

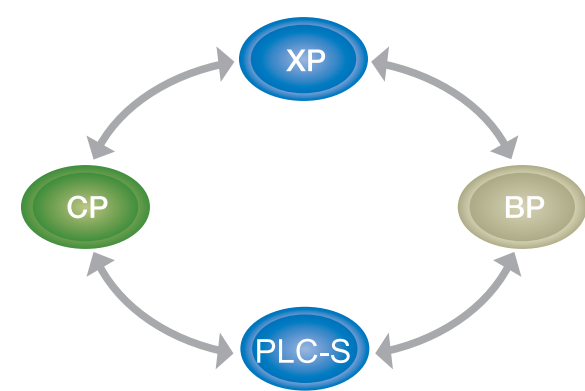
CIMON

PLC



Distributed by Anaheim Automation, Inc.
USA Stock in Anaheim, CA
1-800-345-9401
www.anaheimautomation.com

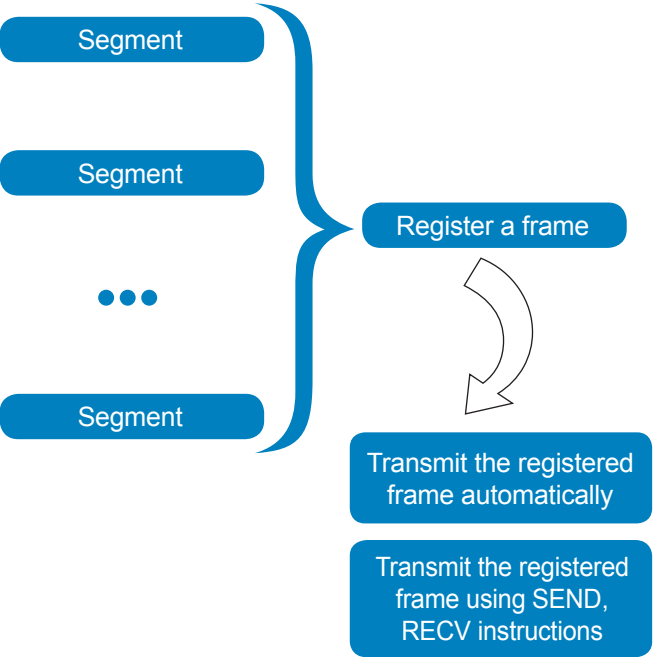
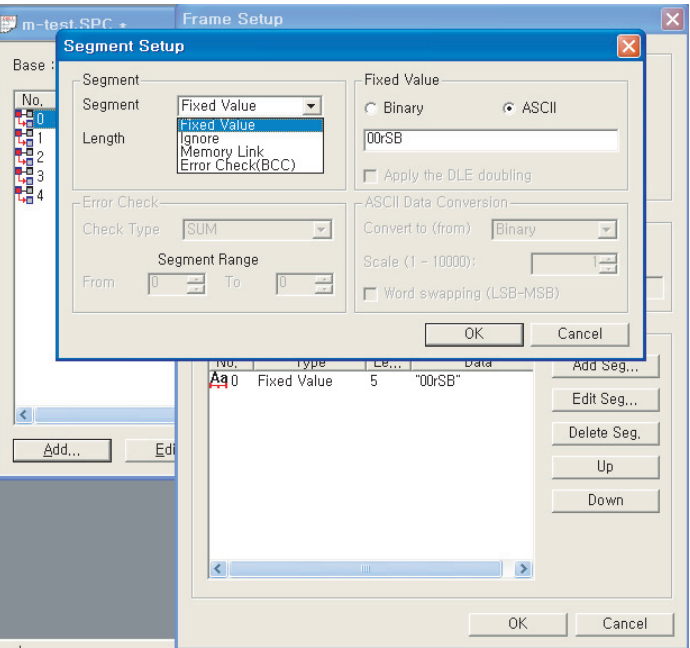
Feature of CIMON-PLC



- High-speed CPU process : MPU(ASIC)-(75ns/step)
- Remote I/O through expansion feature
- High compatibility with other PLC series
- One loader program covers all PLC types

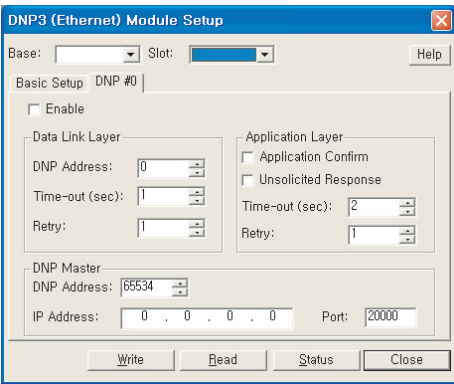
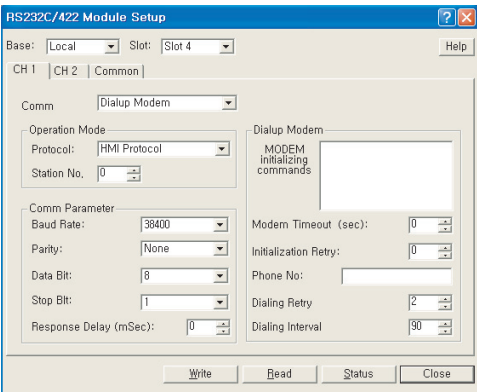
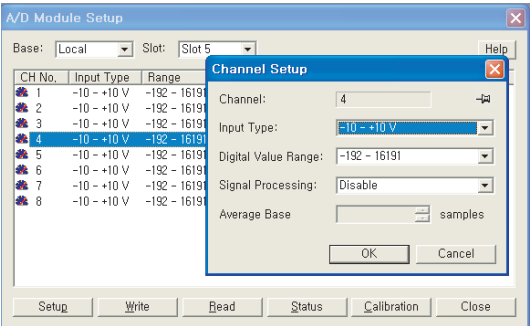
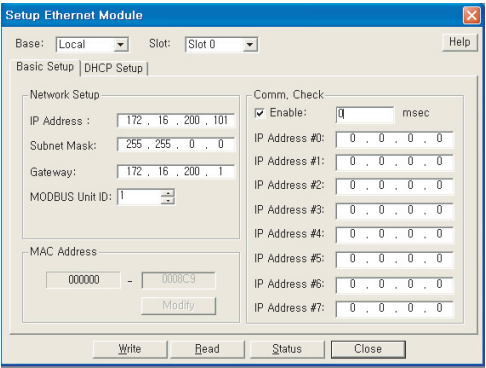
- Sequence program(CICON) is compatible with XP, CP BP and PLC-S types of PLC
- Operator can choose RAM or ROM mode through the integrated flash memory
- Analog modules provide high-resolution signal conversion range (1/16000 or 1/64000)
- Simple and user-friendly ladder program (PID program, Protocol program, PLC link program, etc.)
- Various protocols

Protocol Program



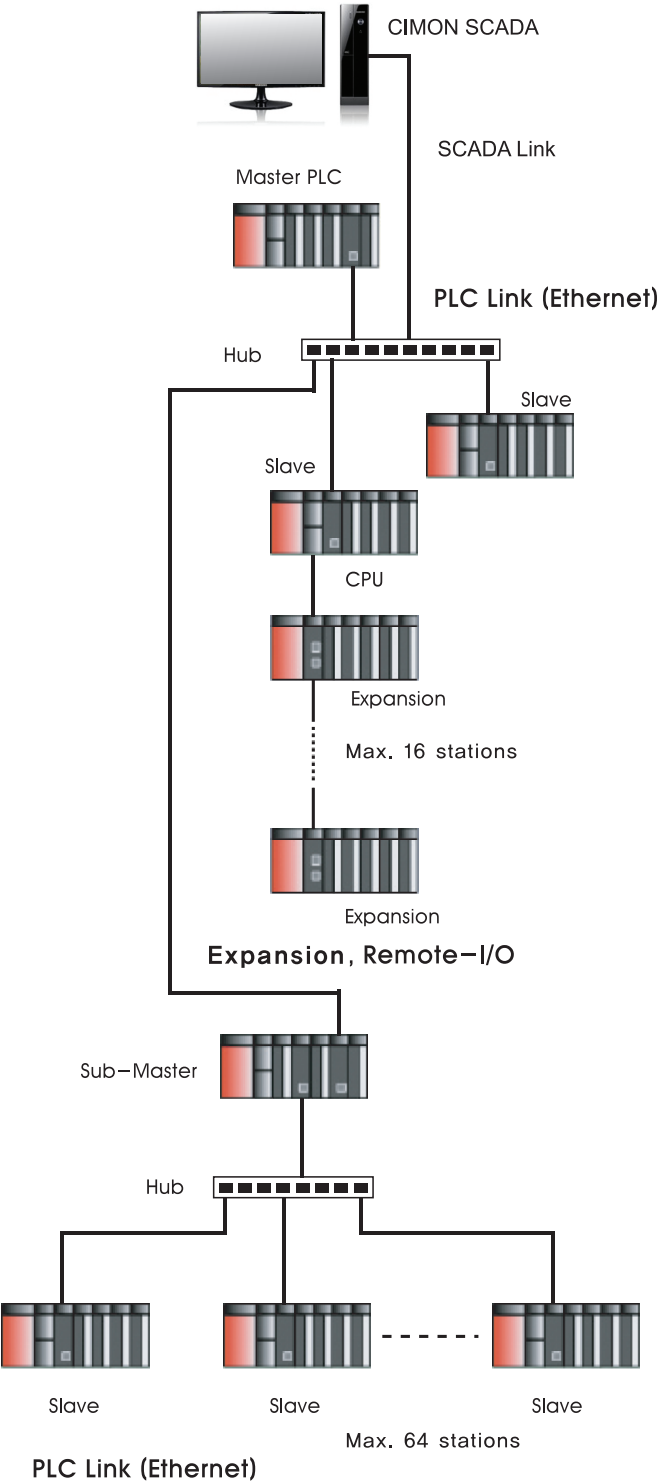
- Simple and easy set-up of communication and analog modules

Special Module Set-Up



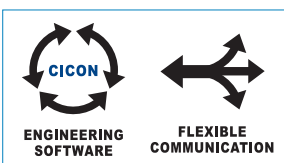
- Excellent expansibility and compatibility (Ethernet standard)

Network Configuration



XP/CP Series

XP Series



CM1-XP1A

RS232C
EXPANDABLE
USB
I/O 8,192
32BIT
RTC
128K STEP

CM1-XP1R

RS232C
EXPANDABLE
USB
REDUNDANCY
I/O 8,192
32BIT
RTC
128K STEP

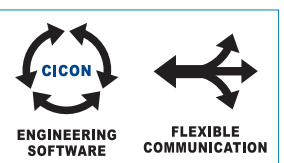
CM1-XP2A

RS232C
EXPANDABLE
USB
I/O 4,096
32BIT
RTC
64K STEP

CM1-XP3A

RS232C
EXPANDABLE
USB
I/O 2,048
32BIT
RTC
64K STEP

CP Series



CM1-CP3A

32K STEP
EXPANDABLE
I/O 1,024
16BIT

CM1-CP3B

32K STEP
EXPANDABLE
RTC
I/O 1,024
16BIT

CM1-CP3P

32K STEP
EXPANDABLE
RTC
FLASH ROM PACK
I/O 1,024
16BIT

CM1-CP3U

32K STEP
EXPANDABLE
RTC
USB
I/O 1,024
16BIT

CM1-CP4A

16K STEP
I/O 384
16BIT

CM1-CP4B

16K STEP
RTC
I/O 384
16BIT

CM1-CP4C

RS232C
16K STEP
RTC
I/O 384
16BIT

CM1-CP4D

RS422/485
16K STEP
RTC
I/O 384
16BIT

CM1-CP4U

RS422/485
USB
16K STEP
RTC
I/O 384
16BIT

XP CPU

- MPU (ASIC) - high speed processing speed (75ns/step)
- Provides Over 400 instructions
- Abundant device capacity: I/O - maximum 8,192 points / Data - 32,000 word / (M,K,L) 16,000 points
- Compact size with exceptional performance
- Built-in USB 2.0 port
- Built-in loader port for downloading/uploading programs
- Maximum base expansion: 16
- Maximum number of slots in one base is 12
- XP series include all the functions and features of CP series and more

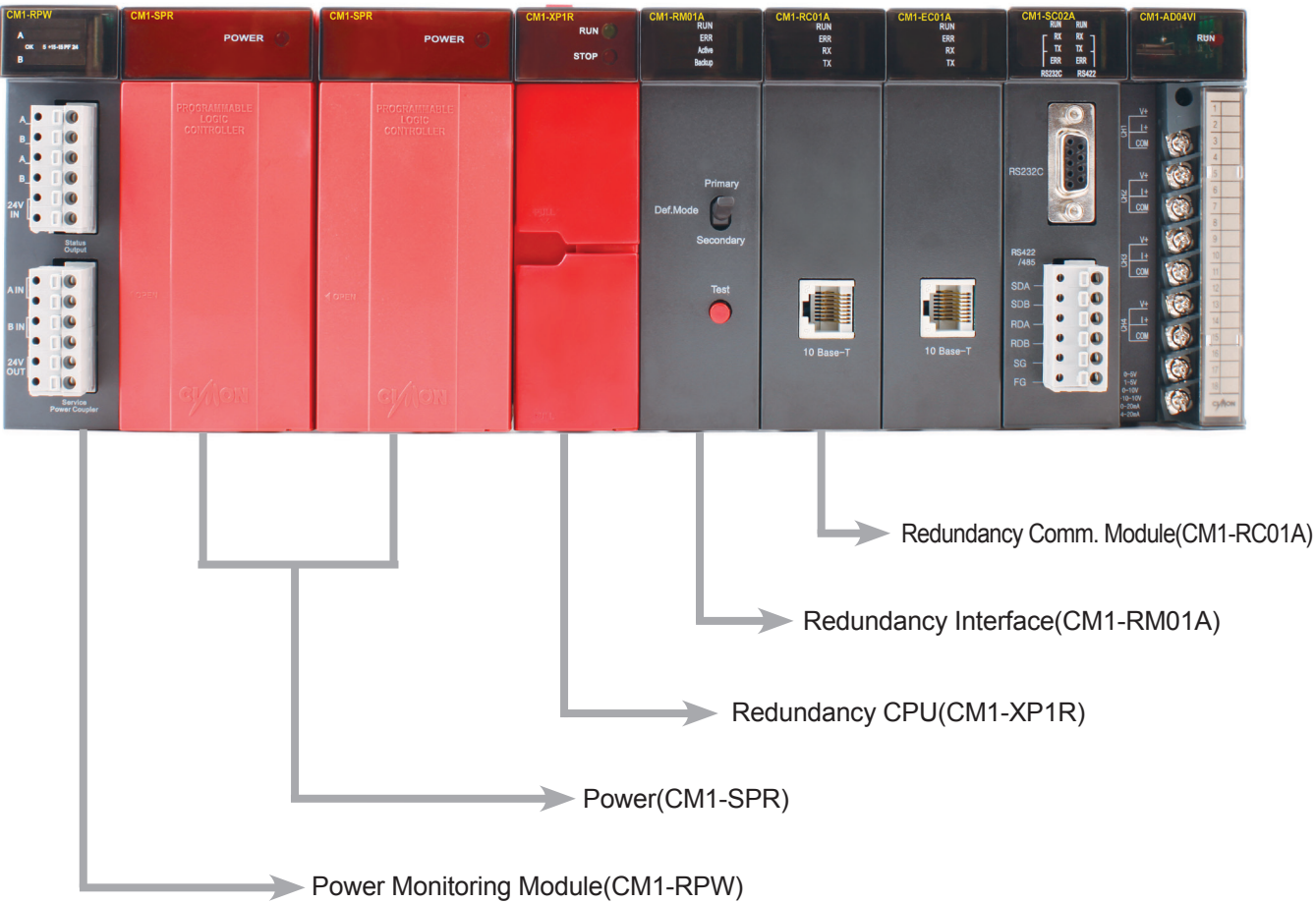


Item		Specification		
		CM1-XP1A/R	CM1-XP2A	CM1-XP3A
Operation Method		Stored Program, Cyclic Operation, Time Driven Interrupt		
I/O Control Method		Interrupt system, Direct by Instructions, Scan Synchronous Batch Processing System.		
Program Language		LD (ladder diagram), IL (instruction list)		
Data Processing Method		32 bits		
No. of Instruction	Sequence	55 instructions		
	Application	389 instructions		
Processing Speed		75 ns/step		
Program Memory Capacity		128K steps	64K steps	64K steps
		2M bytes	2M bytes	2M bytes
Base Expansion		Maximum 16		
Data Memory Capacity		1M bytes		
Data Memory Capacity	X	8,192	4,096	2,048
	Y	8,192	4,096	2,048
	M	16,000		
	K	16,000		
	L	16,000		
	F	2,048		
	T	4,096 (10 ms,100 ms option)		
	C	4,096		
	S	100 card * 100 step		
	D	32,000		
	Z	1,024		
Timer	Type	On Delay, Off Delay, Integration, Monostable, Retriggerable		
	Time Range	0.01 sec ~ 6,553.5 sec		
Counter	Type	Up Counter, Down Counter, Up-Down Counter, Ring Counter		
	Coefficient Range	-32,768 ~ +32,767		
No. of Program Blocks		128		
Operation Mode		RUN, STOP, PAUSE, REMOTE		
Self Diagnosis		Watch-Dog Timer, Memory Error, I/O Error, Battery Error, Power Error, etc.		
Restart Mode		Cold, Warm		
Battery Back-up		Over 3 years		
Built-in Function		- Computer Link (RS232C) - Clock (RTC) - Program Editable on Run Mode - PID Control (32 Loops) - I/O Reservation - USB 2.0 Port		
Redundancy		Yes (CM1-XP1R)	N/A	

Redundancy System

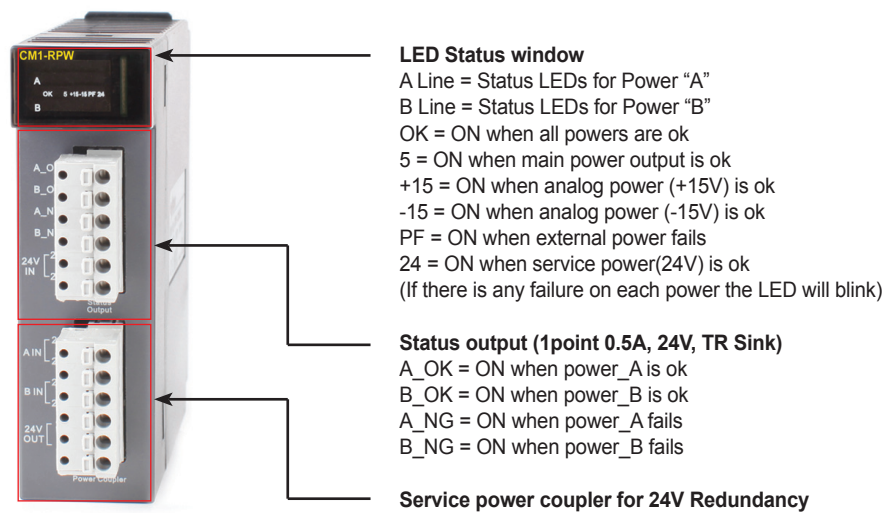
- CPU, power, base and communication redundancy available
- Perfect redundancy configuration derived from the base structure
- In case an errors in the active CPU, the back-up CPU will switch to active status automatically
- Test button to easily check and maintain the system
- Less than 50ms to switch to back-up CPU

Redundancy Configuration

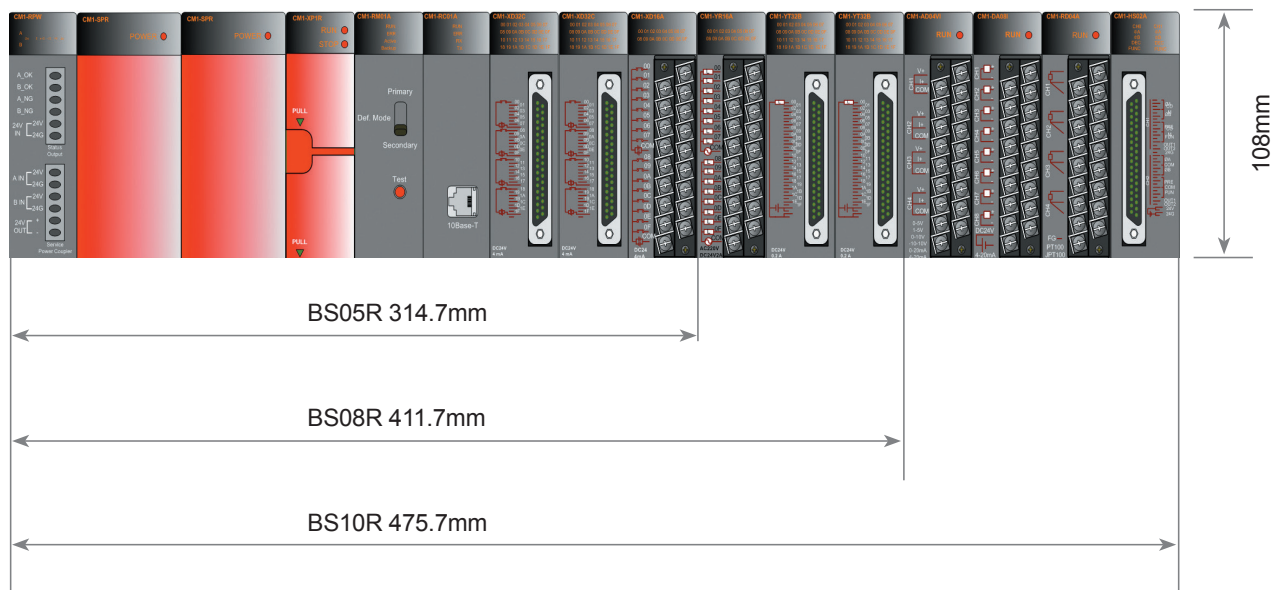


Redundancy Power Monitoring Module

- LED display to monitor operations
- Digital output (DC24V, Transistor, Sink)



Dimensions



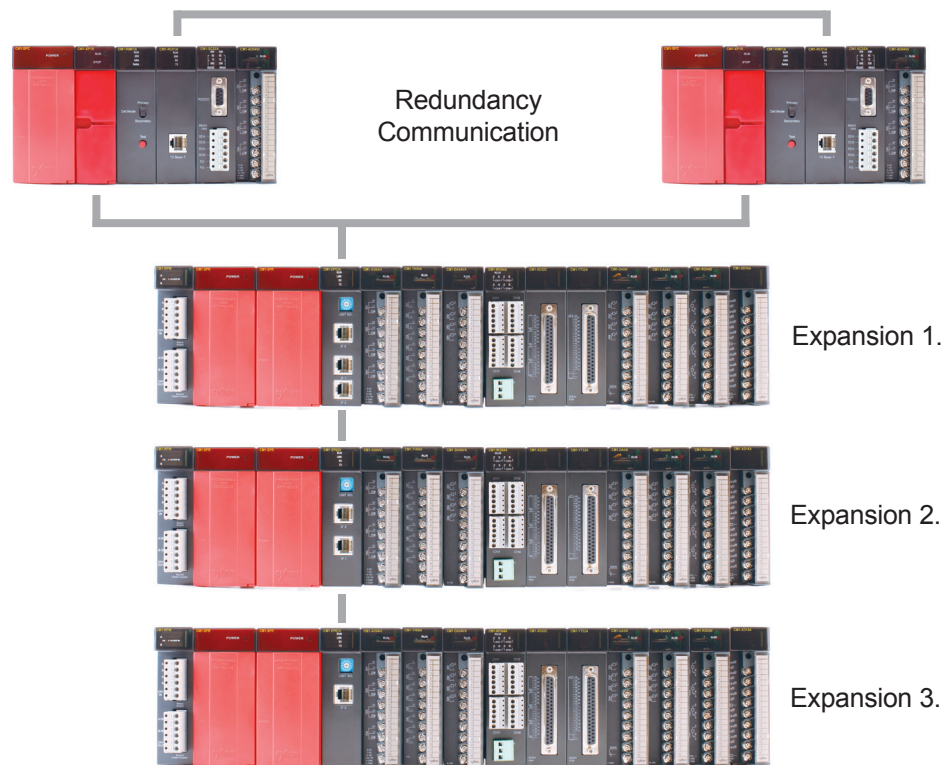
Base for Redundancy

Model	No. of slots	Size(mm)
CM1-BS05R	5 slots	314.7 x 108
CM1-BS08R	8 slots	411.7 x 108
CM1-BS10R	10 slots	475.7 x 108

Required Items For Redundancy

Base	Unit	Applicable Module
CPU	Base	CM1-BS03A and etc.
	Power	CM1-SPC and etc.
	CPU	CM1-XP1R
	Redundancy Interface	CM1-RM01A
	Redundancy Comm. Module	CM1-RC01A
	Redundancy Cable	CM0-CBE
	Comm. Module	CM1-EC01A and etc.
Expansion	Expansion Cable	CM0-CBE
	Expansion 1	CM1-EP03A or CM1-EP02A
	Expansion 2 or More	CM1-EP02A or CM1-EP01A
	Base	CM1-BS05R and etc.
	Power	CM1-SPR and etc.
	I/O	Modules of all kinds

