CIMON

CIMON PLC-S

- PLC-S Mini-Modular PLC
- Micro-S Micro Brick PLC

PROGRAMMABLE LOGIC CONTROLLER

SLIM, SMART, STRONG

The compact all-around PLC

The CIMON PLC-S series is designed to be the most cost-effective unit in the PLC world. It provides high-level performance and rock-solid reliability for small-scale industrial automation systems.


SP32EOT
SP04EAA
SP04EOAI
Ext. 24V
Ext. 24V
INPUT
OFF→ON
CH1
CH2
CH3
CH4
ON
EXPANSION CONNECTOR
CM3-SP04EOAI

PLC-S
KEY FEATURES

CIMON PLC-S provides high reliability and expandability with various network modules, allowing easy maintenance of process control systems.

SLIM

- Slim, without compromising strong performance
- Special instructions, programs, and function blocks available
- Supports flexible expansion

SIMPLE

- Easy to install with simple design
- Optimized usage of space with its compact size
- DIN rail mountable

SPEED

- Max. 32 PID loop control
- Equipped with 16Kpps high-speed counter

SMART

- 2 axes motion control
- Supports floating point arithmetic
- Automatically recognizes protocols

CPU PERFORMANCE

PLC-S CPU

Model	Input	Output	RS-232C	RS485	Ethernet
CM3-SP32MDTF-SD	16pts	TR (Sink) Output 16pts	Y	Y	Y
CM3-SP32MDCF-SD	16pts	TR (Source) Output 16pts	Y	Y	Y
CM3-SP16MDRV	8pts	Relay type 8pts	Y	Y	N
CM3-SP16MDRF		Relay type 6pts			Y

Type	Module	Description
Digital I/O Module	CM3-SP32EDO	DC24V Input 32 pts
	CM3-SP32EOT/EOC	TR (Sink) Output 32 pts
	CM3-SP16EOR	DO 16 pts (Relay) / expandable up to 4 modules
	CM3-SP32EDT	DI 16 pts (DC24V), DO 16 pts (TR(SINK))
	CM3-SP16EDR	DI 8 pts (DC24V), DO 8 pts (Relay)
Analog Module	CM3-SP04EAO	4 ch for current / voltage input, 14bit
	CM3-SP04EAA	2ch for current / voltage input + 2 ch for current / voltage Output, option for 16 bit or 14 bit
	CM3-SP04EOAI	4 ch for current output, 14bit
	CM3-SP04EOAV	4 ch for voltage output, 14bit
	CM3-SP04ERO	AI 4 ch RTD
	CM3-SP04ETO	AI 4 ch TC
Communication Module	CM3-SP01EET	Ethernet 1 ch, 10/100Mbps
	CM3-SP02ERS	RS232C 1 ch, RS485 1ch
	CM3-SP02ERR	RS232C 2 ch

CPU MODULE

• Specification

CM3-SP32MDTF-SD
CM3-SP32MDCF-SD

CM3-SP16MDRV
CM3-SP16MDRF

PLC-S CPU CM3-SP32MDTF I CM3-SP32MDCF I CM3-SP16MDRV/MDRF

Item		Description	Note
Power		DC12V~24V	-
Program Control		Repetitive operation, Time-driven interrupt	-
Method for Controlling Input/Output		Indirect method, Direct method by instruction	-
Program Language		IL (Instruction List), LD (Ladder Diagram), SFC (Sequential Function Chart) , FB (Function Block)	-
Data Processing		32 Bit	-
Instruction Library	Basic	55 Instructions	-
	Advanced	389 Instructions	-
Execution Processing Speed (Basic Instruction)		300 ns/Step	-
Program Memory		10k Step	-
Number of I/O Points		384 pts	-
Operating Modes		Remote Run, Remote Stop	-
Data Preservation Against Power Failure		Data storage and conservation (Latch) in K device	-
Number of Program Blocks		128	-
Type of Program	Scan	5 types including standard scan program, Subroutine, COLD / HOT initialization, periodic interrupts	-
	Periodic Interrupts	Ability to register up to 15 (Minimum period: 10ms)	-
	Special Configuration	6 types including PID control program	-
		High-Speed Counter, Positioning control, Input module filtering, Initializing special card	-
	Communication	8 types including user protocol (Serial) communication	-
		Modbus RTU Master/Slave, Modbus TCP Slave, User Protocol (Serial), High Speed PLC Link, CIMON HMI Protocol	-
	Etc.	SFC program, FBD (Function Block Diagram)	-
Self-diagnosis		Processing delays, memory issues, I/O / Battery / Power error	-
Restarting		COLD, HOT Restart	-
Expansion		1 CPU block + Maximum 11 expansion blocks	-
Memory Type	X	1024 pts (X0000-X063F)	Bit
	Y	1024 pts (Y0000-Y063F)	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	1,024 words (Call Stack: Z0000-Z0063, Z1000-Z1063)	Word
	Q	8192 pts (Q0000-Q511F)	Bit
	R	16 pts (Index)	-

Item	Description	Note
High-speed Counter	Maximum count speed: 16kpps (Maximum 4kpps when using 2 phase 2 channels)	-
Positioning	X-axis: Position / Velocity control 100kpps	-
	Y-axis: Position control 5kpps, Velocity control 100kpps	-
PID	32 channels, Auto-Tuning	-
Real Time Clock (RTC)	Built-in battery (CR2032)	-
Communication Channel	[Basic] USB : 1 channel (CICON Loader) / RS-232-C : 1 channel (Universal communication)	-
	[Option (Universal communication)] RS485 : 1ch / Ethernet : 1 ch (10/100Mbps automatic identification)	-
Etc.	Real number arithmetic, modification of program during Run status	-

• Features

Built-in Functions

• PID Control
- PID operation can be executed without an additional PID module.

