GP-2480 Series

Super slim 38mm of high reliability with touch screen graphic panel, GP-2480

▣GP(Graphic Panel) 2480

GP(Graphic Panel) is a graphic interface device to monitor parameters of controllers as PLC.

It is one of HMI(Human-Machine Interface) or MMI(Man-Machine Interface).

It is used to find out current value and status of process between controller and user, also available to monitor control parameter on LCD screen, switch touch screen or set a variable.

Mutual information between GP and controller is transmitted through serial communication.

The variable of controllers are displayed as tags, for example, if the physical variable is a temperature, it is displayed as numeral method with tags and it monitors temperature change with trend graph.

All data of GP user screen is edited in exclusive software GP Editor.

After editing screen data including forms, arrangement, attribution of tags, download tags to GP, if it starts to monitor by the screen data.
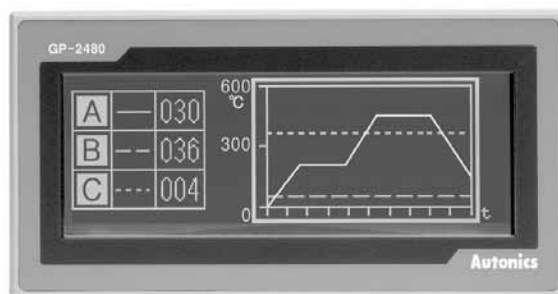
▣Features

● Super slim 38mm of space saving device (W145×H74×D38mm)
● High resolution(240×80 dot) displaying max.400 characters
● 6×6, 8×8, ASCⅡ, high quality of number
● 8×16 ASCⅡ, 16×16 of regional character
  (1, 2, 3, 4, 5, 6, 7, 8 times for width/0.5, 1, 2, 3, 4, 5 times for height)
● Able to save max.500 pages of user screen
● Communication between heterogeneous controllers
● Able to monitor 2 controllers simultaneously and relay the communication
● Multi monitoring function : Connect same controllers to PLC2 connection port (Software)
● Support multi font (Various bitmap fonts, user-defined fonts)

Default font		8×16dot
	6×8 dot	40 characters×10 lines=400 characters
	8×8 dot	30 characters×10 lines=300 characters
Available characters	8×16 dot	30 characters×5 lines=150 characters
	16×16 dot	15 characters×5 lines=75 characters
	32×32 dot	7 characters×2 lines=14 characters
Font size	Width	1~8 times
	Height	0.5, 1~5 times

● Device monitoring function : It is able to monitor connectable controller device without design data.
● Touch interface : It is able to operate GP using touch switch on front screen

Graphic Panel

■Specifications

Model	GP-2480-SBD0	GP-2480-SBD1
LCD type	STN Blue Negative	
Resolution	240×80 dots	
Display area	112.8mm×37.6mm	
Color	Single color(Blue, White)	
LCD visible angle	30° of Up/Down/Left/Right direction	
Backlight	White LED	
Battery life cycle	3 years at 25℃	
Brightness	Adjust as software	
Serial communication	RS232C, RS422	2 ports of RS232C
Applicable device	PLC(Refer to "Communication manual"), Printer, Barcode reader	
Graphic drawing software	GP Editor	
Text font size	• 6x8, 8x8 ASCII character, High quality number • 8X16 ASCII character, 16X16 regional character (Width 1,2,...,8 times, Height 0.5,1,2,..,5 times)	

User Screen

	Graphic drawing memory	512kB
	Figure display	Line, Rectangle, Circle, Text, Bitmap

Tags

Numeral display	Display the designated device as numerical value. (Decimal, hexadecimal, octal, binary, real number)
ASCII display	Display the designated device value as ASCII character.
Time display	Display current time or date.
Alarm history	Register alarm history.
Alarm list	Display generated (not backed up) alarm.
Comment display	Display the designated comment as device status or value.
Lamp	Display lamp as device status.
Part display	Display the designated parts as device status and value.
Line graph	Display several device values with a graph of broken line.
Trend graph	Display change of device value for time with a graph of broken line.
Bar graph	Display a device value with a bar graph.
Statistic graph	Display a ratio of several device values with pie graph.
Panel meter	Display a device value as panel meter.
Touch key	Screen is switched, word/bit device values are set when it touched.
Numeral input	Configure user input value in device.
ASCII input	Configure user input ASCII code value in device.

