Serie LP-A

Panel lógico LCD en color

HMI+PLC +I/O ALL IN ONE — Todo en uno

Instalación horizontal / vertical

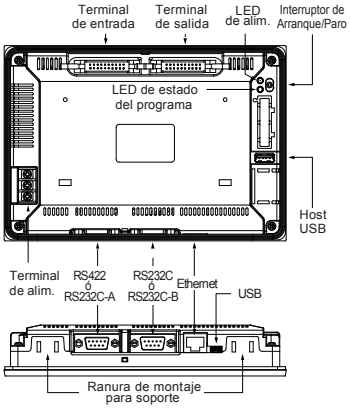
16,777,216 COLOR — Implementación de color verdadero

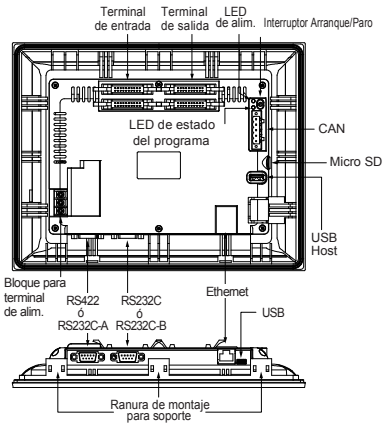
at Designer — Programa de dibujo

at Logic — Programa lógico

LP-A070

LP-A104





Características principales

- Pantalla LCD en color TFT de 10,4 pulgadas capaz de realizar colores reales
- PLC y HMI integrador con módulos de E/S cómodos de usar
- Instalación horizontal / vertical disponible según el ambiente
- La monitorización de dispositivos de equipos conectados es posible sin datos de dibujo
- Usa el programa de dibujo AtDesigner
- Diversas funciones de soporte, objetos y biblioteca de imágenes
- Fácil de usar interfaz de usuario intuitiva
- Permite cambiar el idioma en la pantalla del display

  Varias interfaces de comunicación compatibles: RS232C, RS422 / 485, Ethernet, CAN

Serie	LP-A070	LP-A104
Tamaño de pantalla	7.0 pulgadas	10.4 pulgadas
Tipo de LCD	TFT Color LCD	
Resolución	800×480 pixeles	800×600 pixeles
Área del display	108×43.2 mm	211.2×158.4 mm
No. de colores de expresión	16,777,216 colores	
Ángulo de visión del LCD (Arriba abajo / izquierda derecha)	Dentro de cada 50 ° / 60 ° / 65 ° / 65 °	Dentro de cada 60 ° / 70 ° / 70 ° / 70 °
Luminosidad	LED blanco	
Interfaz de serie	RS232C, RS422/485	
USB	USB Host, dispositivo USB (USB2.0)	
Ethernet	IEEE802.3(U), 10/100Base-T	
Interfaz CAN	-	Transceptor CAN 24V
Memoria externa	-	Micro SD hasta 32GB (FAT16 / 32)
Controlador de tiempo real	RTC	
Idiomas admitidos	Coreano, inglés	
Alimentación	Fuentes vectoriales y de mapa de bits	
Memoria	64MB	
No. máx. de pantallas de usuario	100 páginas	

Serie GP-A

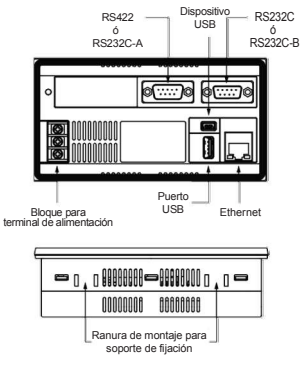
Panel gráfico LCD a color

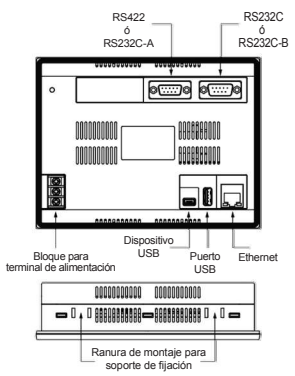
Instalación horizontal / vertical

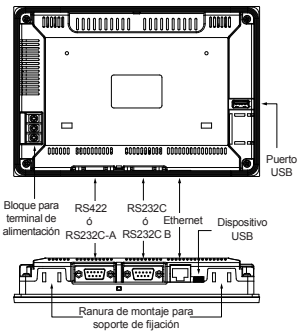
16,777,216 COLOR
Implementación de color verdadero

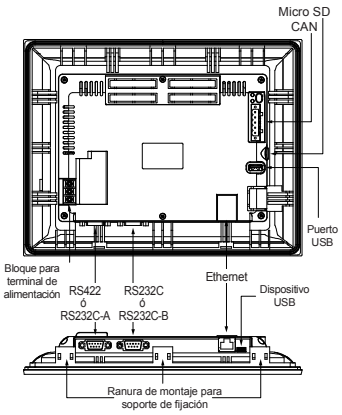
at Designer
Programa de dibujo

GP-A046 GP-A057 GP-A070 GP-A104









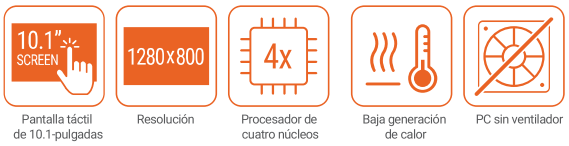
Características principales

- Pantalla LCD en color TFT de 7 pulgadas capaz de obtener colores reales
- Se puede instalar horizontal o verticalmente según el ambiente
- Usa el programa de dibujo AtDesigner
- Diversas funciones de soporte, objetos y biblioteca de imágenes
- Interfaz de fácil uso
- Permite cambiar el idioma en la pantalla del display
- Admite varias interfaces de comunicación: RS232C, RS422 / 485, Ethernet

Serie	GP-A046	GP-A057	GP-A070	GP-A104
Tamaño de pantalla	4.6 pulgadas	5.7 pulgadas	7.0 pulgadas	10.4 pulgadas
Tipo de LCD	TFT Color LCD			
Resolución	800×320 pixeles	640×480 pixeles	800×480 pixeles	800×600 pixeles
Área del display	108×43.2 mm	115.2×86.4 mm	154.4×93.44 mm	211.2×158.4 mm
No. de colores de expresión	16,777,216 colores	262,144 colores	16,777,216 colores	16,777,216 colores
Ángulo de visión del LCD (Arriba abajo / izquierda derecha)	Dentro de cada 75 ° / 70 ° / 80 ° / 80 °	Dentro de cada 70°/70°/80°/80°	Dentro de cada 50°/60°/65°/65°	Dentro de cada 60°/70°/80°/70°
Luminosidad	LED blanco			
Interfaz de serie	RS232C, RS422/485			
USB	USB Host, dispositivo USB (USB2.0)			
Ethernet	IEEE802.3(U), 10/100 Base-T			
Interfaz CAN	-	-	-	Transceptor CAN 24V
Memoria externa				Micro SD hasta 32GB (FAT16 / 32)
Controlador de tiempo real	RTC			
Idiomas admitidos	Coreano, inglés			
Alimentación	Fuentes vectoriales y de mapa de bits			
Memoria	64MB			
No. máx. de pantallas de usuario	100 páginas			

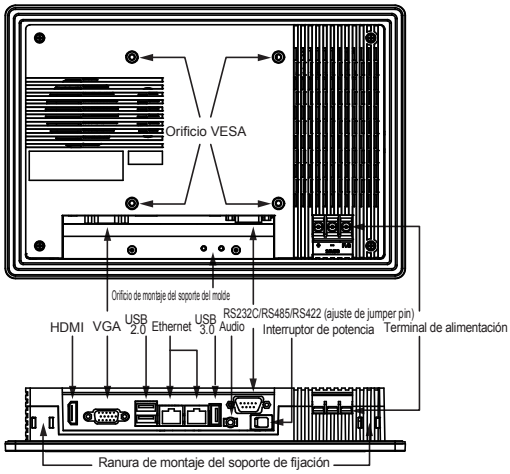
Serie APC-1011

PC industrial de 10.1 pulgadas



Pantalla táctil de 10.1-pulgadas | Resolución | Procesador de cuatro núcleos | Baja generación de calor | PC sin ventilador

Descripción de la unidad



Características principales

· Microsoft Windows 10 incluido
· Procesador de cuatro núcleos
· PC sin ventilador con operación silenciosa y de bajo calentamiento
· Display LCD IPS TFT de 10.1 pulgadas con display de color (16,777,216 colores)
· La pantalla táctil resistiva permite operar con guantes, plumas, o cualquier tipo de lápiz
· Permite varias interfases de conexión
: Ethernet, Serial (RS232C/RS485/RS422), USB, VGA, HDMI, Audio
· Varios métodos de instalación: montaje en panel, montaje en soporte

Serie	APC-1011
Voltaje (alimentación)	24VCC ⎓
Rango de fluctuación de voltaje permitido	90 ~ 110% del voltaje de la fuente de alimentación
Consumo de energía	30 W ó menos
Disco duro	mSATA 64GB SSD
Memoria del sistema	DDR3L 4GB
Luz indicadora	Indicador de encendido: LED verde
Altavoz	Altavoz estéreo 2W + 2W
Temporizador de vigilancia	Watch Dog Timer (configuración de software de 1 ~ 255 segundos)
Duración de la batería	5 años a los 25 ℃
Controlador de tiempo real	RTC
Idiomas admitidos ※1	Coreano, inglés
Protección	IP65 (Parte delantera, estándar IEC)

※1: Se pueden agregar idiomas adicionales instalando paquetes de idiomas. Para obtener más información sobre la instalación de paquetes de idioma, consulte la información relacionada de Microsoft.

Rendimiento de pantalla

Tipo de LCD	IPS TFT Color LCD
Método táctil	Sensible a la presión
Resolución	WXGA 1280 × 800
Relación de contraste	16:10
Área del display	216.96×135.6mm
No. de colores de expresión	16,777,216 colores

Rendimiento de sistema

CPU	Integrated Intel ® Procesador Quad core J3160/1.6GHz , TDP 6W
Sistema operativo	Entrada empresarial de Windows 10 IoT (64 bits)

Tipo de interfaz

HDMI	1 pieza
USB	USB 3.0 HOST 1pieza, USB 2.0 HOST 2 piezas
VGA	1 pieza
Ethernet	Gigabit Ethernet 2 piezas
Audio	1 pieza
Serial	RS232C/RS422/RS485 1pieza (Configuración del pin de puente)

▣ What Is GP/LP?

◎ GP (Graphic Panel)

GP (Graphic Panel) is graphic interface device for monitoring variables of a controller such as PLC, and is one kind of HMI(Human-Machine Interface) or MMI(Man-Machine Interface) device.
By connecting GP and controller, you can visually monitor the variables of the controller and set the values. The variables can be displayed in various way. For example, temperature, which is variable to be monitored, can be displayed in number using numeric display object, and in graph using real-time trend graph to check temperature changes for a period of time.

Displaying temperature in number

Displaying temperature in graph

◎ LP (Logic Panel)

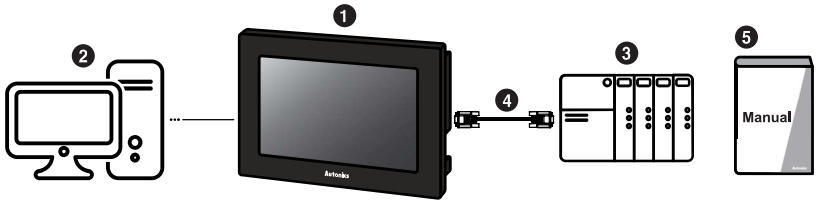
LP (Logic Panel) is all-in-one controller device for complicated industrial site, by adding PLC (Programmable Logic Controller) and I/O functions to HMI (Human-Machine Interface).
It provides effectiveness of cost saving, cable reduction, space saving, and easier accessibility by integration of HMI, PLC and I/O.


HMI + PLC + I/O = LP

▣ Advantages of Using GP/LP

- **Efficient operator/controller part**
  You can have advantages of cost saving, space saving, improved preservation efficiency tanks to graphicalized button, switch, lamp and other controller components.
- **Simple settings of manufacturing process**
  You can change settings of PLC/controller simply without dedicated PC software for PLC/controller, because GP/LP can memorize settings of manufacturing process and command PLC/controller according to the settings.
- **Easy data management**
  You can print out the alarm history of PLC/controller and save data from the bar-code leader to PLC.

