
CNView
Control & View

Flexible Logic Control Display

Model : FLCD-1000 Series

CNView

Applications

FLCD-1000 is designed to meet the various requirements of industrial automation projects.

It is a software platform which is designed to meet the various requirements of modern industrial automation projects with high performance and flexible software.
The software built as a specialized application development tool for industrial automation to meet the standards set by the IEC has been established as a standard for the FLCDs.
This software developed to meet the international standard IEC 61131-3 is geared to industrial automation technology.

FLCD-1000 is composed of 1GHz ARM Cortex-A8 32bit RISC Processor. The memory that comes with the board is 512MB NAND. In addition, 10/100Mbps Ethernet can be used via Ethernet RJ45 port.
For power supply, DC24V is applied using 3Pin connector.

It has 5/7 inch TFT-LCD equipped with Touch LCD function.

FLCD-1000 is a control unit which combines user-centered reliability and convenience and integrates HMI and PLC into one. The PLC and Visualization functions can be configured together in accordance with the user's application purposes.

Eight slots provided at the rear for I/O control are variably expanded to enable the user's desired system configuration.

Various application fields can be applied to FLCD-1000. It responds flexibly to various environments and it is easy to modify programs, thereby improving the facility efficiency and productivity in numerous industrial automation sites.

Features

① LAD-based control programming function (SOFTPLC)
② HMI-based programming function
③ Device operation history management function
④ Digital & analog I/O control function (add/change by slot)
⑤ Alarm/trip history management function
⑥ Communication function : control server – alarm/trip history, controller status history, operation history etc.
⑦ CANOPEN, MODBUS TCP/485 communication Fieldbus

Standards Specification

■ Supply power
•Rated voltage : DC24V
•Maximum current : 3A

■ Main device
•Processor : 1GHz ARM® Cortex-A8
•Memory : DDR3 512MByte
•Built in RTC

■ TFT-LCD
•Screen diagonal : 5"(12.7cm) / 7"(17.7cm)
•Aspect ratio : 16:9 Wide
•Luminance : 5"(480cd/㎡) / 7"(440cd/㎡)
•Resolution : 800×480(WVGA)
•Number of colors : 16bit colors(65,536)
•Touch panel : 4-wire analog resistive film method

■ Storage device
•EMMC : 512MByte

■ OS
•Linux(RT-Preempt patch)

■ Product size : 268mm(W)×228mm(H)×106mm(L)



■ RETAIIN area
•Capacity : 8kbyte

■ Soft PLC
•Support language : IL, ST, LD, FBD, SFC, CFC
•Standard : IEC61131-3

■ Interface
•RS485 communication
- Communication method : RS485(2wire)
- Flow control : AUTOFLOW
- Number of ports : 2
- Speed : 9600, 19200 Baud
- Max node : 16
- Communication distance : Max. 1.2Km(at 100Kbps)
- Protocol : MODBUS 485
- Protocol type : Master / Slave

•CAN Communication
- Communication method : TWIN COMBICON
- Speed : 1M, 800K, 500K, 250K, 125k, 100k, 50K, 20K, 10K Baud
- Number of ports : 1
- Communication distance : 1.6Km(at 50Kbps)
- Support protocol : CANOPEN
- Protocol type : Master
- Max node : 63

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT
- Protocol type : MODBUS SERVER, CLIENT
- Communication distance : 100m

•USB
- Host : USB 2.0
- Number of ports : 1

•MICRO SD
- Support up to 16GByte
- Number of ports : 1

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)
•Degree and class of protection : IP65 (front)

■ Noise Immunity

•Electrostatic Discharge Immunity : 4kV(Air discharge)
(IEC61131-2 : 2017, IEC61000-4-2)

•Radiated EMF Noise : 80~1,000MHz, 10V/m
(IEC61131-2 : 2017, IEC61000-4-3)

■ Shock Endurance

•Maximum shock acceleration : 150m/s2(15G)
(Duration time : 11㎳)

•Pulse wave : a sine half-wave pulse
(3 times for each direction ±X, ±Y, ±Z, total on 3 times)
(IEC61131-2 : 2017, IEC60068-2-27)

■ Vibration Resistance

•Intermittent Vibration
- 5 ≤ f < 8.4Hz (Amplitude 3.5m)
  10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 10m/s(1G))
  10 times for each direction X, Y, Z
  (IEC61131-2 : 2017, IEC60068-2-6)

•Continuous Vibration
- 5 ≤ f < 8.4Hz (Amplitude 1.75m)
  10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 4.9m/s(0.5G))
  10 times for each direction X, Y, Z
  (IEC61131-2 : 2007, IEC60068-2-6)

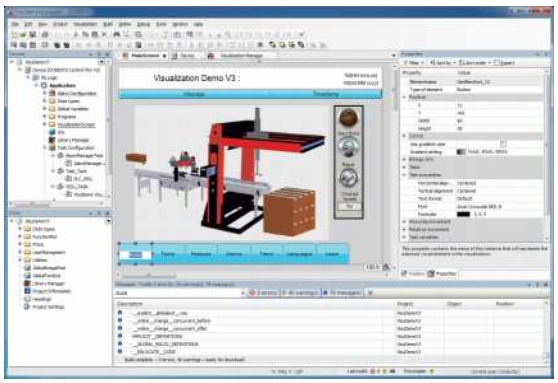
■ Operating Altitude

•Environmental Condition : 2000M(IEC61131-2 : 2017)

Technical Data

■ General function

•Visualization

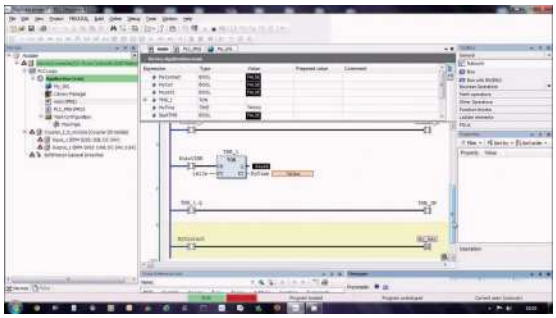


Creation of operating interfaces
- Fully integrated in the CODESYS Development System
- As part of the whole project, if necessary simultaneously with the PLC program
- By drag-and-drop actions from available elements of the toolbox or imported images
- With many convenience functions, for example alignment, duplication of elements according to linked array variables, grouping, etc.

Global functions, such as find, replace, print, compare, refactoring, or versioning with Apache Subversion® – also available in the visualization editor

Support of all IEC 61131-3 data types

•Programming tools for industrial controllers and automation technology
- Professional IEC 61131-3 controller application production with various standard functions
- All editors of IEC 61131-3 (FBD, LD, IL, ST, SFC, CFC) and various modifications of standard editors
- Powerful and proven library concept data input for application program reuse and input support for configuration
- User-friendly programming with mouse and keyboard in all IEC 61131-3 editors
- Integrated compiler for various CPU platforms optimizes controller performance
- Extensive debugging and online functions for fast optimization of application code and speed up testing and commissioning
- Numerous security functions for source code protection and controller operation protection
- Transparent internal structure of development tools and usable components, and support for integrated tools for various types of automation tasks



•Visualization style
- Definition of a set of element properties (for example, colors, shapes, and images) in a style file in a separate style editor
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- Quick start using complete styles with attractive, up-todate designs and a preview in the visualization manager
- Typical use case : Adaptation of operating interfaces to the corporate design of customers without changing the project



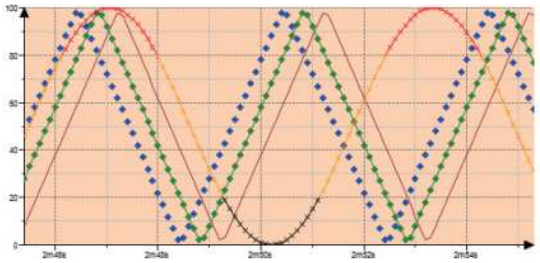
•Data recording with Trace / Trend

Trace

- Real-time capable recording of the values of configured variables in the CODESYS runtime system (implementation required by device manufacturer)
- Display by visualization element “Trace” as a time chart
- Control of recording by trigger event or special logic function

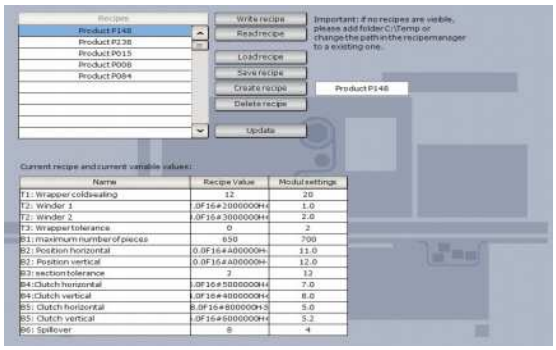
Trend

- Real-time capable recording of variable values to a storage medium (implementation required by device manufacturer)
- Display by visualization element “Trend” as a time chart in any interval
- Automatically configured control elements for easy online operation of the trend display



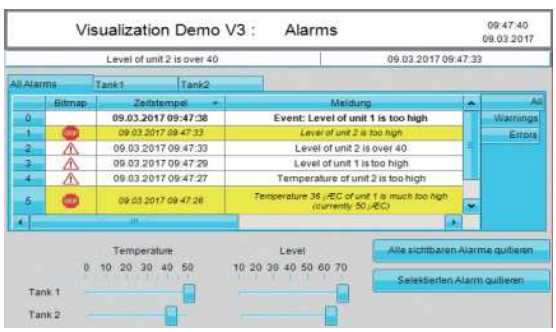
•Recipe management

- Read/write variable blocks of the controller
- Typical application : Convenient transfer of machines and plants in specific states (for example, initialization, manual operation, slow production), backup/restore of different production data sets (recipes)
- Integrated editor for preparation and management of recipes in the CODESYS Development System
- Operation, creation, and management of recipes in the visualization during operation

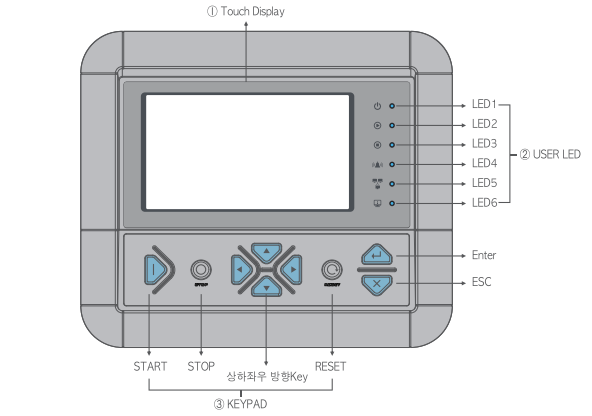


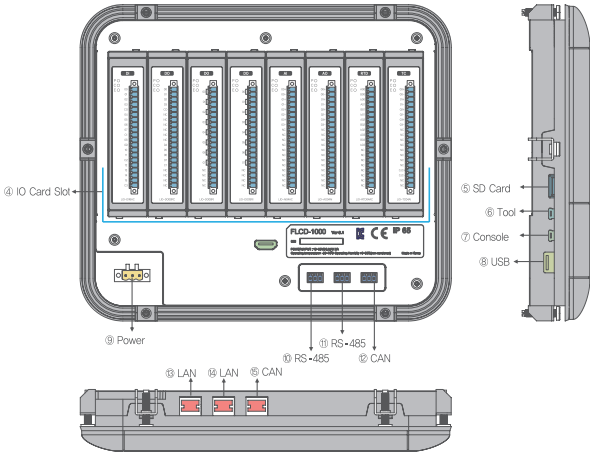
•Alarm management

- Definition of error or critical plant states
- Registration and display of occurring error conditions
- Configurable reaction to alarm events
- Acknowledgment from users by means of predefined procedures
- Optional : Archiving of error conditions for documentation or reproduction of failures
- Triggering and processing of alarm events by the logic application (IEC program)



Name and function of each part

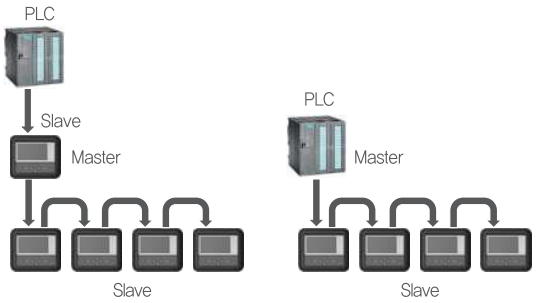




ITEM	Detail of funtion
① Touch Display	Resistive touch panel
② USER LED	SOFT ON/OFF LED
③ KEYPAD	Menu switching keypad
④ I/O Card Slot	Card insertion slot
⑤ SD Card Slot	Micro SD Card
⑥ Tool	Program download and monitoring port
⑦ Console	Manufacturer system access port
⑧ USB	USB Host (A Type Connector)
⑨ POWER	DC24V Power
⑩ RS-485	RS-485 Com. #1
⑪ RS-485	RS-485 Com. #2
⑫ CAN	CAN Com.
⑬ LAN	10/100Base-T Ethernet port1 (RJ45)
⑭ LAN	10/100Base-T Ethernet port2 (RJ45)
⑮ CAN	CAN Com (RJ45)

