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Graphic Panel

GP-GM6 CPU (RS232)

Technical Support Manual

GP Series

Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

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Preface

Thank you very much for selecting Autonics products.

Please familiarize yourself with the information contained in the **Safety Precautions** section before using this product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

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Technical Support Manual Guide

- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- This manual is not provided as part of the product package. Please visit our home-page (www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice. Upgrade notice is provided through our homepage.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our homepage.

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Technical Support Manual Symbols

Symbol	Description
Note	Supplementary information for a particular feature.
Warning	Failure to follow instructions can result in serious injury or death.
Caution	Failure to follow instructions can lead to a minor injury or product damage.
Ex.	An example of the concerned feature's use.
※1	Annotation mark.

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Safety Precautions

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents, as well as minimizing possible hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

Warning	**Warning**	Failure to follow the instructions may lead to a serious injury or accident.
Caution	**Caution**	Failure to follow the instructions may lead to a minor injury or accident.

Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
  Failure to follow this instruction may result in personal injury, fire, or economic loss.
- In case using the Graphic Panel touch switch for controlling, do not use the switch as an emergency switches or those related to safety that may cause physical injury or property damage in the event of a malfunction.
  Failure to follow this instruction may result in personal injury, fire, or economic loss.
- In case controlling other devices through Graphic Panel communication, and there is a possibility of malfunction due to communication error, an alternative circuit must be constructed.
  Failure to follow this instruction may result in personal injury, fire, or economic loss.
- Do not use the product in an area or an environment not specified in the manual.
  Failure to follow this instruction may result in personal injury, fire, or economic loss.
- Do not connect, repair, or inspect the unit while connected to a power source.
  Failure to follow this instruction may result in electric shock or fire.
- Do not disassemble or modify the unit. Please contact us if necessary.
  Failure to follow this instruction may result in electric shock or fire.
- Use the insulated trans to supply the rectified power.
  Failure to follow this instruction may result in electric shock or fire.
- Do not use over the rated power.
  Failure to follow this instruction may result in electric shock or fire.
- This product uses lithium battery, do not disassemble or burn up.
  Failure to follow this instruction may result in explosion or fire.
- Wire properly after checking power terminal polarity.
  Failure to follow this instruction may result in fire or product malfunction

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Caution

- Please read all notes and cautions related to installation and wiring in the manual.
  Failure to follow this instruction may result in electric shock or product malfunction.
- Make sure the ground wire of Graphic Panel is wired separately from the ground wires of other devices. Ground resistance must be less than 100Ω, and a lead wire of which sectional area is over 1.25mm^2 should be used.
  Failure to follow this instruction may result in electric shock or product malfunction.
- When connecting Graphic Panel ports and constructing input/output, check the pin number and terminal block before connecting.
  Failure to follow this instruction may result in fire or product malfunction.
- Tighten bolt on terminal block with specified tightening torque.
  Failure to follow this instruction may result in short circuit, fire or product malfunction.
- Do not press the surface of the touch panel with sharp or hard objects.
  Failure to follow this instruction may result in touch panel damage.
- Keep Graphic Panel at the specified temperature.
  Failure to follow this instruction may result in LCD panel damage due to over the rated temperature range.
- Do not inflow dust or wire dregs into the unit.
  Failure to follow this instruction may result in fire or product malfunction.
- Do not use in an area with excessive humidity or temperature.
  Failure to follow this instruction may result in product damage or shortening the life cycle of the unit.
- Do not close ventilating opening of this product.
  Failure to follow this instruction may result in product damage due to increase inner heat.
- Keep the product out of direct sunlight or excessive dust.
  Failure to follow this instruction may result in product damage or shortening the life cycle of the unit.
- Do not use or store in a place with shock or vibration.
  Failure to follow this instruction may result in product damage or shortening the life cycle of the unit.
- 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.
- Do not use water or oil-based detergent when cleaning the unit. Use dry cloth to clean the unit.
  Failure to follow this instruction may result in electric shock or fire.
- Please separate as an industrial waste when disuse this unit.
- To change the battery, contact the store or an authorized technician.
- The manufacturer is not liable for damages that occur due to causes for which the manufacturer is not responsible, damages that occur due to an extraordinary situation, secondary damages, compensation for accidents, damages occurring on other products, compensation for other processes, and damage and loss of opportunity to the user due a malfunction of the product, regardless of the predictability of the accident.

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- Note that this device is KCC certified for commercial use. Make proper applications for the product.

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1 System

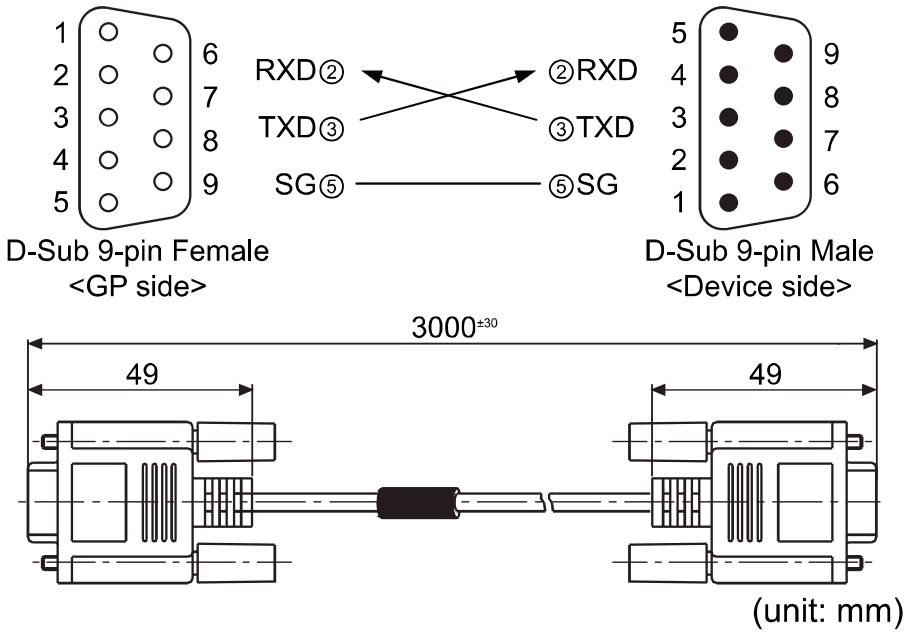
1.1 Version

Software	Version	Note
GP Editor	V4.01 (build 023)	—
GP-S070 Firmware	V1.20	Release : 2016.01.26
Ms Windows	Windows 7	—
GMWIN	V 4.18	—