• RTC
- Reads the time from the RTC module and stores the value at an F device memory location.

• I/O Reservation
- Checks if a correct card was mounted in the assigned slot. Additionally, when expanding or exchanging parts, addresses used by the program can be maintained without making changes to the I/O.

• Modification of program during RUN mode.
- Program can be modified while PLC is in RUN mode.

• 2 channel high-speed counter
- 16kpps Maximum count speed (Maximum 4kpps when using 2 phase 2 channels).
- Photocoupler insulation.

• Positioning control by 2-axis pulse output at 100kpps
- Supports pulse + direction output, Position, velocit, velocity – position, position-velocity control.

Characteristics

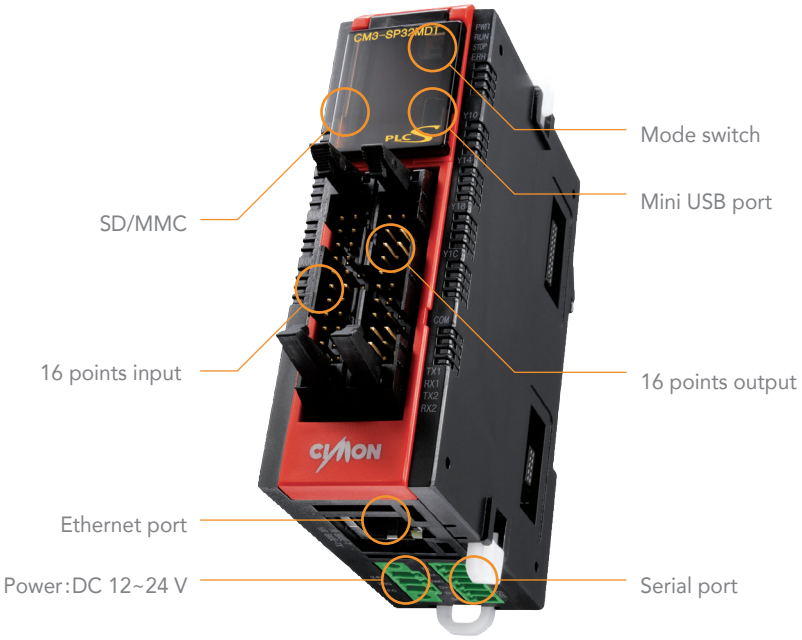
• Embedded SD/MMC memory
- Scan program and firmware upgrades are available via SD memory card.
- After installing the memory card, set the operation mode switch to STOP. Turn the operation mode switch to RUN within 5 seconds of powering up. The firmware upgrade will proceed for 20 seconds and will indicate completion when the LEDs (RUN, STOP, and ERR) are turned on. Remove the SD memory and restore the power.)

• Simultaneous communication via Ethernet and serial (RS-232, RS-485)
- Supports various protocols such as CIMON HMI, MODBUS RTU/TCP, PLC Link, user protocol, and loader protocol.
- Program upload/download and remote access is available.

• Large capacity for program data
- 10k steps of program memory are available for scan programs.

• Preserving data during power outage
- Since the internal memory is flash-based, no backup memory cards or batteries are needed.

CPU MODULE



TR output (DC Power) Sink type

Model	SP32MDTF-SD
Digital I/O	Digital input 16pts Digital output 16pts
Mini USB	Y
SD/MMC Card Slot	Y
RS-232-C 1 ch	Y
RS-485 1 ch	Y
Ethernet 1 ch	Y

TR output (DC Power) Source type

Model	SP32MDCF-SD
Digital I/O	Digital input 16pts Digital output 16pts
Mini USB	Y
SD/MMC Card Slot	Y
RS-232-C 1 ch	Y
RS-485 1 ch	Y
Ethernet 1 ch	Y

Relay Output (DC POWER)

Model	SP16MDRV	SP16MDRF
Digital I/O	Digital input 8pts Digital output 8pts	Digital input 8pts Digital output 6pts
Mini USB	Y	Y
SD/MMC Card Slot	N	N
RS-232-C 1 ch	Y	Y
RS-485 1 ch	Y	Y
Ethernet 1 ch	N	Y

CPU

Current Consumption

Type	Model	Current Consumption (Main Power)	Current Consumption (Auxiliary Power)	Maximum number of expansions
CPU	CM3-SP32MDTF-SD	3.12W	-	-
	CM3-SP32MDCF-SD	3.12W	-	-
	CM3-SP16MDRV	3.12W	-	-
	CM3-SP16MDRF	3.6W	-	-
Digital Expansion Block	CM3-SP32EDO	0.48W	-	-
	CM3-SP32EOT	0.48W	-	-
	CM3-SP32EOC	0.48W	-	-
	CM3-SP32EOR	2.16W	-	4
Analog Expansion Block	CM3-SP04EAO	0.36W	1.44W	-
	CM3-SP04EAA	0.36W	1.68W	-
	CM3-SP04EOAI	0.36W	1.68W	-
	CM3-SP04EOAV	0.36W	1.44W	-
	CM3-SP04ERO	0.48W	0.72W	-
	CM3-SP04ETO	0.48W	0.72W	-
Communication Block	CM3-SP02ERR	0.48W	-	-
	CM3-SP02ERS	0.48W	-	-
	CM3-SP01EET	0.72W	-	5

- CM3-SP16EOR can be used with up to 4 modules. The required capacity of SMPS (Switched mode power supply) is 24VDC 20W.
- Please be sure to check each PLC-S module's current consumption to ensure that it does not exceed the 10W limit.
- Please make sure to check safety factor of the total power consumption when using SMPS.