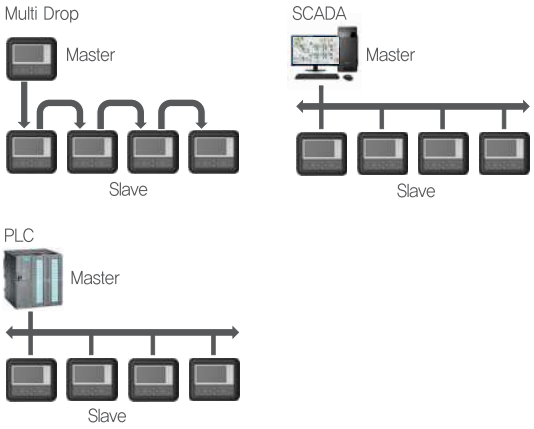
Serial Network

■ System configuration method using RS485



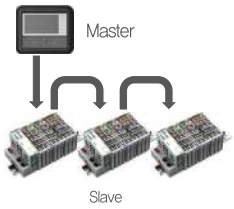
Ethernet Network

■ System configuration method using Ethernet

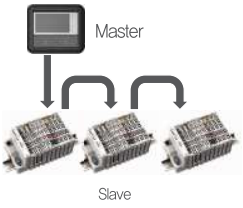


Remote I/O Extension

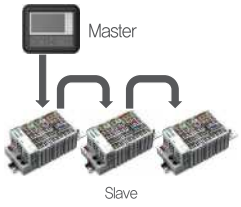
CANOPEN



MODBUS 485

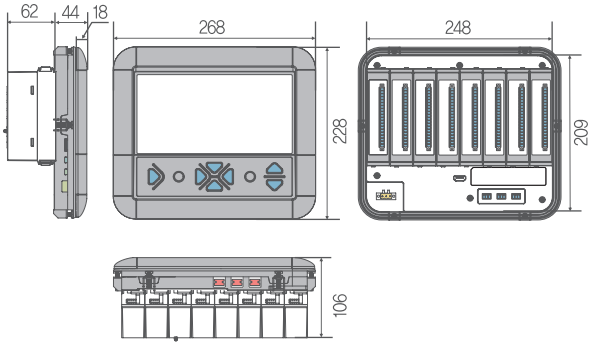


MODBUS TCP

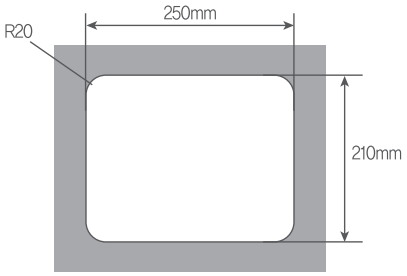


External Dimension

[Unit : mm]



Cutting Size



■ I/O CARD Extension

•DIGITAL MODULE
- LIO-DI16AC : Photo coupler DC 24V Digital Input Card, 16CH
- LIO-DO08RI : Relay AC 220V, DC 24V Isolation per channel, 8CH
- LIO-DO08RC : Relay AC 220V, DC 24V COMMON TYPE, 8CH
- LIO-DO16RC : Relay AC 220V, DC24V COMMON TYPE, 16CH
- LIO-DO16SK : DC DC 24V, SINK TYPE, 16CH
- LIO-DO16SO : DC DC 24V, SOURCE TYPE, 16CH

•ANALOG MODULE
- LIO-AI04AC : Analog Input Card, -10V~10V, ±4~20mA, 16bit, 4CH
- LIO-AI08AC : Analog Input Card, -10V~10V, ±4~20mA, 16bit, 8CH
- LIO-AO04AC : Analog Output Card, 4~20mA, 16bit, 4CH
- LIO-AO08AC : Analog Output Card, 4~20mA, 16bit, 8CH
- LIO-TC04AI : Temp Input Card, K, E, 16bit, 4CH
- LIO-TC08AI : Temp Input Card, K, E, 16bit, 8CH (Type designation required)
- LIO-RTD04AC : Temp Input Card, PT100Ω, 16bit, 4CH
- LIO-RTD06AC : Temp Input Card, PT100Ω, 16bit, 6CH

Ordering Information

BASE MODEL

FLCD : Flexible Logic Control Display
SERIES : Series Number

		RESERVE	LCD SIZE
			5 : 5 INCH
			7 : 7 INCH
			10 : 10 INCH

FLCD -	1	0	0	7

Flexible Logic Control Display

Model : FLCD-1000 Series (FLCD-1010)

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For power supply, DC24V is applied using 3Pin connector.

It has 10 inch TFT-LCD equipped with Touch LCD function.

FLCD-1000 is a control unit which combines user-centered reliability and convenience and integrates HMI and PLC into one. The PLC and Visualization functions can be configured together in accordance with the user's application purposes.

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⑦ CANOPEN, MODBUS TCP/485 communication Fieldbus

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■ Supply power
•Rated voltage : DC24V
•Maximum current : 3A

■ Main device
•Processor : 1GHz ARM® Cortex-A8
•Memory : DDR3 512MByte
•Built in RTC

■ TFT-LCD
•Screen diagonal : 10"
•Aspect ratio : 4:3
•Luminance : 400cd/㎡
•Resolution : 1024×768(XGA)
•Number of colors : 18bit colors(262,144 colors)
•Touch Panel : 4-wire analog resistive film method

■ Storage device
•EMMC : 512MByte

■ OS
•Linux(RT-Preempt patch)

■ Product size : 267mm(W)×206mm(H)×66mm(L)



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- Communication distance : 1.6Km(at 50Kbps)
- Support protocol : CANOPEN
- Protocol type : Master
- Max node : 63

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT
- Protocol type : MODBUS SERVER, CLIENT
- Communication distance : 100m

•USB
- Host : USB 2.0
- Number of ports : 1

•MICRO SD
- Support up to 16GByte
- Number of ports : 1

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)
•Degree and class of protection : IP65 (front)

■ Noise Immunity

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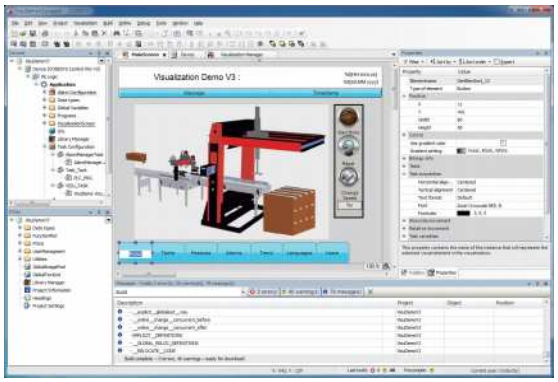
■ Operating Altitude

•Environmental Condition : 2000M(IEC61131-2 : 2017)

Technical Data

■ General function

•Visualization



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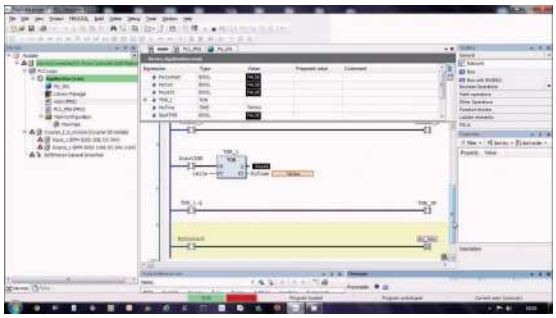

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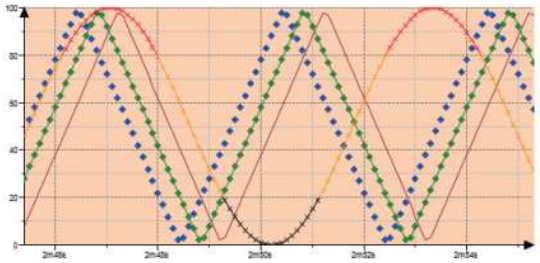

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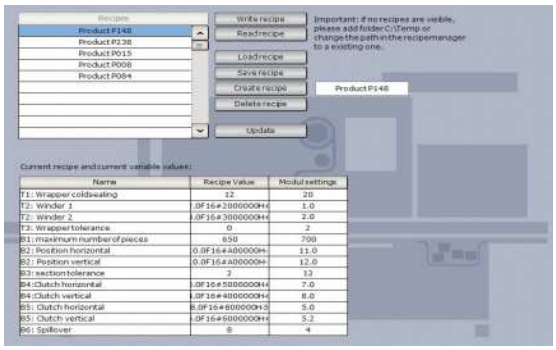

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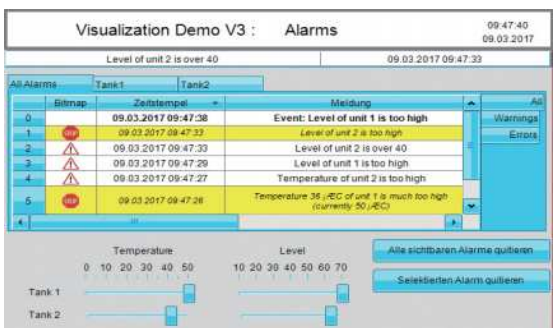
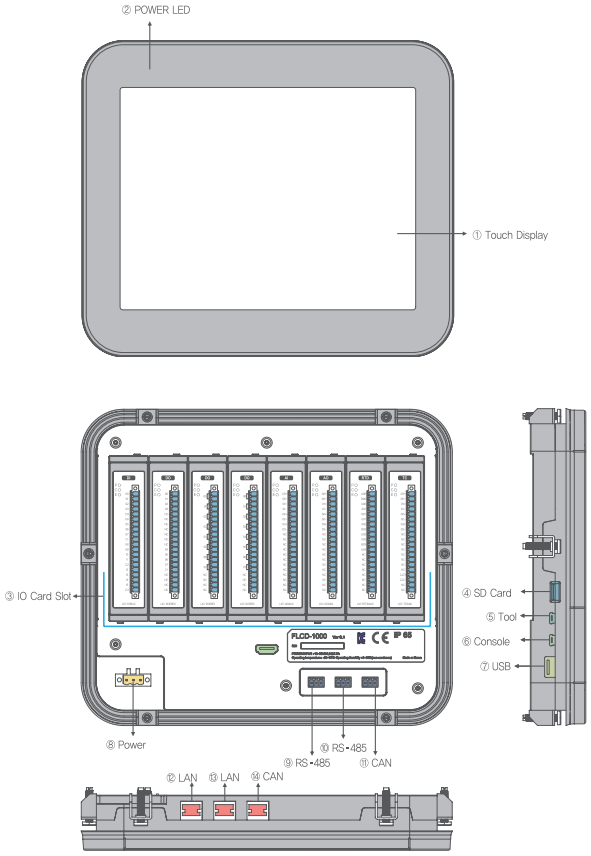


Name and function of each part



ITEM	Detail of funtion
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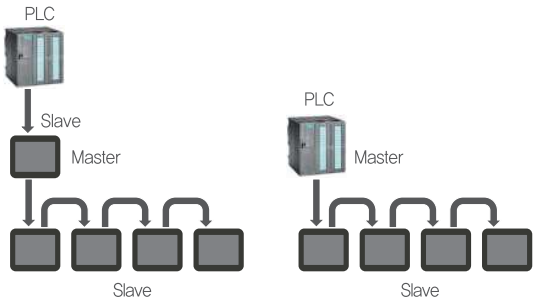
② POWER LED	SOFT ON/OFF LED
③ I/O Card Slot	Card insertion slot
④ SD Card Slot	Micro SD Card
⑤ Tool	Program download and monitoring port
⑥ Console	Manufacturer system access port
⑦ USB	USB Host (A Type Connector)
⑧ POWER	DC24V Power
⑨ RS-485	RS-485 Com. #1
⑩ RS-485	RS-485 Com. #2
⑪ CAN	CAN Com.
⑫ LAN	10/100Base-T Ethernet port1 (RJ45)
⑬ LAN	10/100Base-T Ethernet port2 (RJ45)
⑭ CAN	CAN Com (RJ45)

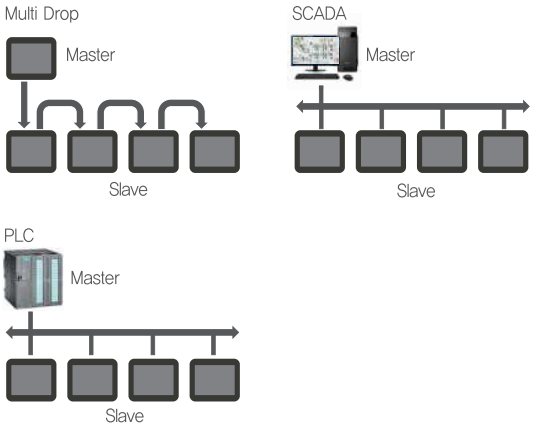
Serial Network

■ System configuration method using RS485

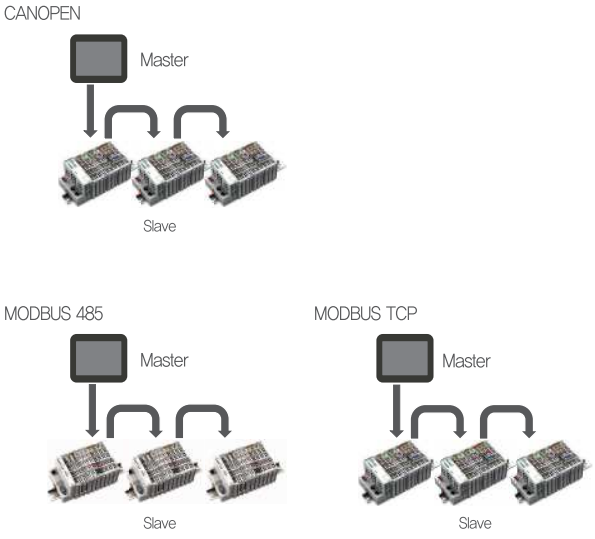


Ethernet Network

■ System configuration method using Ethernet

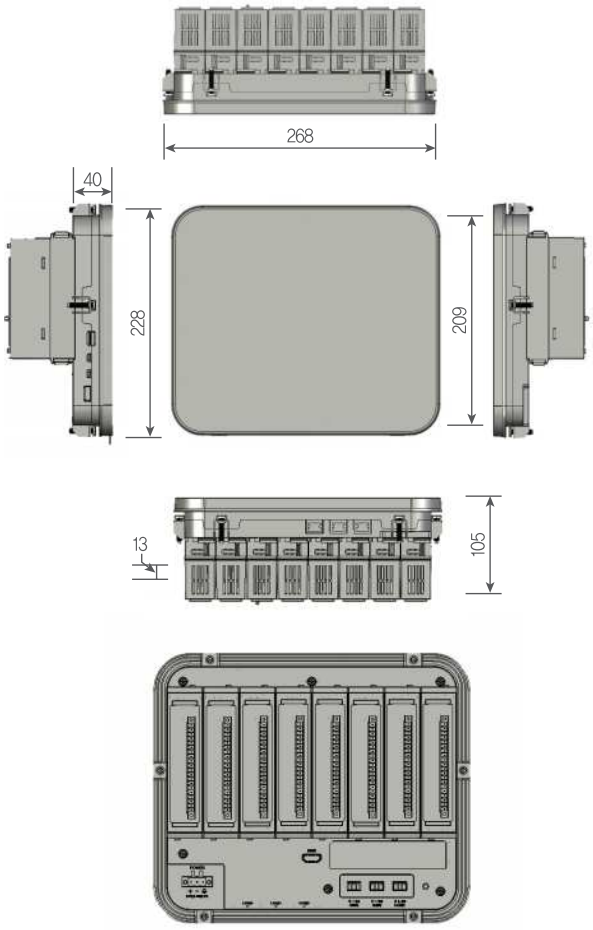


Remote I/O Extension

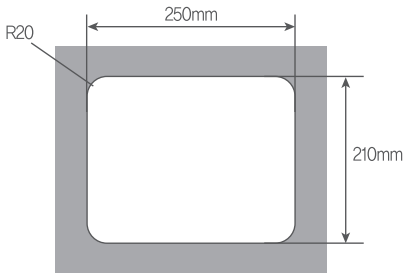


External Dimension

[Unit : mm]



Cutting Size



Ordering Information

BASE MODEL

FLCD : Flexible Logic Control Display

SERIES : Series Number

RESERVE

LCD SIZE

10 : 10 INCH

FLCD	-	1	0	1	0

Local Input Output card
LIO CARD SERIES

CNView

Applications

LIO CARD SERIES is a dedicated card inserted into the back of FLCD-1000 SERIES.
Up to 8 can be inserted. It is configured to be stand-alone in package facilities and slots can be changed to select and use necessary I/O. It is controlled as per the PDO method in CANOPEN to allow fast data communication with FLCD.

