

CIMON-PLC features

- ### -High Reliability and Performance

- Combined Remote I/O and Expansion Capability

- ### -Excellent Compatibility and Scalability

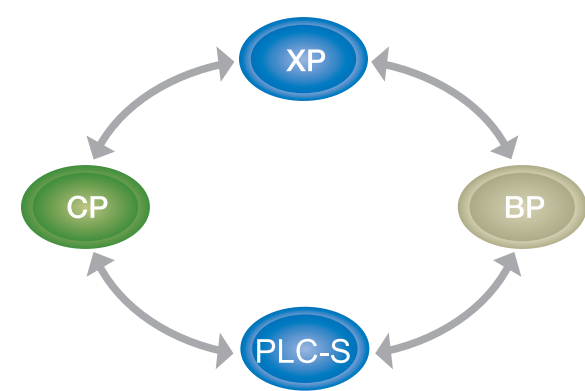
- Compact Size

- ## -High Processing Speed

- Interactive Engineering Software (CICON)



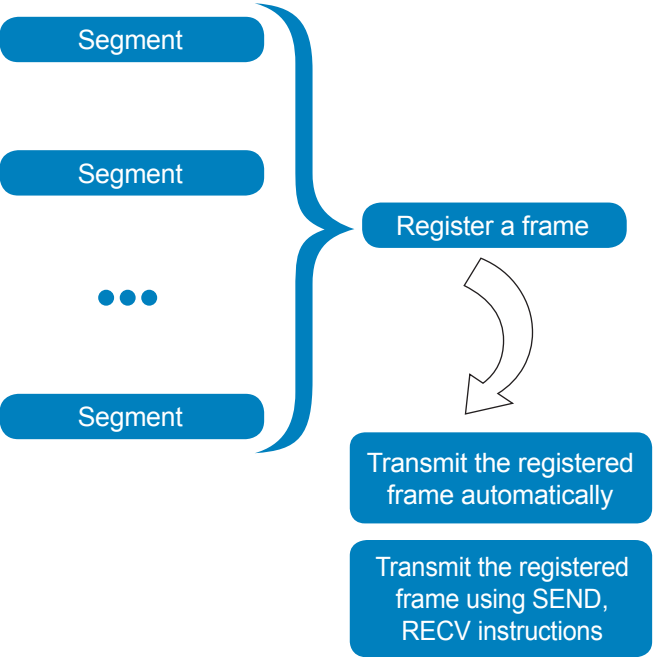
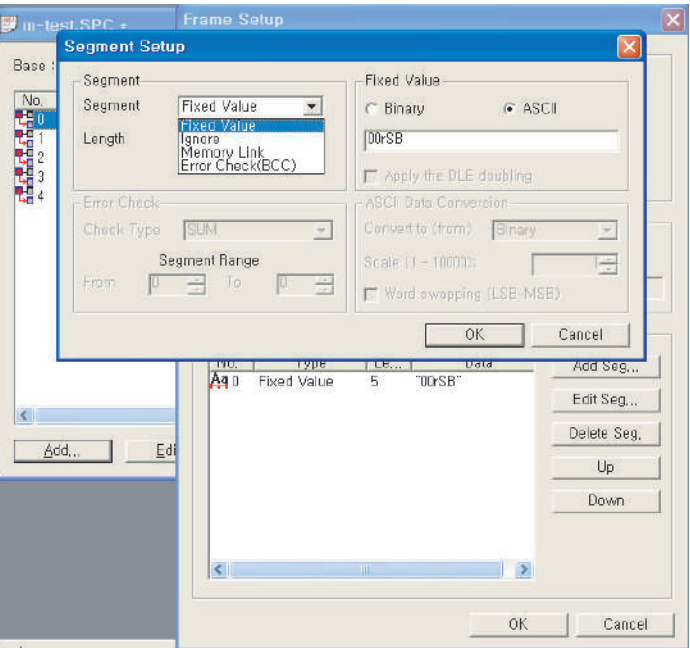
Feature of CIMON-PLC



- 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

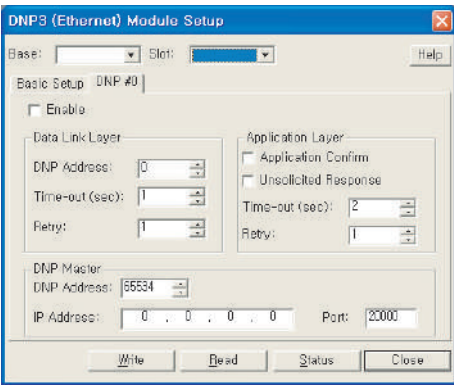
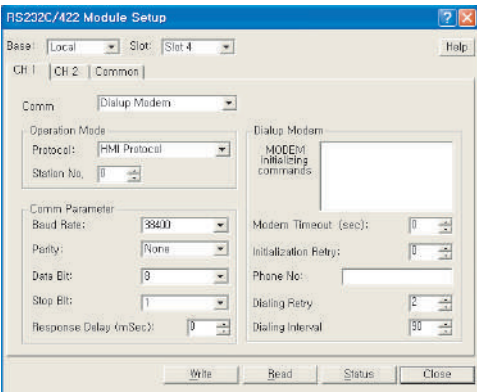
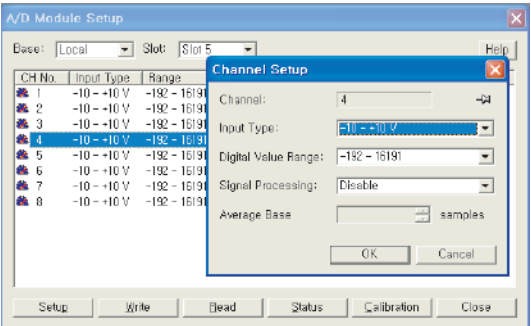
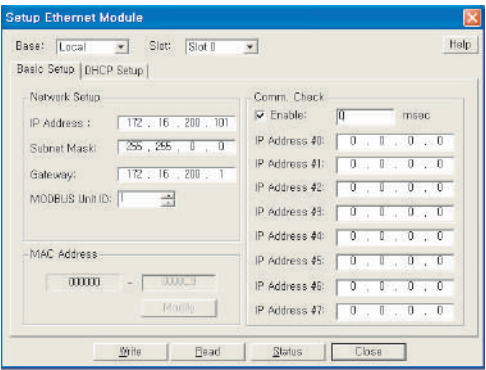
- Sequence program(CICON) is compatible with XP, CP BP and PLC-S types of PLC
- Operator can choose RAM or ROM mode through the integrated flash memory
- Analog modules provide high-resolution signal conversion range (1/16000 or 1/64000)
- Simple and user-friendly ladder program (PID program, Protocol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

Protocol Program



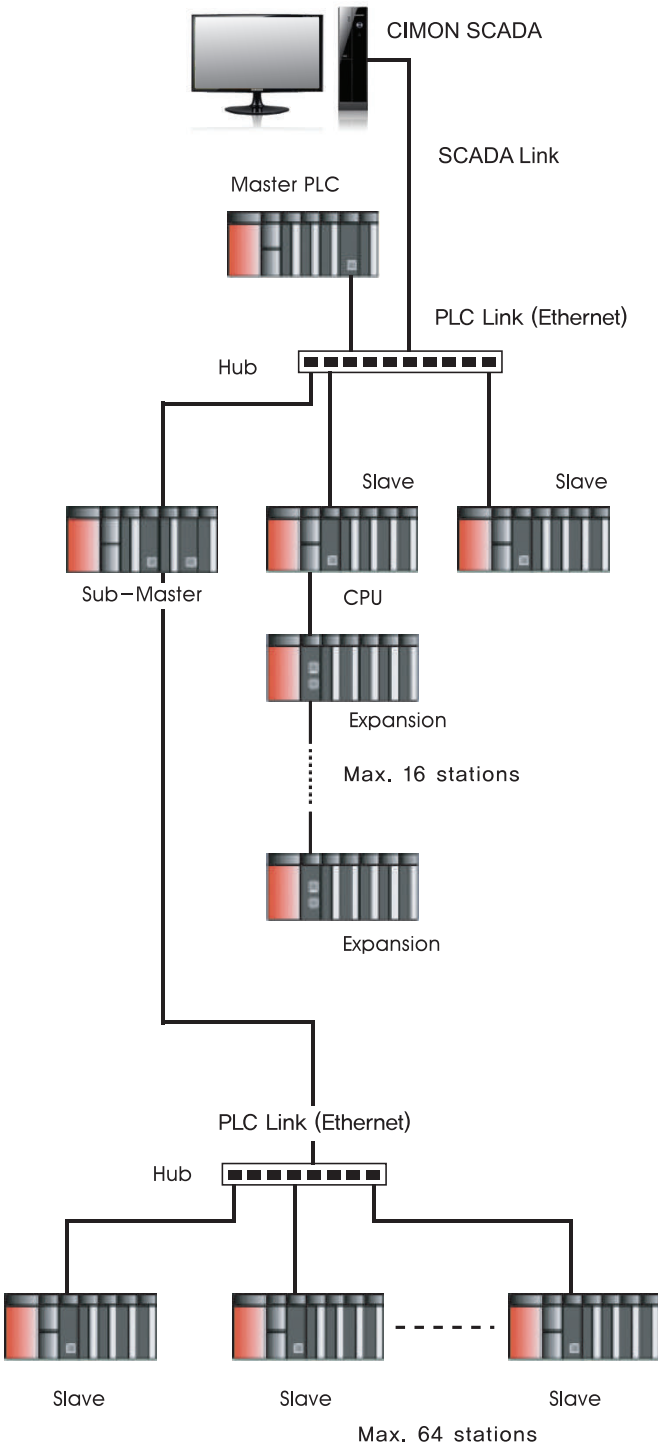
- Simple and easy set-up of communication and analog modules

Special Module Set-Up



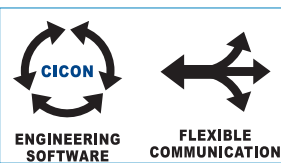
- Excellent expansibility and compatibility (Ethernet standard)

Network Configuration

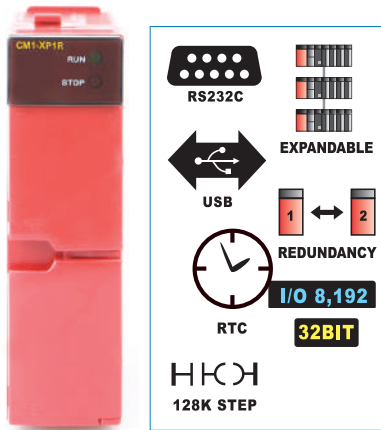


XP/CP Series

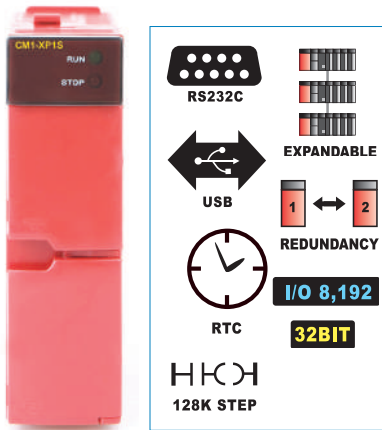
XP Series



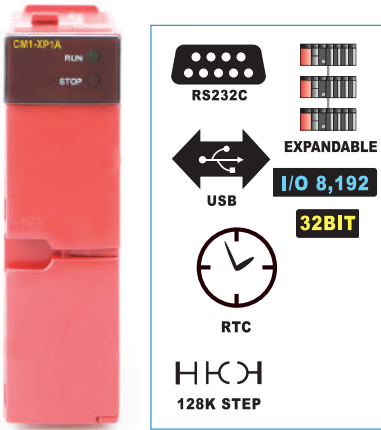
CM1-XP1R



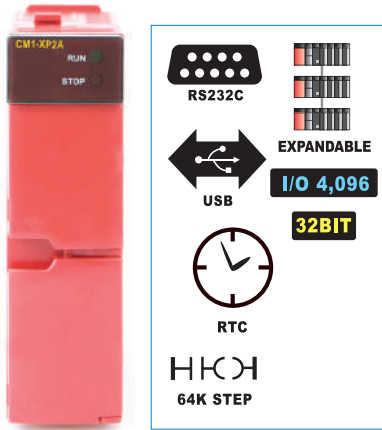
CM1-XP1S



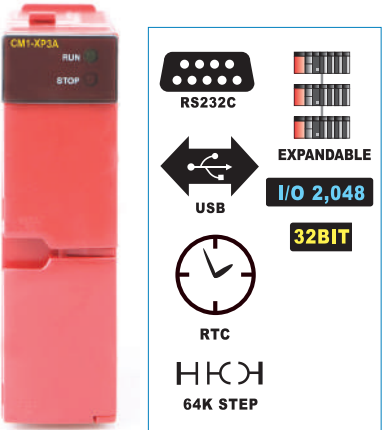
CM1-XP1A



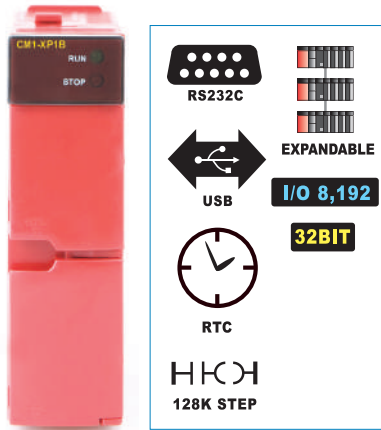
CM1-XP2A



CM1-XP3A



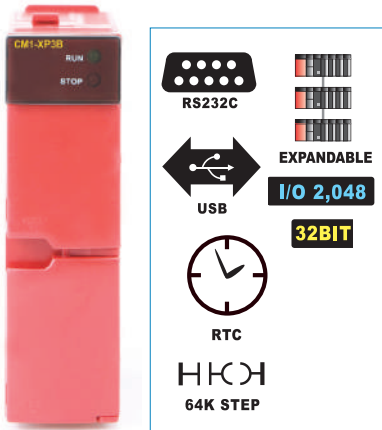
CM1-XP1B



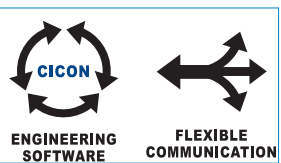
CM1-XP2B



CM1-XP3B



CP Series



CM1-CP3A



CM1-CP3B



CM1-CP3P



CM1-CP3U



CM1-CP4A



CM1-CP4B



CM1-CP4C



CM1-CP4D



CM1-CP4U



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

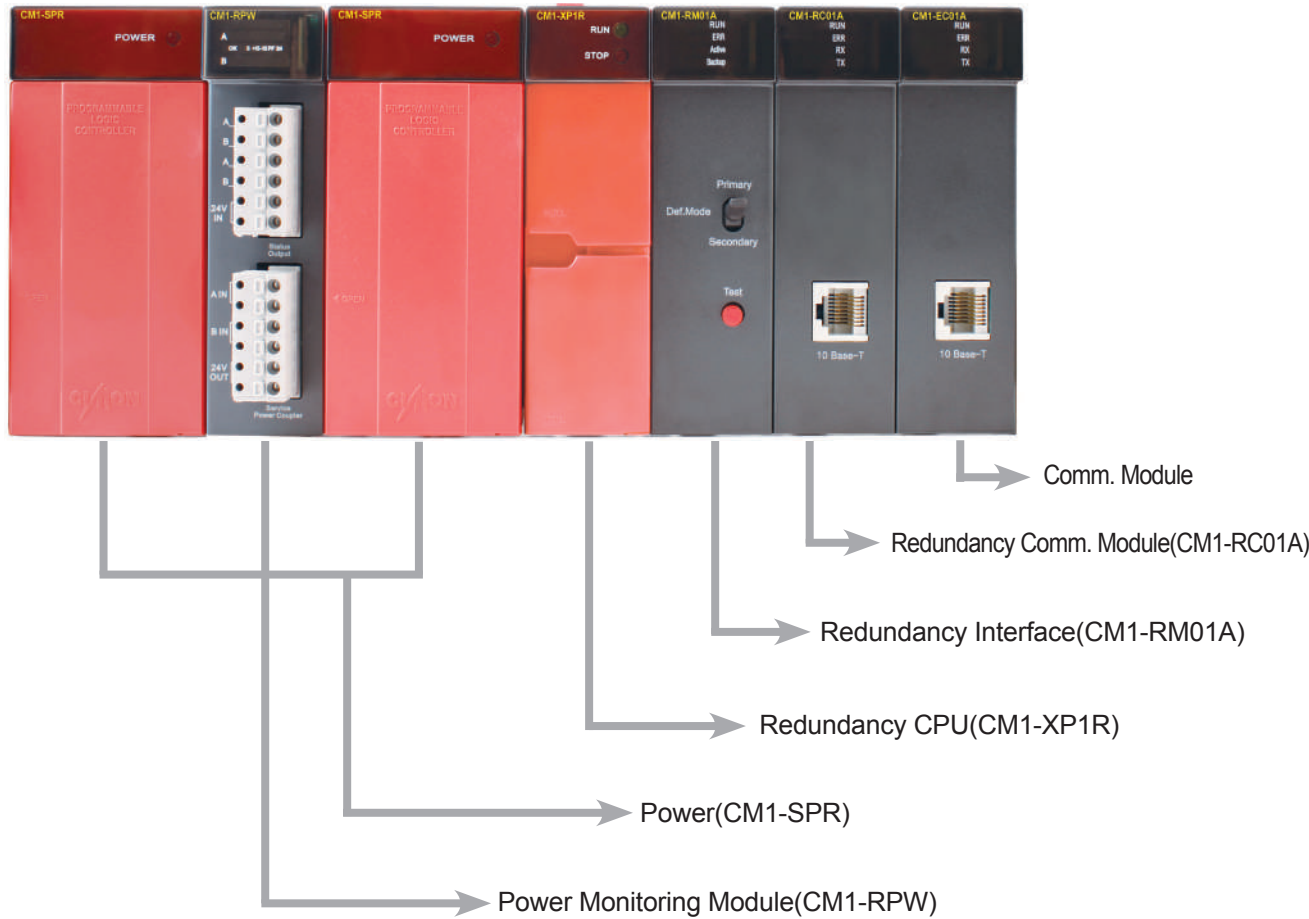


Item		Specification		
		CM1-XP1A/R	CM1-XP2A	CM1-XP3A
Operation Method		Stored Program, Cyclic Operation, Time Driven Interrupt		
I/O Control Method		Interrupt system, Direct by Instructions, Scan Synchronous Batch Processing System.		
Program Language		LD (ladder diagram), IL (instruction list)		
Data 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

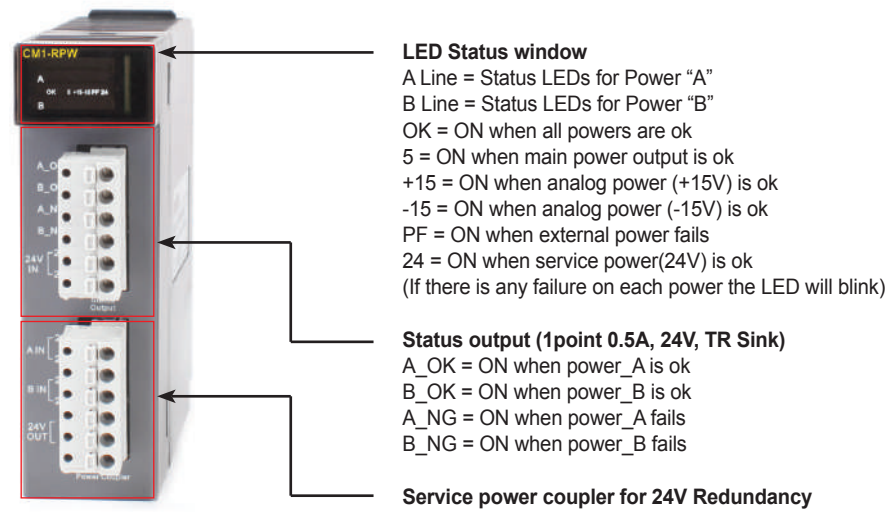
- CPU, power, base and communication redundancy available
- Perfect redundancy configuration derived from the base structure
- In case an errors in the active CPU, the back-up CPU will switch to active status automatically
- Test button to easily check and maintain the system
- Less than 50ms to switch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

Redundancy Configuration

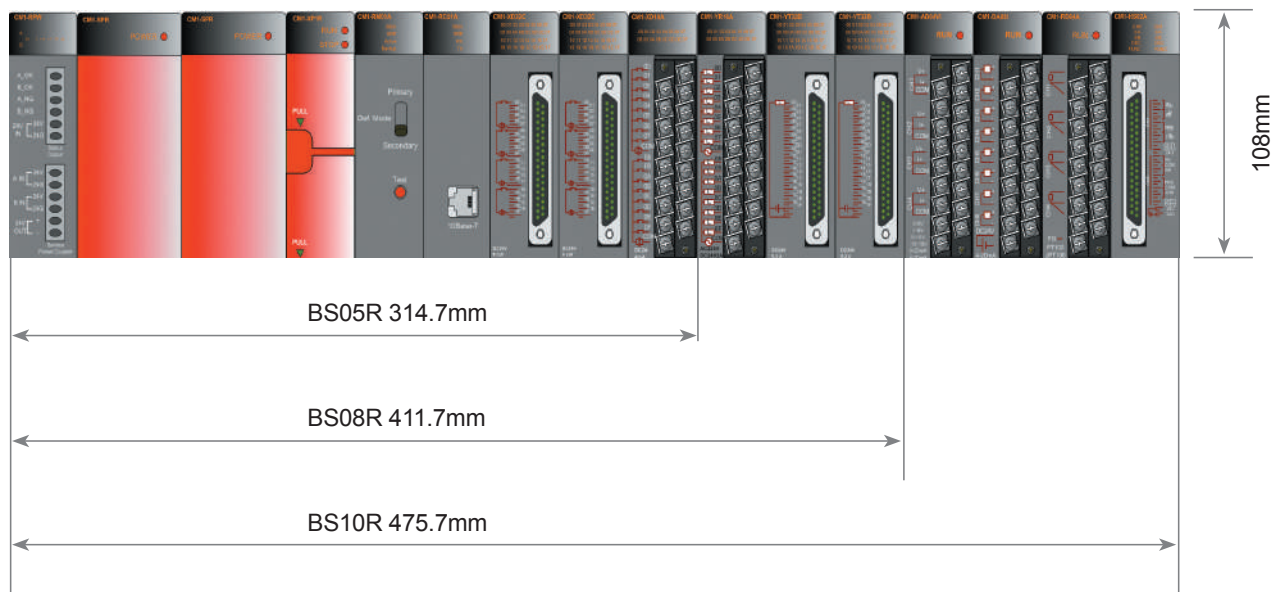


Redundancy Power Monitoring Module

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



Dimensions



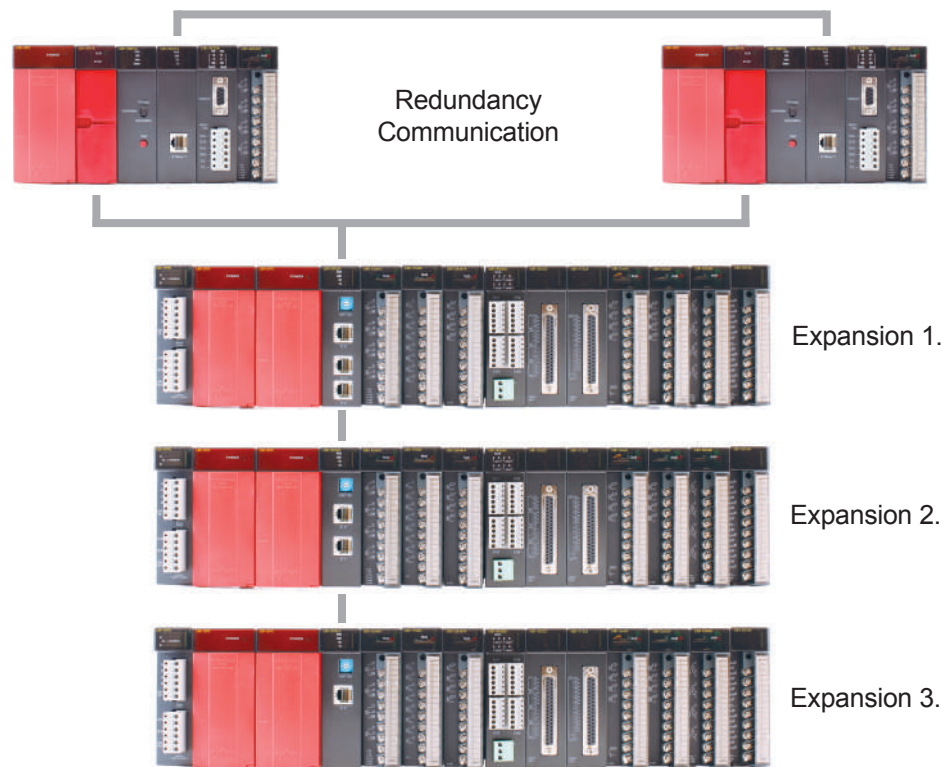
Base for Redundancy

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	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 Base	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 16 expansion base (except CP4 series)
- Additional integrated communication port (CM1-CP4C:RS232C, CM1-CP4D/U:RS422/485)
- When CPU is replaced, CPU reads I/O and base prooerty automatically.
- 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 12 modules can be installed in a base



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	CM1-SPW
Input	Input Voltage	AC100-240V, 50/60Hz		DC19-28V	DC70-110V
	Input Current	0.25A MAX. For 220VAC		1.8A MAX. For 24VAC	1.6A MAX. For 100VDC
	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)	+5V(3.5A)
		+24V(0.3A)	+24V(0.3A)	+15V(0.5A)	+24V(0.3A)
			+15V(0.5A)	+15V(0.5A)	+15V(0.5A)
			-15V(0.3A)	-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
AC Input Module	CM1-XA08*	30mA	Load Cell Module	CM1-WG0**	170mA
I/O Module	CM1-XY16DR	180mA	Positioning Module	CM1-PS02A	240mA
Relay Module	CM1-YR16A	250mA	Communication Module	CM1-SC02A	190mA
Transistor Module	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
A/D Convert Module	CM1-AD04VI	50mA		CM1-EC10*	290mA
	CM1-AD08V	50mA		CM1-BN01A	290mA
	CM1-AD08I	55mA		CM1-EC0*DNP	290mA
	CM1-AD04W	430mA		CM1-C*01*	60mA
			CM1-LG32A	170mA	

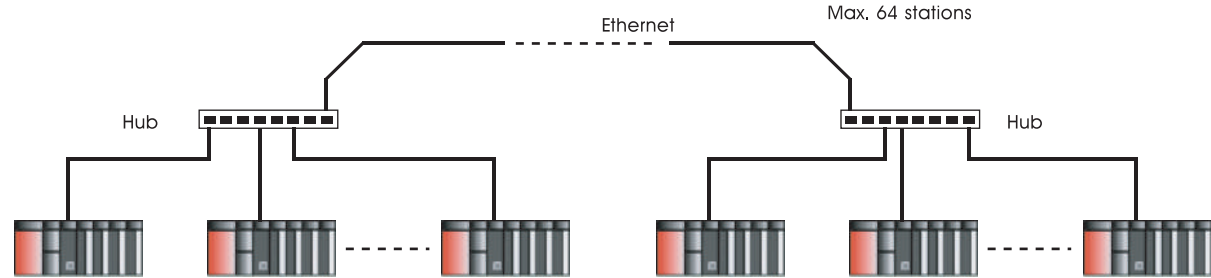
Ethernet Module

- 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)

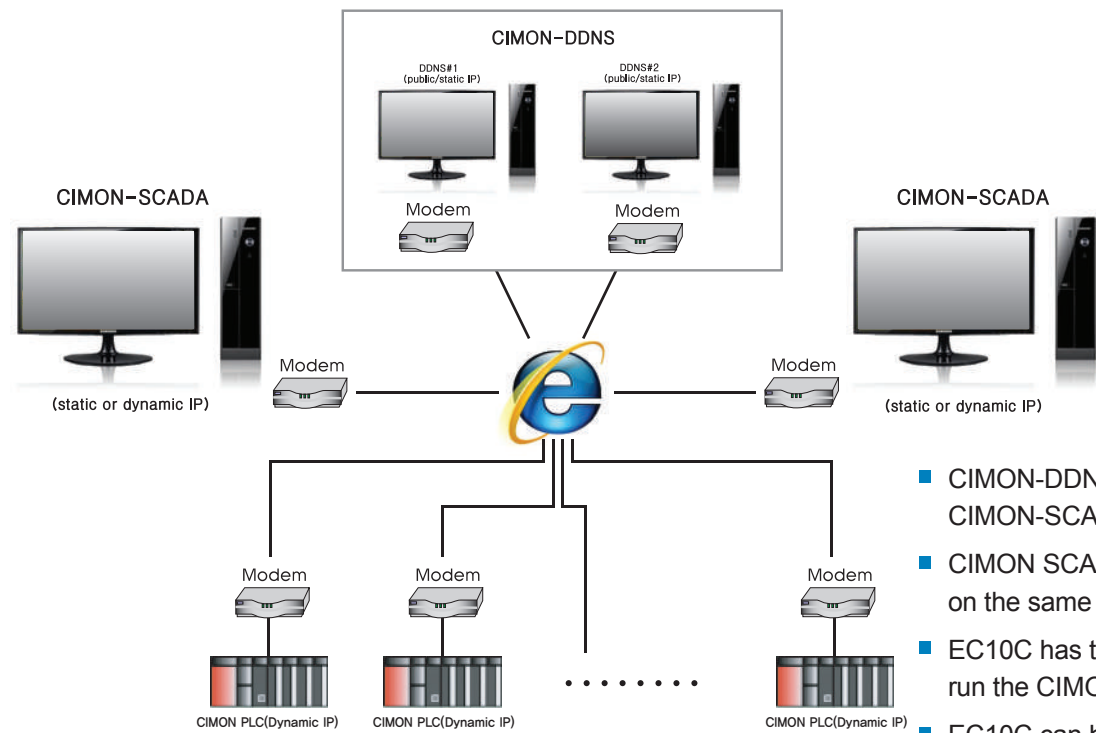


Model	CM1-EC01A	CM1-EC10A	CM1-EC10B	CM1-EC10C	CM1-EC01DNP/EC04DNP
Media interface	10BASE-T	10BASE-T 100BASE-TX	100BASE-FX	10BASE-T 100BASE-TX	10BASE-T
Transmission speed	10Mbps	10/100Mbps	100Mbps	10/100Mbps	10Mbps
Transmission Media	UTP/STP Category5	UTP/STP Category5 Auto MDIX	SC, Multi-Mode (1310mm)	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
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	No
DHCP	No	No	No	Yes	
DNP3	No	No	No	No	

System Configuration

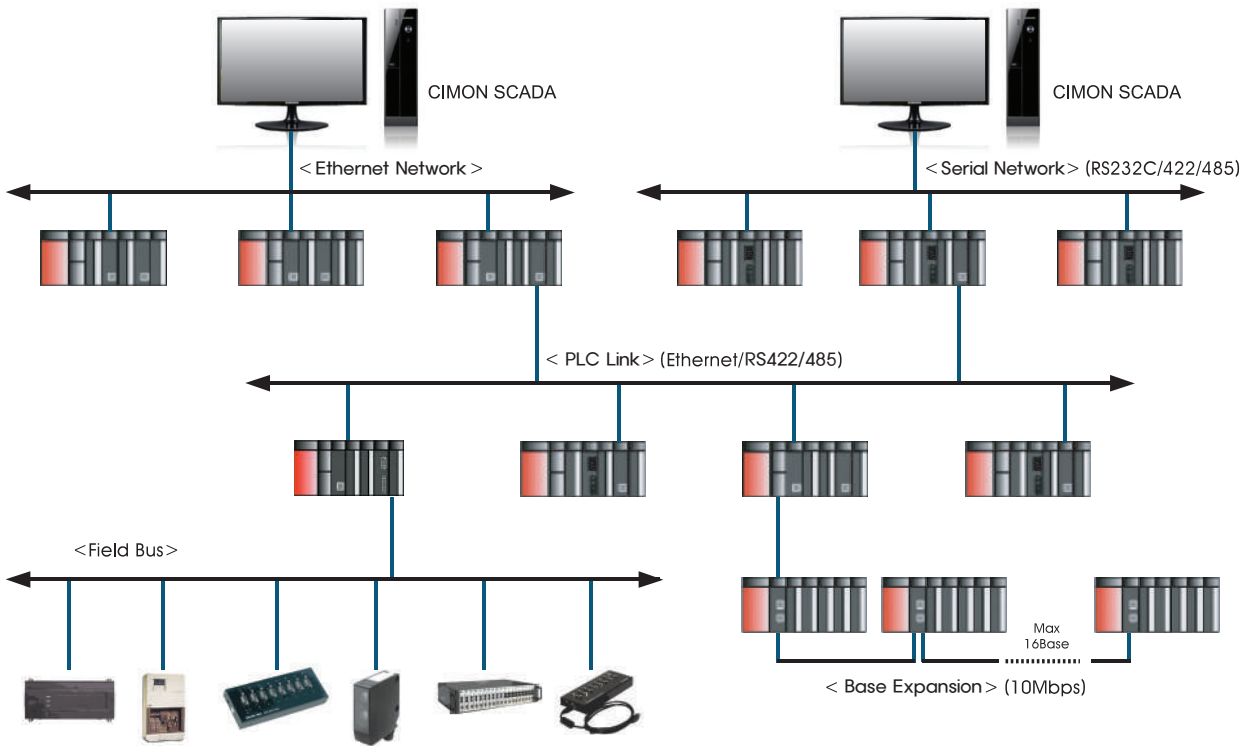


CIMON - Dynamic IP SYSTEM (CM1-EC10C)



- CIMON-DDNS is integrated within CIMON-SCADA
- CIMON SCADA and DDNS can be run on the same PC
- EC10C has to be installed in order to run the CIMON PLC in dynamic IP
- EC10C can be run under the IP sharer

