

# User Manual for Communication

HMI

**GP/LP Series  
(Autonics)**

Thank you for purchasing an Autonics 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.



# Preface

Thank you for purchasing Autonics product.

Please familiarize yourself with the information contained in the Safety Considerations 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.

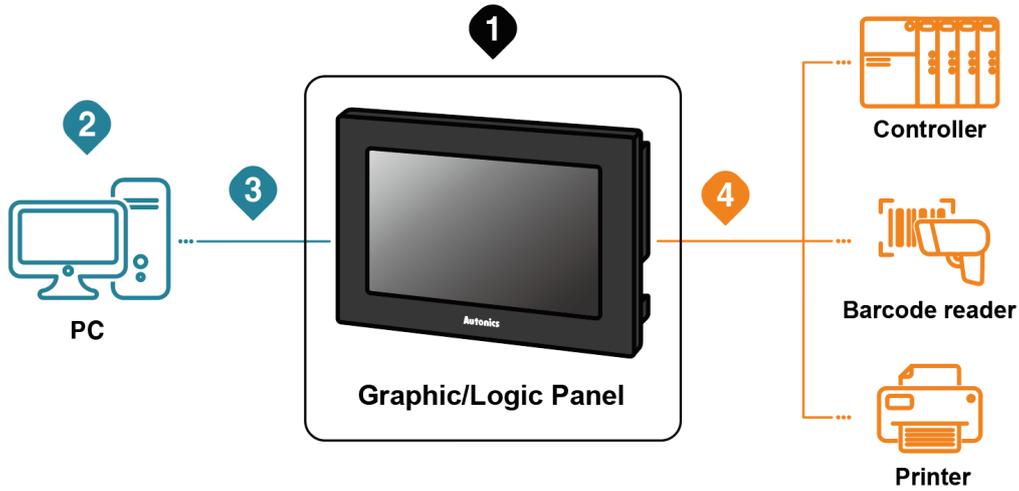
# User Manual Guide

- 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.
- A user manual is not provided as part of the product package. Please visit our website ([www.autonics.com](http://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 website.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our website.
- Inner device of this user manual for communication is based on GP.  
If you use LP, refer to "LP user manual" for inner device of LP.

# User Manual Symbols

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

# Reference Manual for Each Configuration



**1 Graphic/Logic panel device specification, installation, maintenance, management, firmware update and system configuration**

Hardware Manual	A Series	GP-A Series User Manual, LP-A Series User Manual
	S Series	GP-S070 User Manual, GP-S044/057 User Manual, LP-S070 User Manual, LP-S044 User Manual

**2 Project drawing, programming**

Software Manual	Drawing	atDesigner User Manual, GP Editor User Manual
	Programming	atLogic User Manual, atLogic Programming Manual

**3 Project Upload/Download**

Hardware Manual	A Series	GP-A Series User Manual, LP-A Series User Manual
	S Series	GP-S070 User Manual, GP-S044/057 User Manual, LP-S070 User Manual, LP-S044 User Manual

**4 Connected device setting, communication setting**

Software Manual	Drawing	atDesigner User Manual, GP Editor User Manual
	Programming	atLogic User Manual, atLogic Programming Manual
Hardware Manual	A Series	GP-A Series User Manual, LP-A Series User Manual
	S Series	GP-S070 User Manual, GP-S044/057 User Manual, LP-S070 User Manual, LP-S044 User Manual

**4 Check connectable device, connection cable model name and protocol**

Communication Manual	GP/LP Communication Manual
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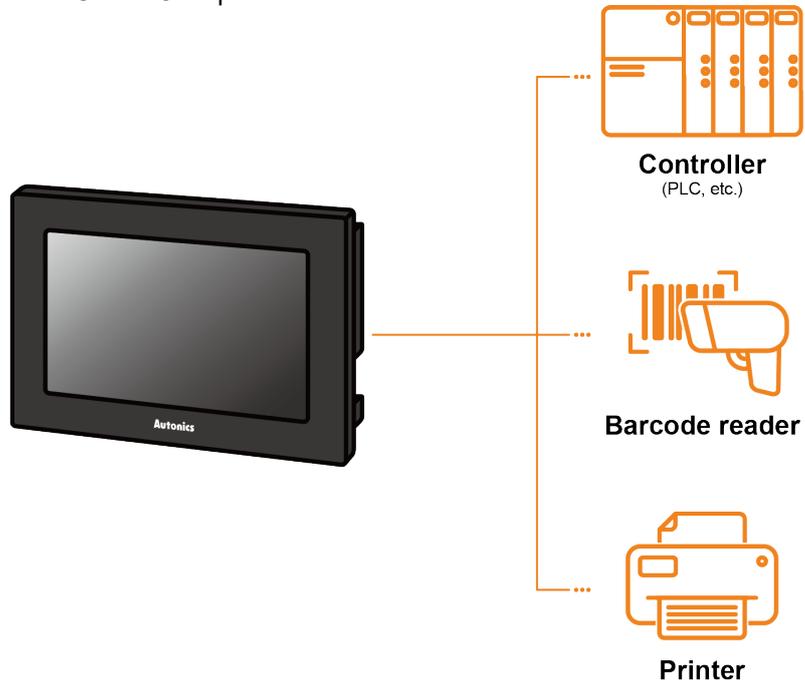
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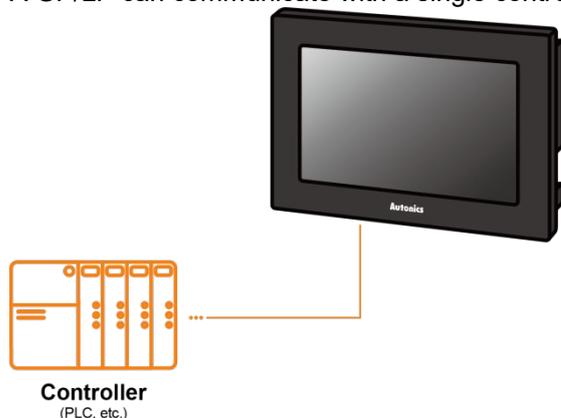
# 1 System Organization