I/O Card is made up of DIGITAL INPUT, DIGITAL OUTPUT1, DIGITAL OUTPUT2, ANALOG INPUT, ANALOG OUTPUT, RTD and TC.



Digital I/O Card

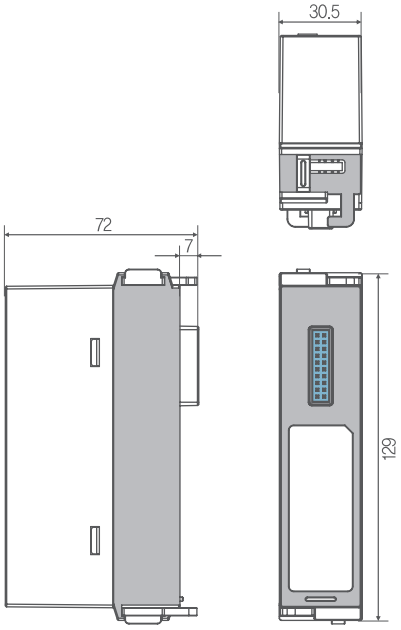
MODEL	DESCRIPTION		SPECIFICATION
LIO-DI16	Digital Input	Input Type	Photo-coupler insulation
		Input channels	16CH
		Signal Power	DC24V
LIO-DO08 LIO-DO16	Digital Output1	Output Type	Relay Insulation
		Output channels	8/16CH
		Relay Rating	30VDC / 250VAC
LIO-DO16	Digital Output2	Output Type	SINK, SOURCE
		Output channels	16CH
		Relay Rating	24VDC

Analog I/O Card

MODEL	DESCRIPTION		SPECIFICATION
LIO-AI04 LIO-AI08	Analog Input	Analog Input	±4~20mA, -10~10V
		Input channels	4/8CH
		Resolution	16bit
LIO-AO04 LIO-AO08	Analog Output	Analog Input	4~20mA
		Input channels	4/8CH
		Resolution	16bit
LIO-RTD04 LIO-RTD06	RTD	Sensor	PT100Ω
		Input channels	4/6CH
		Resolution	16bit
		Accuracy	±0.5%
LIO-TC04 LIO-TC08	TC	Sensor	K, E
		Input channels	4/8CH
		Resolution	16bit
		Accuracy	±0.2%

External Dimension

[Unit : mm]



Ordering Information

BASE MODEL

LIO : Local Input Output Card
RIO : Remote Input Output Card

CARD MODEL

DI : Digital Input
DO : Digital Output
AI : Analog Input
AO : Analog Output
RTD : Resistance Temperature Detectors
TC : Thermo Couple

Channel

Type

LIO - DI 04 A

LIO CARD SERIES

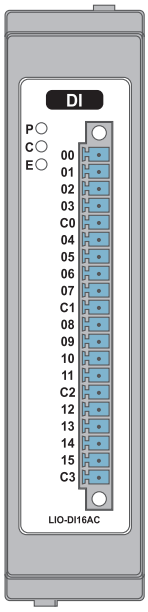
MODEL : LIO-DI16AC

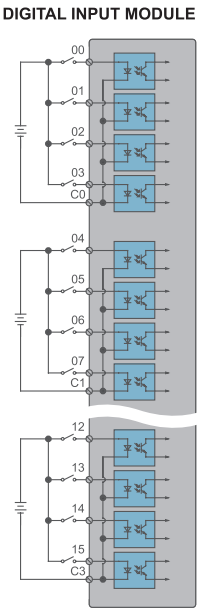
Technical Data

■ Specification

- Number of Inputs channels : 16CH
- IsolationType : Photo-coupler
- Rated Input Voltage : DC24V
- Operating voltage range : DC20.4~28.8V
- Response Time
  - Off→On : 1㎳ below
  - On→Off : 1㎳ below
- External Connection : 20PIN, 4CH/1Com, ×4Group

Basic wiring diagram of an input





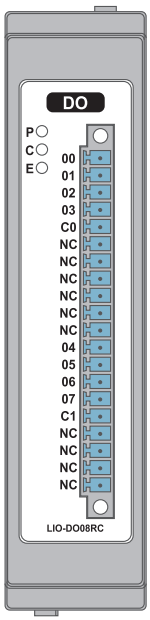
MODEL : LIO-DO08RC

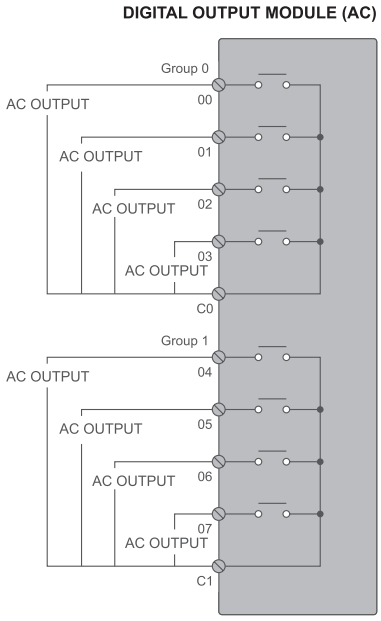
Technical Data

■ Specification

- Number of Outputs channels : 8CH
- Isolation Type : Relay
- Rated Voltage/Current
  - AC220V/8A(REALY)
- Min. Voltage/Current : DC5V/1㎃
- Max. Voltage : AC250V
- Response Time : Off→On 10㎳ below
  On→Off 10㎳ below
- External Connection : 20PIN, 4CH/1Com, ×2Group

Basic wiring diagram of an input





LIO CARD SERIES

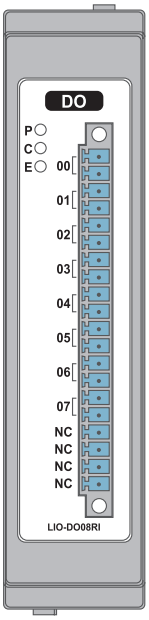
MODEL : LIO-DO08RI

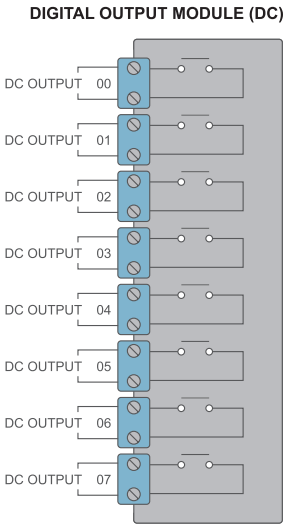
Technical Data

■ Specification

- •Number of Outputs channels : 8CH
- •Insulation Type : Relay
- •Rated Voltage/Current
  - DC24V/5A
- •Max. Voltage : DC28V
- •Response Time : Off→On 10㎳ below
  On→Off 10㎳ below
- •External Connection : 20PIN, 1CH×8

Basic wiring diagram of an input





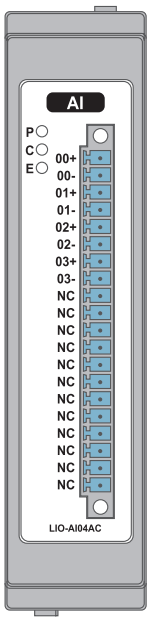
MODEL : LIO-AI04AC

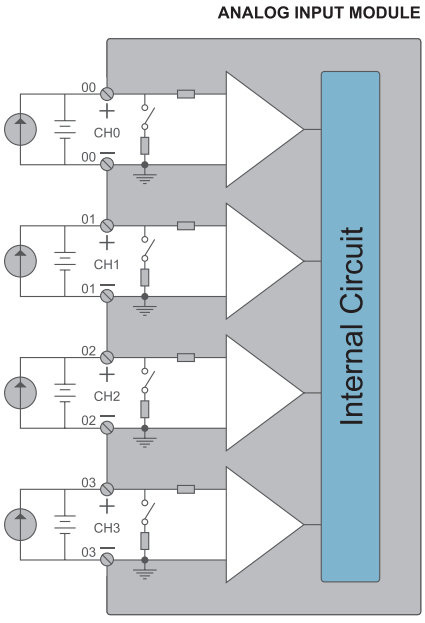
Technical Data

■ Specification

- •Number of Inputs channels : 4CH
- •Analog Input Range
  - Voltage : DC-10~10V (Input Resistance : 100KΩmin.)
  - Current : DC±4~20mA (Input Resistance : 250Ω)
  - Range / Input type is set by Volltage / Current program
  - 16bit binary data
  - Range : 0~64000
  - Value : Voltage(0) : -32000~32000 (-10V~10V)
    Current(1) : 0~32000 (±4mA~20mA)
    Current(2) : -32000~32000 (-20mA~20mA)
- •Resolution : 16bit
- •Accuracy : ±0.5% below
- •Max. Conversion Speed : 2.5ms/1CH
- •Absolute Max. Input
  - Voltage : DC12V
  - Current : DC24mA
- •Isolation Type : Isolation between Analog and Digital Non Isolated between channels
- •External Connection : 20PIN, 1CH×4

Basic wiring diagram of an input





LIO CARD SERIES

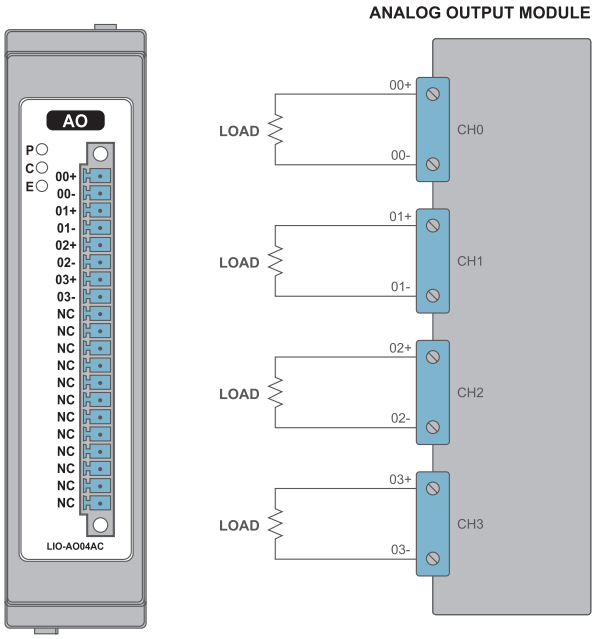
MODEL : LIO-AO04AC

Technical Data

■ Specification

- •Number of Outputs channels : 4CH
- •Analog Output : DC4~20mA (Load : 510Ω below)
- •Digital Input
  - 16bit binary data
  - Range : 0~64000
- •Resolution : 15.625㎂ (1/64000)
- •Accuracy : ±0.5% below
- •Max. Conversion Speed : 1ms/1CH
- •Absolute Max. Output : DC24mA
- •Isolation Type : Isolation between Analog and Digital
  Non Isolated between channels
- •External Connection : 20PIN, 1CH×4

Basic wiring diagram of an input



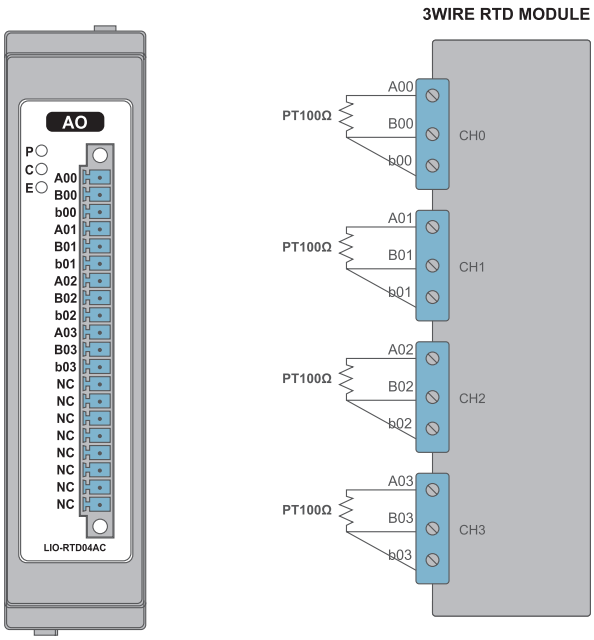
MODEL : LIO-RTD04A

Technical Data

■ Specification

- •Number of Inputs channels : 4CH
- •Sensor Type : PT100Ω European Curve
- •Range of Temperature Input : -200~600°C
- •Digital Output
  - PT100Ω : -2,000~6,000
- •Accuracy
  - Temp.(25°C) : ±0.3%
  - Temp.(-20~70°C) : ±0.5%
- •Max. Conversion Speed : 40㎳/1CH
- •Isolation Type : Isolation between Analog and Digital
  Non Isolated between channels
- •Wiring Type : 3wires
- •External Connection : 20PIN, 1CH×4