System Configuration



CP CPU

- Easily find errors with the self-diagnosis program
- Maximum base expansion: 16 (except CP4)
- Additional integrated communication port (CM1-CP4C:RS232C, CM1-CP4D/U:RS422/485)
- In the event that the CPU is replaced, I/O and base specifications are still maintained
- Various program types
- Supports over 300 instructions
- Built-in USB 2.0 port (CP4U / CP3U only)
- Attachable flash memory for flexibility (CP3P only)
- Built-in loader port for downloading/uploading programs
- Maximum number of slots in one base is 12



Item		Specification	
		CM1-CP3A/B/P/U	CM1-CP4A/B/C/D/U
Operation Method		Stored Program, Cyclic Operation, Time Driven Interrupt	
I/O Control Method		Indirect, Direct by Instructions	
Program Language		IL (Instruction List) , LD (ladder diagram)	
Data Processing Method		16 bits	
No. of Instructions	Sequence	55 instructions	
	Application	389 instructions	
Processing Speed		200 ns/step	
Program Memory Capacity		32K step	16K step
		512K byte	256K byte
Base Expansion		Maximum 16	N/A
Data Memory Capacity		512K byte	256K byte
Data Memory Capacity	X	1,024	384
	Y	1,024	384
	M	8,192	
	K	2,048	
	L	2,048	
	F	2,048	
	T	1,024 (10 ms or 100 ms)	
	C	1,024	
	S	100 card * 100 step	
	D	10,000	5,000
Timer	Z	1,024	
	Type	On Delay, Off Delay, Integration, Monostable, Retriggerable	
	Time Range	0.01 ~ 6,553.5 sec	
Counter	Type	Up Counter, Down Counter, Up-Down Counter, Ring Counter	
	Coefficient Range	-32,768 ~ +32,767	
No. of Program Blocks		128	
Operation Mode		RUN, STOP, PAUSE, REMOTE	
Self Diagnosis		Watch-Dog Timer, Memory Error, I/O Error, Battery Error, Power Error, etc	
Restart Mode		Cold, Warm	
Battery Back-up		Over 3 years	
Built-in Function		- Computer Link (RS232C) - PID Control (32 Loops) - I/O Reservation - Program Editable on Run Mode - USB 2.0 Port (CM1-CP*U) - Clock (except CP*A type)	

Power

- The power supply for CIMON PLC XP/CP Series (AC100-240V convert to DC +5V, +24V, +15V, -15V)
- Internal power disturbance monitoring function prevents data damage or system malfunctions
- Capacity of the power module must be checked before using the following table

Output voltage	Function
+5V	Operating Power for All PLC Modules
+24V	Sensor and Switch Power, Analog Current Output Module
+15V	Operating Power for Analog Module (except current output)
-15V	Operating Power for Analog Module (except current output)



Items		CM1-SPA	CM1-SPC	CM1-SP2B
Input	Input Voltage	AC100-240V, 50/60Hz		DC19-28V
	Input Current	0.25A MAX. For 220VAC		1.8A MAX. For 24VAC
	Inrush Current	30A or less		
	Efficiency	70% or more (rated input / load)		
	Power Disturbance Susceptibility	20ms or less		
Output	Output Voltage/ (Output Current)	+5V(3.5A)	+5V(3.5A)	+5V(3.5A)
		+24V(0.3A)	+24V(0.3A)	+15V(0.5A)
			+15V(0.5A)	-15V(0.3A)
			-15V(0.3A)	
Voltage Indicator		LED ON When Output Voltage Is OK		

※ Use CM1-SPC for Analog Input/output module

Current Consumption

Item	Model	Current Consumption	Item	Model	Current Consumption
CPU Module	CM1-CP**	130mA	D/A Convert Module	CM1-DA04V	40mA
	CM1-XP**	170mA		CM1-DA04VA	40mA
Redundancy Module	CM1-RM01A	70mA		CM1-DA08V	50mA
	CM1-RC01A	290mA		CM1-DA08VA	50mA
Expansion Module	CM1-EP***	270mA		CM1-DA04I	40mA
	CM1-XD16*	60mA		CM1-DA08I	50mA
DC Input Module	CM1-XD32*	100mA	RTD Module	CM1-RD04*	50mA
	CM1-XD64C	220mA	TC Module	CM1-TC04A	60mA
	CM1-XD16W	32mA	Thermistor Module	CM1-TH08A	60mA
	CM1-XA08*	30mA	Load Cell Module	CM1-WG0**	170mA
AC Input Module	CM1-XY16DR	180mA	Positioning Module	CM1-PS02A	240mA
Relay Module	CM1-YR16A	250mA	Communication Module	CM1-SC02A	190mA
	CM1-YT16*	110mA		CM1-SC01A	170mA
	CM1-YT32*	130mA		CM1-SC01B	170mA
	CM1-YT64*	260mA		CM1-SC01DNP	170mA
High-Speed Counter Module	CM1-HS02*	290mA		CM1-EC01A	290mA
	CM1-AD04VI	50mA		CM1-EC10*	290mA
A/D Convert Module	CM1-AD08V	50mA		CM1-BN01A	290mA
	CM1-AD08I	55mA		CM1-EC0*DNP	290mA
	CM1-AD04W	430mA		CM1-C*01*	60mA
				CM1-LG32A	170mA

Ethernet Module

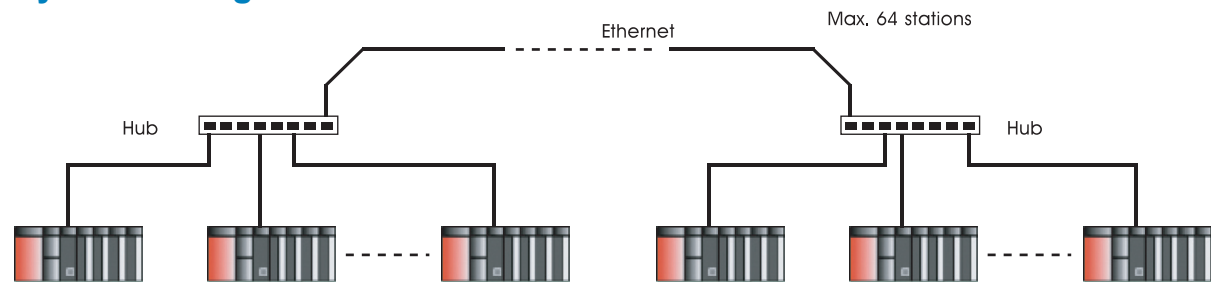
Ethernet

- IEEE 802.3
- Various protocols (ARP, ICMP, IP, TCP, UDP)
- Ethernet communication modules can be installed in one base with no limitation
- High-speed linkage to simultaneously communicate along CIMON PLC's and up to 64 stations
- DNP 3.0 protocol (CM1-EC01DNP, CM1-EC04DNP)

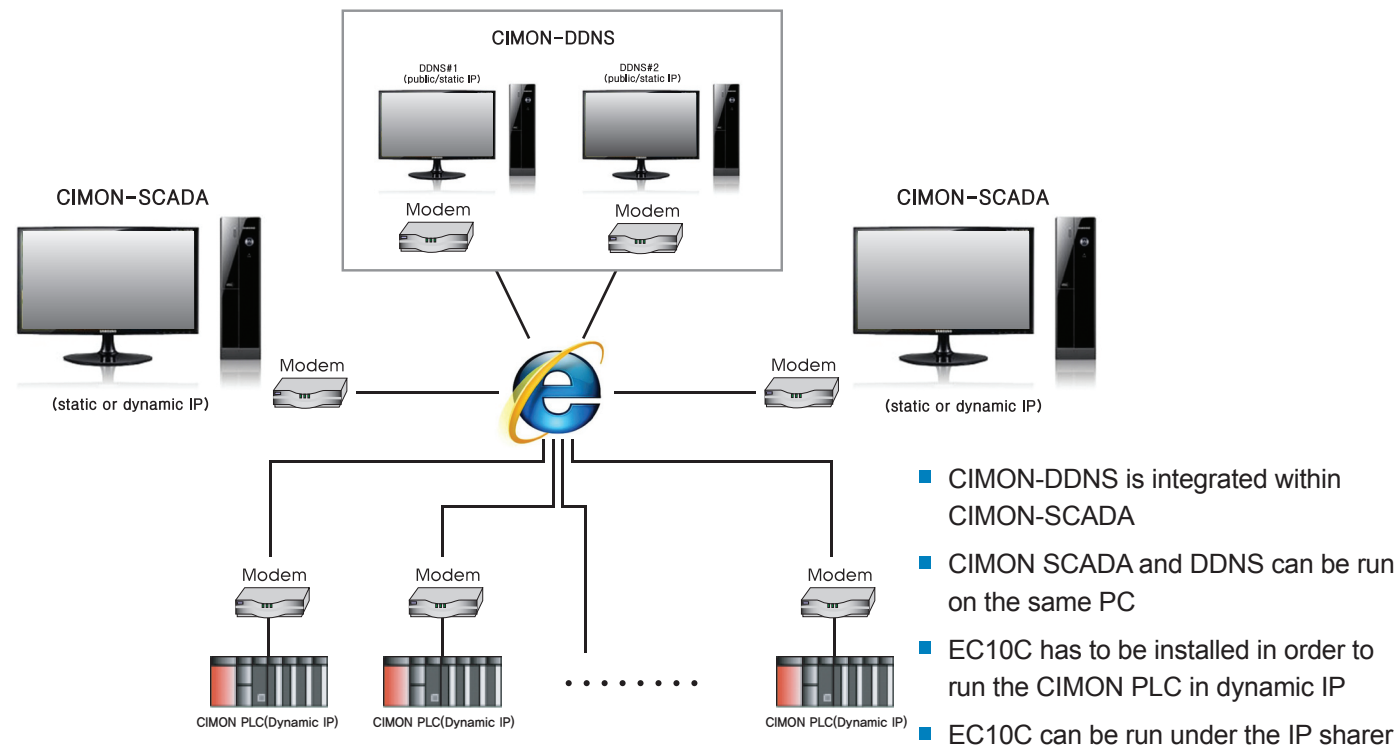


Model		CM1-EC01A	CM1-EC10A	CM1-EC10B	CM1-EC10C	CM1-EC01DNP/EC04DNP
Media interface		10BASE-T	10BASE-T 100BASE-TX	100BASE-FX	10BASE-T 100BASE-TX	10BASE-T
Transmission speed		10Mbps	10/100Mbps	100Mbps	10/100Mbps	10Mbps
Transmission Media		UTP/STP Category5	UTP/STP Category5 Auto MDIX	SC, Multi-Mode (1310mm)	UTP/STP Category5 Auto MDIX	UTP/STP Category5
Max. Distance (Node to Node)		100m		2Km	100m	
Service Capacity		UDP 9 Services TCP 9 Services	UDP 16 Services TCP 16 Services			EC01DNP : Single Host EC04DNP : 4 Hosts
S E R V I C E	Loader	Yes(UDP)				
	HMI Protocol	Yes(TCP,UDP)				No
	MODBUS/TCP SL.	Yes				
	MODBUS/TCP MS.	No	Yes	Yes	No	
	PLC Link(Private Net)	Yes	No	No	No	
	PLC Link (Public Net)	Yes	Yes	Yes	No	
	High-Speed Link	No	Yes	Yes	No	
	DHCP	No	No	No	Yes	No
	DNP3	No	No	No	No	Yes

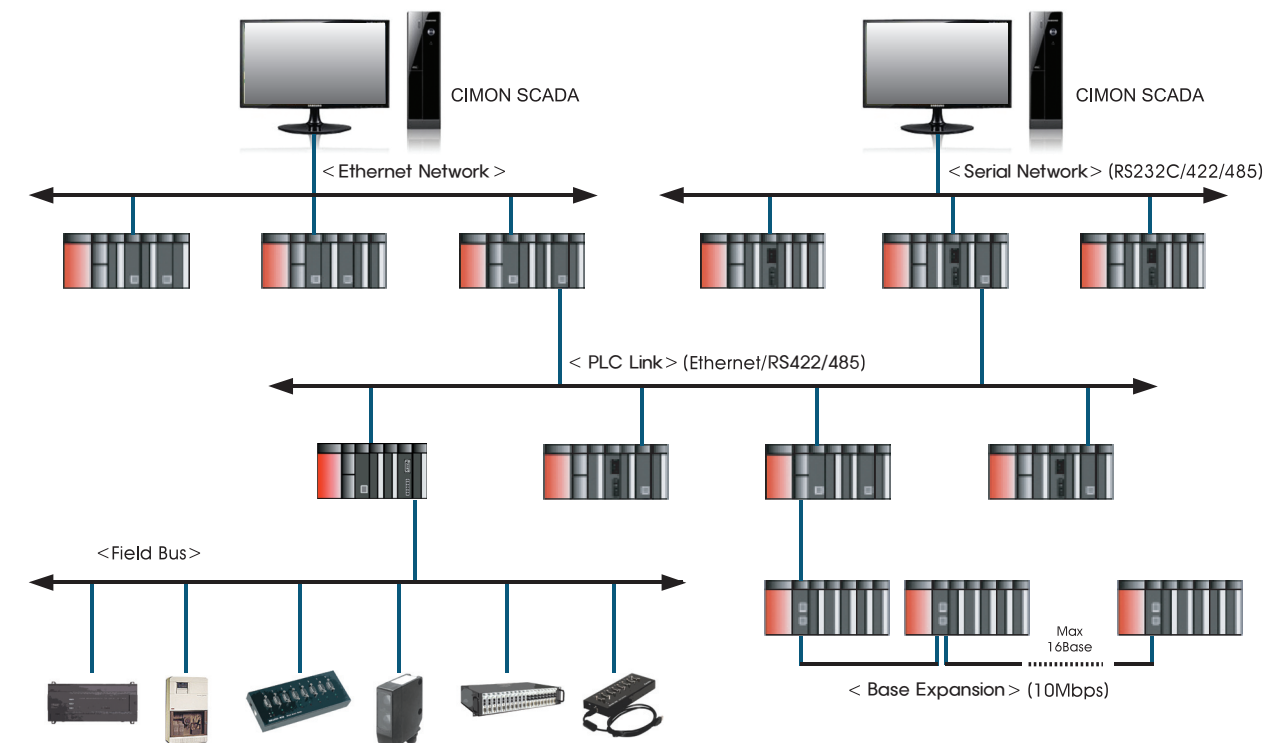
System Configuration



CIMON - Dynamic IP SYSTEM



CIMON Total Network



Serial Module



- Possible to read and write Data by HMI protocol
- Maximum 32 unit communications available for multi-drop configuration
- Long distance communication via modem connection
- Various communication speeds (300bps~76800bps)
- Various diagnostic functions with Loop-Back feature makes for an easy error check
- RS232C / RS422(RS485) communication port by setting up independent channel or linked channel
- 1:1 / 1:N / N:M communication (RS422 only)
- Full-Duplex (RS422) and Half-Duplex (RS485)
- RS485 Multi-Drop communication is available by using parameters
- Various diagnostic function and loop-back function make easy error check
- DNP 3.0 protocol (CM1-SC01DNP)
- Simultaneously link high-speed communication between CIMON PLCs and up to 32 stations

Model		CM1-SC02A	CM1-SC01A	CM1-SC01B	CM1-SC01DNP
Interface		RS232C / RS422 / RS485	RS232C	RS422 / RS485	RS232C
Comm. Mode	HMI Mode	CIMON Protocol (1 : n)			-
	Loader Mode	CICON Communication			-
	MODBUS	MODBUS RTU Mode (Master / Slave)			-
	PLC LINK	Communication between CIMON PLC's			-
	DNP	-			DNP 3.0 Protocol
	User defined mode	Protocol Program			-
Data Type	Data Bit	7 or 8 bit			-
	Stop Bit	1 or 2 bit			-
	Parity	Even / Odd / None			-
Synchronization		Asynchronous			
Transmission Speed		300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 76800			
Modem		Long Distance Communication by External Modem			

CDMA Module

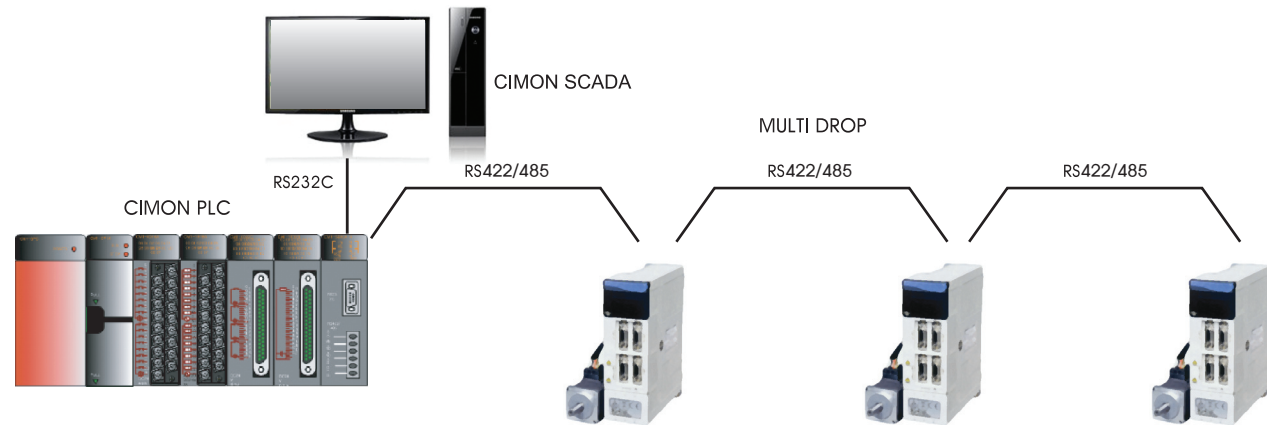


- CDMA Packet / Circuit communication
- Flexible choices for communication
- Easy parameter setup
- Communication connection management by user program
- Possible to read and write data by HMI protocol
- Maximum 32 communication
- Flexible communication speed set-up (300~76800bps)
- 1:1 / 1:N / N:M communication (with RS422 channel)
- Various diagnostic functions with Loop-Back feature make for an easy error check

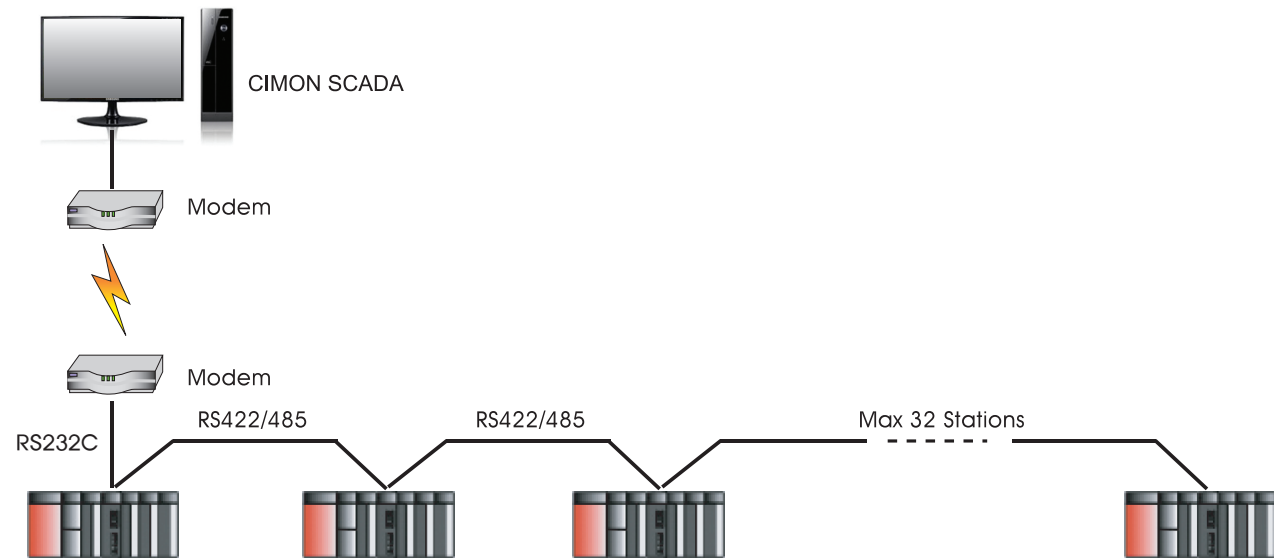
Item		CM1-SC02CDMA
Interface		RS232C / RS422 / RS485
Comm Mode	HMI Mode	CIMON Protocol (1 : n)
	Loader Mode	CICON Communication
	Modbus	MODBUS RTU Mode (Slave and Master)
	User defined mode	Communication between Different Kinds of Systems
Data Type	Data Bit	7 or 8 bit
	Stop Bit	1 or 2 bit
	Parity	Even / Odd / None
Synchronization		Asynchronous
Transmission Speed		300 ~ 76800 bps

» System Configuration

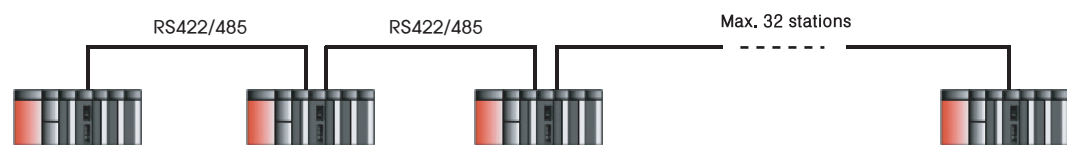
- Connecting the Application by protocol programs



- RS232C/422/485 SCADA Link (Using Modem)



- PLC Link : RS422/485



CIMON-NET Module

» About CIMON-NET

- CIMON-NET exchanges real time data with Remote I/O through the CANbus hardware which provides exceptional reliability.



» Advantages of CIMON-NET

- User can enjoy a simple installation of CIMON-NET system configuration with easy maintenance
- Provides flexibility during processing by elevating the main functions which reduces malfunctions, increase accurate data with reliable digital transmitting technology
- Reduces installation cost of I/O hardware by using one twisted pair cable which reduces the number of I/O cards required

» Features of CIMON-NET

- Maximum 63 slave stations available
- Maximum 1,400 bytes for each I/O data
- I/O Comm. Block: Maximum 16 modules
- Flexible communication speed set-up (10K,20K,50K,100K,125K,150K,500K,1000Kbps)
- Auto Scan: easy to find slave modules
- Built-in indicator LED to easily monitor network conditions
- Scan program: conveniently diagnose, monitor network condition and control communication flow (Start / Stop)
- Communication configuring software is integrated with CICON

» CIMON-NET Specification

Model	Item	CM1-CN01M	CM1-CN01S
Network Type		CIMON-NET	
Interface		CANbus	
Standard		ISO11898	
Comm. Method		Bus	
Media Access		POLL	
Transmission Distance & Speed	BUS Length (m)	Cross Section (mm ²)	Bit Rate (kbps/s)
	0 ~ 40	0.25 ~ 0.34	1000 kbps / 40m
	40 ~ 300	0.34 ~ 0.6	500 kbps / 200m
	300 ~ 600	0.5 ~ 0.6	100 kbps / 500m
	600 ~ 1000	0.75 ~ 0.8	10 kbps / 1km
Max. Number of Slave per Segment		63 stations	
Cable		Twisted Pair Electric Cable	
Max. I/O data		2800 byte	512 byte
Parameter Set-up		Graphical Loader Program Only for CIMON	

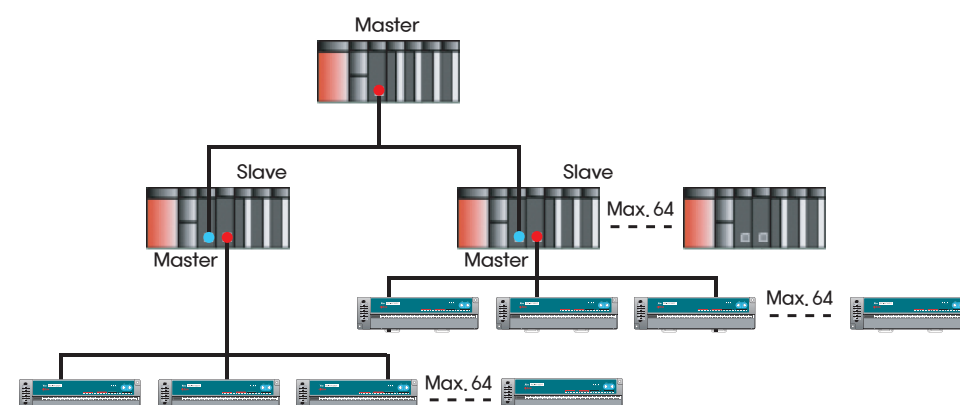
» Cable Specification

Model	cable 1	cable 2
Impedance	108 ~ 132 Ω (f=3 to 20MHz)	68 ~ 102 Ω (f=800KHz)
Electrostatic capacity	< 30 nF/Km ²	< 70 nF/Km ²
Conductor cross section	≥ 0.34 mm ² (22AWG)	≥ 0.34 mm ² (22AWG)

» Transmission Distance per Speed

Baud (kbps)	10	100	250	500	1000
Cable 1	1000	500	400	200	50
Cable 2	700	350	250	100	40

» System Configuration



PROFIBUS Module

>> About Profibus

Profibus is an open-type fieldbus which is used universally for automation and enables seamless communication between different manufacturer's devices. As technology advances, Profibus is the industrial communication system that will be ready for the future.