GP/LP can be connected with various controller, barcode reader and printer via RS232C, RS422, Ethernet, CAN and USB HOST port.



## 1.1 1:1 Communication

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



### (1) Communication configuration by GP/LP model

The communication configuration by GP/LP model is listed below.

For detailed information about the communication configuration, please refer to 'GP/LP User Manual'.

- GP/LP-S Series

Series	Chanel	Connecting port	Description
GP/LP-S044, GP-S057	CH1	RS232C/RS422	Direct communication available
	CH2	RS422/RS485	Link device <sup>※1</sup> communication available
GP/LP-S070	CH1	RS232C/RS422	Direct communication available Link device <sup>※1</sup> communication available
	CH2	RS422/RS485	Direct communication available Link device <sup>※1</sup> communication available

- GP/LP-A Series

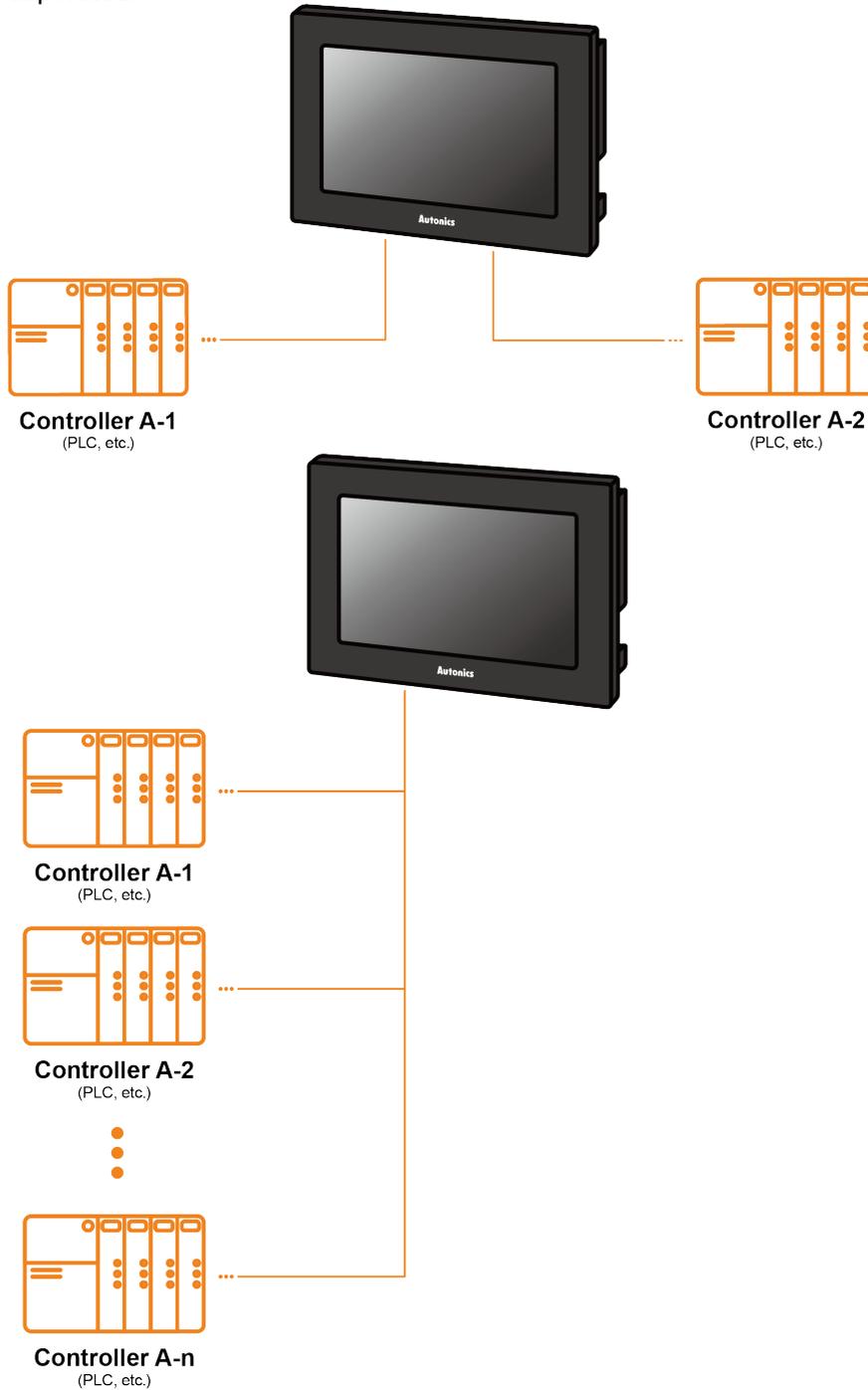
Series	Connecting port	Description
GP/LP-A070	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port	Direct communication available Link device <sup>※1</sup> communication available
GP/LP-A104	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port, CAN <sup>※2</sup> port	Direct communication available Link device <sup>※1</sup> communication available