▣ Basic Preparations for Using GP/LP



❶ GP/LP product

❷ PC

Required software is different by series of GP/LP to use.
For detailed information about software, refer to the following table and download from Autonics website (www.autonics.com).

GP/LP Series	Required software
GP-A	atDesigner
LP-A	atDesigner, atLogic
GP-S	GP Editor
LP-S	GP Editor, atLogic

❸ PLC or controller such as temperature controller

❹ Communication cable for each connected device

For detailed information about cable, refer to 'GP/LP communication cable' part in this catalogue.

❺ Manual

Download manuals from Autonics website (www.autonics.com).

GP/LP Series	Required manual
GP-A	User manual for each series, atDesigner user manual, GP/LP user manual for communication
LP-A	User manual for each series, atDesigner user manual, atLogic user manual, atLogic programing manual, GP/LP user manual for communication
GP-S	User manual for each series, GP Editor user manual, GP/LP user manual for communication
LP-S	User manual for each series, GP Editor user manual, atLogic user manual, atLogic programing manual, GP/LP user manual for communication

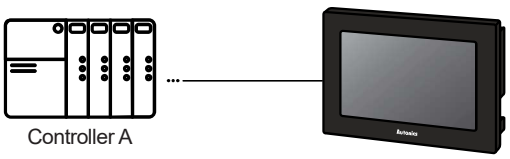
▣ System Organization

◎ STAND ALONE (LP)

LP alone can receive data from input devices and control output device without other controller.

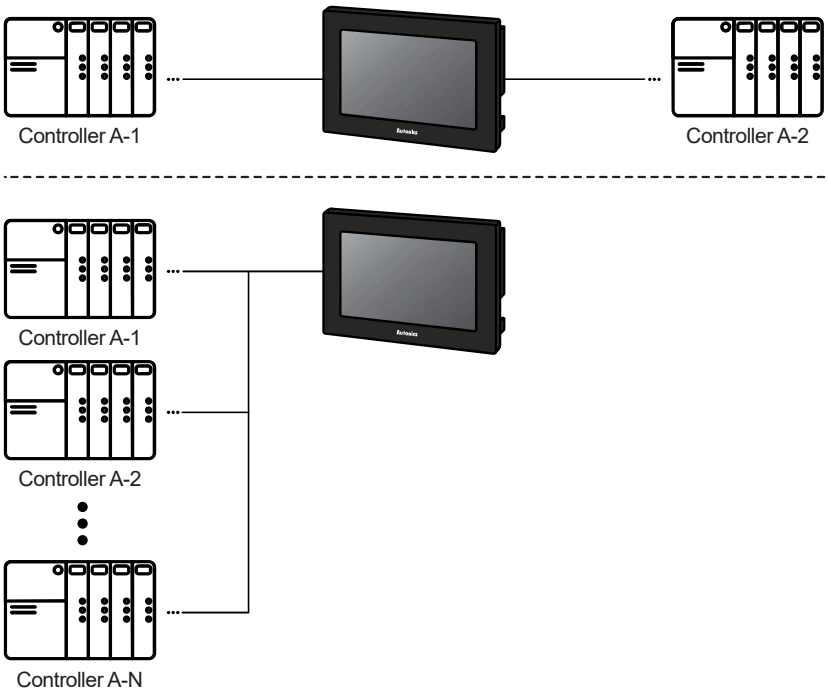
◎ 1:1 communication

A GP/LP can communicate with a single controller A.



◎ 1:N communication of same controllers

A GP/LP can communicate with the multiple of controller As.
The GP/LP observes the connected controllers or relay data between controllers.

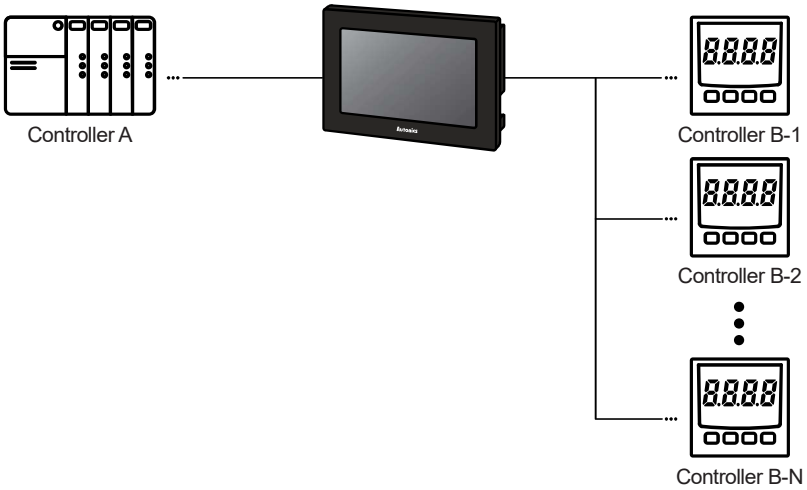


◎ 1:1:1 communication of different controllers

A GP/LP can communicate with a single controller A and a single controller B.
The GP/LP relays communication between the controller A and B

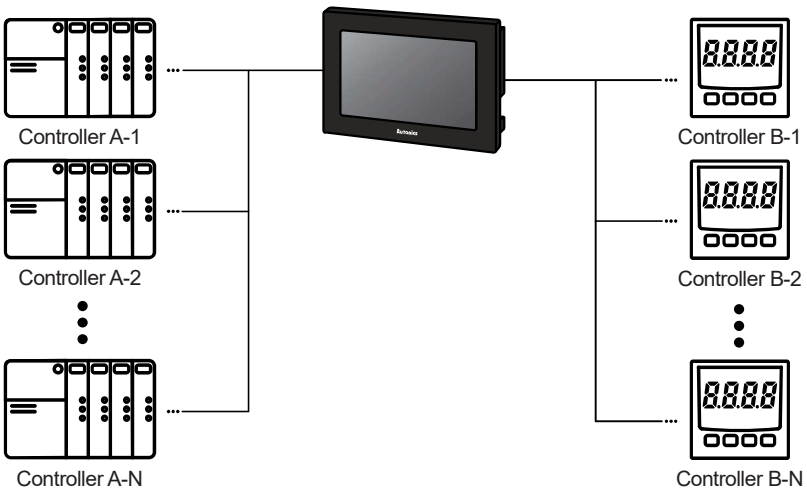
◎ 1:1:N communication of different controllers

A GP/LP can communicate with a single controller A and the multiple of controller Bs.
The GP/LP relays communication between the controller A and B.
Controller has to be able to set address of each device, and the address should not be duplicated.



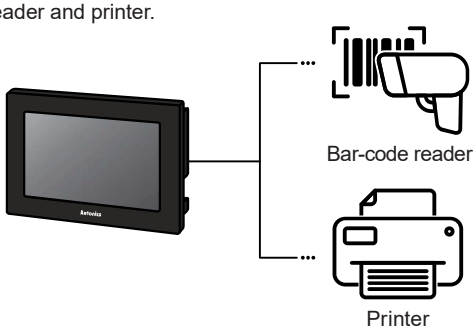
◎ N:1:N communication of different controllers

A GP/LP can communicate with the multiple of controller As and controller Bs.
The GP/LP relays communication between the controller A and B.
Controller has to be able to set address of each device, and the address should not be duplicated.



◎ Bar-code reader, printer communication

A GP/LP can communicate with a bar-code reader and printer.



▣ Software

◎ Drawing program

● at Designer

atDesigner is the user screen and project data editing program dedicated to GP/LP-A Series.
With atDesigner, user can edit shape, position, property of the object and figure in the user screen and set user account, security, language, script, or etc before download to the GP/LP.
It is also available to download a firmware of the GP/LP with ease.

System specification

Item	Minimum spec	Recommended spec
Operating system	Windows XP/Vista/7/8/10	
CPU	Pentium4 1.6GHz or above	Intel Core i5-2nd generation 2500 or above
Memory	Min. 4GB	Min. 8GB
Hard disk	Min. 4GB	Min. 8GB
Resolution	Min. 1280×1024	Min. 1920×1080

● GP Editor

GP Editor is the user screen and project data editing program dedicated to GP/LP-S Series.
With GP Editor, user can edit shape, position, property of the tag and figure in the user screen and set security, language, etc before download to the GP/LP.
It is also available to download a firmware of the GP/LP with ease.

System specification

Item	Minimum spec	Recommended spec
Operating system	Windows XP/7/8/10	
CPU	Pentium4 or above	Pentium Dual Core
Memory	512MB	1GB
Hard disk	1GB (available space)	5GB (available space)
Resolution	1024×768	1280×1024

◎ Logic program

● atLogic (updated SmartStudio)

atLogic is the logic programming and debugging program for the LP Series.
It is easy to use for the personnel who use atLogic at first because of familiar interface similar to Microsoft Windows.
Both ladder program editor and mnemonic program editor are available, so that user can select editor tool or use them simultaneously.

System specification

Item	Minimum spec	Recommended spec
Operating system	Windows 7/8/10	
CPU	Pentium4 or above	Pentium Dual Core
Memory	512MB	1GB
Hard disk	1GB (available space)	5GB (available space)
Resolution	1024×768	1280×1024

▣ Connectable Devices

Manufacturer	Connectable device		Communication method	GP/LP-A Series	GP/LP-S070 Series	GP/LP-S044 Series	GP-S057 Series
	Series	Model					
Autonics	TK (temperature controller)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	TM (temperature controller)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	TMH (temperature controller)		Modbus(TYPE A)	○	○	○	○
	TZ (temperature controller)		Private communication	○	○	○	○
	THD (temperature/humidity sensor)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	CT (counter/timer)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	MT (panel meter)		Private communication	○	○	○	○
			Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	MP (pulse meter)		Private communication	○	○	○	○
	DS/DA (display unit)		Modbus(TYPE A)	○	○	○	○
	ARM (field network device)		Modbus(TYPE A)	○	○	○	○
	ARD (field network device)		DeviceNet	○※	×	×	×
	LP-S044, LP-S070 (logic panel)		CPU	○	○	○	○
	LP-A070, LP-A104 (logic panel)		CPU	○	○	○	○
	DPU (power controller)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
	KRN50 (recorder)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
LS	Master-K	MK-10S1	CPU	○	○	○	○
		MK-80S	CPU	○	○	○	○
			CPU with Cnet	○	○	○	○
			Cnet unit	○	○	○	○
		MK-120S	CPU	○	○	○	○
			CPU with Cnet	○	○	○	○
			Cnet unit	○	○	○	○
		MK-200S	CPU	○	○	○	○
			CPU with Cnet	○	○	○	○
			Cnet unit	○	○	○	○
		MK-300S	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		MK-1000S	CPU	○	○	○	○
			Cnet unit	○	○	○	○
	XGT	XGK-CPUU	CPU	○	○	○	○
		XGK-CPUH	CPU	○	○	○	○
		XGK-CPUA	CPU	○	○	○	○
		XGK-CPUS	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		XGK-CPUE	CPU	○	○	○	○
		XGI-CPUU	CPU	○	○	○	○
		XGI-CPUH	CPU	○	○	○	○
		XGI-CPUS	CPU	○	○	○	○
		XGI-CPUE	CPU	○	○	○	○
		XGR-CPUH/T	CPU	○	○	○	○
		XGR-CPUH/F	CPU	○	○	○	○
		XGR-CPUH/S	CPU	○	○	○	○
	XGB	XEC(U)	CPU	○	○	○	○
		XEC(H)	CPU	○	○	○	○
		XEC(SU)	CPU	○	○	○	○
		XEC(E)	CPU	○	○	○	○
		XBM	CPU with Cnet	○	○	○	○
			Cnet unit	○	○	○	○
		XBC	CPU with Cnet	○	○	○	○
			Cnet unit	○	○	○	○
	Glofa	GM4	CPU	○	○	○	○
		GM6	CPU	○	○	○	○
		GM7U	CPU	○	○	○	○

※ARD Series is only available with GP/LP-A104 Series through CAN port.