1.2 Connections

GP-S070-T9D6 **CPU : GM6-CPUA**

1.3 Communication cable connection and dimensions (communication cable model: C3M5P01-D9F0-D9M0)



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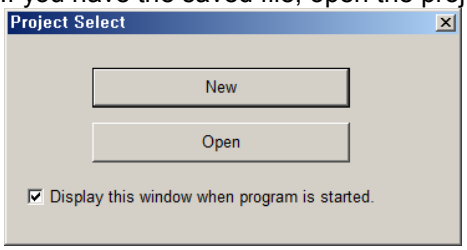
2 GP-S070 Communication Setting

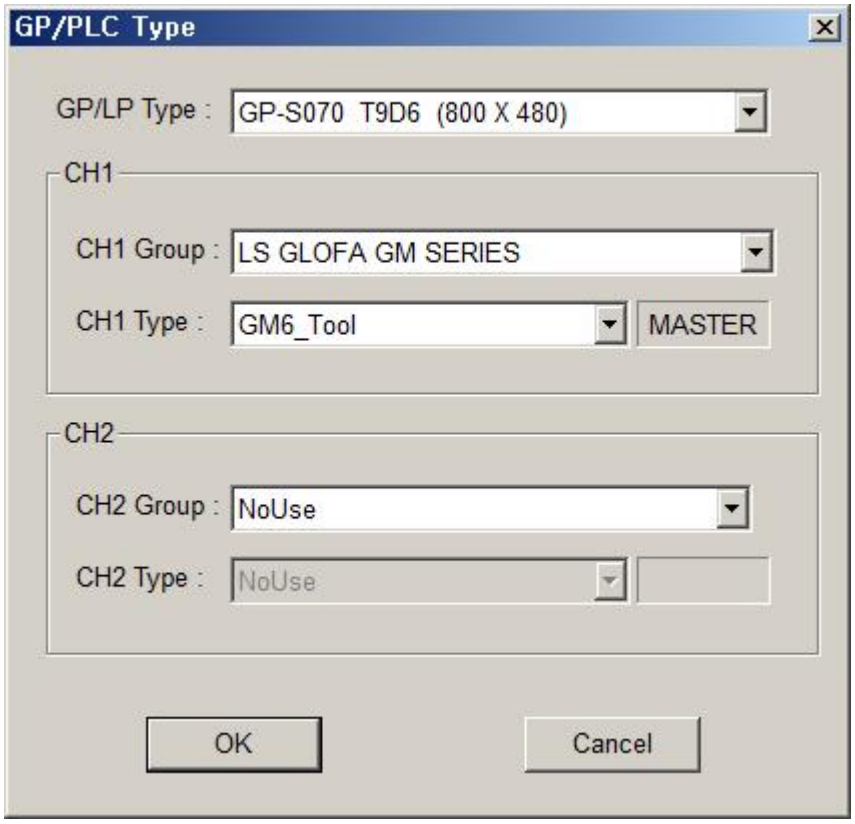
2.1 GP Editor Setting

1st Select [Project] – [New] on menu.
If you have the saved file, open the project at [Load].

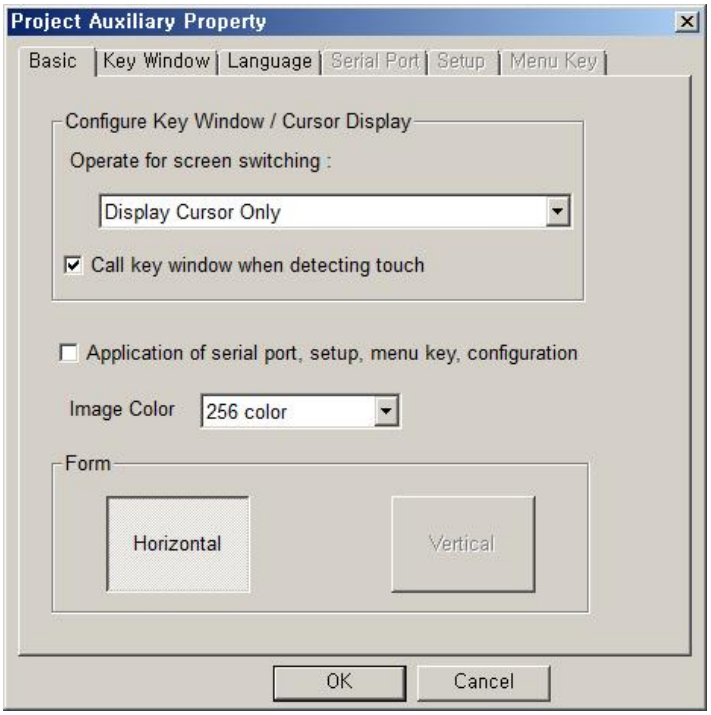


2nd At GP/PLC Type dialog box, set GP/LP Type and CH1/2 Group/Type.

Item	Setting
GP / LP Type	GP-S070 T9D6
CH1 Group / Type	LS GLOFA GM SERIES / GM6_Tool
CH2 Group / Type	No Use



3rd At Project Auxiliary Property dialog box, click 'OK' and it changes screen to draw.



