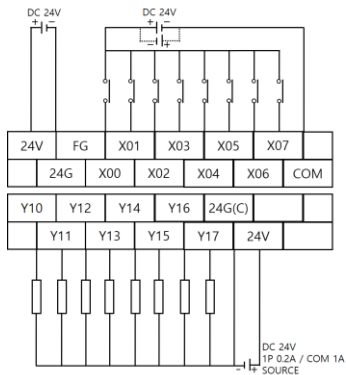
- **Data reserved in case of power cut**

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

► Recommendations on using USB Cable

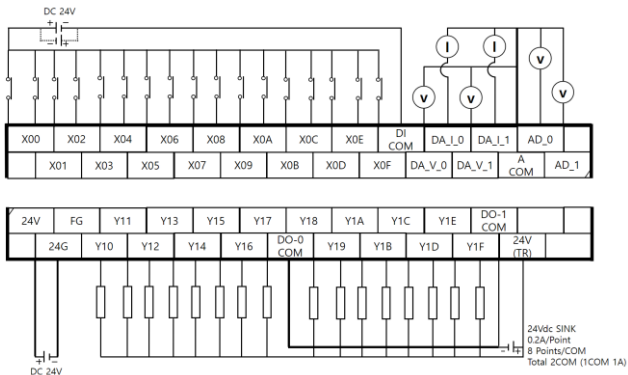
1. Recommended to use CIMON's shielded cable within 3m length.
2. In case of using PC that is vulnerable to noises, it is recommended to use USB Hub or Isolator

CPU I/O Pin Map

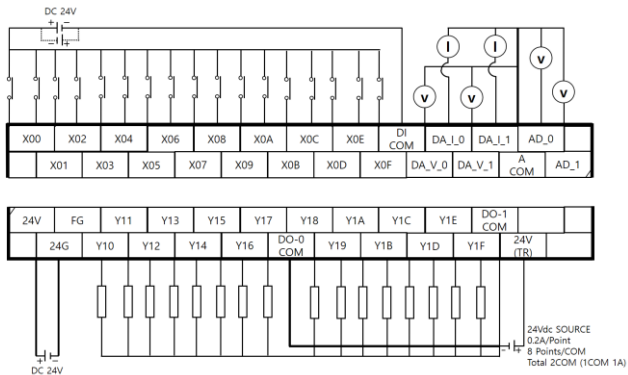
CM3-SB16MDTF**CM3-SB16MDCF**

CPU I/O Pin Map

CM3-SB32MDTF



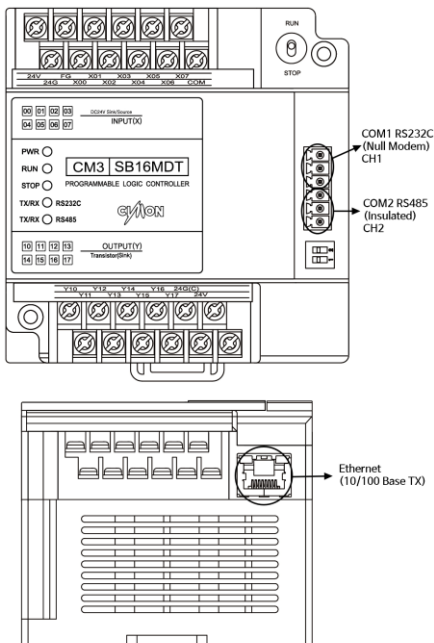
CM3-SB32MDCF



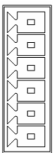
Built-in Comm. Specification

Items		RS232C	RS485	Ethernet
Comm. Protocol	CIMON HMI Protocol	CIMON HMI Protocol		
	CICON Protocol	O	O	O
	User Protocol	O	O	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



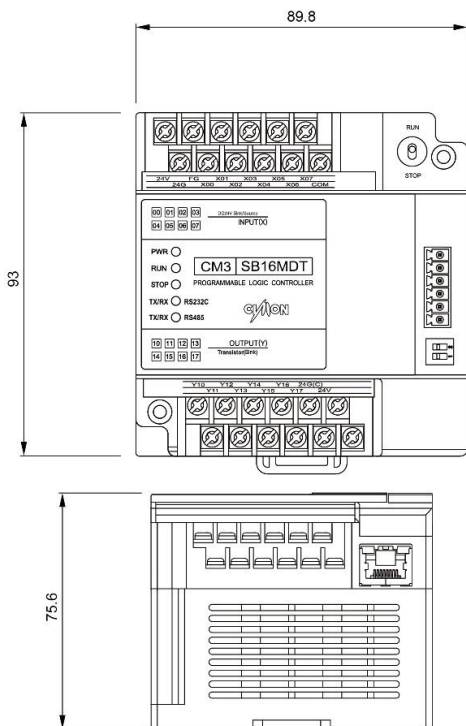
► Serial Port PIN Map

	PIN	NAME	COMM
	1	TX	RS232C
	2	RX	
	3	GND	
	4	D+	RS485
	5	D-	
	6	SG	

Dimension

(Unit: mm)

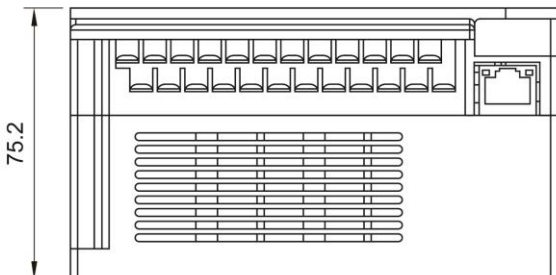
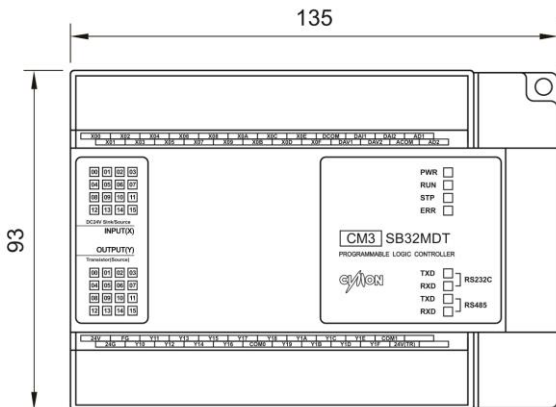
Model: CM3-SB16MDT/C



Dimension

(Unit: mm)

Model: CM3-SB32MDT/C



Product Warranty

All Cimon products including hardware, software, and firmware (collectively called "Products") carry a **two-year warranty** against defects in materials and workmanship beginning from the date of product shipment from CIMON to its appointed distributor. If a product proves defective in materials and workmanship within one year from the date of purchase, we will replace or repair it. **Products returned under warranty after 30 days may be replaced with refurbished or remanufactured goods at Cimon's discretion.** Cimon makes no representation or warranty, express or implied, that the operation of the Products will be uninterrupted or error free, or that the functions contained therein will meet or satisfy buyer's intended use or requirements.

Repaired or replaced Products provided as a result of this warranty are warranted for a period of 90 days from the shipment to buyer or the remainder of the original warranty term for that particular product, whichever is longer. Cimon's standard policy is that all customers are responsible for freight charges to Cimon when returning products under the warranty return policy.

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To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and usually change with time. It is your responsibility to determine which codes should be followed, and to verify that the equipment, installation and operation is in compliance with the latest revision of these codes.

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