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

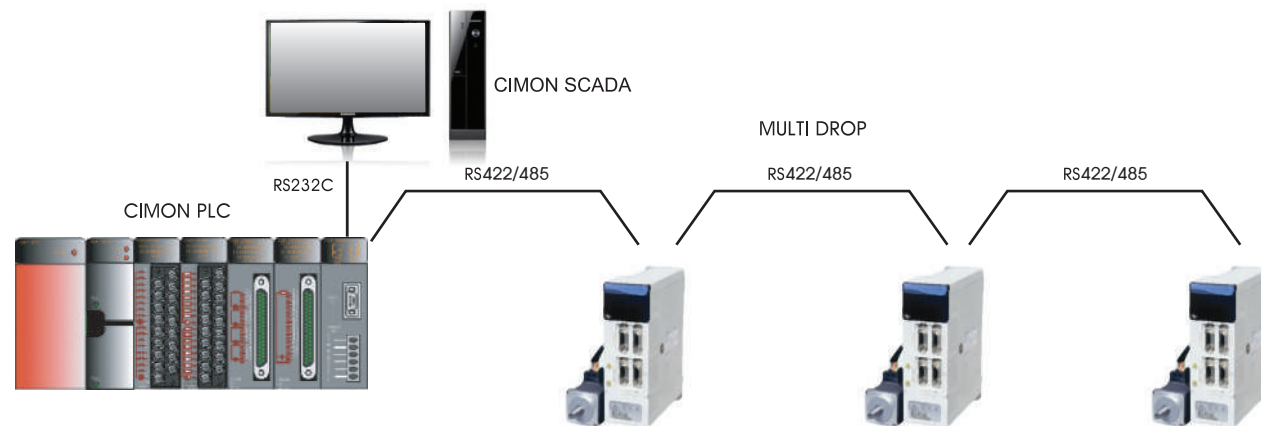


- CDMA Packet / Circuit communication
- Flexible choices for communication
- Easy parameter setup
- Communication connection management by user program
- Possible to read and write data by HMI protocol
- Maximum 32 communication
- Flexible communication speed set-up (300~76800bps)
- 1:1 / 1:N / N:M communication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

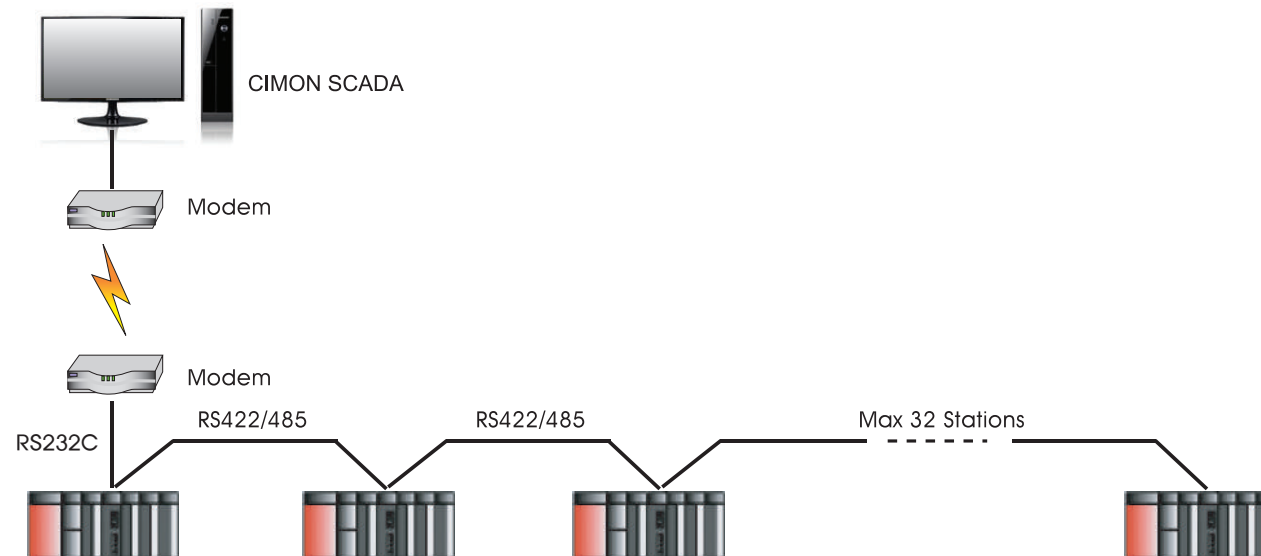
Item		CM1-SC02CDMA
Interface		RS232C / RS422 / RS485
Comm Mode	HMI Mode	CIMON Protocol (1 : n)
	Loader Mode	CICON Communication
	Modbus	MODBUS RTU Mode (Slave and Master)
	User defined mode	Communication between Different Kinds of Systems
Data Type	Data Bit	7 or 8 bit
	Stop Bit	1 or 2 bit
	Parity	Even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

» System Configuration

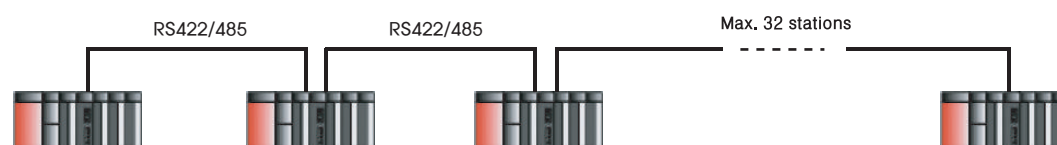
- Connecting the Application by protocol programs



- 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			

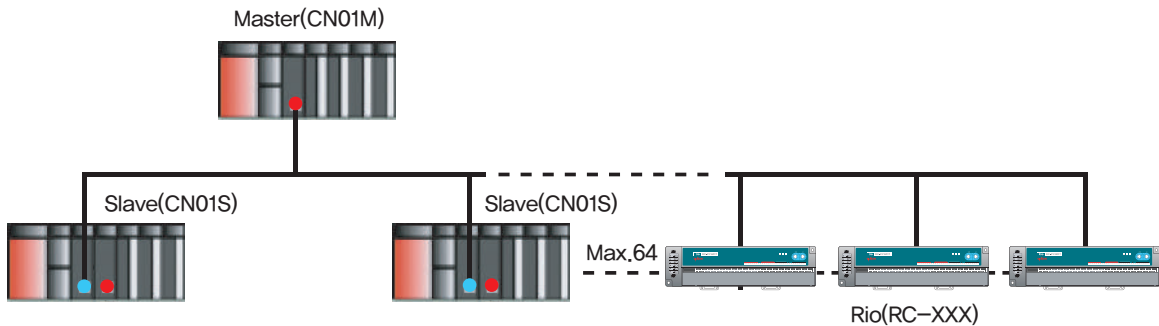
» Cable Specification

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



» 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)
Model		RC-XD16A	RC-YT32A	RC-XY32DT	
Point		16 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

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

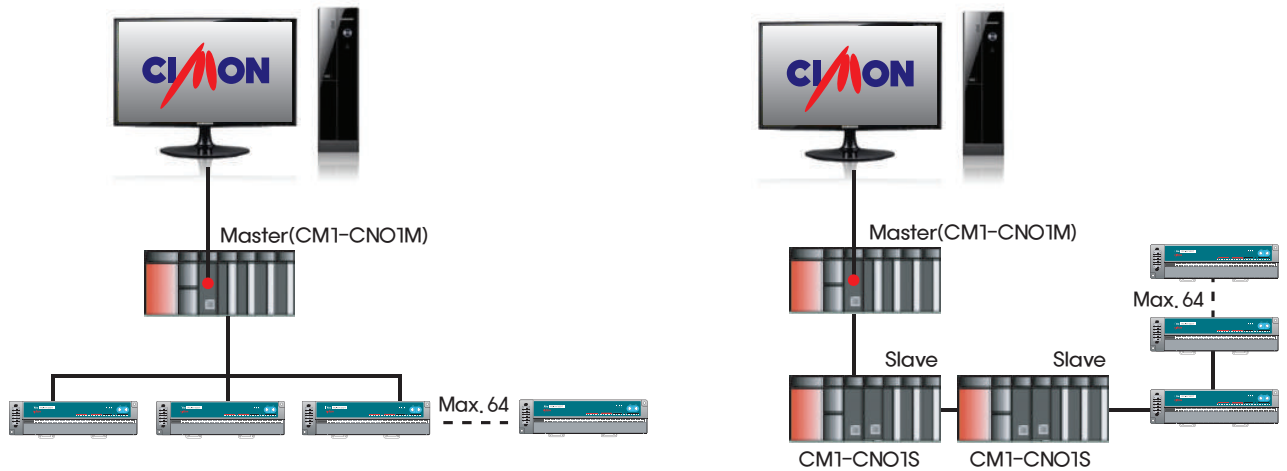
» Cable Standard

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)

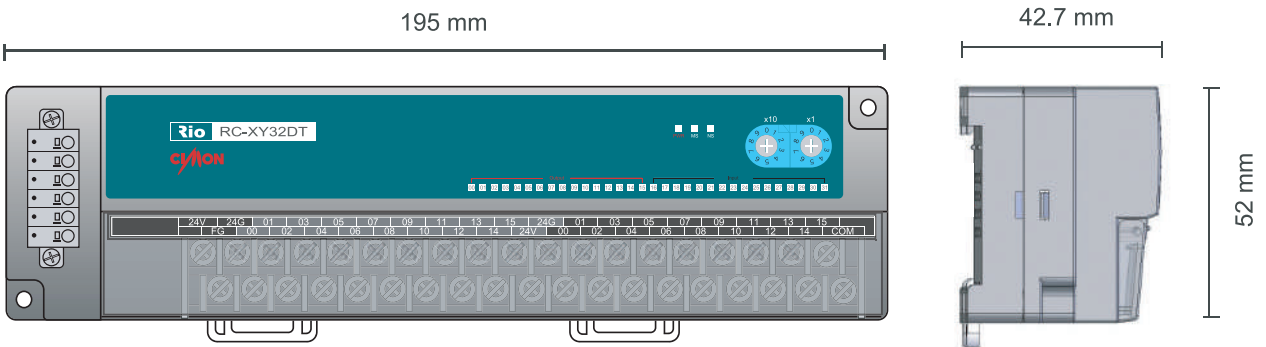
» Transmission Distance

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

» System Configuration



» Dimensions



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.

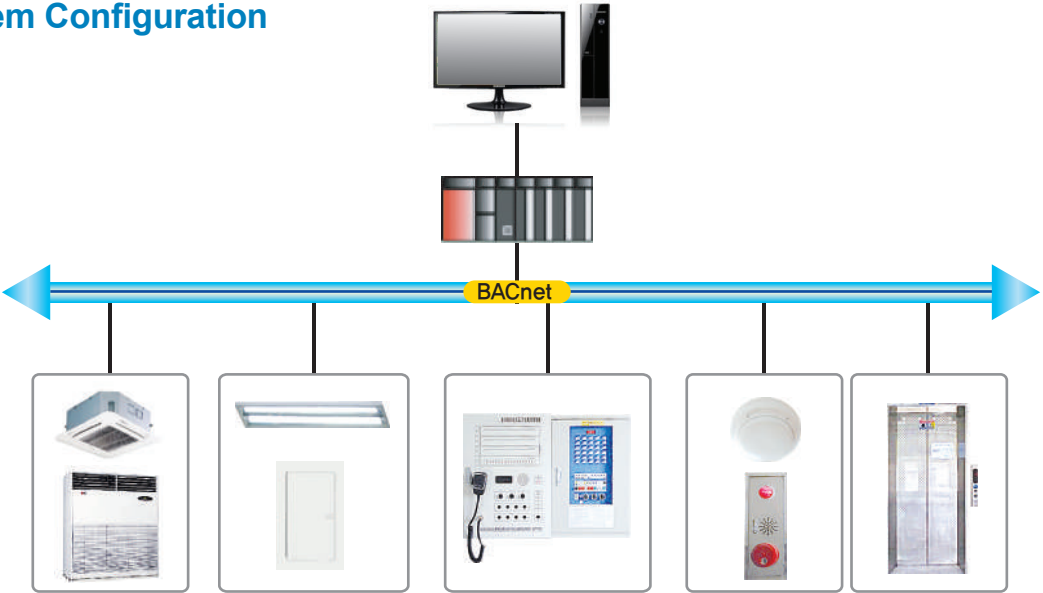
» Features of BACnet Module

- 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



PROFIBUS Module

» Features of Profibus DP Module

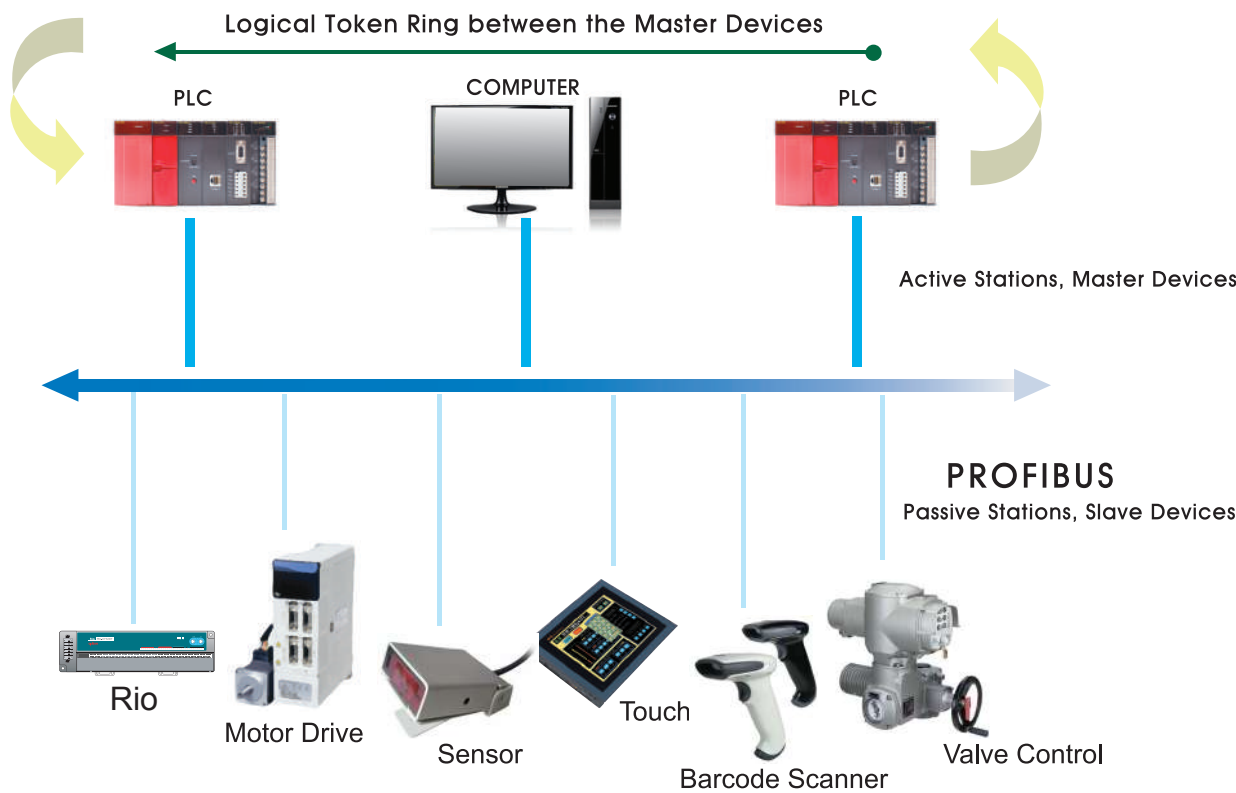
- Suitable to communicate between master automation device and the slave I/O device
- Flexible communication speed (9.6Kbps~12Mbps)
- RS485 interface
- Easy installation by using the twisted pair cable
- Maximum 127 slave stations available (32 stations per segment)
- Network setup via Sycon-PB configuration 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



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/E	CM1-XD32C/E	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/E	CM1-YR32A
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	

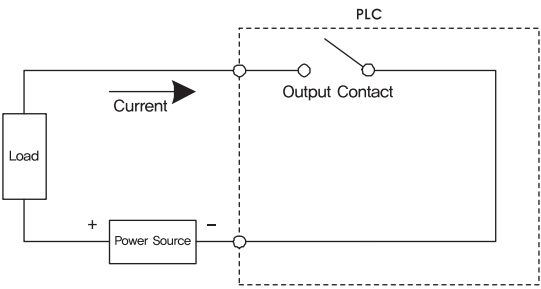
※ If this module is used as an inductive load switch, it will shorten the life of the module. please use transistor output module for this purpose

» Transistor Output Module



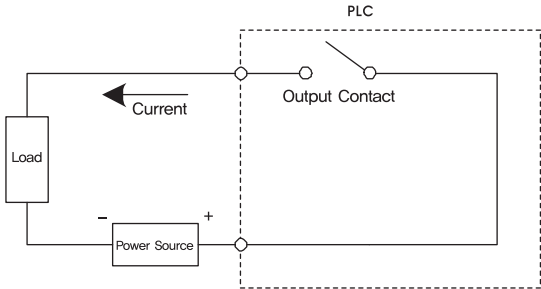
Model		Transistor Output				
		CM1-YT16A/E	CM1 - YT16B/F	CM1 - YT32A	CM1 - YT32B	CM1-YT64A
Output Points		16 points Sink	16 points Source	32 points Sink	32 points source	64 points Sink
Rated Load Voltage		DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V	DC 12 ~ 24 V
Rated Load Current	1 Points	0.5 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

» Analog Input Modules



- 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 Voltage / 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		Current	0 ~ 20 mA 4 ~ 20 mA		-10 ~ +10 V		
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

» Analog Output Modules



- 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
Analog Output point	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
Analog Output point	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)	
	JPT100 : -200.0 ℃ to 600 ℃ (17.14 to 317.28 Ohm)		Ni1000(DIN 43760) : -50 ℃ to 160 ℃ (742.6 to 1986.3 Ω) 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			
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

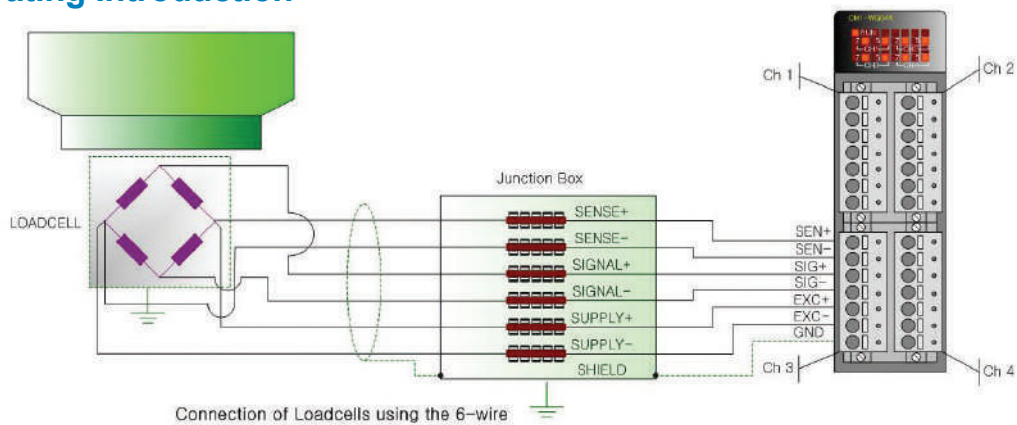
Load Cell Module



- 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
- WG02D model can be in dynamic measurements by getting external 24V DC 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



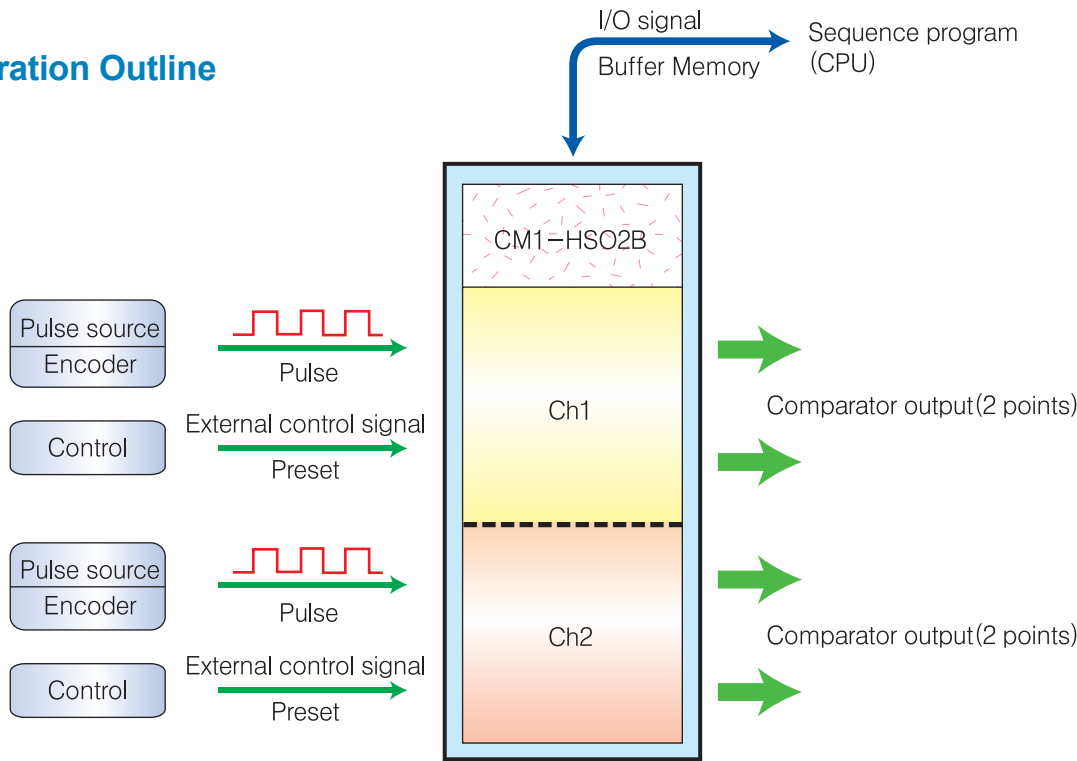
High-Speed Counter Module

- 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




Positioning Module

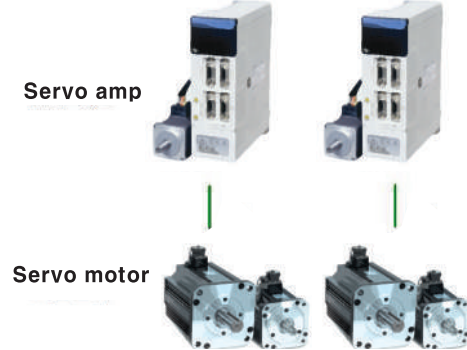
- Enable to set a maximum of 600 positioning data
- Features position control and speed control
- Positioning control of one axis: linear interpolation, separate/synchronous operation
- Positioning control of two axes: speed control, arc/linear interpolation, separate/synchronous operation
- Origin point 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

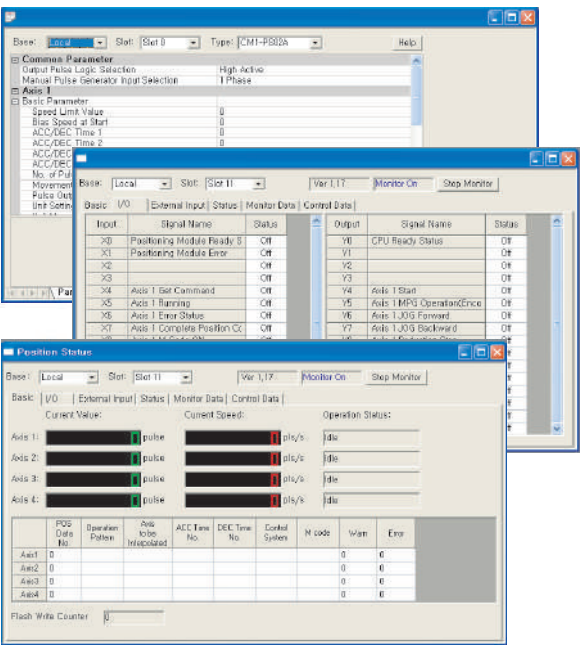


Set the parameter by loader program



Servo amp

Servo motor



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	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

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

Base

» Base Model

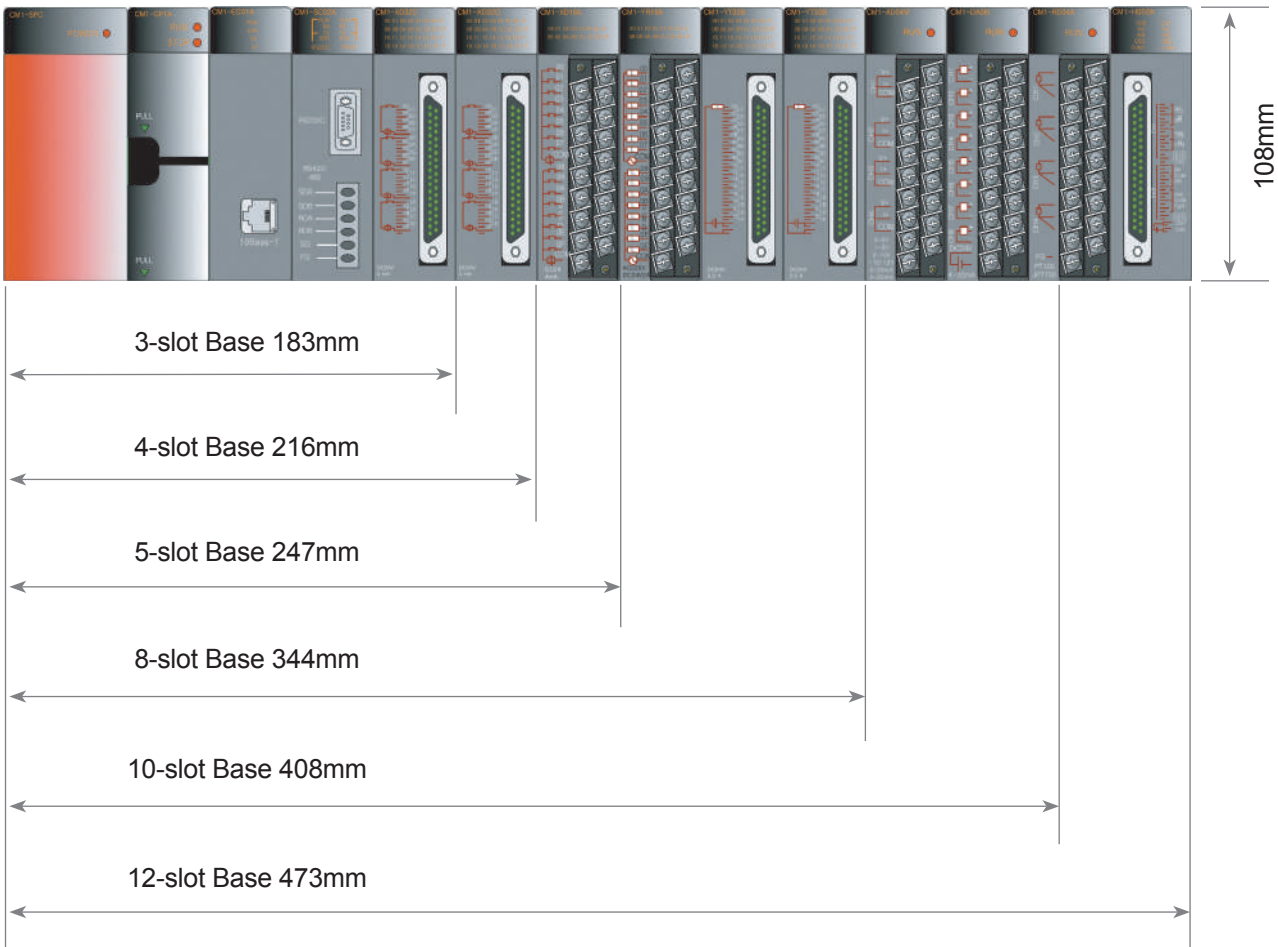
The CIMON PLC is made up of six kinds of slot bases such as 3/4/5/8/10/12 so that the suitable configuration is available according to the capacities

(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

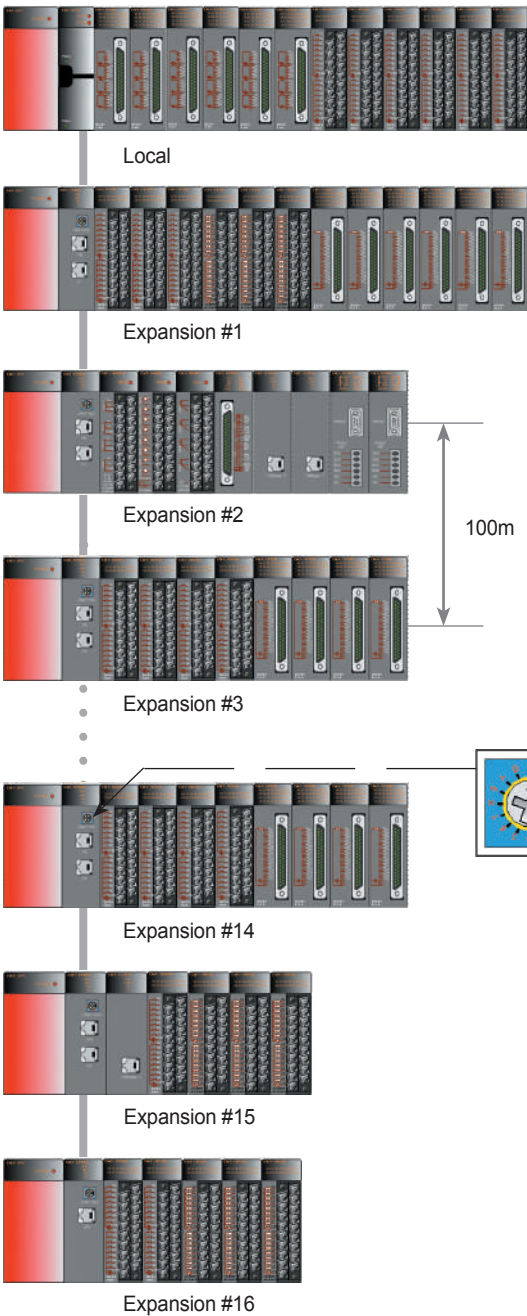
CIMON PLC minimalistic design efficiently uses space to maximize productivity





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)



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



- 1. Abundant program capacity - 8,000 steps
- 2. 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		AD / DA / AD+DA / TC / IO (Maximum 3 steps)			Not Expandable
Standard I/O		DI : 8, DO : 8	DI : 8, DO : 8	DI : 16	DI : 8
		AI (Voltage / Current) : 2	AI (RTD) : 2		
		AO (Voltage / Current) : 2	AO (Voltage / Current) : 2	DO : 16	DO : 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
	On -> Off	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

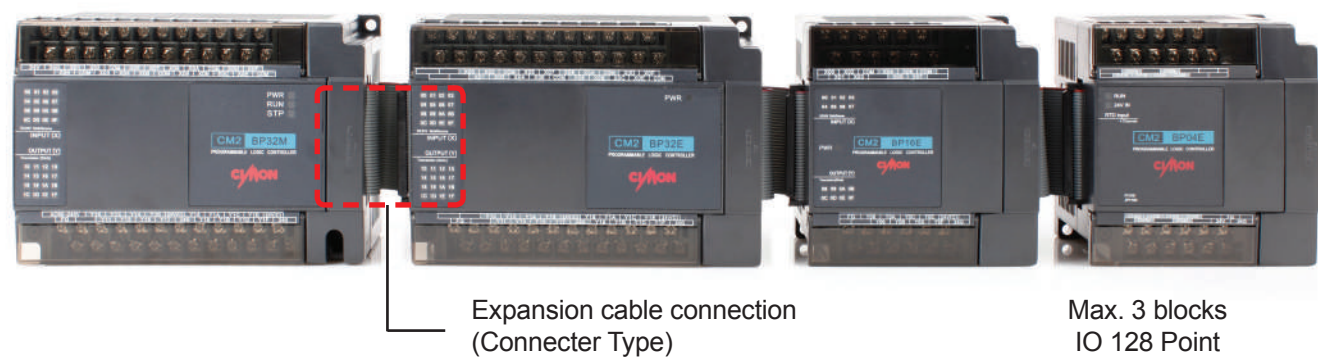
Built-In Communication Block Specifications

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

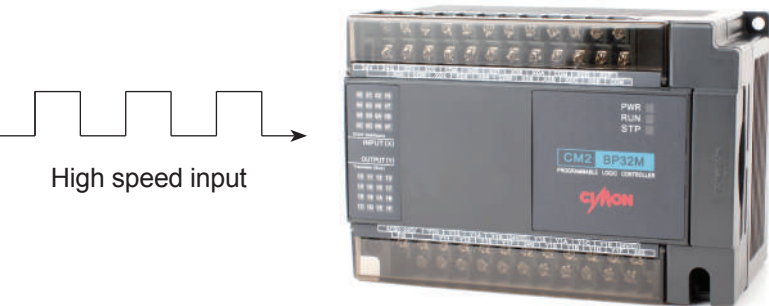
Main function

» 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

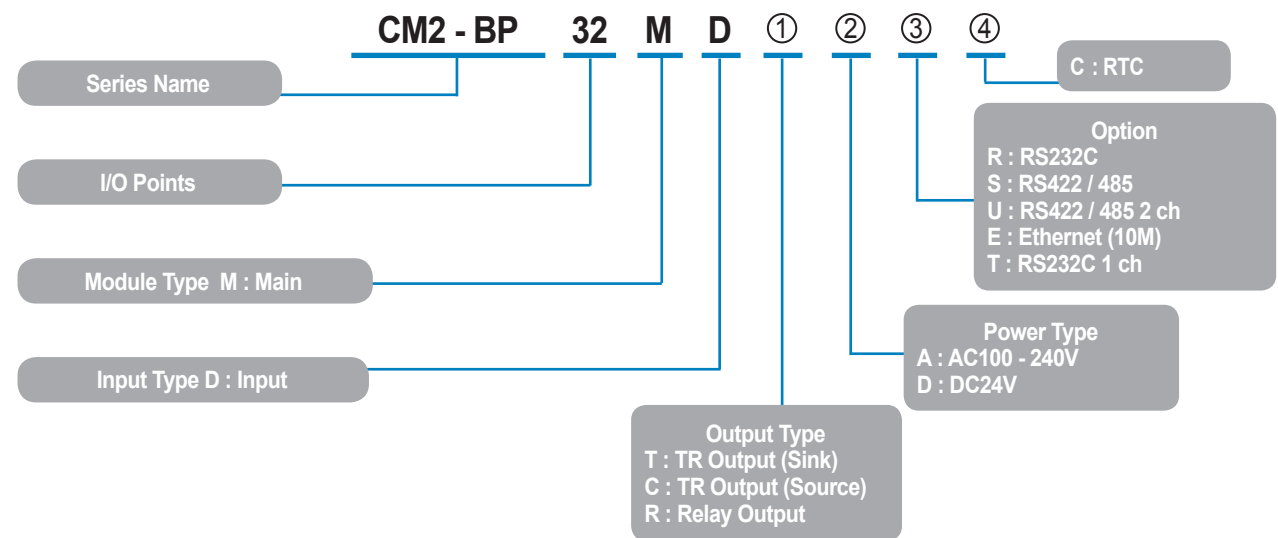
» Built-in High Speed Counter



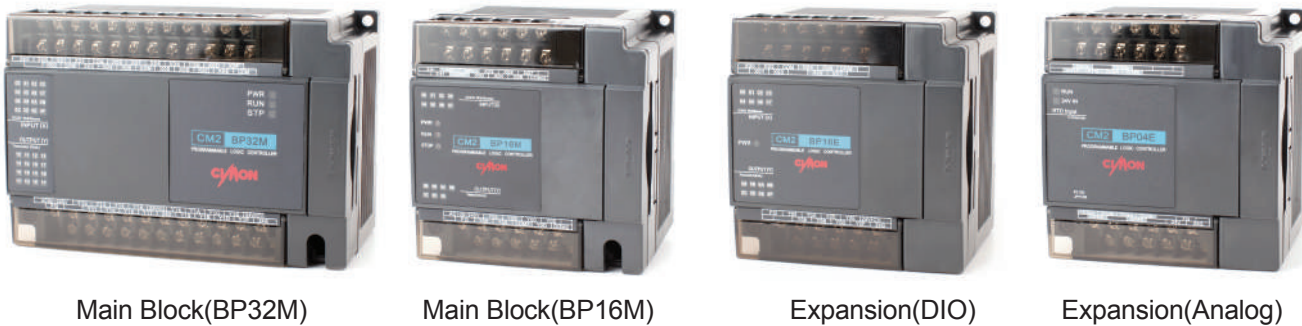
- 8 types of pulse input methods
- Linear, Ring Counter Mode
- Coincidence comparison function
- Up to 3 kpps