Basic wiring diagram of an input



LIO CARD SERIES

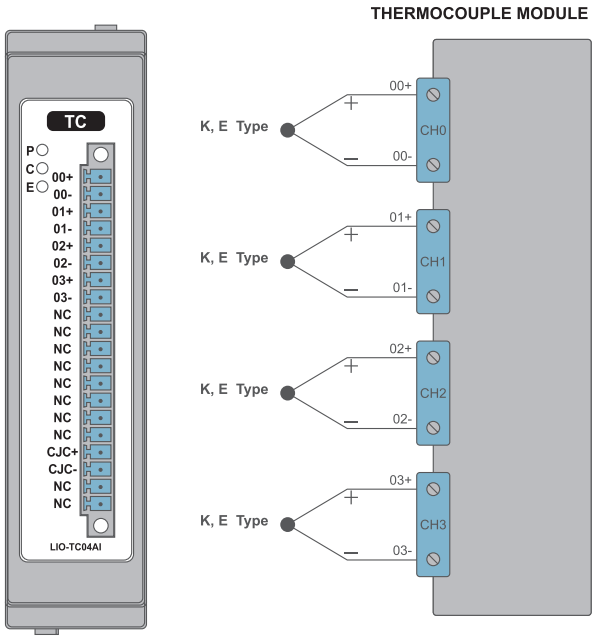
MODEL : LIO-TC04AI

Technical Data

■ Specification

- Number of Inputs channels : 4CH
- Sensor Type : Thermocouple K/E type ITS-90 1993
- Range of Temperature Input
  - K : -200.0℃~1250.0℃
  - E : -200.0℃~900.0℃
- Digital Output
  - Temperature display unit : set to first decimal place
    K, E type : 0.1℃
  - K : -2,000~12,500
  - E : -2,000~9,000
- Accuracy
  - Temp.(25℃) : ±0.2%
  - Temp.(-20~70℃) : ±0.5%
- Max. Conversion Speed : 50㎳/CH
- Isolation Type : Isolation between Analog and Digital
  Non Isolated channels
- Compensation
  - Type : RJC Automatic Compensation (NTC)
  - Value : ±1.0℃
- External Connection : 20PIN, 1CH×4

Basic wiring diagram of an input



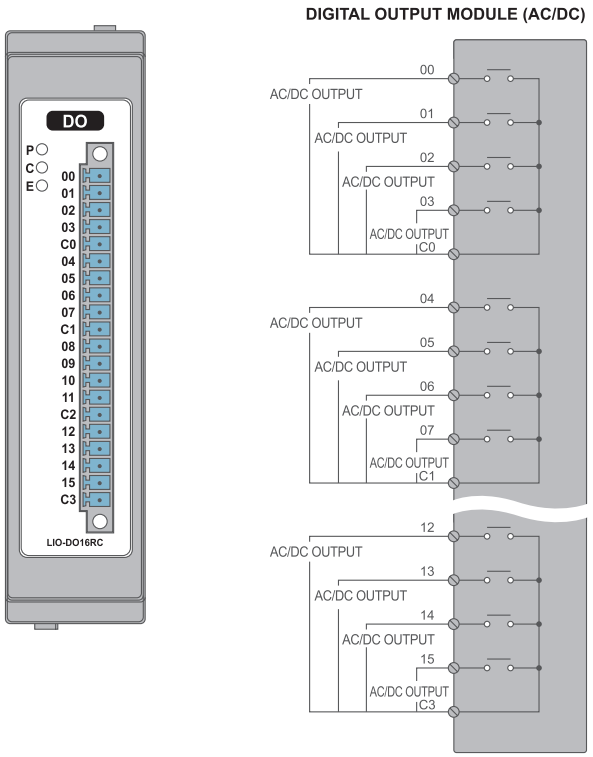
MODEL : LIO-DO16RC

Technical Data

■ Specification

- Number of Outputs channels : 16CH
- Isolation Type : Relay
- Rated Voltag/Current
  - AC220V 5A/DC24 5A
- Min. Voltage/Current : DC5V/1㎃
- Max. Voltage : AC250V/DC30V
- Response Time : Off→On 10㎳ below
  On→Off 10㎳ below
- External Connection : 20PIN, 4CH/1Com, ×4Group

Basic wiring diagram of an input



LIO CARD SERIES

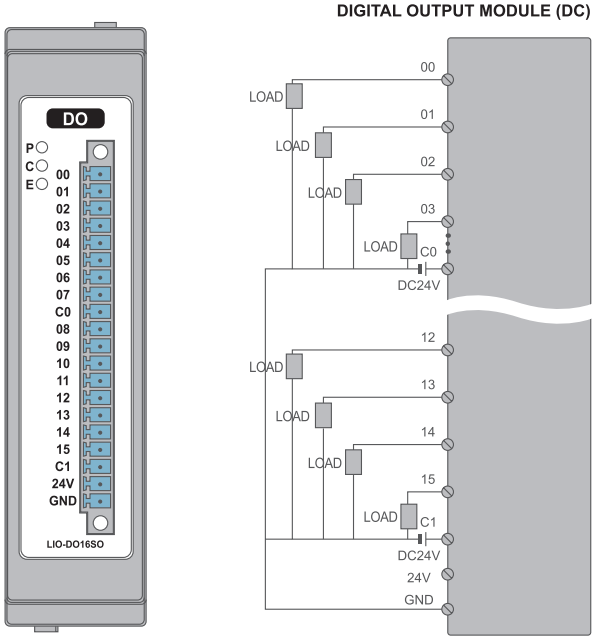
MODEL : LIO-DO16SO

Technical Data

■ Specification

- •Number of Outputs channels : 16CH/TR SOURCE TYPE
- •Isolation Type : Photo-coupler
- •Rated Voltage/Current
  - DC24V 0.1A/Common 2A
- •Min. Voltage/Current : DC5V/1㎃
- •Max. Voltage : DC30V
- •Response Time : Off→On 1㎳ below
  On→Off 1㎳ below
- •External Connection : 20PIN, 8CH/1Com, ×2Group

Basic wiring diagram of an input



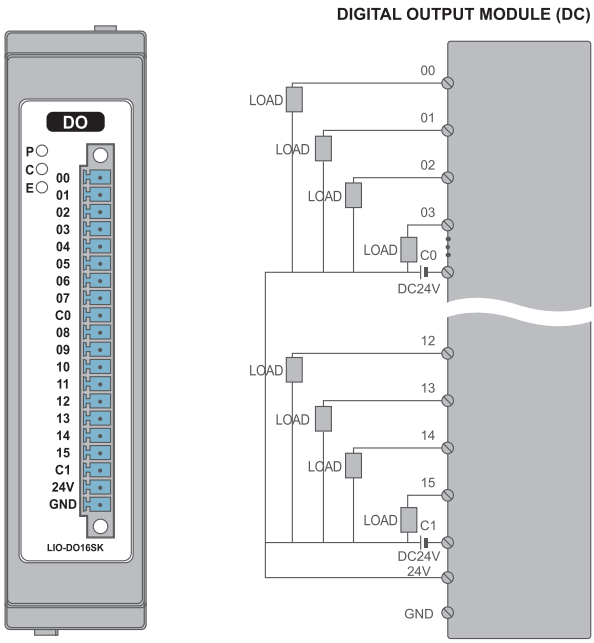
MODEL : LIO-DO16SK

Technical Data

■ Specification

- •Number of Outputs channels : 16CH/TR SINK TYPE
- •Isolation Type : Photo-Coupler
- •Rated Voltage/Current
  - DC24V 0.1A/Common 2A
- •Min. Voltage/Current : DC5V/1㎃
- •Max Voltage : DC30V
- •Response Time : Off→On 1㎳ below
  On→Off 1㎳ below
- •External Connection : 20PIN, 8CH/1Com, ×2Group

Basic wiring diagram of an input



LIO CARD SERIES

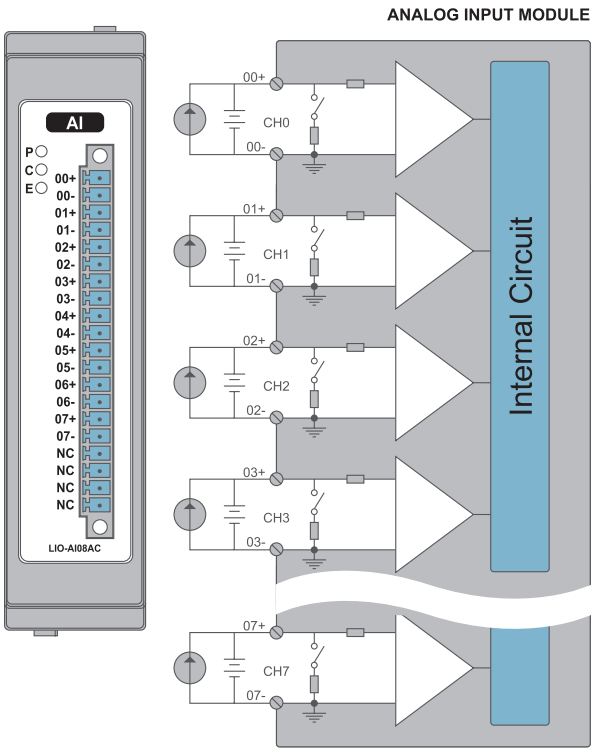
MODEL : LIO-AI08A

Technical Data

■ Specification

- •Number of Inputs channels : 8CH
- •Analog Input Range
  - Voltage : DC-10~10V(Input Resistance : 100KΩmin.)
  - Current : DC±4~20mA (Input Resistance : 250Ω)
  - Range / Input type is set by Volltage / Current program
  - 16bit binary data
  - Range : 0~64000
  - Value : Voltage(0) : -32000~32000 (-10V~10V)
    Current(1) : 0~32000 (±4mA~20mA)
    Current(2) : -32000~32000 (-20mA~20mA)
- •Resolution : 16bit
- •Accuracy : ±0.5% below
- •Max. Conversion Speed : 2.5ms/1CH
- •Absolute Max. Input
  - Voltage : DC 12V
  - Current : DC 24mA
- •Isolation Type : Isolation between Analog and Digita
  Non Isolated channels
- •External Connection : 20PIN, 1CH×8

Basic wiring diagram of an input



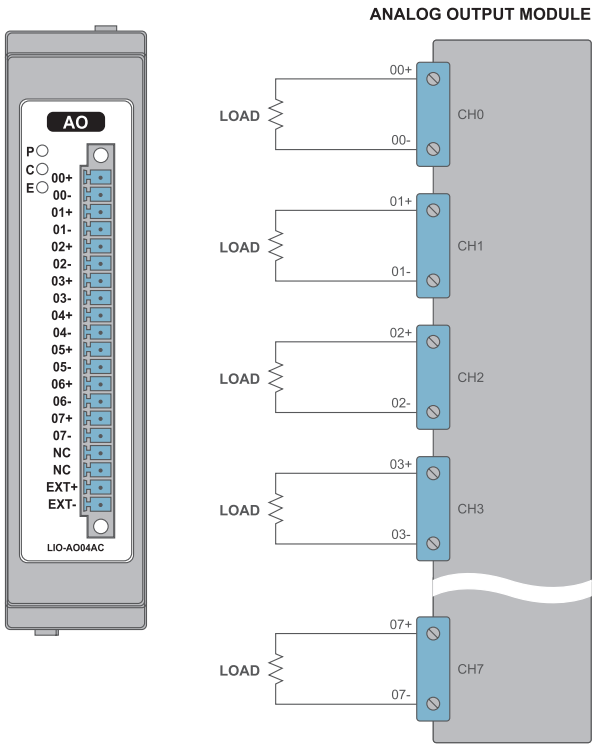
MODEL : LIO-AO08AC

Technical Data

■ Specification

- •Number of Outputs channels : 8CH
- •Analog Output : DC4~20mA (Load : 510Ω below)
- •Digital Input
  - 16bit binary data
  - Range : 0~64000
- •Resolution : 15.625㎂ (1/64000)
- •Accuracy : ±0.5% below
- •Max. Conversion Speed : 1ms/1CH
- •Absolute Max. Output : DC24mA
- •Isolation Type : Isolation between Analog and Digital
  Non Isolated channels
- •External Connection : 20PIN, 1CH×8

Basic wiring diagram of an input



LIO CARD SERIES

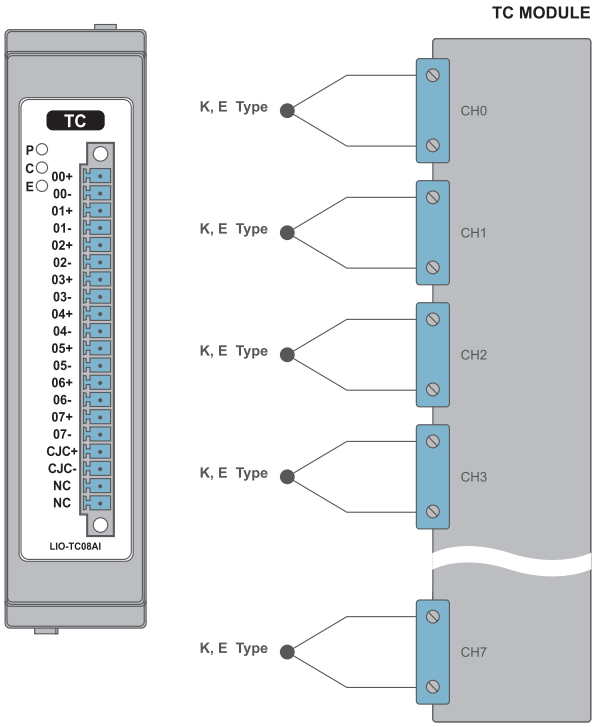
MODEL : LIO-TC08A

Technical Data

■ Specification

- •Number of Inputs channels : 8CH
- •Sensor Type : Thermocouple K/E type ITS-90 1993
- •Range of Temperature Input
  - K : -200.0℃~1250.0℃
  - E : -200.0℃~900.0℃
- •Digital Output
  - Temperature display unit : set to first decimal place
    K, E type : 0.1℃
  - K : -2,000℃~12,500℃
  - E : -2,000℃~9,000℃
- •Accuracy
  - Temp.(25℃) : ±0.2%
  - Temp.(-20~70℃) : ±0.5%
- •Max. Conversion Speed : 50㎳/CH
- •Isolation Type : Isolation between Analog and Digita
  Non Isolated channels
- •Compensation
  - Type : RJC Automatic Compensation(NTC)
  - Value : ±1.0℃
- •External Connection : 20PIN, 1CH×8

Basic wiring diagram of an input



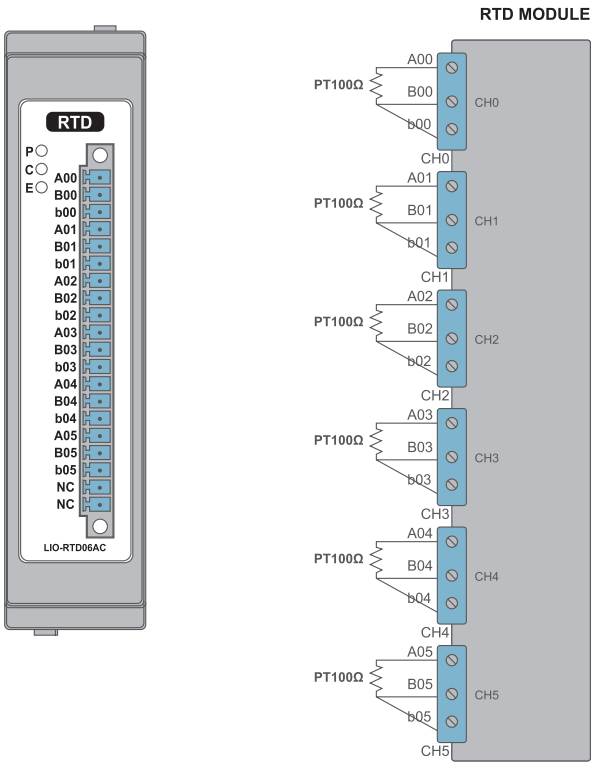
MODEL : LIO-RTD06AC

Technical Data

■ Specification

- •Number of Inputs channels : 6CH
- •Sensor Type : PT100Ω European Curve
- •Range of Temperature Input : -200~600℃
- •Digital Output
  - PT100Ω : -2,000~6,000
- •Accuracy
  - Temp.(25℃) : ±0.3%
  - Temp.(-20~70℃) : ±0.5%
- •Max. Conversion Speed : 40㎳/CH
- •Isolation Type : Isolation between Analog and Digital
  Non Isolated channels
- •Wiring Type : 3wires
- •External Connection : 20PIN, 1CH×6

Basic wiring diagram of an input



Flexible Logic Control Display

Model : FLCD-2000 Series (FLCD-2000)

Applications

FLCD-2000 is designed to meet the various requirements of industrial automation projects.