DIGITAL I/O

• Specification

Item	CM3-SP32EDO	CM3-SP32EOT	CM3-SP32EOC
I/O Type	SINK/SRC Input 32pts	TR output 32pts	TR output 32pts
Input Voltage	DC 24 V	N/A	N/A
Output Voltage	N/A	DC 12 V / 24 V	DC 12 V / 24 V
Input Current	4 mA	N/A	N/A
Output Current	N/A	1 point 0.2A COM 2A	1 point 0.2A COM 2A
On Voltage / On Current	DC 19V / 3mA	N/A	N/A
Off Voltage / Off Current	DC 6V / 1mA	N/A	N/A
Response Time	Less than 3 ms	Less than 1 ms	Less than 1 ms
Operation Indication	LED On	LED On	LED On
Insulation Type	Photocoupler	Photocoupler	Photocoupler
Output method	N/A	Sink	Source

Item	CM3-SP16EOR	CM3-SP32EDT	CM3-SP32EDR
I/O Type	Relay output 16pts	SINK/SRC Input 16pts TR output 16pts	SINK/SRC Input 8pts Relay output 8pts
Input Voltage	N/A	DC 24 V	DC 24 V
Output Voltage	AC 220 V / DC 24 V	DC 12 V / 24 V	DC 12 V / 24 V
Input Current	N/A	4 mA	4 mA
Output Current	1 point 2A COM 5A	1 point 0.2A COM 2A	1 point 2A COM 5A
On Voltage / On Current	N/A	N/A	DC19V / 3mA
Off Voltage / Off Current	N/A	N/A	DC6V / 1mA
Response Time	Less than 10 ms	Less than 1 ms	Less than 3 ms
Operation Indication	LED On	LED On	LED On
Insulation Type	Relay	Photocoupler	Photocoupler
Output method	Relay	Sink	Relay

» Relay output in PLC-S series cannot use more than 64 points.
Ex) CM3-SP16EOR cannot be expanded with more than 4 modules.

• Features

• Convenient terminal block connection allows for easy maintenance.

ANALOG I/O

• Specification

Input (AD conversion)

Item		CM3-SP04EAO
Number of Analog Inputs		4 channels
Analog Input	Voltage	0 ~ 5 V / 1 ~ 5 V / 0 ~ 10 V / -10 ~ 10 V
	Current	0 ~ 20 mA / 4 ~ 20 mA
Digital Conversion		14 bit (0 ~ 16000)
Rated Voltage / Current	0V ~ 5 V	312.5 mV
	1V ~ 5 V	250 mV
	0V ~ 10 V	625 mV
	-10V ~ 10 V	1250 mV
	0mA ~ 20 mA	1.25 nA
	4mA ~ 20 mA	1 nA
Accuracy		±0.1% (full scale)
Conversion Speed		2.1 ms / 4 channels
Absolute Max. Input		Voltage : ±15V, Current : ±30mA
		Photocoupler between input terminal and PLC (No insulation between channels)
Insulation Method		24VDC
Power Supply		50mA

- Provides various input types and range.
- High reliability demonstrated by ±0.05% error.
- Photocoupler insulation protects operation from interference.

Output (DA Conversion)

Item	CM3-SP04EOAV	CM3-SP04EOAI
Number of Analog Output	4 channels	4 channels
Analog Output	-10V ~ 10V / 0V ~ 10V (Selection with DIP switch)	4mA ~ 20mA
Digital Conversion	14 bit (0 ~ 16000)	
Rated Voltage / Current	1.25 mV	1.25 μA
Accuracy	±0.1 %	
Conversion Speed	10ms	
Absolute Max. Input	Voltage : ±15V	Current : ±24mA
Insulation Method	Photocoupler between input terminal and PLC	
Power Supply	24VDC	

- Provides various output types and range.
- High reliability demonstrated by ±0.05% error
- Photocoupler insulation protects operation from interference.