BP Series Product Lineup

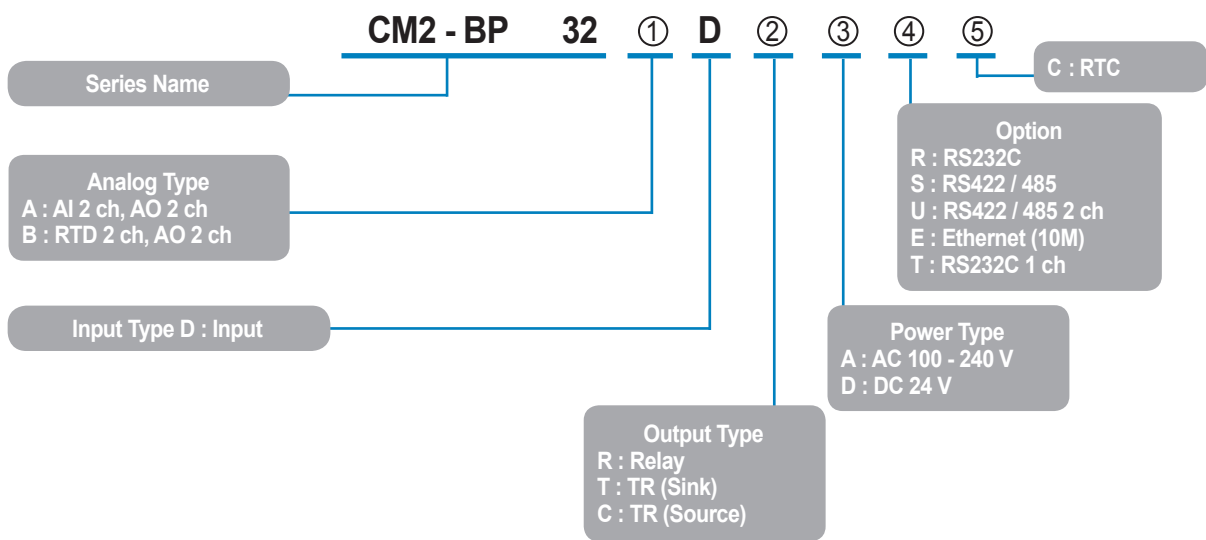
» BP Series Model Name



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	



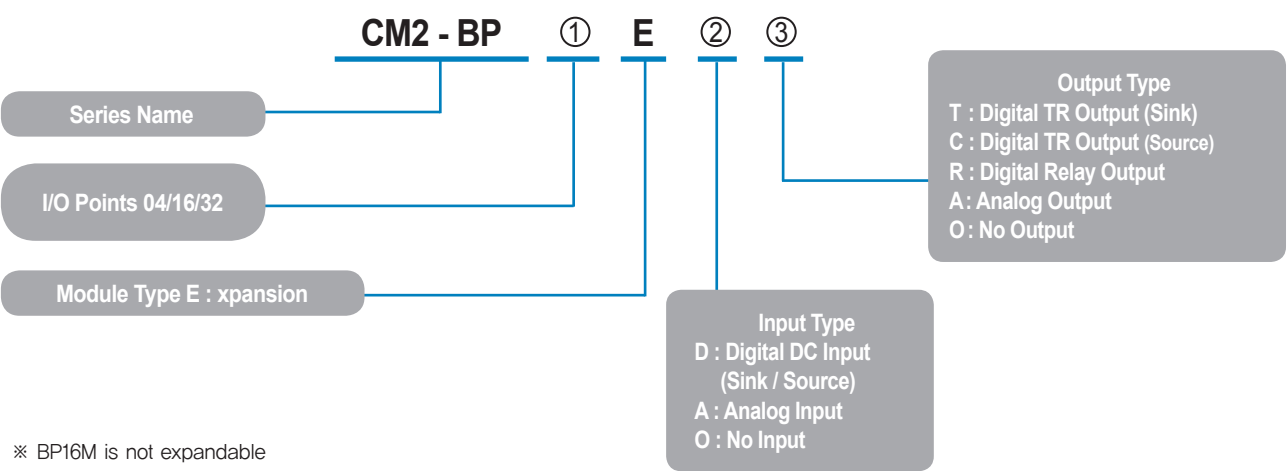
BP Series Mixed Product Line



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

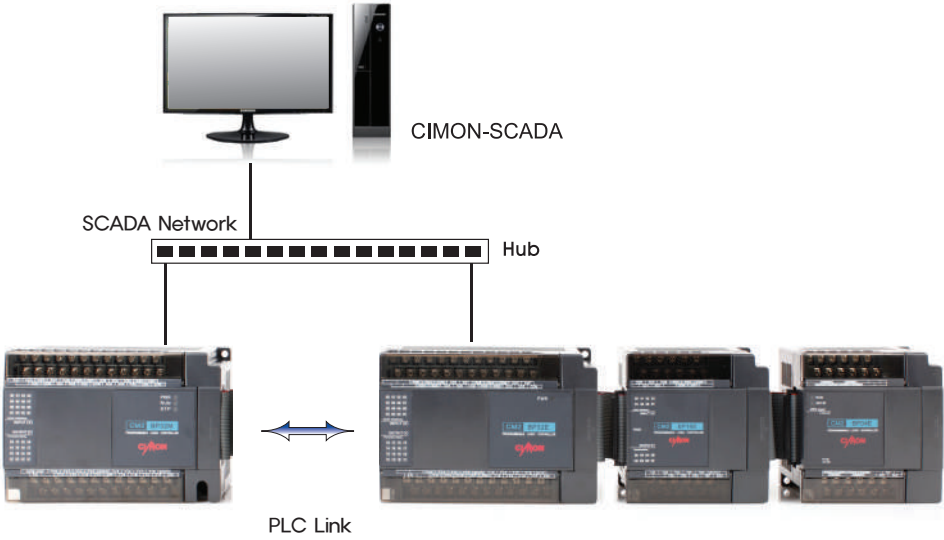
Model	Input		Output		Remarks	
CM2-BP16EDT	8	DC 24 V	8	TR (Sink)	Power Source : supplied from a main unit	
CM2-BP16EDC				TR (Source)		
CM2-BP16EDR				Relay		
CM2-BP32EDT	16		16	TR (Sink)		
CM2-BP32EDC				TR (Source)		
CM2-BP32EDR				Relay		
CM2-BP16EDO	16		0			
CM2-BP16EOR	0			16		Relay
CM2-BP16EOT	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

Analog Expansion Unit

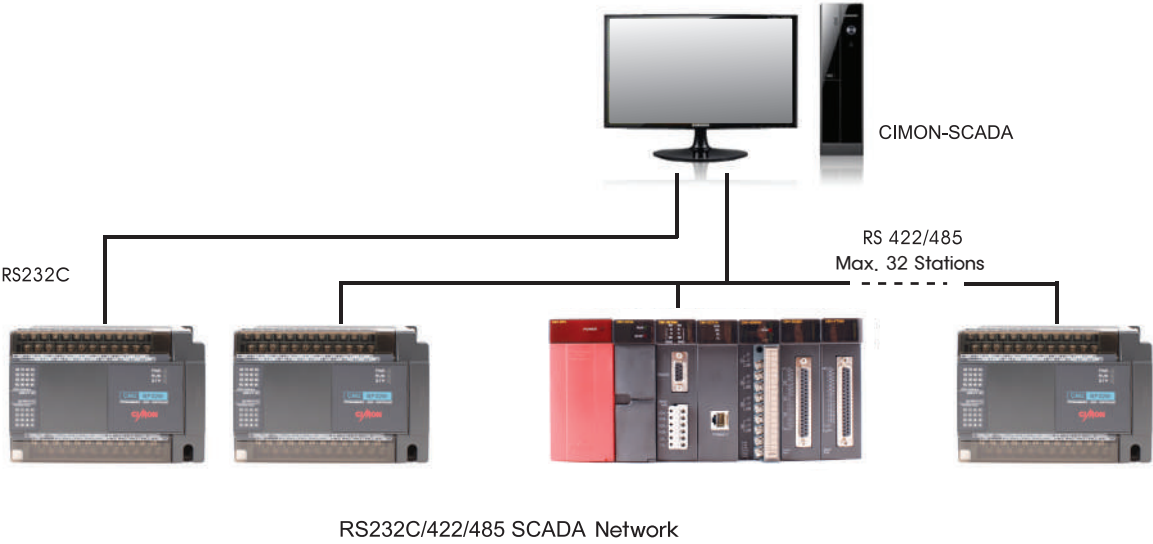
Model	Input		Output		Remarks
CM2-BP04EAO	4	AD Voltage / Current Input	0	DA Voltage / Current Output	Power Source : 24 V External
CM2-BP04EAA	2		2		
CM2-BP04EOA	0		4		
CM2-BP04ERO	4	RTD Input	0		
CM2-BP04ETO	4	TC Input	0		

System Configuration

» Ethernet



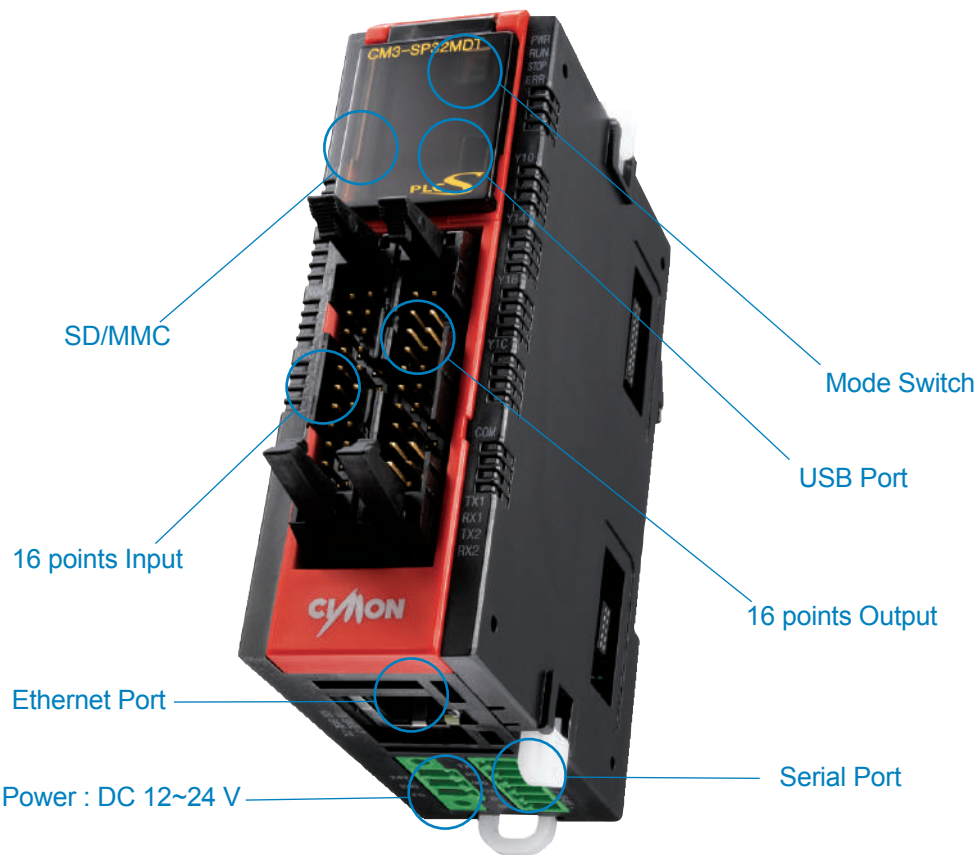
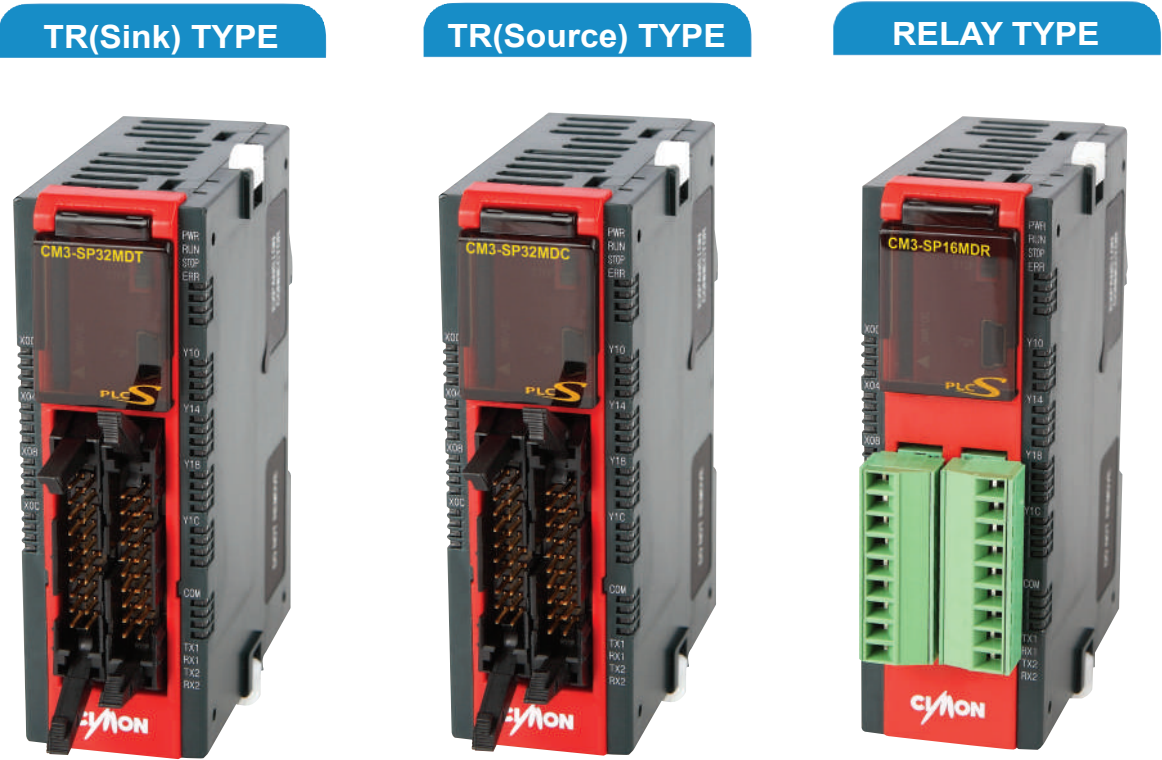
» Serial Communication





CPU Module

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.

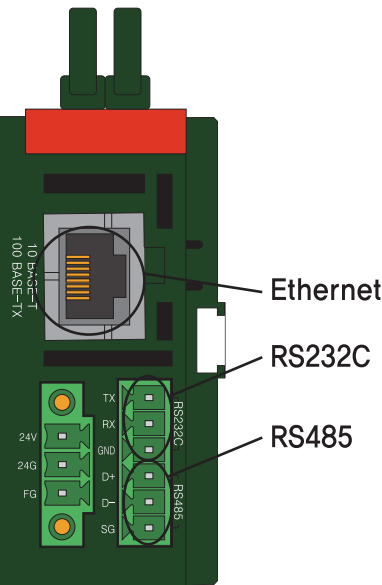
PLC-S is very cost-effective since the CPU module already has several functions built in such as high-speed counter, positioning control function, floating point arithmetic, 3 way simultaneous communications, PID auto-tuning and etc. Addition of expensive modules for these functions is not needed for 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 Slave, 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	Maximum 20 kpps (In case of 2channels use : 10kpps each)
Number of Channels	2 channels (1 phase+direct signal)
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(Sink) DC Power (Source Type: CM3-SP32MDC/V/E/F)

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

» Analog Input Modules



» 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

» Analog Output Modules



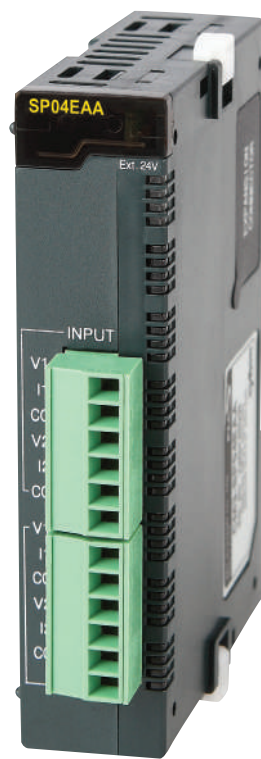
» Features

- Provides wide output range
- Very reliable with less than ±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)	4 mA ~ 20 mA
Digital Conversion	14 bit (0 ~ 16000)	
Max. Resolution	1.25 mV	1.25 µA
Accuracy	±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

» Analog I/O Modules



» Features

- Provides wide input/output range
- 16 bit conversion for high resolution measurement
- 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-SP04EAA	
Number of Analog Channel	Input: 2 channels, Output: 2 channels	
Analog Input / Output	Voltage	0 ~ 5 V
		1 ~ 5 V
	Current	0 ~ 10 V
		-10 ~ 10 V
Digital Conversion	Voltage	0 ~ 20 mA
		4 ~ 20 mA
	Current	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		
Model	CM3-SP04ERO	
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		
Model	CM3-SP04ETO	
TC Type	K,J,E,T,B,R,S,N	
Digital Output	Digital Value : 0 ~ 16,000 (-8000 ~ 8000) Temp Value :℃, °F (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



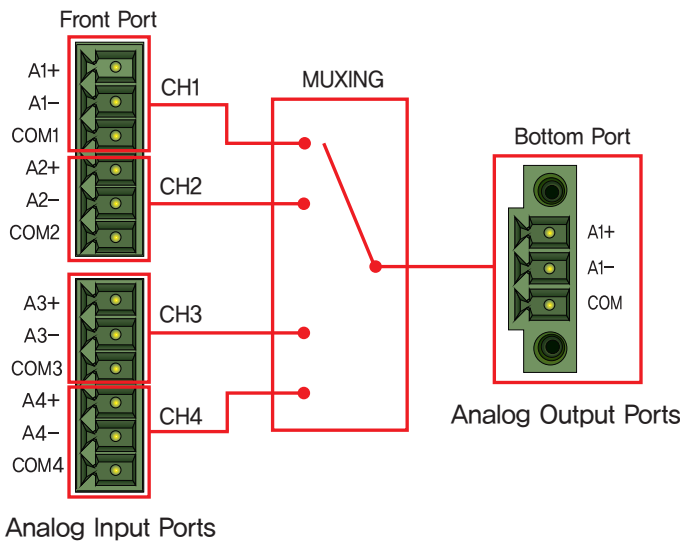
» Features

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	
Model	CM3-SP04EAM
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

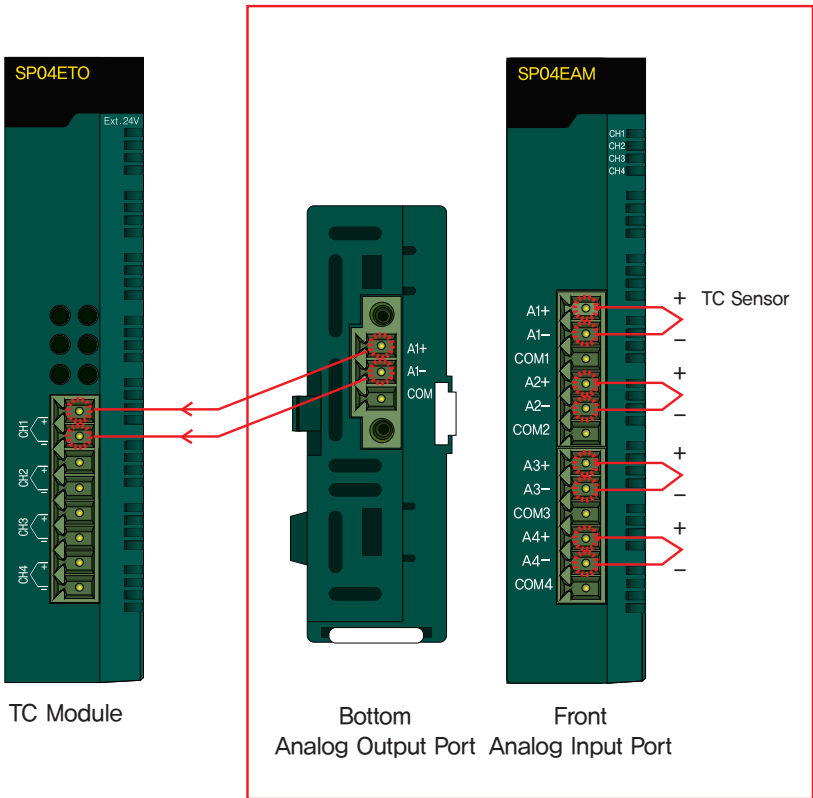
» Concept Diagram



〈SP04EAM Concept Diagram〉

» Wiring Example

Ex) SP04ETO Module and SP04EAM Module Wiring Diagram



MUX Module

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

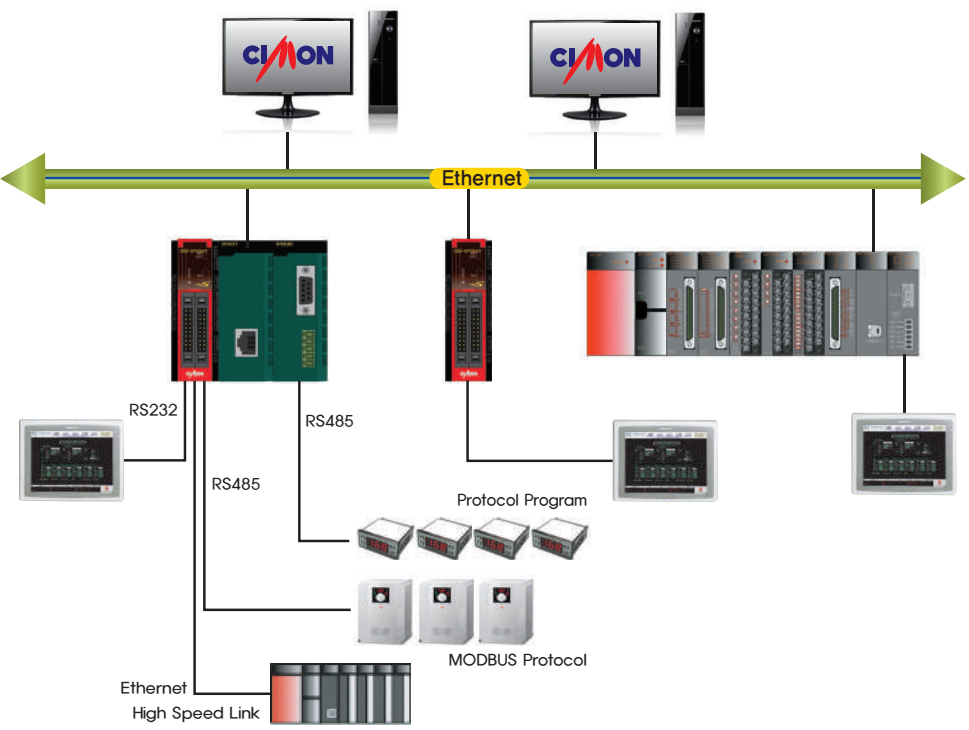
- 2 Channels of RS-232C
- Read and write data by HMI protocol
- Supports wide range of communication speed (300 bps ~ 38400 bps)
- RS232C communication ports are available by setting up independent channel or linked channel
- Supports universal protocol
- MODBUS RTU Master function is built-in for an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



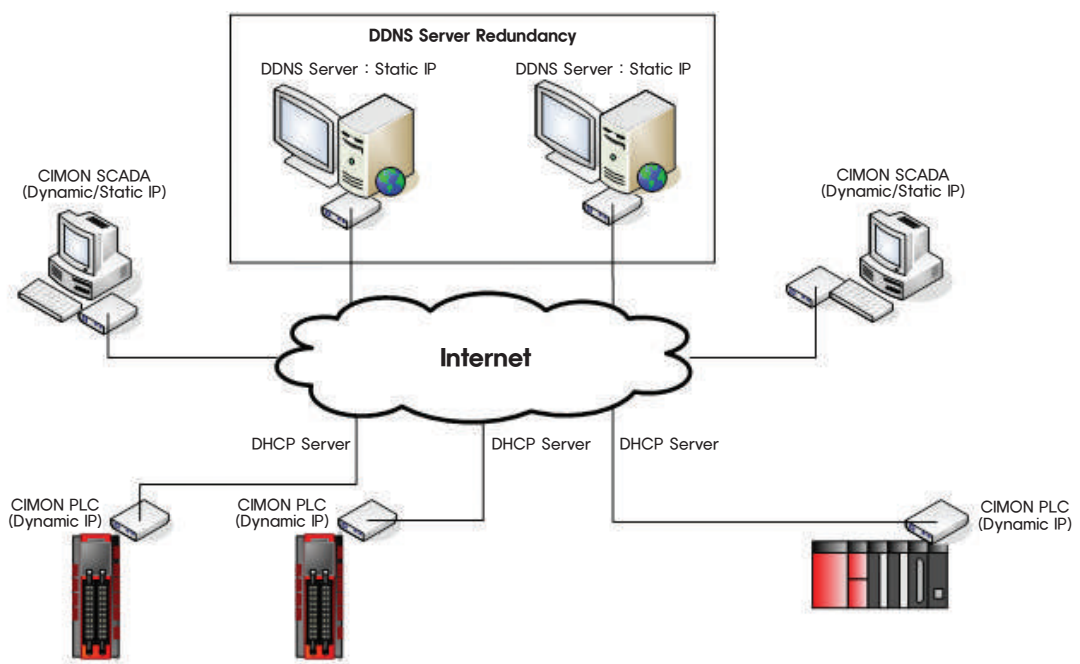
Specification		
Model		CM3-SP02ERR
Interface		RS232C 2 channels
Comm. Method	Null Modem	Direct Communication between Each Ports
	Protocol Special Program	Use Protocol Special Program to Communicate
Operation Mode	HMI Protocol	Use CIMON-PLC HMI Protocol to Communicate
	MODBUS Protocol	Use MODBUS RTU Protocol 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



Economic PLC

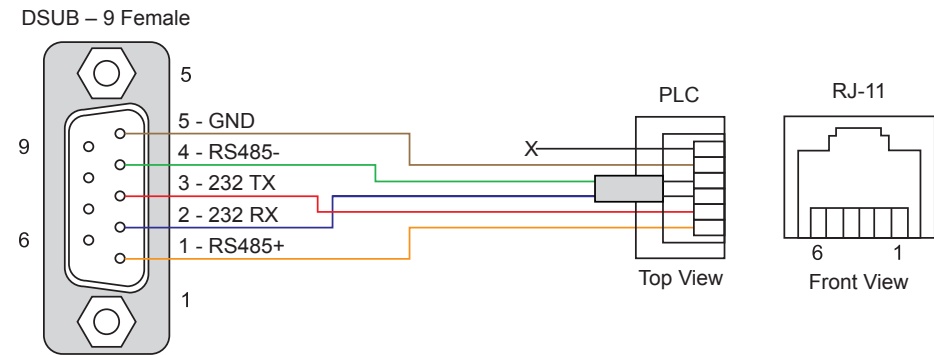
- CM3-SB16MDT & CM3-SB16MDTV

» SB16MDT, Block type of PLC-S series, is designed for small size application and simple system such as machine level control applications.

- RS-232(Standard) supports for HMI and MODBUS protocol and you can download program by USB port.
(RS-485 is option)
- TR Output (DC24V)
- Maximum 32Loop PID
- 10K step Program memory
- Flash memory built-in
- Floating point arithmetic
- High Speed Counter 20Kpps (2Channels)
- Expansion is not possible.



» Communication Wiring



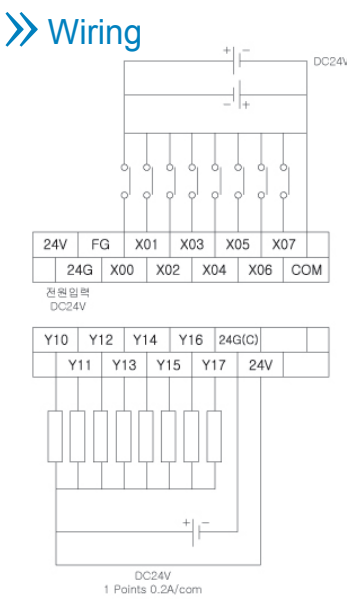
DSUB-9			PLC	
PIN	NAME		PIN	NAME
1	RS485+	↔	1	RS485+
2	232 RX	↔	2	232 TX
3	232 TX	↔	3	232 RX
4	RS485-	↔	4	RS485-
5	GND	↔	5	GND
6	N.C		6	N.C

» Built-in Communication

NAME	RS232	RS-422/485
SB16MDT	O	X
SB16MDTV	O	O

» SB16MDT CPU Specifications

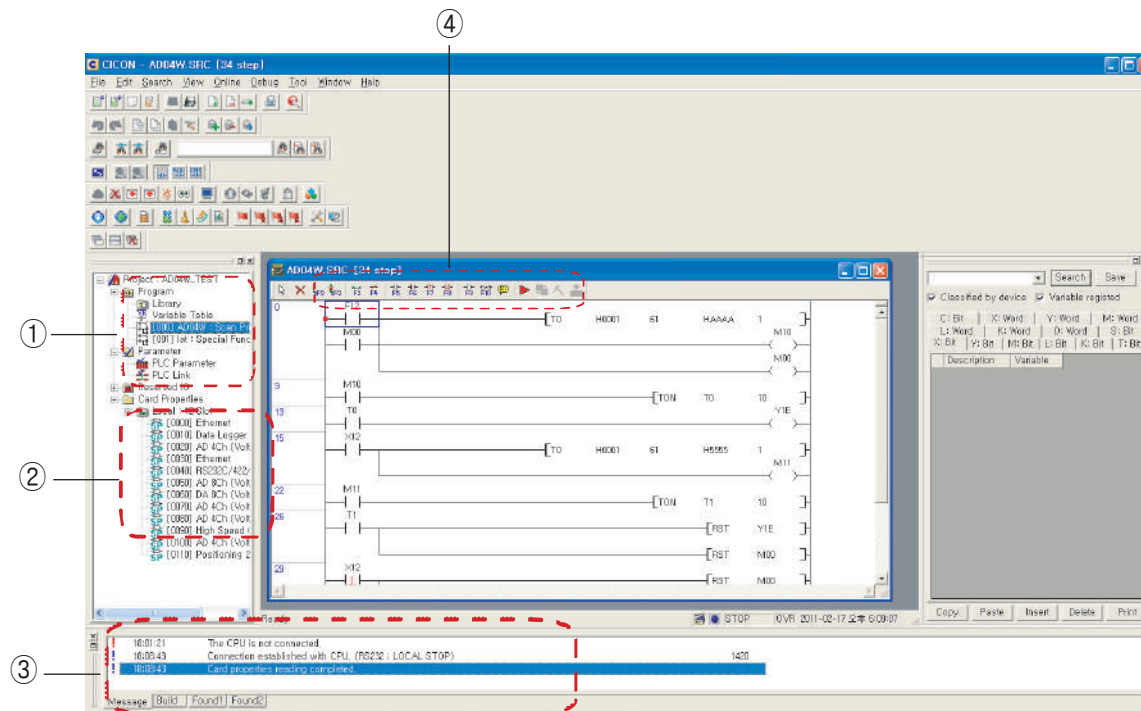
Items		Specifications
Power		DC24V
Program Control Method		Stored Program, Process-Driven Interrupt, Time Driven Interrupt
I/O Control Method		Indirect method, Directed by program instruction
Program language		IL(Instruction List), LD(Ladder Diagram)
Data Processing Method		32 Bit
Instructions	Sequence	55 Instruction
	Application	389 Instruction
Processing speed (Sequence)		200ns / Step
Program capacity		10K Step
Max. I/O, Max. expansion		DI 8points, DO 8points
Operation mode		Run, Stop, Remote Run, Remote Stop
Back-up method		Data which set up as retain
Total program		128
Program types	Scan	(127-Program block)
	Cyclic task	16
	Special	126
	Initial task	2 (_INIT, _H_INIT)
	Subroutine	126
Self-diagnosis		Detects errors of scan time, memory, I/O and power supply, battery error
Re-start		Cold, Hot re-start
Device memory capacity	X	8 pts (X00 – X07)
	Y	8 pts (Y00 – Y07)
	M	8192 pts (M0000 – M511F)
	L	4096 pts (L0000 – L255F)
	K	4096 pts (K0000 – K255F)
	F	2048 pts (F0000 – F127F)
	T	512 pts (T0000 – T0511)
	C	512 pts (C0000 – C0511)
	S	100 states x 100 set (00.00 - 99.99)
	D	10000 words (D0000 - D9999)
High Speed Counter	20Kpps, 2 Phase 2Ch.	
	PID	
PID		32 Channels, Auto-Tuning
Comm. Channel		Standard : USB Loader, Serial 1(RS232C)



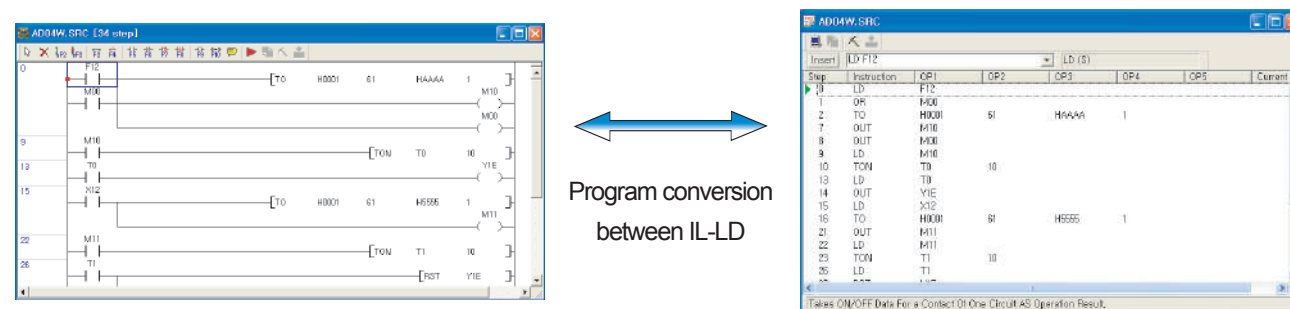
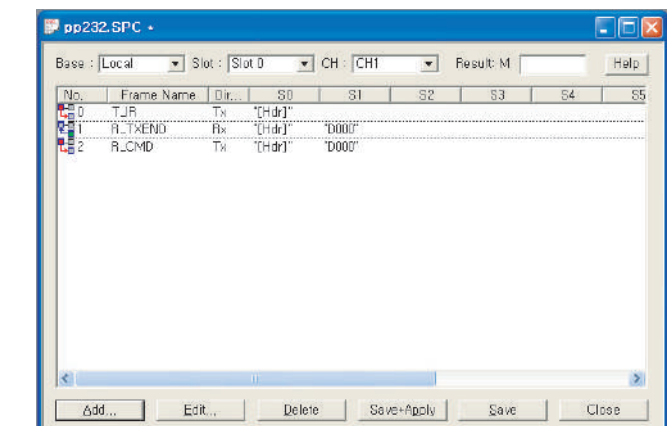
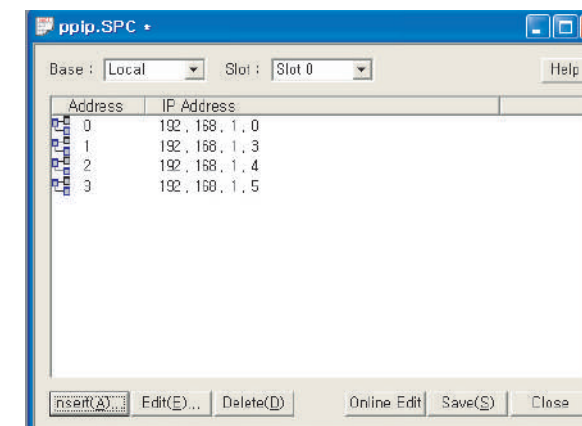
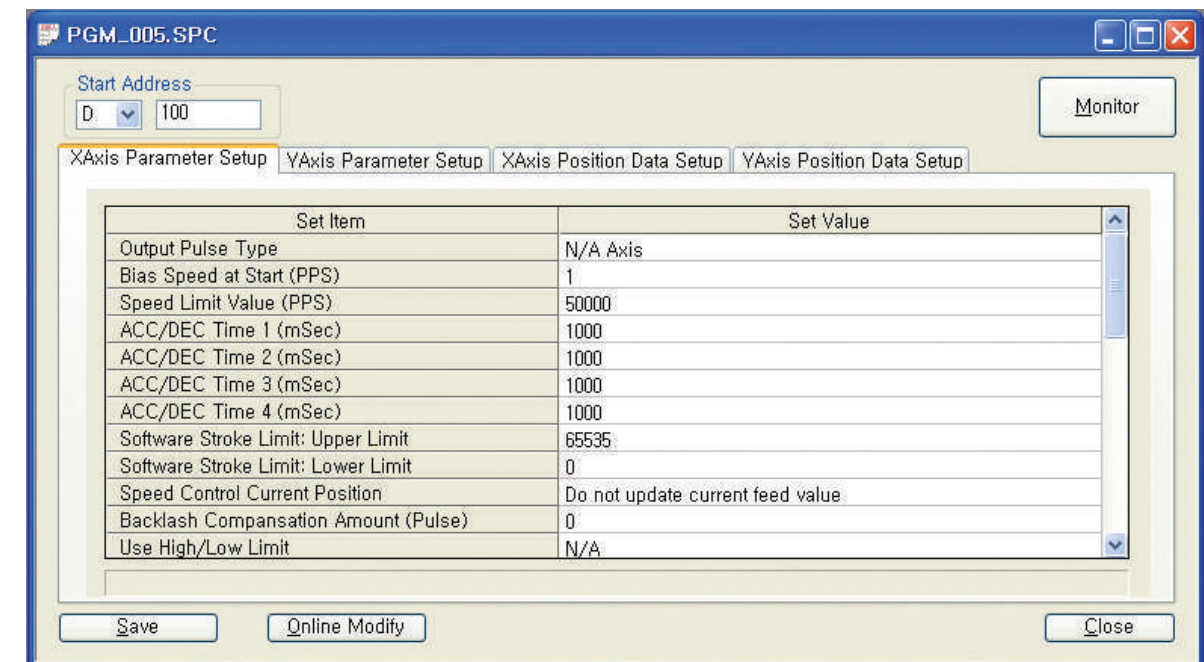
CICON Engineering Software

- 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.)