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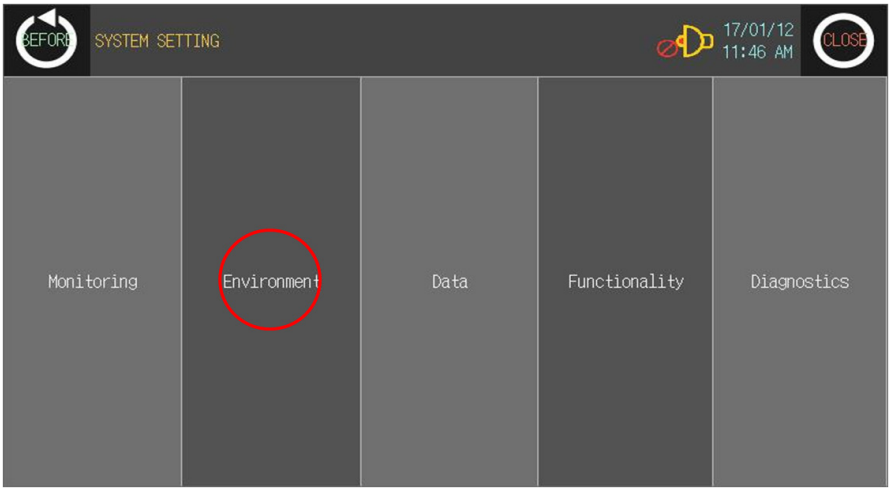
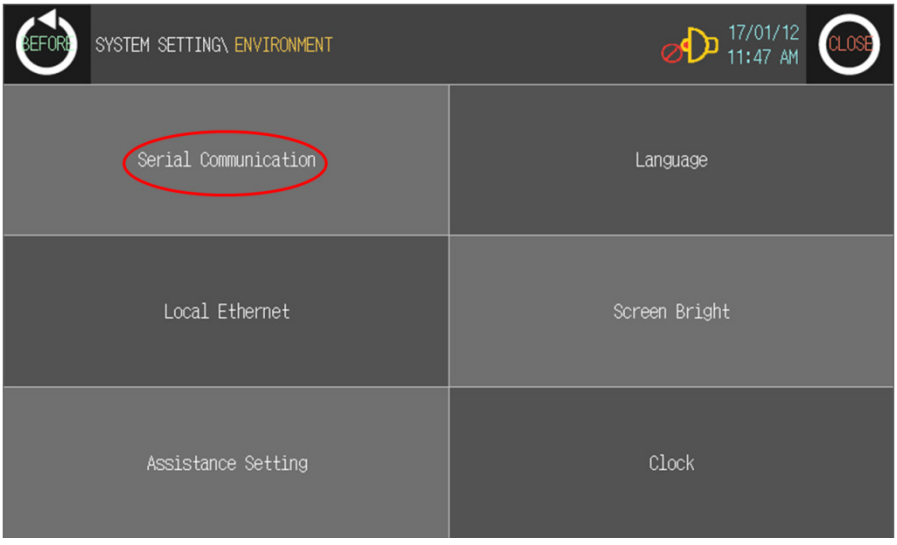
2.2 GP-S070 Setting

1st Touch top-left of the GP.

2nd Touch ‘Environment’.



3rd Touch ‘Serial Communication’.



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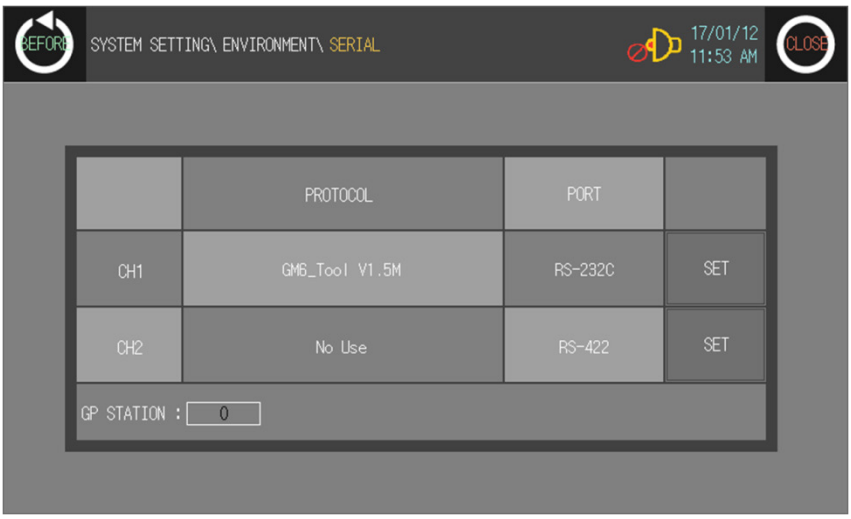
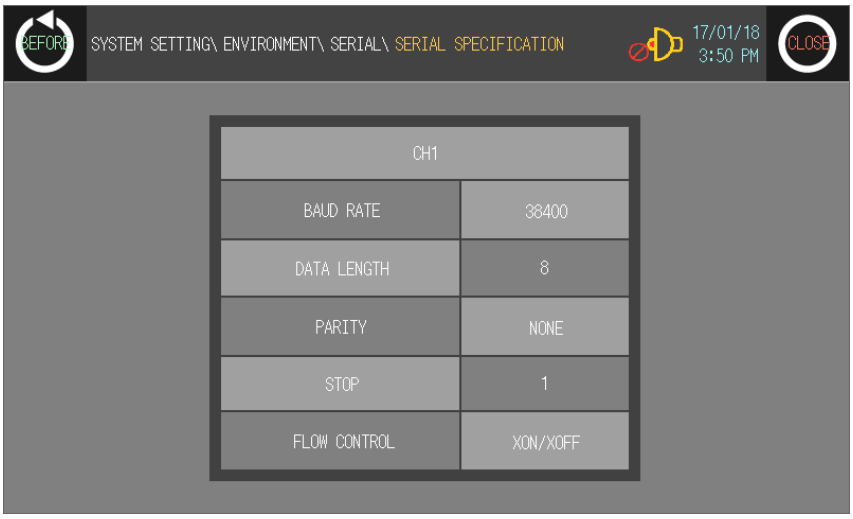
4th At serial communication, set as below.

	PROTOCOL	PORT	
CH1	GM6_Tool V1.5M	RS-232C	SET
CH2	No Use	RS-422	SET



5th Touch right 'SET' and set as below.