• Specification

I/O (AD/DA module)

Item		CM3-SP04EAA
Number of Analog Input		Input : 2 Channels, Output: 2 Channels
Analog Input	Voltage	0 ~ 5 V / 1 ~ 5 V / 0 ~ 10 V I -10 ~ 10 V
	Current	0 ~ 20 mA / 4 ~ 20 mA
Digital Conversion		Selection between 14 bit (0 ~ 16000) / 16 bit (0 ~ 64000)
Rated Voltage / Current	0V ~ 5 V	78.1 μV
	1V ~ 5 V	62.5 μV
	0V ~ 10 V	156.3 μV
	-10V ~ 10 V	312.5 μV
	0mA ~ 20 mA	312.5 nA
	4mA ~ 20 mA	250 nA
Accuracy		±0.05 % (full scale)
Conversion Speed		2.1 ms / 4 channels
Absolute Max. Input		Voltage : ±15V, Current: ±30mA
Insulation Method		Photocoupler between input terminal and PLC (No insulation between channels)
Power Supply		24VDC

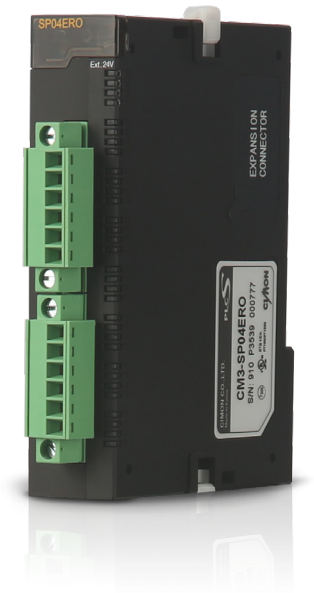
- Provides various input types and range.
- High resolution of 16 bit digital conversion is available.
- High reliability demonstrated by ±0.05% error.
- Photocoupler insulation protects operation from interference.

• Features

- CM3-SP04EAO is the AD module used to input 4 channels of voltage and current.
- CM3-SP04EOAV is the DA module used to output 4 channels of voltage (-10 ~ 10V, 0~10V).
- CM3-SP04EOAI is the DA module used to output 4 channels of current (4 ~ 20mA).
- CM3-SP04EAA is the AD / DA module used to input 2 channels of voltage and current, and output 2 channels of voltage and current.
- The DA module is used to convert digital values into analog signals (voltage or current output). It converts a digital value of 0~16000(-8000~8000) / 0~64000(-32000~32000) into an analog value of 0~20mA, 4~20mA, -10~10V, 0~5V, 0~10V, or 1~5V.
- There are two AD conversion methods that the user can choose: average processing or digital filtering.
- With the Hold/Clear setting the user can select what should happen when the operation mode changes from RUN to STOP mode. The Clear selection will change the output signal of the 4mA or 10V signal to its offset value. The Hold selection will maintain the 4mA or 10V signal at the last known value.
- Channels on which conversion is prohibited output the minimum value in each output mode (0mA, 4mA, -10V, 0V, 1V).
- The LED on during normal condition and blinks at 0.5 second intervals during error condition.

TEMPERATURE

• Specification



RTD Module

Item		CM3-SP04ERO
Available RTD		PT100,JPT100,PT1000, NI1000 (DIN 43760), NI1000 (TCR 5000)
Range of Temperature Input		PT100: -200.0°C to 600°C (18.48 to 313.59 Ω) JPT100: -200.0°C to 600°C (17.14 to 317.28 Ω) PT1000: -200.0°C to 600°C (184.8 to 3135.9 Ω) NI1000 (DIN 43760): -50.0°C to 160°C (742.6 to 1986.3 Ω) NI1000 (TCR 5000): -50.0°C to 160°C (790.9 to 1799.3 Ω)
Digital Conversion		Digital Value: 0 ~ 16,000 (-8000 ~ 8000) Temp: -200.0°C ~ 600.0°C (floating point x 10)
Detecting Broken Wires		3 wires for each channel
Accuracy		± 0.1 % (full scale)
Max. Conversion Speed		50 ms / 4 Channels
Number of Temperature Inputs		4 channels
Insulation Method		Photocoupler between input terminal and PLC (No insulation between channels)
Power Supply		24VDC
Internal Current Consumption (mA)	+24V	60
External Current Consumption (mA)	+5V	30

- The module can detect a broken wire or out of range measurement.
- The module supports most resistance temperature detectors.
- The module provides full scale accuracy.
- Digital temperature measurement in 0.1°C increments is possible.
- The temperature value can be converted into a 14-bit digital value.

• Features

- By using the platinum resistance temperature sensor, Pt100, JPt100 or Pt1000, Ni1000, the temperature value (°C or °F) can be processed as digital values (0~16000) within about one decimal point of accuracy.
- RTD module converts temperature from -200°C to 600°C (PT100/1000/JPT100) or from -50°C to 160°C (Ni1000) into a digital value of 0~16000 (-8000~8000).
- It can show temperature -250°C~650°C(PT100/PT1000/JPT100) or -60°C~170°C(Ni1000). These values are converted into digital values -192~16191(-8192~8191).
- If the operator sets the minimum and the maximum temperature values, it converts the minimum temperature value to 0 (-8000) and the maximum temperature value to 16000 (8000).
- Wire disconnection and exceeding measurement range can be detected by each channel.
- A single module has 4 channels for thermocouples.
- The LED stays on during normal condition and blinks at 0.2 second intervals during error condition.
- Temperature-sensing resistance is a type of sensor that measures temperature in the form of resistance.
- The platinum temperature-sensing resistance PT100 and JPT100 output 100.0Ω for 0°C. PT1000 outputs 1000.00Ω for 0°C. The nickel temperature-sensing resistance Ni1000 outputs 1000.00Ω for 0°C.