Advantages of Profibus

- Minimal hardware structure is required (I/O, terminal blocks, barriers).
Easy and fast installation reduces cost
- Simple structure (device is constructed as one tool) with easy repairing and maintenance
- Provides maximum flexibility for work progress by powering up the main functions which reduces malfunctions while increasing accurate data log with reliable digital transmitting technology
- Further cost saving by using a twisted pair cable which minimizes the amount of analog I/O card required

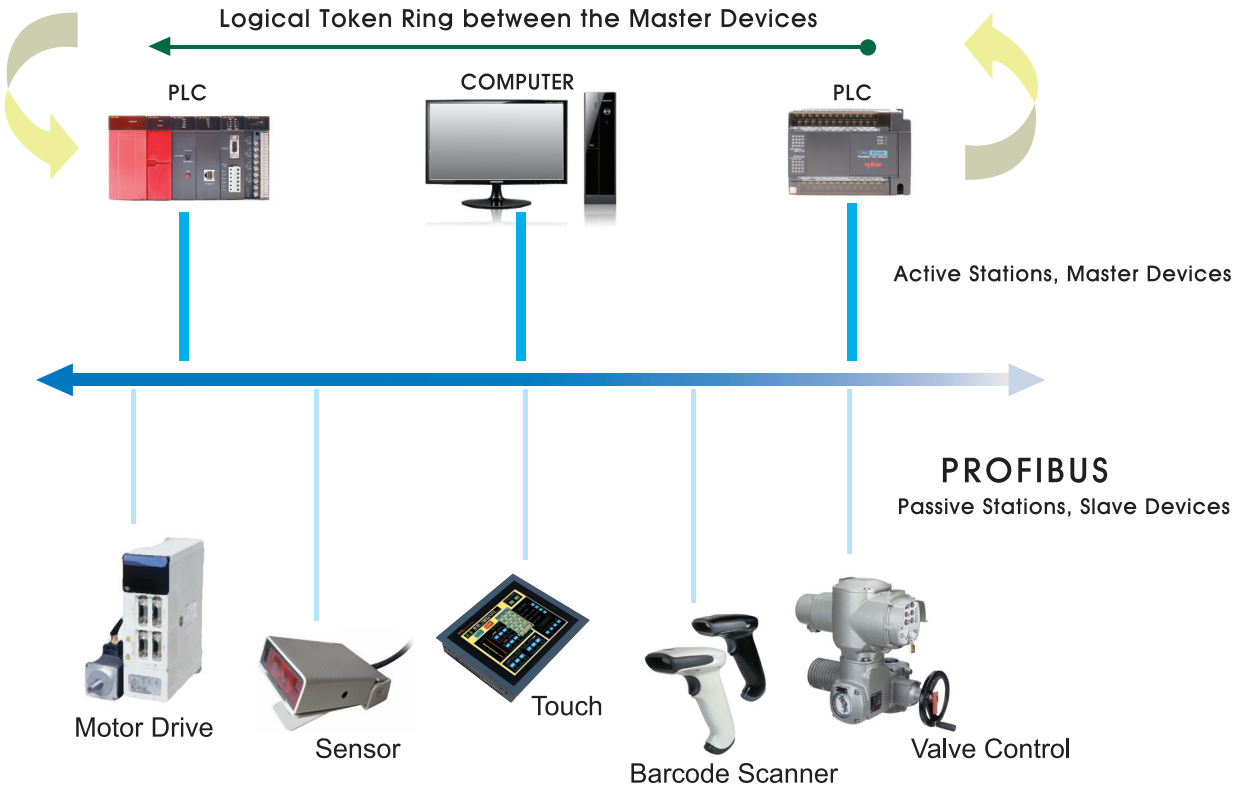
» Features of Profibus DP Module

- Suitable to communicate between master automation device and the slave I/O device
- Flexible communication speed (9.6Kbps~12Mbps)
- RS485 interface
- Easy installation by using the twisted pair cable
- Maximum 127 slave stations available (32 stations per segment)
- Network setup via Sycon-PB configuration tool
- 1 Kbyte transferred in 2ms
- Data transferred with an order or without an order
- Single or multi-master network function

Model	CM1-PD01A
Interface	RS-485
Network	Profibus DP
Media Access	Token Passing & Polling
Cable	Two Wire Shielded Twisted Pair Cable
Max. No. of Slave per Network / Network	127 stations
Max. No. of Slave per Segment/ Network	32 stations
Max. I/O Data Slave	244 byte
Max. I/O Data	I/O 3,584 each
Configuration Tool	Sycon-PB
Configuration Port	RS-232C
Comm. Parameter Setting	High-speed Linked Parameter Communication Setting

Transmission	9.6K(bps)	19.2K	93.75K	187.5K	500K	1,500K	12,000K
Distance	1200m	1200m	1200m	1000m	400m	200m	100m

System Configuration



BACnet Module



About BACnet

- BACnet stands for Building Automation and Control Network.
- BACnet is applicable to various building utilities such as HVAC control system, lighting control system, security system, elevator control system etc.

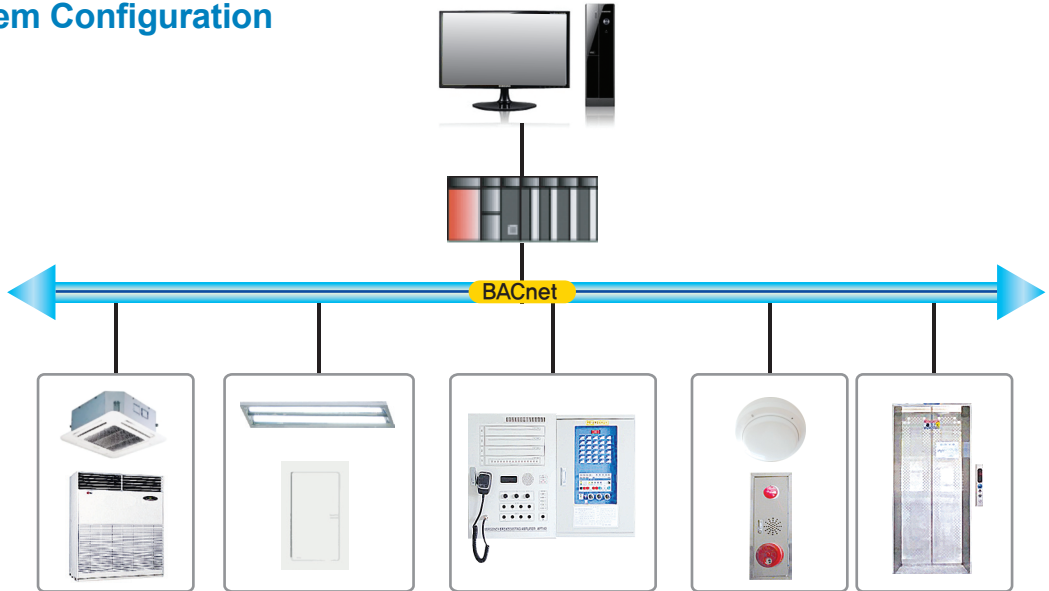


Features of BACnet Module

- Easy to modify and expand due to use of standard protocol
- Supports BACnet which is the standard of building automation system
- Supports functionality of BACnet class 3 servers
- Uses Ethernet for communication physical layer (BACnet IP)

Model	CM1-BN01A
Size of Protocol	ANSI / ASHRAE 135-1995 (KS X 6909)
Stack of Protocol	UDP / IP
Standard of Physical Layer	ISO / IEC8802-3 (IEEE 802.3, CSMA / CD, 10Base-T)
Speed of Data Transmitting	10 Mbps
Transmitting Method	Base Band
Max. Length of Segment	100 m
Max. I/O Data Slave	244 byte
Support Service	Loader, BACnet / IP, PLC Link (public Net)

System Configuration



Digital I/O Module

- Photo-coupler insulation and relay insulation
- LED display to monitor running conditions
- Terminal block type: Easy maintenance and installation



» DC Input Module

Model		DC Input					
		CM1-XD16A	CM1-XD32C	CM1-XD64C	CM1-XD16B	CM1-XD32B	CM1-XD16W
Input Points		16 points	32 points	64 points	16 points	32 points	16 points
Rated Input Voltage		DC 24 V					DC 100 V
Rated Input Current		4 mA					
On Voltage / On Current		DC 19 V / 4 mA			DC 15 V / 4 mA		60 V / 4 mA
Off Voltage / Off Current		DC 11 V / 1 mA			DC 12 V / 1 mA		40 V / 1 mA
Response Time	Off -> On	5 ms or less					
	On -> Off	5 ms or less					
Common Type		8 points / 1com		32 points / com	8 points / com		
Operation Indication		LED will be ON when the Input is ON					
Insulation Type		Photo Coupler Insulation					
Input Type		Sink / Source					

» I/O Mixed Module



Model	I/O Mixed	
	CM1-XY16DR	
No. of I/O points	8 points	8 points
	SINK / SRC	Relay
Rated I/O Voltage	DC 24 V	DC 12 / 24 V
	N/A	AC 220 V
Rated I/O Current	4 mA	2 A
On Voltage / On Current	DC 19 V / 4 mA	-
Off Voltage / Off Current	DC 11 V / 1 mA	-
Response Time	Off -> On	5 ms or less
	On -> Off	5 ms or less
Common Type	8 points	8 points
Operation Indication	LED will be ON when the Input is ON	
Insulation Type	Photo Coupler Insulation	Relay Insulation

» Relay Output Module



Model	Relay Output	
	CM1-YR16A	CM1-YR32A
No. of Output Points	16 points	32 points
Rated Load Voltage	DC 12 / 24 V	
	AC 220 V	
Rated Load Current	1 Point	2 A
	1 Com	5 A
Response Time	Off -> On	10 ms or less
	On -> Off	5 ms or less
Common Type	8 points	
Operation Indication	LED will be ON when the Input is ON	
Insulation Type	Relay Insulation	

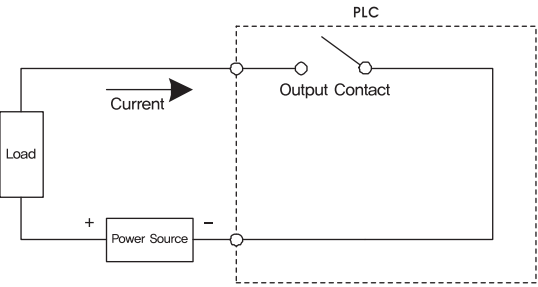
※ If this module is used as an inductive load switch, it will shorten the life of the module. please use transistor output module for this purpose

Transistor Output Module



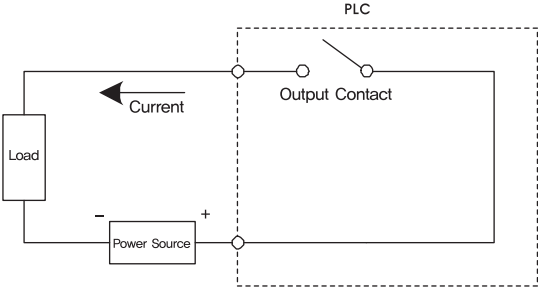
Model		Transistor Output				
		CM1-YT16A	CM1 - YT16B	CM1 - YT32A	CM1 - YT32B	CM1-YT64A
No. of Output Points		16 points Sink	16 points Source	32 points Sink	32 points source	64 points Sink
Rated Load Voltage		DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V
Rated Load Current	1 Points	0.5 A	0.5 A	0.2 A	0.2 A	0.2 A
	1 Com	4 A	4 A	4 A	4 A	4 A
Response Time	Off -> On	1 ms or less	1 ms or less	1 ms or less	1 ms or less	1 ms or less
	On -> Off	1 ms or less	1 ms or less	1 ms or less	1 ms or less	1 ms or less
Common Type		16 points	16 points	32 points	32 points	32 points
Operation Indication		LED will be ON when the Input is ON				
Insulation Type		Photo Coupler Insulation				

Sink Type



※ CM1-YT16A, CM1-YT32A, CM1-YT64A are Sink Type

Source Type



※ CM1-YT16B, CM1-YT32B are Source Type

AD Module

A/D Converter Module



- 4, 8, or 16 channels of A/D conversion with one module
- Voltage or current input can be selected from each channel (CM1-AD04VI only)
- High resolution of 1/64000 (CM1-AD04W only) and 1/16000

Model		AD16bit / Voltage-Current Input		AD14bit / Voltage-Current Input		AD14bit / Voltage Input		AD14bit / Current Input	
		CM1-AD04W		CM1-AD04VI		CM1-AD08V	CM1-AD16V	CM1-AD08I	CM1-AD16I
Analog Input point		4 channels				8 channels	16 channels	8 channels	16 channels
Rated Load Current		Voltage	0 ~ 5 V		0 ~ 5 V 1 ~ 5 V 0 ~ 10 V -10 ~ +10 V		0 ~ 20 mA 4 ~ 20 mA		
			1 ~ 5 V						
			0 ~ 10 V						
		Current	-10 ~ +10 V		0 ~ 10 V				
Current	0 ~ 20 mA		-10 ~ +10 V						
	4 ~ 20 mA								
Digital Output		16 bit Binary Value (-32000 ~ 32000 or 0 ~ 64000), Measured Value, Percentage Value (0 ~ 10000)		14 bit Binary Value (0~16000 or -8000~8000)					
Max. Resolu tion	0 ~ 5 V	78.1 μV		0.3125 mV					
	1~5V	62.5 μV		0.25 mV					
	0~10V	156.3 μV		0.625 mV					
	-10~+10V	312.5 μV		1.25 mV					
	0~20mA	312.5 nA		1.25 μA					
	4~20mA	250 nA		1.0n μA					
Accuracy		2.1 ms / 4 ch		±0.1 %					
Max. Conversion Rate		±0.05 % or less (25℃)		5 ms / 1 ch					
Absolute Max. Input	Voltage	±12 V							
	Current	±21 mA							
Insulation Type		Photo Coupler Insulation between an Input Port and PLC.							
		Insulation between Photo Coupler and Channel		Non-Insulation between Channels					

DA Module



- D/A converting module is used to convert a digital value to an analog signal
- D/A converting of 4 to 16 channels is possible with one module
- No quantity restrictions within a base

Model	DA14bit / Voltage Output			DA14bit / Voltage Output		
	CM1-DA04V	CM1-DA08V	CM1-DA16V	CM1-DA04VA	CM1-DA08VA	CM1-DA16VA
No. of Input Channel	4 channels	8 channels	16 channels	4 channels	8 channels	16 channels
Digital Input	14 bit Binary Value (0~16000 or -8000~8000)					
Analog Output	-10 ~ 10 V			0 ~ 10 V		
Max. Resolution	1.25 mV			0.625 mV		
Accuracy	Within ±0.1 %					
Max. Conversion Rate	10 ms	16 ms	28 ms	10 ms	16 ms	28 ms
Absolute Max. Output	±12 V			-0.5 ~ 10.5 V		
Insulation Type	Insulation between Photo Coupler and Channel , Non-Insulation between Channels					

Model	DA14Bit / Current Output		
	CM1-DA04I	CM1-DA08I	CM1-DA16I
No. of Input Channel	4 channels	8 channels	16 channels
Digital Input	14 bit Binary Value (0~16000 or -8000~8000)		
Analog Output	4 ~ 20 mA		
Max. Resolution	1.0 μA		
Accuracy	Within ±0.1 %		
Max. Conversion Rate	10 ms	16 ms	28 ms
Absolute Max. Output	+21 mA		
Insulation Type	Insulation between Photo Coupler and Channel, Non-Insulation between Channels		



RTD Module



- By using a platinum-coated thermometer Pt100, JPt100 or Pt1000, Ni1000, it can convert the inputted temperature data to process as a digital value.
- It can process inputted temperature data to digital value down to the first decimal place
- One module can connect with Pt100, JPt100 or Pt1000, Ni1000 with 4 point and 8 point to use respectively
- Can detect a wire disconnection from each channel and detect the excess range of input temperature

Model	CM1-RD04A	CM1-RD08A	CM1-RD04B	CM1-RD08B
RTD Type	Pt100 (JIS C1640-1989, DIN 43760-1980)		Pt1000 (DIN EN 60751)	
	JPt100 (KS C1603-1991, JIS C1604-1981)		Ni1000 (DIN 43760) Ni1000 (TCR 5000)	
Range of Input Temperatures	Pt100 : -200.0 ℃ to 600 ℃ (18.48 to 313.59 Ohm)		Pt1000 : -200.0 ℃ to 600 ℃ (18.43 to 313.59 Ω) Ni1000(DIN 43760) : -50 ℃ to 160 ℃ (742.6 to 1986.3 Ω)	
	JPt100 : -200.0 ℃ to 600 ℃ (17.14 to 317.28 Ohm)		Ni1000(TCR 5000) : -50 ℃ to 160 ℃ (790.9 to 1799.3 Ω)	
Digital Output	Digital Converted Value : 0 ~ 16,000 Detected Temperature Value (first decimal point value X 10)			
Breakdown Detection	3 wires for Each Channels			
Accuracy	±0.1 % [full scale]			
Max. Conversion Rate	400 ms / 1 channel			
No. of input Channels	4 channels	8 channels	4 channels	8 channels
Insulation Type	Insulation between Input Port and PLC, No Insulation between Channels			
Connection Terminal	18 points Terminal			

TC Module



- Convert the temperature data (°C, °F) to a digital value for processing by directly connecting to various temperature sensors
- Inputted data can be processed to the first decimal point as a digital value
- One module can connect with 4 points of temperature sensors
- Can detect if the temperature exceeds the measuring range and adjust automatically
- Automatic compensation for error caused by the temperature sensor

Model		CM1-TC04A			
Available TC		Type K, J, E, T, B, R, S, N			
Range of Input Temperature	Type of TC	Standard	Range of measured temperature(℃)	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 ~ 21006	
	N		-200.0 ~ 1250.0	-3990 ~ 43846	
Digital Output		Digitally Converted Value : 0 ~ 16,000 (-8000 ~ 8000) Converted Temperature Value : ℃, °F (0.1℃ Resolution)			
Compensation Type		Automatic Compensation			
Breakdown Detection		Detection by Channels			
Accuracy		±0.3 % (full scale), ±1 ℃ (error for base contact compensation)			
Max. Conversion Rate		50 ms / 1 channels			
No. of Input Channel		4 channels / module			
Connection Terminal		18 point Terminal			
Internal Current Consumption (mA)	+5 V	60 mA			
	+15 V	30 mA			
	-15 V	10 mA			

Thermistor Module



- Maximum of 8 channels NTC (Negative Temperature Coefficient) measuring thermistor with one module
- Temperature data (°C) is accurately measured down to the first decimal place
- Can detect disconnection with each channel and also adjust if the temperature exceeds the measuring range
- If using the thermistor temperature-resistance table, the module is able to input desired minimum, medium, maximum temperature point (°C) and resistance (Ω) to measure.

Model	CM1-TH08A
Range of Thermistor Input	NTC Type
Range of Thermistor Input Resistance	0 ~ 1MΩ
Resolving Power of Thermistor Input Resistance	0 Ω ~ 40 kΩ : 1 Ω
	40 kΩ ~ 400 kΩ : 10 Ω
	400 kΩ ~ 1 MΩ : 30 Ω
Cover Range	Temperature Convert Value : °C, °F (0.1°C Resolution)
	Digital Value : 0 ~ 16000, -8000 ~ 8000
Resistance - Temperature Calculation	Steinhart-Hart Thermistor Polynomial
Accuracy	±0.3 % (full scale)
Max. Conversion Rate	1 sec (8 channel)
Temperature Input Point	8 points
Insulation Method	CPU and Analog Arithmetic Operation Photo Coupler Insulation
Connection Terminal	18 points Terminal

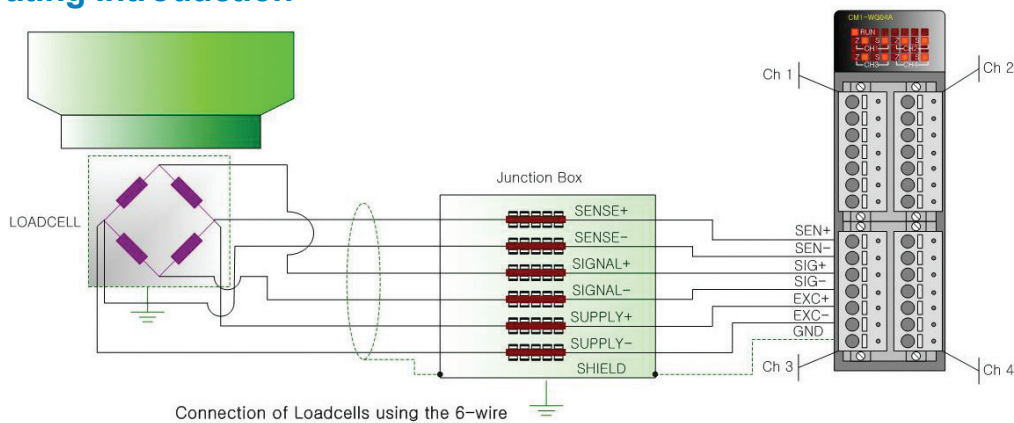
Load Cell Module



- 2 or 4 channels per module
- The unit is compatible with various applicable fields such as Unload Scale, Bin Scale, Mixing Scale, Filling Scale (packaging) etc
- 24 bit sigma delta AD conversion provides high resolution digital values
- Supports built-in programs such as input and discharge measurements
- WG02C model can be in dynamic measurements by getting external 24V DI input.