Item	Setting	Note
Baud rate	38400	Fixed
Flow control	XON/XOFF	Don't care
Parity bit	NONE	Fixed
Data bit	8-bit	Fixed
Stop bit	1-bit	Fixed



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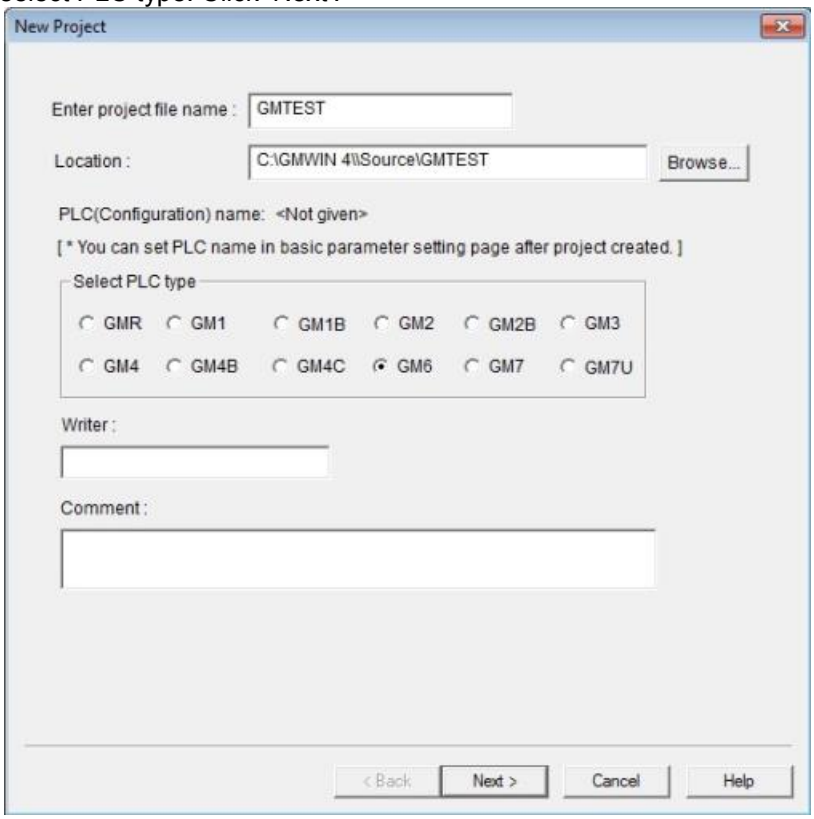
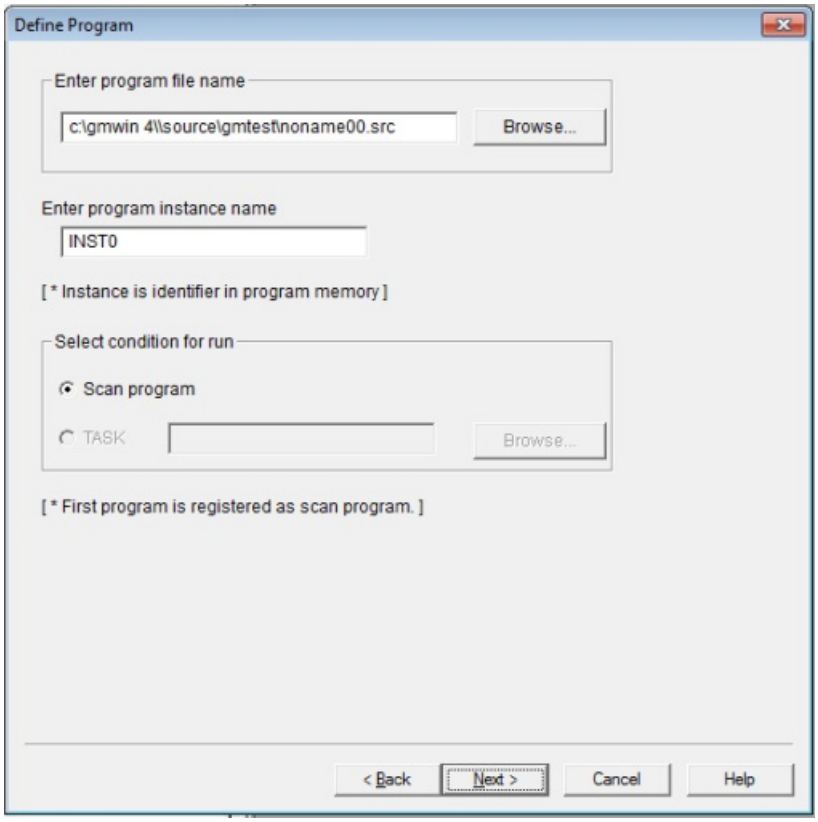
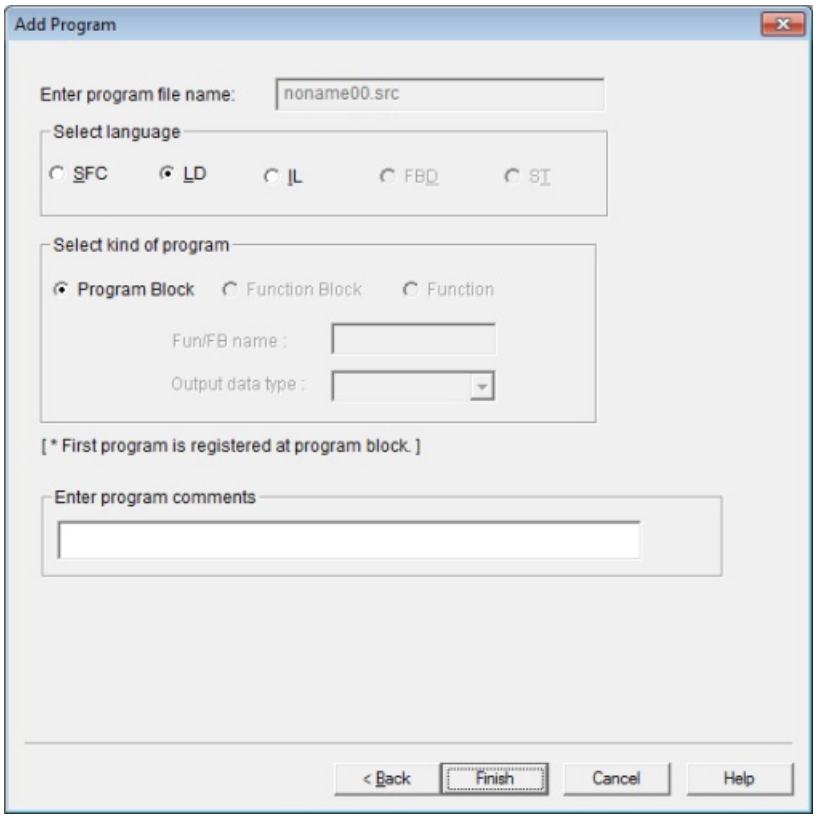
2.3 GMWIN Setting

1st Run GMWIN and select [Project] – [New Project] on menu. Enter project file name and select PLC type. Click ‘Next’.