• Specification

TC Module

Item		CM3-SP04ETO
Available TC		Type K,J,E,T,B,R,S,N
Digital Conversion		Converted digital value: 0 ~ 16,000 (-8000 ~ 8000) Converted temperature value: °C, °F (0.1°C Resolution)
Detecting Broken Wires		3 wires per each channel
Accuracy		±0.3 % (Full Scale) ±1°C (Error for base compensation)
Max. Conversion Speed		50 ms / 4 Channels
Compensation Type		Automatic compensation
Number of Input Channels		4 channels / 1 module
Insulation Method		Photocoupler between input terminal and PLC (No insulation between channels)
Power Supply		24VDC
Internal Current Consumption (mA)	+24V	60
External Current Consumption (mA)	+5V	30

Range of Input Temperature

Type of TC	Standard	Range of Measured Temp. (°C)	Range of Measured Voltage (μV)
K	ITS-90	-200.0 ~ 1200.0	-5891 ~ 48828
J		-200.0 ~ 800.0	-7890 ~ 45498
E		-200.0 ~ 600.0	-8824 ~ 45085
T		-200.0 ~ 400.0	-5602 ~ 20869
B		400.0 ~ 1800.0	786 ~ 13585
R		0.0 ~ 1750.0	0 ~ 21006
S		0.0 ~ 1750.0	0 ~ 18612
N		-200.0 ~ 1250.0	-3990 ~ 43846

- TC module can measure high temperature values.
- The module supports various thermocouples.
- The module provides ±0.3% of accuracy.
- Digital temperature measurement in 0.1°C increments is possible.
- Wire disconnection and exceeding measurement range can be detected by each channel.
- Channels in TC module are uninsulated. FG is commonly used in the module installation.
- FG reinforcement is strongly recommended for highly fluctuating values.
- Simultaneous connection with TC sensor and another device is not recommended as abnormal measurements and/or diminished performance can occur.

» When TC module is used with a third-party device, FG must be connected between products.

COMMUNICATION

• Specification

Item		CM3-SP01EET
Standard		10 BASE-T 100 BASE-TX
Transmission Speed		10/100 M
Max. Distance (Node to Node)		100 m
Service Capacity		UDP, TCP : 12 Services
Service	Loader	Yes (UDP)
	HMI Protocol	Yes (TCP, UDP)
	MODBUS TCP Slave	Yes
	MODBUS TCP Master	Yes
	Protocol Special Program	Yes (TCP, UDP)
	High-Speed PLC Link	Yes
	DHCP	Yes

• Features

- This module follows IEEE 802.3 and supports ARP, ICMP, IP, TCP, and UDP protocols.
- The module provides CIMON DHCP server allowing dynamic IP address allocation.
- MODBUS TCP Master special program allows communication with various devices.
- High-speed linkage to CIMON PLCs allows simultaneous communication with up to 64 stations.

• Specification

Serial Module

CM3*

Item		SP02ERS	SP02ERR	SP02ERC	SP02ERSC
Interface		RS232C:1CH RS422/485:1CH	RS232C: 2CH	RS232C: 1CH	RS232C:1CH RS422/485:1CH
Communication Method	Null Modem	Y	Y	Y	Y
	Leased Line Modem	Y	Y	Y	Y
	CDMA Modem	Y	Y	Y	Y
Operation Mode	Protocol Special Program	Communication via user-defined protocol program			
	HMI Protocol	Communication via CIMON-PLC HMI protocol			
	MODBUS Protocol	Communication via Modbus RTU protocol			
	Graphic Loader Protocol	Control PLC through connection function in CICON software			
	MODBUS Master Protocol	Communicate with slave device using MODBUS RTU protocol			
Data Type	Data Bit	8 bit			
	Stop Bit	1 or 2 bit			
	Parity	Even / Odd / None			
Synchronization Mode		Asynchronous			
Transmission Speed (bps)		300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400			
Insulation Method		RS232C: No insulation, RS422/485: photocoupler			

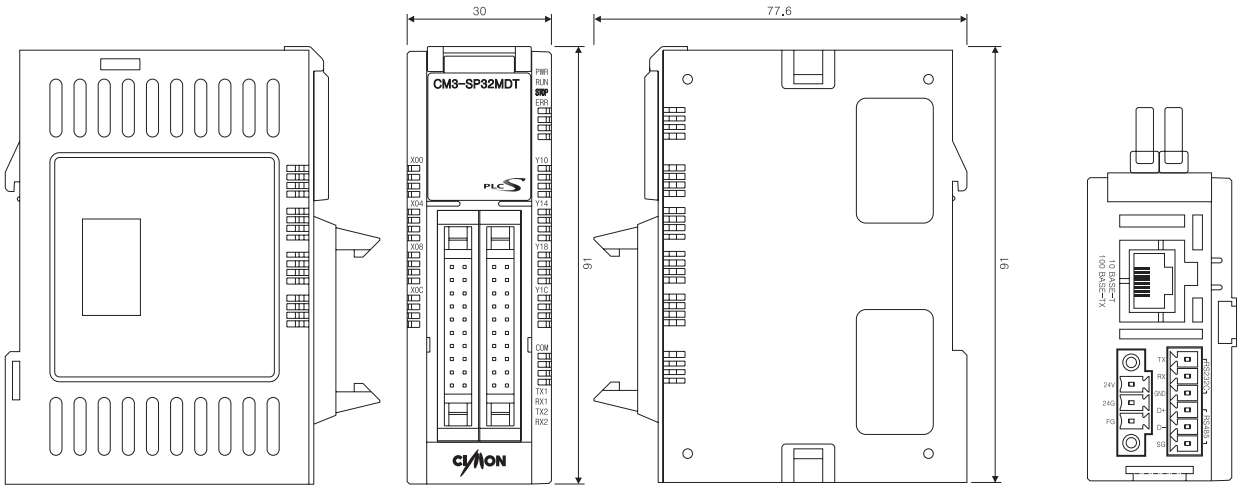
- Independent operations are possible for each channel by creating third party protocols for RS-232-C and RS-422 / 485 channels.
- Data can be read or written via the HMI protocol.
- Maximum of 32 units for HMI communication are supported (RS-422/485)
- Modem communication is built into all serial modules to control the PLC remotely (RS-232-C).
- Provides a wide range of communication speeds (300bps ~ 38400bps)
- RS-232-C and RS-422/485 communication ports can be used as independent channel or linked channel.
- 1:1 / 1:N / n:M (in case of RS-422/485) communication is available.
- RS-422 supports Full-Duplex, and RS-485 supports Half-Duplex (RS-485).
- Setting RS-485 as default will enable a multi-drop communication channel.
- The module supports universal protocols.
- MODBUS RTU Master function helps data acquisition from third party devices (MODBUS Slave).
- The RS-422/485 channels are isolated from the internal circuitry to prevent communication quality degradation due to noise.