Model	CM1-WG04A	CM1-WG02C	CM1-WG02D	CM1-WG02E
Channel	4 channels	2 channels	2 channels	2 channels
Load Cell	Strain Gage Method			
Insulation Type	Photo-Coupler			
External Power	DC24V			
Load Cell Approval Voltage	Maximum 350 Ω Cell of 4 Parallel Connection is Possible per Channel			
A/D Conversion Method	Sigma Delta			
Max. Output of Load Cell	3.6 mV / V	2 mV / V	2 mV / V	2 mV / V
Max. Resolving Power	1 / 10,000	1 / 40,000	1 / 40,000	1 / 40,000
A/D Conversion Speed (each channel)	10 times / sec	1,000 times / sec (standard form)	1,000 times / sec (dynamic measurement form)	1,000 times / sec (wide range)

Operating Introduction



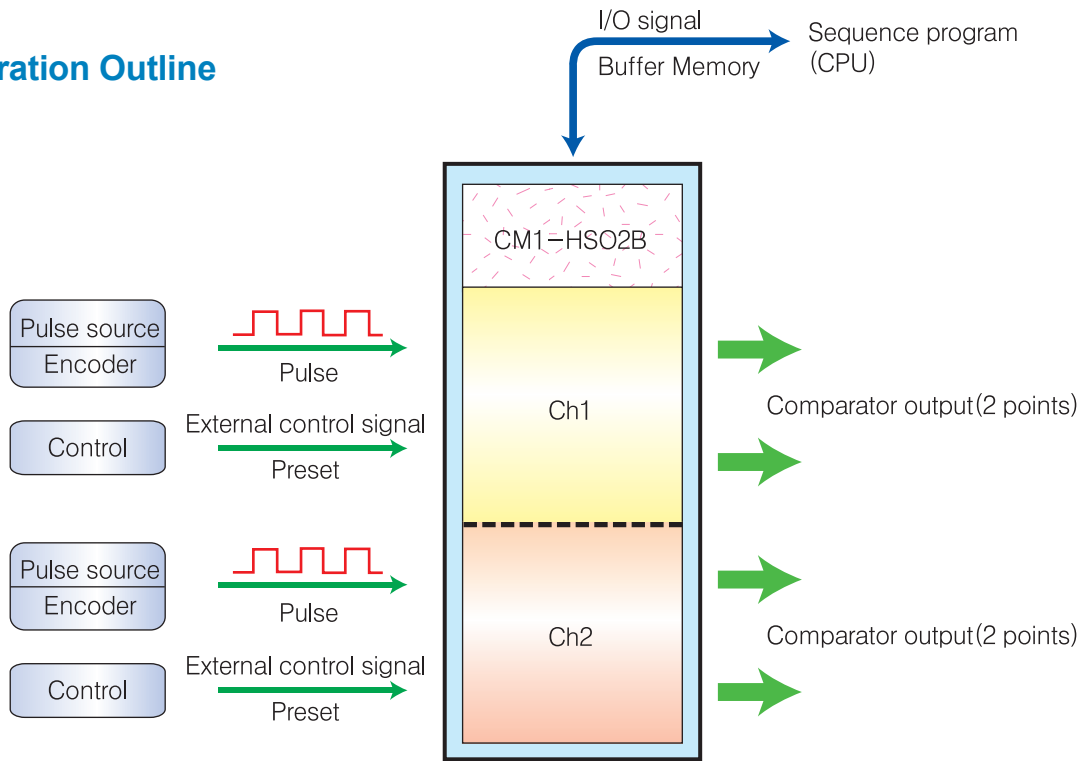
High-Speed Counter Module

- 1-Phase input: Up / Down count by a program or B-phase
- 2-Phase input: Up / Down count by Phase difference
- Adding and subtracting functions for 2-phase difference
- 1-multiple, 2-multiple, 4-multiple functions for 2-phase input
- Preset function by external input signal or a program
- Outputs comparison signal by comparing the base value and the current value through the built-in transistor
- Enables ring counting, sampling counting, periodic pulse counting and latch function



Model	CM1-HS02C	CM1-HS02E
Channel	2 channels	
Counting Input Signal	Signal	1 phase Input / 2 phase Input
	Level of Signal	DC 5 / 12 / 24V, 10 ~ 12mA
Range of Counting	32 bit (-2,147,483,648 ~ 2,147,483,647)	
Counting rate	300 kpps	
Form	UP / DOWN Linear Counting + Ring Counting	
External Output	Type	Comparison (> , = , <)
	Form of Signal	Open Collector Output

Operation Outline



Data Logger Module

- Large capacity with non-combustible log memory (32MB)
- Real time data sampling & saving
- Acquires the stored data anytime from SCADA when the communication status returns to normal
- Simultaneously samples data with a maximum of 32 word and a maximum period of 10ms
- Built in HMI protocol: no optional communication card needed
- Self-diagnostic function: communication error, memory error, capacity check, etc.
- Triggers logging by sequence program
- Provides event logging (COS, VOC)
- Includes special program for downloading the collected data



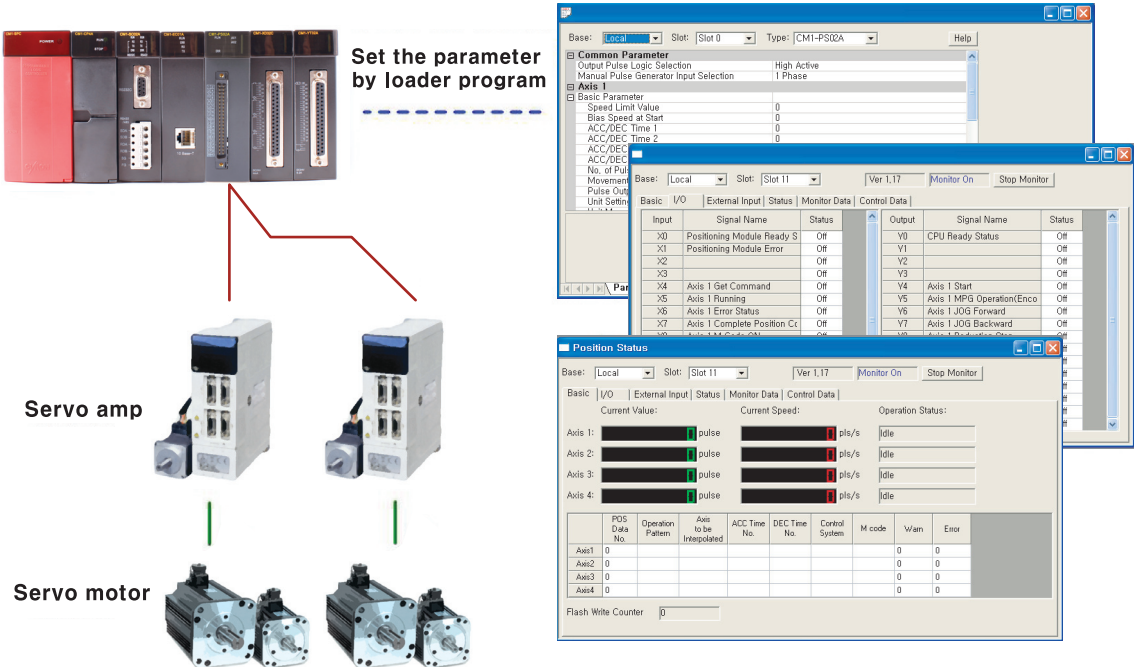
Model		CM1-LG32A
Comm. Mode	HMI Mode	CIMON SCADA Protocol (HMI protocol)
	Terminal Mode	Text Transmission
Data Type	Data Bit	7 / 8
	Stop Bit	1 / 2
	Parity	Even / Odd / None
Synchronous		Asynchronous
Transmission Speed		300 / 600 / 1200 / 4800 / 9600 / 19200 / 38400
Comm. Method		RS232C
Modem Connection		Cable Modem or Dial Up Modem
Log Memory Capacity		32 Mbytes
Sampling Interval		10 msec ~ 327,670 msec
Max. Logging Data Size		32 words
Log Data		Block Sampling or Event Data
Logging Method		Periodic, Trigger, Event (COS / VOC)
Built-in Function		Memory Condition Check, Communication Error Check, Memory Capacity Check

Positioning Module

- Enable to set a maximum of 600 positioning data
- Features position control and speed control
- Positioning control of one axis: linear interpolation, separate/synchronous operation
- Positioning control of two axes: speed control, arc/linear interpolation, separate/synchronous operation
- Origin point return method
 - Search origin point after near zero point is off
 - Search origin point after reducing speed when near zero point is on
 - Search origin point by detecting the origin point and upper/lower limit
- Enable to set an absolute origin point



» Operation Outline



Specifications

Model		CM1-PS02A
Number of Axis		2 axis
Interpolation		2-axis Linear Interpolation, 2-axis Circular Interpolation
Control Method		Position, Locus, Speed, Speed / Position, Position / Speed Control
Control Unit		pulse, mm, inch, degree
Positioning Data		600 ea / axis
Positioning Method		Absolute or Relative Method
Backup		Flash Rom Backup (parameter, positioning data, block data, condition data)
Positioning	Positioning Method	Position Control Absolute / Relative Coordinate Method
		Position / Speed Switching Control - Relative Coordinate Method
		Speed / Position Switching Control - Absolute / Relative Coordinate Method
		Locus Control - Absolute / Relative Coordinate Method
	Positioning Range	▪ Absolute Coordinate Method
		-214748364.8 ~ 214748364.7 μm
		-21474.83648 ~ 21474.83647 inch
		0 ~ 359.9999 degree
		-2147483648 ~ 2147483647 pulse
		▪ Relative Coordinate Method
		-214748364.8 ~ 214748364.7 μm
		-21474.83648 ~ 21474.83647 inch
		-21474.83648 ~ 21474.83647 degree
		-2147483648 ~ 2147483647 pulse
		▪ Speed / Position Switching Control (relative coordinate method), Position / Speed Switching Control
		0 ~ 214748364.7 μm
		0 ~ 21474.83647 inch
		0 ~ 21474.83647 degree
		0 ~ 2147483647 pulse
		▪ Speed / Position Switching Control (absolute coordinate method)
	0 ~ 359.9999 degree	
	Control Speed	0.01 ~ 20,000,000.00 (mm / min)
0.001 ~ 2,000,000.000 (inch / min)		
0.001 ~ 2,000,000.000 (degree / min)		
1 ~ 1,000,000 (pulse / sec)		
Acceleration/Deceleration Pattern	Trapezoidal / S-curve	
Acceleration/Deceleration Time	125 ~ 1x106 PPS/sec	
External Disconnection Method		40 pin Connector
Connector for External		40 pin Male
Max. Output Pulse		1 MPPS (line driver pulse output)
Max. Distance		10 m
Number of Flash Rom Saving		25 times After Power ON

Base

Base Model

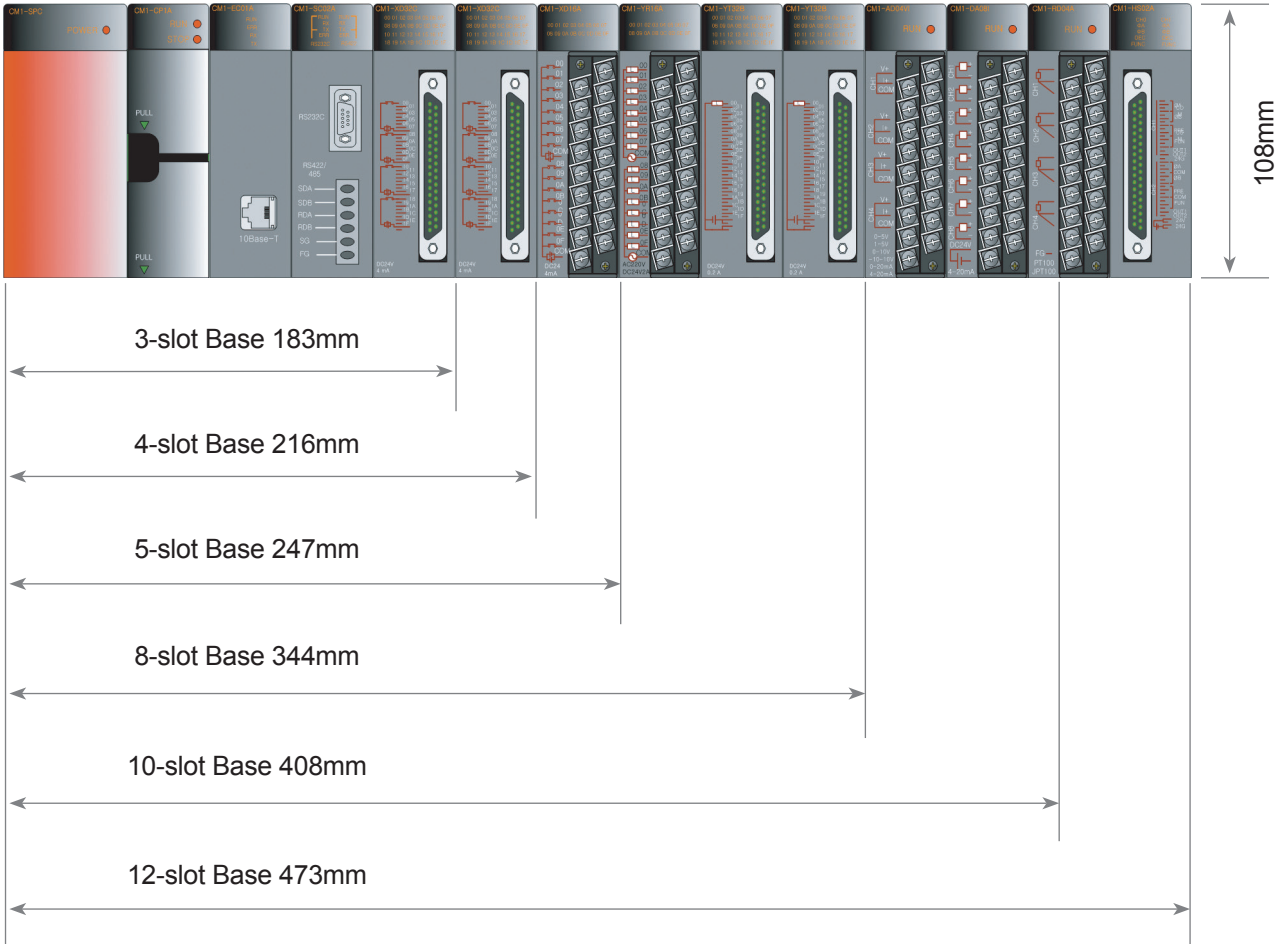
The CIMON PLC is made up of six kinds of slot bases such as 3/4/5/8/10/12 so that the suitable configuration is available according to the capacities

(Unit:mm)

Model name	Slot no. of IO	Size
CM1-BS03A	3 slot	183x108
CM1-BS04A	4 slot	216x108
CM1-BS05A	5 slot	247x108
CM1-BS08A	8 slot	344x108
CM1-BS10A	10 slot	408x108
CM1-BS12A	12 slot	473x108

Minimize the Mounting Space

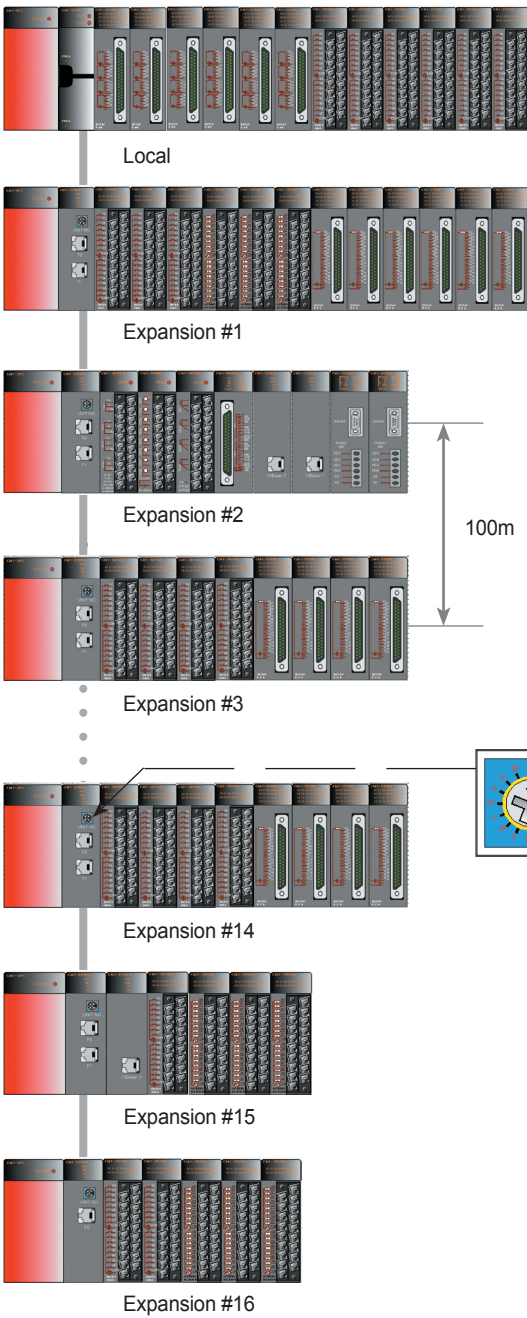
CIMON PLC minimalistic design efficiently uses space to maximize productivity





Expansion

- Maximum number of base expansion is 16



- High-speed expansion communication of 10BASE-T (10 Mbps)
- Maximum length between the segments is 100m
- Built-in network repeater
- Extension of remote I/O function setting available
- Maximum distance between the expanded segments is 100m
- Maximum total extension length is 1600m

- Expansion rank of each base can be differentiated by rotary switches



Main Block

- BP series are suitable for small scale control
- High speed process. Various commands can be applied to control site.
- Easy expansion of IO points for analog or comm.
- Network is available by using Ethernet
- Extra communication block is unnecessary (Ethernet and various options are built in)
- Extra module is unnecessary: power module, CPU, and I/O modules are integrated.
- High speed MPU is built in. Process speed is 200ns/step
- Contains 300 instructions (sequence : 62 instructions, application 289 instructions)



- Abundant program capacity - 8000 steps
- Device range:
 - internal relay: 4,096 points
 - data memory: 5,000 words
- Easy expansion
 - Max. 3 block expansion



- Abundant program capacity - 8,000 steps
- Device range
 - internal relay: 4,096 points
 - data memory: 5,000 words

Model		BP32A	BP32B	BP32M	BP16M
Power		AC 100 - 240 V / DC 24 V			
Digital Input		DC 24 V			
Digital Output		Relay / TR Sink / TR Source			
Expansion Option		DA / DA / AD+DA / TC / IO (Maximum 3 steps)			Not Expandable
Standard I/O	DI	8	8	16	8
	AI (Voltage / Current)	2	2		
	AO (Voltage / Current)	2	2	16	7
Program Control Type		Stored Program, Cyclic Operation, Time Driven Interrupt			
I/O Control Type		Indirect, Direct by Instructions			
Program language		IL (Instruction List), LD (Ladder Diagram)			
Instruction	Sequence	62 Instructions			
	Application	308 Instructions			
Processing Rate		200 ns / step			
Program Memory Capacity		8k step			

I/O Points

Model	X	Y	M	L	K	F	T	C	S	D	Z
BP32M	128	128	4,096	1,024	1,024	2,048	256	256	100*100	5,000	1,024
BP16M	8	7	4,096	1,024	1,024	2,048	256	256	100*100	5,000	1,024

Self-Diagnosis and Built-In Functions

Type		Function
Self-Diagnosis	Operation Delay Monitoring	Stops PLC Operation in case the Detected Time is Over the Set Time
	Error in Memory	Detected Errors in Flash Memory in a CPU or DRAM of Each Specialty Card
	Power Trouble	Detects Temporary Breakdown in case Input Voltage is Lower
Built-in Functions	High-Speed Counter	3 kpps
	PID Auto Tuning	Executes Automatic PID Operation (Max. 32 loops)
	Password	Programs Can be Protected
	DC 24 V Power Output	Allows Controlling Sensors, Switches, etc (300mA)

I/O Specifications

Model		DC Input	Relay Output	Transistor Output
Rated I/O Voltage		DC 24 V	AC 220 V / DC 24 V	DC 12 / 24 V
Rated I/O Current		4 mA	1 point 2 A / COM 5 A	1 point 0.5 A / COM 4 A
On Voltage / On Current		DC 19 V / 4 mA	-	-
Off Voltage / Off Current		DC 11 V / 1 mA	-	-
Response Time	Off -> On	5 ms or less	10 ms or less	1 ms or less
	On -> Off	5 ms or less	5 ms or less	1 ms or less
Common Type		4 points	4 points	8 points
Operation Indication		LED	LED	LED
Insulation Type		Photo Coupler	Relay	Photo Coupler
Input Type		Sink / Source	-	-
Circuit				

Analog Expansion Block Specifications

Item	Specification			
Power	DC 24 V External Input			
Type	A / D	D / A	RTD	TC
Digital Data	Signed 16 bit Binary Value (data : 14 bit)			
Accuracy	Within ±0.3 %			
Max. Conversion Speed	5 ms / 1 ch	15 ms / 4 ch	400 ms / 1 ch	400 ms / 1 ch
Absolute Max. I/O	±12V / +21mA			
Insulation Type	Photo Coupler Insulation between I/O Port and PLC			
Circuit				

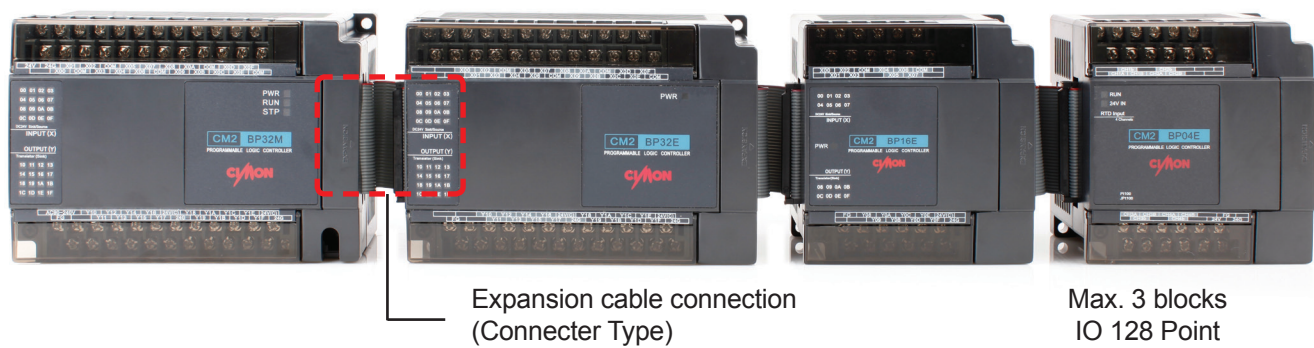
※ Maximum 2 analog blocks can be expanded

Built-In Communication Block Specifications

Item		RS232C	RS422/485	RS422/485 2CH	RS232C 1CH
Model		*R	*S	*U	*T
Power		Supplied from CPU Module			
Comm. mode	Exclusive	HMI Protocol (1: n support communication)			
	Loader	x	x	Loader Communication	
	User	x	x	Protocol Program	
	MODBUS	x	x	Master & Slave	Master & Slave
	PLC Link	x	x	Supported	Supported
Data Type	Data Bit	7 or 8 bit			
	Spot Bit	1 or 2 bit			
	Parity	Even / Odd / None			
Synchronous Type		Asynchronous			
Transmission Speed		300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 76800			
Modem Connection Function		Communication with an External Modem Unit			
Item		Ethernet			
Power		Supplied from CPU Module			
Standard		10BASE - T			
Transmission Speed		10 Mbps			
Max. Segment Length		100 m (node - hub)			
No. of Max. Nodes		Enables to Link with 4-Line Hub			
Max. Protocol Size		1500 byte			
Comm. Access Method		CSMA / CD			

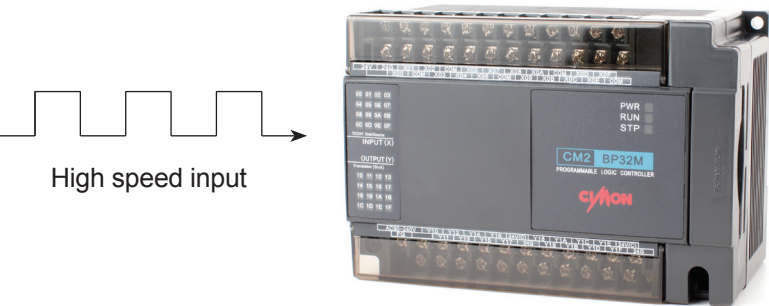
Main function

» Expansion



- There is no need for an external power supply since the power is supplied from a main block (except analog block)
- Up to 3 expansion blocks can be added (except BP16M series)
- Analog blocks can be expanded up to 2 modules

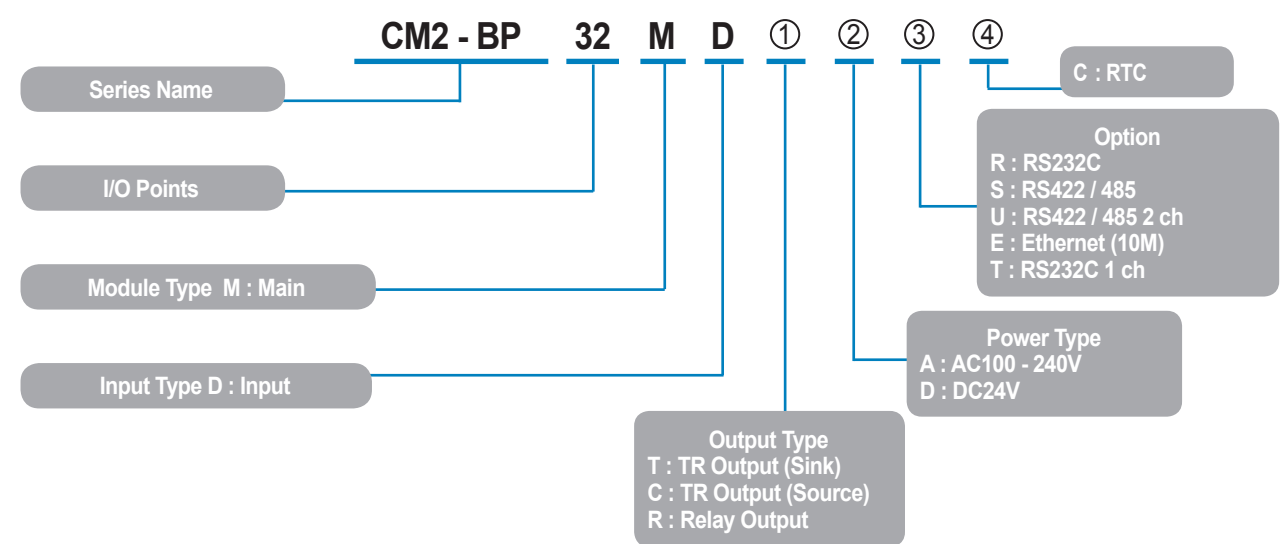
» Built-in High Speed Counter



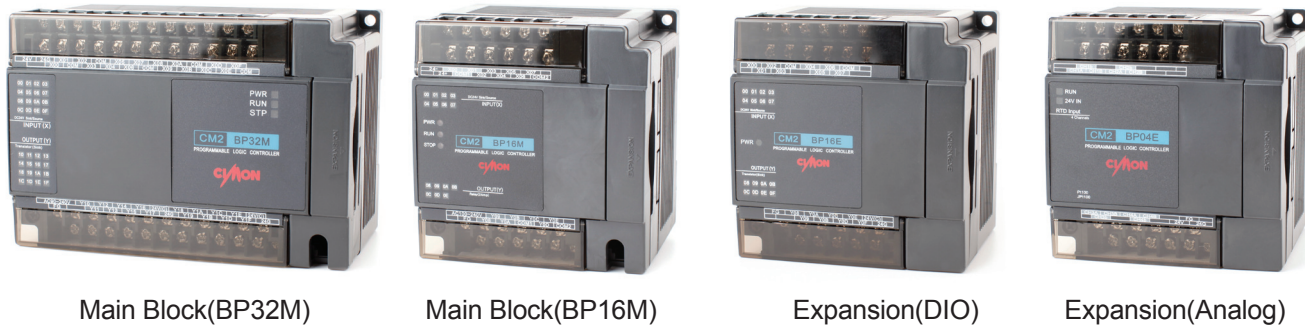
- 8 types of pulse input methods
- Linear, Ring Counter Mode
- Coincidence comparison function
- Up to 3 kpps