2nd Check program file name and instance name. Click ‘Next’. Select program language as LD and click ‘Finish’.





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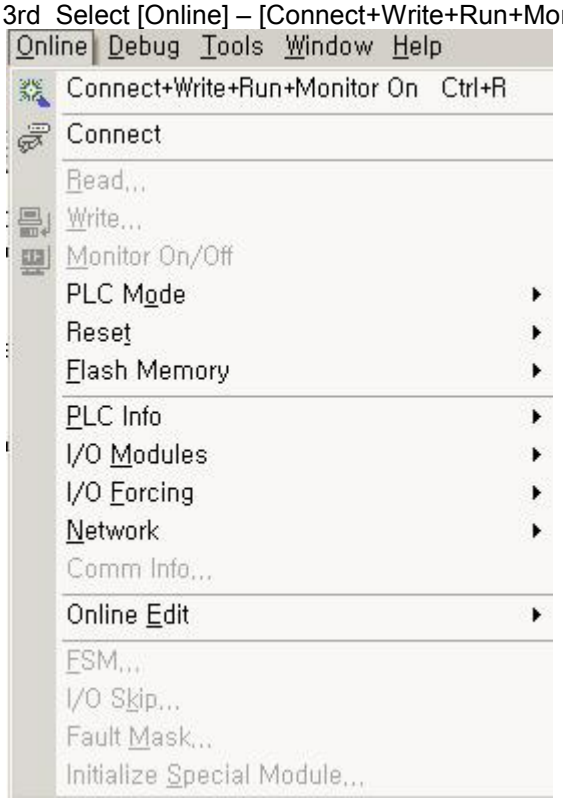
3rd Select [Online] – [Connect+Write+Run+Monitor On] on menu.



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2.4 Device conversion (GP/LP <-> GMWIN)

1st Input/Output bit device
1) Input/Output bit device structure at GMWIN
%[Device name] [Base no.] [Slot no.] [the number of input/output cards x 16] + Bit address]
2) Input/Output bit device structure at GP/LP
%[Device name] [Base no.] [Slot no.] [the number of input/output cards] [Bit address (Hexadecimal)]

2nd Inner relay bit device structure
1) Inner relay bit device structure at GMWIN
% [Device name] [Bit address (Decimal)]
2) Input/Output bit device structure at GP/LP
[Device name] [Quotient of (Bit address/16) (Decimal)] [Remainder of (Bit address / 16) (Hexadecimal)]

Ex.

100th inner relay

%MX100 (GMWIN) -> MX 64 (GP/LP) (Quotient: 6, Remainder: 4)

1000th inner relay

%MX1002 (GMWIN) -> MX 62A (GP/LP) (Quotient: 62 , Remainder: 10 -> A)

Type	Device	Mark	Range	
			Start	End
Bit	Input relay	IX	IX0	IX173F
	Output relay	QX	QX0	QX173F
	Inner auxiliary relay	MX	MX0	MX4095F
	GP/LP inner bit memory	UB	UB0	UB6047F
Word	Inner relay	IW	IW0	IW173
	Output relay	QW	QW0	QW173
	Inner auxiliary relay	MW	MW0	MW4095
	GP/LP inner word memory	UW	UW0	UW6047

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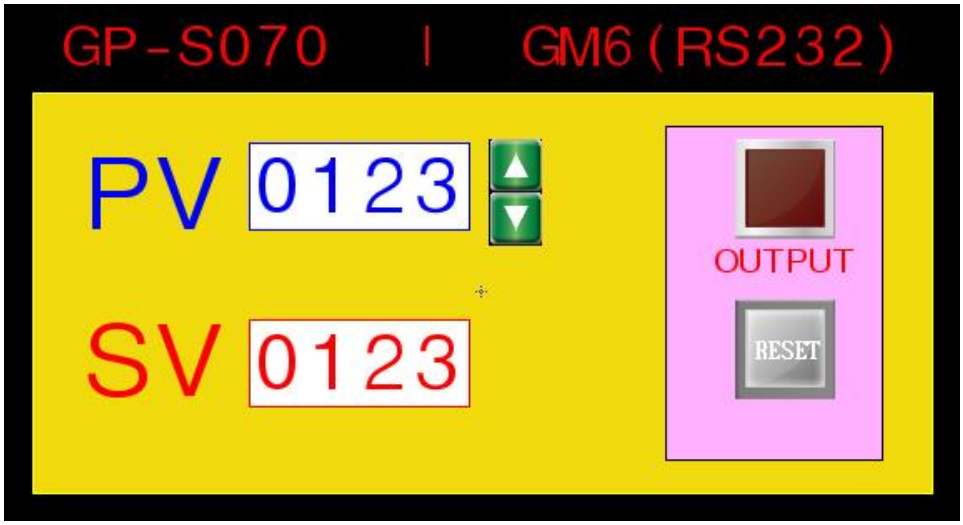
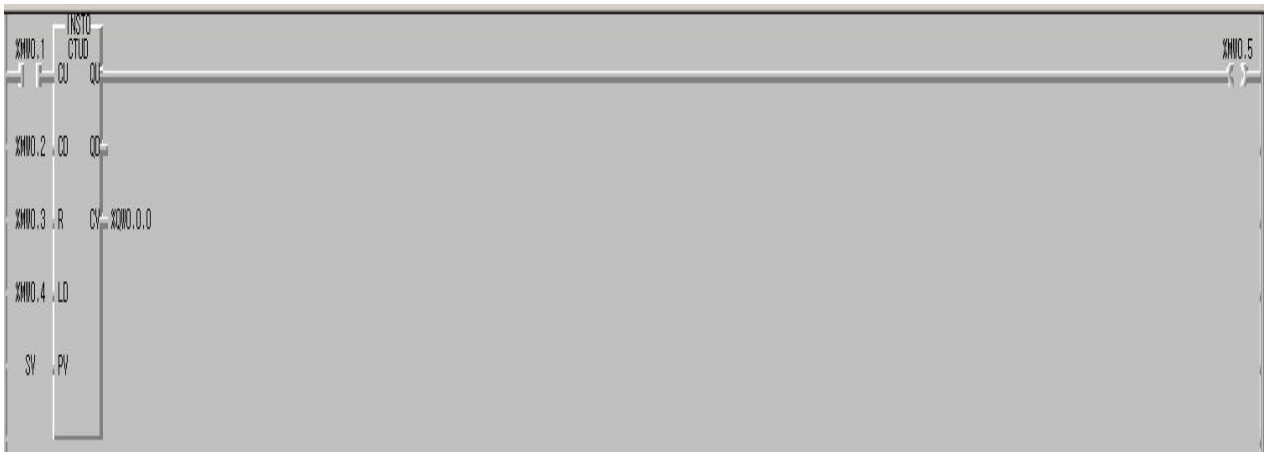
3 Examples