• Features

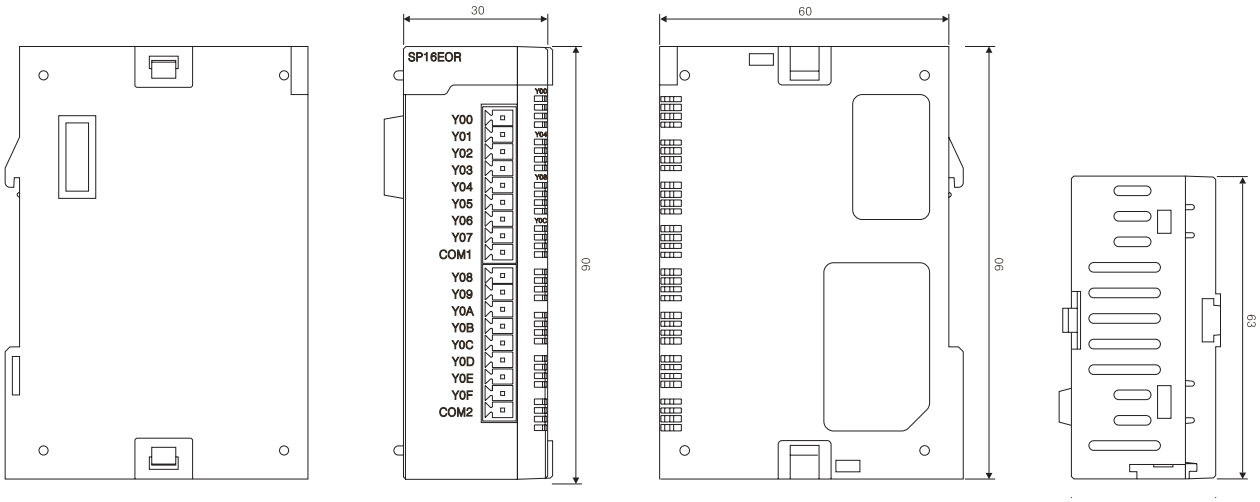
- This module follows IEEE 802.3 and supports ARP, ICMP, IP, TCP, UDP, and DHCP protocols.
- Ethernet communication module can be expanded on a single base without limits.
- The communication module can be installed on the extension base.
- The module provides DHCP by communicating with UltimateAccess SCADA.
- MODBUS TCP Master function provides full compatibility with various devices.
- High-speed linkage to CIMON PLCs allows simultaneous communication with up to 64 stations.
- Up to 4 Ethernet modules can be expanded for PLC link communication.

DIMENSIONS

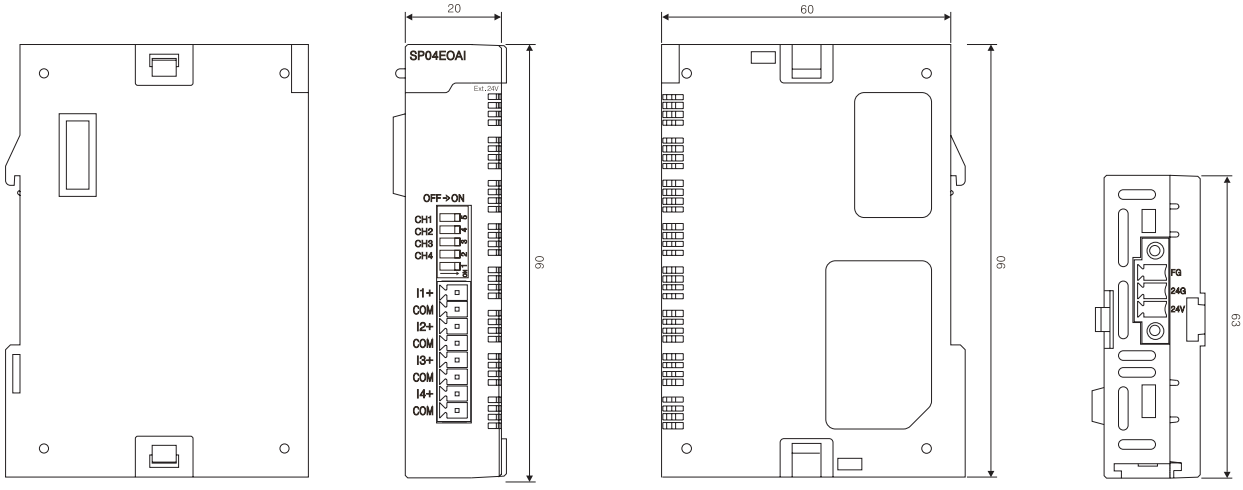
Unit : mm



CM3-SP32MDTF-SD / CM3-SP32MDCF-SD (Sizes are the same in the CPU line.)