System information function	Monitor/control GP operation from PLC.
Recipe function	Read/Write several PLC device collectively.
Security function	Only acceptable user can observe/operate important data.
Barcode read function	Connect barcode reader, read barcode.
Floating alarm function	Warning message is floated when alarm is generated.
Time operation	Specific bit device is ON/OFF for designated day and time.
Overlap window	Available to form dynamically overlapping another base screen on the base one.
Observe status function	Change PLC device status/value of PLC when trigger is generated.

System Screen

Monitoring	Monitor connected PLC device and change the status.

Preference

Language selection	Designate system language and character set.
Channel connection	Configure connection device of serial port connected to CH1, CH2, editor, printer, barcode reader and serial setup.
Current time	Configure current date and time.
Delete user data	Delete user data.
Configuration/access key	Designate the configuration/access key position of system menu.
Buzzer	ON/OFF buzzer
Switching of user screen	Configure time for initial screen when power it on.
Backlight	Configure Backlight OFF time if there is no operation.
Battery	Display the percentage of battery remaining.
Contrast	Adjust LCD contrast.

Configuration of function

Data transmission	Display during communication (Download/upload) between GP and editor.
Time switch	Configure time switch
Print out	Print alarm history with serial printer.

(A) Counter
(B) Timer
(C) Temp. controller
(D) Power controller
(E) Panel meter
(F) Tacho/ Speed/ Pulse meter
(G) Display unit
(H) Sensor controller
(I) Switching power supply
(J) Proximity sensor
(K) Photo electric sensor
(L) Pressure sensor
(M) Rotary encoder
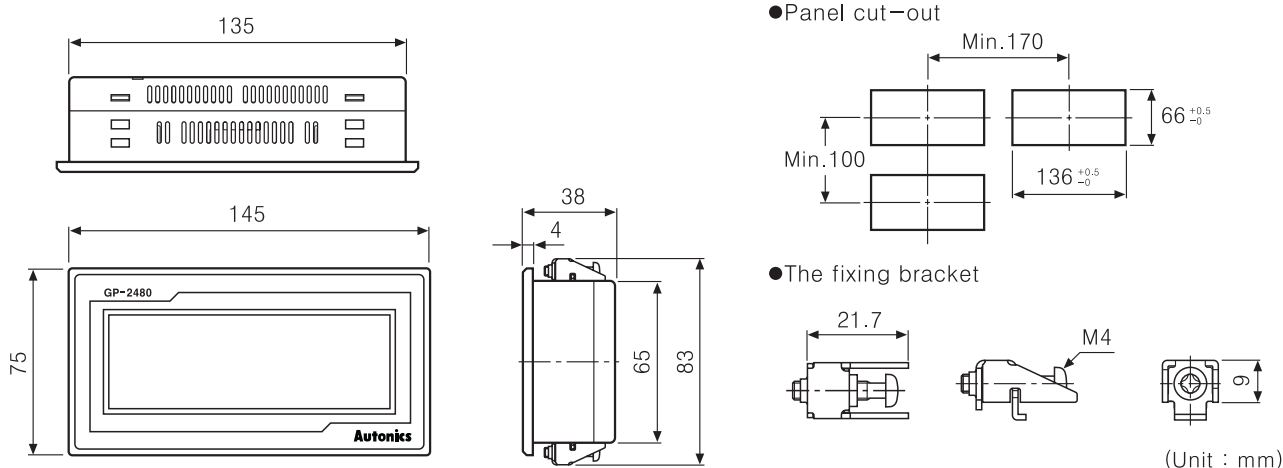(N) 5-Phase stepping motor & Driver & Controller
(O) Graphic panel
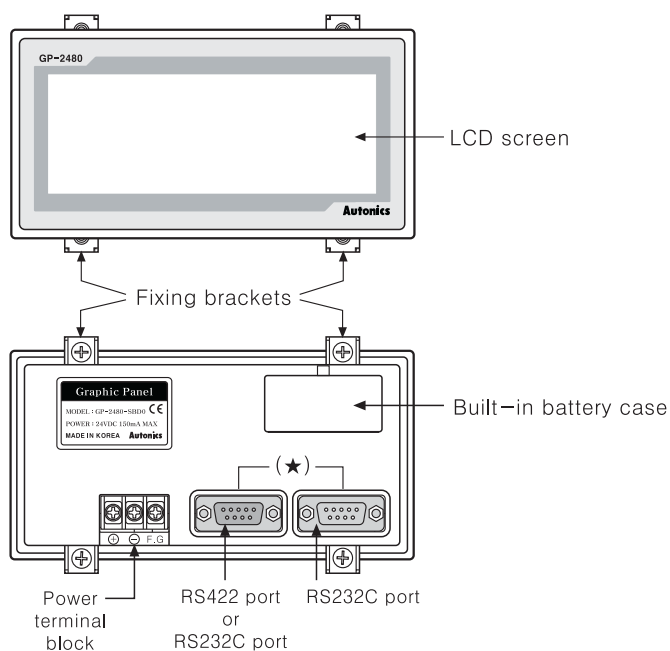(P) Production stoppage models & replacement