Manufacturer	Connectable device		Communication method	GP/LP-A Series	GP/LP-S070 Series	GP/LP-S044 Series	GP-S057 Series
	Series	Model					
RS Automation (Samsung) OEMax	N70		CPU	○	○	○	○
	N70Plus		CPU	○	○	○	○
	NX7		CPU	○	○	○	○
	NX70		CPU	○	○	○	○
MITSUBISHI	FX	FX1S	CPU	○	○	○	○
		FX1N	CPU	○	○	○	○
		FX2NC	CPU	○	○	○	○
		FX2N	CPU	○	○	○	○
		FX2N-10GM	CPU	○	○	○	○
		FX2N-20GM	CPU	○	○	○	○
		FX3U	CPU	○	○	○	○
		FX3UC	CPU	○	○	○	○
		FX3G	CPU	○	○	○	○
	MELSEC-Q	Q00J	Cnet unit	○	○	○	○
		Q00	Cnet unit	○	○	○	○
		Q01	Cnet unit	○	○	○	○
		Q02	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		Q02H	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		Q06H	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		Q12H	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		Q25H	CPU	○	○	○	○
			Cnet unit	○	○	○	○
		Q00UJ	CPU	○	○	○	○
		Q00U	CPU	○	○	○	○
		Q01U	CPU	○	○	○	○
		Q02U	CPU	○	○	○	○
		Q03UD	CPU	○	○	○	○
		Q04UDH	CPU	○	○	○	○
		Q06UDH	CPU	○	○	○	○
		Q10UDH	CPU	○	○	○	○
		Q13UDH	CPU	○	○	○	○
		Q20UDH	CPU	○	○	○	○
		Q26UDH	CPU	○	○	○	○
		Q03UDVCPU	CPU	○	×	×	×
		Q04UDVCPU	CPU	○	×	×	×
		Q06UDVCPU	CPU	○	×	×	×
		Q10UDVCPU	CPU	○	×	×	×
		Q13UDVCPU	CPU	○	×	×	×
		Q20UDVCPU	CPU	○	×	×	×
		Q26UDVCPU	CPU	○	×	×	×
		QJ71E71-100	Ethernet comm. module	○	×	×	×
		QJ71E71-B5	Ethernet comm. module	○	×	×	×
		QJ71E71-B2	Ethernet comm. module	○	×	×	×
Panasonic NAiS	FP	FP0-C16	CPU	○	○	○	○
		FP0-C32	CPU	○	○	○	○
		FP0-T32C	CPU	○	○	○	○
		FPG-C24R2	CPU	○	○	○	○
		FPG-C32T	CPU	○	○	○	○
		FPG-C32T2	CPU	○	○	○	○
		FP0R-C10	CPU	○	○	○	○
		FP0R-C14	CPU	○	○	○	○
		FP0R-C16	CPU	○	○	○	○
		FP0R-C32	CPU	○	○	○	○
		FP0R-T32	CPU	○	○	○	○
		FP0R-F32	CPU	○	○	○	○

Manufacturer	Connectable device		Communication method	GP/LP-A Series	GP/LP-S070 Series	GP/LP-S044 Series	GP-S057 Series
	Series	Model					
OMRON	SYSMAC C	CPM1A	CPU & comm. module (Host Link)	○	○	○	○
	SYSMAC CS	CS1H	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CS1G	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CS1D	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
	SYSMAC CJ	CJ2H	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CJ2M	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CJ1G	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CJ1H	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CJ1M	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
	SYSMAC CP	CP1E	CPU	○	○	○	○
		CP1H	CPU	○	○	○	○
			Ethernet comm. module	○	×	×	×
		CP1L	CPU	○	○	○	○
	E5AN (temperature controller)		Modbus	○	○	○	○
	E5AR (temperature controller)		Modbus	○	○	○	○
	E5CN (temperature controller)		Modbus	○	○	○	○
	E5EN (temperature controller)		Modbus	○	○	○	○
	E5ER (temperature controller)		Modbus	○	○	○	○
SIEMENS	SIMATIC S7-200	CPU221	CPU	○	○	○	○
		CPU222	CPU	○	○	○	○
		CPU224	CPU	○	○	○	○
		CPU224XP	CPU	○	○	○	○
		CPU224XPsi	CPU	○	○	○	○
		CPU226	CPU	○	○	○	○
	SIMATIC S7-300	CPU312	CPU	○	○	○	○
		CPU312C	CPU	○	○	○	○
		CPU313C	CPU	○	○	○	○
		CPU313C-2	CPU	○	○	○	○
		CPU314	CPU	○	○	○	○
		CPU314C-2	CPU	○	○	○	○
		CPU315-2	CPU	○	○	○	○
		CPU317-2	CPU	○	○	○	○
		CPU319-3	CPU	○	○	○	○
	SIMATIC S7-1200	CPU1211C	Comm. module CM1241RS422/485	○	○	○	○
		CPU1212C	Comm. module CM1241RS422/485	○	○	○	○
		CPU1214C	Comm. module CM1241RS422/485	○	○	○	○
		CPU1215C	Comm. module CM1241RS422/485	○	○	○	○
		CPU1217C	Comm. module CM1241RS422/485	○	○	○	○
Rockwell Automation Allen-Bradley	MicroLogix	MicroLogix 1000	CPU	○	○	○	○
		MicroLogix 1200	CPU	○	○	○	○
		MicroLogix 1500	CPU	○	○	○	○

Manufacturer	Connectable device		Communication method	GP/LP-A Series	GP/LP-S070 Series	GP/LP-S044 Series	GP-S057 Series
	Series	Model					
CIMON	BP	CM2-BP16M	CPU	○	○	○	○
		CM2-BP32M	CPU	○	○	○	○
	CP	CM1-CP3A	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP3B	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP3P	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP4A	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP4B	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP4C	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-CP4D	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
	XP	CM1-XP1A	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-XP1R	CPU	○	○	○	○
			Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-XP2A	Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
		CM1-XP3A	Comm. module CM1-SC02A, CM1-SC01A, CM1-SC01B	○	○	○	○
DELTA	DTB (temperature controller)		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
DANFOSS	FC200		Modbus	×	×	×	×
			Modbus(TYPE A)	○	○	○	○
MODBUS MASTER	-		Modbus(Master)	○	○	○	○

※The list of connectable device is continue to undated according to atDesigner and GP Editor upgrade.
Before use of GP/LP, check the version of atDesigner and GP Editor and download newest version of the software via Autonics website (www.autonics.com).

▣ GP/LP-A Series

	Graphic Panel	Logic Panel
10.4 inch	**[GP-A104]** Color  RS232C, RS422, USB Host, USB Device, Ethernet, CAN, Micro SD, atDesigner	**[LP-A104]** Color  RS232C, RS422, USB Host, USB Device, Ethernet, CAN, Micro SD, 32 I/O, atDesigner, atLogic
7 inch	**[GP-A070]** Color  RS232C, RS422, USB Host, USB Device, Ethernet, atDesigner	**[LP-A070]** Color  RS232C, RS422, USB Host, USB Device, Ethernet, 16 I/O, atDesigner, atLogic

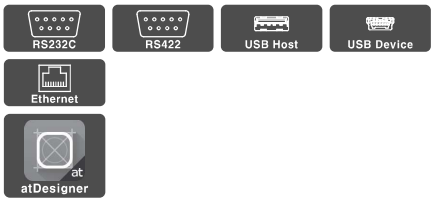
▣ GP/LP-S Series

	Graphic Panel	Logic Panel
7 inch	**[GP-S070]** Color  RS232C, RS422, USB Host, USB Device, Ethernet GP Editor	**[LP-S070]** Color  RS232C, RS422, USB Host, USB Device, Ethernet, 16 I/O GP Editor, atLogic
5.7 inch	**[GP-S057]** Mono  RS232C, RS422 GP Editor	—
4.4 inch	**[GP-S044]** Mono  RS232C, RS422 GP Editor	**[LP-S044]** Mono  RS232C, RS422, 16 I/O GP Editor, atLogic

Advanced Type 7 inch Color LCD Graphic Panel

▣ Features

- Horizontal/Vertical installation according to environment
- Various communication interface: RS232C, RS422, Ethernet
- Simultaneous monitoring of multiple addresses and channels
- Monitoring device of the connected controllers even without user screen data
- Multilingual table function: switching language of user screen by touching a button.
- Large capacity of memory:
  - widen range of UB, UW internal device
  - 64MB user screen memory
- Using user screen drawing program 'atDesigner'
  - More variety functions, objects and library image
  - Intuitive user interface
- Equipped with 7 inch TFT LCD of 16,777,216 colors for realizing True color
- Possible to be touched by not only hand but also glove, pen tip or etc. with resistive type touch screen



⚠ **Please read "Safety Considerations" in the instruction manual before using.**

▣ Manual

For the detail information and instructions, please refer to user manual and user manual for communication, and be sure to follow cautions written in the technical descriptions (catalog, website).
Visit our website (www.autonics.com) to download manuals.

- **atDesigner user manual**
  It describes how to design user screen and contains information about GP-A070 HMI function and how to use it.
- **GP/LP user manual for communication**
  It describes how to connect with external devices such as PLC.
- **GP-A Series user manual**
  It describes general information about installation and system of GP-A070.

▣ Ordering Information

Model	Item	Series	Screen size	Display unit	Color	Power supply	Interface
GP-A070-T9D6	Graphic panel	A Series	7 inch	TFT Color LCD	16,777,216 color	24VDC⎓	RS232C, RS422, USB HOST, USB DEVICE, Ethernet
GP-A070-T9D7							RS232C: 2, USB HOST, USB DEVICE, Ethernet

▣ Specifications

◎ General specifications

Model		GP-A070-T9D6	GP-A070-T9D7
Power supply		24VDC⎓	
Allowable voltage range		90 to 110% of power supply	
Power consumption		Max. 7.2W	
Serial interface		Each of RS232C, RS422	Two ports of RS232C
USB interface		Each of USB HOST, USB Device (USB2.0)	
Ethernet interface		IEEE802.3(U), 10/100Base-T	
Real-time controller		RTC embedded	
Battery life cycle		3 years at 25℃	
Insulated resistance		Over 100MΩ (at 500VDC megger)	
Ground		3rd grounding (max. 100Ω)	
Noise immunity		±0.5kV the square wave noise (pulse width: 1μs) by the noise simulator	
Withstanding voltage		500VAC 50/60Hz for 1 minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 10 minutes	
Shock	Mechanical	300m/s² (approx. 30G) in each X, Y, Z direction for 3 times	
	Malfunction	100m/s² (approx. 10G) in each X, Y, Z direction for 3 times	
Environment	Ambient temperature	0 to 50℃, storage: -20 to 60℃	
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH	
Protection structure		IP65 (front panel, IEC standard)	
Accessory		Fixing bracket: 4, battery (included)	
Approval		CE KC	
Weight※1		Approx. 706g (approx. 520g)	

※1: The weight includes packaging. The weight in parenthesis is for unit only.
※Environment resistance is rated at no freezing or condensation.

◎ Performance specifications

● Display performance

LCD type	TFT Color LCD
Resolution	800×480 dot
Display area	154.4×93.44mm
Color	16,777,216 color
LCD view angle	Within 50°/60°/65°/65°of each top/bottom/left/right
Backlight	White LED
Luminance	Max. 300cd/m^2
Luminance adjustment	Adjustable by software

● Graphic drawing performance

Language※1	Korean, English
Text	Bitmap ASCII and vector font
Memory for user screen	64MB
Number of user screen	100 pages
Touch switch	Analog touch (resistive type)

● Interface type

GP-A070-T9D6	RS232C, RS422, USB Host, USB Device, Ethernet
GP-A070-T9D7	RS232C: 2, USB Host, USB Device, Ethernet

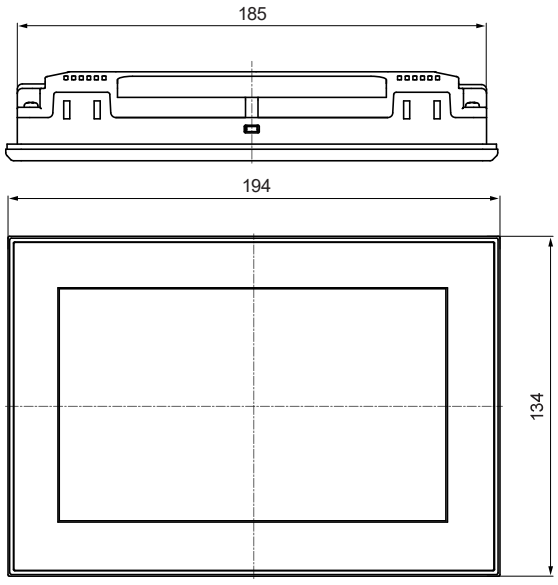
※1: Supported language can be added.