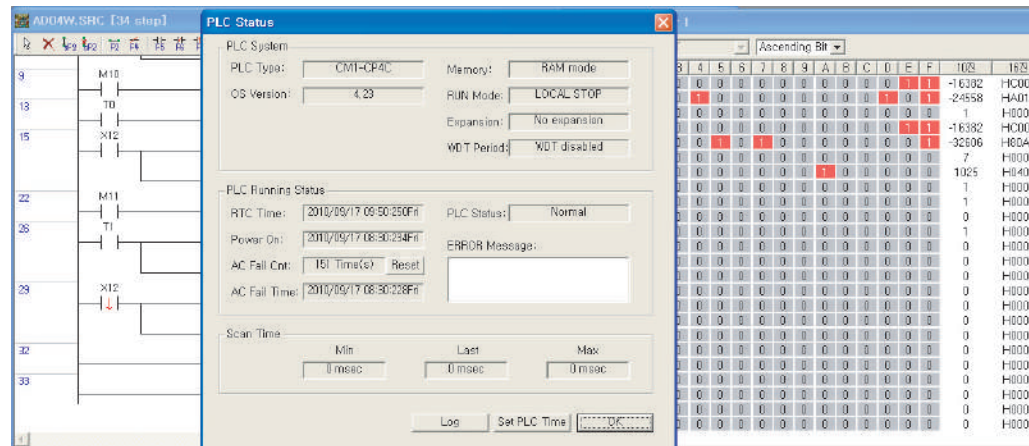
- ① Easy management of project files
- ② Automatically detects special cards info
- ③ Present processing condition shown in the message window
- ④ Convenient editing by keyboard shortcuts



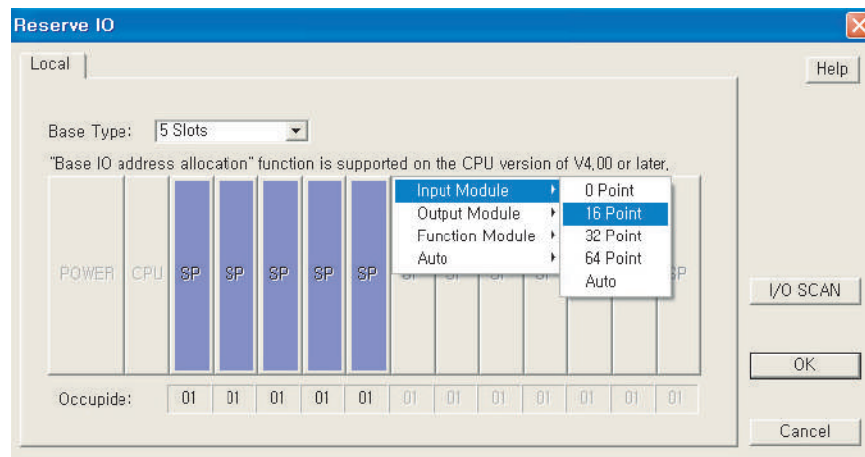
Program conversion
between IL-LD

CICON Engineering Software

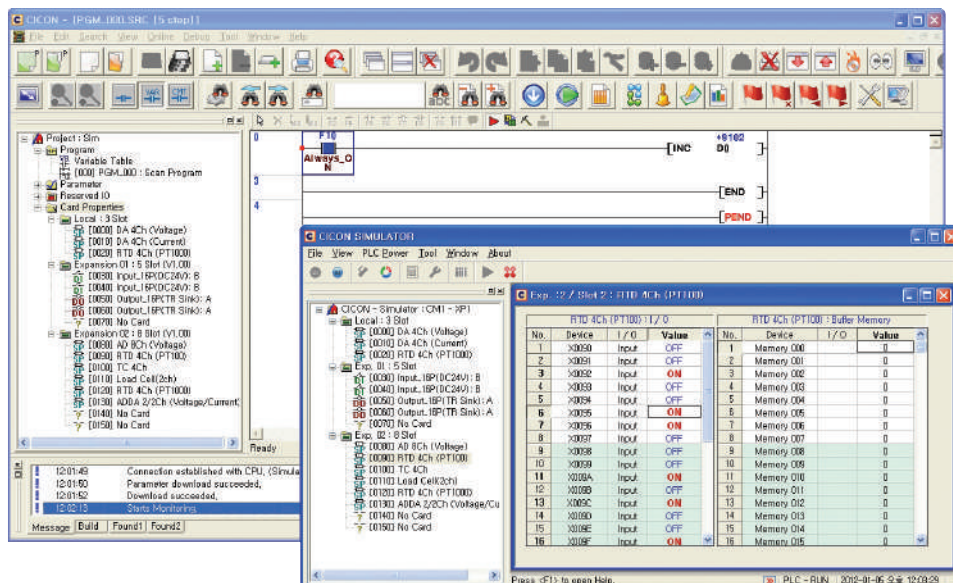
- Constant monitoring of the PLC status
- Fast and accurate error detection for each cards



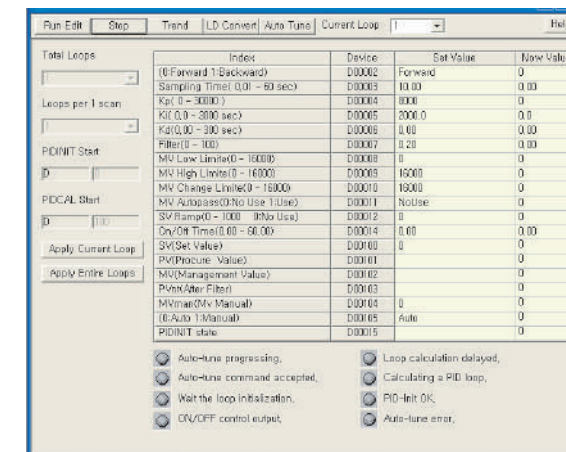
- Reserving the I/O
- Compares and detects a card and checks if the card is inserted or not



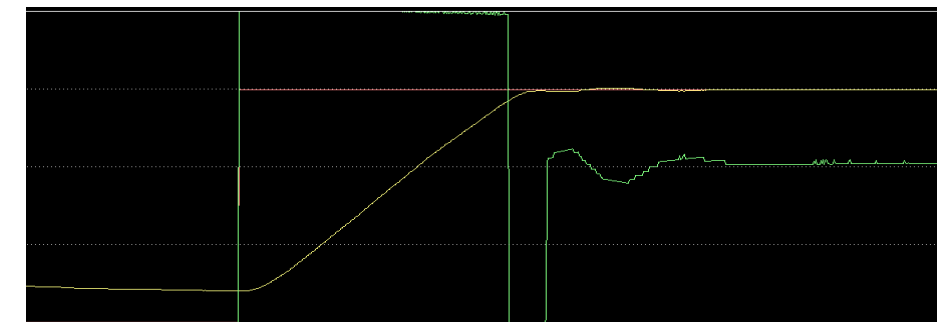
- Testing functions and programs is possible without connecting to a physical PLC by CICON Simulator



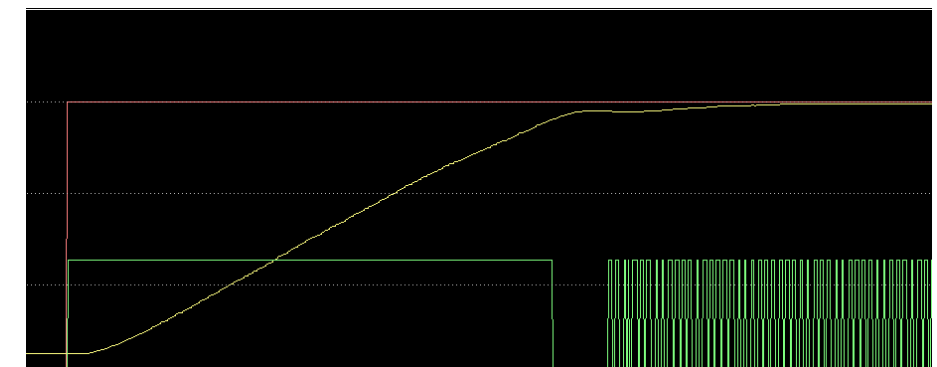
- PID auto tuning
- Check PID input and current values constantly in dialog box.



- PID operation condition shows as a trend type.



- PID tuning is available by controlling ON-OFF.



» Training Kit Purpose

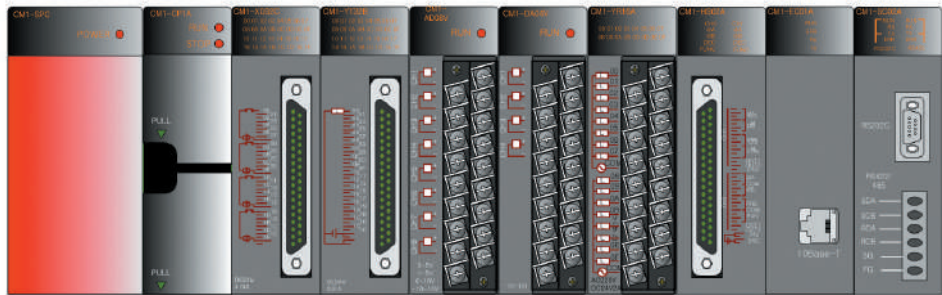
- To learn the basics of a PLC
- To train the user's ability to operate a PLC used in an actual setting
- To learn the data link system usage between PLC to PLC
- To train the user's ability to apply PLC instructions
- To learn controlling ability of analog signals
- Understand different configuration 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-SP32MDTF	DI16, DO16, Ethernet, 232, 485
Digital Input/Output	CM3-SP32EDT	16 points Input, 16 points TR Output
Digital Input/Output	CM3-SP16EOR	16 points Relay 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

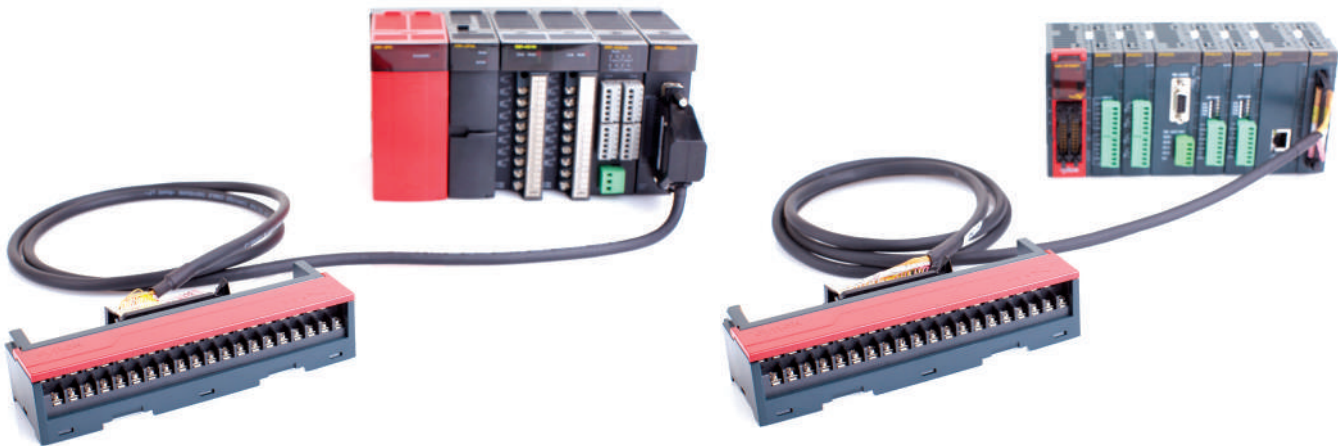
» Included Accessories (PEK-408)

- 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-SCB15M 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, 32bit, 75ns, 8192pts, RTC, Floating point, Redundancy, Expandable
	CM1-XP1S	128k step, 32bit, 8192pts, RTC, Floating point, Redundancy, Expandable, SFC
Redundancy Comm.	CM1-RC01A	10Mbps Redundancy data Sync module
Redundancy MMI	CM1-RM01A	Redundancy setting module(Primary/Secondary, test mode)
Expansion	CM1-EP03A	10Mbps CPU redundancy expansion (3Port built-in)
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	CM1-SPR	Redundancy Power supply, 5V 3A, +15V 0.5A, -15V 0.2A, 24V 0.2AAC100V~240V
	CM1-RPW	Redundancy Power supply monitoring module

» CPU Module

Type	Model	Description
High-end CPU	CM1-XP1A	128K step, 32bit, 75ns, 8192pts, RTC, USB port, Floating point, Expandable
	CM1-XP2A	64K step, 32bit, 75ns, 4096pts, RTC, USB port, Floating point, Expandable
	CM1-XP3A	64K step, 32bit, 75ns, 2048pts, RTC, USB port, Floating point, Expandable
	CM1-XP1B	128K step, 32bit, 75ns, 8192pts, RTC, USB port, Floating point, SFC, Expandable
	CM1-XP2B	64K step, 32bit, 75ns, 4096pts, RTC, USB port, Floating point, SFC, Expandable
	CM1-XP3B	64K step, 32bit, 75ns, 2048pts, RTC, USB port, Floating point, SFC, Expandable
CPU	CM1-CP3A	32K step, 16bit, 1024pts, Expandable
	CM1-CP3B	32K step, 16bit, 1024pts, RTC, Expandable
	CM1-CP3U	32K step, 16bit, 1024pts, RTC, USB port, Expandable
	CM1-CP3P	32K step, 16bit, 1024pts, RTC, Flash ROM pack, Expandable
	CM1-CP4A	16K step, 16bit, 384pts, Not expandable
	CM1-CP4B	16K step, 16bit, 384pts, RTC, Not expandable
	CM1-CP4C	16K step, 16bit, 384pts, RTC, RS232C port, Not expandable
	CM1-CP4D	16K step, 16bit, 384pts, RTC, RS422-485 port, Not expandable
	CM1-CP4U	16K step, 16bit, 384pts, RTC, RS422-485 port, USB port, Not expandable

» Power Module

Type	Model	Description
Power supply	CM1-SPA	Input : AC 100-240V, 40W/ Output : 5V 3.5A, 24V 0.3A
	CM1-SPC	Input : AC 100-240V, 60W/ Output : 5V 3.5A, +15V 0.5A, -15V 0.3A, 24V 0.3A
	CM1-SP2B	Input : DC 19-28V, 50W/ Output : 5V 3.5A, +15V 0.5A, -15V 0.3A
	CM1-SPW	Input : DC 70-110V, 60W/ Output : 5V 3.5A, +15V 0.5A, -15V 0.3A, 24V 0.3A

» 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
Digital Input	CM1-XD16A/E	DC 24V Input, 16pts, Sink&Source, ON voltage 19V, OFF voltage 11V
	CM1-XD16B	DC 24V Input, 16pts, Sink&Source, ON voltage 15V, OFF voltage 12V
	CM1-XD16W	DC 100V Input, 16pts, Sink&Source, ON voltage 60V, OFF voltage 40V
	CM1-XD32B	DC 24V Input, 32pts, Sink&Source, ON voltage 15V, OFF voltage 12V
	CM1-XD32C/E	DC 24V Input, 32pts, Sink&Source, ON voltage 19V, OFF voltage 11V
	CM1-XD64C	DC 24V Input, 64pts, Sink&Source, ON voltage 19V, OFF voltage 11V
	CM1-XA08A	AC 220V Input, 8pts
Digital Output	CM1-XA08B	AC 110V Input, 8 pts
	CM1-YR16A/E	Relay Output, 16 pts, 2A
	CM1-YT16A/E	TR Output, 16 pts, 0.5A SINK
	CM1-YT16B/F	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/DO	CM1-XY16DR	DC 24V Input 8 pts, Relay Output 8 pts 2A

» Analog I/O Module

Type	Model	Description
Analog Input	CM1-AD04VI	AD 14bit, 4 CH, Current & Voltage Input
	CM1-AD08V	AD 14bit, 8 CH, Voltage Input
	CM1-AD08I	AD 14bit, 8 CH, Current Input
	CM1-AD04W	AD 16bit, 4 CH, Voltage & Current Input, Channel to Channel Isolation
	CM1-AD16V	AD 14bit, 16 CH, Voltage Input, Occupying 2 slot 32 pts.
	CM1-AD16I	AD 14bit, 16 CH, Current Input, Occupying 2 slot 32 pts.
Analog Output	CM1-DA04V	DA 14bit, 4 CH, Voltage Output (-10~+10V)
	CM1-DA04VA	DA 14bit, 4 CH, Voltage Output (0~+10V)
	CM1-DA08V	DA 14bit, 8 CH, Voltage Output (-10~+10V)
	CM1-DA08VA	DA 14bit, 8 CH, Voltage Output (0~+10V)
	CM1-DA04I	DA 14bit, 4 CH, Current Output (4~20mA)
	CM1-DA08I	DA 14bit, 8 CH, Current Output (4~20mA)
	CM1-DA16V	DA 14bit, 16 CH, Voltage Output (-10~+10V), Occupying 2 slot 32 pts.
	CM1-DA16I	DA 14bit, 16 CH, Current Output (4~20mA), Occupying 2 slot 32 pts.
	CM1-DA16VA	DA 14bit, 16 CH, Voltage Output (0~+10V), Occupying 2 slot 32 pts.

» RTD & TC Module

Type	Model	Description
RTD	CM1-RD04A	Pt100, JPt100, 4 CH
	CM1-RD04B	Pt1000, Ni1000, 4 CH
TC	CM1-TC04A	Thermocouple (K, J, E, T, B, R, S, N) 4 CH
Thermistor	CM1-TH08A	NTC Thermistor, 8 CH

» Special Module

Type	Model	Description
HSC	CM1-HS02C	2 CH, 300kpps, NPN Open Collector (-Common)
	CM1-HS02E	2 CH, 300kpps, Line Drive input (Differential input)
	CM1-HS02F	2 CH, 300kpps, PNP open collector (+Common)
Load Cell	CM1-WG02A	2 CH, Strainguage type, Resolution 1/10000, 3.6mV/V input
	CM1-WG04A	4 CH, Strainguage type, Resolution 1/10000, 3.6mV/V input
	CM1-WG02C	2 CH, Strainguage type, Resolution 1/40000, 2mV/V input (Standard type)
	CM1-WG02D	2 CH, Strainguage type, Resolution 1/40000, 2mV/V input (Dynamic type)
	CM1-WG02E	2 CH, Strainguage type, Resolution 1/40000, 3.6mV/V input (Wide range)
Data Logger	CM1-LG32A	32 Mbytes On-line data logging module, RS232C 1port (CIMON SCADA)
Positioning	CM1-PS02A	2 Axes, Linear & Circular interpolation, 1Mpps, Line Driver output

» Communication Module

Type	Model	Description
Serial (RS232C/422/485)	CM1-SC02A	Port 1 : RS232C, Port 2 : RS422/485
	CM1-SC01A	Port 1 : RS232C, Port 2 : None
	CM1-SC01B	Port 1 : None, Port 2 : RS422/485
	CM1-SC02C	Port 1 : RS232C, Port 2 : RS232C (Null Modem)
ETHERNET	CM1-EC01A	10Base T (10Mbps), UDP/IP 9 service, TCP/IP 9 service
	CM1-EC10A	100Base TX (100Mbps), UDP/IP 16 service, TCP/IP 16 service
	CM1-EC10B	100Base FX (100Mbps. Optical Comm.), UDP/IP 16 service, TCP/IP 16 service
	CM1-EC10C	100Base TX (100Mbps), UDP/IP 16 service, TCP/IP 16 service, DHCP (Dynamic IP)
DNP 3.0	CM1-SC01DNP	DNP3.0 protocol, Level 2 Slave, RS232C 1 port
	CM1-EC01DNP	1DNP3.0 protocol, Level 2 Slave, 10BaseT (10Mbps), TCP/IP, UDP/IP
Profibus	CM1-PD01A	Profibus DP Master (RS485), I/O capacity : 3.584Bytes
BACnet	CM1-BN01A	BACnet / IP, Class 3 Slave, 10BaseT (10Mbps)
CDMA	CM1-SC02CDMA	CDMA(Packet or Circuit mode), WCDMA (3G, Packet mode) Modem Comm.
CIMON-Net	CM1-CN01M	CIMON-Net Master, CANbus, I/O capacity : 1,400Byte
	CM1-CN01S	CIMON-Net Slave, CANbus, I/O capacity : 255Byte

» Accessories

Type	Model	Description
Dummy	CM0-DM	Dummy module
Memory	CM1-FM512	Flash Memory Pack for CM1-CP3P (512 kbytes)
Loader Cable	CM0-CBL15	Programming cable (RJ11-DB9 connector 1.5m)
	CM0-CBL30	Programming cable (RJ11-DB9 connector 3m)
Expansion Cable	CM0-CBE05	Expansion cable for CP/XP series, (RJ45-RJ45, 0.5m)
	CM0-CBE10	Expansion cable for CP/XP series, (RJ45-RJ45, 1m)
	CM0-CBE15	Expansion cable for CP/XP series, (RJ45-RJ45, 1.5m)
BP Expansion Cable	CM2-CBE05	Expansion cable for BP series, (Flat cable, 5cm)
Terminal Block	CM0-TB32M	Terminal Block, 32points, screw type (used with CM0-SCB15 cable)
I/O Cable	CM0-SCB15M	I/O cable, 1.5m (used with CM0-TB32M, CM3-SP32MDT, CM3-SP32EDT)
	CM0-SCB15E	I/O cable, 1.5m (used with CM0-TB32M, CM3-SP32EDO, CM3-SP32EOT)
	CM0-SCB15I	I/O cable, 1.5m (used with CM0-TB32M, CM1-XD32C, YT32A, YT32B, HS02C, HS02E)
Slot cover	CM0-BSCVR	Base slot cover
Battery	CM0-BAT	Battery Ass'y for XP/CP CPU (3V Lithium, CR 1/2 AA)
Profibus I/O adaptor	RP-DPC01A	Profibus connector Ass'y (used with CM1-PD01A, Remote I/O)

CIMON-PLC-S Series

CPU Module

No.	Model	Type	Description
1	CM3-SP32MD■	Transister	DI16/DO16, USB loader, RS232C 1CH
2	CM3-SP32MD■V		DI16/DO16, USB loader, RS232C 1CH, RS485 1CH
3	CM3-SP32MD■E		DI16/DO16, USB loader, RS232C 1CH, Ethernet 1CH
4	CM3-SP32MD■F		DI16/DO16, USB loader, RS232C 1CH, RS485 1CH, Ethernet 1CH.
5	CM3-SP32MD■-SD		DI16/DO16, USB loader, SD/MMC card slot
6	CM3-SB16MDT		DI8/DO8, USB loader, RS232 1CH
7	CM3-SB16MDTV		DI8/DO8, USB loader, RS232 1CH, RS485 1CH
8	CM3-SB16MDR	Relay	DI8/DO8, USB loader, RS232 1CH
9	CM3-SB16MDRV		DI8/DO8, USB loader, RS232 1CH, RS485 1CH
10	CM3-SB16MDRE		DI8/DO6, USB loader, RS232 1CH, Ethernet 1CH
11	CM3-SB16MDRF		DI8/DO6, USB loader, RS232 1CH, RS485 1CH, Ethernet 1CH

※ ■ = Output option ("T" : Transister Sink output, "C" : Transister Source output)

Digital I/O Module

No.	Model	Type	Description
1	CM3-SP32EDO	DI 32	DC 24V Input, 32pts, Sink & Source, ON voltage 19V, OFF voltage 6V
3	CM3-SP32EOT	DO 32	TR output 32pts, Sink, DC12V /24V 0.2A
4	CM3-SP32EOC		TR output 32pts, Source, DC12V / 24V 0.2A
5	CM3-SP32EDT	DI16 / DO16	DC 24V Input 16 pts, TR Output 16pts, Sink
6	CM3-SP32EDR	DI8 / DO8	DC 24V Input 8 pts, Relay output 8 pts 2A
7	CM3-SP32EOR	DO 16	Relay Output 16 pts, 2A (Maximum expansion : 4modules)

Analog I/O Module

No.	Model	Type	Description
1	CM3-SP04EAO	AI 4CH	AD 14bit, 4CH, Voltage & Current Input
2	CM3-SP04EAA	AI 2CH, AO 2CH	AD 16bit, 2CH, Voltage & Current Input / DA 16bit, 2CH, Voltage & Current output
3	CM3-SP04ETO	TC 4CH	4 CH 14bit, K, J, E, T, B, R, S, N type
4	CM3-SP04ERO		4 CH 14bit, Pt100, JPt100, Pt1000, Ni1000(DIN43760), Ni1000(TCR5000)
5	CM3-SP04EOAV	AO 4CH	DA 14bit, 4CH, Voltage output (0~+10V, -10V~-+10V)
6	CM3-SP04EOAI		DA 14bit, 4CH, Current output (4~20mA)
7	CM3-SP04EAM	MUX 4CH	4CH Multiplexer (Relay type)

Communication Module

No.	Model	Type	Description
1	CM3-SP01EET	Ethernet	100Base TX (100Mbps), UDP/IP, TCP/IP 12 service, DHCP (Dynamic IP)
2	CM3-SP02ERS	Serial	Port 1 : RS232C, Port 2 : RS422-485
3	CM3-SP02ERR		Port 1 : RS232C, Port 2 : RS232C (Null Modem)

BP Series

Type	Model	Power	Input		Output		Remark		
CPU Block (32points)	CM2-BP32MDTA*	AC100-240V	16 points DC24V		16 pts, TR (SINK)		* Option R : RS232C 1CH (HMI protocol only) S : RS422/485 1CH (HMI protocol only) E : Ethernet 1CH U : RS422/485 2CH T : RS232C 1CH C : RTC		
	CM2-BP32MDCA*				16 pts, TR (SRC)				
	CM2-BP32MDRA*				16 pts, RELAY				
	CM2-BP32MDTD*	DC24V			16 pts, TR (SINK)				
	CM2-BP32MDCD*				16 pts, TR (SRC)				
	CM2-BP32MDRD*				16 pts, RELAY				
CPU Block (Analog built-in)	CM2-BP32ADRA*	AC100-240V	8 points DC24V	AI 2CH (A/V)	8 pts, RELAY			AO 2CH (A/V)	
	CM2-BP32ADTA*				8 pts, TR (SINK)				
	CM2-BP32ADCA*				8 pts, TR (Source)				
	CM2-BP32ADRD*	DC24V			8 pts, RELAY				
	CM2-BP32ADTD*				8 pts, TR (SINK)				
	CM2-BP32ADCD*				8 pts, TR (Source)				
	CM2-BP32BDRA*	AC100-240V		RTD 2CH	8 pts, RELAY				
	CM2-BP32BDTA*				8 pts, TR (SINK)				
	CM2-BP32BDCA*				8 pts, TR (Source)				
	CM2-BP32BDRD*	DC24V			8 pts, RELAY				
	CM2-BP32BDTD*				8 pts, TR (SINK)				
	CM2-BP32BDCD*				8 pts, TR (Source)				
CPU Block (16points)	CM2-BP16MDTA*	AC100-240V	8 points DC24V		7 pts, TR (SINK)		* Option R : RS232C 1CH (HMI protocol only) S : RS422/485 1CH (HMI protocol only)		
	CM2-BP16MDCA*				7 pts, TR (SRC)				
	CM2-BP16MDRA*				7 pts, RELAY				
	CM2-BP16MDTD*	DC24V			7 pts, TR (SINK)				
	CM2-BP16MDCD*				7 pts, TR (SRC)				
	CM2-BP16MDRD*				7 pts, RELAY				
Digital I/O Block	CM2-BP16EDT	supplied by CPU Block	8 points DC24V		8 pts, TR (SINK)		-		
	CM2-BP16EDC				8 pts, TR (SRC)				
	CM2-BP16EDR				8 pts, RELAY				
	CM2-BP32EDT		16 points DC24V		16 pts, TR (SINK)				
	CM2-BP32EDC				16 pts, TR (SRC)				
	CM2-BP32EDR				16 pts, RELAY				
	CM2-BP16EDO		-		-				
	CM2-BP16EOR				16 pts, RELAY				
	CM2-BP16EOT				16 pts, TR (SINK)				
	CM2-BP16EOC				-				
Analog Block	CM2-BP04EAO	24V external power needed	AD 4CH, V/A Input		-		-		
	CM2-BP04EAA		AD 2CH, V/A Input		DA 2CH, V/A Output				
	CM2-BP04EOA		-		DA 4CH, V/A Output				
	CM2-BP04ERO		RTD 4 CH Input		-				
	CM2-BP04ETO		TC 4 CH Input		-				

» Communication Option

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
Training Kit	PEK-408	CP/XP Series PLC Training Kit
	PEK-308	PLC-S + Xpanel Training Kit