GP-2480 Series

▣ Specifications

System Screen	Data check	Basic screen	Display title and number of base screen user made.
		Window screen	Display title and number of window screen user made.
		Comment	Display comment list downloaded in main body.
		Check using memory	Display status of using graphic drawing memory.
		Check model and version	Display model and firmware version of GP.
Ambient temperature			0℃ ~ 50℃ (at non−freezing status)
Storage temperature			−20℃ ~ 60℃ (at non−freezing status)
Ambient humidity			35% ~ 85% RH (at non−dew status)
Insulation resistance			Min. 100MΩ (at 500VDC)
Ground			3rd grounding (Max. 100Ω)
Dielectric strength			500VAC (50/60Hz) for a minute
Noise strength			The square wave noise (Pulse width $1\mu s$) by the noise simulator with ±1000V R/S phase and repetition frequency 60Hz
Vibration		Mechanical	0.75mm amplitude at frequency of 10~55Hz (for a minute) in each of X, Y, Z directions for an hour
		Malfunction	0.5mm amplitude at frequency of 10~55Hz (for a minute) in each of X, Y, Z directions for 10 minutes
Protection structure			IP 65F for front panel
Accessory			Fixing bracket : 4 pcs, Rubber waterproof ring, Battery (Built−in)
Unit weight			Approx. 300g

▣ Dimensions

● Panel cut−out

Min.170

Min.100

$66^{+0.5}_{-0}$

$136^{+0.5}_{-0}$

● The fixing bracket

21.7

M4

9

(Unit : mm)

▣ Parts description

LCD screen

Fixing brackets

Built−in battery case

Power terminal block

RS422 port or RS232C port

RS232C port

(★)