▣ Function

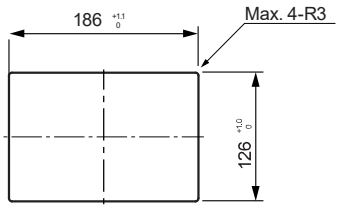
Function		Description
Figure		Line/Multi line/Rectangle/Round rectangle/Polygon/Circle/Fan/Chord/Arc/ Rectangle scale/Circle scale/Semicircle scale/Image/Text
Object	Lamp	Displaying the value of the designated device in bit/word/multi lamp
	Switch	Switching the status of the designated device or object with bit/word/change screen/special/multi switch
	Numeric input/display	Displaying the value of the designated device/Inputting the value to the designated device in number (DEC, HEX, OCT, BIN, REAL)
	Text input/display	Displaying the value of the designated device/Inputting the value to the designated device in text (ASCII/Unicode)
	Call window	Calling a window screen according to the conditions on the value of the designated device
	Message	Displaying a message according to the conditions on the value of the designated device
	Graph	Displaying the value of the designated device in bar/pie/panel meter/statistic/RealTime trend/Logging trend/ RealTime distribution/Logging distribution graph
	Clock	Displaying time or date of the time
	Recipe Editor	Editing recipe (project)
	Logging table	Displaying the logging data (project) in a table
	System logging table	Displaying the system logging data (project) in a table
	Alarm explorer	Displaying the alarm group of alarm history (project) in a table
	Alarm list	Displaying the data of alarm history (project) in a table.
	Data list viewer/editor	Displaying/Editing the value of consecutive word device in a table
	Option list	Displaying the data of the designated device/Inputting data to the designated device in a combo box
	Move coord.	Displaying the object/Moving coordinate of the object according to the value of the designated device
Project	Link device	Reading/Writing the data between GP and controller (PLC) as long as setting according to the status of bit/ cycle condition
	Flow alarm	Displaying alarm in the flowing text at the set position, when meeting the alarming condition
	Alarm history	Saving data of alarming time, device, and information, when the value of the designated alarm-observing device meets the set condition
	Scheduler	Executing a function (bit on/off/reversal, work value changing, script) according to the set condition (device/ cycle)
	Recipe	Reading the value of the multiple devices/Writing the value to the multiple devices at once
	Logging	Saving the value of the designated device, when meeting the condition (device/cycle)
	System Logging	Saving system operation information of GP in a log file
	Script	Writing Lua script by user

▣ Dimension

(unit: mm)

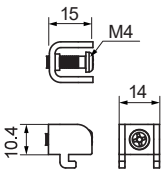


● **Panel cut out**

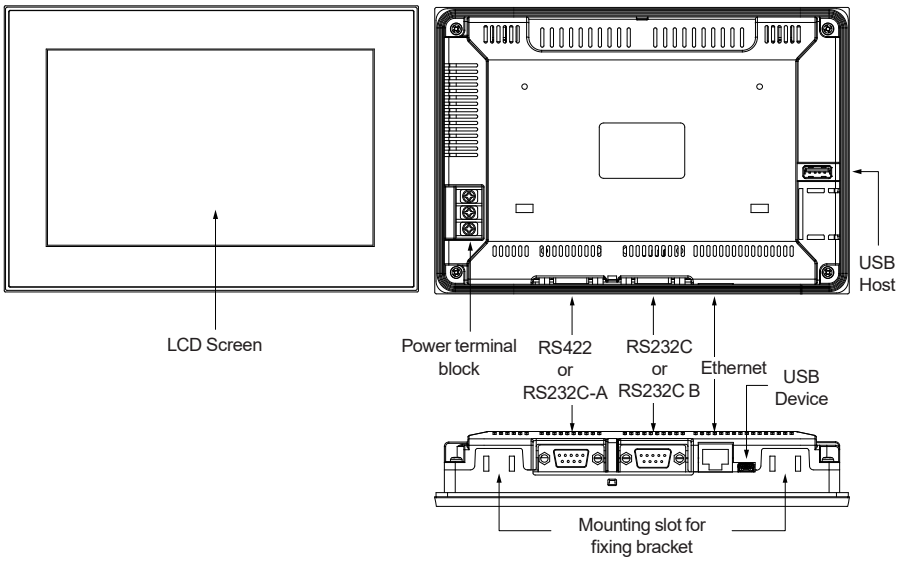


※Panel thickness : max. 4mm

● **Fixing bracket**

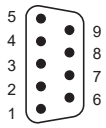
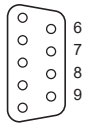


▣ Unit Description



●Serial port (RS232C/RS422)

All devices connectable to the product including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.

Port	Pin		Port	Pin	
RS232C **RS232C-A** **RS232C-B**  D-Sub 9-pin Male	1	Non-Used	**RS422**  D-Sub 9-pin Female	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	Non-Used
	4	DTR		4	Non-Used
	5	SG		5	SG
	6	DSR		6	TXD-
	7	Non-Used		7	RXD-
	8	Non-Used		8	Non-Used
	9	Non-Used		9	Non-Used

●Ethernet port

For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.

●USB

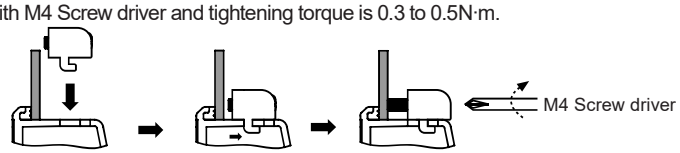
Type	USB Host	USB Device
Function	· Transferring/Coping data between storage and GP-A070 · Firmware upgrade · Bar-code reader · Printer	· Uploading/Downloading a atDesigner project file · Used as external storage by connecting to PC

USB HOST can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

※For detailed information about each interface, please refer to 'GP-A Series user manual' and 'GP/LP Communication manual'.

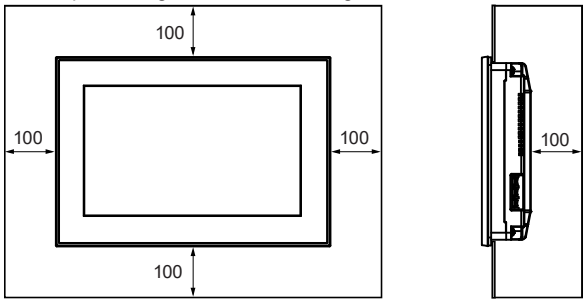
▣ Installation

1. Set GP-A070 in panel.
2. Set fixing brackets in 4 slots (2 slots is in upper side, 2 slots is in lower side).
3. Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



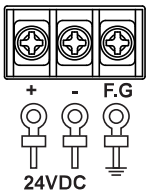
※When installing GP-A070 on panel, make 100mm of space from upper, lower, right, left side of the product on the panel and back side of panel. It is for preventing effect of electromagnetic waves and heat from other controllers.

(unit: mm)



▣ Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm² and use the wire of which cross section is at least 1.25mm² for grounding.
- Use round terminal with at least 3mm of internal diameter and less than 6mm of external diameter.
- Do not apply power before power line connection.
- Check power polarity.
- Tighten the terminal screw with 0.5 to 0.8N·m torque.
- Ground resistance should be less than 100Ω and ground it separately.



▣ Cable (sold separately)

Communication cables connectable into external devices such as PLC are sold separately.
Please refer to 'GP/LP user manual for communication' for communication cable.

▣ Battery Replacement

Please contact our service center to replace battery.
It may cause an explosion or a fire when using improper battery.

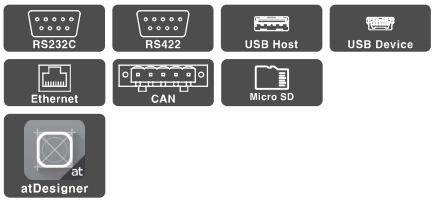
▣ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
4. Operate the product after supplying power to the product, input/output equipment, and load. If operate product before supplying power, it may result in output error or malfunction.
5. Keep away from high voltage lines or power lines to prevent inductive noise.
   Do not use near the equipment which generates strong magnetic force or high frequency noise.
6. Make a required space around the unit for radiation of heat, and do not block ventilation openings.
7. Do not push the touch panel with a hard and sharp object or push the panel with excessive force.
   It may result in fire or malfunction.
8. When skin is smeared with liquid crystal from the broken LCD, rinse with running water for over 15 minutes.
   If it gets into the eyes, rinse eyes with running water for over 15 minutes and contact a doctor.
9. This unit may be used in the following environments.
   ①Indoors (in the environment condition rated in 'Specifications')
   ②Altitude max. 2,000m
   ③Pollution degree 2
   ④Installation category II

Advanced Type 10.4 inch Color LCD Graphic Panel

▣ Features

- Horizontal/Vertical installation according to environment
- Various communication interface: RS232C, RS422, Ethernet, CAN
- Simultaneous monitoring of multiple addresses and channels
- Monitoring device of the connected controllers even without user screen data
- Multilingual table function: switching language of user screen by touching a button.
- Large capacity of memory:
  - widen range of UB, UW internal device
  - 64MB user screen memory
- Using user screen drawing program 'atDesigner'
  - More variety functions, objects and library image
  - Intuitive user interface
- Equipped with 10 inch TFT LCD of 16,777,216 colors for realizing True color
- Possible to be touched by not only hand but also glove, pen tip or etc. with resistive type touch screen



⚠ **Please read "Safety Considerations" in the instruction manual before using.**

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For the detail information and instructions, please refer to user manual and user manual for communication, and be sure to follow cautions written in the technical descriptions (catalog, website).
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- **atDesigner user manual**
  It describes how to design user screen and contains information about GP-A104 HMI function and how to use it.
- **GP/LP user manual for communication**
  It describes how to connect with external devices such as PLC.
- **GP-A Series user manual**
  It describes general information about installation and system of GP-A104.

▣ Ordering Information

Model	Item	Series	Screen size	Display unit	Color	Power supply	Interface
GP-A104-T9D8	Graphic panel	A Series	10.4 inch	TFT Color LCD	16,777,216 color	24VDC⎓	RS232C, RS422, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD
GP-A104-T9D9							RS232C: 2, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD

▣ Specifications

◎ General specifications

Model		GP-A104-T9D8	GP-A104-T9D9
Power supply		24VDC⎓	
Allowable voltage range		90 to 110% of power supply	
Power consumption		Max. 8W	
Serial interface		Each of RS232C, RS422	Two ports of RS232C
USB interface		Each of USB HOST, USB Device (USB2.0)	
Ethernet interface		IEEE802.3(U), 10/100Base-TX	
CAN interface		CAN transceiver for 24V systems	
External storage		Micro SD up to 32GB (FAT16/32)	
Real-time controller		RTC embedded	
Battery life cycle		3 years at 25℃	
Insulated resistance		Over 100MΩ (at 500VDC megger)	
Ground		3rd grounding (max. 100Ω)	
Noise immunity		±0.5kV the square wave noise (pulse width: 1μs) by the noise simulator	
Withstanding voltage		500VAC 50/60Hz for 1 minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 10 minutes	
Shock	Mechanical	300m/s² (approx. 30G) in each X, Y, Z direction for 3 times	
	Malfunction	100m/s² (approx. 10G) in each X, Y, Z direction for 3 times	
Environment	Ambient temp.	0 to 50℃, storage: -20 to 60℃	
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH	
Protection structure		IP65 (front panel, IEC standard)	
Accessory		Fixing bracket: 6, battery (included)	
Approval		CE KC	
Weight※1		Approx. 1.62kg (approx. 1.07kg)	

※1: The weight includes packaging. The weight in parenthesis is for unit only.
※Environment resistance is rated at no freezing or condensation.