BP Series Product Lineup

» BP Series Model Name



Model	Power	Input		Output		Option
CM2-BP32MDTA*	AC 100 - 240 V	16	DC 24 V	16	TR (Sink)	*indication (option) R : RS232C S : RS422 / 485 E : Ethernet (10M) U : RS422 / 485 2Ch T : RS232C 1CH
CM2-BP32MDCA*					TR (Source)	
CM2-BP32MDRA*					Relay	
CM2-BP32MDTD*					TR (Sink)	
CM2-BP32MDCD*	DC 24 V	8	DC 24 V	7	TR (Source)	*indication (option) R : RS232C S : RS422 / 485
CM2-BP32MDRD*					Relay	
CM2-BP16MDTA*					TR (Sink)	
CM2-BP16MDCA*					TR (Source)	
CM2-BP16MDRA*	DC 24 V	8	DC 24 V	7	Relay	
CM2-BP16MDTD*					TR (Sink)	
CM2-BP16MDCD*					TR (Source)	
CM2-BP16MDRD*					Relay	



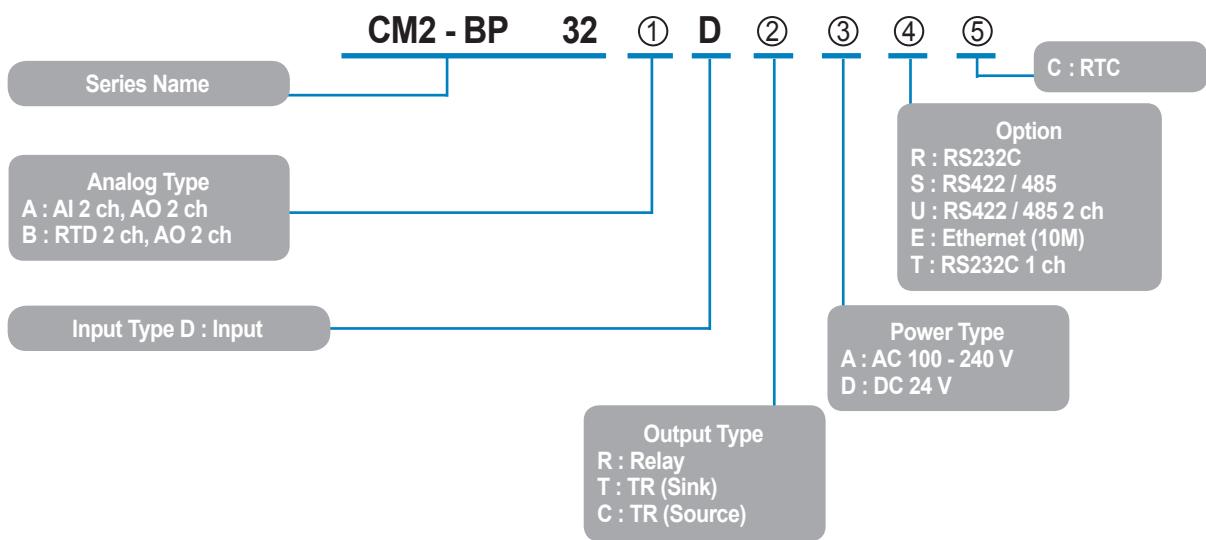
Main Block(BP32M)

Main Block(BP16M)

Expansion(DIO)

Expansion(Analog)

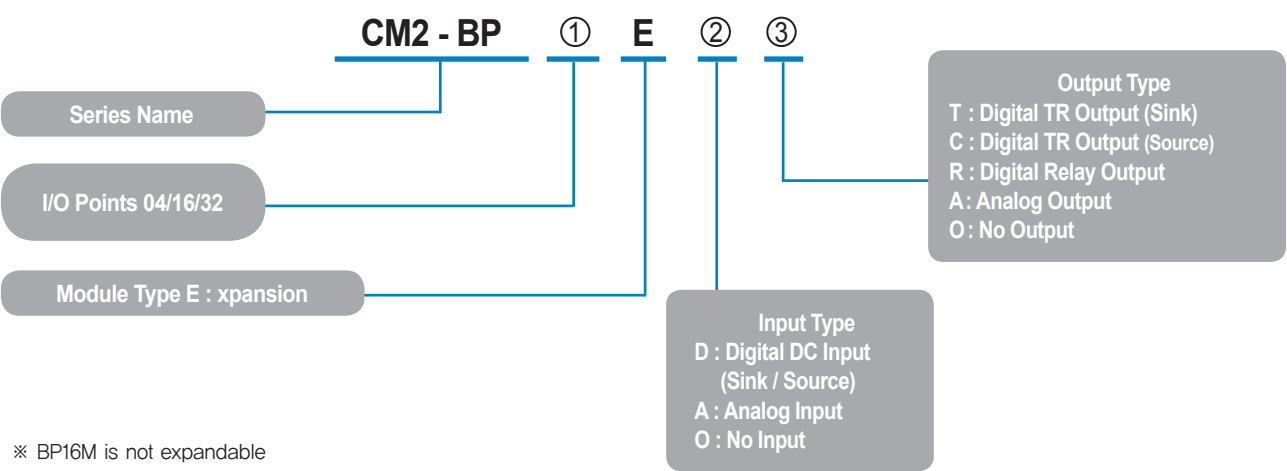
BP Series Mixed Product Line



Model	Power	Input (D1)		Output (D0)		Analog	Option
CM2-BP32ADRA*	Power AC100 - 240 V	8	DC 24 V	8	Relay	AI 2 ch (Voltage / Current)	*Indication (option) R : RS232C S : RS422 / 485 E : Ethernet U : RS422 / 485 2 ch T : RS232C 1 ch
CM2-BP32ADTA*					TR (Sink)		
CM2-BP32ADCA*					TR (Source)		
CM2-BP32ADDRD*	Power DC 24 V				Relay	AO 2 ch (Voltage / Current)	
CM2-BP32ADTD*					TR (Sink)		
CM2-BP32ADCD*					TR (Source)		
CM2-BP32BDRA*	Power AC 100 - 240 V				Relay	RTD 2 ch	
CM2-BP32BDTA*					TR (Sink)		
CM2-BP32BDCA*					TR (Source)		
CM2-BP32BDRD*	Power DC 24 V				Relay	AO 2 ch (Voltage / Current)	
CM2-BP32BDTD*					TR (Sink)		
CM2-BP32BDGD*					TR (Source)		

※ Built in 1ch RS485 (HMI Protocol)

BP Series Model Name (Expansion Block)



※ BP16M is not expandable

I/O Expansion Unit

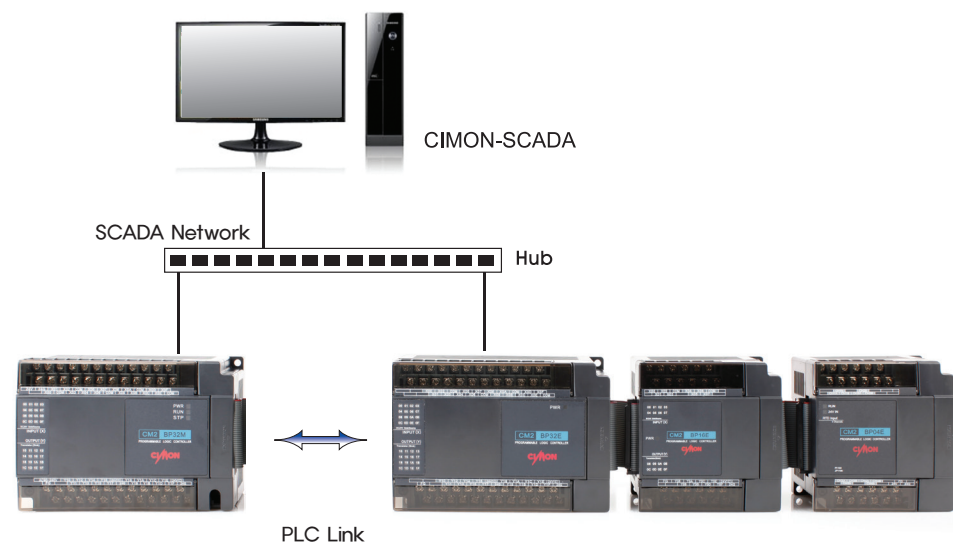
Model	Input		Output		Remarks	
CM2-BP16EDT	8	DC 24 V	8	TR (Sink)	Power Source : supplied from a main unit	
CM2-BP16EDC				TR (Source)		
CM2-BP16EDR				Relay		
CM2-BP32EDT	16		16	TR (Sink)		
CM2-BP32EDC				TR (Source)		
CM2-BP32EDR				Relay		
CM2-BP16EDO	16		0			
CM2-BP16EOR	0			16		Relay
CM2-BP16EOT						TR (Sink)
CM2-BP16EOC						TR (Source)

Analog Expansion Unit

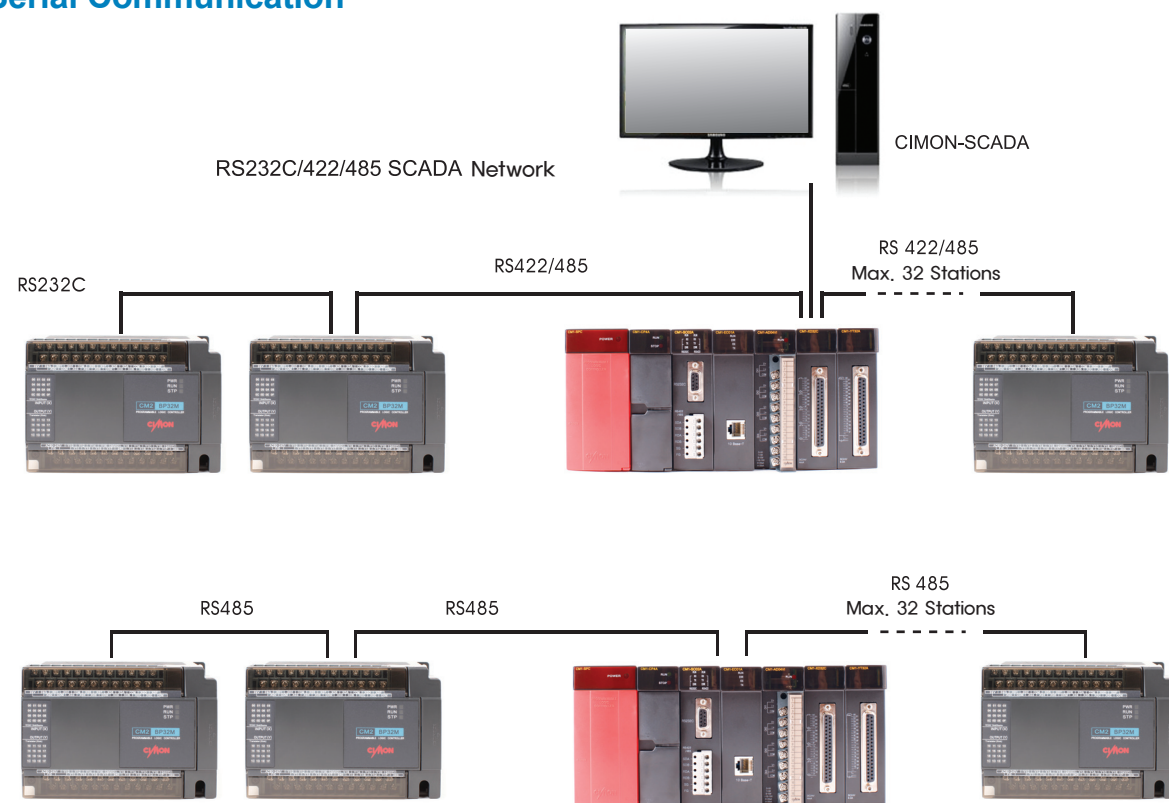
Model	Input		Output		Remarks
CM2-BP04EAO	4	AD Voltage / Current Input	0	DA Voltage / Current Output	Power Source : 24 V External
CM2-BP04EAA	2		2		
CM2-BP04EOA	0		4		
CM2-BP04ERO	4	RTD Input	0		
CM2-BP04ETO	4	TC Input	0		

System Configuration

» Ethernet



» Serial Communication





CPU Module

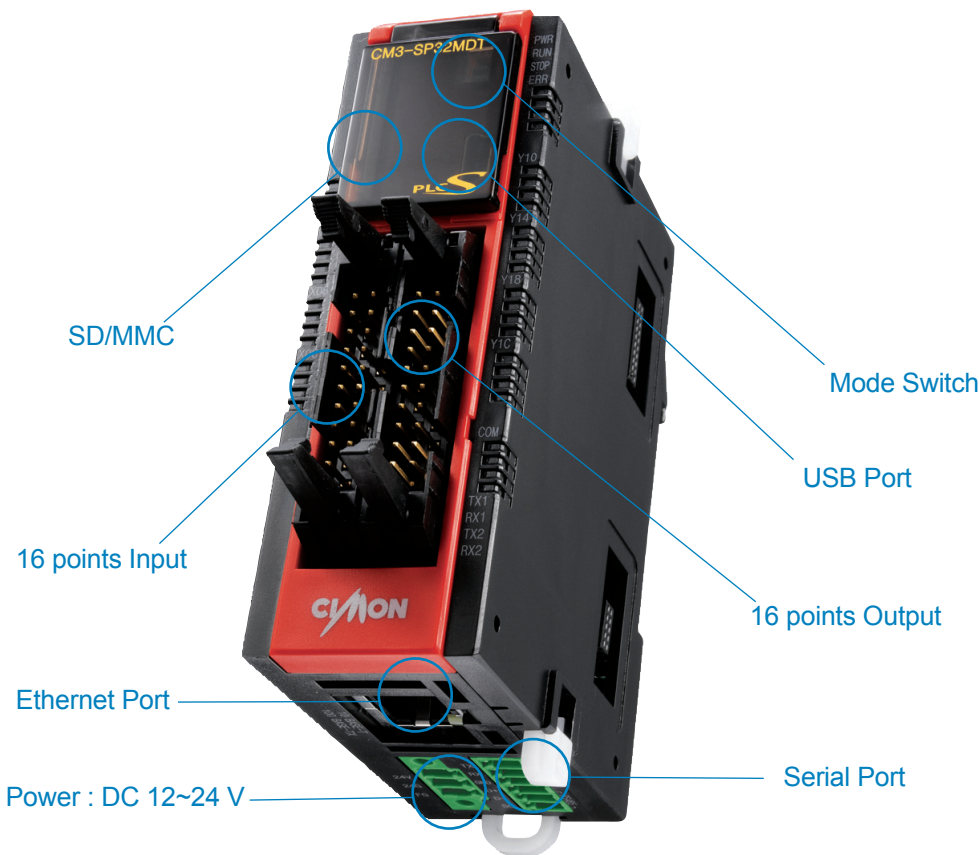
TR TYPE



RELAY TYPE



COMPACT BUT POWERFUL ALL-IN-ONE PLC



CPU Features

- TR Output(DC 24V) / Relay Output
- 200 nsec/step
- 32 pts. digital I/O (16 inputs and 16 outputs)
- Abundant memory of 10K Step
- Data memory 10,000 word
- Expansion: Max. 11 modules (max. 384 pts.)
- Compact size of 30X90X61mm / 120g
- 3 built-in Comm. Ports (RS232C, RS422/485, Ethernet)
- USB loader port and SD card slot
- Built-in 20Kpps High Speed Counter (2ch)
- Built-in 100Kpps 2 axis Pulse Output (positioning)
- Built-in PID 32 loop
- Floating point arithmetic
- Run time editing, LD/IL language
- Built-in flash memory

PLC-S delivers high and fast performance and provides reliable environment for industrial systems without compromising the size and the cost. This is the smallest sized PLC and yet it has the ability of those bigger PLC's and more. This ensures to occupy less space in the equipment but still maintain the high performance at the same time.

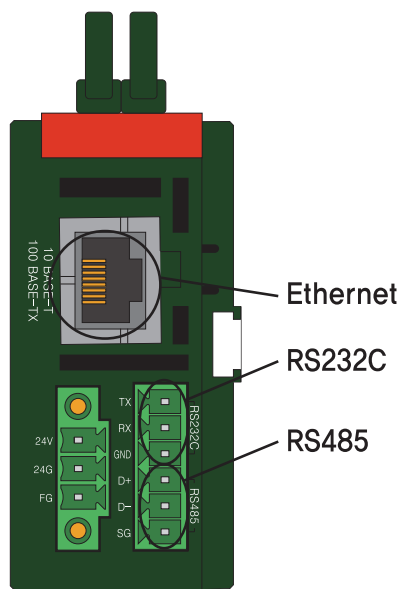
PLC-S is very cost-effective since the CPU module already has several functions built in such as high-speed counter, positioning control function, floating point arithmetic, 3 way simultaneous communications, PID auto-tuning and etc. Addition of expensive modules for these functions is not needed for this reason.

This unit can also be configured with other special expansion modules up to 11 modules to provide wide variety of functions. In addition, there's an USB port and a slot for SD cards for convenient program downloads.

This PLC is especially suitable for small to medium performance tasks. PLC-S is one of the most flexible, reliable, powerful but simplest Micro-PLC in the industrial world.

Specification	
Maximum Expansion	11
Program Capacity	10k steps
Operation Rate	200 ns/step
I/O Points	Maximum 384 points
High Speed Counter	2 Phase 2 channels
Pulse Output	Maximum 100 kpps 2 axis, Linear Interpolation
Programming Tool	CICON Software
PID	32 channels, Auto-Tuning
RTC	Built-In (battery : CR2032)
ETC.	Floating Point Arithmetic Run Time Editing
Power	DC 24 V
Size & Weight	30 X 90 X 61 mm / 120 g

Specification



Communication Protocol	
Ethernet	MODBUS TCP, CICON (loader) CIMON-HMI (TCP,UDP), High Speed PLC Link
RS232C/485	MODBUS RTU Master, MODBUS RTU Slave, CICON (loader), CIMON-HMI, Protocol Program

Built-In Functions (High-Speed Counter)	
Counter Input Signal	Voltage Input (open collector)
Maximum Counting Speed	20 kpps
Number of Channels	2 channels (10 kkps)
Counting Range	Signed 32 bit (-2,147,483,648 ~ 2,147,483,647)

Built-In Functions (Positioning)	
Number of Control Axis	2 axis
Interpolation	2 axis Linear Interpolation
Pulse Output Type	Open Collector (DC 24 V)
Pulse Output	Pulse + Direction
Control Mode	Position Control Speed Control Speed / Position Switching Control, Position / Speed Switching Control
Maximum Output Speed	100 kpps

PLC-S Main-Block Options

» TR Output (DC Power) - Sink Type

Model	CM3-SP32MDT	CM3-SP32MDT-SD	CM3-SP32MDTV	CM3-SP32MDTV-SD
Digital Input/Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output
USB Loader	■	■	■	■
SD/MMC Card Slot	N/A	■	N/A	■
RS232C 1ch	■	■	■	■
RS485 1ch	N/A	N/A	■	■
Ethernet 1ch	N/A	N/A	N/A	N/A

Model	CM3-SP32MDTE	CM3-SP32MDTE-SD	CM3-SP32MDTF	CM3-SP32MDTF-SD
Digital Input/Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output	16 Digital Input 16 Digital Output
USB Loader	■	■	■	■
SD/MMC Card Slot	N/A	■	N/A	■
RS232C 1ch	■	■	■	■
RS485 1ch	N/A	N/A	■	■
Ethernet 1ch	■	■	■	■

» Relay Output (DC Power)

Model	CM3-SP32MDR	CM3-SP32MDRV	CM3-SP32MDRE	CM3-SP32MDRF
Digital Input/Output	8 Digital Input 8 Digital Output	8 Digital Input 8 Digital Output	8 Digital Input 6 Digital Output	8 Digital Input 6 Digital Output
USB Loader	■	■	■	■
SD/MMC Card Slot	N/A	N/A	N/A	N/A
RS232C 1ch	■	■	■	■
RS485 1ch	N/A	■	N/A	■
Ethernet 1ch	N/A	N/A	■	■

Digital I/O Module



» Features

- External terminal block for easy installation and maintenance
- Insulated photo-coupler and relays block interference

Specification				
Model	CM3-SP32EDO	CM3-SP32EOT	CM3-SP32EDT	CM3-SP16EOR
Type	32 points Input	32 points TR Output	16 points Input 16 points TR Output	16 points Relay Output
Input Voltage	DC24 V	N/A	DC24 V	N/A
Output Voltage	N/A	DC 12 V / 24 V	DC 12 V / 24 V	AC 220 V / DC 24 V
Input Current	4 mA	N/A	4 mA	N/A
Output Current	N/A	1 point 0.2A COM 2A	1 point 0.2A COM 2A	1 point 2A COM 5A
On Voltage / Current	DC 19 V / 3 mA	N/A	N/A	N/A
Off Voltage / Current	DC 6 V / 1 mA	N/A	N/A	N/A
Response Time	Less than 3 ms	Less than 1 ms	Less than 1 ms	Less than 10 ms
Indication Lamp	LED On	LED On	LED On	LED On
Insulation Type	Photo Coupler Insulation	Photo Coupler Insulation	Photo Coupler Insulation	Relay Insulation
Input Method	SINK/SRC Compatible	N/A	SINK/SRC Compatible	N/A
Output Method	N/A	Sink	Sink	Relay

AD Module



» Features

- Provides wide input range
- Very reliable with less than ±0.05% of error
- Protected from interference by the photo coupler
- insulation between input ports and the PLC

Specification		
Model		CM3-SP04EAO
Analog Input Point		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)
Maximum Resolution	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	2 nA
Accuracy		±0.1% (full scale)
Maximum Conversion Rate		2.1 ms / 4 channels
Absolute Maximum Input		Voltage: ± 15 V, Current: ± 30 mA
Insulation Type		Photo Coupler Insulation between Input Ports and PLC (non-insulation between channels)
Access Terminal		12 points

DA Module



» Features

- Provides wide output range
- Very reliable with less than $\pm 0.1\%$ of error
- Protected from interference by the photo coupler insulation between input ports and the PLC

Specification		
Model	CM3-SP04EOAV	CM3-SP04EOAI
Number of Analog Output Channel	4 channels	4 channels
Analog Output	-10 V ~ 10 V / 0 V ~ 10 V (selected by DIP switch)	
Digital Conversion	14 bit (0 ~ 16000)	
Max. Resolution	1.25 mV	1.25 μ A
Accuracy	$\pm 0.1\%$	
Maximum Conversion Rate	10ms	
Absolute Maximum Output	Voltage: ± 15 V	Current: ± 24 mA
Insulation Type	Photo Coupler Insulation between Input Ports and PLC	
Access Terminal	8 points	

AD/DA Module



» Features

- Provides wide input/output range
- 16 bit conversion for high resolution measurement
- Very reliable with less than $\pm 0.05\%$ of error
- Protected from interference by the photo coupler insulation between input ports and the PLC

Specification		
Model		CM3-SP04EAA
Number of Analog Channel		Input: 2 channels, Output: 2 channels
Analog Input / Output	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) / 16 bit (0 ~ 64000)
Maximum Resolution	0 V ~ 5 V	78.1 μV
	1 V ~ 5 V	62.5 μV
	0 V ~ 10 V	156.3 μV
	-10 V ~ 10 V	312.5 μV
	0 mA ~ 20 mA	312.5nA
	4 mA ~ 20 mA	250nA
Accuracy		± 0.05 % (full scale)
Maximum Conversion Rate		2.1 ms / 4 channels
Absolute Maximum Input		Voltage: ± 15 V, Current: ± 30 mA
Insulation Type		Photo Coupler Insulation Between Input Ports and PLC (non-insulation between channels)
Access Terminal		12 points

RTD Module



» Features

- Detects disconnected cables from each channel
- Supports most RTD's
- 4 channels and ±0.1% accuracy
- Ability to detect the values out of range
- Digital temperature measurements in 0.1 degree increments
- Converts input data to 16 bit digital value

Specification		
RTD Type	PT100,JPT100,PT1000, NI1000 (DIN 43760), NI1000 (TCR 5000)	
Range of Temperature	PT100 : -200.0 ℃ to 600 ℃ (18.48 to 313.59 Ω) JPT100 : -200.0 ℃ to 600 ℃ (17.14 to 317.28 Ω) PT1000 : -200.0 ℃ to 600 ℃ (184.8 to 3135.9 Ω) NI1000 (DIN 43760): -50.0 ℃ to 160 ℃ (742.6 to 1986.3 Ω) NI1000 (TCR 5000): -50.0 ℃ to 160 ℃ (790.9 to 1799.3 Ω)	
Digital / Temp Output	Digital Value : 0 ~ 16,000 (-8000 ~ 8000) Temp : -200.0℃ ~ 600.0℃ (floating point x 10)	
Disconnection Detection	3 points Indication for Each Channel	
Accuracy	± 0.1 %(full scale)	
Maximum Conversion Rate	50 ms / 4 Channels	
Number of Input Channels	4 channels / 1 module	
Insulation Method	Photo Coupler Insulation between Input Ports and PLC (Non-insulation between channels)	
Connection Terminal	12 points	
Internal Current Consumption (mA)	+5 V	60 mA
External Current Consumption (mA)	+24 V	30 mA

TC Module



» Features

- Measures wide range of temperature
- Supports many different types of TC's
- Supports 4 channels and ±0.3% accuracy
- This module converts analog temperature to digital data
- Input data can be processed to first decimal point as digital value
- Detects cable disconnection and values out of range

Specification		
Available TC	Type K,J,E,T,B,R,S,N	
Digital Output	Digital Value : 0 ~ 16,000 (-8000 ~ 8000) Temp Value : ℃, ℉ (0.1 ℃ Resolution)	
Disconnection Detection	3 points Indication for Each Channel	
Accuracy	±0.3 %(Full Scale) ±1 ℃ (error for base contact compensation)	
Maximum Conversion Rate	50ms / 4 Channels	
Compensation Type	Automatic Compensation	
Number of Input Channels	4 channels / 1 module	
Insulation Method	Photo Coupler Insulation between Input Ports and PLC (non-insulation between channels)	
Connection Terminal	8 points	
Internal Current Consumption (mA)	+5 V	60 mA
External Current Consumption (mA)	+24 V	30 mA

Range of Temperature			
Type	Standard	Range of Temp (℃)	Range of 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

Analog Mux Module



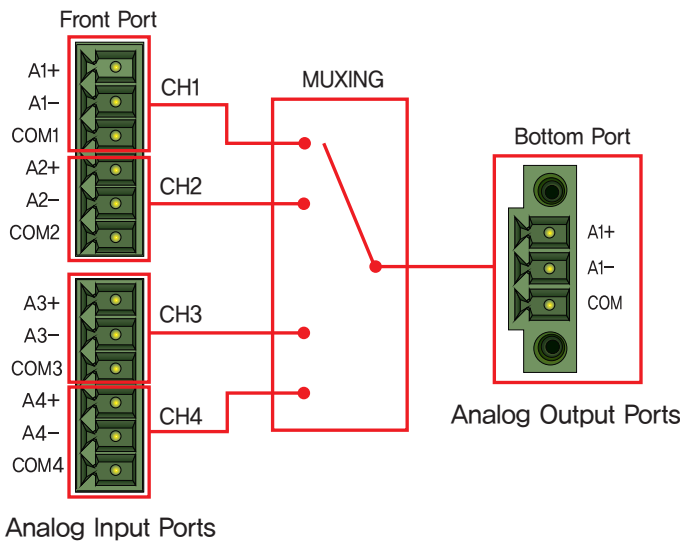
» Features

Analog Mux Module receives 4 channel analog signals and switches them sequentially to an output port by a set time interval. By connecting up to 4 mux modules with 1 analog module (AD, RTD, TC, etc.), maximum 16 channels of analog expansions can be achieved.