CM3-SP16EOR (Sizes are the same in the Digital I/O line.)



CM3-SP04EOAI (Sizes are the same in the Analog I/O line.)

LINE-UP

Item		Model	Specification
CPU	TR Output (DC Power)	CM3-SP32MDTF-SD	DI 16/DO 16, USB Loader, SD/MMC Card Slot, RS232C 1ch, Ethernet 1 ch, RS-485 1 ch, SFC Language, Web Server, Sink
		CM3-SP32MDCF-SD	DI 16/DO 16, USB Loader, SD/MMC Card Slot, RS-232-C 1 ch, Ethernet 1 ch, RS-485 1 ch, SFC Language, Web Server, Source
	Relay Output (DC Power)	CM3-SP16MDRV	DI 8/DO 8, USB Loader, RS-232 1 ch, RS-485 1 ch
		CM3-SP16MDRF	DI 8/DO 6, USB Loader, RS-232-C 1 ch, Ethernet 1 ch, RS-485 1 ch
Digital Expansion	DI-32	CM3-SP32EDO	DI 32pts, DC 24V
	DO-32	CM3-SP32EOT	DO 32pts, DC 24V (TR) Sink
	DO-32	CM3-SP32EOC	DO 32pts. DC 24V (TR) Source
	DO-16	CM3-SP16EOR	DO 16pts, Relay Output
	DI-8 / DO-8	CM3-SP16EDR	DI 8pts, Relay Output
	DI-16 / DO-16	CM3-SP32EDT	DI 16pts, DO 16pts, DC 24V (TR) Sink
Analog Expansion	AI-4	CM3-SP04EAO	AI 4 ch voltage and current, 14bit
	AIO-2/2	CM3-SP04EAA	AI 2 ch voltage and current /AO 2 ch voltage and current, 16bit, 14bit
	AO-4	CM3-SP04EOAI	AO 4 ch current, 14bit
		CM3-SP04EOAV	AO 4 ch voltage, 14bit
Temperature	AI-4	CM3-SP04ERO	AI 4 ch RTD
		CM3-SP04ETO	AI 4 ch TC
Communication Block	Ethernet	CM3-SP01EET	Ethernet 1 ch, 10/100Mbps
	Serial	CM3-SP02ERS	RS-232-C 1ch, RS-422/485 1 ch
	Serial	CM3-SP02ERR	RS232C 2ch
Accessories		CM0-TB32M	Multi-Terminal
		CM0-SCB15M	Main Block 1.5M Cable
		CM0-SCB15E	I/O 32pts. 1.5M Cable

Firmware upgrade is available for all PLC-S models

MICRO-S BRICK TYPE

• Specification

BRICK TYPE CPU CM3-SB16MDTF | CM3-SB16MDCF

Item		Description	Note
Power		DC12V~24V	-
Rated I/O Current		4mA Input; 1 point 0.2A, COM 2A Output	-
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	
I/O Method		SINK/SOURCE	-
Program Language		IL (Instruction List), LD (Ladder Diagram), SFC (Sequential Function Chart), FB (Function Block)	-
Data Processing		32 Bit	-
Instruction Library	Basic	55 Instructions	-
	Advanced	389 Instructions	-
Execution Processing Speed (Basic Instruction)		300 ns/Step	-
Program Memory		10k Step	-
Number of I/O Points		DI 8pts, DO 8pts	-
Operating Mode		Remote Run, Remote Stop	-
Number of Program Blocks		127	-
Type of Program	Scan	5 types including standard scan program (Subroutine, COLD / HOT initialization, periodic interrupts)	-
	Periodic Interrupts	Maximum 15 Scan Program (Minumum Period: 10 Mins)	-
	Special	PID, HSC, Positioning	-
	Communication	User Protocol (Serial) Comm. Program, MODBUS RTU	-
		Master, MODBUS RTU/TCP Slave High-Speed PLC Link	-
Self-diagnosis		Detect Delay of scan time, Memory, I/O, Power Supply	-
Expansion		No Expansion	-
Memory Type	X	8pts (X00-X07)	Bit
	Y	Physical: 8pts (Y10-Y17); Memory: 992pts (Y20-Y63F)	Bit
	M	8192 pts (M0000-M511F)	Bit
	L	4096 pts (L0000-L255F)	Bit
	K	4096 pts (K0000-K255F); Latching	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	1,024 words(Call Stack: Z0000-Z0063, Z1000-Z1063)	Word
	Q	8192 pts (Q0000-Q511F)	Bit
	R	16 pts (Index)	-
Etc.		Floating Arithmetic, Online edit	