3.1 GP-S070 Drawing



3.2 PLC Program



Input			Instruction function	Output		
Instruction	Description	Device		Instruction	Description	Device
CU	Up counter pulse input	MX1	CTUD CU QU CD QD R CV LD PV	QU	Up counter contact output	MW5
CD	Down counter pulse input	MX2		QD	Down counter contact output	-
R	Reset signal input	MX3		CV	Counter PV output	QW0
LD	SV input	MX4				
PV	SV	MW8				

3.3 GP-S070 – PLC device connection

GP-S070			PLC Device	
Item	Tag Property	Usage	Bit	Word
①	Numeral display	Counter present value	—	QW0
②	Numeral input	Counter target value	—	MW8
③	Touch key (momentary)	Input (Up)	MX1	—
④	Touch key (momentary)	Input (Down)	MX2	—
⑤	Lamp	Counter output	MX5	—
⑥	Touch key (momentary)	Reset	MX3	—

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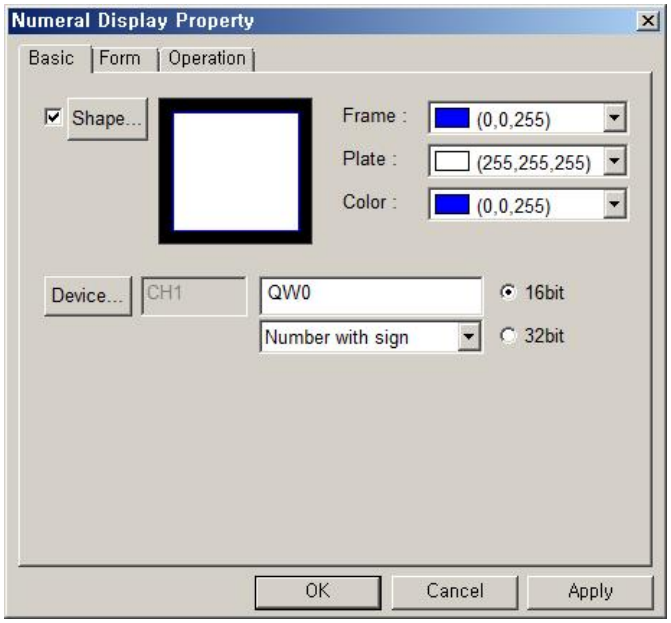
3.4 GP Editor Drawing

3.4.1 Numeral display

Select [Draw]–[Numeral Display] at menu.
Click 'Device' to set the device as below.

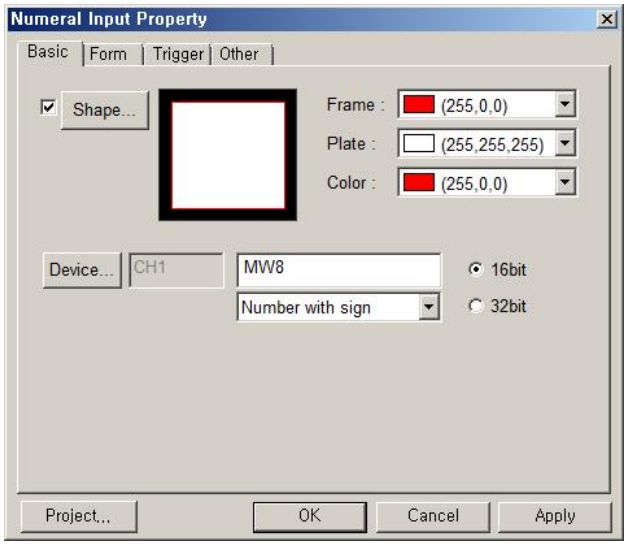
Items	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	QW0



3.4.2 Numeral input

Select [Draw]–[Numeral Input] at menu.
Click ‘Device’ to set the device as below.

Items	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	MW8



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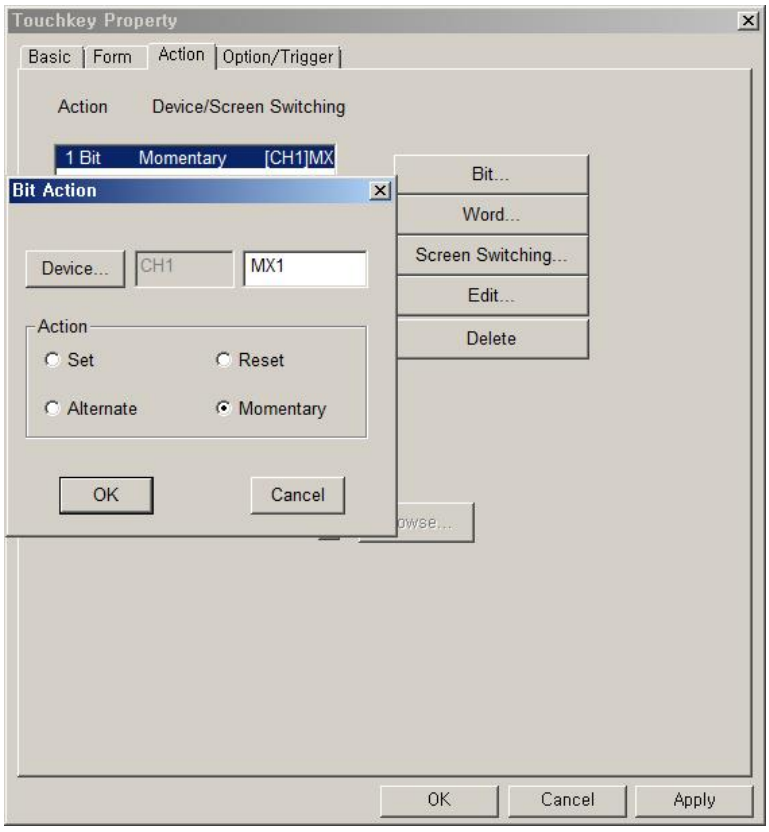
3.4.3 Touch key (Up key)

Select [Draw]–[Touch Key]–[Action]–[Bit].
Click 'Device' to set the device as below.