◎ Performance specifications

● Display performance

LCD type	TFT Color LCD
Resolution	800×600 dot
Display area	211.2×158.4mm
Color	16,777,216 color
LCD view angle	Within 60°/70°/70°/70°of each top/bottom/left/right
Backlight	White LED
Luminance	Max. 350cd/m^2
Luminance adjustment	Adjustable by software

● Graphic drawing performance

Language※1	Korean, English
Text	Bitmap ASCII and vector font
Memory for user screen	64MB
Number of user screen	100 pages
Touch switch	Analog touch (resistive type)

● Interface type

GP-A104-T9D8	RS-232C, RS-422, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD
GP-A104-T9D9	RS-232C: 2, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD

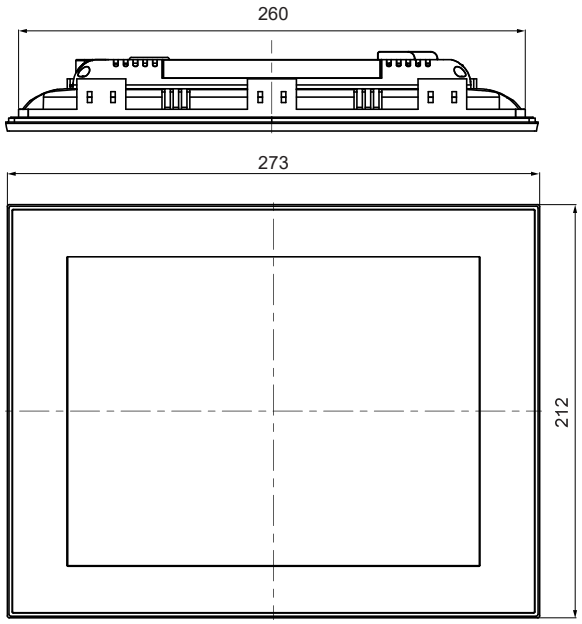
※1: Supported language can be added.

▣ Function

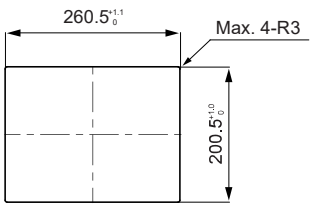
Function		Description
Figure		Line/Multi line/Rectangle/Round rectangle/Polygon/Circle/Fan/Chord/Arc/ Rectangle scale/Circle scale/Semicircle scale/Image/Text
Object	Lamp	Displaying the value of the designated device in bit/word/multi lamp
	Switch	Switching the status of the designated device or object with bit/word/change screen/special/multi switch
	Numeric input/display	Displaying the value of the designated device/Inputting the value to the designated device in number (DEC, HEX, OCT, BIN, REAL)
	Text input/display	Displaying the value of the designated device/Inputting the value to the designated device in text (ASCII/Unicode)
	Call window	Calling a window screen according to the conditions on the value of the designated device
	Message	Displaying a message according to the conditions on the value of the designated device
	Graph	Displaying the value of the designated device in bar/pie/panel meter/statistic/RealTime trend/Logging trend/ RealTime distribution/Logging distribution graph
	Clock	Displaying time or date of the time
	Recipe Editor	Editing recipe (project)
	Logging table	Displaying the logging data (project) in a table
	System logging table	Displaying the system logging data (project) in a table
	Alarm explorer	Displaying the alarm group of alarm history (project) in a table
	Alarm list	Displaying the data of alarm history (project) in a table.
	Data list viewer/editor	Displaying/Editing the value of consecutive word device in a table
	Option list	Displaying the data of the designated device/Inputting data to the designated device in a combo box
	Move coord.	Displaying the object/Moving coordinate of the object according to the value of the designated device
Project	Link device	Reading/Writing the data between GP and controller (PLC) as long as setting according to the status of bit/ cycle condition
	Flow alarm	Displaying alarm in the flowing text at the set position, when meeting the alarming condition
	Alarm history	Saving data of alarming time, device, and information, when the value of the designated alarm-observing device meets the set condition
	Scheduler	Executing a function (bit on/off/reversal, work value changing, script) according to the set condition (device/ cycle)
	Recipe	Reading the value of the multiple devices/Writing the value to the multiple devices at once
	Logging	Saving the value of the designated device, when meeting the condition (device/cycle)
	System Logging	Saving system operation information of GP in a log file
	Script	Writing Lua script by user

▣ Dimension

(unit: mm)

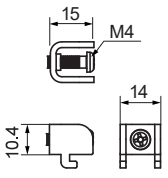


● **Panel cut out**

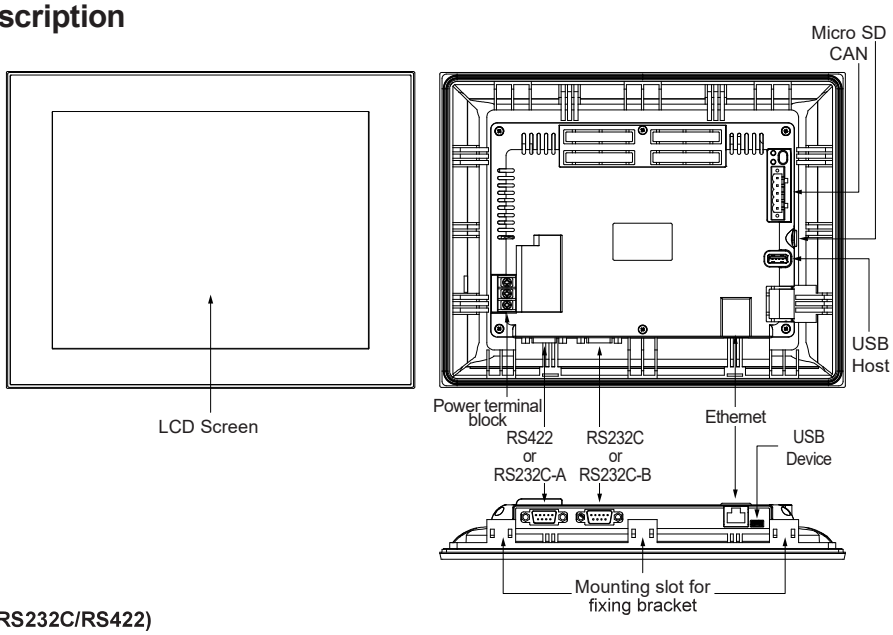


※Panel thickness : max. 4mm

● **Fixing bracket**



▣ Unit Description



● **Serial port (RS232C/RS422)**

All devices connectable to the product including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.

Port	Pin		Port	Pin	
RS232C **RS232C-A** **RS232C-B** 5 4 3 2 1 / 9 8 7 6 D-Sub 9-pin Male	1	Non-Used	**RS422** 1 2 3 4 5 / 6 7 8 9 D-Sub 9-pin Female	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	Non-Used
	4	DTR		4	Non-Used
	5	SG		5	SG
	6	DSR		6	TXD-
	7	Non-Used		7	RXD-
	8	Non-Used		8	Non-Used
	9	Non-Used		9	Non-Used

● **Ethernet port**

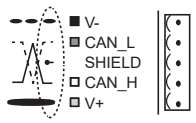
For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.

● **USB**

Type	USB Host	USB Device
Function	· Transferring/Coping data between storage and GP-A104 · Firmware upgrade · Bar-code reader · Printer	· Uploading/Downloading a atDesigner project file · Used as external storage by connecting to PC

USB HOST can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

● **CAN port**

No.	Color	Use	Arrangement
1	Black	24VDC(-)	
2	Blue	CAN_L	
3	None	SHIELD	
4	White	CAN_H	
5	Red	24VDC(+)	

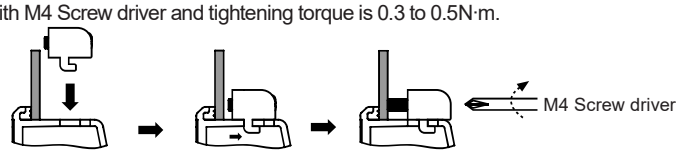
● **Micro SD**

Micro SD can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

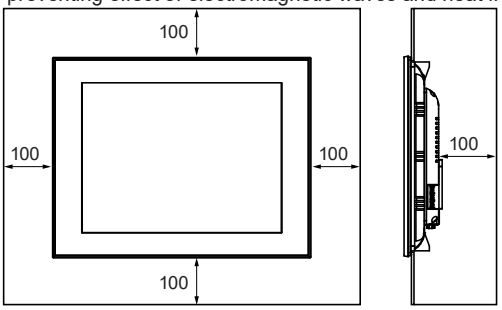
※For detailed information about each interface, please refer to 'GP-A Series user manual' and 'GP/LP Communication manual'.

▣ Installation

1. Set GP-A104 in panel.
2. Set fixing brackets in 6 slots (3 slots is in upper side, 3 slots is in lower side).
3. Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



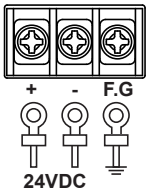
※When installing GP-A104 on panel, make 100mm of space from upper, lower, right, left side of the product on the panel and back side of panel. It is for preventing effect of electromagnetic waves and heat from other controllers.



(unit: mm)

▣ Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm² and use the wire of which cross section is at least 1.25mm² for grounding.
- Use round terminal with at least 3mm of internal diameter and less than 6mm of external diameter.
- Do not apply power before power line connection.
- Check power polarity.
- Tighten the terminal screw with 0.5 to 0.8N·m torque.
- Ground resistance should be less than 100Ω and ground it separately.



▣ Cable (sold separately)

Communication cables connectable into external devices such as PLC are sold separately.
Please refer to 'GP/LP user manual for communication' for communication cable.

▣ Battery Replacement

Please contact our service center to replace battery.
It may cause an explosion or a fire when using improper battery.

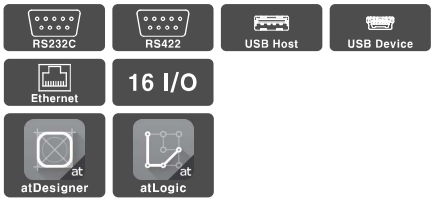
▣ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
4. Operate the product after supplying power to the product, input/output equipment, and load. If operate product before supplying power, it may result in output error or malfunction.
5. Keep away from high voltage lines or power lines to prevent inductive noise.
   Do not use near the equipment which generates strong magnetic force or high frequency noise.
6. Make a required space around the unit for radiation of heat, and do not block ventilation openings.
7. Do not push the touch panel with a hard and sharp object or push the panel with excessive force.
   It may result in fire or malfunction.
8. When skin is smeared with liquid crystal from the broken LCD, rinse with running water for over 15 minutes.
   If it gets into the eyes, rinse eyes with running water for over 15 minutes and contact a doctor.
9. This unit may be used in the following environments.
   ①Indoors (in the environment condition rated in 'Specifications')
   ②Altitude max. 2,000m
   ③Pollution degree 2
   ④Installation category II

Advanced Type 7 inch Color LCD Logic Panel

▣ Features

- Lesser restrictions on installing place and easier system configuration and use with PLC, HMI, I/O all-in-one design
- Horizontal/Vertical installation according to environment
- Various communication interface: RS232C, RS422, Ethernet
- Standard I/O: Input 16-point, Output 16-point
- Simultaneous monitoring of multiple addresses and channels
- Monitoring device of the connected controllers even without user screen data
- Multilingual table function: switching language of user screen by touching a button.
- Large capacity of memory:
  - widen range of UB, UW internal device
  - 64MB user screen memory
- Using user screen drawing program 'atDesigner'
  - More variety functions, objects and library image
  - Intuitive user interface
- Motion controller, high speed counter function included
- Equipped with 7 inch TFT LCD of 16,777,216 colors for realizing True color
- Possible to be touched by not only hand but also glove, pen tip or etc. with resistive type touch screen



⚠ Please read "Safety Considerations" in the instruction manual before using.

▣ Manual

For the detail information and instructions, please refer to user manual and user manual for communication, and be sure to follow cautions written in the technical descriptions (catalog, website).
Visit our website (www.autonics.com) to download manuals.

- **atDesigner user manual**
  It describes how to design user screen and contains information about LP-A070 HMI function and how to use it.
- **atLogic user manual, atLogic programming manual**
  It contains how to install and use atLogic, how to program, and commands for LP Series.
- **GP/LP user manual for communication**
  It describes how to connect with external devices such as PLC.
- **LP-A Series user manual**
  It describes general information about installation and system of LP-A070.