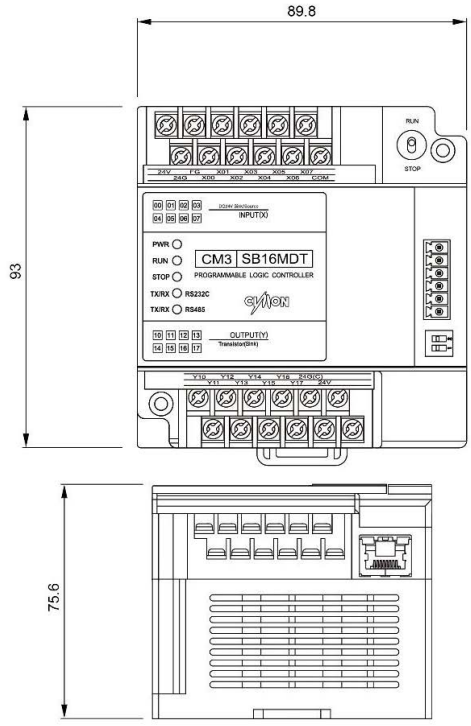
MICRO-S BRICK TYPE

• Specification

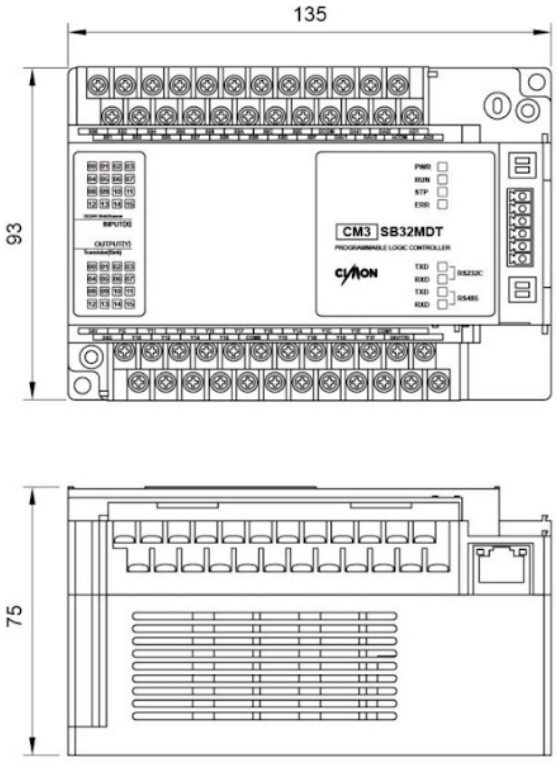
BRICK TYPE CPU CM3-S326MDTF | CM3-SB32MDCF | CM3-SB32MDRF

Model		CM3-SB32MDTF	CM3-SB32MDCF	CM3-SB32MDRF
Power		DC12V~24V		
Rated I/O Current	Input	4 mA		
	Output	1 point 0.2 mA, COM 2 A		1 point 2 mA, COM
Ambient Temp		-10°C~65°C		
Storage Temp		-25°C~80°C		
Program Language		IL (Instruction List), LD (Ladder Diagram), SFC (Sequential Function Chart), FB (Function Block)		
Data Processing		32 Bit		
Instruction Library		Basic	55 Instructions	
		Advanced	389 Instructions	
Execution Processing Speed		LD X00	300 ns	
		MOV D00 D01	900 ns	
Program Memory		10k Step		
Communication		Ethernet 10/100, RS-232C, RS-485/422, USB mini-B		
Digital Input		16 pts (TR Sink / Source)		
Digital Output		16 pts (Sink)	16 pts (Source)	16 pts (Relay)
Analog Input / Output		AI 2 pts (0-20 mA, 0-10 V), AO 2 pts (4-20 mA, 0-10 V)		
Operating Mode		Remote Run, Remote Stop		
Number of Program		127		
Type of Program		Scan	5 types including standard scan program	
		Periodic	Maximum 15 Scan Program (Minumum Period:	
		Special	PID, HSC, Positioning	
		Communication	User Protocol (Serial) Comm. Program, MODBUS RTU	
Self Diagnosis		Detect Delay of scan time, Memory, I/O, Power Supply		
Expansion		No Expansion		
Memory Type		X	Physical: 16pts (X00-X0F);	Bit
		Y	Physical: 16pts (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	-
		D	10000 words	Word
		Z	1,024 words(Call Stack: Z0000-Z0063,	Word
		Q	8192 pts (Q0000-Q511F)	Bit
		R	16 pts (Index)	-
Etc.		Floating Arithmetic, Online Edit		

MICRO-S DIMENSIONS



CM3-SB16MDT, CM3-SB16MDCF, CM3-SB16MDRF



CM3-SB32MDTF, CM3-SB32MDCF, CM3-SB32MDRF

DRAWINGS

MEMO

CIMON

AUTOMATION

CIMON AUTOMATION www.cimon.com

Revision / Ver. 8 Revision Date / APR 2022

U S A CIMON Inc. 2435 W Horizon Ridge Pky, Henderson, NV 89052 **Tel.** 702-820-1060

Seoul Office 11th Floor, M State, #114, Beobwon-ro, Songpa-gu, Seoul, Republic of Korea, 05854 **Tel.** +82-2-480-8601

HQ Office #48, Beolmal-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea, 13503 **Sales Email:** sales@cimoninc.com

Support Email: support@cimoninc.com