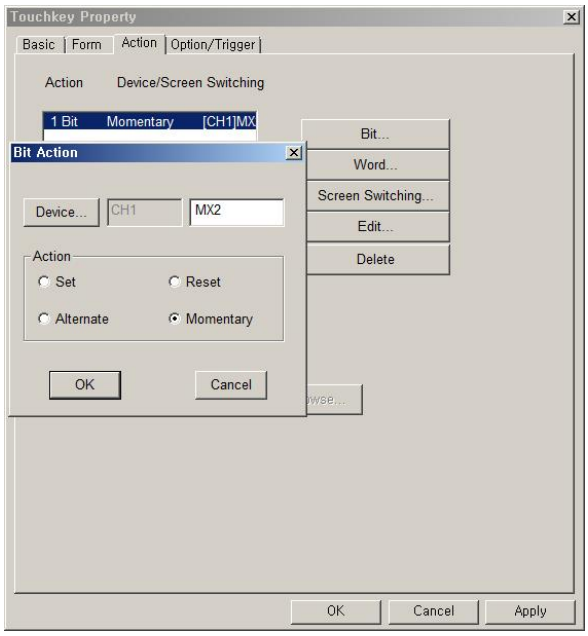
Items	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	MX1
Action	Momentary



3.4.4 Touch key (Down key)

Select [Draw]–[Touch Key]–[Action]–[Bit].
Click 'Device' to set the device as below.

Items	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	MX2
Action	Momentary



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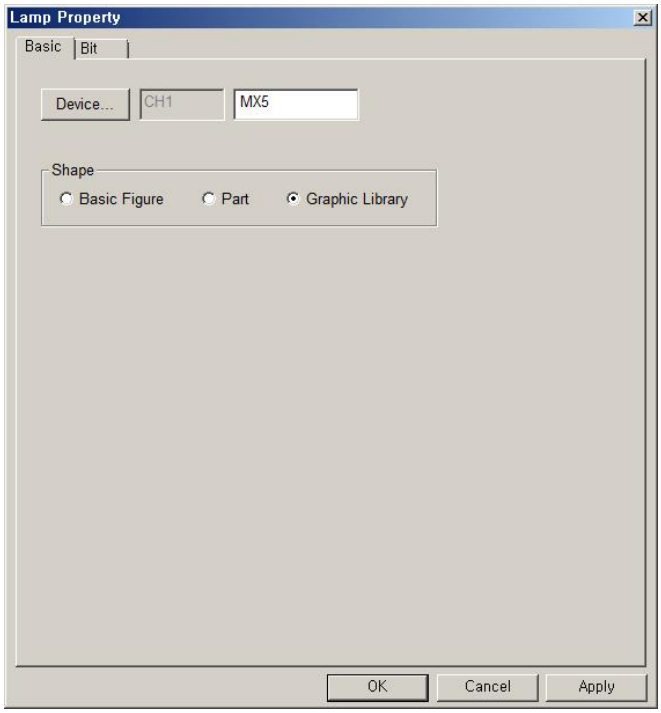
3.4.5 Lamp

Select [Draw]-[Lamp].
Click 'Device' to set the device as below.

Item	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	MX5



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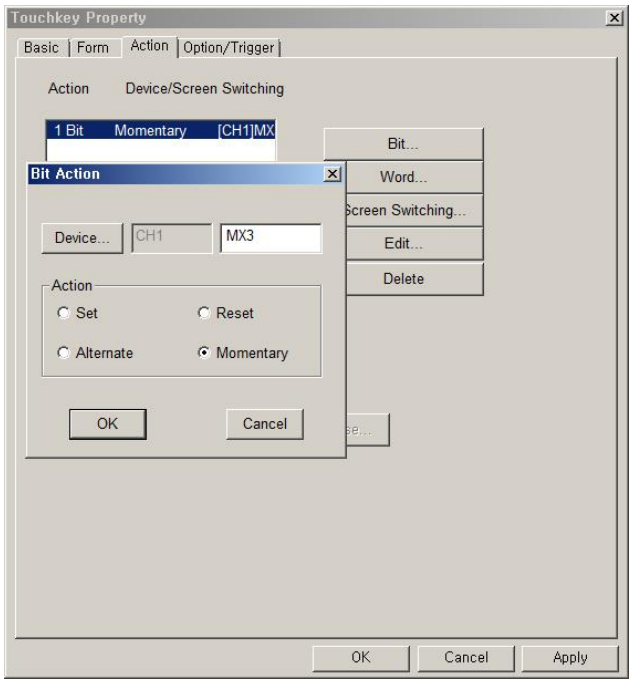
3.4.6 Touch key (Reset key)

Select [Draw]–[Touch Key]–[Action]–[Bit].
Click ‘Device’ to set the device as below.

Item	Setting
Channel	[CH1]GM6_Tool
Station	-
Device	MX3
Action	Momentary



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4 Appendix

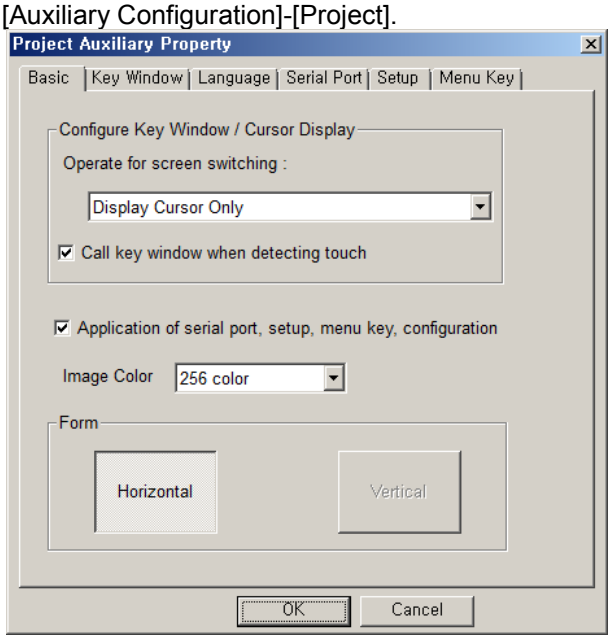
4.1 Serial setting

Serial port setting are available at GP-S070 and GP Editor.