▣ Ordering Information

Model	Item	Series	Screen size	Display unit	Color	Power supply	Interface	Number of I/O	I/O connector type
LP-A070-T9D6-C5R	Logic panel	A Series	7 inch	TFT Color LCD	16,777,216 color	24VDC⎓	RS232C, RS422, USB HOST, USB DEVICE, Ethernet	IN: 16-point OUT: 16-point	Ribbon cable connector
LP-A070-T9D7-C5R									
LP-A070-T9D6-C5T							RS232C: 2, USB HOST, USB DEVICE, Ethernet	IN: 16-point OUT: 16-point	Terminal block connector
LP-A070-T9D7-C5T									

▣ Specifications

◎ General specifications

Model		LP-A070-T9D6-C5R(T)	LP-A070-T9D7-C5R(T)
Power supply		24VDC⎓	
Allowable voltage range		90 to 110% of power supply	
Power consumption		Max. 7.2W	
Serial interface		Each port of RS232C, RS422	Two ports of RS232C
USB interface		Each of USB Host, USB Device (USB2.0)	
Ethernet interface		IEEE802.3(U), 10/100Base-T	
Real-time controller		RTC embedded	
Battery life cycle		3 years at 25℃	
Insulated resistance		Over 100MΩ (at 500VDC megger)	
Ground		3rd grounding (max. 100Ω)	
Noise immunity		±0.5kV the square wave noise (pulse width: 1μs) by the noise simulator	
Withstanding voltage		500VAC 50/60Hz for 1 minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 1 hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 min	
Shock	Mechanical	300m/s² (approx. 30G) in each X,Y,Z direction for 3 times	
	Malfunction	100m/s² (approx. 10G) in each X,Y,Z direction for 3 times	
Environment	Ambient temperature	0 to 50℃, storage: -20 to 60℃	
	Ambient humidity	35 to 85% RH, storage: 35 to 85%RH	
Protection structure		IP65 (front panel, IEC standard)	
Accessory		Fixing bracket: 4, battery (included)	
Approval		CE	
Weight※1		Approx. 742g (approx. 540g)	

※1: The weight includes packaging. The weight in parenthesis is for unit only.
※Environment resistance is rated at no freezing or condensation.

◎ Performance specifications

● Display performance

LCD type	TFT Color LCD
Resolution	800×480 dot
Display area	154.4×93.44mm
Color	16,777,216 color
LCD view angle	Within each 50°/60°/65°/65°of top/bottom/left/right
Backlight	White LED
Luminance	Max. 300cd/m^2
Luminance adjustment	Adjustable by software

● Graphic drawing performance

Language※1	Korean, English
Text	Bitmap ASCII and vector font
Graphic drawing memory	64MB
Number of user screen	100 pages
Touch switch	Analog touch (resistive type)

● Interface type

LP-A070-T9D6-C5R(T)	RS232C, RS422, USB Host, USB Device, Ethernet
LP-A070-T9D7-C5R(T)	RS232C: 2, USB Host, USB Device, Ethernet

● Input / ● Output

Input point	16-point	Out point	16-point
Insulation method	Photo coupler insulation	Power supply	24VDC⎓
Rated input voltage	24VDC⎓	Insulation method	Photocoupler insulation
Input resistance	Contact X0 to X8: approx. 10mA Contact X9 to XF: approx. 4mA	Rated load voltage	24VDC⎓
Voltage range	19.2-28.8VDC⎓	Allowable load voltage range	19.2-28.8VDC⎓
Input resistance	Contact X0 to X8: 3.3kΩ Contact X9 to XF: 5.6kΩ	Max. load current	0.1A/1 point, 1.6A/1COM
Response time	1ms	Max. voltage falling when ON	Max. 0.2VDC⎓
Common method	16-point/1 COM	Common method	16-point/1 COM
Acceptable wire	0.3 to 0.7mm^2	Acceptable wire	0.3 to 0.7mm^2

● Control performance

Command	Basic command: 28, application command: 236
Program capacity	8K step
Processing time	Average: approx. 2μs/basic command, application command
I/O control type	Batch processing
Computer control mode	Repeated-doubling method, interrupt processing
Device range	Refer to 'LP-A Series user manual'
Special function	Positioning function※2

※1: Supported language can be added.
※2: Please refer to 'LP-A Series user manual' for more special function.

▣ Function

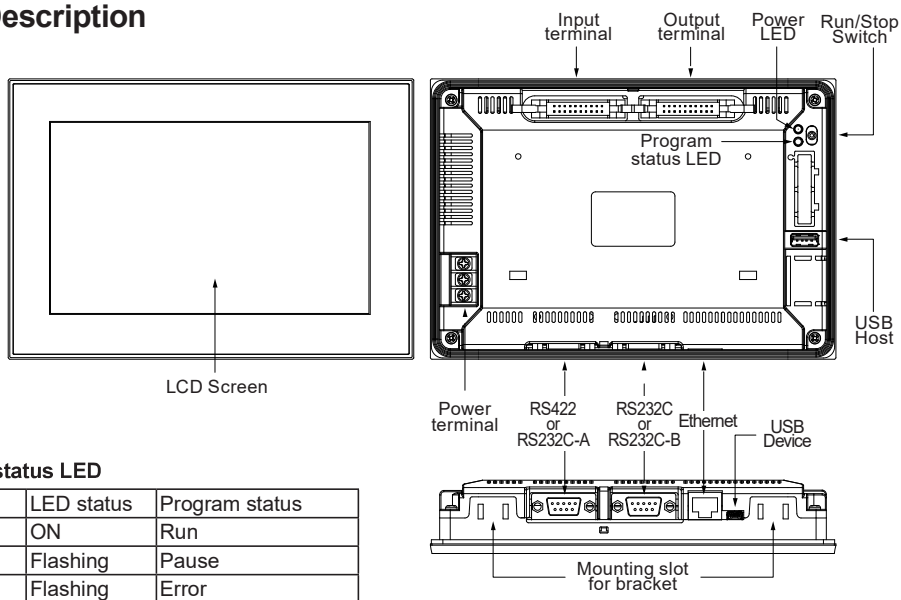
◎ Drawing function

Function		Description
Figure		Line/Multi line/Rectangle/Round rectangle/Polygon/Circle/Fan/Chord/Arc/ Rectangle scale/Circle scale/Semicircle scale/Image/Text
Object	Lamp	Displaying the value of the designated device in bit/word/multi lamp
	Switch	Switching the status of the designated device or object with bit/word/change screen/special/multi switch
	Numeric input/display	Displaying the value of the designated device/Inputting the value to the designated device in number (DEC, HEX, OCT, BIN, REAL)
	Text input/display	Displaying the value of the designated device/Inputting the value to the designated device in text (ASCII/Unicode)
	Call window	Calling a window screen according to the conditions on the value of the designated device
	Message	Displaying a message according to the conditions on the value of the designated device
	Graph	Displaying the value of the designated device in bar/pie/panel meter/statistic/RealTime trend/Logging trend/ RealTime distribution/Logging distribution graph
	Clock	Displaying time or date of the time
	Recipe Editor	Editing recipe (project)
	Logging table	Displaying the logging data (project) in a table
	System logging table	Displaying the system logging data (project) in a table
	Alarm explorer	Displaying the alarm group of alarm history (project) in a table
	Alarm list	Displaying the data of alarm history (project) in a table.
	Data list viewer/editor	Displaying/Editing the value of consecutive word device in a table
	Option list	Displaying the data of the designated device/Inputting data to the designated device in a combo box
	Move coord.	Displaying the object/Moving coordinate of the object according to the value of the designated device
Project	Link device	Reading/Writing the data between LP and controller (PLC) as long as setting according to the status of bit/cycle condition
	Flow alarm	Displaying alarm in the flowing text at the set position, when meeting the alarming condition
	Alarm history	Saving data of alarming time, device, and information, when the value of the designated alarm-observing device meets the set condition
	Scheduler	Executing a function (bit on/off/reversal, work value changing, script) according to the set condition (device/cycle)
	Recipe	Reading the value of the multiple devices/Writing the value to the multiple devices at once
	Logging	Saving the value of the designated device, when meeting the condition (device/cycle)
	System Logging	Saving system operation information of LP in a log file
	Script	Writing Lua script by user

◎ Logic function

Project		Creating/Managing individual or multiple project. changing PLC type, printing, print setting
Edit		Managing ladder/mnemonic editor, inserting/deleting line, managing rung, searching rung comment, search, replace, find step
Tool		Ladder tool: arrow, delete, vertical line, horizontal line, normally open contact, normally closed contact, rising input contact, falling input contact, output instruction, rising output contact, falling output contact, set, reset, application instruction, not instruction, register user defined function, user defined function
		Program optimization, program checking, program checking options
View		Ladder/Mnemonic, device/variable name, device name & comment, decimal/hexadecimal view, signed/unsigned view, device/UW view, used devices, zoom in/out, font settings, color settings, toolbar
Online		Connecting, disconnecting, download, upload, change mode, start monitoring, stop monitoring, read information, change password, verify, change present value, system device, delete, firmware download, communication options
Debug		Run, stop run, trace, insert/remove break point, stop debugging, debug-step, debug-line, debug-scan, debug-1 scan, step in, step out, debug-bit, debug-word, forced I/O settings
window		Cascade, horizontal tile, vertical tile, arrange icon, external program connection
Help		Program information
Workspace	Program	Ladder/Mnemonic program editor
	Parameter	Common: output while debugging, operating condition for extended module, device latch range settings, default filter value, time driven operation, time interrupt, timer range settings
		Extension: input filter, external interrupt
		Motion: common setting, operation setting, pattern setting
		High speed counter
	Variable/ Comment	Managing and setting Variable/Comment by bit/word device
	Monitoring	Monitoring and registering device to monitor by bit/word device

▣ Unit Description



● **Program status LED**

LED color	LED status	Program status
Green	ON	Run
Green	Flashing	Pause
Red	Flashing	Error
Orange	ON	atLogic debugging

● **Serial port (RS232C/RS422)**

All devices connectable to the product including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.

Port	Pin		Port	Pin	
RS232C **RS232C-A** **RS232C-B** 5 4 3 2 1 / 9 8 7 6 D-Sub 9-pin Male	1	Non-Used	**RS422** 1 2 3 4 5 / 6 7 8 9 D-Sub 9-pin Female	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	Non-Used
	4	DTR		4	Non-Used
	5	SG		5	SG
	6	DSR		6	TXD-
	7	Non-Used		7	RXD-
	8	Non-Used		8	Non-Used
	9	Non-Used		9	Non-Used

● **Ethernet port**

For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.

● **USB**

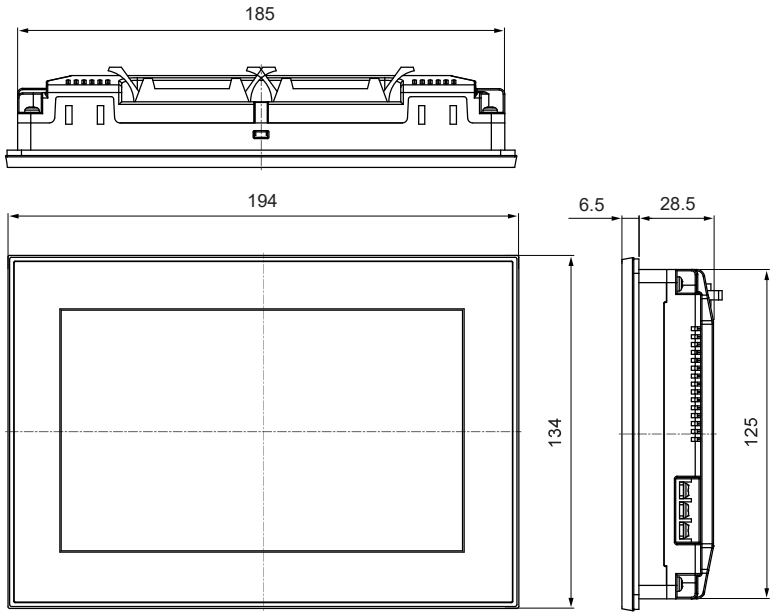
Type	USB Host	USB Device
Function	· Transferring/Coping data between storage and LP-A070 · Firmware upgrade · Bar-code reader · Printer	· Uploading/Downloading a atDesigner project file · Used as external storage by connecting to PC

USB HOST can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

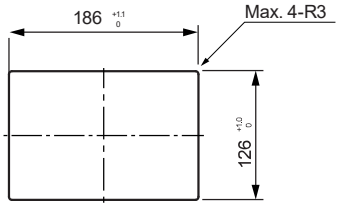
※For detailed information about each interface, please refer to 'LP-A Series user manual' and 'GP/LP Communication manual'.