Remote I/O

» CIMON-NET

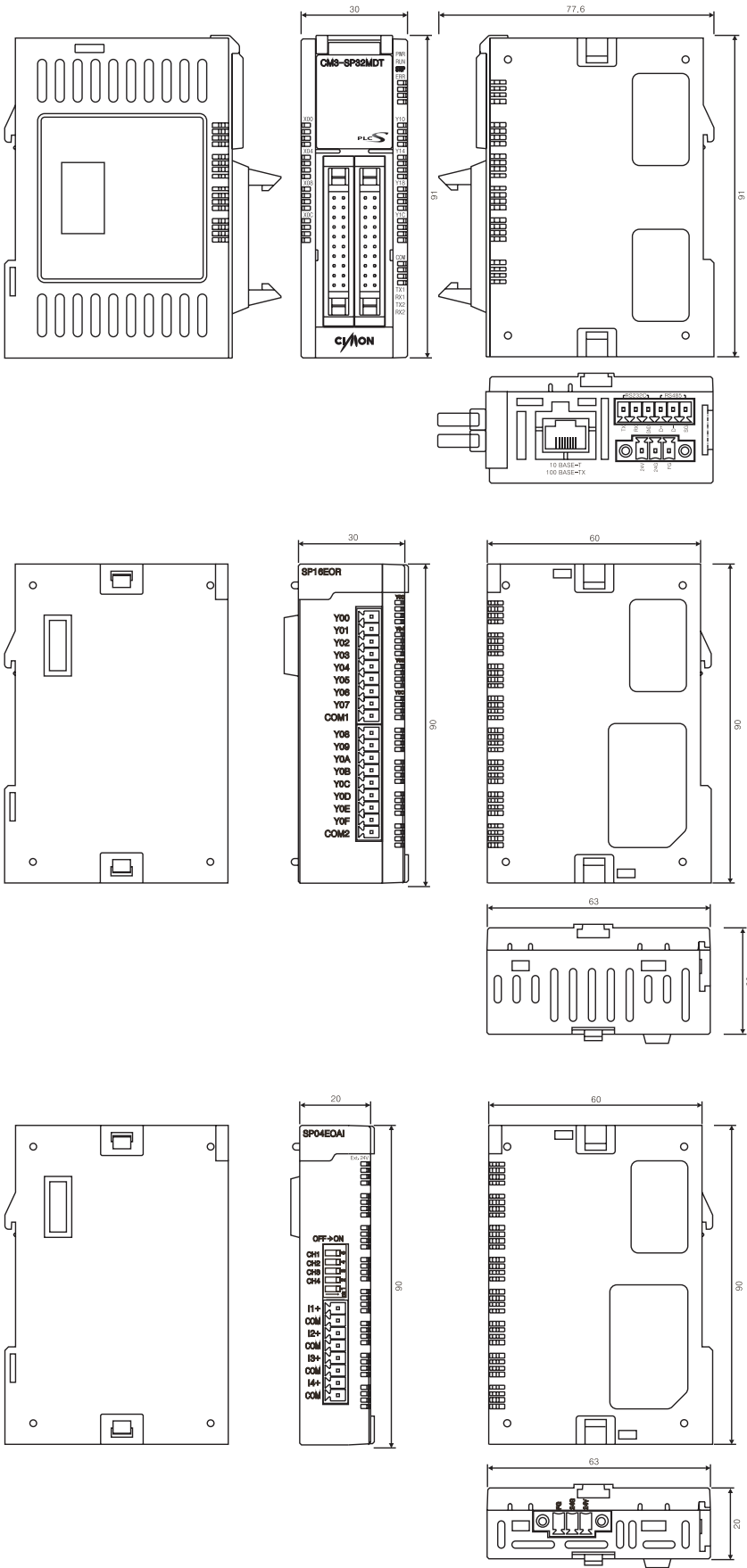
Type	Model	Description
RC-XY32DT	Mixed I/O	Input/Output, DC 24V 16pts(Sink&Source), 0.5Amp, TR Sink 16pts, 0.5Amp
RC-XD16A	Input	Input, DC 14V 16pts(Sink & Source)
RC-XD32A		Input, DC 14V 32pts(Sink & Source)
RC-YR16A	Output	Output, Relay 16pts, AC 220V 2Amp
RC-YT16A		Output, TR Sink 16pts, 0.5Amp
RC-YT32A		Output, TR Sink 32pts, 0.5Amp

» Profibus

Type	Model	Description
RP-XY32DT	Mixed I/O	Input/Output, DC 24V 16pts(Sink&Source), 0.5Amp, TR Sink 16pts, 0.5Amp
RP-XD16A	Input	Input, DC 14V 16pts(Sink & Source)
RP-XD32A		Input, DC 14V 32pts(Sink & Source)
RP-YR16A	Output	Output, Relay 16pts, AC 220V 2Amp
RP-YT16A		Output, TR Sink 16pts, 0.5Amp
RP-YT32A		Output, TR Sink 32pts, 0.5Amp

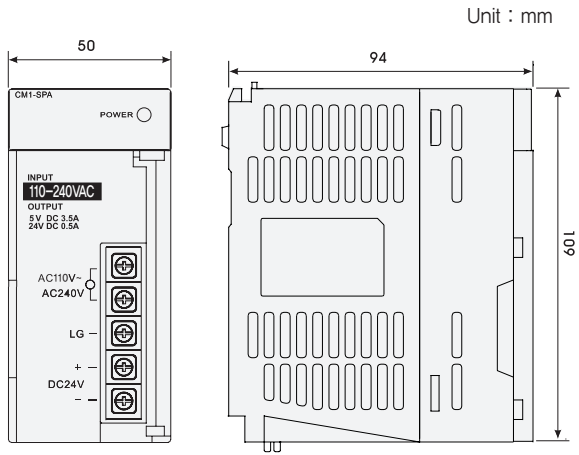
CIMON-PLC Dimensions

PLC-S



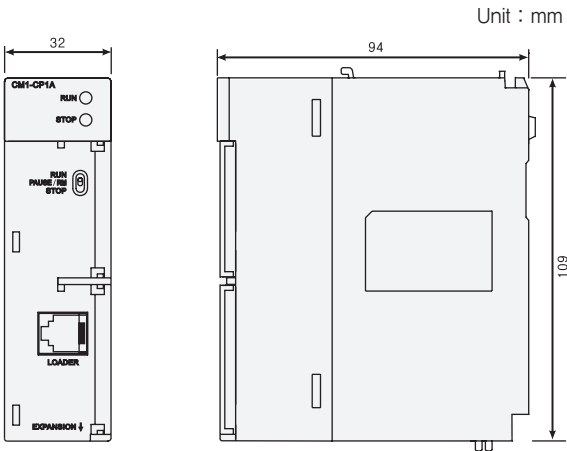
XP/CP

Power Module



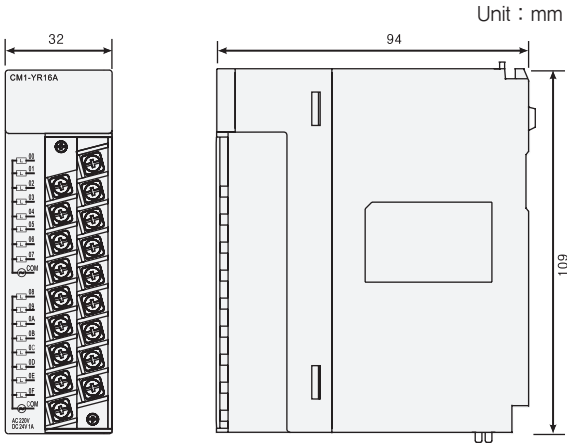
Model	Weight
CM1-SP*	278.3g
CM1-SP2B	270.5g

CPU Module



Model	Weight
CM1-CP*	132g

I/O Module



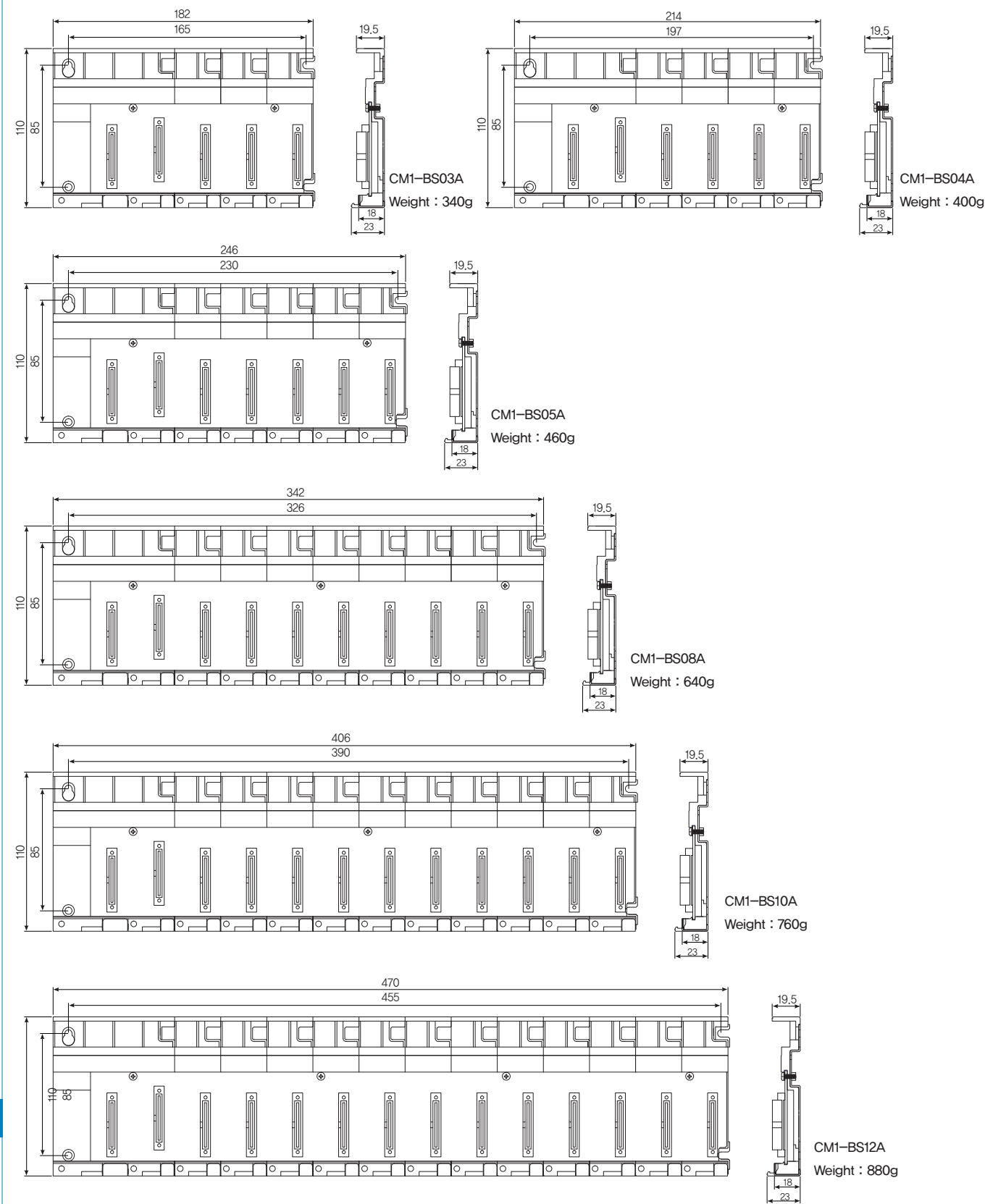
Model	Weight	Model	Weight
CM1-XD16A	158g	CM1-AD04VI	193.5g
CM1-XD32C	121g	CM1-AD08I	195.5g
CM1-XA08*	168.5g	CM1-AD08V	194.5g
CM1-YR16A	202g	CM1-DA08I	219g
CM1-YS08A	202.5g	CM1-DA08V	197.5g
CM1-YT16*	159.5g	CM1-RD04A	194.5g
CM1-YT32*	122g	CM1-TC04A	200.5g
CM1-EC01*	111.5g	CM1-SC***	118.5g

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

CIMON-PLC Dimensions

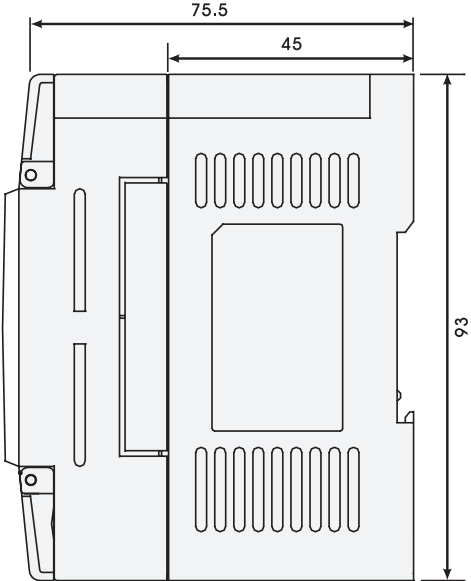
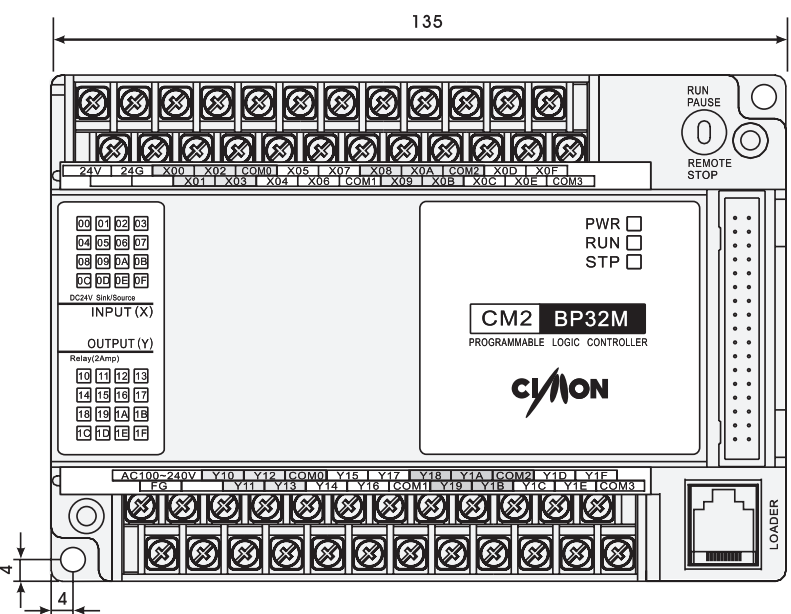
XP/CP Base

Unit : mm

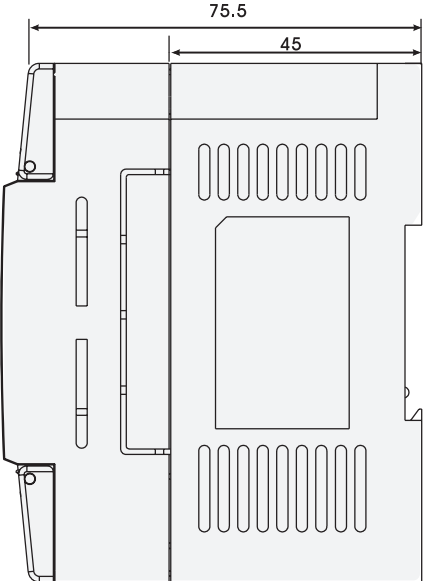
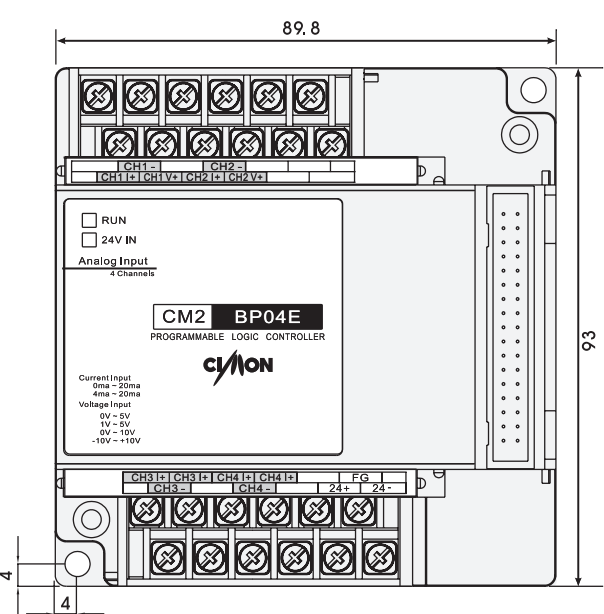


BP

» Main Block, 32 Points Expansion Block



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



Xpanel

CIMON-Xpanel features

- High Performance CPU
- Windows CE Embedded
- Beautiful Color Expression up to 16.7M Colors
- Includes USB port and SD Memory Card Slot
- Small and Lightweight for a Variety of Industrial Applications
- Includes Serial and Ethernet Ports
- Large Memory Capacity
- Resistive Type Touch Panel



CIMON Xpanel

WINDOWS CE BASED NEW TOUCH



Durable Reinforced Plastic Applied

The improved heat resistant and shock resistant properties of the case safely protects the electrical components of the product.

High Quality LED Display

Low-power, low-heat and full-brightness make it the most powerful and vivid high-definition HMI in the market.

Variety of Interfaces

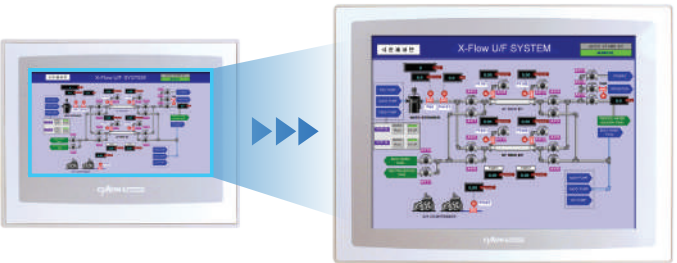
Ethernet, Serial (RS232/485), USB Host/Tool, SD card slot included.
(except for some models)

Convenient and Powerful Designing Tool

powerful features, such as infinite tag database, various communication drivers, more than 20,000 graphic library objects, and user-friendly interface make it very suitable for industrial applications.

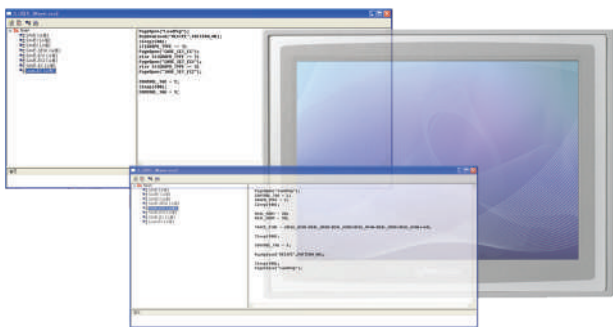
Auto Page Resize

Same projects can be used on all XPANEL with different resolution and size.



Easy-to-use Script Editor

Excellent applicability with a C language based macro editor.



Project Protection Function

Non-authorized personnel cannot extract the project from an XPANEL.



Real-time Data Logging

The reports can be saved as CSV files onto the internal memory, SD card, or USB memory card, and it can be viewed in Microsoft EXCEL.



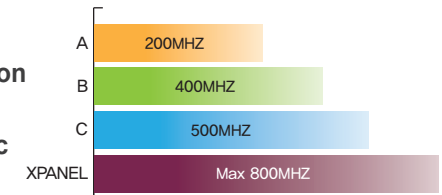


Multi-Language Supported

Supports every language from around the world to be able to easily integrate the project anywhere in the world.

Ultrafast CPU Processor

Equipped with high-speed industrial CPU which has low-power consumption and low-temperature operation for complex operations and fancy graphic processing.



Powerful and Versatile Communication

Supports Serial communication (RS232, RS485/422) and Ethernet communication as standard, and Provides more than 200 communication drivers of major equipment used all around the world for an easy and flexible network solution.



Unbreakable Security Control

Protects the system safely from unauthorized access with 10 security levels.



Intelligent Self-Diagnosis Function

Easy monitoring of the current status of XPANEL with system status logging capabilities and communication frame monitoring function.



USB Mouse

USB Keyboard

USB Hub

Easy Connection with Peripherals



Resistive touchscreen panel for durability and accuracy

Operating Temperature of 0℃~60℃

Reliable operation even in extreme conditions of industrial environment.



Variety of Graphic Object Library

Provides more than 20000 kinds of graphic objects for visually pleasing projects.

Painless Project Download/Upload



SD Card



USB



USB Cable



Ethernet

State-of-the-art High-Definition Display

Supports 262,000 FULL COLOR SVGA for delicate graphic tasks and the full-brightness and high-definition LED display that brings the pictures to life.



Experience Ultimate Performance Beyond the Norm

- High-speed CPU embedded
- Large memory size and user storage
 - XT04/07 128MB, XT10/12 256MB DDR2 SDRAM
 - 128MB SLC NAND Flash
 - Multiple page components and objects
- High-quality color expression up to 16.7M colors
- High-resolution display up to Max 1024 x 768

Easy Operating Environment

- Based on Windows CE / Windows Embedded Compact 7
- Manages the project data by Activesync or Mobile Device Center



Convenient Project Download

- Project files downloadable through XpanelDesigner
- Easy project downloading through USB cable / Ethernet cable / SD memory card / USB memory



Flexible

- Supports SD memory card
- Provides various communication drivers and if requested, wanted drivers can be developed for free
- Enables to connect to various external deices through USB
- Easy to manage by built-in maintenance functions

Comfortable Network Environment

- Supports various communication interface
 - Built-in 10/100M Ethernet port (except XT04CD-DN, XT07CD-AN/DN)
 - Two built-in serial ports
- Excellent Scalability
 - Built-in USB(Host) port which enables to connect to USB devices such as keyboard, mouse, USB storage, etc.
 - Built-in SDHC card slot (except XT04CD, XT07CD-AN/DN)
- Integrated Networking Solutions
 - Operates up to 3 communication ports concurrently (2 serial, 1 ethernet)
 - All models support multi-drop networking : RS485 port, 10/100M Ethernet port
 - Easy communication with other CIMON-Xpanels or CIMON-SCADA
 - Convenient communication with other monitoring devices or software by MODBUS RTU/TCP slave
 - Various drivers supported

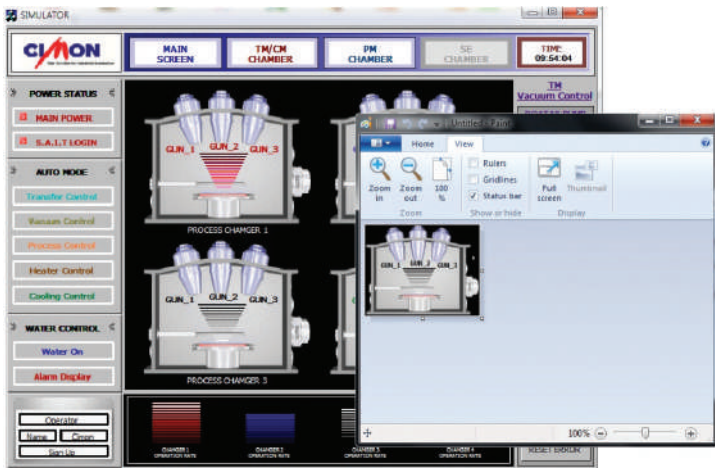
» General Specification

Item	Description
Permitted Voltage	DC24V or AC100-240V
Ambient Temperature	0℃ ~ 60℃
Storage Temperature	-10℃ ~ 60℃
Ambient Humidity	10%RH ~ 90%RH(Non-condensing, wet bulb temperature: 39℃ max.
Storage Humidity	10%RH ~ 90%RH (Non-condensing, wet bulb temperature: 39℃ max
Air Pressure Vibration Resistance (Availment altitude)	800hPa ~ 1114hPa(Up to 2000m/6,500ft)
Dust	0.1mg/m ³ or less
Pollution Degree	Less than equal to Pollution degree 2
Corrosive gases	Free from corrosive gases
Vibration Resistance	IEC61131-2 Compliant Occasional Vibration 10Hz to 75Hz 0.075mm, 57Hz to 150Hz 9.8m/s ² Continuous Vibration 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s ² X,Y,Z directions for 10 cycle (80min.)
Noise resistance	± 2kV, 1uS
Electrostatic Discharge Immunity	Contact Discharge 4kV (IEC61000-4-2)
	Air Discharge 8kV

User-Friendly Workspace

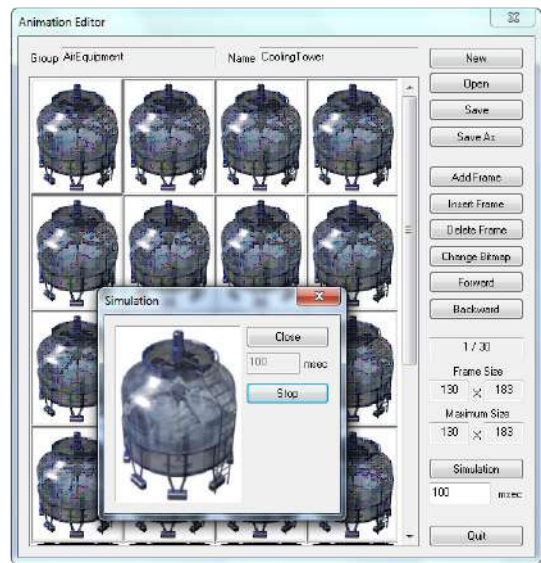
- Designing tool for Xpanel is called Xpanel Designer
- Development environment is similar to CIMON-SCADA.
- Various ways to download / update the project (USB, Ethernet Loader, Removable Disk)

- Easy to insert images using the Clipboard



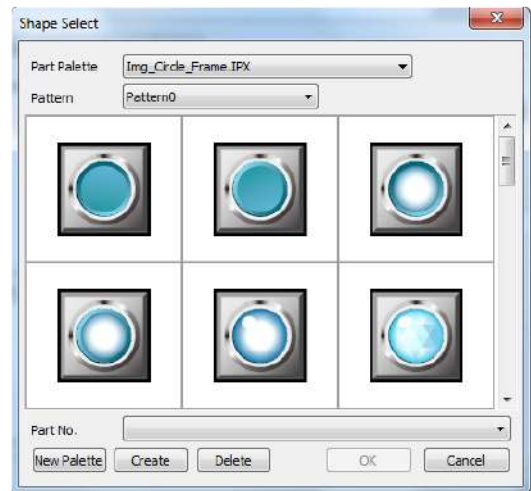
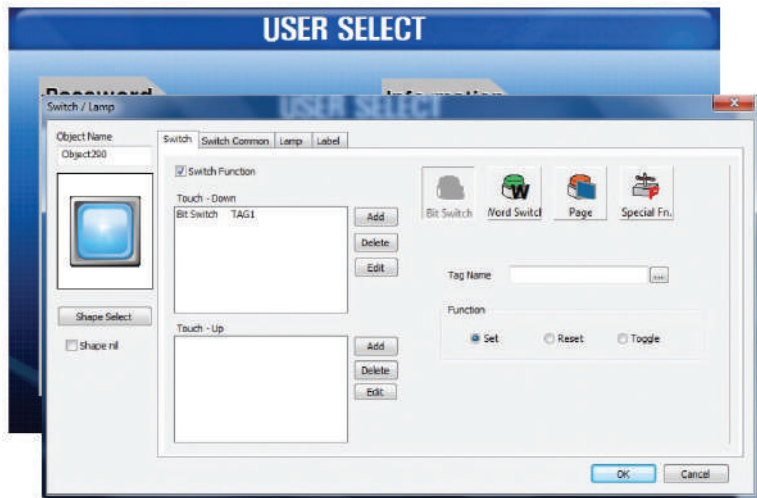
- External graphic images can be imported/ exported by using windows clipboard.
- Supports transparent color function
- Supports image compression
- Supports 24bit bitmap image

- Animation Editor



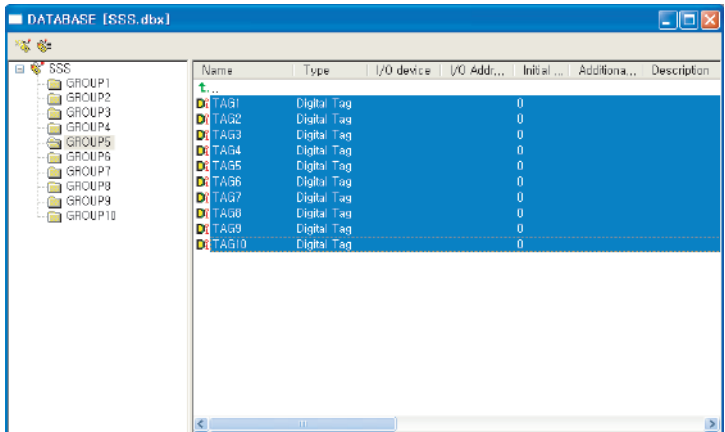
- User can create his own animation object
- Provides the simulator for animation object
- Newly made animation can be added to the library
- Supports 24bit bitmap image

- Convenient Switch/Lamp Object



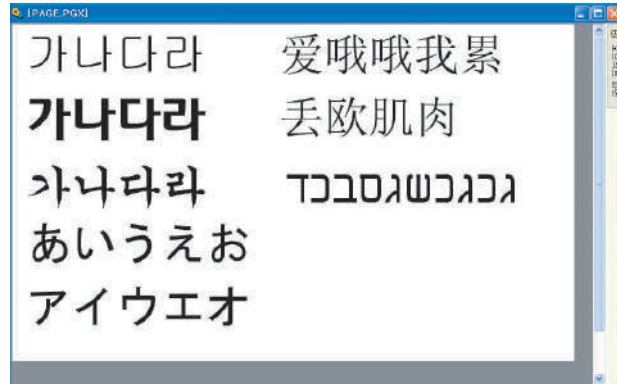
- Simple mouse operations provide the switch and lamp functions
- Up/down action is divided in the switch function
- Up to 256 steps can be defined in the lamp function
- Provides 8000 part palette

- Simple and Easy Database Manager



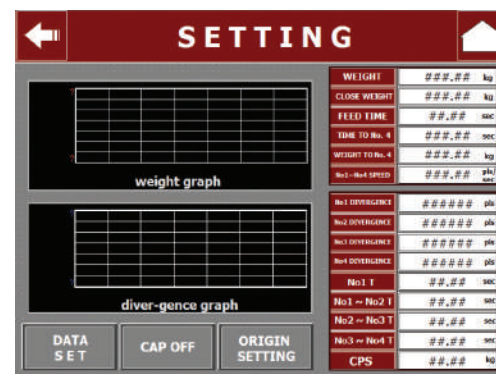
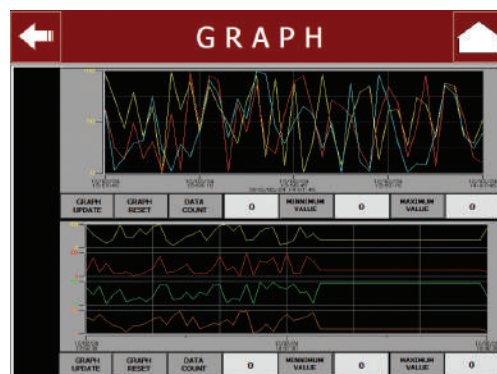
- All the address data can be identified and modified in the database
- Database compatible with Excel
- Easy to exchange the project to other devices

- Supports multi-language and various fonts
 - Enables the use of installed fonts from Windows
 - Supports unicode

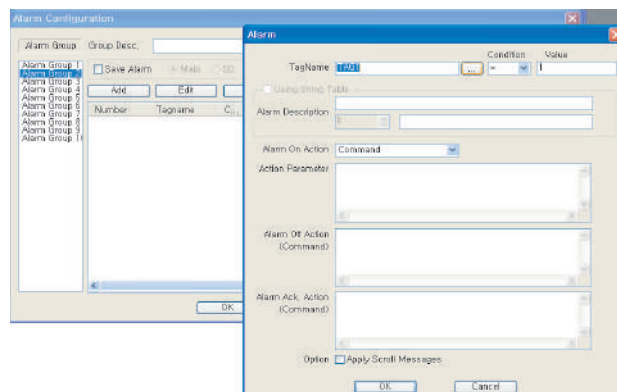


Supports a Variety of Special Function

- Provides various forms of trend
 - YT, XY, Log, ST, SPC, Scope
 - Enables to set a sampling period up to 100 ms
 - Provides historical trend (YT, XY)
 - Supports zoom feature (YT, XY)
 - Save as a CSV file (YT, Log)
 - Enables to display a data log (Scope)
 - Supports special purpose trend (ST, SPC)



■ Alarm

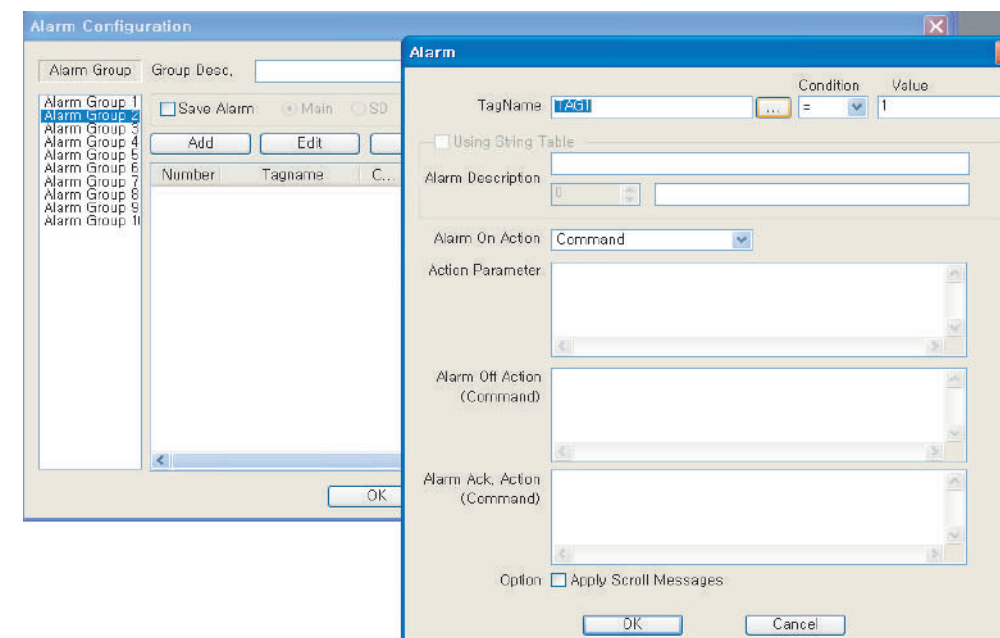


- Supports 10 alarm groups
- Each alarm group stores up to 200 alarms
- Depending on the set, the alarm will be saved at power-off
- Alarm summary displays alarm history on the screen
- desired status can be displayed on the screen
- Alarm on/off action can be specified (supports open page/command expression)
- Enables to change font and size of alarm summary object
- Provides alarm recognition functionalities
- Supports customized alarm summary control button

■ Script

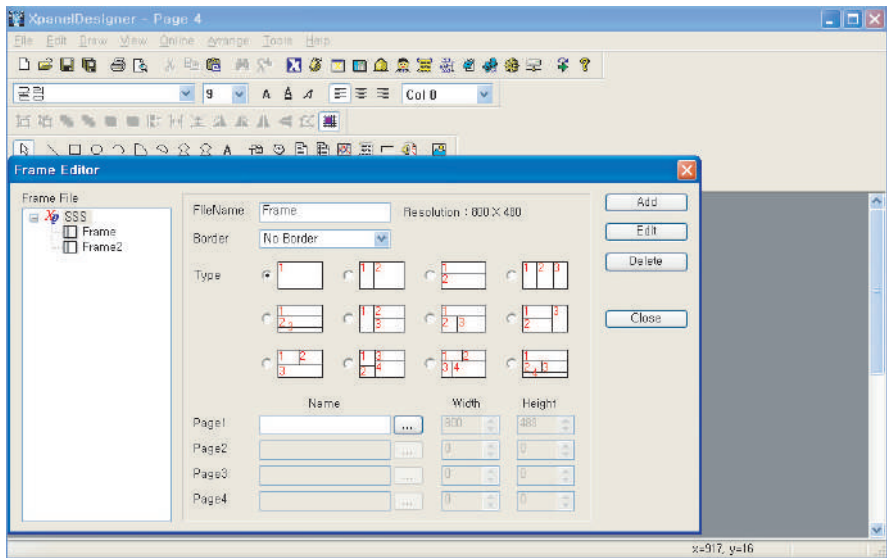
- Scripts are activated to execute by event, time period or function call
- Supports script language of C syntax
- Internal script function can control the advanced features of Xpanel
- Enables to call user-defined function