It is a software platform which is designed to meet the various requirements of modern industrial automation projects with high performance and flexible software.
The software built as a specialized application development tool for industrial automation to meet the standards set by the IEC has been established as a standard for the FLCDs.
This software developed to meet the international standard IEC 61131-3 is geared to industrial automation technology.

FLCD-2000 is composed of 1GHz ARM Cortex-A8 32bit RISC Processor. The memory that comes with the board is 512MB NAND. In addition, 10/100Mbps Ethernet can be used via Ethernet RJ45 port.
Diode redundancy is supported for power redundancy.

It supports HDMI port for screen display so Visualization screen can be displayed in various forms when combining with large LCD, large dot matrix, monitor, TV etc.

FLCD-2000 is a control unit which combines user-centered reliability and convenience and integrates HMI and PLC into one. The PLC and Visualization functions can be configured together in accordance with the user's application purposes.

Eight slots provided at the rear for I/O control are variably expanded to enable the user's desired system configuration.

Various application fields can be applied to FLCD-2000. It responds flexibly to various environments and it is easy to modify programs, thereby improving the facility efficiency and productivity in numerous industrial automation sites.

Features

① LAD-based control programming function (SOFTPLC)
② HMI-based programming function
③ Device operation history management function
④ Display via HDMI
⑤ Alarm/trip history management function
⑥ Communication function : control server – alarm/trip history, controller status history, operation history etc.
⑦ CANOPEN, MODBUS TCP/485 communication Fieldbus

Standards Specification

■ Supply power
•Rated voltage : DC24V
•Redundant power : Diode
•Maximum current : 3A

■ Main device
•Processor : 1GHz ARM® Cortex-A8
•Memory : DDR3 512MByte
•Built in RTC

■ HDMI
•Screen diagonal : external dispaly
•Resolution : 1024×768(XGA)
•Number of colors : 16bit colors(65,536)
•cable length : ≤ 3M

■ Storage device
•EMMC : 512MByte

■ OS
•Linux(RT-Preempt patch)

■ Product size : 58mm(W)×141mm(H)×96mm(L)



■ RETAIIN area
•Capacity : 8kbyte

■ Soft PLC
•Support language : IL, ST, LD, FBD, SFC, CFC
•Standard : IEC61131-3

■ Interface
•RS485 communication
- Communication method : RS485(2wire)
- Flow control : AUTOFLOW
- Number of ports : 2
- Speed : 9600, 19200 Baud
- Max node : 16
- Communication distance : Max. 1.2Km(at 100Kbps)
- Protocol : MODBUS 485
- Protocol type : Master / Slave

•CAN Communication
- Communication method : TWIN COMBICON
- Speed : 1M, 800K, 500K, 250K, 125k, 100k, 50K, 20K, 10K Baud
- Number of ports : 2
- Communication distance : 1.6Km(at 50Kbps)
- Support protocol : CANOPEN
- Protocol type : Master
- Max node : 63

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT
- Protocol type : MODBUS SERVER, CLIENT
- Communication distance : 100m

•USB
- Host : USB 2.0
- Number of ports : 1

•MICRO SD
- Support up to 16GByte
- Number of ports : 1

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)

■ Noise Immunity

•Electrostatic Discharge Immunity : 4kV(Air discharge)
(IEC61131-2 : 2017, IEC61000-4-2)
•Radiated EMF Noise : 80~1,000MHz, 10V/m
(IEC61131-2 : 2017, IEC61000-4-3)

■ Shock Endurance

•Maximum shock acceleration : 150m/s2(15G)
(Duration time : 11㎳)
•Pulse wave : a sine half-wave pulse
(3 times for each direction ±X, ±Y, ±Z, total on 3 times)
(IEC61131-2 : 2017, IEC60068-2-27)

■ Vibration Resistance

•Intermittent Vibration
- 5 ≤ f < 8.4Hz (Amplitude 3.5m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 10m/s(1G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2017, IEC60068-2-6)

•Continuous Vibration
- 5 ≤ f < 8.4Hz (Amplitude 1.75m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 4.9m/s(0.5G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2007, IEC60068-2-6)

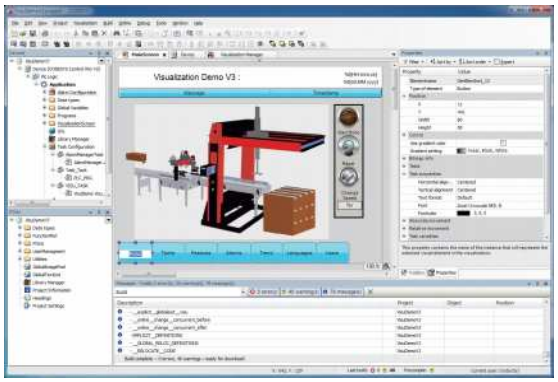
■ Operating Altitude

•Environmental Condition : 2000M(IEC61131-2 : 2017)

Technical Data

■ General function

•Visualization

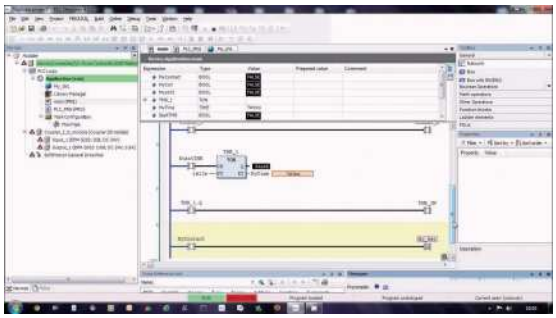


Creation of operating interfaces
- Fully integrated in the CODESYS Development System
- As part of the whole project, if necessary simultaneously with the PLC program
- By drag-and-drop actions from available elements of the toolbox or imported images
- With many convenience functions, for example alignment, duplication of elements according to linked array variables, grouping, etc.

Global functions, such as find, replace, print, compare, refactoring, or versioning with Apache Subversion® – also available in the visualization editor

Support of all IEC 61131-3 data types

•Programming tools for industrial controllers and automation technology
- Professional IEC 61131-3 controller application production with various standard functions
- All editors of IEC 61131-3 (FBD, LD, IL, ST, SFC, CFC) and various modifications of standard editors
- Powerful and proven library concept data input for application program reuse and input support for configuration
- User-friendly programming with mouse and keyboard in all IEC 61131-3 editors
- Integrated compiler for various CPU platforms optimizes controller performance
- Extensive debugging and online functions for fast optimization of application code and speed up testing and commissioning
- Numerous security functions for source code protection and controller operation protection
- Transparent internal structure of development tools and usable components, and support for integrated tools for various types of automation tasks



•Visualization style
- Definition of a set of element properties (for example, colors, shapes, and images) in a style file in a separate style editor
- Design of operating interfaces by means of parameters in a style file
- Automatic change of all elements based on the style file when switching styles in the visualization manager
- Use of styles by all visualization elements in the scope of delivery
- Quick start using complete styles with attractive, up-todate designs and a preview in the visualization manager
- Typical use case : Adaptation of operating interfaces to the corporate design of customers without changing the project



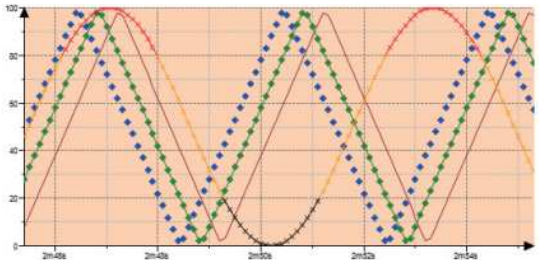
•**Data recording with Trace / Trend**

Trace

- Real-time capable recording of the values of configured variables in the CODESYS runtime system (implementation required by device manufacturer)
- Display by visualization element “Trace” as a time chart
- Control of recording by trigger event or special logic function

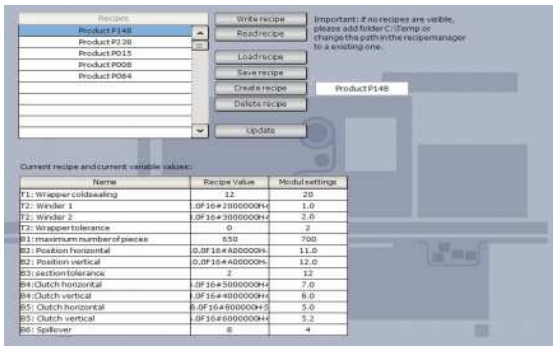
Trend

- Real-time capable recording of variable values to a storage medium (implementation required by device manufacturer)
- Display by visualization element “Trend” as a time chart in any interval
- Automatically configured control elements for easy online operation of the trend display



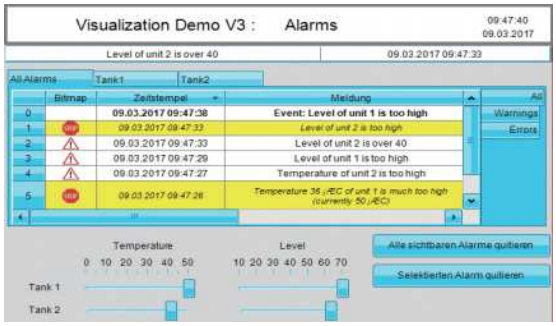
•**Recipe management**

- Read/write variable blocks of the controller
- Typical application : Convenient transfer of machines and plants in specific states (for example, initialization, manual operation, slow production), backup/restore of different production data sets (recipes)
- Integrated editor for preparation and management of recipes in the CODESYS Development System
- Operation, creation, and management of recipes in the visualization during operation

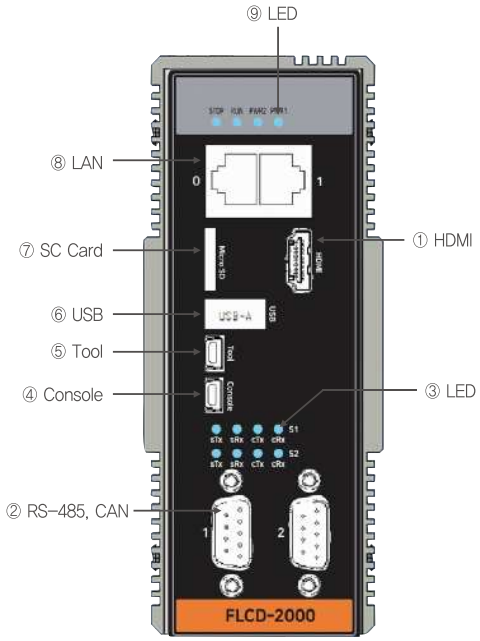


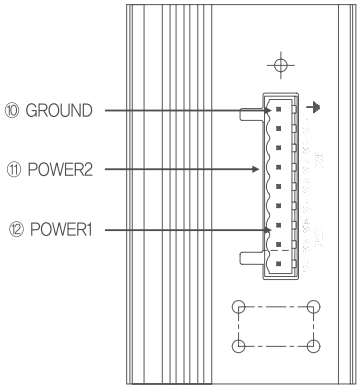
•**Alarm management**

- Definition of error or critical plant states
- Registration and display of occurring error conditions
- Configurable reaction to alarm events
- Acknowledgment from users by means of predefined procedures
- Optional : Archiving of error conditions for documentation or reproduction of failures
- Triggering and processing of alarm events by the logic application (IEC program)



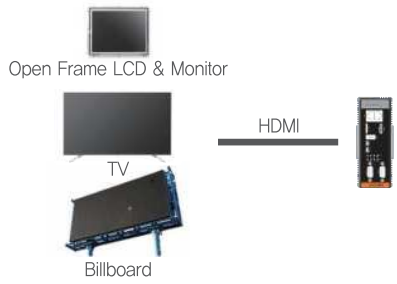
Name and function of each part





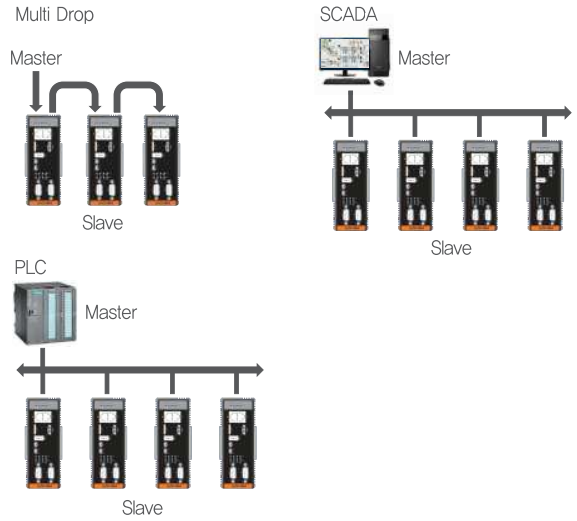
ITEM	Detail of funtion
① HDMI	External display
② RS-485, CAN	RS-485 4 ‘-’, 8 ‘+’, CAN 2 ‘-’, 7 ‘+’
③ LED	RS-485, CAN STATE LED
④ Console	Manufacturer system access port
⑤ Tool	Program download and monitoring port
⑥ USB	USB HOST(A Type Connector)
⑦ SD Card Slot	Micro SD Card
⑧ LAN	10/100Base-T Ethernet (RJ45)
⑨ LED	PLC Operation LED
⑩ GROUND	GROUND
⑪ POWER2	DC24V POWER INPUT#2
⑫ POWER1	DC24V POWER INPUT#1