- Channels can be enabled/disabled and easy channel information check
- Relay ON time can be selected by 0.1~1000.0 sec interval
- Relay life expectancy can be checked through the relay counter function
- Auto/Manual mode selectable
- Not suitable for current signal use since this module only switches analog signals repeatedly

Specification	
Number of Analog Channel	3-wire, 4 channels
Analog Input	Voltage, RTD, TC
Relay Min/Max ON TIME	Minimum : 0.1 sec, Maximum : 1000 sec
Insulation Type	Relay
Capacity	16 points
Access Terminal	12 points
Relay Life-Expectancy	Number of Operation of 10 ⁸

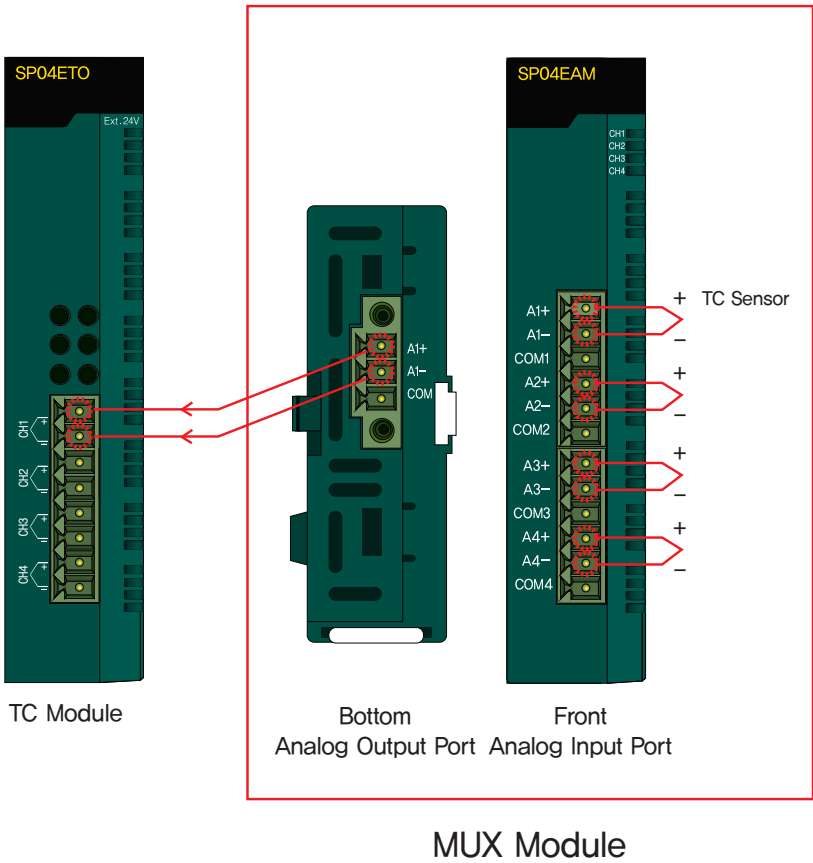
» Concept Diagram



〈SP04EAM Concept Diagram〉

» Wiring Example

Ex) SP04ETO Module and SP04EAM Module Wiring Diagram



Ethernet Module



» Features

- Follows IEEE802.3 standard and supports ARP, ICMP, IP, TCP, UDP protocols
- Operates with CIMON-SCADA to support DHCP
- Supports MODBUS TCP Master function to communicate with third-party devices
- High-speed linkage to communicate along CIMON PLC's and supports up to 64 simultaneous communications

Specification		
Model	CM3-SP01EET	
Media Interface	10BASE-T 100BASE-TX	
Transmission Speed	10/100 M	
Max. Distance (Node to Node)	100 m	
Service Capacity	UDP, TCP : 12 Service	
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

Serial Module

» Features

- Read and write data by HMI protocol
- Up to 32 units communication available for Multi-Drop configuration (RS422/485)
- Supports wide range of communication speed (300 bps ~ 38400 bps)
- Full-Duplex (RS422) and Half-Duplex (RS485)
- Supports 1:1 / 1:N / 1:M communication for RS422 and R485
- RS232C/422/485 communication ports are available by setting up independent channel or linked channel
- RS422 and RS485 channels are properly insulated to prevent any outer interference
- Supports universal protocol
- MODBUS RTU Master function is built-in for an easy acquisition of data from third-party devices (MODBUS RTU Slave)



Specification		
Model	CM3-SP02ERS	
Interface	RS232C/422/485	
Comm. Method	Null Modem	Direct Communication between Each Ports (RS-232C/RS422)
Operation Mode	Protocol Special Program	Use Protocol Special Program to Communicate
	HMI Protocol	Use CIMON-PLC HMI Protocol to Communicate
	MODBUS Protocol	Use MODBUS RTU Protocol to Communicate
	Graphic Loader Protocol	Use Connect Function in CICON to Control PLC
	MODBUS Master Program	Communicate with Slave Devices that Uses MODBUS RTU Protocol
Data Type	Data Bit	8 bits
	Stop Bit	1 or 2 bit
	Parity	Even / Odd / None
Synchronization	Asynchronous	
Transmission Speed (bps)	300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400	
Insulation Type	RS232C : N/A RS422/485 : Photo Coupler Insulation	

Serial Module

» Features

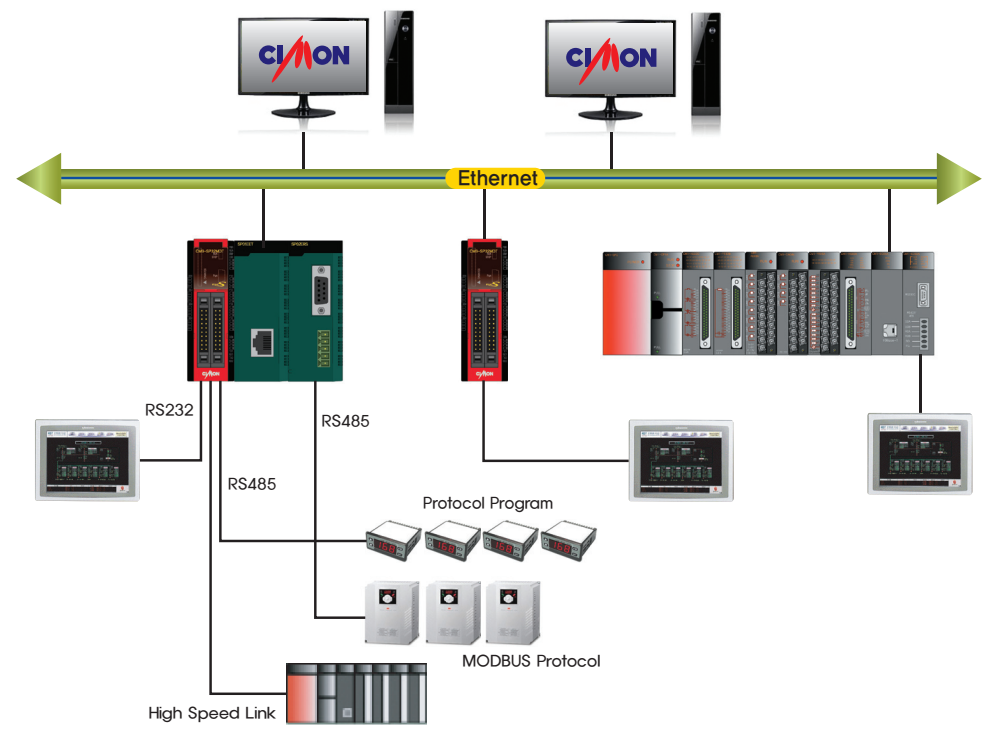
- 2 Channels of RS-232C
- Read and write data by HMI protocol
- Supports wide range of communication speed (300 bps ~ 38400 bps)
- RS232C communication ports are available by setting up independent channel or linked channel
- Supports universal protocol
- MODBUS RTU Master function is built-in for an easy acquisition of data from third-party devices (MODBUS RTU Slave)



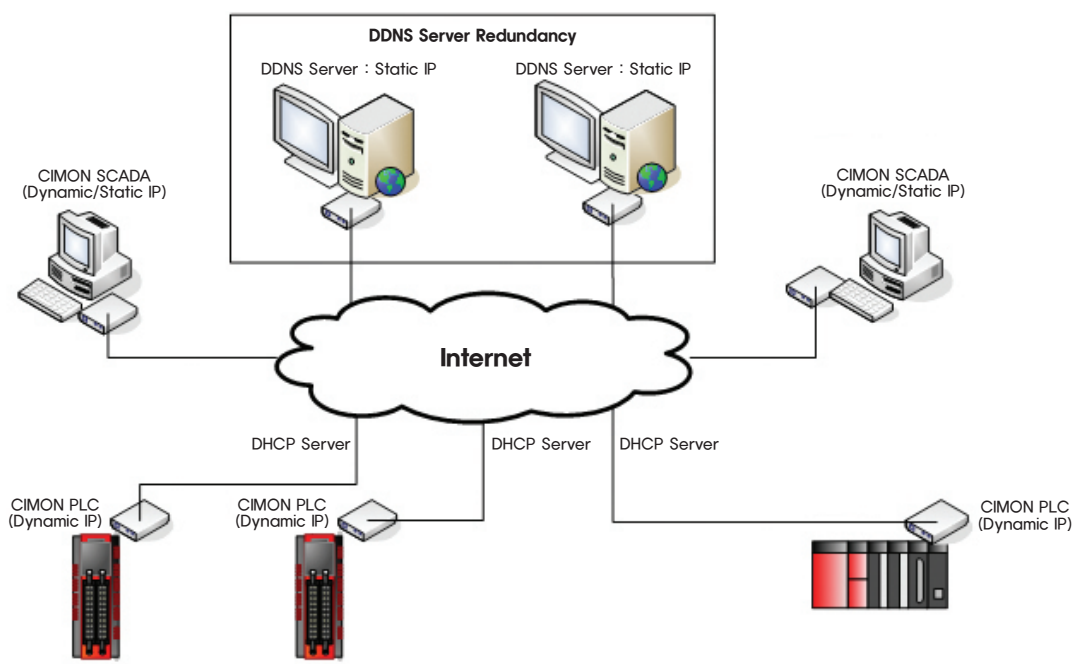
Specification		
Model		CM3-SP02ERR
Interface		RS232C 2 channels
Comm. Method	Null Modem	Direct Communication between Each Ports
Operation Mode	Protocol Special Program	Use Protocol Special Program to Communicate
	HMI Protocol	Use CIMON-PLC HMI Protocol to Communicate
	MODBUS Protocol	Use MODBUS RTU Protocol to Communicate
	Graphic Loader Protocol	Use Connect Function in CICON to Control PLC
	MODBUS Master Program	Communicate with Slave Devices that Uses MODBUS RTU Protocol
Data Type	Data Bit	8 bits
	Stop Bit	1 or 2 bit
	Parity	Even / Odd / None
Synchronization		Asynchronous
Transmission Speed (bps)		300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400

System Configuration

» Total Network Solution



» Dynamic IP System



>> About CIMON-NET

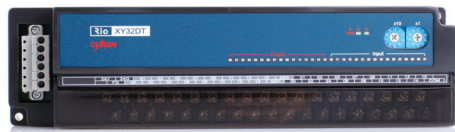
Exchange real time data with CN01M module through the highly reliable CANbus

>> Specification

- Real time control of diffused I/O
- Supports various I/O of 16 point and 32 point units
- Available to install up to a maximum of 64 devices
- Save on installation and maintenance costs
- Easy system set-up with a convenient system, repair and maintenance configurations
- Simple communication programming – special program of dialog form –Autoscan function is offered through CICON
- Integration of CPU, power, I/O, communication function in one module provides a convenient all-in-one solution
- Checks communication condition of long distance module through monitor
- Built-in Auto Baud Rate function so that an extra settings for communication speed is unnecessary
- Supports various communication speed (10K/20K/50K/80K/100K/125K/250K/500K/1000Kbps)
- Prevents noise from the communication line through insulation of communication diagnostic
- Built-in LED for diagnostic functions (Power, Module, Line condition)

>> Communication Specification

Model		Performance Standard
Standard Transmission	Standard	ISO11898
	Interface	CAN BUS
	Media Access	POLL
	Topology	Bus method
	Cable	Twisted Pair Shielded Cable
	Comm. Distance	1000 m (10 kbps)
		500 m (100 kbps)
		200 m (500 kbps)
		40 m (1000 kbps)
	Max. Number of Node	63
	Max. I/O Data	8 byte



>> I/O Specification

Item		Input	Output	Mixed Module	
		DC (Sink/Source)	Transistor (Sink)	DC (Sink / Source)	Transistor (Sink)
Point		32 points	32 points	16 points	16 points
Power		DC24V			
I/O Voltage / Current		DC 24 V / 7 mA	DC 24 V / 0.5 A	DC 24 V / 7 mA	DC 24 V / 0.5 A
Response Time	Off -> On	3 ms or less	2 ms or less	3 ms or less	2 ms or less
	On -> Off	3 ms or less	2 ms or less	3 ms or less	2 ms or less
Common Method		16 points / COM	32 points / COM	16 points / COM	
Current Consumption		300 mA	350 mA	400 mA	
External Connection Method		Terminal Connertor			
Movement Signal		LED	LED	LED	LED
Insulation		Photo Coupler Insulation			
Inner Circuit		Sink / Source	Sink	Sink / Source	Sink
Model		RC-XD32A	RC-YT32A	RC-XY32DT	

※ RC-XD32A and RC-YT32A modules are custom-built modules

>> Cable Standard

Features of Cable	Cable #1	Cable #2
Impedance	108 ~ 132 Ω (f = 3 to 20 MHz)	68 ~ 102 Ω (f > 800 KHz)
Electrostatic capacity	< 30 nF/Km ²	< 70 nF/Km ²
Conductor sectional area	≥ 0.34 mm ² (22 AWG)	≥ 0.34 mm ² (22 AWG)

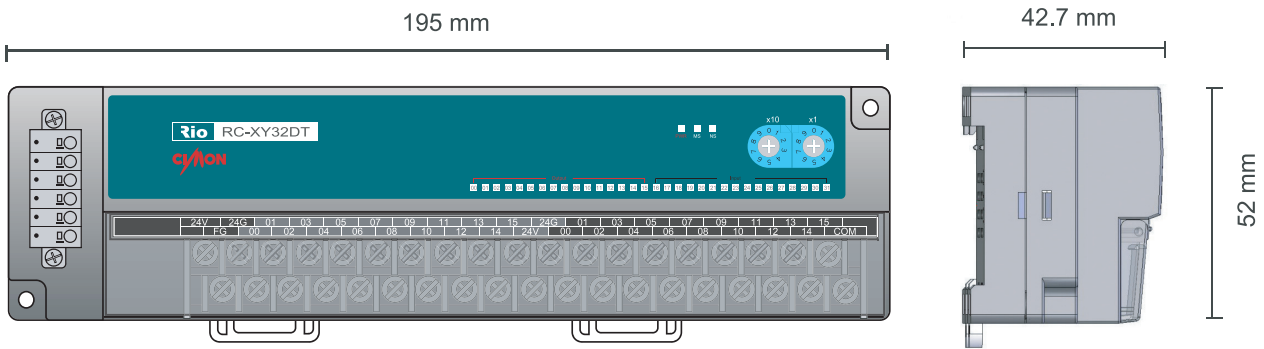
>> Transmission Distance

Baud (Kbps)	10	100	250	500	1000
Cable #1	1000	500	400	200	50
Cable #2	700	350	250	100	40

>> System Configuration



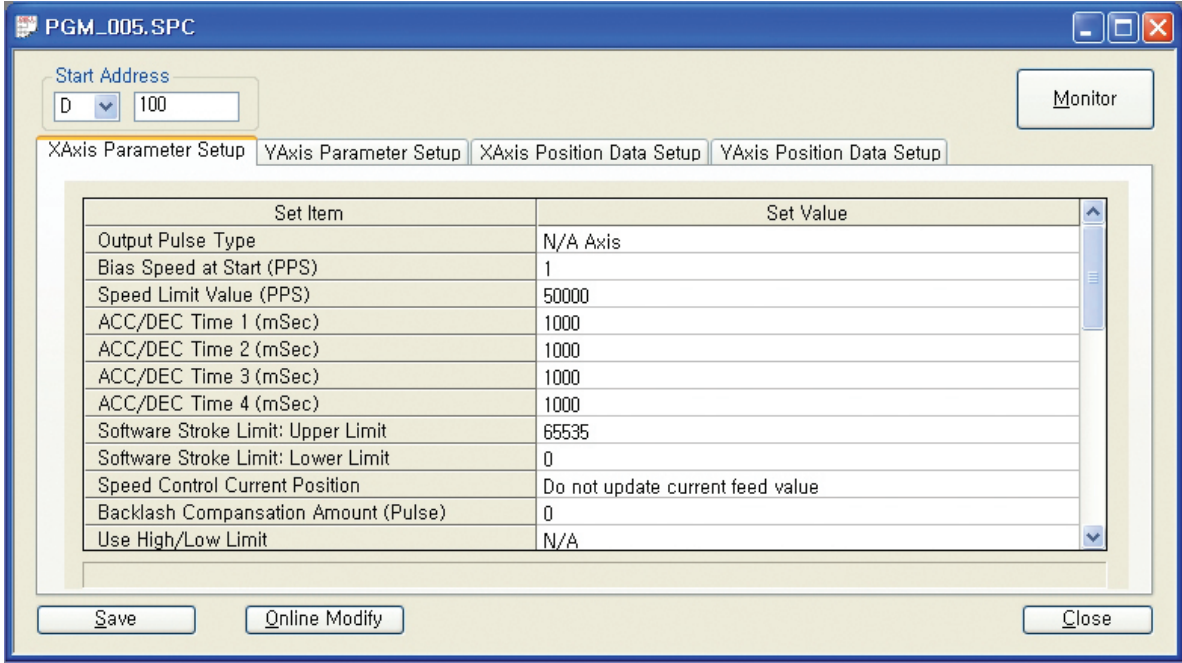
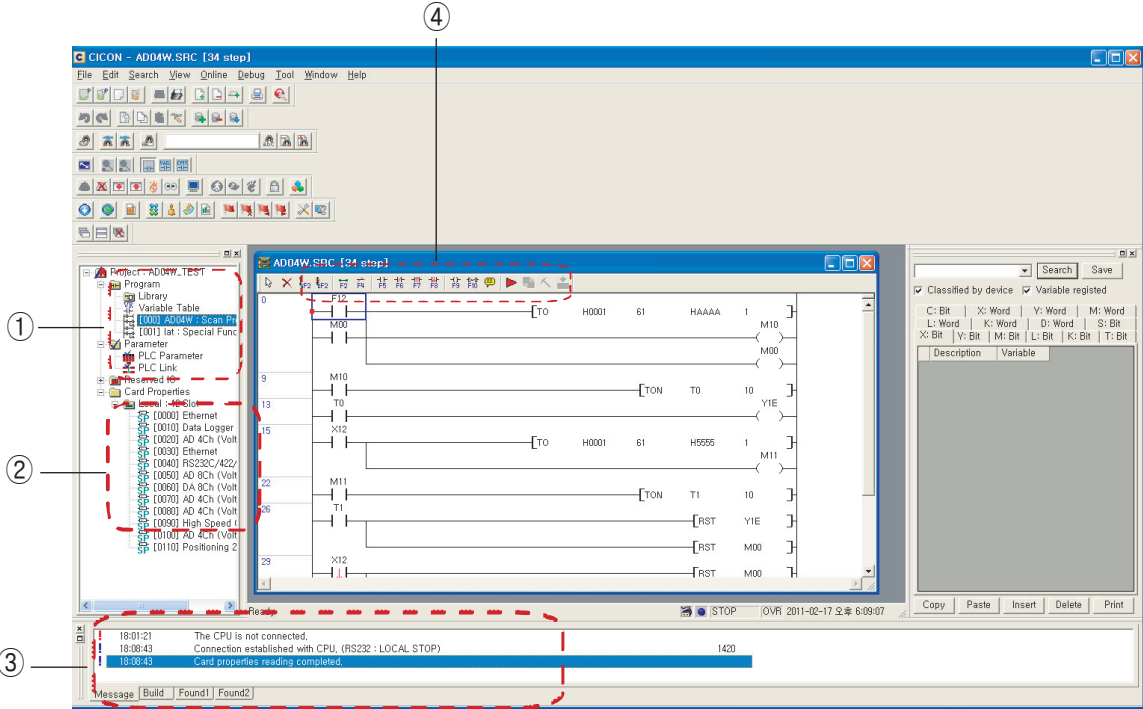
>> Dimensions



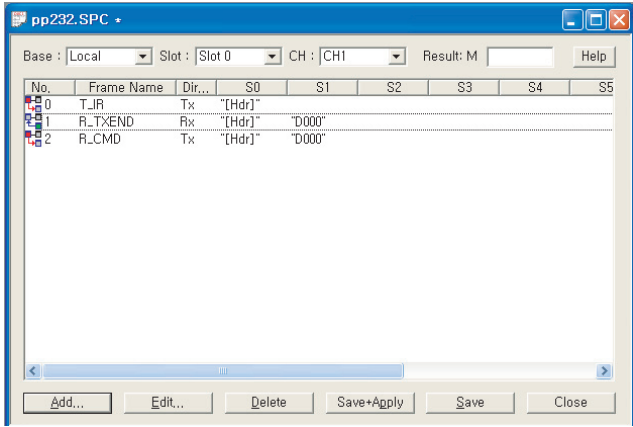
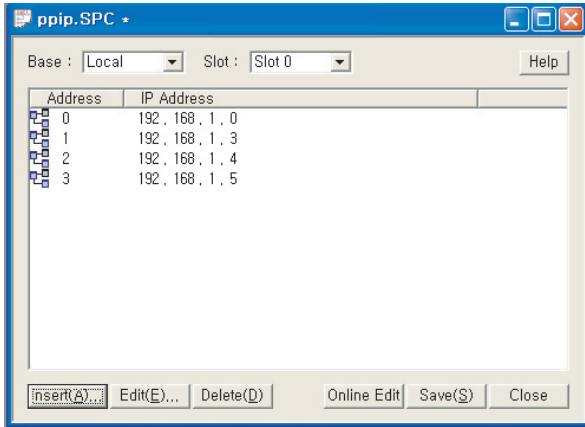
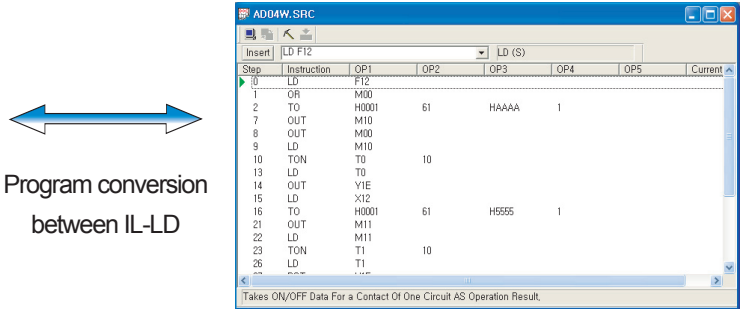
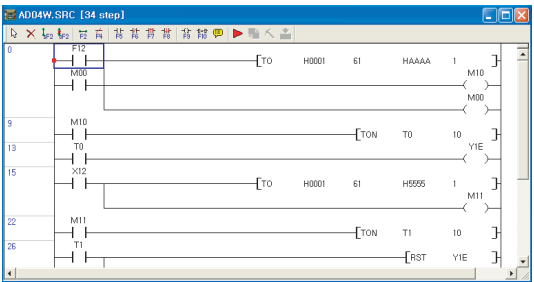
CICON Engineering Software

- User-friendly interface for editing and modifying the program
- Supports various types of communication methods such as CPU Loader, RS232C/422/485 and Ethernet
- Debugging function and system diagnosis

- Stress-free programming by simply setting up a dialog box for special functions instead of writing a complicated ladder program. (communication set-up, positioning, PID, protocol program, etc.)