▣ Dimension

(unit: mm)

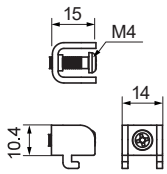


● **Panel cut out**



※Panel thickness : max. 4mm

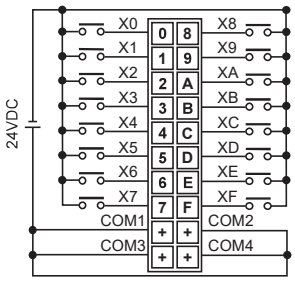
● **Fixing bracket**



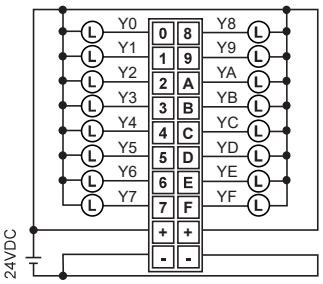
▣ Input/Output Wiring

◎ LP-A070-T9D6(7)-C5R

● **Input wiring (source type)**



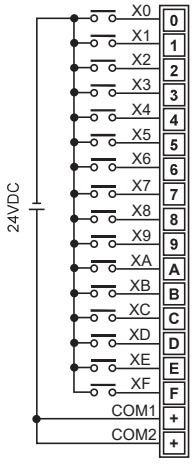
● **Output wiring (sync type)**



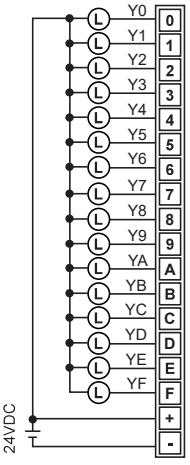
※Check the number of pin on the rear case before wiring.

◎ LP-A070-T9D6(7)-C5T

● **Input wiring (source type)**

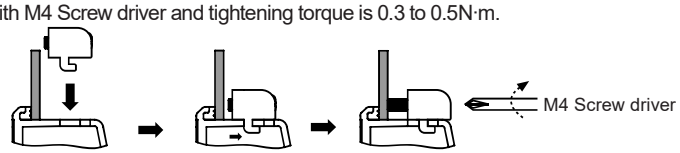


● **Output wiring (sync type)**



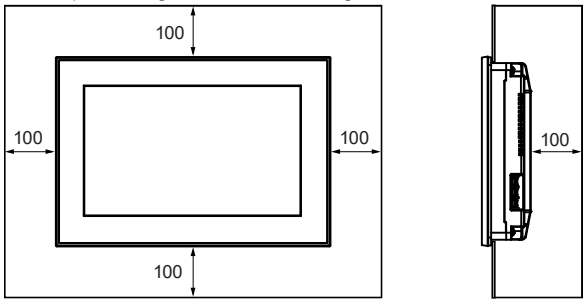
▣ Installation

1. Set LP-A070 in panel.
2. Set fixing brackets in 4 slots (2 slots is in upper side, 2 slots is in lower side).
3. Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



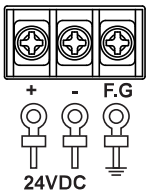
※When installing LP-A070 on panel, make 100mm of space from upper, lower, right, left side of the product on the panel and back side of panel. It is for preventing effect of electromagnetic waves and heat from other controllers.

(unit: mm)



▣ Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm² and use the wire of which cross section is at least 1.25mm² for grounding.
- Use round terminal with at least 3mm of internal diameter and less than 6mm of external diameter.
- Do not apply power before power line connection.
- Check power polarity.
- Tighten the terminal screw with 0.5 to 0.8N·m torque.
- Ground resistance should be less than 100Ω and ground it separately.



▣ Cable (sold separately)

Communication cables connectable into external devices such as PLC are sold separately.
Please refer to 'GP/LP user manual for communication' for communication cable.

▣ Battery Replacement

Please contact our service center to replace battery.
It may cause an explosion or a fire when using improper battery.

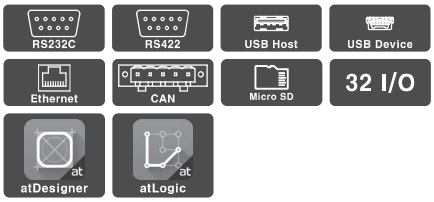
▣ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
4. Operate the product after supplying power to the product, input/output equipment, and load. If operate product before supplying power, it may result in output error or malfunction.
5. Keep away from high voltage lines or power lines to prevent inductive noise.
   Do not use near the equipment which generates strong magnetic force or high frequency noise.
6. Make a required space around the unit for radiation of heat, and do not block ventilation openings.
7. Do not push the touch panel with a hard and sharp object or push the panel with excessive force.
   It may result in fire or malfunction.
8. When skin is smeared with liquid crystal from the broken LCD, rinse with running water for over 15 minutes.
   If it gets into the eyes, rinse eyes with running water for over 15 minutes and contact a doctor.
9. This unit may be used in the following environments.
   ①Indoors (in the environment condition rated in 'Specifications')
   ②Altitude max. 2,000m
   ③Pollution degree 2
   ④Installation category II

Advanced Type 10.4 inch Color LCD Logic Panel

▣ Features

- Lesser restrictions on installing place and easier system configuration and use with PLC, HMI, I/O all-in-one design
- Horizontal/Vertical installation according to environment
- Various communication interface: RS232C, RS422, Ethernet, CAN
- Standard I/O: Input 32-point, Output 32-point
- Simultaneous monitoring of multiple addresses and channels
- Monitoring device of the connected controllers even without user screen data
- Multilingual table function: switching language of user screen by touching a button.
- Large capacity of memory:
  - widen range of UB, UW internal device
  - 64MB user screen memory
- Using user screen drawing program 'atDesigner'
  - More variety functions, objects and library image
  - Intuitive user interface
- Motion controller, high speed counter function included
- Equipped with 7 inch TFT LCD of 16,777,216 colors for realizing True color
- Possible to be touched by not only hand but also glove, pen tip or etc. with resistive type touch screen



⚠ Please read "Safety Considerations" in the instruction manual before using.

▣ Manual

For the detail information and instructions, please refer to user manual and user manual for communication, and be sure to follow cautions written in the technical descriptions (catalog, website).
Visit our website (www.autonics.com) to download manuals.

- **atDesigner user manual**
  It describes how to design user screen and contains information about LP-A104 HMI function and how to use it.
- **atLogic user manual, atLogic programming manual**
  It contains how to install and use atLogic, how to program, and commands for LP Series.
- **GP/LP user manual for communication**
  It describes how to connect with external devices such as PLC.
- **LP-A Series user manual**
  It describes general information about installation and system of LP-A104.

▣ Ordering Information

Model	Item	Series	Screen size	Display unit	Color	Power supply	Interface	Number of I/O	I/O connector type
LP-A104-T9D8-C6R	Logic panel	A Series	10.4 inch	TFT Color LCD	16,777,216 color	24VDC⎓	RS232C, RS422, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD	IN: 32-point OUT: 32-point	Ribbon cable connector
LP-A104-T9D9-C6R									
LP-A104-T9D8-C6T							RS232C: 2, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD	IN: 32-point OUT: 32-point	Terminal block connector
LP-A104-T9D9-C6T									

▣ Specifications

◎ General specifications

Model		GP-A104-T9D8	GP-A104-T9D9
Power supply		24VDC⎓	
Allowable voltage range		90 to 110% of power supply	
Power consumption		Max. 8W	
Serial interface		Each of RS232C, RS422	Two ports of RS232C
USB interface		Each of USB HOST, USB Device (USB2.0)	
Ethernet interface		IEEE802.3(U), 10/100Base-TX	
CAN interface		CAN transceiver for 24V systems	
External storage		Micro SD up to 32GB (FAT16/32)	
Real-time controller		RTC embedded	
Battery life cycle		3 years at 25℃	
Insulated resistance		Over 100MΩ (at 500VDC megger)	
Ground		3rd grounding (max. 100Ω)	
Noise immunity		±0.5kV the square wave noise (pulse width: 1μs) by the noise simulator	
Withstanding voltage		500VAC 50/60Hz for 1 minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 1 hour	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 minute) in each X, Y, Z direction for 10 minutes	
Shock	Mechanical	300m/s² (approx. 30G) in each X, Y, Z direction for 3 times	
	Malfunction	100m/s² (approx. 10G) in each X, Y, Z direction for 3 times	
Environment	Ambient temp.	0 to 50℃, storage: -20 to 60℃	
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH	
Protection structure		IP65 (front panel, IEC standard)	
Accessory		Fixing bracket: 6, battery (included)	
Approval		CE	
Weight※1		Approx. 1.66kg (approx. 1.10kg)	

※1: The weight includes packaging. The weight in parenthesis is for unit only.
※Environment resistance is rated at no freezing or condensation.

◎ Performance specifications

● Display performance

LCD type	TFT Color LCD
Resolution	800×600 dot
Display area	211.2×158.4mm
Color	16,777,216 color
LCD view angle	Within each 60°/70°/70°/70°of top/bottom/left/right
Backlight	White LED
Luminance	Max. 350cd/m^2
Luminance adjustment	Adjustable by software

● Graphic drawing performance

Language※1	Korean, English
Text	Bitmap ASCII and vector font
Graphic drawing memory	64MB
Number of user screen	100 pages
Touch switch	Analog touch (resistive type)

● Interface type

LP-A104-T9D8-C6R(T)	RS-232C, RS-422, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD
LP-A104-T9D9-C6R(T)	RS-232C: 2, USB HOST, USB DEVICE, Ethernet, CAN, Micro SD

● Input / ● Output

Input point	32-point	Out point	32-point
Insulation method	Photo coupler insulation	Power supply	24VDC⎓
Rated input voltage	24VDC⎓	Insulation method	Photocoupler insulation
Input resistance	Contact X0 to X8: approx. 10mA Contact X9 to X1F: approx. 4mA	Rated load voltage	24VDC⎓
Voltage range	19.2-28.8VDC⎓	Allowable load voltage range	19.2-28.8VDC
Input resistance	Contact X0 to X8: 3.3kΩ Contact X9 to X1F: 5.6kΩ	Max. load current	0.1A/1 point, 1.6A/1COM
Response time	1ms	Max. voltage falling when ON	Max. 0.2VDC⎓
Common method	16-point/1 COM, 16-point/1 COM	Common method	16-point/1 COM, 16-point/1 COM
Acceptable wire	0.3 to 0.7mm^2	Acceptable wire	0.3 to 0.7mm^2

● Control performance

Command	Basic command: 28, application command: 236
Program capacity	8K step
Processing time	Average: approx. 2μs/basic command, application command
I/O control type	Batch processing
Computer control mode	Repeated-doubling method, interrupt processing
Device range	Refer to 'LP-A Series user manual'
Special function	Positioning function※2

※1: Supported language can be added.
※2: Please refer to 'LP-A Series user manual' for more special function.

▣ Function

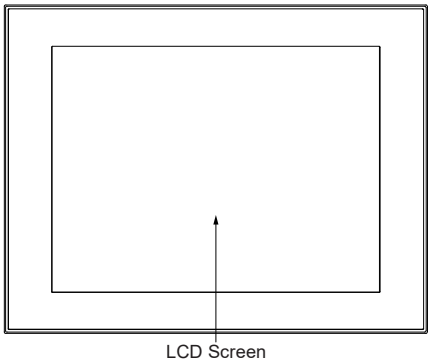
◎ Drawing function

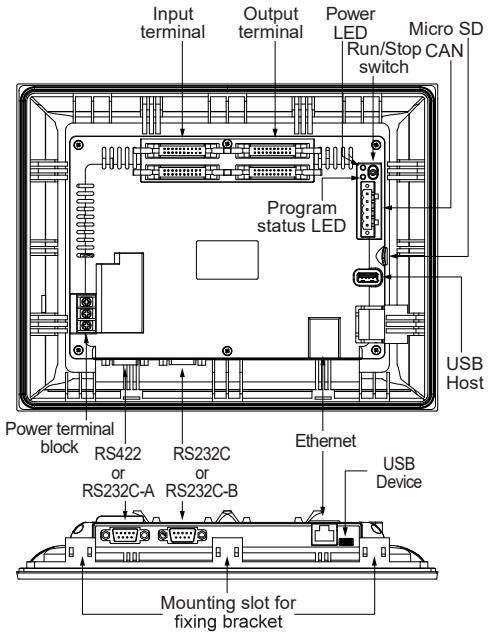
Function		Description
Figure		Line/Multi line/Rectangle/Round rectangle/Polygon/Circle/Fan/Chord/Arc/ Rectangle scale/Circle scale/Semicircle scale/Image/Text
Object	Lamp	Displaying the value of the designated device in bit/word/multi lamp
	Switch	Switching the status of the designated device or object with bit/word/change screen/special/multi switch
	Numeric input/display	Displaying the value of the designated device/Inputting the value to the designated device in number (DEC, HEX, OCT, BIN, REAL)
	Text input/display	Displaying the value of the designated device/Inputting the value to the designated device in text (ASCII/Unicode)
	Call window	Calling a window screen according to the conditions on the value of the designated device
	Message	Displaying a message according to the conditions on the value of the designated device
	Graph	Displaying the value of the designated device in bar/pie/panel meter/statistic/RealTime trend/Logging trend/ RealTime distribution/Logging distribution graph
	Clock	Displaying time or date of the time
	Recipe Editor	Editing recipe (project)
	Logging table	Displaying the logging data (project) in a table
	System logging table	Displaying the system logging data (project) in a table
	Alarm explorer	Displaying the alarm group of alarm history (project) in a table
	Alarm list	Displaying the data of alarm history (project) in a table.
	Data list viewer/editor	Displaying/Editing the value of consecutive word device in a table
	Option list	Displaying the data of the designated device/Inputting data to the designated device in a combo box
	Move coord.	Displaying the object/Moving coordinate of the object according to the value of the designated device
Project	Link device	Reading/Writing the data between LP and controller (PLC) as long as setting according to the status of bit/ cycle condition
	Flow alarm	Displaying alarm in the flowing text at the set position, when meeting the alarming condition
	Alarm history	Saving data of alarming time, device, and information, when the value of the designated alarm-observing device meets the set condition
	Scheduler	Executing a function (bit on/off/reversal, work value changing, script) according to the set condition (device/ cycle)
	Recipe	Reading the value of the multiple devices/Writing the value to the multiple devices at once
	Logging	Saving the value of the designated device, when meeting the condition (device/cycle)
	System Logging	Saving system operation information of LP in a log file
	Script	Writing Lua script by user