Display

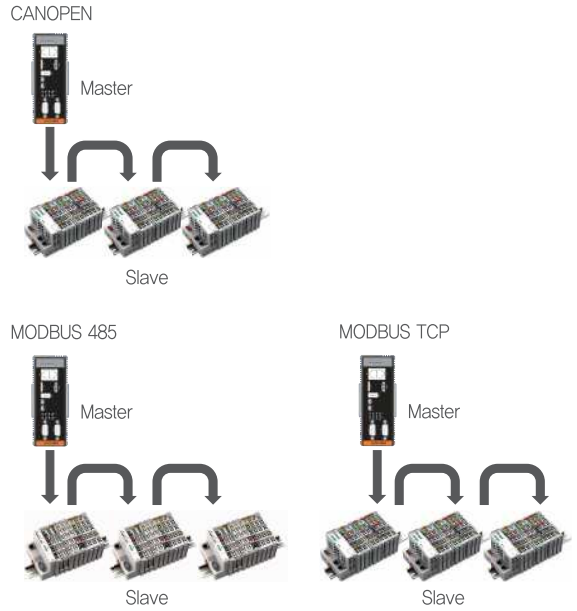


Ethernet Network

■ System configuration method using Ethernet



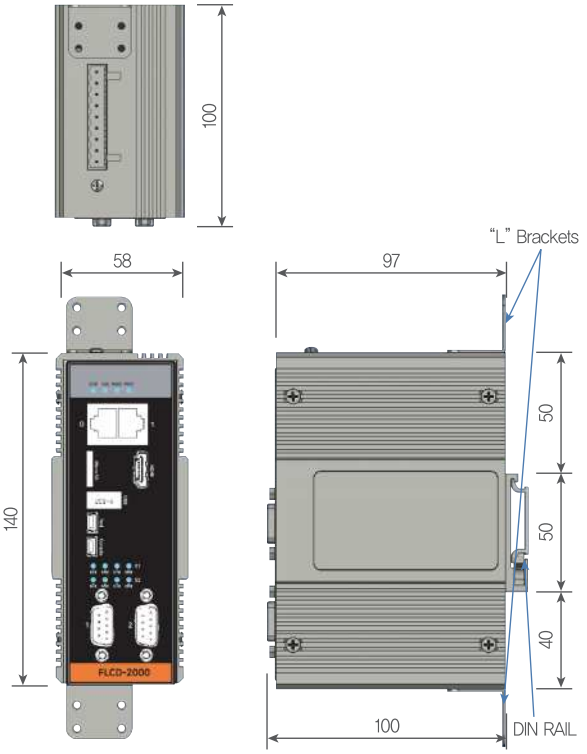
Remote I/O Extension



External Dimension

[Unit : mm]

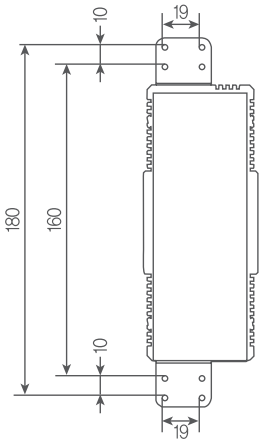
■ FLCD-2000



Mount Hole

[Unit : mm]

■ FLCD-2000



Ordering Information

BASE MODEL

FLCD : Flexible Logic Control Display
SERIES : Series Number
RESERVE
RESERVE

FLCD	-	2	0	0	0

Flexible Logic Control Display

Model : FLCD-3000 Series (FLCD-3010)

Applications

FLCD-3000 is designed to meet the various requirements of industrial automation projects.

It is a software platform which is designed to meet the various requirements of modern industrial automation projects with high performance and flexible software.
The software built as a specialized application development tool for industrial automation to meet the standards set by the IEC has been established as a standard for the FLCDs.
This software developed to meet the international standard IEC 61131-3 is geared to industrial automation technology.

FLCD-3000 is composed of 1GHz ARM Cortex-A8 32bit RISC Processor. The memory that comes with the board is 512MB NAND. In addition, 10/100Mbps Ethernet can be used via Ethernet RJ45 port.
Diode redundancy is supported for power redundancy.

It supports 10/15 inch display for screen display and it is designed to give a sense of unity with the thin front panel.

FLCD-3000 is a control unit which combines user-centered reliability and convenience and integrates HMI and PLC into one. The PLC and Visualization functions can be configured together in accordance with the user's application purposes.

Eight slots provided at the rear for I/O control are variably expanded to enable the user's desired system configuration.

Various application fields can be applied to FLCD-3000. It responds flexibly to various environments and it is easy to modify programs, thereby improving the facility efficiency and productivity in numerous industrial automation sites.

Features

① LAD-based control programming function (SOFTPLC)
② HMI-based programming function
③ Device operation history management function
④ 10/15 inch Display
⑤ Alarm/trip history management function
⑥ Communication function : control server – alarm/trip history, controller status history, operation history etc.
⑦ CANOPEN, MODBUS TCP/485 communication Fieldbus

Standards Specification

■ Supply power
•Rated voltage : DC24V
•Redundant power : Diode
•Maximum current : 3A

■ Main device
•Processor : 1GHz ARM® Cortex-A8
•Memory : DDR3 512MByte
•Built in RTC

■ TFT-LCD
•Screen diagonal : 10" / 15"
•Aspect ratio : 4:3
•Luminance : 10"(400cd/㎡) / 15"(400cd/㎡)
•Resolution : 1024×768(XGA)
•Number of colors : 18bit colors
•Touch Panel : 4-wire analog resistive film method

■ Storage device
•EMMC : 512MByte

■ OS
•Linux(RT-Preempt patch)

■ Product size : 267mm(W)×206mm(H)×66mm(L) (10")
359mm(W)×296mm(H)×66mm(L) (15")



■ RETAIIN area
•Capacity : 8kbyte

■ Soft PLC
•Support language : IL, ST, LD, FBD, SFC, CFC
•Standard : IEC61131-3

■ Interface
•RS485 communication
- Communication method : RS485(2wire)
- Flow control : AUTOFLOW
- Number of ports : 2
- Speed : 9600, 19200 Baud
- Max node : 16
- Communication distance : Max. 1.2Km(at 100Kbps)
- Protocol : MODBUS 485
- Protocol type : Master / Slave

•CAN Communication
- Communication method : TWIN COMBICON
- Speed : 1M, 800K, 500K, 250K, 125k, 100k, 50K, 20K, 10K Baud
- Number of ports : 2
- Communication distance : 1.6Km(at 50Kbps)
- Support protocol : CANOPEN
- Protocol type : Master
- Max node : 63

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT
- Protocol type : MODBUS SERVER, CLIENT
- Communication distance : 100m

•USB
- Host : USB 2.0
- Number of ports : 1

•MICRO SD
- Support up to 16GByte
- Number of ports : 1

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)
•Degree and class of protection : IP65 (front)

■ Noise Immunity

•Electrostatic Discharge Immunity : 4kV(Air discharge)
(IEC61131-2 : 2017, IEC61000-4-2)
•Radiated EMF Noise : 80~1,000MHz, 10V/m
(IEC61131-2 : 2017, IEC61000-4-3)

■ Shock Endurance

•Maximum shock acceleration : 150m/s2(15G)
(Duration time : 11㎳)
•Pulse wave : a sine half-wave pulse
(3 times for each direction ±X, ±Y, ±Z, total on 3 times)
(IEC61131-2 : 2017, IEC60068-2-27)

■ Vibration Resistance

•Intermittent Vibration
- 5 ≤ f < 8.4Hz (Amplitude 3.5m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 10m/s(1G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2017, IEC60068-2-6)

•Continuous Vibration
- 5 ≤ f < 8.4Hz (Amplitude 1.75m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 4.9m/s(0.5G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2007, IEC60068-2-6)

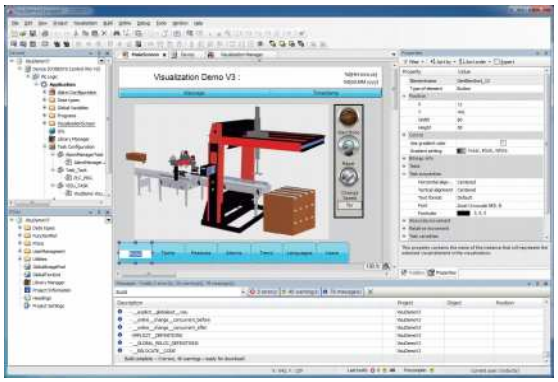
■ Operating Altitude

•Environmental Condition : 2000M(IEC61131-2 : 2017)

Technical Data

■ General function

•Visualization



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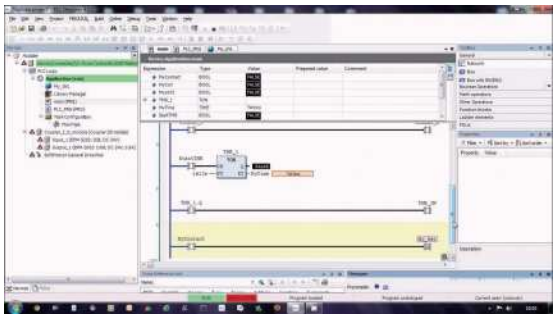

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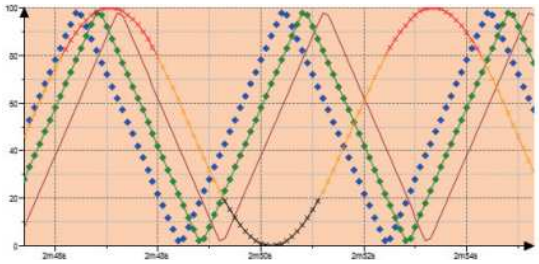

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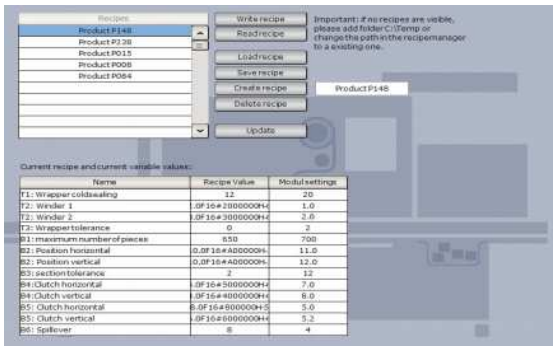

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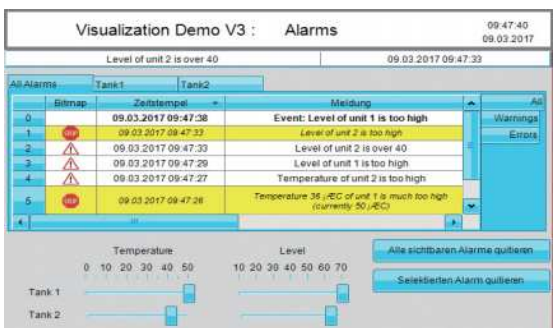
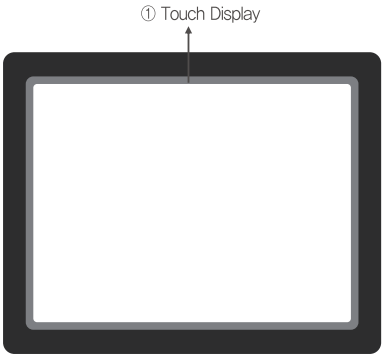
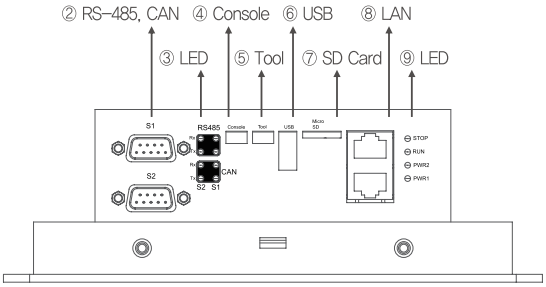
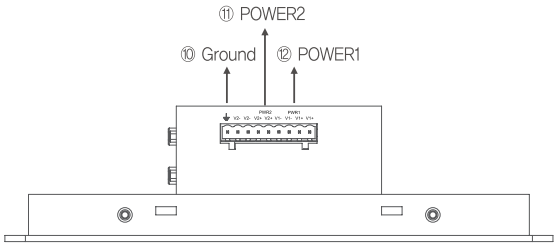


Name and function of each part



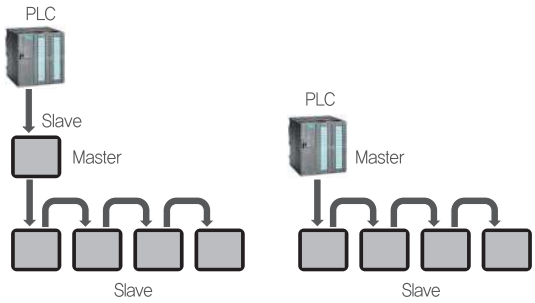




ITEM	Detail of funtion
① Touch Display	Resistive touch panel
② RS-485, CAN	RS-485 4 ‘-’, 8 ‘+’, CAN 2 ‘-, 7 ‘+’
③ LED	RS-485, CAN STATE LED
④ Console	Manufacturer system access port
⑤ Tool	Program download and monitoring port
⑥ USB	USB HOST(A Type Connector)
⑦ SD Card Slot	Micro SD Card
⑧ LAN	10/100Base-T Ethernet (RJ45)
⑨ LED	PLC Operation LED
⑩ GROUND	GROUND
⑪ POWER2	DC24V POWER INPUT#2
⑫ POWER1	DC24V POWER INPUT#1