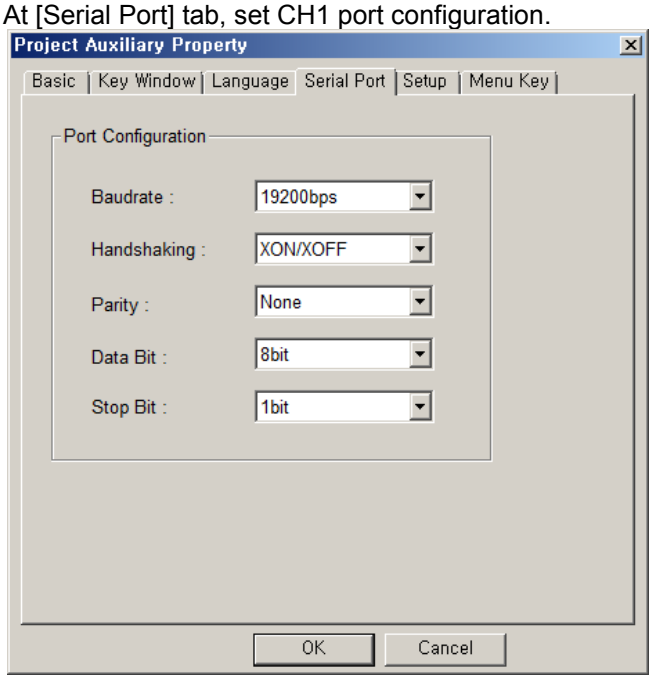
GP Editor is available only for CH1 serial port setting.

Item	Setting at GP Editor	Setting at GP-S070
CH1 comm. setting	Avaliable	Avaliable
CH2 comm. setting	Unavailable	Avaliable

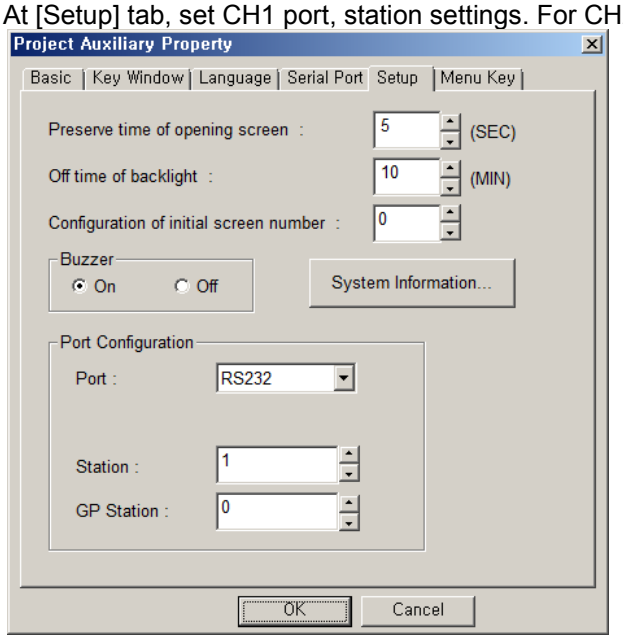
1st Check the settings; Application of serial port, setup, menu key, configuration at [Common]-[Auxiliary Configuration]-[Project].



2nd At [Serial Port] tab, set CH1 port configuration.



3rd At [Setup] tab, set CH1 port, station settings. For CH2, the left port is automatically alloted.



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■ Any proposal for a product improvement and development: Product@autonics.com

■ **Corporate Headquarters**
18 Bansong-ro, 513 Beon-gil, Haeundae-gu, Busan, South Korea 48002

■ **Overseas Business Headquarters**
#402-303, Bucheon Techno Park, 655, Pyeongcheon-ro, Wonmi-gu, Bucheon, Gyeonggi-do, South Korea 14502
Tel: 82-32-610-2730 / Fax: 82-32-329-0728 / E-mail: sales@autonics.com

■ **Brazil – Autonics do Brasil Comercial Importadora Exportadora Ltda**
Tel: 55-11-2307-8480 / Fax: 55-11-2309-7784 / E-mail: comercial@autonics.com.br

■ **China – Autonics electronic(Jiaxing) Corporation**
Tel: 86-21-5422-5969 / Fax: 86-21-5422-5961 / E-mail: china@autonics.com

■ **India – Autonics Automation India Private Limited**
Tel: 91-22-2781-4305 / Fax: 91-22-2781-4518 / E-mail: india@autonics.com

■ **Indonesia – PT. Autonics Indonesia**
Tel: 62-21-8088-8814/5 / Fax: 62-21-8088-4442(4440) / E-mail: indonesia@autonics.com

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Tel: 81-3-3950-3111 / Fax: 81-3-3950-3191 / E-mail: ja@autonics.com

■ **Malaysia – Mal-Autonics Sensor Sdn, Bhd.**
Tel: 60-3-7805-7190 / Fax: 60-3-7805-7193 / E-mail: malaysia@autonics.com

■ **Mexico – Autonics Mexico S.A. DE C.V**
Tel: 52-55-5207-0019 / Fax: 52-55-1663-0712 / E-mail: ventas@autonics.com

■ **Russia – Autonics Corp. Russia Representative Office**
Tel/Fax: 7-495-660-10-88 / E-mail: russia@autonics.com

■ **Turkey – Autonics Otomasyon Ticaret Ltd. Sti.**
Tel: 90-216-365-9117/3/4 / Fax: 90-216-365-9112 / E-mail: infotr@autonics.com

■ **USA – Autonics USA, Inc.**
Tel: 1-847-680-8160 / Fax: 1-847-680-8155 / E-mail: sales@autonicsusa.net

■ **Vietnam – Cong Ty Tnhh Autonics Vina**
Tel: 84-8-3771-2662 / Fax: 84-8-3771-2663 / E-mail: vietnam@autonics.com

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