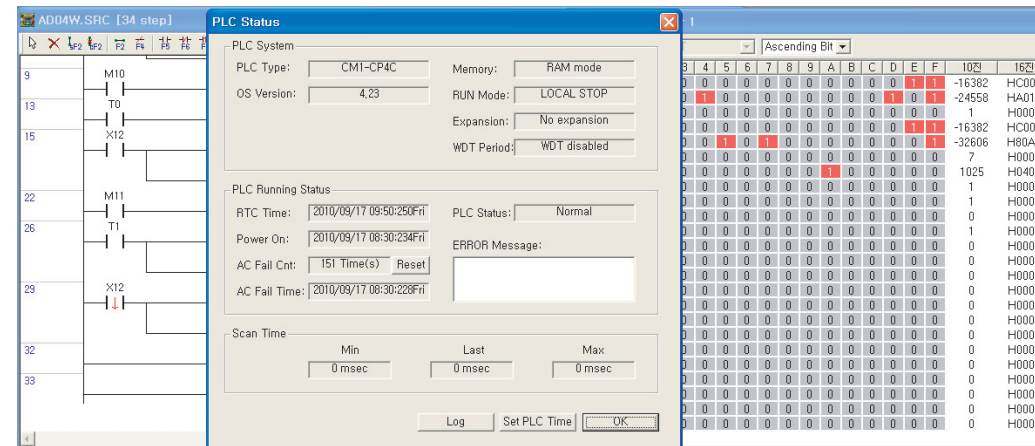


- ① Easy management of project files
- ② Automatically detects special cards info
- ③ Present processing condition shown in the message window
- ④ Convenient editing by keyboard shortcuts

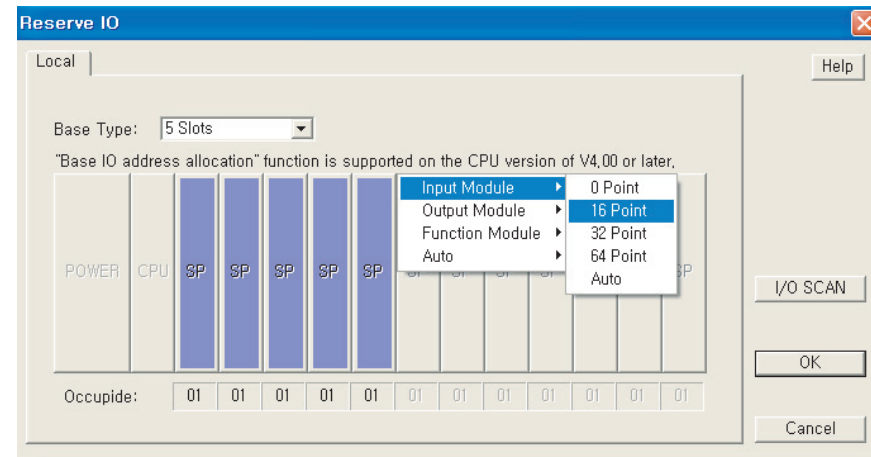


CICON Engineering Software

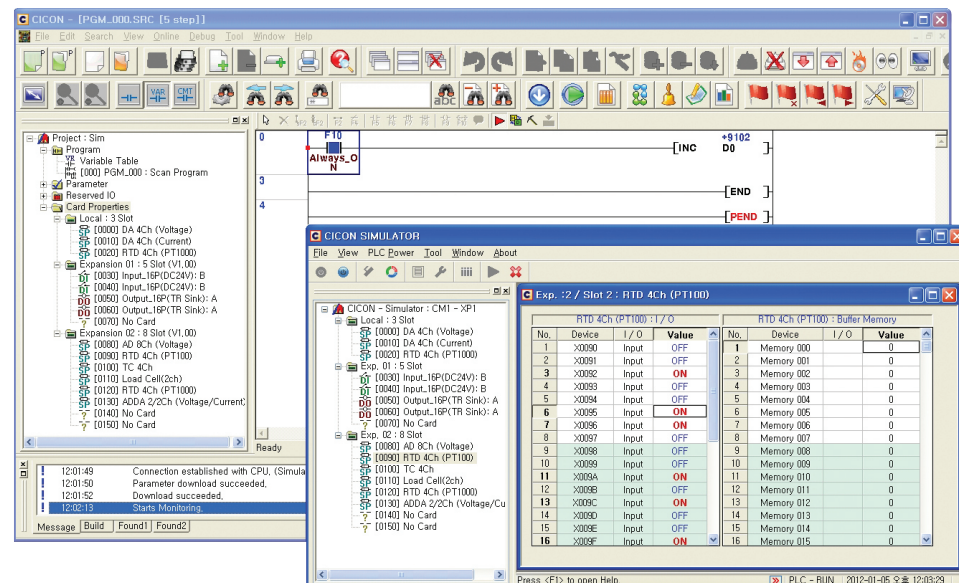
- Constant monitoring of the PLC status
- Fast and accurate error detection for each cards



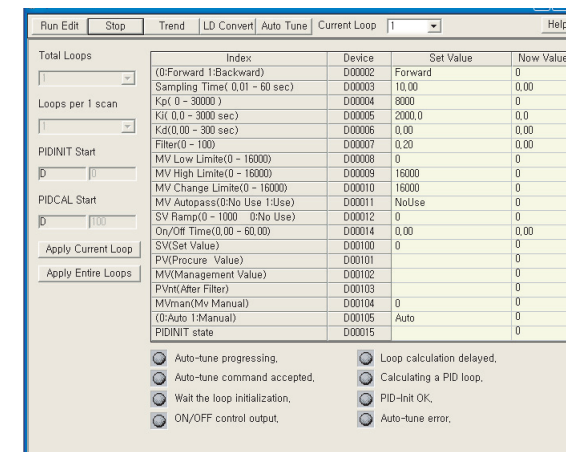
- Reserving the I/O
- Compares and detects a card and checks if the card is inserted or not



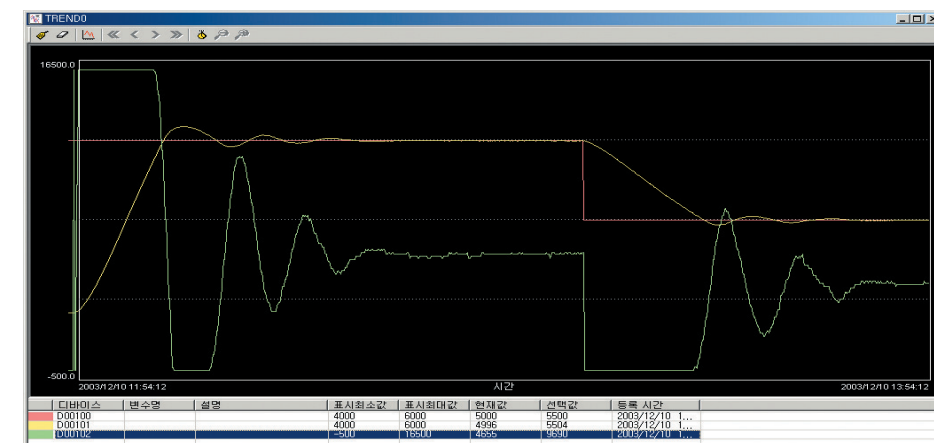
- Testing functions and programs is possible without connecting to a physical PLC by CICON Simulator



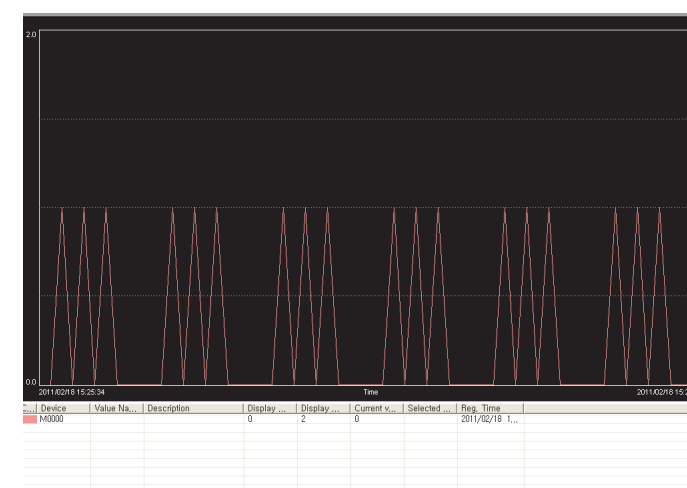
- PID auto tuning
- Check PID input and current values constantly in dialog box.



- PID operation condition shows as a trend type.



- PID tuning is available by controlling ON-OFF.



» Training Kit Purpose

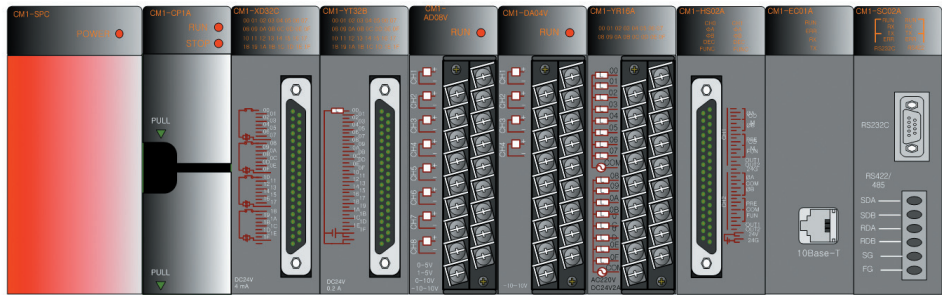
- To learn the basics of a PLC
- To train the user's ability to operate a PLC used in an actual setting
- To learn the data link system usage between PLC to PLC
- To train the user's ability to apply PLC instructions
- To learn controlling ability of analog signals
- Understand different configuration methods (RS232C / RS422 / RS485 / Ethernet)
- Trains the user's ability to configure field surveillance control and management features

» Features

- PEK-408 uses CP-series PLC modules and PEK-308 uses PLC-S series PLC modules
- Can experiment with different types of high performance modules
- Using CICON, user can practice various functions
- Extra devices are not needed to operate the training kit
- PEK-408 includes toggle switches, push buttons, output lamps and a simulation load display
- PEK-308 includes 4" Xpanel HMI, toggle switches, output lamps and servo motor
- PID control exercise available
- Remote control and monitoring through the HMI software
- Comes with a handbook and practice exercises
- Understand different configuration methods (RS232C / RS422 / RS485 / Ethernet)
- Trains the user's ability to configure field surveillance control and management features
- Built-in level meter to check the input and output of analog signals (PEK-408)
- High-speed counter to control the RPM detection (PEK-408)
- Can experiement with temperature measurement functions with a built-in RTD module (PEK-308)
- Servo motor for practicing positioning function of the PLC (PEK-308)



» PEK-408 Training Kit Configuration



MODULE	Model	Function
CPU	CM1-CP4A	16k step Program Memory Capacity
Power	CM1-SPC	Voltage Output 5 V / 24 V / +15 V / -15 V
Base	CM1-BS08A	8 slot Base
Digital Input	CM1-XD32C	32 point Input
Digital Output	CM1-YT32B	32 point Source Output
	CM1-YR16A	16 point Relay Output
Analog Input	CM1-AD08V	14 bit 8 ch Voltage Analog Input
Analog Output	CM1-DA04V	14 bit 4 ch Votage Analog Output
Communication	CM1-SC02A	RS232C / RS422 / RS485
	CM1-EC01A	10 Mbps Ethernet
High-Speed Counter	CM1-HS02B	200 kpps 2 ch

» PEK-308 Training Kit Configuration

MODULE	Model	Function
CPU	CM3-SP32MDF	10K step Program Memory Capacity with Built-in Functions (HSC, Positioning, etc)
Digital Input/Output	CM3-SP32EDT	16 points Input, 16 points TR Output
Digital Input/Output	CM3-SP32EDT	16 points Input, 16 points TR Output
Analog Input/Output	CM3-SP04EAA	16 bit 2 ch Voltage / Current Input, 16 bit 2 ch Voltage / Current Output
RTD	CM3-SP04ERO	16 bit 4 ch RTD

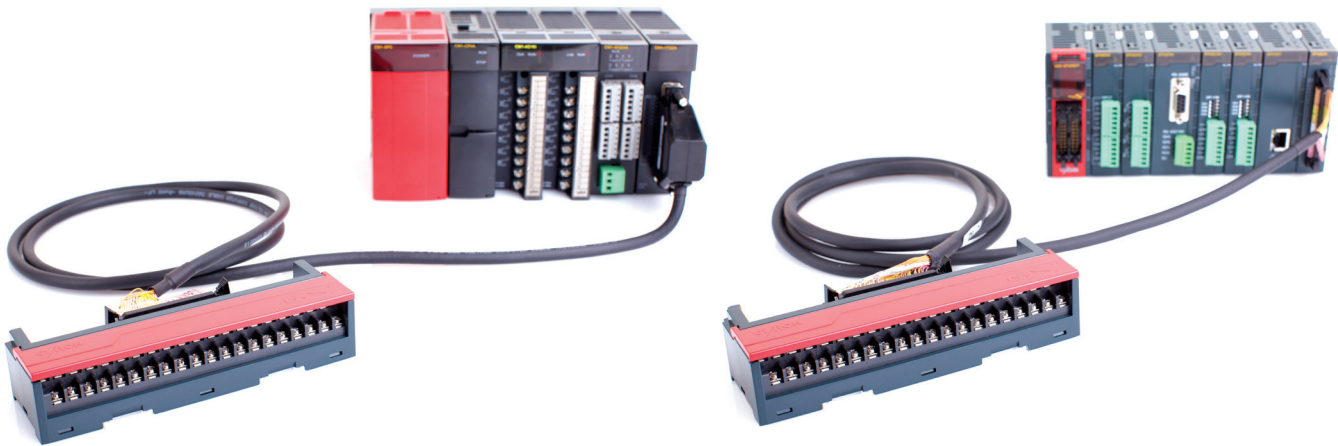
» Included Accessories (PEK-408)

- Power Cable
- CM0-CBL15 1.5m Loader Cable
- User Manual
- RS 232C Cable, Cross Cable
- Installation CD
(CICON, XpanelDesigner, Sample Programs)

» Included Accessories (PEK- 308)

- Power Cable
- USB Loader Cable
- CM0-TB32M PLC-S Terminal Block
- CM0-SBC15M Main Block I/O Cable
- User Manual
- Installation CD
(CICON, XpanelDesigner, Sample Programs)

» Cable Applications



Cable Model	Applied Module	Terminal Block
CM0-SCB15M	CM3-SP32MDT	CM0-TB32M
	CM3-SP32EDT	
CM0-SCB15E	CM3-SP32EDO	
	CM3-SP32EOT	
CM0-SCB15I	CM1-XD32C	
	CM1-YT32A	
	CM1-YT32B	
	CM1-HS02C	
	CM1-HS02S	

» Accessories

Model
Dummy Module for empty slot (CM0-DM)
ROM-pack type CPU Flash Memory (CM1-FM512)
Connector cover for empty slot (CM0-BSCVR)
CPU batter for data back up (CM0-BAT)
Remote I/O connector (RP-DPC01A)
Loader cable (CM0-CBL15/30)
Expansion Cable for XP/CP cable (CM0-CBE05/10/15)
Expansion cable for BP series (CM2-CBE05)

» CIMON PLC General Specification

No.	Item	Description				Standard
1	Ambient Temp	-10 ℃ ~ 65 ℃				
2	Storage Temp	-25 ℃ ~ 80 ℃				
3	Ambient Humidity	5 ~ 95 % RH, Non-Condensing				
4	Storage Humidity	5 ~ 95 % RH, Non-Condensing				
5	Vibration Resistance	Occasional Vibration				IEC 61131-2
		Frequency	Acceleration	Pulse Width	Time	
		10 ≤ f < 57 Hz	-	0.075 mm	10 times each direction X,Y,Z	
		57 ≤ f ≤ 150 Hz	9.8 m/s ² {1G}	-		
		Continuous Vibration				
		Frequency	Acceleration	Pulse Width		
		10 ≤ f < 57 Hz	-	0.035 mm		
		57 ≤ f ≤ 150 Hz	4.9m/s ² {0.5G}	-		
6	Impact Resistance	■ Peak acceleration : 147m/s ² {15G}				IEC 61131-2
		■ Duration : 11 ms				
		■ Pulse waveform : half-sine 3 times each direction X,Y,Z				
7	Noise Resistance	Square Wave Impulse Noise	± 2,000 V			KDT standard
		Electrostatic Discharge	±4 KV			IEC 61131-2, IEC 1000-4-2
		Radiated Electromagnetic Field Noise	27 ~ 500 MHz, 10 V / m			IEC 61131-2, IEC 1000-4-2
		Division	Power Module	Digital I/O (more than 24V)	Digital I/O (less than 24V) Analog I/O Comm. Interface	IEC 61131-2, IEC 1000-4-2
		Fast transient / burst noise	2 kV	2 kV	0.25 kV	
		Isolation	2 kV / min	2 kV / min	0.5 kV / min	
		8	Operating Ambience	Free from Corrosive Gases and Excessive Dust		
9	Altitude	Up to 2000m				
10	Pollution Level	Less than Equal to 2				
11	Cooling	Air Cooling				

» Reference

- IEC(International Electrotechnical Commission): The IEC is the world's leading organization that publishes international standards for all electrotechnical and related technologies
- Pollution degree 2 is nonconductive pollution of the sort where occasionally a temporary conductivity caused by condensation must be expected.

CIMON-XP/CP Series

» Redundancy

Type	Model	Description
CPU	CM1-XP1R	128K step/ 32 bit/ 75 ns/ 8192 pts/ Expandable/ RTC/ Floating Point Calculation/ Redundancy
Comm.	CM1-RC01A	10 Mbps Redundancy Communication Module
I/F	CM1-RM01A	Dual I/F Master/Standby Setting - Redundancy Interface Module
Exp.	CM1-EP03A	10 Mbps 3 ports Expansion Module
Redundancy Base	CM1-BS05R	5 slot Dual Power Base
	CM1-BS08R	8 slot Dual Power Base
	CM1-BS10R	10 Slot Dual power Base
Redundancy Power Supply	CM1-SPR	Redundancy Power Supply 5V 3A/ +15V 0.5A/ -15V 0.2A/ 24V 0.2AAC100V~240V
	CM1-RPW	Redundancy Power Supply Status Monitoring Module

» CPU Module

Type	Model	Description
High Speed CPU	CM1-XP1A	128K step/ 32bit/ 75 ns/ 8192 pts/ Expandable/ RTC/ USB Port/ Floating Point Calculation
	CM1-XP2A	64K step/ 32 bit/ 75 ns/ 4096 pts/ Expandable/ RTC/ USB Port/ Floating Point Calculation
	CM1-XP3A	64K step/ 32 bit/ 75 ns/ 2048 pts/ Expandable/ RTC/ USB Port/ Floating Point Calculation
CPU	CM1-CP3A	32K step/ 16 bit/ 1024 pts/ Expandable
	CM1-CP3B	32K step/ 16 bit/ 1024 pts/ Expandable/ RTC
	CM1-CP3U	32K step/ 16 bit/ 1024 pts/ Expandable/ RTC/ USB Port
	CM1-CP3P	32K step/ 16 bit/ 1024 pts/ Expandable/ RTC/ Flash ROM Pack
	CM1-CP4A	16K step/ 16 bit/ 384 pts
	CM1-CP4B	16K step/ 16 bit/ 384 pts/ RTC
	CM1-CP4C	16K step/ 16 bit/ 384 pts/ RTC/ RS232C Port
+ Comm.	CM1-CP4D	16K step/ 16 bit/ 384 pts/ RTC/ RS422/485 Port
+ Comm.	CM1-CP4U	16K step/ 16 bit/ 384 pts/ RTC/ RS422/485 Port/ USB Port

» Power Module

Type	Model	Description
Power supply	CM1-SPA	5V 3.5A/ 24V 0.5AAC100V~240V
	CM1-SPC	5V 3A/ +15V 0.5A/ -15V 0.2A/ 24V 0.2AAC100V~240V
	CM1-SP2B	5V 3.5A/ +15V 0.5A/ -15V 0.3A DC24V
	CM1-SPW	5V 3A/ +15V 0.5A/ -15V 0.2A/ 24V 0.2A DC70V~110V

» Expansion Module

Type	Model	Description
Expansion	CM1-EP01A	10 Mbps 1 port - Single-Expansion Module
	CM1-EP02A	10 Mbps 2 port - Multi-Expansion Module

» Base

Type	Model	Description
Base	CM1-BS03A	3 slot Base
	CM1-BS04A	4 slot Base
	CM1-BS05A	5 slot Base
	CM1-BS08A	8 slot Base
	CM1-BS10A	10 slot Base
	CM1-BS12A	12 slot Base

» Digital I/O Module

Type	Model	Description
DI-DO	CM1-XD16A	DC 24V Input/ 16 pts/ Sink & Source/ ON Voltage 19V/ OFF Voltage 11V
	CM1-XD16B	DC 24V Input/ 16 pts/Sink & Source/ ON Voltage 15V/ OFF Voltage 12V
	CM1-XD16W	DC 100V Input/ 16 pts/Sink & Source/ On Voltage 80V/ OFF Voltage 50V
	CM1-XD32B	DC 24V Input/ 32pts/ Sing & Source/ ON voltage 15V/ OFF Voltage 12V
	CM1-XD32C	DC 24V Input/ 32pts/ Sing & Source/ ON voltage 19V/ OFF Voltage 11V
	CM1-XD64C	DC 24V Input/ 64pts/ Sing & Source/ ON voltage 19V/ OFF Voltage 11V
DO-R	CM1-YR16A	Relay Output/ 16 pts/ 2A
DO-TR	CM1-YT16A	TR Output/ 16 pts/ 0.5A SINK
	CM1-YT16B	TR Output/ 16 pts/ 0.5A SOURCE
	CM1-YT32A	TR Output/ 32 pts/ 0.2A SINK
	CM1-YT32B	TR Output/ 32 pts/ 0.2A SOURCE
	CM1-YT64A	TR Output/ 64 pts/ 0.2A SINK
DI/O	CM1-XY16DR	DC 24V Input 8 pts/ Relay Output 8 pts

» Analog I/O Module

Type	Model	Description
AI	CM1-AD04VI	AD 14 bit/ 4 ch/ Current & Voltage Input
	CM1-AD08V	AD 14 bit/ 8 ch/ Voltage Input
	CM1-AD08I	AD 14 bit/ 8 ch/ Current Input
	CM1-AD04W	AD 16 bit/ 2.1 ms Sampling / 4 ch/ Current & Voltage Input
AO	CM1-DA04V	DA 14 bit/ 4 ch/ Voltage Output -10~+10V
	CM1-DA04VA	DA 14 bit/ 4 ch/ Voltage Output 0~+10V
	CM1-DA08V	DA 14 bit/ 8 ch/ Voltage Output -10~+10V
	CM1-DA08VA	DA 14 bit/ 8 ch/ Voltage Output 0~+10V
	CM1-DA04I	DA 14 bit/ 4 ch/ Current Output
	CM1-DA08I	DA 14 bit/ 8 ch/ Current Output

RTD & TC Module

Type	Model	Description
RTD	CM1-RD04A	4 ch (PT100, JPT100)
	CM1-RD04B	4 ch (PT1000)
TC	CM1-TC04A	4 ch (Thermocoupler)

Special Module

Type	Model	Description
HSC	CM1-HS02C	2 ch High-Speed Counter Module (pulse in)/ 2 output/ch 200kpps
	CM1-HS02E	2 ch High-Speed Counter Module (pulse in)/ 2 output/ch 500kpps
Load Cell	CM1-WG04A	4 ch Load Cell Module/ Strainguage/ 1/10000 Resolution/ 3.6mV/V
	CM1-WG02C	2 ch Load Cell Module/ Strainguage/ 1/40000 Resolution/ 2mV/V (Standard)
	CM1-WG02D	2 ch Load Cell Module/ Strainguage/ 1/40000 Resolution/ 2mV/V (High Speed Weighing)
	CM1-WG02E	2 ch Load Cell Module/ Strainguage/ 1/40000 Resolution/ 3.6mV/V (Wide Range)
Data Logger	CM1-LG32A	32 Mbytes Data Logging Module
Positioning	CM1-PS02A	2 axis Positioning Module/ Open Collector Type
Communication	CM1-SC02A	Serial Module (RS232C, RS422/485)
	CM1-SC01A	Serial Module (RS232C)
	CM1-SC01B	Serial Module (RS422/485)
	CM1-SC01DNP	Serial Module (RS232C, DNP 3.0)
	CM1-EC01A	Ethernet Module/ 10 Mbps/ UDP/IP/ TCP/IP(Slave)/ 10BaseT
	CM1-EC10A	Ethernet Module/ 10/100 Mbps/ UDP/IP/ TCP/IP(Master)/ 100BaseT
	CM1-EC10B	Ethernet Module/ 100 Mbps/ UDP/IP/ TCP/IP/ Fiber Optic
	CM1-EC10C	Ethernet Module/ 100 Mbps/ UDP/IP/ TCP/IP/ 100BaseT/ DHCP Supported
	CM1-EC01DNP	Ethernet Module/ 10 Mbps/ DNP3.0 Single Host
	CM1-PD01A	(Fieldbus) Profibus Communication Module
	CM1-BN01A	Bacnet I/F Module/ 10base-T