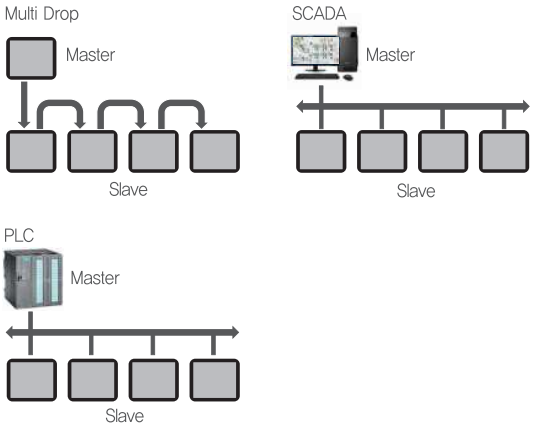
Serial Network

■ System configuration method using RS485

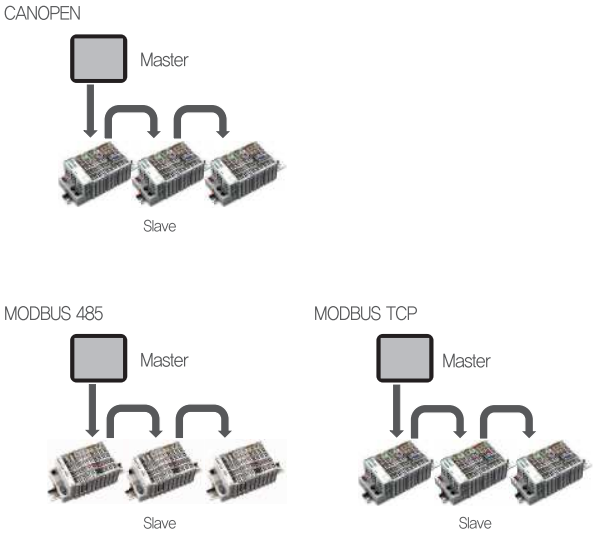


Ethernet Network

■ System configuration method using Ethernet



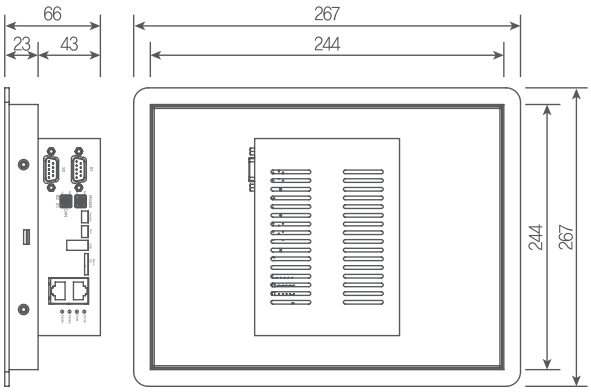
Remote I/O Extension



External Dimension

[Unit : mm]

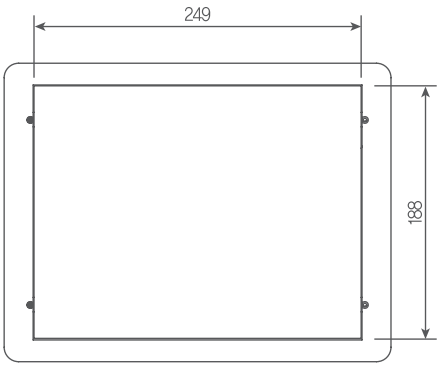
■ FLCD-3010



Cutting Size

[Unit : mm]

■ FLCD-3010



Ordering Information

BASE MODEL

FLCD : Flexible Logic Control Display
SERIES : Series Number
RESERVE
LCD SIZE
10 : 10 INCH
15 : 15 INCH

FLCD	-	3	0	1	0

Flexible Logic Control Display

Model : FLCD-3000 Series (FLCD-3015)

Applications

FLCD-3000 is designed to meet the various requirements of industrial automation projects.

It is a software platform which is designed to meet the various requirements of modern industrial automation projects with high performance and flexible software.
The software built as a specialized application development tool for industrial automation to meet the standards set by the IEC has been established as a standard for the FLCDs.
This software developed to meet the international standard IEC 61131-3 is geared to industrial automation technology.

FLCD-3000 is composed of 1GHz ARM Cortex-A8 32bit RISC Processor. The memory that comes with the board is 512MB NAND. In addition, 10/100Mbps Ethernet can be used via Ethernet RJ45 port.
Diode redundancy is supported for power redundancy.

It supports 10/15 inch display for screen display and it is designed to give a sense of unity with the thin front panel.

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Various application fields can be applied to FLCD-3000. It responds flexibly to various environments and it is easy to modify programs, thereby improving the facility efficiency and productivity in numerous industrial automation sites.

Features

① LAD-based control programming function (SOFTPLC)
② HMI-based programming function
③ Device operation history management function
④ 10/15 inch Display
⑤ Alarm/trip history management function
⑥ Communication function : control server – alarm/trip history, controller status history, operation history etc.
⑦ CANOPEN, MODBUS TCP/485 communication Fieldbus

Standards Specification

■ Supply power
•Rated voltage : DC24V
•Redundant power : Diode
•Maximum current : 3A

■ Main device
•Processor : 1GHz ARM® Cortex-A8
•Memory : DDR3 512MByte
•Built in RTC

■ TFT-LCD
•Screen diagonal : 10" / 15"
•Aspect ratio : 4:3
•Luminance : 10"(400cd/㎡) / 15"(400cd/㎡)
•Resolution : 1024×768(XGA)
•Number of colors : 18bit colors
•Touch Panel : 4-wire analog resistive film method

■ Storage device
•EMMC : 512MByte

■ OS
•Linux(RT-Preempt patch)

■ Product size : 267mm(W)×206mm(H)×66mm(L) (10")
359mm(W)×296mm(H)×66mm(L) (15")



■ RETAIIN area
•Capacity : 8kbyte

■ Soft PLC
•Support language : IL, ST, LD, FBD, SFC, CFC
•Standard : IEC61131-3

■ Interface
•RS485 communication
- Communication method : RS485(2wire)
- Flow control : AUTOFLOW
- Number of ports : 2
- Speed : 9600, 19200 Baud
- Max node : 16
- Communication distance : Max. 1.2Km(at 100Kbps)
- Protocol : MODBUS 485
- Protocol type : Master / Slave

•CAN Communication
- Communication method : TWIN COMBICON
- Speed : 1M, 800K, 500K, 250K, 125k, 100k, 50K, 20K, 10K Baud
- Number of ports : 2
- Communication distance : 1.6Km(at 50Kbps)
- Support protocol : CANOPEN
- Protocol type : Master
- Max node : 63

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT
- Protocol type : MODBUS SERVER, CLIENT
- Communication distance : 100m

•USB
- Host : USB 2.0
- Number of ports : 1

•MICRO SD
- Support up to 16GByte
- Number of ports : 1

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)
•Degree and class of protection : IP65 (front)

■ Noise Immunity

•Electrostatic Discharge Immunity : 4kV(Air discharge)
(IEC61131-2 : 2017, IEC61000-4-2)
•Radiated EMF Noise : 80~1,000MHz, 10V/m
(IEC61131-2 : 2017, IEC61000-4-3)

■ Shock Endurance

•Maximum shock acceleration : 150m/s2(15G)
(Duration time : 11㎳)
•Pulse wave : a sine half-wave pulse
(3 times for each direction ±X, ±Y, ±Z, total on 3 times)
(IEC61131-2 : 2017, IEC60068-2-27)

■ Vibration Resistance

•Intermittent Vibration
- 5 ≤ f < 8.4Hz (Amplitude 3.5m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 10m/s(1G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2017, IEC60068-2-6)

•Continuous Vibration
- 5 ≤ f < 8.4Hz (Amplitude 1.75m)
10 times for each direction X, Y, Z
- 8.4 ≤ f ≤ 150Hz (Acceleration 4.9m/s(0.5G))
10 times for each direction X, Y, Z
(IEC61131-2 : 2007, IEC60068-2-6)

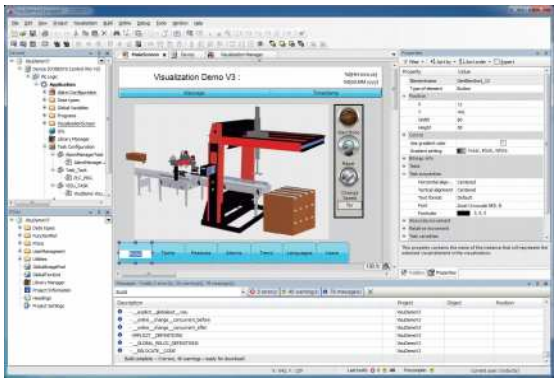
■ Operating Altitude

•Environmental Condition : 2000M(IEC61131-2 : 2017)

Technical Data

■ General function

•Visualization

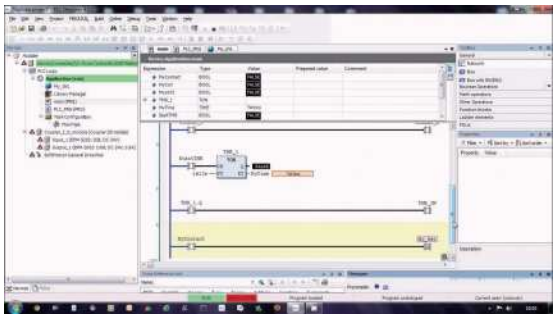


Creation of operating interfaces
- Fully integrated in the CODESYS Development System
- As part of the whole project, if necessary simultaneously with the PLC program
- By drag-and-drop actions from available elements of the toolbox or imported images
- With many convenience functions, for example alignment, duplication of elements according to linked array variables, grouping, etc.

Global functions, such as find, replace, print, compare, refactoring, or versioning with Apache Subversion® – also available in the visualization editor

Support of all IEC 61131-3 data types

•Programming tools for industrial controllers and automation technology
- Professional IEC 61131-3 controller application production with various standard functions
- All editors of IEC 61131-3 (FBD, LD, IL, ST, SFC, CFC) and various modifications of standard editors
- Powerful and proven library concept data input for application program reuse and input support for configuration
- User-friendly programming with mouse and keyboard in all IEC 61131-3 editors
- Integrated compiler for various CPU platforms optimizes controller performance
- Extensive debugging and online functions for fast optimization of application code and speed up testing and commissioning
- Numerous security functions for source code protection and controller operation protection
- Transparent internal structure of development tools and usable components, and support for integrated tools for various types of automation tasks



•Visualization style
- Definition of a set of element properties (for example, colors, shapes, and images) in a style file in a separate style editor
- Design of operating interfaces by means of parameters in a style file
- Automatic change of all elements based on the style file when switching styles in the visualization manager
- Use of styles by all visualization elements in the scope of delivery
- Quick start using complete styles with attractive, up-todate designs and a preview in the visualization manager
- Typical use case : Adaptation of operating interfaces to the corporate design of customers without changing the project



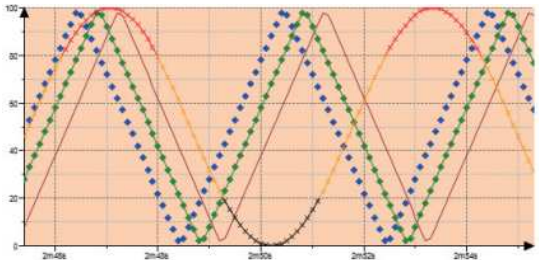
•**Data recording with Trace / Trend**

Trace

- Real-time capable recording of the values of configured variables in the CODESYS runtime system (implementation required by device manufacturer)
- Display by visualization element “Trace” as a time chart
- Control of recording by trigger event or special logic function

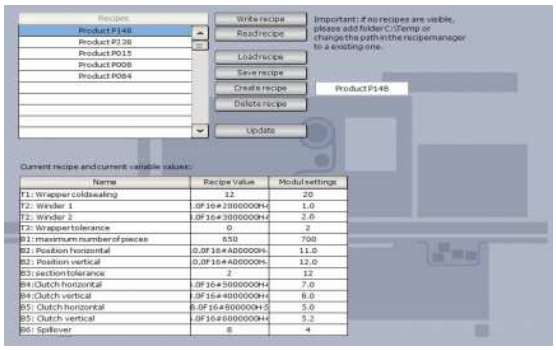
Trend

- Real-time capable recording of variable values to a storage medium (implementation required by device manufacturer)
- Display by visualization element “Trend” as a time chart in any interval
- Automatically configured control elements for easy online operation of the trend display



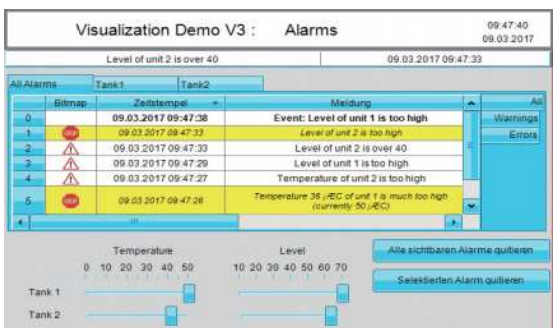
•**Recipe management**

- Read/write variable blocks of the controller
- Typical application : Convenient transfer of machines and plants in specific states (for example, initialization, manual operation, slow production), backup/restore of different production data sets (recipes)
- Integrated editor for preparation and management of recipes in the CODESYS Development System
- Operation, creation, and management of recipes in the visualization during operation

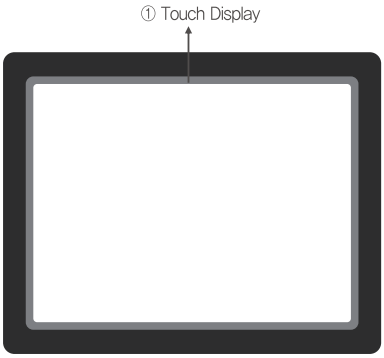


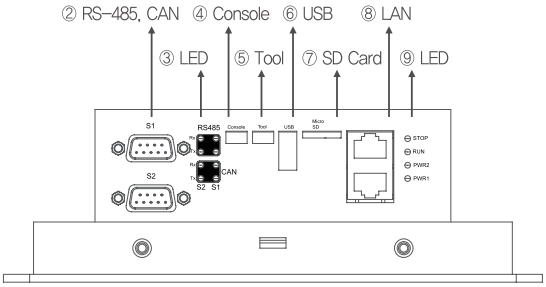
•**Alarm management**

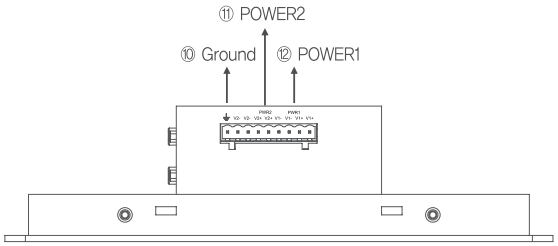
- Definition of error or critical plant states
- Registration and display of occurring error conditions
- Configurable reaction to alarm events
- Acknowledgment from users by means of predefined procedures
- Optional : Archiving of error conditions for documentation or reproduction of failures
- Triggering and processing of alarm events by the logic application (IEC program)