Graphic Panel
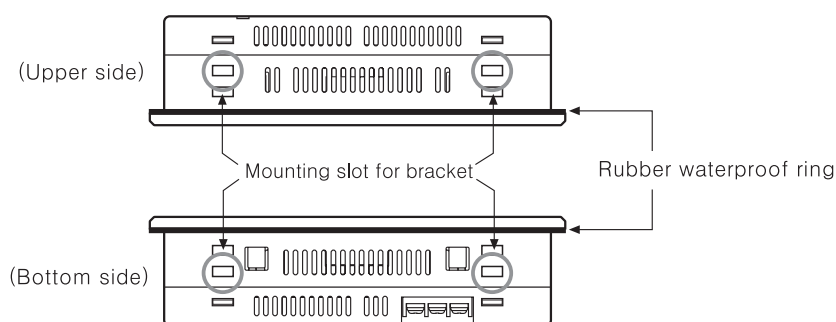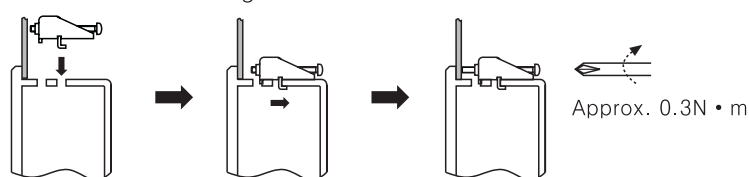MODEL : GP-2480-SBD0 CE
POWER : 24VDC 150mA MAX
MADE IN KOREA Autonics

▣ Installation procedure

1. Set a rubber waterproof ring in GP.
2. Set GP in panel.
3. Set brackets in 4 bracket slots and fix them.

(Upper side)

Mounting slot for bracket　　Rubber waterproof ring

(Bottom side)

● Procedure of mounting bracket

Approx. 0.3N・m

▣ The wiring of power

- Please use the power line as min.0.75mm² , ground wire as min.1.25mm²　of dimension.
- Please use crimp-on type ring terminal with min.3mm of inside diameter and max. 6mm of external diameter.
- Please check power is on before connecting a power line.
- Please check power polarity.
- Please tighten screws of each terminal as 0.5~0.8 N・m torque.
- Ground resistance should be max.100Ω, it is required to ground separately.

+　−　F.G

+　−
24VDC
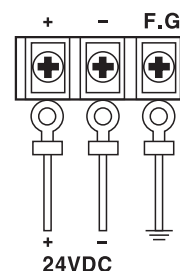
▣ Serial interface

- Connectable devices including PC, PLC, Serial printer, barcode reader and various controllers can be connected to RS232C, RS422.
- Set the device connected into the port in system configuration. Refer to "GP user manual" for more details and "Communication manual" for connection of PLC.

Port	PIN		Port	PIN	
RS232C-A, RS232C-B	1	Non-used	**RS422-A**	1	TXD+
	2	RXD		2	RXD+
	3	TXD		3	RTS−
	4	DTR		4	CTS+
	5	SG		5	SG
	6	DSR		6	TXD−
D-Sub 9Pin Male	7	Non-used	D-Sub 9Pin Female	7	RXD−
	8	Non-used		8	RTS+
	9	Non-used		9	CTS−

▣ Software(GP Editor)

Please visit our website(www.autonics.com) and download software and manual.

< Computer specification for using software >

Item	Minimum specification	Recommended specification
System	PentiumⅡ	Min. PentiumⅢ
Memory	64MB	Min. 128MB
Hard disk	Over 50MB of available space	Over 100MB of available space
Resolution	800×600	Min. 800×600
Operating system	Windows 98/NT/2000/Me/XP	

▣ Manual

- **GP user manual**

Refer to GP user manual for more information about design screen data using GP Editor and instructions of GP.

- **Communication manual**

Refer to communication manual for more information about serial connection of external device, such as PLC.

▣ Battery replace

Please contact close distributor to replace battery. It may cause an explosion or a fire when it is not genuine.

GP-2480 Series

▣ Connectable device with GP

Series	Connectable device	Connection type
LG Master-K	MK-10S1	Loader
	MK-80S	Loader
	MK-120S	Loader
	MK-200S	Loader
LG Glofa	GM4	Loader
	GM6	Loader
LG CNET	MK-80S	Cnet
	MK-120S	Cnet
	MK-200S	Cnet
SAMSUNG FARA	N70	Loader
	N70Plus	Loader
MITSUBISH FX	FX1S	Loader
	FX1N	Loader
	FX2N	Loader
	FX2NC	Loader
NAIS FP	FP0-C10	Loader
	FP0-C14	Loader
	FP0-C16	Loader
	FP0-C32	Loader
	FPG-C24R2	Loader
	FPG-C32T	Loader
	FPG-C32T2	Loader
OMRON SYSMAC C	CPM1A	Loader
OMRON temperature controller	E5AN	Modbus
	E5AR	Modbus
	E5CN	Modbus
	E5EN	Modbus
	E5ER	Modbus
DELTA temperature controller	DTB Series	Modbus
AUTONICS	MT Series	Private communication
	MP Series	Private communication
	THD Series	Modbus
	TZ/TZN Series	Private communication
UNIVERSAL	UNIVERSAL	Modbus(Slave)