■ Data Log



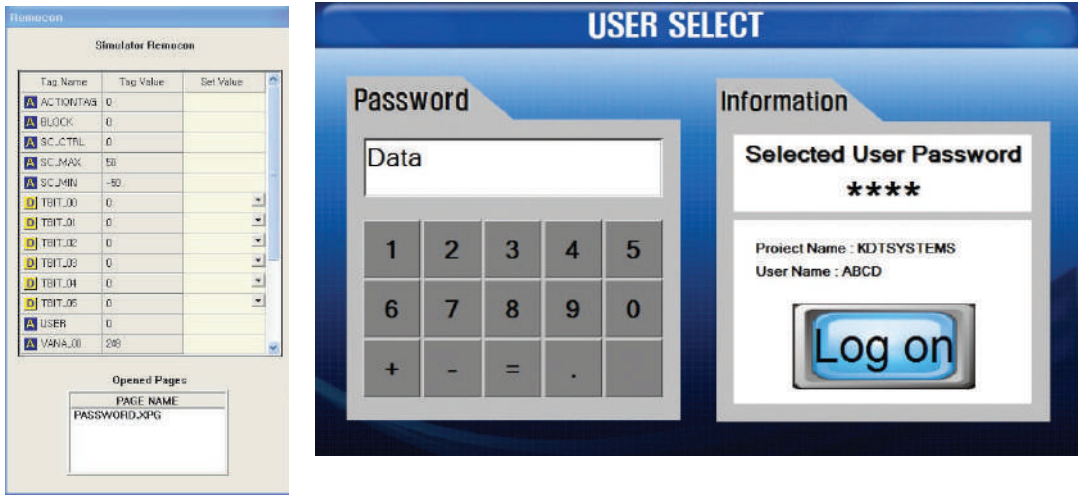
- Enables to create up to 32 data blocks (each data block can store up to 2048)
- Collected data through data collect object can be displayed on table
- Collected data through scope trend can be displayed on graph

■ Frame Editor



- Provides split-screen
- The structure and the size of the frame can be edited
- Provides various forms of frame

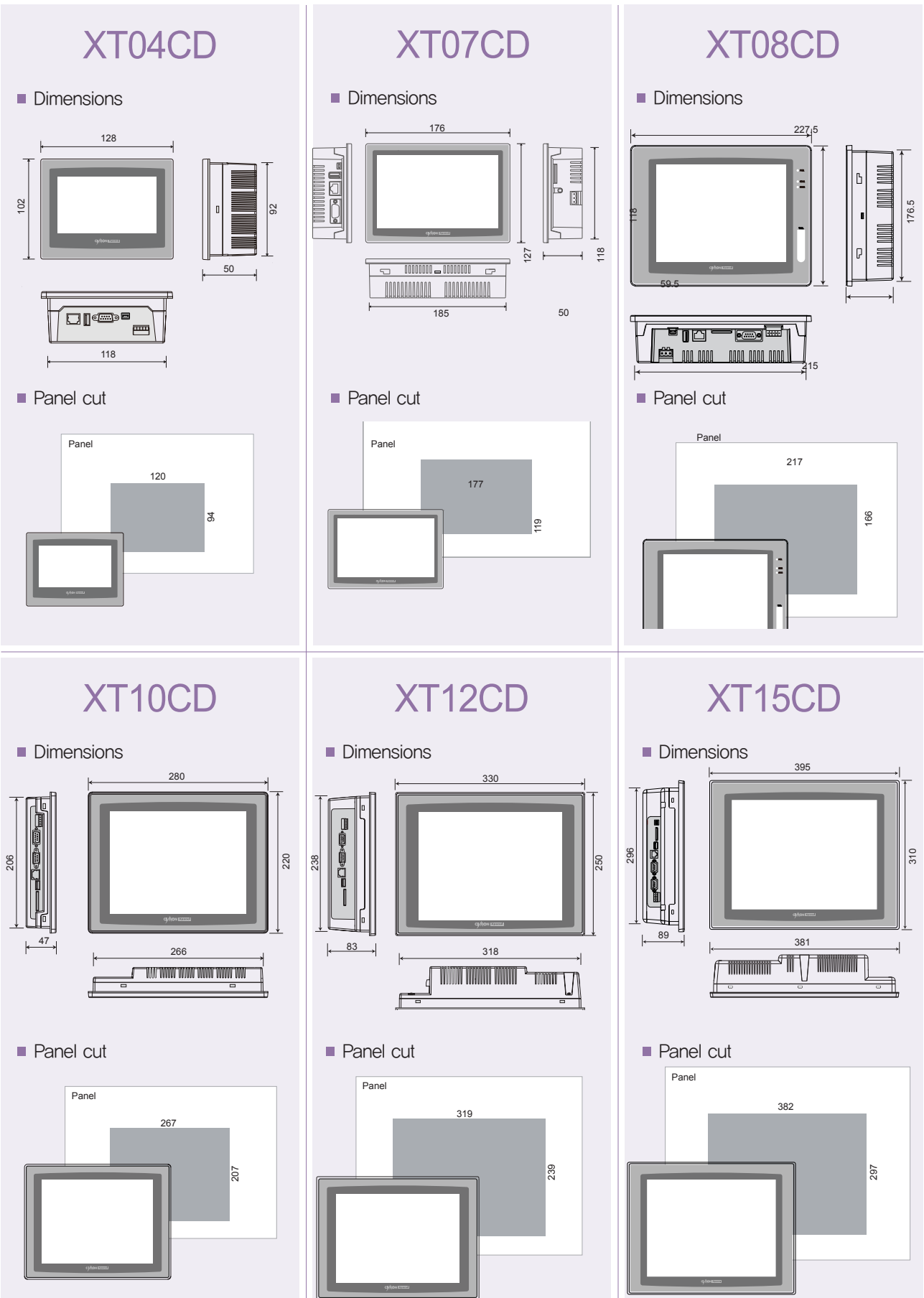
■ Simulator

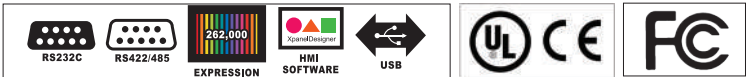


- Enables to precheck the project on the PC without the Xpanel
- Enables to modify the tag value on the simulator remote control window
- Runs on the PC with the same resolution as the real screen
- Enables to check the scripts and the alarm

Dimension

Unit : mm





XT04CD-DN



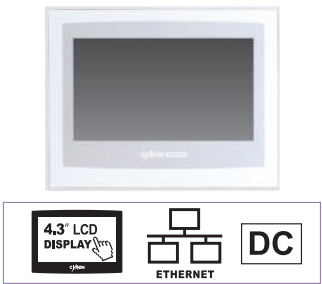
XT07CD-DN



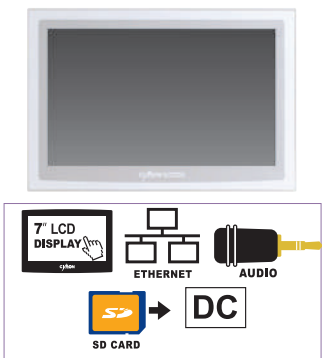
XT07CD-AN



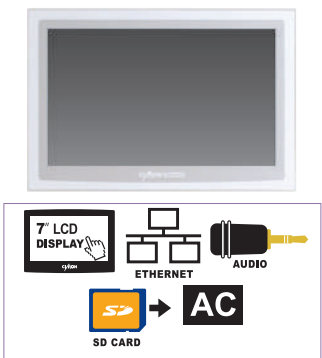
XT04CD-DE



XT07CD-DE

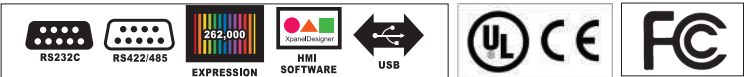


XT07CD-AE



» Specification

Type		XT04CD-DN		XT04CD-DE	XT07CD-DN	XT07CD-AN	XT07CD-DE	XT07CD-AE
Panel Size		4.3"			7"			
Resolution		480 x 272			800 x 480			
LCD		Color TFT						
Color		262K Colors						
Luminance		350 cd/m²						
Memory		128MByte DDR2 SDRAM						
Storage		128MByte SLC NAND Flash						
Operating System		Windows CE 6.0						
Programming Tool (HMI)		Xpanel Designer						
Audio		None					1 Port	
Interface	Ethernet	None	10/100 BaseT	None			10/100 BaseT	
	Serial (COM1)	RS232C						
	Serial (COM2)	RS422/485						
	Serial (COM3)	None						
	USB Host	1 Port						
	Tool Port	1 Port (for Loader)						
	SD Card Slot	None					1 Slot	
Input Power		DC24V		DC24V	AC100-240V	DC24V	AC100-240V	
Dimension(mm)		128 X 102 X 50			185 X 127 X 50			
Panel Cut(mm)		120 X 94			177 X 119			



NEW XT08CD-D



XT10CD-D



XT12CD-A



NEW XT08CD-A



XT10CD-A



XT15CD-A



Type		XT08CD-A	XT08CD-D	XT10CD-D	XT10-CD-A	XT12CD-A	XT15CD-A
Panel Size		8"		10.4"		12.1"	15"
Resolution		800 x 600					1024 x 768
LCD		Color TFT					
Color		262K Colors					16.7M Colors
Luminance		350cd/m ²		400 cd/m ²		450 cd/m ²	400 cd/m ²
Memory		128MByte DDR2 SDRAM		256MByte DDR2 SDRAM			
Storage		128MByte SLC NAND Flash					
Operating System		Windows CE 6.0		Windows Embedded Compact 7			
Programming Tool (HMI)		Xpanel Designer					
Audio		None					
Interface	Ethernet	10/100 BaseT					
	Serial (COM1)	RS232		RS422/485			
	Serial (COM2)	RS422/485		RS232C			
	Serial (COM3)	None		RS232C			
	USB Host	1 Port					
	Tool Port	1 Port (for Loader)					
	SD Card Slot	1 Slot					
Input Power		AC100-240V	DC24V		AC100-240V		
Dimension(mm)		227.5 X 176.5 X 59.5		280 X 220 X 47		330 X 250 X 83	395 X 310 X 89
Panel Cut(mm)		217 X 166		267 X 207		319 X 239	382 X 297

CIMON–XPANEL Hybrid

The Ultimate All-in-One Solution

The most advanced micro PLC is seamlessly integrated into the incredible HMI with vivid and sharp display

Xpanel Hybrid



» Specification : HMI Part (Xpanel)

Item	Specification
LCD	7 Inch Wide, TFT Color, 16M Colors, WVGA (Resolution : 800 x 480)
Backlight	LED Type, Luminance : 400cd/m2
Memory	RAM : 128MB DDR2, Flash Memory (OS and HMI project data storage) : 128MB
Serial Comm.	1 Port (selectable: RS232C or RS422/485)
Ethernet / SD Memory / Audio	Option (provided when LAN option is purchased, Ethernet : 100BaseTX)eTX)
USB Host	1 Port (used for HMI project download and data log storage)
Tool Port	1 Mini-B USB Port (Used for connecting to XPanelDesigner and CIMON)
Power	AC 100-240V / DC 24V (option)
OS	Win CE 6.0
Panel Cut	117 x 119 mm

» Specification : PLC Part (PLC–S)

Item		Specification
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), SFC (Sequential Function Chart)
Data Processing Method		32 Bit
Instructions		400 Sequence Instructions
Program Memory Capacity		10K Steps (40KB)
Max. I/O Points / Max. Expansion		80 pts / 1 CPU module (DI:8, DO8) + 1 EAA module (AI:2, AO:2) + 2 PLC-S module
Operation Mode		Run, Stop, Remote Run, Remote Stop
Data Retention		Latch Memory area settings available
No. of Program Blocks		128
Program Types		Standard Scan Program , Fixed-Cycle Program, Special Program, Initialization Program, and Subroutine Program
Self Diagnosis		Watch-Dog Timer, Memory Error, I/O Error, Battery Error, Power Error, etc
Restart Mode		Cold, Hot
Device Memory Capacity	X	1024 pts (X0000 – X063F)
	Y	1024 pts (Y0000 – Y063F)
	M	8192 pts (M0000 – M511F)
	L	4096 pts (L0000 – L255F)
	K	4096 pts (K0000 – K255F)
	F	2048 pts (F0000 – F127F)
	T	512 pts (T0000 – T0511)
	C	512 pts (C0000 – C0511)
	S	100 states x 100 set (S00.00 - S99.99)
	D	10000 words (D0000 – D9999)
	Z	1024 words (Call Stack : Z0000 – Z0063, Z1000 – Z1063)
	R	16 words (R0000 – R0015)
Basic Digital Input		DC24V 4mA 8 pts, Sink/Source Compatible
Basic Digital Output		Relay 8 pts, DC24V/AC220V, 2A/pts, 5A/Common
High Speed Counter		20Kpps, 2 Phase 2Ch.
PID		32 Channels, Auto –Tuning
RTC		Built-in (Battery CR2032 Backup)
Built-in Comm. Port (RS232C or RS485 : Optional)		Applicable Protocol : CIMON, CIMON HMI, MODBUS/RTU Slave & Master, Protocol Program

CIMON-XPANEL Hybrid

Hybrid Xpanel Features

VESA Wall Mount Ready

100X100mm standard VESA Wall Mount Hole is equipped on the back for easy attachment to a VESA mounting arm.

Expandible with PLC-S Modules

Existing PLC-S expansion modules work with Xpanel Hybrid. (Maximum 2 PLC-S expansion modules can be used)

High Reliability

The reliability required in the PLC is equally applied to Xpanel Hybrid.

Highly reliable vibration resistance, temperature resistance, surge resistance, etc

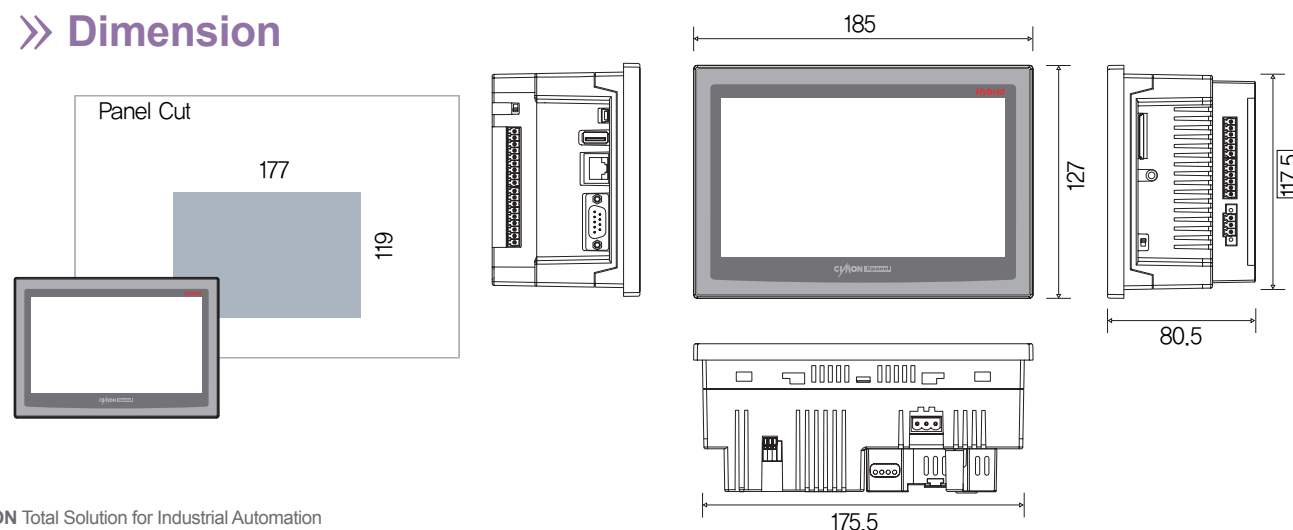
Detachable PLC Terminal

Every connection terminal is detachable for convenient installation and maintenance. USB Hub is built-in for simultaneous connection with XpanelDesigner and CICON.

Genuine PLC Integrated

A true PLC is integrated with HMI to support the full functionalities of PLC-S and Xpanel.

» Dimension



Hybrid Xpanel Product Line-Up

No.	Model	Specification
1	CM-HP07CD-DNR	HP07 + NO LAN + PLC(CPU, RS232C), DC Type
2	CM-HP07CD-ANR	HP07 + NO LAN + PLC(CPU, RS232C), AC Type
3	CM-HP07CD-DNS	HP07 + NO LAN + PLC(CPU, RS485), DC Type
4	CM-HP07CD-ANS	HP07 + NO LAN + PLC(CPU, RS485), AC Type
5	CM-HP07CD-DER	HP07 + LAN + PLC(CPU, RS232C), DC Type
6	CM-HP07CD-AER	HP07 + LAN + PLC(CPU, RS232C), AC Type
7	CM-HP07CD-DES	HP07 + LAN + PLC(CPU, RS485), DC Type
8	CM-HP07CD-AES	HP07 + LAN + PLC(CPU, RS485), AC Type

» Option

No.	Model	Specification
1	CM-HP-DM	Expansion dummy for Hybrid Xpanel
2	CM-HP-EAA	Analog module (AI 2ch, AO 2ch) for Hybrid Xpanel
3	CM-HP-EDR	DI 8 pts, DC24V / DO 8 pts Relay for Hybrid Xpanel

PLC Expansion Modules (PLC-S)

» Digital I/O

No.	Model	Type	Specification
1	CM3-SP32EDO	DI-32	DI 32 pts, DC 24V
2	CM3-SP32EOT	DO-32	DO 32 pts, DC 24V TR (Sink)
3	CM3-SP32EOC	DO-32	DO 32 pts, DC 24V TR (Source)
4	CM3-SP16EOR	DO-16	DO 16 pts, Relay Output
5	CM3-SP32EDT	DI-16 / DO-16	DI 16 pts, DO 16 pts, TR (Sink)
6	CM3-SP16EDR	DI-8 / DO-8	DI 8 pts, DO 8 pts (Relay Output)

» Analog I/O & Temp. Measuring

No.	Model	Type	Specification
1	CM3-SP04EAO	AI-4	AI 4ch (0-5V, 1-5V, 0-10V, -10-10V, 0-20mA, 4-20mA)
2	CM3-SP04EAA	AIO-4	AI 2ch / AO 2ch (0-5V, 1-5V, 0-10V, -10-10V, 0-20mA, 4-20mA)
3	CM3-SP04EOAI	AO-4	AO 4ch Current Output (4-20mA)
4	CM3-SP04EOAV		AO 4ch Voltage Output (-10-10V, 0-10V)
5	CM3-SP04ERO	Temp.	4ch RTD (PT100, JPT100, PT1000, NI1000)
6	CM3-SP04ETO		4ch TC (K, J, E, T, B, R, S, N)

» Communication

No.	Model	Type	Specification
1	CM3-SP02ERS	RS232C 1ch, RS422/485 1ch	CICON, CIMON HMI, MODBUS/RTU Slave & Master, Protocol Program
2	CM3-SP02ERR	RS232C 2ch	CICON, CIMON HMI, MODBUS/RTU Slave & Master, Protocol Program
3	CM3-SP01EET	Ethernet (10BaseT, 100BaseTX)	CICON, CIMON HMI, MODBUS/TCP Slave & Master, Protocol Program, DHCP

» Accessories

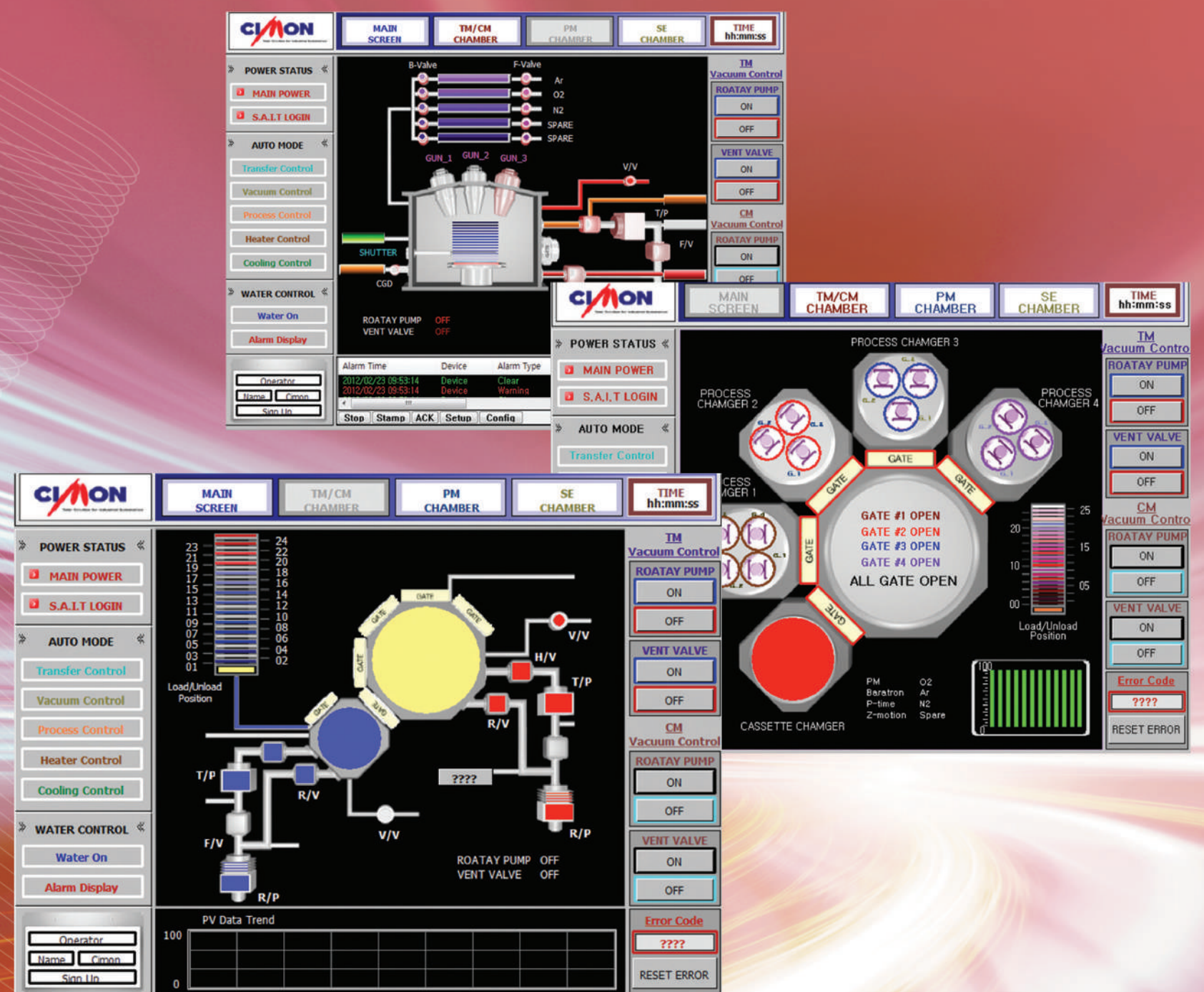
No.	Model	Type	Specification
1	CM0-SCB15E	SP32EDO	I/O 32 pts. 1.5M Cable
		SP32EOT	

*Please refer to PLC-S catalog for detailed information.

SCADA

CIMON-SCADA features

- Redundancy System and Client-Server Configuration
- Creates the Database Automatically
- Convenient Graphic Works
- Realistic Images and Animations in the Built-In Library
- Supports Various Drivers for Instant Connections with other Devices
- Open System Architecture
- Optional WEB/Mobile/ACS/SMS Version for Remote Monitoring and Controlling
- MRP Systems



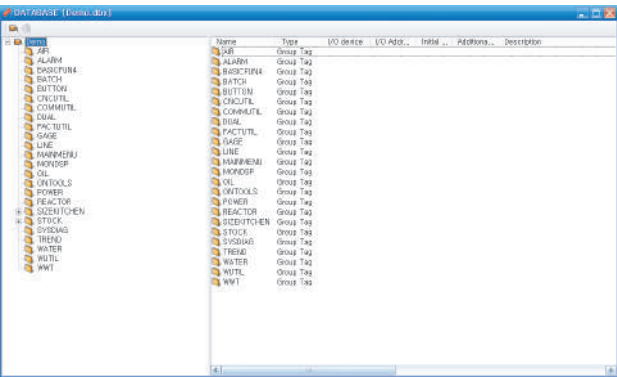
Open System Architecture	CIMON-SCADA is designed as open system architecture CIMON-SCADA easily satisfies specific requirements from various users CIMON-SCADA provides high flexibility such as easy linking with other software systems
Supports Various Networks	CIMON-SCADA supports redundancy system which is essential to guarantee reliability of a large scale system
Connect to Common DBMS	CIMON-SCADA can be linked with common DBMS by using ODBC CIMON-SCADA supports all the DB applications (revising, adding, deleting records) through standard SQL
Supports Internet	Current equipment status can be monitored and controlled via internet
Convenient Graphic Works	Users can easily configure the system using various types of wizard and symbol library. User-defined objects can be registered in the symbol library and used at any time CIMON-SCADA can easily expand a system as it supports third-party OCX components
Visual Basic Script	CIMON-SCADA supports Visual Basic Script language syntax which includes about 500 functions (File I/O, OLE object connection, etc) Supported SQL functions allows for data query or search in the common DBMS
Data Compatibility with Various Application Software	Tag database is compatible with MS Excel; Report forms created by Excel and Word can be used without modification. Also can use various graphic file formats (Auto-Cad, Adobe Photoshop, Corel Draw)
OPC Server	External programs can easily send and receive data from CIMON-SCADA via the OPC interface

» New Style Development Environment

- Offers ideal environment to enable several monitoring windows and workspace

» Real-Time Database Management

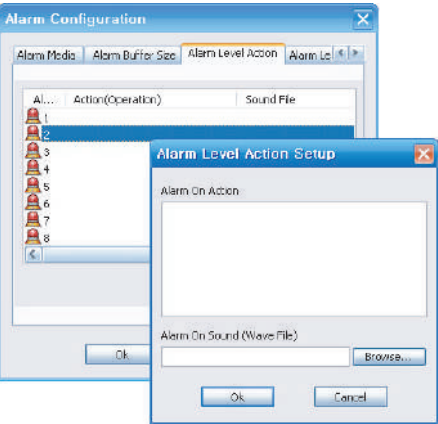
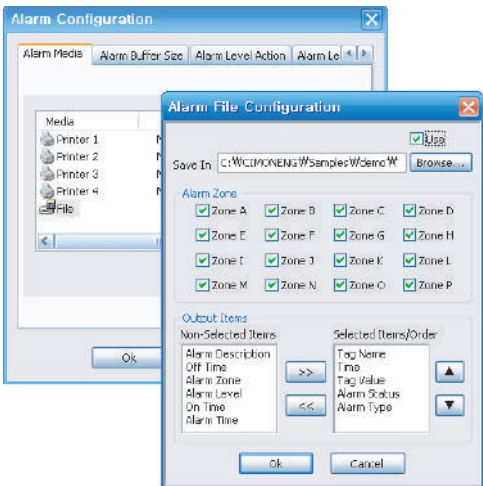
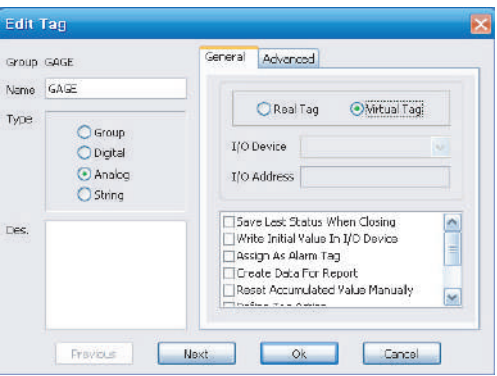
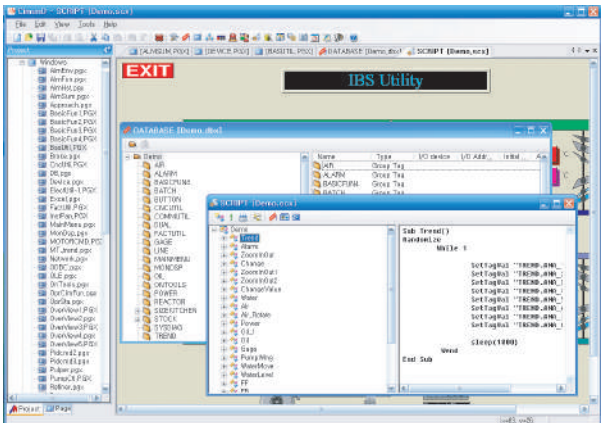
- Convenient management program based on the explorer's layout and functions
- Find/Replace feature to conveniently manage the large-scale database
- Database compatible with excel
- Analog / Digital / String / Group tag
- Virtual tag: simulation, tag for internal operation



» Alarm

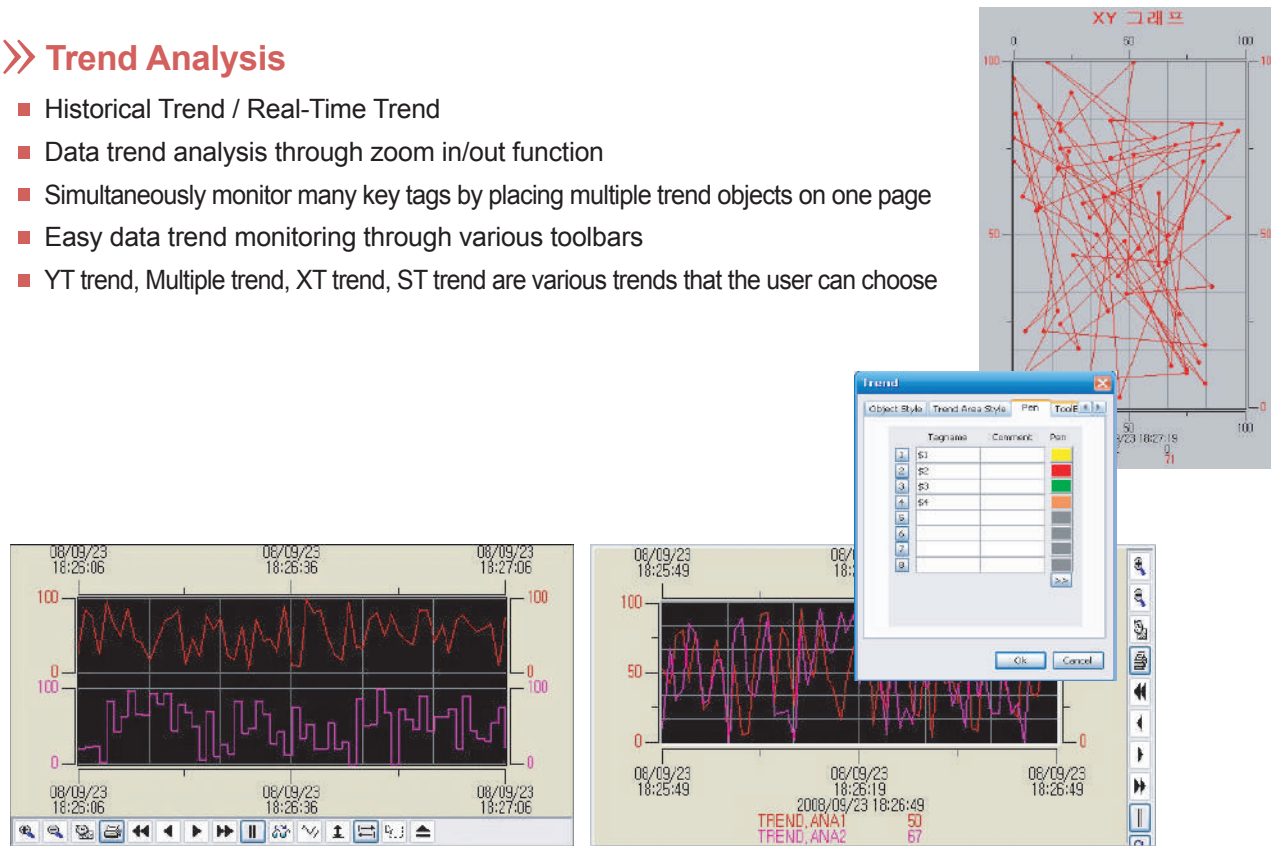
- Most important work in the system
- Alarm management by zones and priorities
- Alarm summary, File, Printer, Alarm sound, Text Message
- Digital Tag Alarm: ON and OFF, ON -> OFF, OFF -> ON, ON <=> OFF
- Analog Tag Alarm: Boundary Value, Deviation Value, Rate Of Change
- Activate specific actions when the alarm is triggered or stopped
- Alarm type or alarm area summary can be monitored online
- Line color printing by priorities and types
- Monitor alarm history with the alarm manager (filtered by specific tag / alarm area / alarm type / alarm status / occurred time)
- Save as a CSV file

Time	Tag Name	Tag Value	Alarm Status	Alarm Type
11/02/18 09:47:39	Tag Name	0	Alarm Ack	OFF->ON Alarm
11/02/18 09:47:39	Tag Name	0	Alarm Variation	ON->OFF Alarm
11/02/18 09:47:39	Tag Name	1	Alarm On	OFF->ON Alarm
11/02/18 09:47:39	Tag Name	0	Alarm Off	ON Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Ack	OFF Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Variation	Alarm Off
11/02/18 09:47:39	Tag Name	1297990059	Alarm On	ROC Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Off	Minor Dev. Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Ack	Major Dev. Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Variation	LoLo Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm On	Lo Alarm
11/02/18 09:47:39	Tag Name	1297990059	Alarm Off	Hi Alarm



» Trend Analysis

- Historical Trend / Real-Time Trend
- Data trend analysis through zoom in/out function
- Simultaneously monitor many key tags by placing multiple trend objects on one page
- Easy data trend monitoring through various toolbars
- YT trend, Multiple trend, XT trend, ST trend are various trends that the user can choose



» Chart

- Display the data gathered from various devices / data logging / databases on to a chart
- Easy to setup the chart by just setting up the series and the data
- Enables the chart to connect to database without ODBC

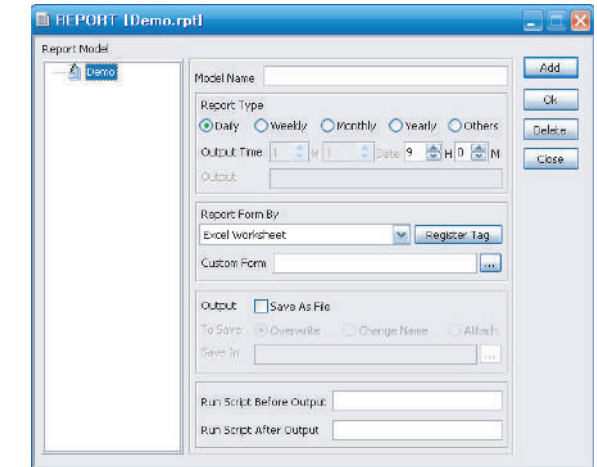


» Supported Chart Type

- 2D Chart Type
 - Bar Chart (bar, stacked bar, full stacked bar)
 - Pie Chart
 - Point Chart
 - Line Chart (line, step line)
 - Area Chart (area, stacked area, full stacked area)
 - Radar Chart (radar, radar line, radar area)
- 3D Chart Type
 - 3D Bar Chart
 - 3D Pie Chart
 - 3D Line Chart
 - 3D Step Line Chart
 - 3D Area Chart
 - 3D Stacked Chart
 - 3D Full Stacked Chart