각 부의 명칭 및 기능



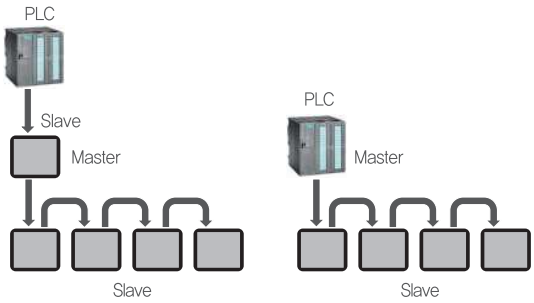




ITEM	Detail of funtion
① Touch Display	Resistive touch panel
② RS-485, CAN	RS-485 4 ‘-’, 8 ‘+’, CAN 2 ‘-’, 7 ‘+’
③ LED	RS-485, CAN STATE LED
④ Console	Manufacturer system access port
⑤ Tool	Program download and monitoring port
⑥ USB	USB HOST(A Type Connector)
⑦ SD Card Slot	Micro SD Card
⑧ LAN	10/100Base-T Ethernet (RJ45)
⑨ LED	PLC Operation LED
⑩ GROUND	GROUND
⑪ POWER2	DC24V POWER INPUT#2
⑫ POWER1	DC24V POWER INPUT#1

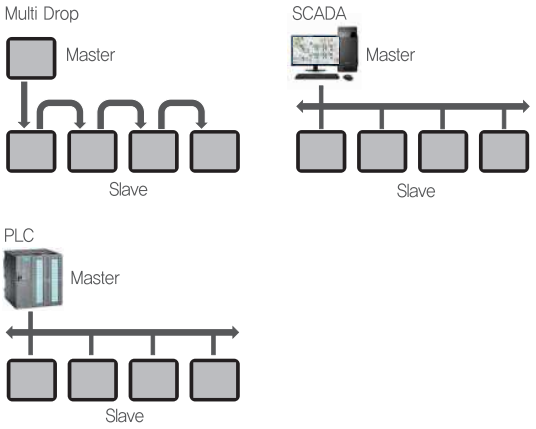
Serial Network

■ System configuration method using RS485

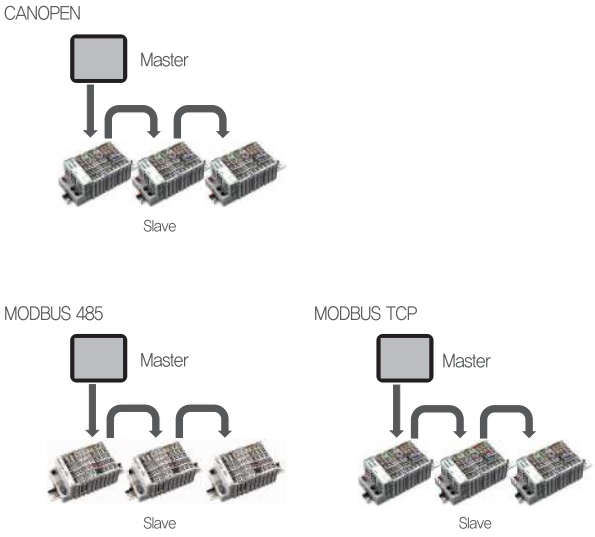


Ethernet Network

■ System configuration method using Ethernet



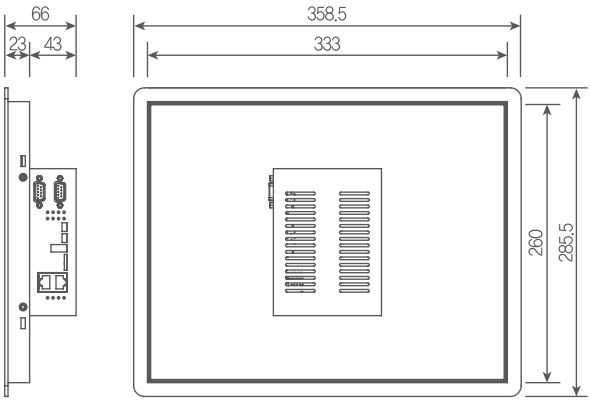
Remote I/O Extension



External Dimension

[Unit : mm]

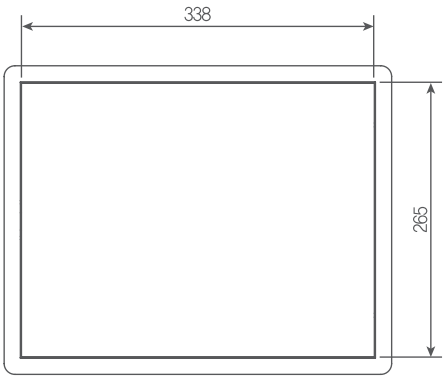
■ FLCD-3015



Cutting Size

[Unit : mm]

■ FLCD-3015



Ordering Information

BASE MODEL

FLCD : Flexible Logic Control Display
SERIES : Series Number
RESERVE
LCD SIZE
10 : 10 INCH
15 : 15 INCH

FLCD	-	3	0	1	5

Modbus Gateway
Model : SMG-LS Series

Applications

The SMG-LS series is developed to solve major problems which often occur in industrial fields.

It is not possible to see the exact time when the equipment tripped or the alarm occurred.
Time is synchronized periodically to improve the problem.

Communication bottleneck caused by communication speed differences and communication traffic phenomenon caused by multiple masters are eliminated, which improves data reliability.

With these functions, you can improve the efficiency and productivity of the industrial automation site.

Features

① 2×10/100 Mbps Ethernet ports for LAN multi-drop
② Modbus TCP and Modbus RTU/ASCII network integration
③ Mountable via DIN rail and wall mount
④ Automatic RS-485 data flow control
⑤ Monitoring/measurement equipment time sync supported
⑥ Auto data collection for less Multi-Master data bottleneck
⑦ Web Server-based remote setting function supported
⑧ Input power redundancy supported
⑨ Slave equipment status monitoring function supported

Standards Specification

■ Supply Power
•Rated voltage : DC24V
•Maximum current : 1A
•Redundant power : Diode

■ Main device
•Processor : 100MHz Arm Cortex-M3 32-bit RISC CPU
+ Real-Time OS Accelerator(Hardware Real-Time OS)
•Memory : 2MBytes
•Built in RTC



■ Interface
•RS485 Communication
- Communication method : RS485(2wire)
- Flow control : AUTOFLOW
- Number of ports : 2/4
- Speed : 9600, 19200, 38400 Baud
- Max node : 16
- Communication distance : Max. 1.2Km(at 100Kbps)
- Protocol : MODBUS 485
- Protocol type : Master

•LAN Communication
- Speed : 10/100Mbps
- Number of ports : 2
- Ethernet network bridge : support
- Support protocol : MODBUS TCP/IP, NTP CLIENT, HTTP Server
- Protocol type : Slave
- Communication distance : 100m

■ General Specification
•Ambient conditions : indoor
•Operating temperature : -20°C~70°C
•Non-operating temperature : -30°C~80°C
•Operating humidity : 5~93%(no condensation)

■ Product size : 58mm(W)×141mm(H)×96mm(L)

■ Noise Immunity
•Electrostatic Discharge Immunity) : 4kV(Air discharge)
(IEC61131-2 : 2017, IEC61000-4-2)
•Radiated EMF Noise : 80~1,000MHz, 10V/m
(IEC61131-2 : 2017, IEC61000-4-3)

■ Shock Endurance
•Maximum shock acceleration : 150m/s2(15G)
(Duration time : 11㎳)
•Pulse wave : a sine half-wave pulse
(3 times for each direction ±X, ±Y, ±Z, total on 3 times)
(IEC61131-2 : 2017, IEC60068-2-27)

■ Vibration Resistance

• Intermittent Vibration
- 5 ≤ f < 8.4Hz (Amplitude 3.5m)
  10 times for each direction X, Y, Z
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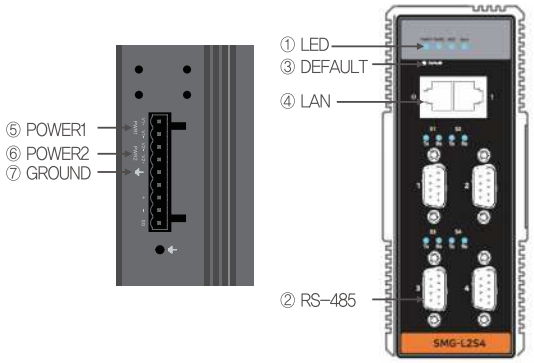
  (IEC61131-2 : 2007, IEC60068-2-6)

■ Operating Altitude

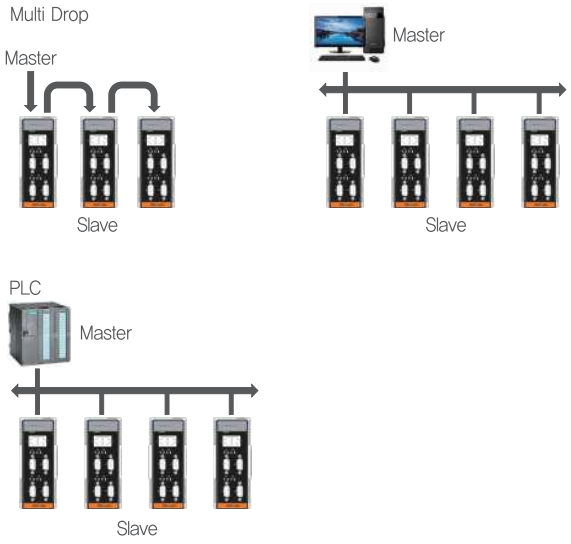
•Environmental Condition : 2000M(IEC61131-2 : 2017)



ITEM	Detail of funtion
① LED	Power & Operation Staus Indication
② RS-485	RS-485 Communication 4 PORT
③ DEFAULT	Reset to initial settings
④ LAN	10/100Base-T Ethernet (RJ45)
⑤ POWER1	DC24V POWER INPUT#1
⑥ POWER2	DC24V POWER INPUT#2
⑦ GROUND	GROUND

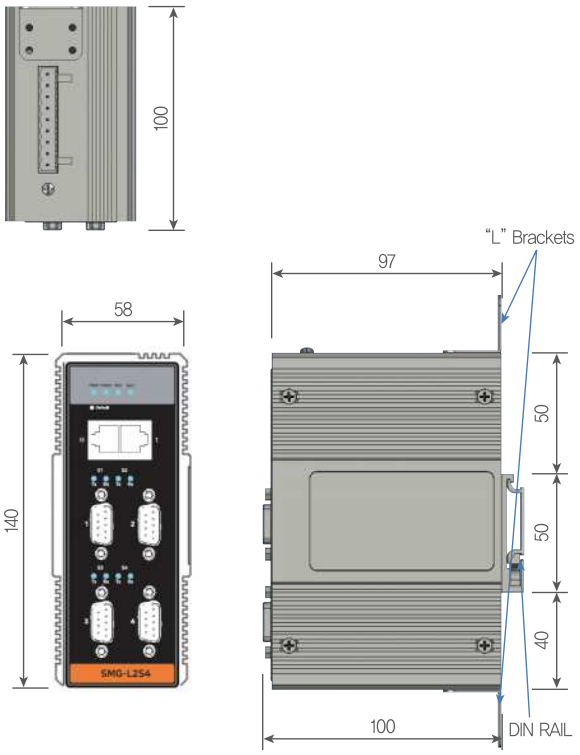
Ethernet Network

■ System configuration method using Ethernet



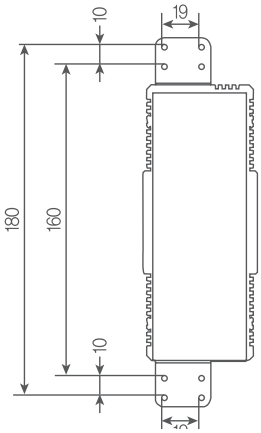
External Dimension

[Unit : mm]

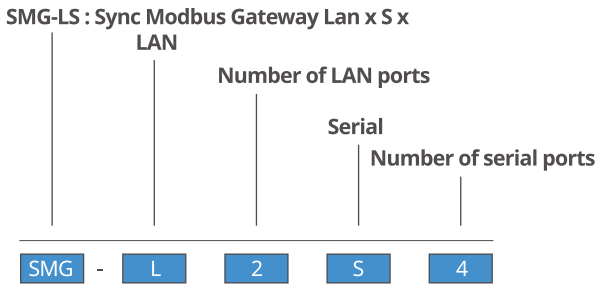


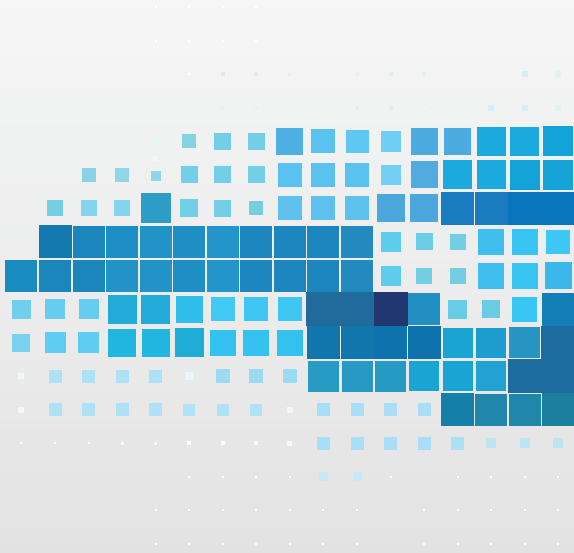
Mount Hole

[Unit : mm]



Ordering Information





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