※The above list is available in GP Editor 2.50.
※The connectable device will be upgraded according to GP Editor version and additional Patch and check the latest version in website(www.autonics.com).
※The available version of GP firmware is different according to GP Editor version and it can be down if compatible version is not used.
※Refer to the website (www.autonics.com) and manual for communication cable between GP and controllers. (It is optional.)

▣ Application

◎Complicated environment of operation and control part
It graphicalizes control components such as button, switch and lamps and it is able to save cost, space and improve the preservation ability.

Control part   GP-2480

◎Setting and change of production process
It memorizes(Recipe) the setting condition of process in GP and it sets or changes commanding to PLC without PC. It enhances reliability of production line with fast correspondence alarming the error and preserving it as history.
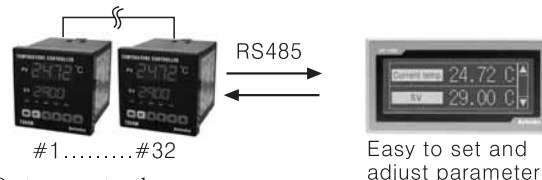

PLC   GP-2480
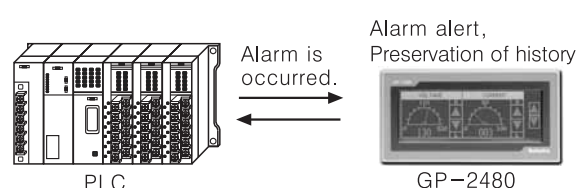
◎Complicated controller to set
It sets complicated or non-display device controller (Thermometer/hygrometer, temperature controller etc).
1) Temperature/Humidity without display device

Display temperature, humidity

2) Temperature controller

#1.........#32

Easy to set and adjust parameter.

◎Data control
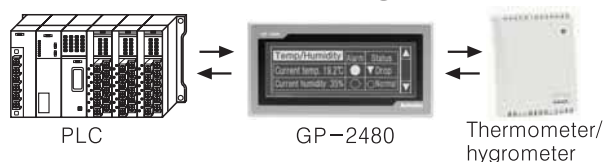It prints alarm history of controller using printer and read the data from barcode reader and save in PLC.
1) PLC/Printer

PLC   GP-2480   Printer

2) Barcode reader/PLC

GP-2480   PLC

◎Communication between heterogeneous controllers

PLC   GP-2480   Thermometer/ hygrometer

Graphic Panel

▣ Precaution for using

1. Do not press touch panel with hard and sharp object.
2. Please store the device in a place with recommended temperature range, or LCD panel can be damaged.
3. Please check pin no in "Communication manual" for connecting communication port.
4. Do not close ventilating opening of this product.
5. Do not use or store in a place with direct ray of light or dust.
6. Do not use or store in a place with shock or vibration.
7. The ground wire of GP should be grounded separately with other device wire. The ground resistance should be max.100Ω, please use the wire with min.2mm² of dimension.
8. Please check the pin number and connect to GP communication port.
9. Please tighten bolt on terminal block with specified tightening torque.
10. When liquid crystal from the broken LCD is smeared with skin, wash it for 15 minutes. If it is gotten in the eye, wash it for 15 minutes and contact with the medical specialist for more information.
11. Do not inflow dust or wire dregs into the unit.
12. In cleaning unit, do not use water or an oil－based detergent and use dry towels.
13. It should be done away regarded as an industrial waste.