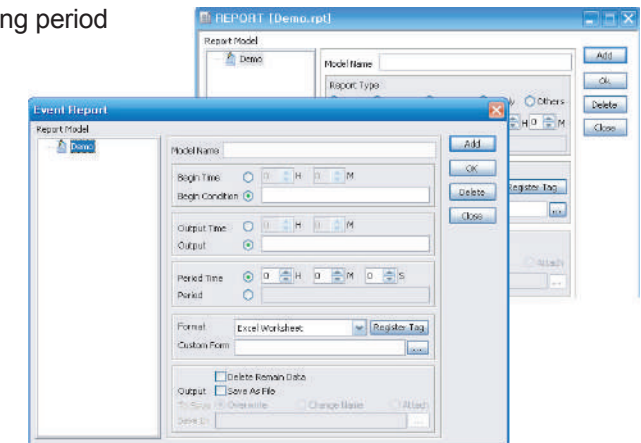
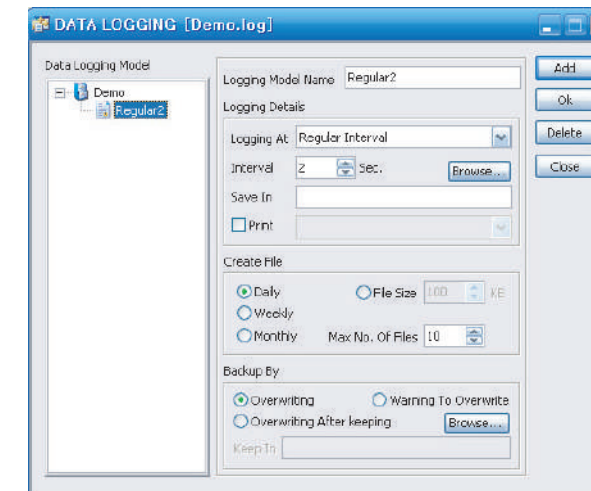
» Report

- Excel or Word forms can be used
- Displays a report in Excel form without using Excel
- Reports by regular intervals, time, event which can be saved as a file
- Reports can be made either by a scheduled time or upon user's request



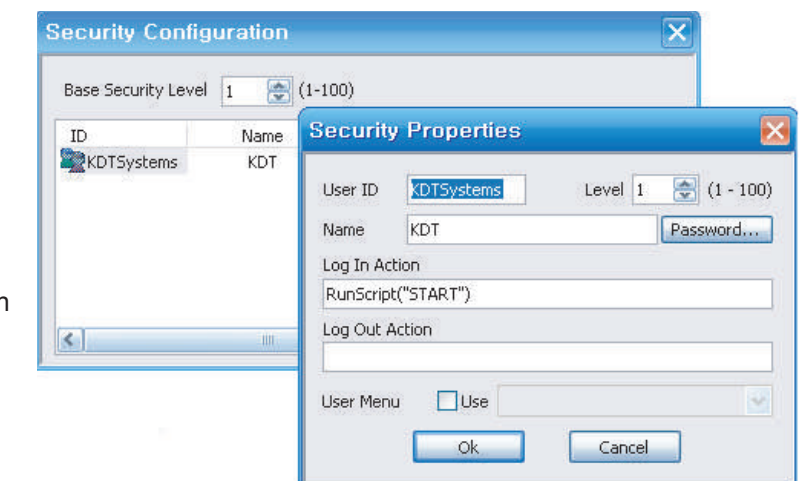
» Data Logging

- Data is logged at a regular interval or when the value is changed
- Data can be saved as a file or printed
- File can be saved separately by the size or the logging period
- Monitors the logging data on the trend screen
- The logging data can be read by the script function



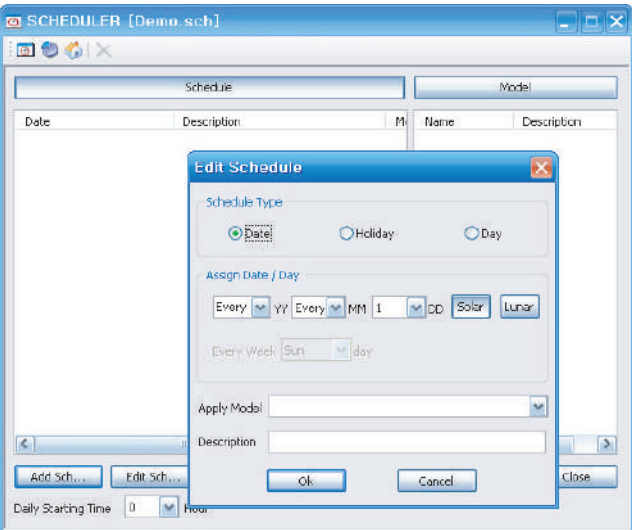
» Security

- User registration based on 100 levels
- Stores user's login/logout history
- Allows access to the system only for the authorized user level
- Able to change passwords online
- Activate specific actions when logged in



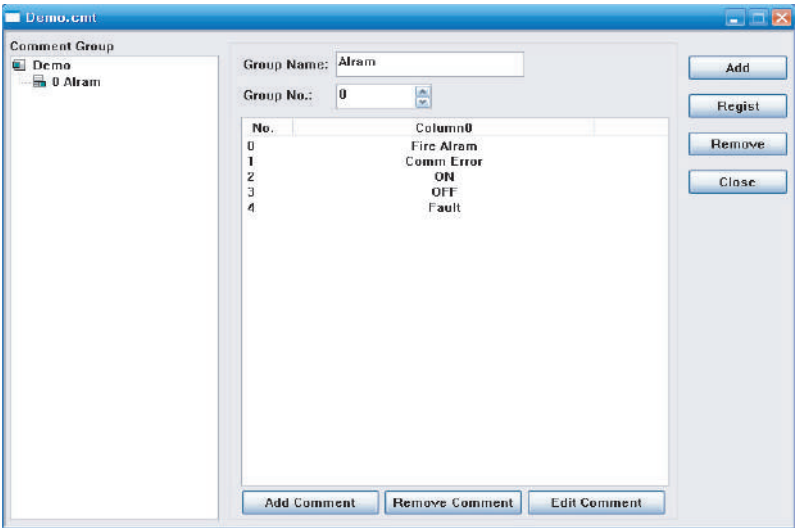
» Scheduler

- Monitor and control according to the schedule
- Collected data management and system control can operate by the date
- Executes registered work details on a specific date automatically

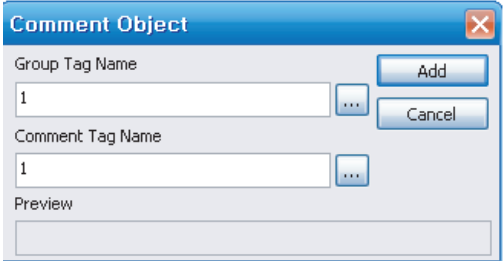


» Comment Table

- Call the strings depends on tag status
- Batch process in conjunction with Excel
- Display messages in conjunction with alarm



» Comment in Static Value

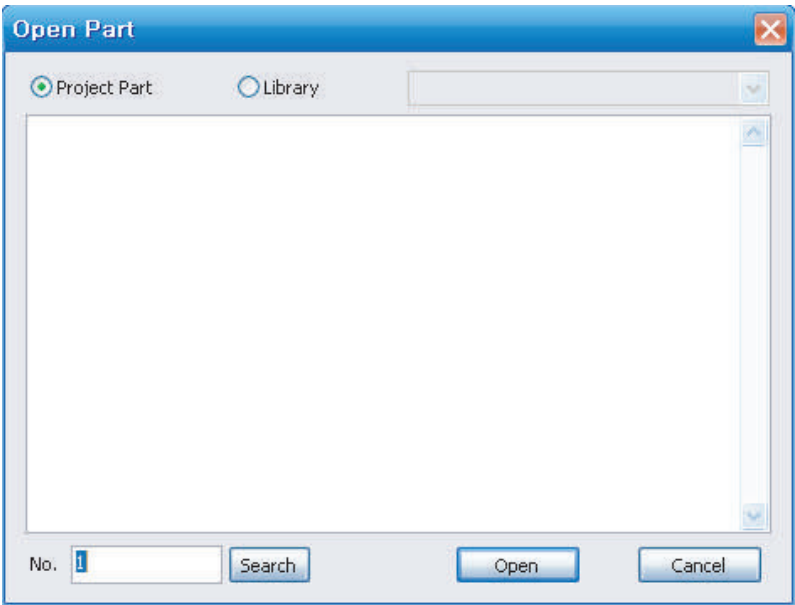


» Comment Conjunction with Tag



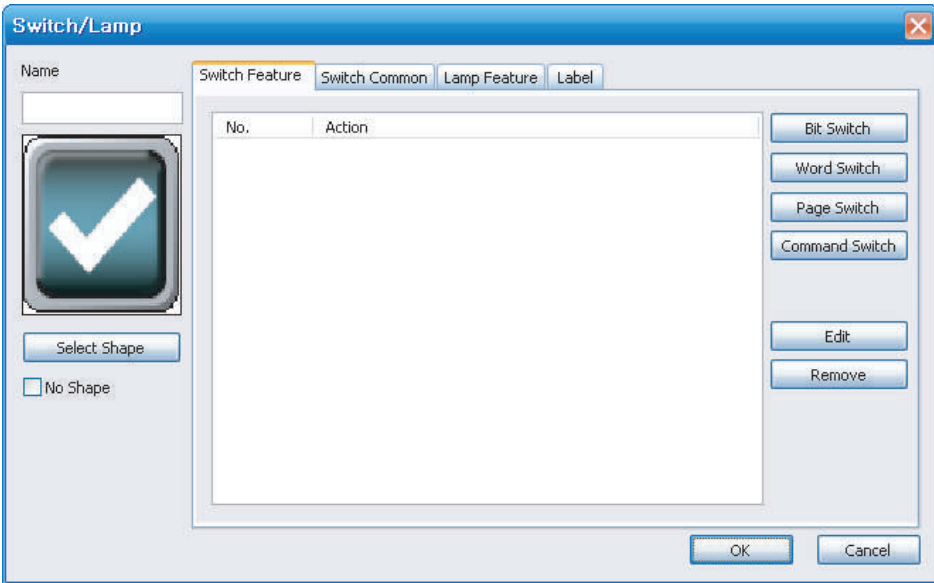
» Part

- Object link function
- Display by the part object
- Conjunction with switch / lamp
- Batch change by link function



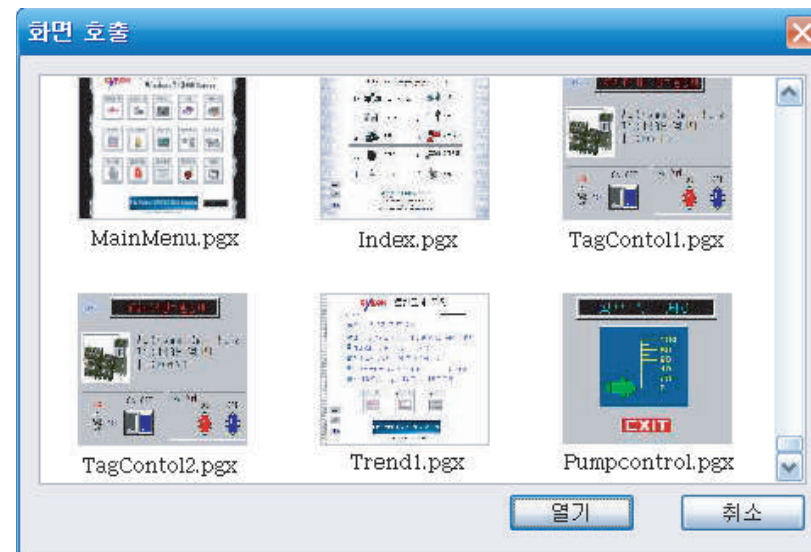
» Switch / Lamp

- Display various switch / lamp using objects and libraries
- Supports bit / word switch
- Supports bit / word lamp
- Label can display current status
- Conjunction with the project and the system part



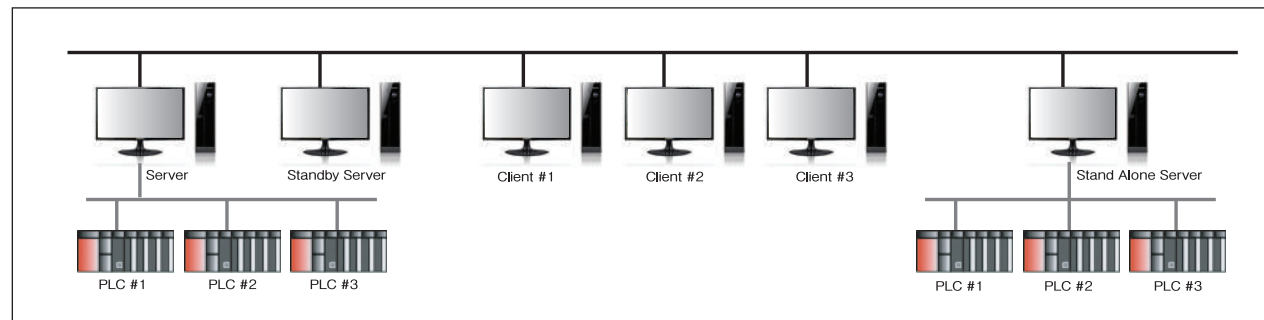
» Screen Call

- See the contents of multiple pages on a single screen
- Layout without any frame division
- Control the function on a linked page
- Save the page size by the link function

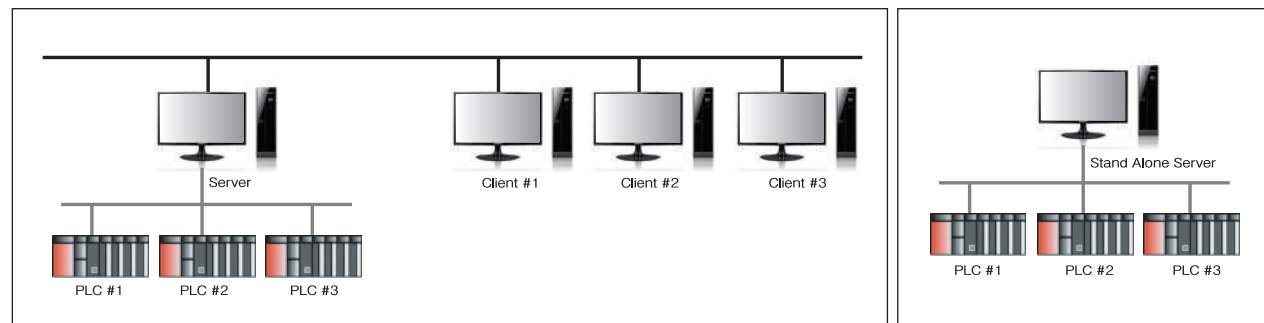


» Network

- Supports various types of network operation including Standalone, Peer-to-Peer, 1 server + n Clients, and n Servers + n Clients
- Connects to other workstations using TCP/IP or RS232C/Modem through the CIMON-NET protocol (CIMON-SCADA <-> CIMON-SCADA or CIMON-SCADA <-> CIMON-TOUCH communication)



The construction of Redundancy and Server-Client



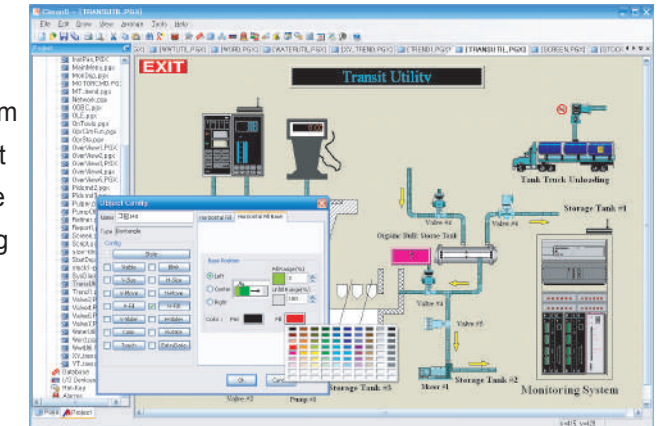
The construction of Server-Client

The construction of Peer-to-Peer

- Supports dynamic IP addressing system

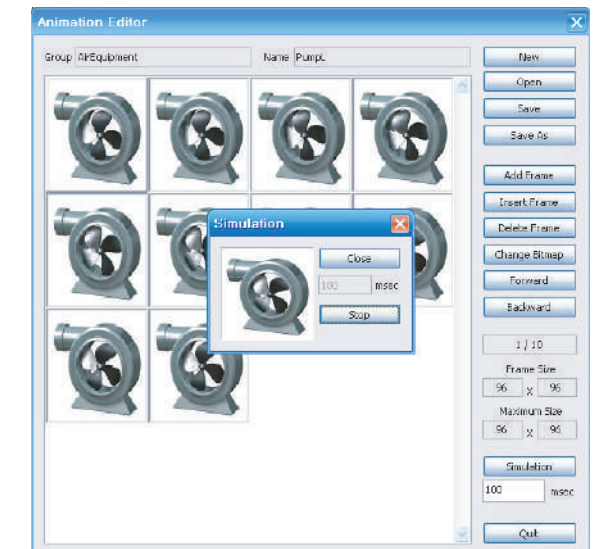
» Creating Monitoring / Control Screen

- Object-oriented graphic
- User-friendly toolbar
- Various types of control functions
- Supports linking the object to other application program
- Several screens can be opened together in one layout
- Zoom In / Out function in the Editing / Execution mode
- Easy to create a screen layout by dragging & dropping various types of clip art and library



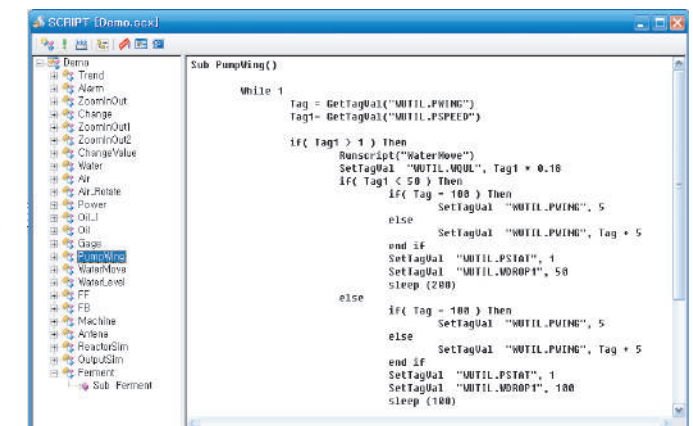
» Graphic Effect

- Supports animation modifications
- By using various framed picture files, create dynamic and realistic effect of industrial images
- Texture expression using the gradation effect



» Visual Basic Script

- Supports script language of Visual Basic syntax
- Supports about 500 internal functions
- Execution possible anywhere with CIMON-SCADA



» OPC Server for CIMON-SCADA

- Supports OPC server for CIMON-SCADA
- User application gathers the data from CIMON-SCADA and controls it through the OPC interface
- Used only with FULL/DS and Web version

>> I/O Device

- Supports various networks such as RS232C/422, LAN and wireless communication
- Supports standard protocol such as OPC, MODBUS
- Communicates with most PLCs
- Connects with various DDC's and special equipment
- For the protocols that are not yet developed, if requested, can be developed at no charge



>> I/O Driver List

Manufacturer	Product Name
Allen Bradley	SLC500 DF1 / Ethernet / RsLinx
	PLC5 DF1 / Ethernet / RsLinx
	Control Logix 5000 (Ethernet/IP)
MITSUBISHI	MELSEC Computer Link (AJ71UC24, AJ71C24)
	MELSEC Ethernet (AJ71E71)
	MELSEC FX Series, NET
KDT Systems	CIMON-Net Ethernet / RS232/MODEM
	CIMON-PLC RS232C/422/485 / Ethernet / Loader
Dongyang Industrial System	MaxCom
Samsung Electronics	FARA 700 Ethernet SECTOCOLCOM
	Brain Series/FARA N Plus CPU
	FARA PLC N Series
Hanyoung Electronic	Digital thermometer NX,PX Series
Hyosung	Digital Protection Relay(HPR Series)
Advantech	ADAM4000/5000 Series, PC-Lab Card
CAS DNP30	CAS Electronic Scale AD-2.5, EXP5500, S2000 Series
	Dnp30 TCP / RS232C
Echelon	LonWorks DDE Network
Eurotherm	800 Series
FUJI	MICREX-F Computer Link (FFU120B) / Ethernet(FFU170B)
	MICREX-F P-Link(CNVAD020-01) / PE-Link PCI / T- Link(FFU080A)
	SX PLC CPU Board
	MICREX-SX Computer Link / Ethernet
GE	Total Lightning
HITACHI	HIDIC COMM-2H, EH-150 Ethernet,
	Loader

Manufacturer	Product Name
LS Industrial Systems	XGT Ethernet
	GIPAM/GIMAC/Urtu(INET)
	GLOFA-GM Computer Link / Ethernet /
	FNET / Loader / Mnet
	GIPAM/GIMAC/Urtu(GMPC)
	Solar Inverter UPS
MODICON	PMU Series
	MASTER-K H Series Computer Link /
	DLU / S Series Loader Port / Ethernet
National	Modbus RTU Mode / TCP
	Lighting Apparatus (WR3381-82, WR3385-891)
OMRON	SYSMAC C-Series RS232C/422, CS Series Ethernet
OPTO22	OPTOMUX protocol RS232C/422
POSCON	POSFA PLC Ethernet / Serial
Proface	GP Computer Link / Ethernet
SIEMENS	3694® Procedure, RK512 Protocol
	S7 Ethernet, TI505 Series TCP/IP
TOSHIBA	Lighting Controller (MESL-REMOCON)
YOKOGAWA	FA-M3 Series RS232C/422/485 / Ethernet
OPC	OPC Server / Client
NAiS	NAiS PLC
Join	Join Motor

•
•
We have about 500 more communication drivers

- For the drivers that are not yet developed, please don't hesitate to contact us with the specific name of the device so that we can develop the drivers at no charge

>> About CIMON-SCADA WEB



Internet remote monitoring and control



At home, Internet Cafe, or even abroad



>> Features of CIMON-SCADA WEB

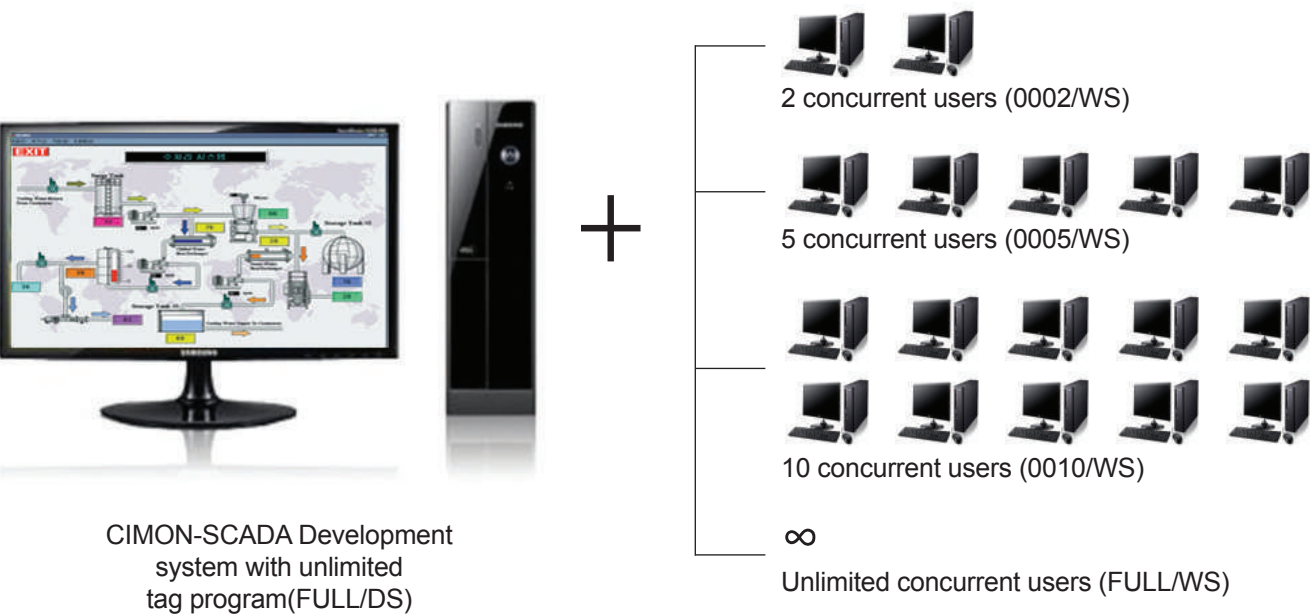
- Homepage style configuration for site monitoring
- Prevents unauthorized access through complete security on the web
- Controls via the Internet
- Immediate response is possible by real-time alarm monitoring
- Search the data history using the web browser
- Supports dynamic IP addressing by DDNS service
- User can configure the communication port to access the CIMON-SCADA WEB even with a firewall

>> Advantages of CIMON-SCADA WEB

- **Easy to monitor the site on the client PC**
The site status can be monitored anywhere if the client PC is connected to the internet
- **Cost Savings**
Save costs by not requiring additional software investments and operating expenses
- **Improves management efficiency**
Executives can make decisions quickly through the real-time data flow

» Consist of CIMON-SCADA WEB

- Product configuration by the number of concurrent users



» Internal Components of CIMON-SCADA WEB

- Product configuration by internal web server component



- Includes the same features as the CIMON-SCADA DS
- Additional interface that allows remote login and data request

HttpSvr.exe

- General internet HTTP server service program

MakeHtm.exe

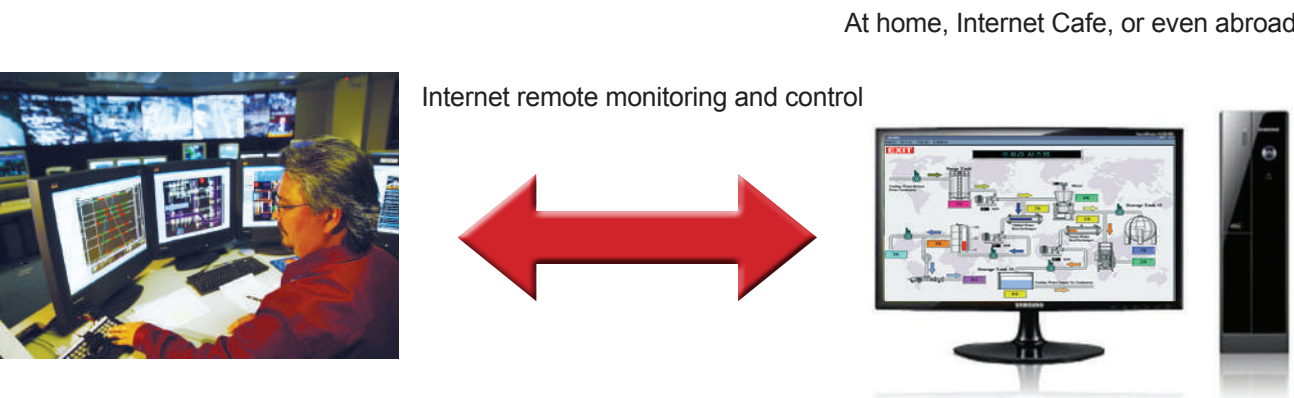
- Default homepage generation tool

MonitorX.cab

- Automatic download and installation on the web client
- Monitor / control tool without additional software installation

» About CIMON-SCADA WEB View/Control Server

- CimonView client monitors/controls the site status of CIMON-SCADA view/control server through web communications or LAN
- The product line-up is consisted of 150/500/1500/unlimited tag and 2/5/10/unlimited concurrent users



» Consist of CIMON-SCADA WEB View/Control Server

- **View Server**
Monitors the site status through CimonView client
- **Control Server**
Monitors and controls the site status through CimonView client
- **CimonView Client**
CIMON-SCADA View/Control can monitor and control the server site status without the need of a key-lock

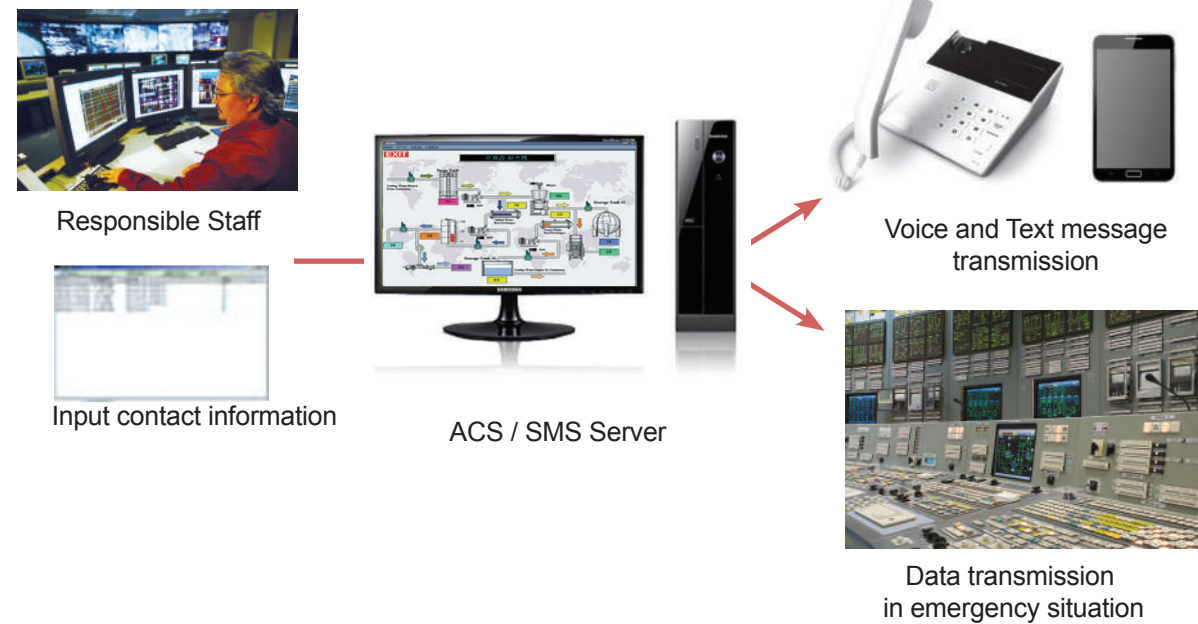
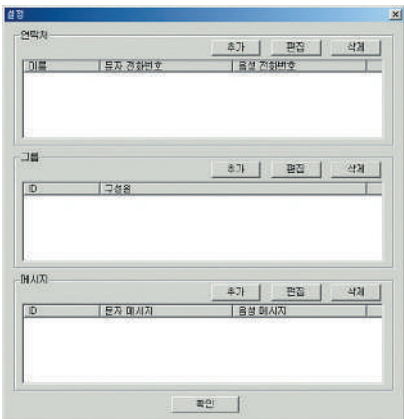
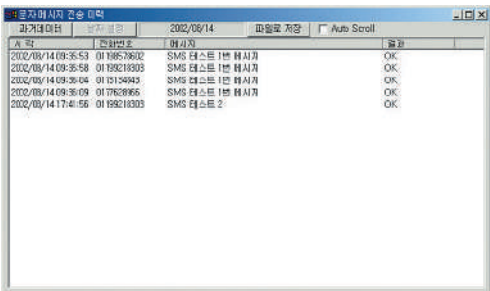
» Features of CIMON-SCADA WEB View/Control Server

- Client Server can be configured as the actual site
- Faster than the Web version
- User friendly interface

>> About CIMON-SCADA SMS

CIMON-SCADA SMS is the text messaging system option for CIMON-SCADA. It sends a text message in an emergency situation

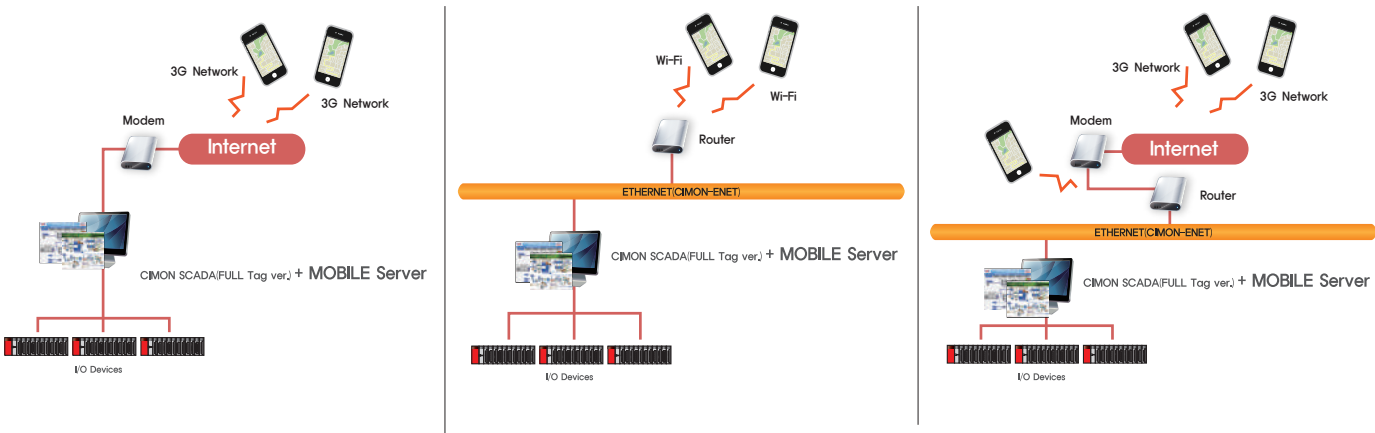
- Sends the text message in an alarm situation (up to 78 characters)
- Save and retrieve the text message history
- Transmission by contact information or group



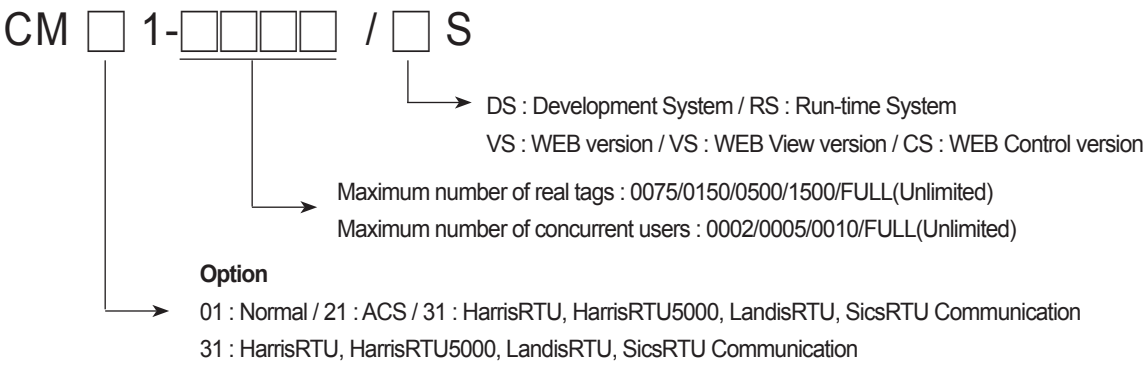
>> About CIMON-SCADA MOBILE

CIMON-SCADA MOBILE is the mobile option for CIMON-SCADA that can be used on iPad, iPhone, and Android smart phone. It can be used as a Remote Control / Monitoring device for SCADA systems using either 3G network or Wi-Fi.