◎ Logic function

Project		Creating/Managing individual or multiple project. changing PLC type, printing, print setting
Edit		Managing ladder/mnemonic editor, inserting/deleting line, managing rung, searching rung comment, search, replace, find step
Tool		Ladder tool: arrow, delete, vertical line, horizontal line, normally open contact, normally closed contact, rising input contact, falling input contact, output instruction, rising output contact, falling output contact, set, reset, application instruction, not instruction, register user defined function, user defined function
		Program optimization, program checking, program checking options
View		Ladder/Mnemonic, device/variable name, device name & comment, decimal/hexadecimal view, signed/unsigned view, device/UW view, used devices, zoom in/out, font settings, color settings, toolbar
Online		Connecting, disconnecting, download, upload, change mode, start monitoring, stop monitoring, read information, change password, verify, change present value, system device, delete, firmware download, communication options
Debug		Run, stop run, trace, insert/remove break point, stop debugging, debug-step, debug-line, debug-scan, debug-1 scan, step in, step out, debug-bit, debug-word, forced I/O settings
window		Cascade, horizontal tile, vertical tile, arrange icon, external program connection
Help		Program information
Workspace	Program	Ladder/Mnemonic program editor
	Parameter	Common: output while debugging, operating condition for extended module, device latch range settings, default filter value, time driven operation, time interrupt, timer range settings
		Extension: input filter, external interrupt
		Motion: common setting, operation setting, pattern setting
		High speed counter
	Variable/ Comment	Managing and setting Variable/Comment by bit/word device
	Monitoring	Monitoring and registering device to monitor by bit/word device

▣ Unit Description



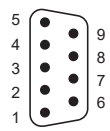
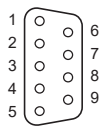


● **Program status LED**

LED color	LED status	Program status
Green	ON	Run
Green	Flashing	Pause
Red	Flashing	Error
Orange	ON	atLogic debugging

● **Serial port (RS232C/RS422)**

All devices connectable to the product including PC, PLC, serial printer, barcode reader, and dedicated connectors can be connected in to both RS232C and RS422 ports.

Port	Pin		Port	Pin	
RS232C **RS232C-A** **RS232C-B**  D-Sub 9-pin Male	1	Non-Used	**RS422**  D-Sub 9-pin Female	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	Non-Used
	4	DTR		4	Non-Used
	5	SG		5	SG
	6	DSR		6	TXD-
	7	Non-Used		7	RXD-
	8	Non-Used		8	Non-Used
	9	Non-Used		9	Non-Used

● **Ethernet port**

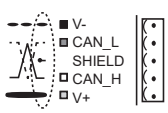
For connecting LAN cable and hub, use direct cable, and for connecting PC directly, use cross cable.

● **USB**

Type	USB Host	USB Device
Function	· Transferring/Coping data between storage and LP-A104 · Firmware upgrade · Bar-code reader · Printer	· Uploading/Downloading a atDesigner project file · Used as external storage by connecting to PC

USB HOST can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

● **CAN port**

No.	Color	Use	Arrangement
1	Black	24VDC(-)	
2	Blue	CAN_L	
3	None	SHIELD	
4	White	CAN_H	
5	Red	24VDC(+)	

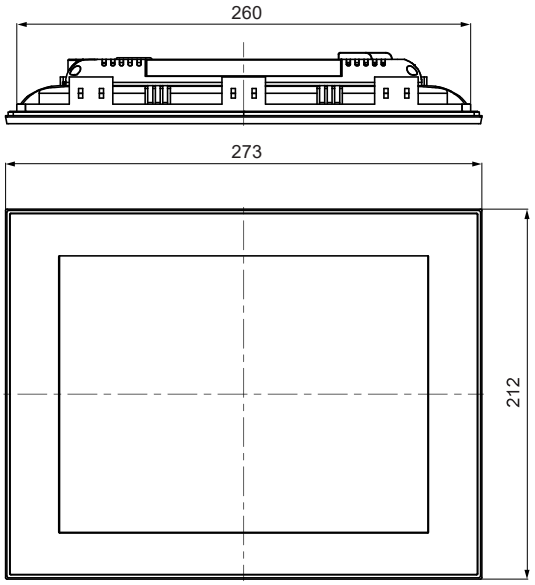
● **Micro SD**

Micro SD can cover up to 32GB of external storage.
It supports only external storage of FAT16 and FAT32 file system.

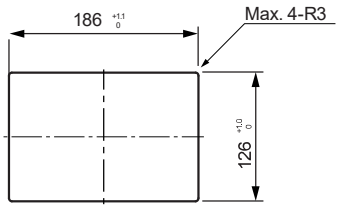
※For detailed information about each interface, please refer to 'LP-A Series user manual' and 'GP/LP Communication manual'.

▣ Dimension

(unit: mm)

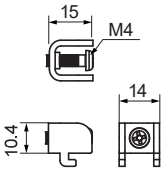


● **Panel cut out**



※Panel thickness : max. 4mm

● **Fixing bracket**

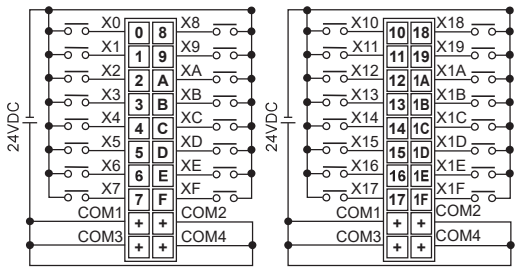


▣ Input/Output Wiring

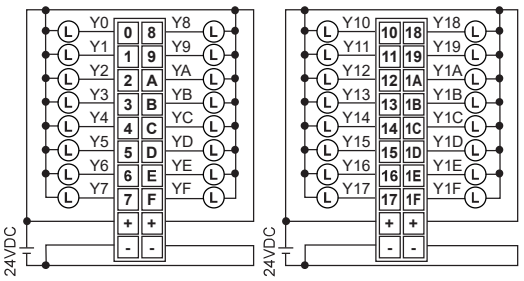
※Check the number of pin on the rear case before wiring.

◎ LP-A104-T9D8(7)-C6R

● **Input wiring (source type)**

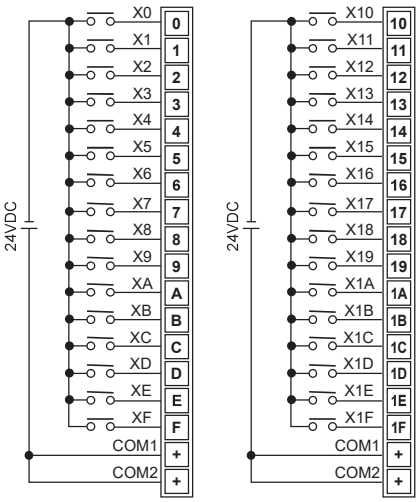


● **Output wiring (sync type)**

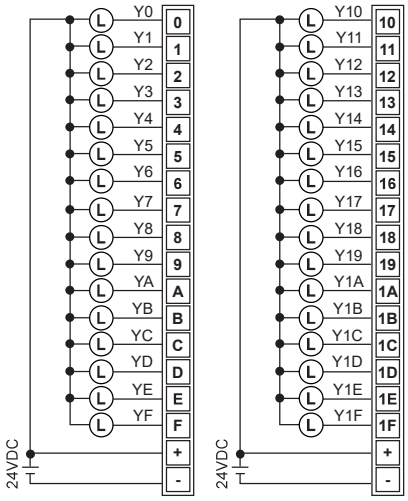


◎ LP-A104-T9D8(7)-C6T

● **Input wiring (source type)**

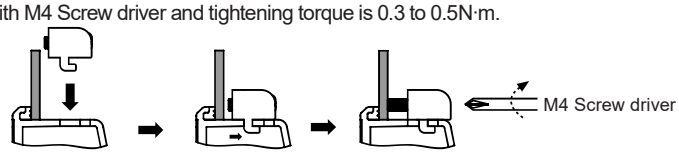


● **Output wiring (sync type)**

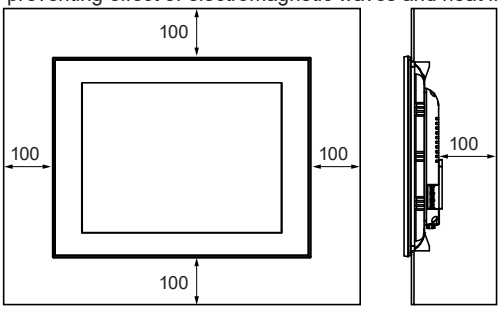


▣ Installation

1. Set LP-A104 in panel.
2. Set fixing brackets in 6 slots (3 slots is in upper side, 3 slots is in lower side).
3. Tighten fixing bracket with M4 Screw driver and tightening torque is 0.3 to 0.5N·m.



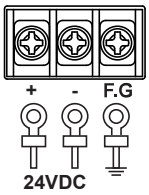
※When installing LP-A104 on panel, make 100mm of space from upper, lower, right, left side of the product on the panel and back side of panel. It is for preventing effect of electromagnetic waves and heat from other controllers.



(unit: mm)

▣ Power Wiring

- For power supply, use the wire of which cross section is at least 0.75mm² and use the wire of which cross section is at least 1.25mm² for grounding.
- Use round terminal with at least 3mm of internal diameter and less than 6mm of external diameter.
- Do not apply power before power line connection.
- Check power polarity.
- Tighten the terminal screw with 0.5 to 0.8N·m torque.
- Ground resistance should be less than 100Ω and ground it separately.



▣ Cable (sold separately)

Communication cables connectable into external devices such as PLC are sold separately.
Please refer to 'GP/LP user manual for communication' for communication cable.

▣ Battery Replacement

Please contact our service center to replace battery.
It may cause an explosion or a fire when using improper battery.

▣ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
4. Operate the product after supplying power to the product, input/output equipment, and load. If operate product before supplying power, it may result in output error or malfunction.
5. Keep away from high voltage lines or power lines to prevent inductive noise.
   Do not use near the equipment which generates strong magnetic force or high frequency noise.
6. Make a required space around the unit for radiation of heat, and do not block ventilation openings.
7. Do not push the touch panel with a hard and sharp object or push the panel with excessive force.
   It may result in fire or malfunction.
8. When skin is smeared with liquid crystal from the broken LCD, rinse with running water for over 15 minutes.
   If it gets into the eyes, rinse eyes with running water for over 15 minutes and contact a doctor.
9. This unit may be used in the following environments.
   ①Indoors (in the environment condition rated in 'Specifications')
   ②Altitude max. 2,000m
   ③Pollution degree 2
   ④Installation category II