Accessories

Type	Model	Description
Dummy	CM0-DM	Dummy
Memory	CM1-FM512	Flash Memory Pack for CM1-CP3P (512 kbytes)
Loader Cable	CM0-CBL15	1.5 m Graphic Loader PC Connection Cable
	CM0-CBL30	3 m Graphic Loader PC Connection Cable
I/O Cable	CM0-SCB15I	1.5 m I/O Cable
Expansion Cable	CM0-CBE05	0.5 m, CP Expansion Module Connection Cable
	CM0-CBE10	1 m, CP Expansion Module Connection Cable
	CM0-CBE15	1.5 m, CP Expansion Module Connection Cable
Base Slot Cover	CM0-BSCVR	Base Slot Cover
Battery	CM0-BAT	Battery
Profibus Comm. I/O Connector	RP-DPC01A	Profibus Comm. I/O connector for connection

CIMON-PLC-S Series

Main-Block

No.	Model	Type	Description
1	CM3-SP32MDT	TR Output (DC Power)	DI16/DO16, USB Loader, RS232C 1ch
2	CM3-SP32MDT-SD		DI16/DO16, USB Loader, SD/MMC Card Slot, RS232C 1ch
3	CM3-SP32MDTV		DI16/DO16, USB Loader, RS232C 1Ch, RS485 1ch
4	CM3-SP32MDTV-SD		DI16/DO16, USB Loader, SD/MMC Card Slot, RS232C 1ch, RS485 1ch
5	CM3-SP32MDTE		DI16/DO16, USB Loader, RS232C 1Ch, Ethernet 1ch
6	CM3-SP32MDTE-SD		DI16/DO16, USB Loader, SD/MMC Card Slot, RS232C 1ch, Ethernet 1ch
7	CM3-SP32MDTF		DI16/DO16, USB Loader, RS232C 1ch, Ethernet 1ch, RS485 1ch
8	CM3-SP32MDTF-SD		DI16/DO16, USB Loader, SD/MMC Card Slot, RS232C 1ch, Ethernet 1ch, RS485 1ch
9	CM3-SP16MDR	Relay Output (DC power)	DI 8/DO 8(Relay), USB Loder/RS232 1ch
10	CM3-SP16MDRV		DI 8/DO 8, USB Loder, RS232 1ch, RS485 1ch
11	CM3-SP16MDRE		DI 8/DO 6, USB Loader, RS232C 1ch, Ethernet 1ch
12	CM3-SP16MDRF		DI 8/DO 6, USB Loader, RS232C 1ch, Ethernet1ch, RS485 1ch

Digital Expansion-Block

No.	Model	Type	Description
1	CM3-SP32EDO	DI-32	DI 32pts, DC 24V
2	CM3-SP32EOT	DO-32	DO 32pts. DC 24V (TR)sink
3	CM3-SP32EDT	DI-16/DO-16	DI 16pts, DO 16pts, (TR)sink
4	CM3-SP16EOR	DO-16	DO 16pts, Relay Output

Analog Expansion-Block

No.	Model	Type	Description
1	CM3-SP04EAO	AI-4	AI 4ch Current Voltage
2	CM3-SP04EAA	AIO-4	AI 2ch Current Voltage/AO 2ch Current Voltage
3	CM3-SP04ERO	AI-4	AI 4ch RTD
4	CM3-SP04ETO		AI 4ch TC
5	CM3-SP04EOAI	AO-4	AO 4ch Current Output
6	CM3-SP04EOAV		AO 4ch Voltage Output
7	CM3-SP04EAM	MUX	4ch MUX

Comm. Expansion-Block

No.	Model	Type	Description
1	CM3-SP02ERS	Comm.	RS232C 1ch, RS422/485 1ch
2	CM3-SP01EET	Comm.	Ethernet 1ch
3	CM3-SP02ERR	Comm.	RS232C 2ch

Accessories

No.	Model	Type	Description
1	CM0-TB32M	SP32MDT	Multi-Terminal
2	CM0-SCB15M	SP32MDT	Main Block 1.5M Cable
3	CM0-SCB15E	SP32EDO SP32EOT	I/O 32pts. 1.5M Cable

CIMON-BP Series

» Main-Block

Type	Model	Description	Option
Main Block (AC90~240V)	CM2-BP32MDTA	DI 16 pts DC 24V/ DO 16 pts TR(Sink)	R: RS232C 1ch S: RS422/485 1ch E: Ethernet 1ch U: RS422/485 2ch T: RS232C 1ch C: RTC
	CM2-BP32ADTA	AI 2 ch / AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Sink)	
	CM2-BP32BDTA	AI 2 ch RTD /AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Sink)	
	CM2-BP32MDCA	DI 16 pts DC 24V / DO 16 pts TR (Source)	
	CM2-BP32ADCA	AI 2 ch/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Source)	
	CM2-BP32BDCA	AI 2 ch RTD/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Source)	
	CM2-BP32MDRA	DI 16 pts DC 24V/ DO 16 pts Relay	
	CM2-BP32ADRA	AI 2 ch/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts Relay	
Main Block (DC24V)	CM2-BP32MDTD	DI 16 pts DC 24V/ DO 16 pts TR (Sink)	
	CM2-BP32ADTD	AI 2 ch/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Sink)	
	CM2-BP32BDTD	AI 2 ch RTD/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Sink)	
	CM2-BP32MDCD	DI 16 pts DC 24V/ DO 16 pts TR (Source)	
	CM2-BP32ADCD	AI 2 ch/ AO 2 ch/ DI 8 pts DC 24V/ DO 8 pts TR (Source)	
	CM2-BP32MDRD	DI 16 pts DC 24V/ DO 16 pts Relay	
	CM2-BP32BDRD	AI 2 ch RTD/ AO 2ch/ DI 8 pts DC 24V/ DO 8 pts Relay	

» Micro Main-Block

Type	Model	Description	Option
Main Block (AC90~240V)	CM2-BP16MDRA	DI 8 pts DC 24V/ DO 7 pts Relay	R: RS232C 1ch S: RS422/285 1ch
	CM2-BP16MDTA	DI 8 pts DC 24V/ DO 7 pts TR Sink	
	CM2-BP16MDCA	DI 8 pts DC 24V / DO 7 pts TR Source	
Main Block (DC24V)	CM2-BP16MDRD	DI 8 pts DC 24V / DO 7 pts Relay	
	CM2-BP16MDTD	DI 8 pts DC 24V / DO 7 pts TR Sink	
	CM2-BP16MDCD	DI 8 pts DC 24V / DO 7 pts TR Source	

» Digital Expansion-Block

Type	Model	Description
DI/DO	CM2-BP16EDC	DI 8 pts DC 24V/ DO 8 pts TR (Source)
	CM2-BP16EDR	DI 8 pts DC 24V/ DO 8 pts Relay
	CM2-BP32EDC	DI 16 pts DC 24V/ DO 16 pts TR (Source)
	CM2-BP32EDR	DI 16 pts DC 24V/ DO 16 pts Relay
DI-16	CM2-BP16EDO	DI 16 pts DC 24V
DO-16	CM2-BP16EOR	DO 16 pts Relay
	CM2-BP16EOT	DO 16 pts TR (Sink)
	CM2-BP16EOC	DO 16 pts TR (Source)

» Analog Expansion-Block

Type	Model	Description
AI-4	CM2-BP04EAO	AI 4 ch Current Voltage
AIO-4	CM2-BP04EAA	AI 2 ch Current Voltage / AO 2 ch Current Voltage
AO-4	CM2-BP04EOA	AO 4 ch Current Voltage
AI-4	CM2-BP04ERO	AI 4 ch RTD
	CM2-BP04ETO	AO 4 ch TC

» Communication Protocol Option Guideline

Type	Model	Description
RS232	CM2-BP32MDxx-R	HMI Protocol only
RS422	CM2-BP32MDxx-S	
RS422x2	CM2-BP32MDxx-U	HMI/ User/ Loader/ PLC Link/ Modbus Master & Slave
RS232	CM2-BP32MDxx-T	HMI/ User/ Loader/ PLC Link/ Modbus Master & Slave
Ethernet	CM2-BP32MDxx-E	HMI/ User/ Loader/ PLC Link/ Modbus TCP (Slave)

Training Kit

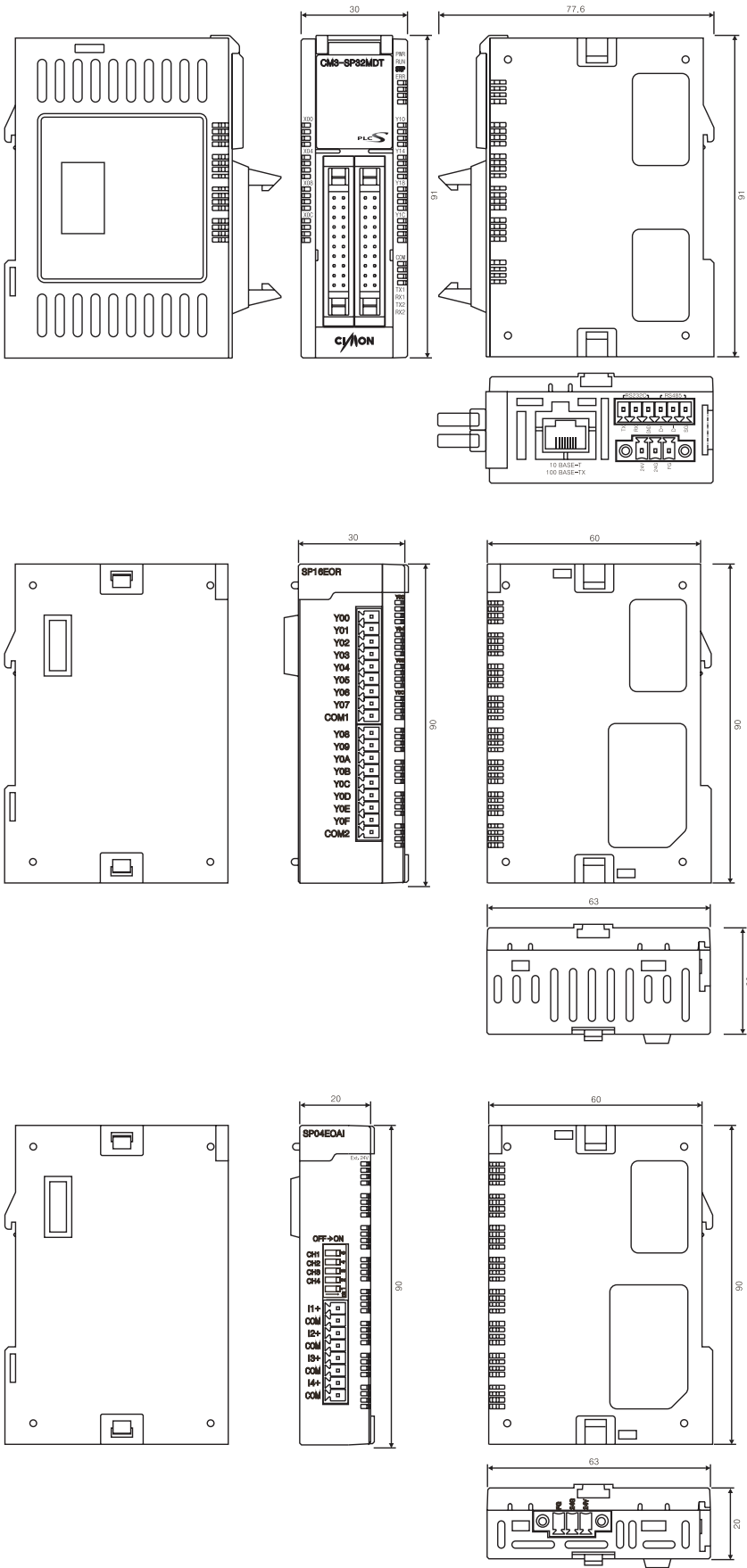
Type	Model	Description
Kit	PEK-408	CP type PLC Training Kit
	PEK-308	PLC-S + Xpanel Training Kit

Remote I/O (CIMON-NET)

Model	Distribution	Standard
RC-XD32A	Input	Input, DC24V 32points(Sink/Source combined). photo coupler insulation(custom-built module)
RC-YT32A	Output	Output, TR Sink 32points, 0.5Amp, Photo coupler insulation(custom-built module)
RC-XY32DT	Mixed	I/O, DC24V 16points(Sink/Source combined), 0.5Amp, TR Sink 16points

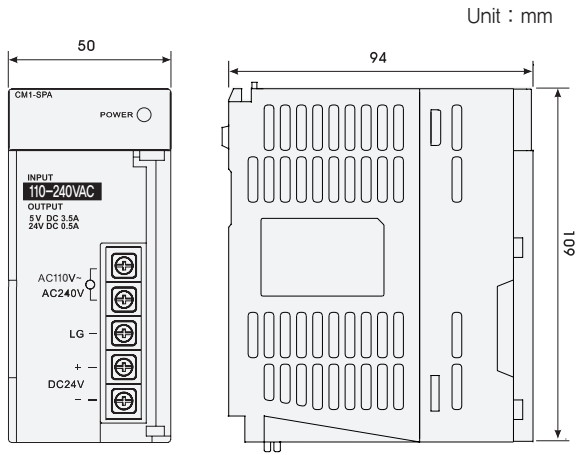
CIMON-PLC Dimensions

PLC-S



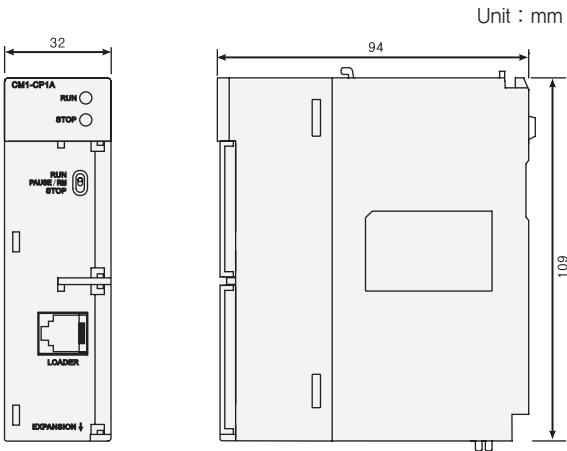
XP/CP

Power Module



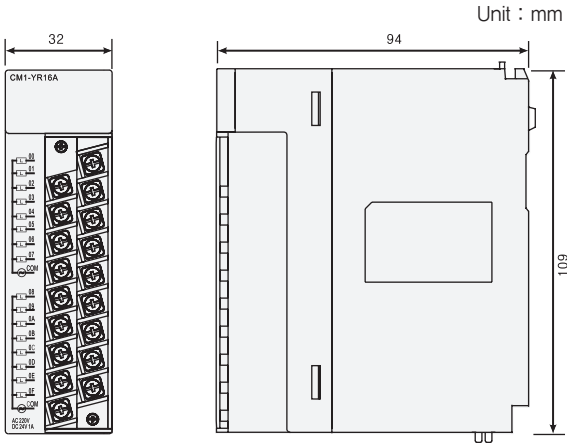
Model	Weight
CM1-SP*	278.3g
CM1-SP2B	270.5g

CPU Module



Model	Weight
CM1-CP*	132g

I/O Module

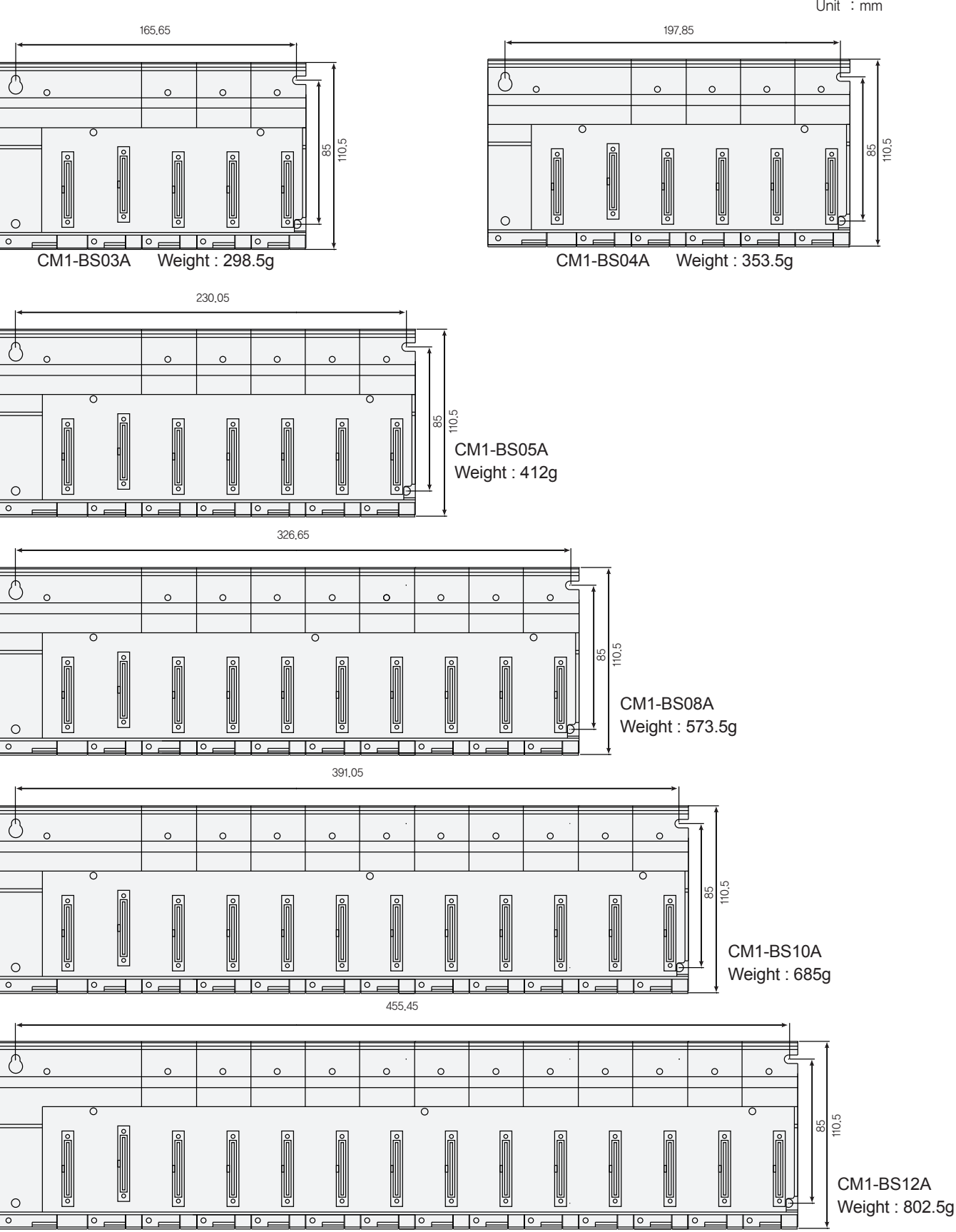


Model	Weight	Model	Weight
CM1-XD16A	158g	CM1-AD04VI	193.5g
CM1-XD32C	121g	CM1-AD08I	195.5g
CM1-XA08*	168.5g	CM1-AD08V	194.5g
CM1-YR16A	202g	CM1-DA08I	219g
CM1-YS08A	202.5g	CM1-DA08V	197.5g
CM1-YT16*	159.5g	CM1-RD04A	194.5g
CM1-YT32*	122g	CM1-TC04A	200.5g
CM1-EC01*	111.5g	CM1-SC***	118.5g

※ Comm. module and other module's dimension is same as IO module.

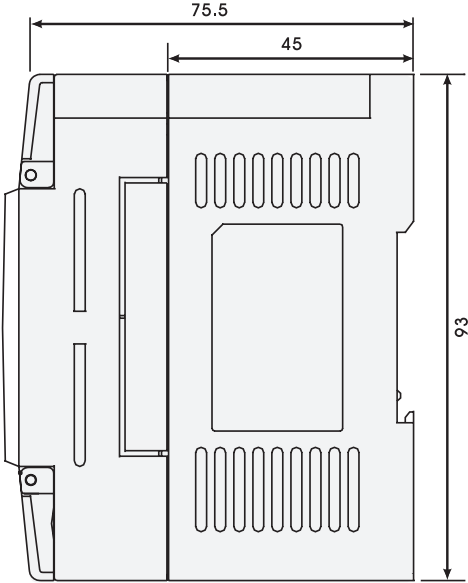
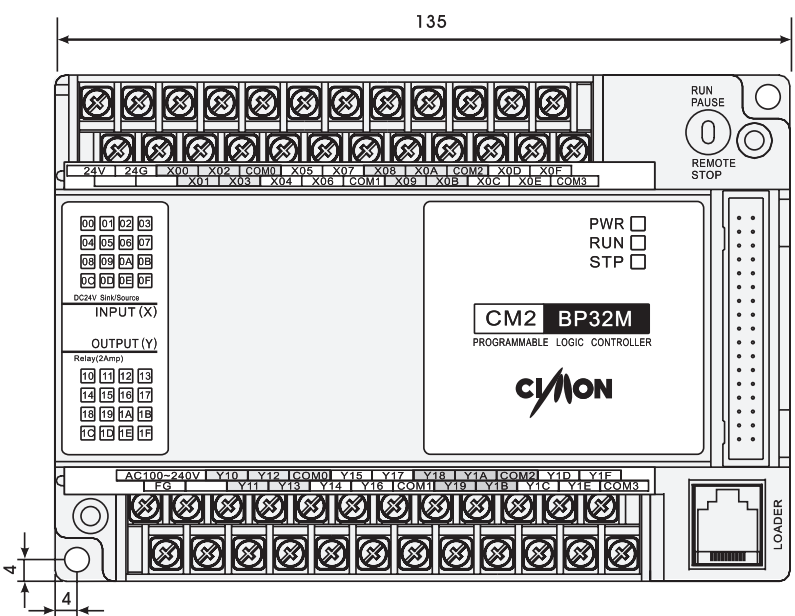
CIMON-PLC Dimensions

XP/CP Base

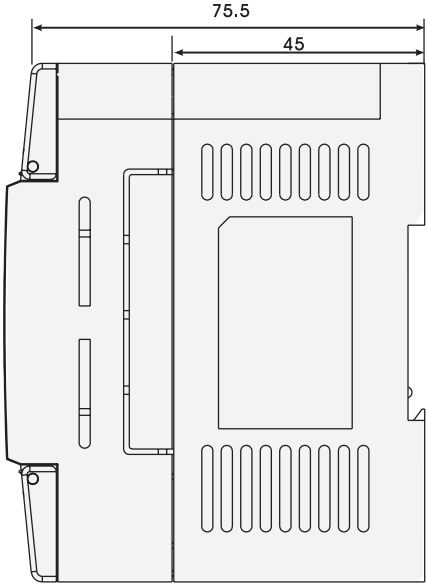
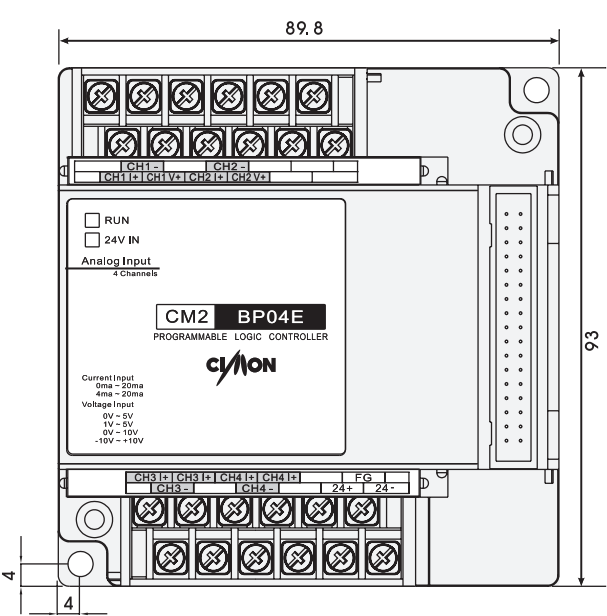


BP

» Main Block, 32 Points Expansion Block



» Main Block (BP 16M), 16 Points Expansion Block, Analog Block



CIMON

PLC



Distributed by Anaheim Automation, Inc.
USA Stock in Anaheim, CA
1-800-345-9401
www.anaheimautomation.com