- Sends the text message (SMS) in an alarm situation
- Similar SCADA monitoring screen can be created by using the user-friendly graphic design software called MobileDesigner
- Monitor system alarm history
- User registration based on 100 levels
- Only wanted devices can be selected to access the system
- Manual network mode for saving 3G data usage to prevent any excessive network cost



>> Product Line-up



>> Development System

NO	Model name	Item	Specification
1	CM01-0075/DS	75 Tag	Development+Runtime+Keylock+Manual
2	CM01-0150/DS	150 Tag	Development+Runtime+Keylock+Manual
3	CM01-0500/DS	500 Tag	Development+Runtime+Keylock+Manual
4	CM01-1500/DS	1500 Tag	Development+Runtime+Keylock+Manual
5	CM01-FULL/DS	Unlimited Tag	Development+Runtime+Keylock+Manual

>> Run-time System

NO	Model name	Item	Specification
1	CM01-0075/RS	75 Tag	Runtime+Keylock
2	CM01-0150/RS	150 Tag	Runtime+Keylock
3	CM01-0500/RS	500 Tag	Runtime+Keylock
4	CM01-1500/RS	1500 Tag	Runtime+Keylock
5	CM01-FULL/RS	Unlimited Tag	Runtime+Keylock

>> Web Version System

NO	Model name	Item	Specification
1	CM01-0002/WS	2 User	2 concurrent users (Including Full/DS)
2	CM01-0005/WS	5 User	5 concurrent users (Including Full/DS)
3	CM01-0010/WS	10 User	10 concurrent users (Including Full/DS)
4	CM01-FULL/WS	Unlimited User	Unlimited concurrent users (Including Full/DS)

>> Web View Version

NO	Model name	Item	Specification
1	CM01-0150-02/VS	2 User	2 concurrent users (Including Full/DS)
2	CM01-0150-05/VS	5 User	5 concurrent users (Including Full/DS)
3	CM01-0150-10/VS	10 User	10 concurrent users (Including Full/DS)
4	CM01-0150-FU/VS	Unlimited User	Unlimited concurrent users (Including Full/DS)
5	CM01-0500-02/VS	2 User	2 concurrent users (Including Full/DS)
6	CM01-0500-05/VS	5 User	5 concurrent users (Including Full/DS)
7	CM01-0500-10/VS	10 User	10 concurrent users (Including Full/DS)
8	CM01-0500-FU/VS	Unlimited User	Unlimited concurrent users (Including Full/DS)
9	CM01-1500-02/VS	2 User	2 concurrent users (Including Full/DS)
10	CM01-1500-05/VS	5 User	5 concurrent users (Including Full/DS)
11	CM01-1500-10/VS	10 User	10 concurrent users (Including Full/DS)
12	CM01-1500-FU/VS	Unlimited User	Unlimited concurrent users (Including Full/DS)
13	CM01-FULL-02/VS	2 User	2 concurrent users (Including Full/DS)
14	CM01-FULL-05/VS	5 User	5 concurrent users (Including Full/DS)
15	CM01-FULL-10/VS	10 User	10 concurrent users (Including Full/DS)
16	CM01-FULL-FU/VS	Unlimited User	Unlimited concurrent users (Including Full/DS)

>> Web Control Version

NO	Model name	Item	Specification
1	CM01-0150-02/CS	2 User	2 concurrent users (Including Full/DS)
2	CM01-0150-05/CS	5 User	5 concurrent users (Including Full/DS)
3	CM01-0150-10/CS	10 User	10 concurrent users (Including Full/DS)
4	CM01-0150-FU/CS	Unlimited User	Unlimited concurrent users (Including Full/DS)
5	CM01-0500-02/CS	2 User	2 concurrent users (Including Full/DS)
6	CM01-0500-05/CS	5 User	5 concurrent users (Including Full/DS)
7	CM01-0500-10/CS	10 User	10 concurrent users (Including Full/DS)
8	CM01-0500-FU/CS	Unlimited User	Unlimited concurrent users (Including Full/DS)
9	CM01-1500-02/CS	2 User	2 concurrent users (Including Full/DS)
10	CM01-1500-05/CS	5 User	5 concurrent users (Including Full/DS)
11	CM01-1500-10/CS	10 User	10 concurrent users (Including Full/DS)
12	CM01-1500-FU/CS	Unlimited User	Unlimited concurrent users (Including Full/DS)
13	CM01-FULL-02/CS	2 User	2 concurrent users (Including Full/DS)
14	CM01-FULL-05/CS	5 User	5 concurrent users (Including Full/DS)
15	CM01-FULL-10/CS	10 User	10 concurrent users (Including Full/DS)
16	CM01-FULL-FU/CS	Unlimited User	Unlimited concurrent users (Including Full/DS)

>> Option

NO	Model name	Item	Specification
1	CM01-*-APL	Mobile	Apple iOS / Android

>> Key Type

LPT	Parallel Port Type	USB	USB Port Type	※ Please check before placing an order
-----	--------------------	-----	---------------	--

TOUCH

Features of CIMON-TOUCH

- Full Tag DS Version CIMON SCADA Included
- Low Voltage Mobile CPU
- Easy and User-Friendly Software (CIMON-SCADA)
- High Performance with Excellent Stability
- Very Fast and Reliable SSD Storage
- Flexible Communication with Upper and Lower Systems through a Variety of Interfaces Provided



CIMON-PPC + CIMON-SCADA = CIMON-TOUCH

» Function

- CIMON-SCADA software integrated
- Powerful inner part script of visual basic feature
- Built in various graphic libraries
- Various network solutions
- Convenient report writing function
- Open type software using OLE automation
- Zoom / Panning function of online surveillance screen
- Exchanging data with the universal DBMS
- Simultaneously link with PLC and other measuring device



Capabilities of CIMON-SCADA

■ Live Database management

Managing condition format is similar to Windows Explorer and it can be used interchangeably with Excel. Also can edit the database online by using Tag variables.

■ Alarm

When the alarm occurs, user can choose various ways of alarm options such as alarm summary / file / print / voice / character. User can set specific functions to activate when the alarm is on / off. Monitoring history is possible through the control screen.

■ Trend

Users are able to analyze live or past trend and select various types of trend like Y-T/ Multiple/ X-Y/ S-T. The past trend can be analyzed by expansion, reduction and filtering by time value.

■ Report

A report can be retrieved periodically and when a specific event occurs and users can open the file by using Excel or Word. User can also open any types of reports by using VB script.

■ Collecting Data

CIMON-TOUCH collects the data from the fixed cycle / fixed time with every event occurrences. User can monitor the data by trend function and read data with VB script that can be printed.

■ Security

User registration function provides a security level of 1 – 100, only permitted users can access the system. Specific actions can be activated when logging in or out and also store the user's history.

■ Schedule

User can change maintenance settings according to a specific date & time.

■ Network

Peer to peer / 1 Server + N Client / N Server + N Client can be configured with CIMON-SCADA/TOUCH. CIMON-Net protocol enables the current CIMON-SCADA/TOUCH to connect with other CIMON-SCADA/TOUCH.

■ Monitoring Function

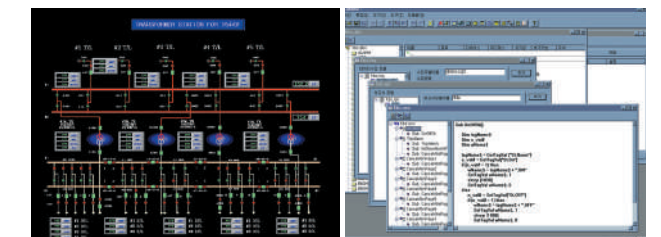
The user can easily develop a system by using object-oriented graphic and convenient toolbars. CIMON-SCADA/TOUCH offers various clip arts and the libraries. The user can achieve high quality and realistic graphics.

■ Macro Function Usage

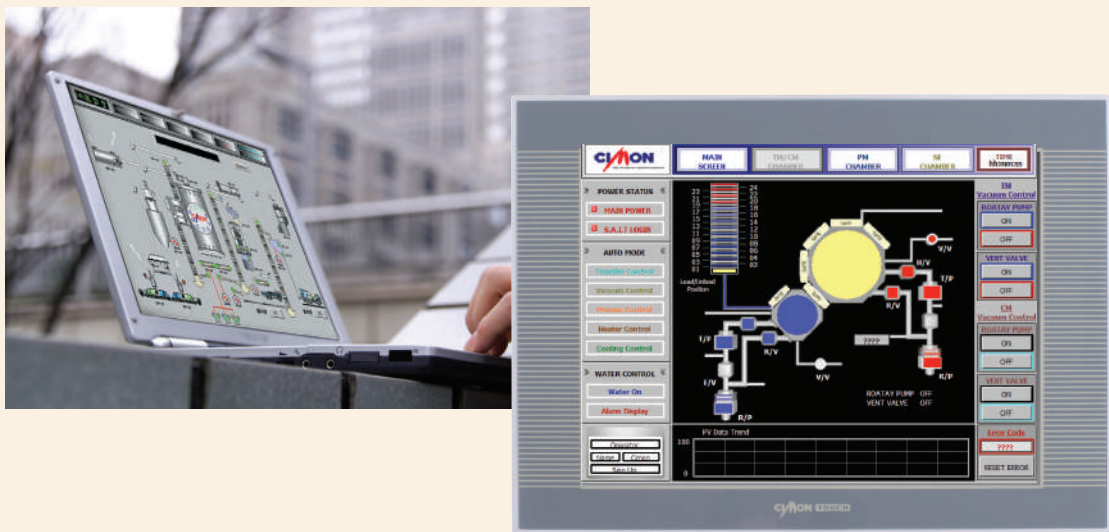
Supports strong Visual Basic script language which includes more than 500 built-in functions.

■ Communications

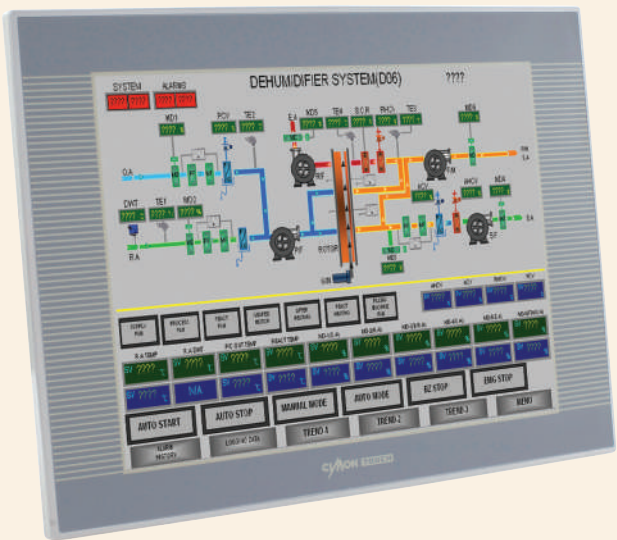
CIMON-TOUCH can communicate with various controllers and networks. (OPC, Modbus, DDC equipment, etc.)



Capabilities of Computer



Capabilities of Touch Panel



- Fanless Type
- Windows XP Embedded
- High-Speed and Reliable SSD Hard Drive
- Convenient Project Editing and Transmitting
- High-Performance with Stability

- » PLC Loader program can be installed for a convenient project file download and upload
- » Office programs and other various user application programs can be installed
- » Protect system function by EWF

■ Freedom to Install Various Programs

User can install various applications so that CIMON-TOUCH can substitute a desktop/laptop computer

■ Enhanced Write Filter (EWF)

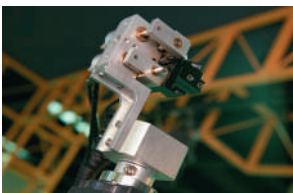
C: driver of TOUCH/PPC is protected by EWF.

EWF is a function of windows XP embedded to protect the disk volume from writing access.

■ AMI Rescue

AMI Rescue is a function to restore the TOUCH/PPC back to the initial factory settings. (C-Drive Only)

- » It offers more convenient features than any other existing touch panel by Panel adhesion.



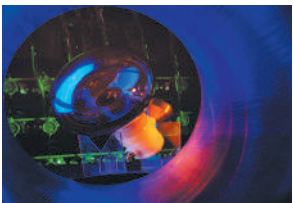
■ Reliable Fanless Design

Our efficient fanless design maintains the inner temperature and reduces cost that relates with fan and cooler maintenance



■ Windows XP Embedded

Users can use all the functions with Windows-based operating system.



■ Convenient Project Editing and Transmitting

Easily transfer CIMON-HMI project files using USB ports and networks.

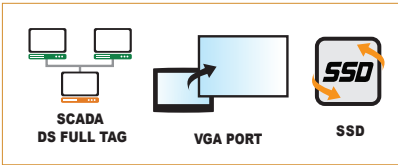
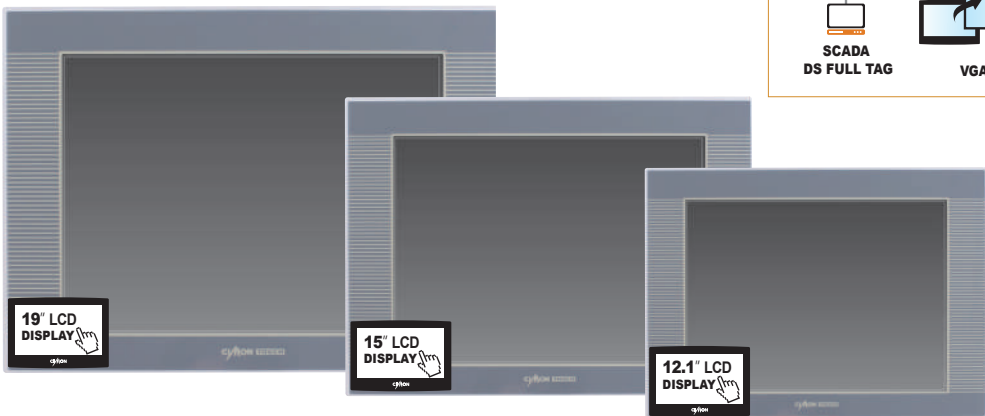
Also can edit directly from CIMON-TOUCH by connecting a keyboard & mouse



■ Stable High-Performance

Not only can CIMON-TOUCH process simple tasks, but also can easily handle complicated tasks such as data algorithm, pre-treatment operation, data storage and connection with other systems.

Specifications

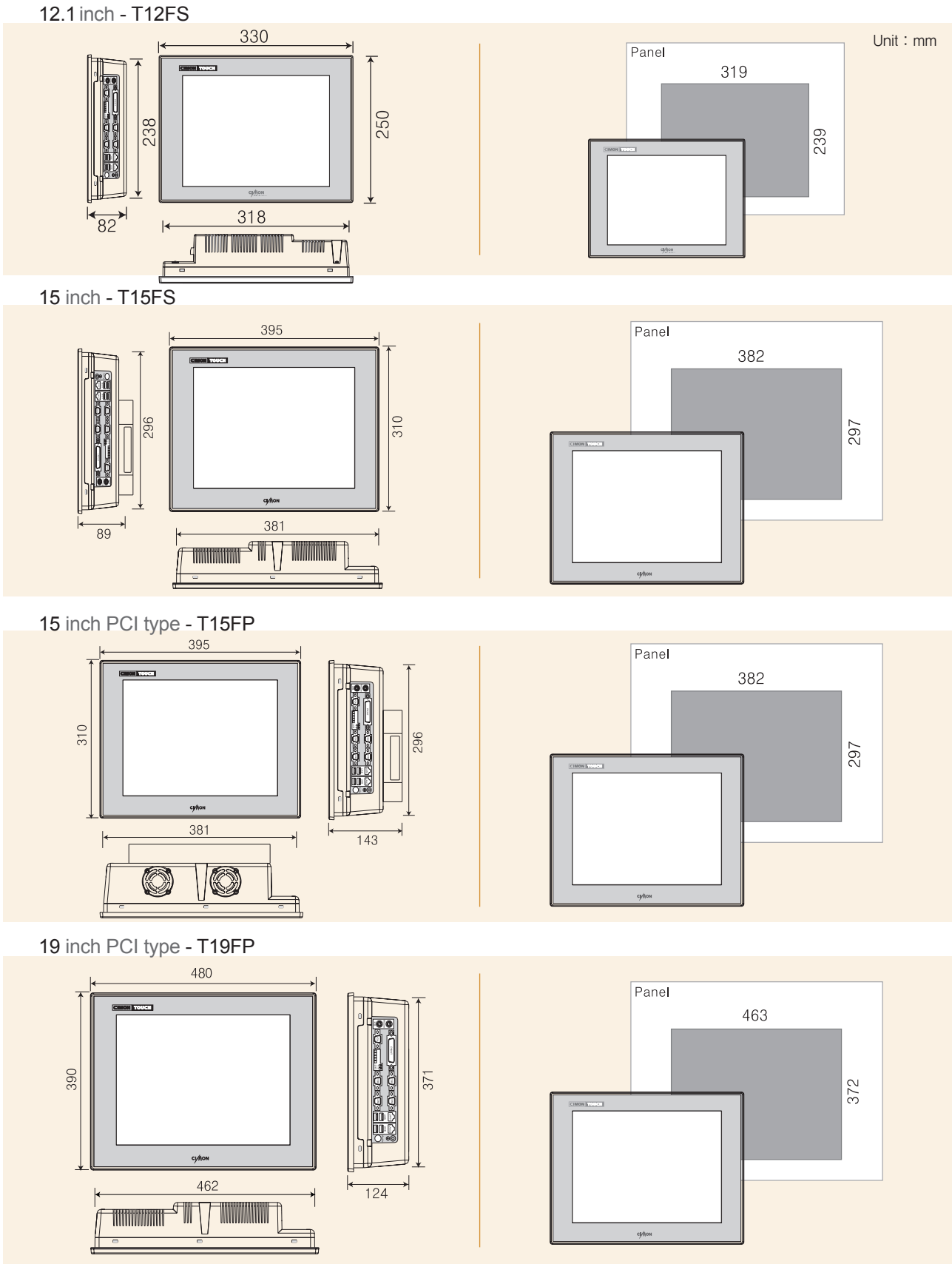


Item	T12FS	T15FS	T15FP	T19FP
Touch Screen	1024 x 768 (Analog 8-Wire Resistive)			1280 x 1024
Color	262K	16.7M		
Touch Controller	PenMount USB Controller			
CPU	Intel ATOM Processor N450 1.6GHz (Fanless)			
RAM	DDR2 SDRAM 1GB			
Storage	SSD 64G (CF card 4GB, 8GB options)			
Graphic Chip	Intel GMA 3150 integrated			
Display	12.1" TFT LCD	15" TFT LCD	19" TFT LCD	
	CRT Output (15P DSUB)			
Serial	RS232/422/485 1 port (COM1) / RS232C 3 port (COM2-4)			
Ethernet	Gigabit Ethernet 2 port			
Parallel	1 port			
PS/2	Keyboard & Mouse			
USB	USB 2.0 4 port			USB 2.0 6 port
Audio	1 port			
CD-ROM	None		1 slot	1 slot
PCI Slot	None		1 slot	1 slot
Operating System	Windows Embedded POS Ready 2009			
Utility Program	EWF (Disk Image Safeguard) / Rescue (Factory Default Recovering Tool)			
Power	AC 110V / 220V			

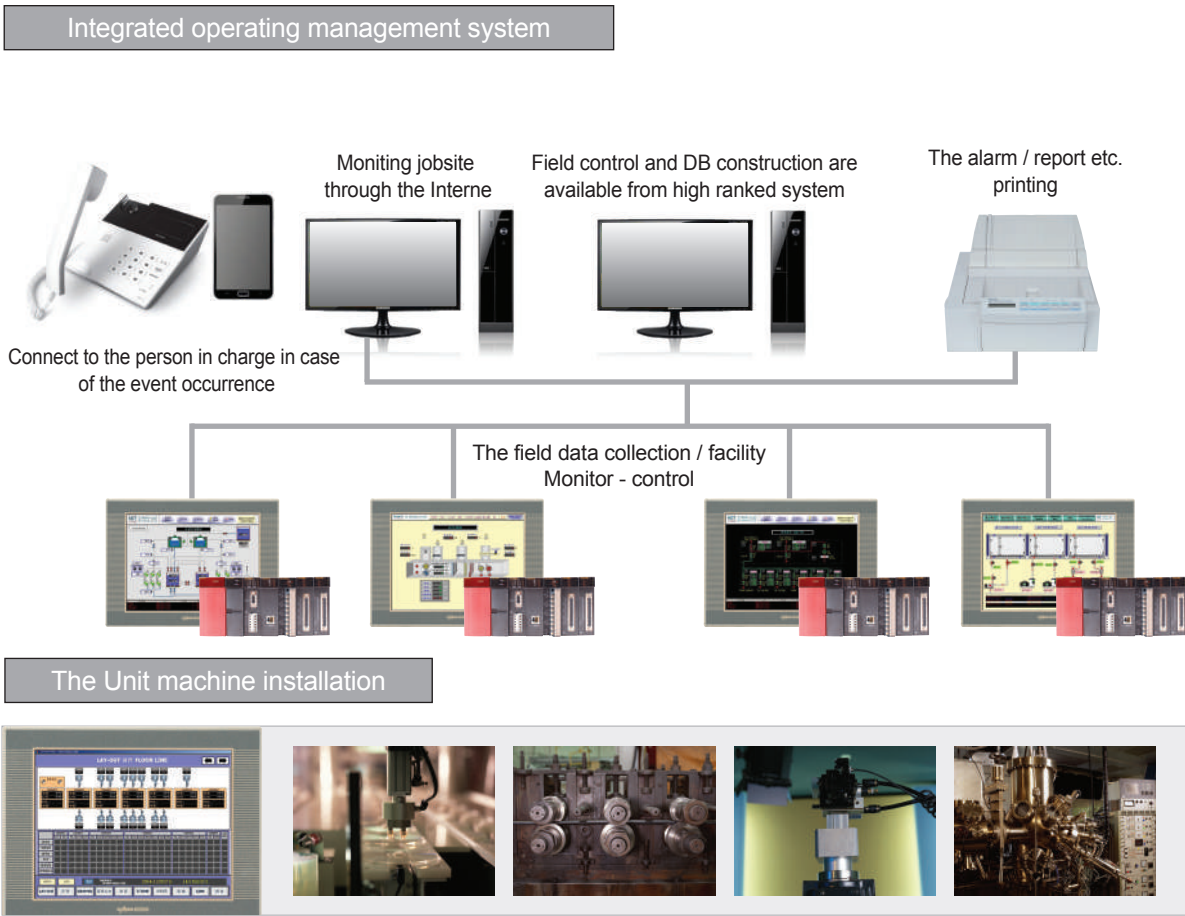
» Basic Specification

Item	Specification
Energy consumption	60watts or less
Ambient temperature	0℃ ~ 50℃
Storage temperature	-20℃ ~ 60℃
Ambient humidity	10%RH ~ 85%RH(below 29℃, No dew condensation)
Storage humidity	10%RH ~ 85%RH(below 39℃, No dew condensation)
Environment condition	800hPa~1114hPa(2000m or less)
Dust	0.1mg/m³ or less
Pollution degree	Pollution degree 2
Corrosion gas	None
Vibration resistance	HDD storage type 4.9m/S², 10Hz~25Hz in X, Y, Z (80 min)
	CF storage type 9.8m/S², 10Hz~25Hz in X, Y, Z (80 min)
	SSD storage type 9.8m/S², 10Hz~25Hz in X, Y, Z (80 min)
Noise resistance	Impulse, EFT/Burse, Surge, ±2KV, 1uS
Static discharge resistance	4kV(IEC61000-4-2 LEVEL 3)

Dimension

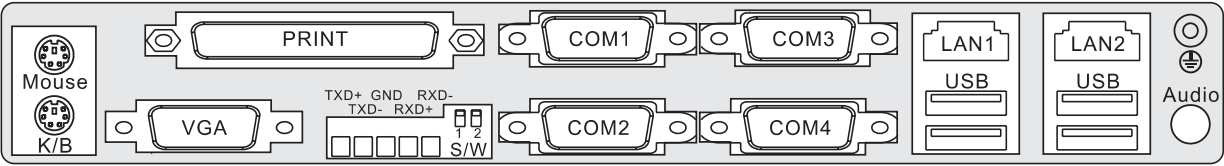


Application of System

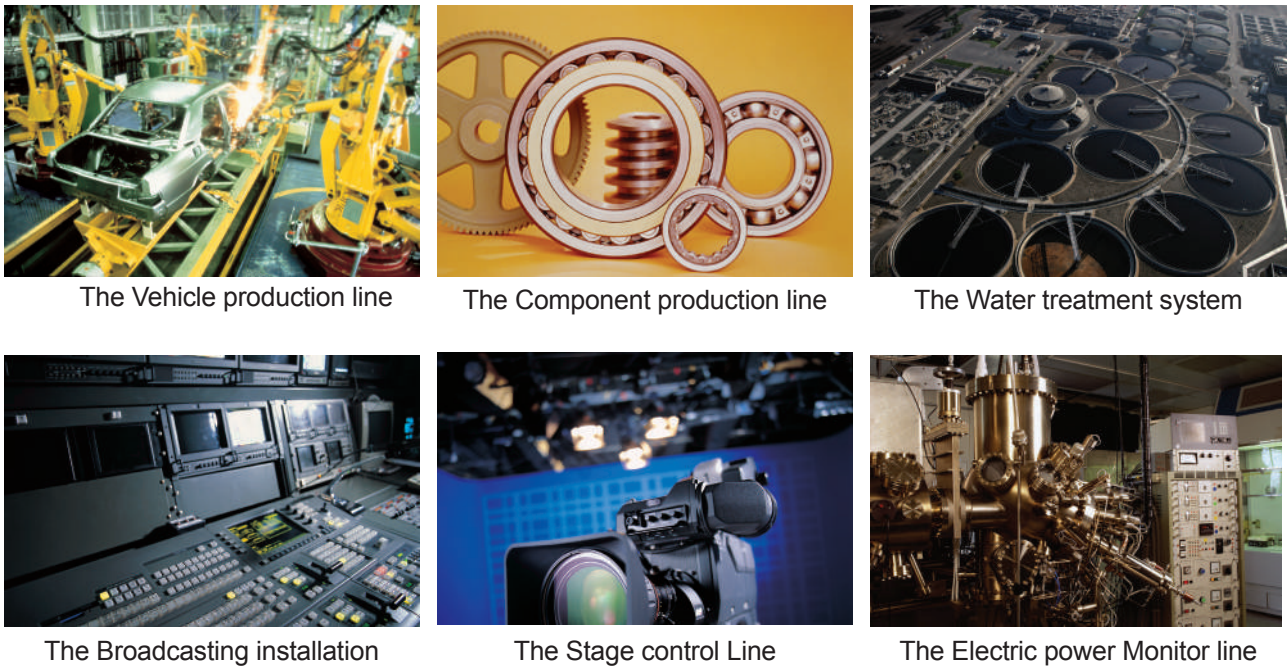


Interface of System

■ The Interface arrangement



Reference



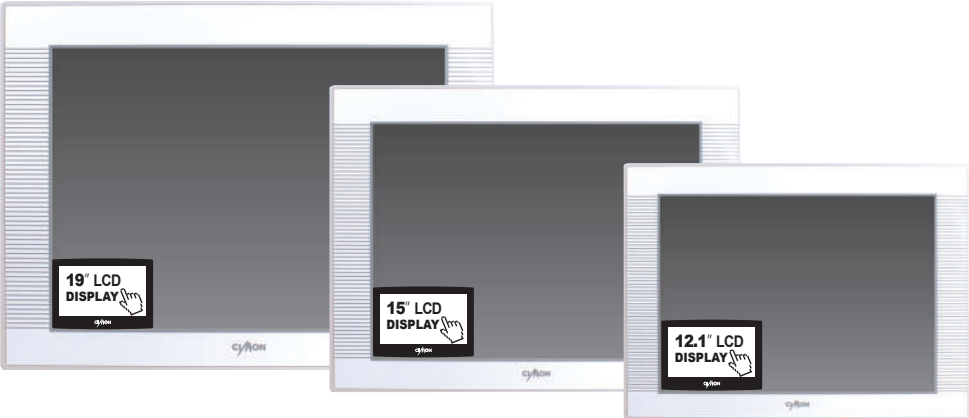
PPC

Features of PPC

- Perfect Touch Screen Industrial PC
- Low Voltage Mobile CPU
- High Performance with Excellent Stability
- Very Fast and Reliable SSD Storage
- Fast Response Touch Screen and Rich Color Expression



PPC Series

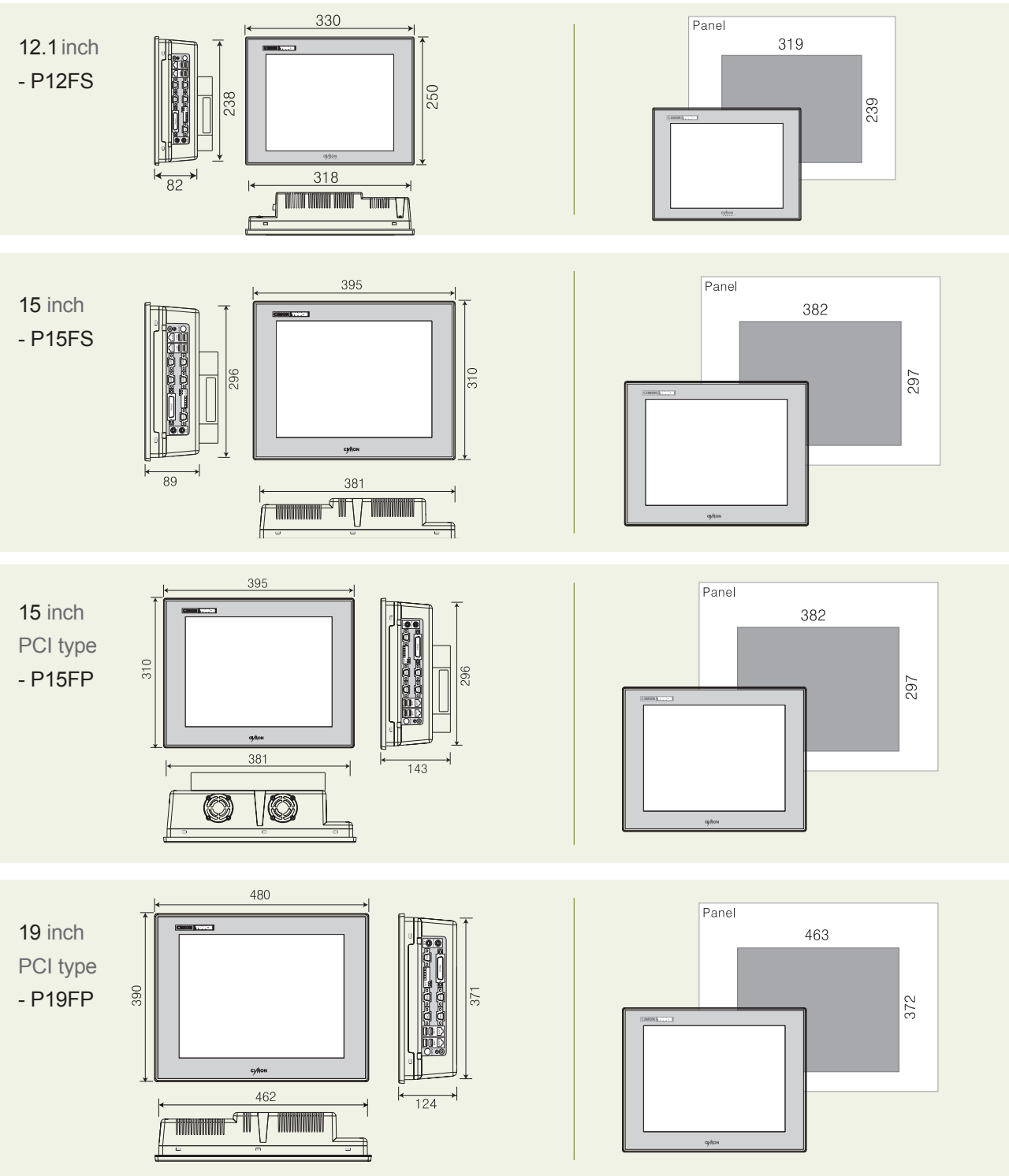


- Our fanless design superbly dissipates internal heat generated
- High definition, abundant color TFT LCD structure
- Slim and simple structure
- The touch screen provides fast response and excellent reliability
- Multimedia system provides various functions
- The most suitable panel PC for various automation control programs
- All-in-one embedded board applied
- Windows Embedded POS Ready 2009
- P/G, the O/S protection utility is installed.

Specifications

Item	T12FS	T15FS	T15FP	T19FP
Touch Screen	1024 x 768 (Analog 8-Wire Resistive)			1280 x 1024
Color	262K	16.7M		
Touch Controller	PenMount USB Controller			
CPU	Intel ATOM Processor N450 1.6GHz (Fanless)			
RAM	DDR2 SDRAM 1GB			
Storage	SSD 64G (CF card 4GB, 8GB options)			
Graphic Chip	Intel GMA 3150 integrated			
Display	12.1" TFT LCD	15" TFT LCD	19" TFT LCD	
	CRT Output (15P DSUB)			
Serial	RS232/422/485 1 port (COM1) / RS232C 3 port (COM2-4)			
Ethernet	Gigabit Ethernet 2 port			
Parallel	1 port			
PS/2	Keyboard & Mouse			
USB	USB 2.0 4 port			USB 2.0 6 port
Audio	1 port			
CD-ROM	None		1 slot	1 slot
PCI Slot	None		1 slot	1 slot
Operating System	Windows Embedded POS Ready 2009			
Utility Program	EWF (Disk Image Safeguard) / Rescue (Factory Default Recovering Tool)			
Power	AC 110V / 220V			

Dimensions



The Interface arrangement