※1: Please refer to 'GP Editor User Manual' for Link device instruction.

※2: Only Autonics' ARD Series can be connected to CAN port.

## 1.2 1:N Communication of Same Controllers

1:N communication stands for one LP communicating with multiple of controllers. The GP/LP observes the connected controllers or relays data between controllers. A GP/LP can communicate with the multiple of controller As. The controller has to be able to set address of each device, and the address should not be duplicated.



**(1) Communication configuration by GP/LP model**

The communication configuration by GP/LP model is listed below. For detailed information about the communication configuration, please refer to 'GP/LP User Manual'.

- GP/LP-S Series

Series	Chanel	Connecting port	Description
GP/LP-S044, GP-S057	CH1	-	Multiple connection unavailable
	CH2	RS422	Link device <sup>※1</sup> communication available
GP/LP-S070	CH1 or CH2	RS422	Direct communication available Link device <sup>※1</sup> communication available

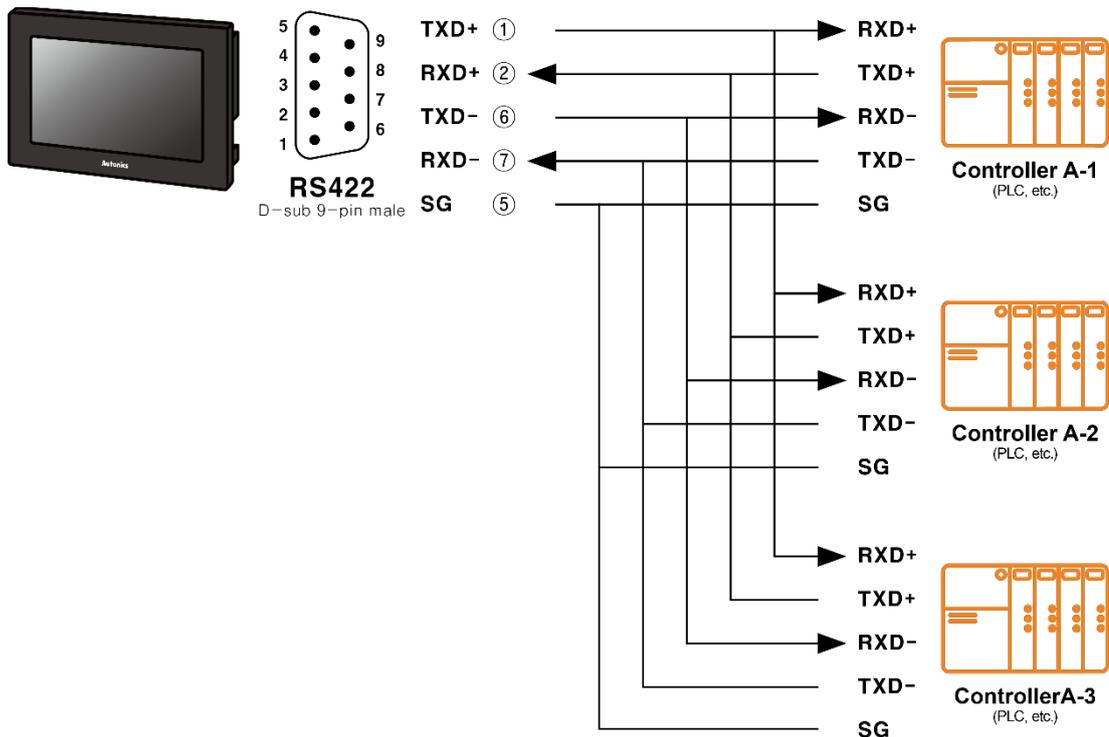
- GP/LP-A Series

Series	Connecting port	Description
GP/LP-A070	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port	Direct communication available Link device <sup>※1</sup> communication available
GP/LP-A104	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port, CAN <sup>※2</sup> port	Direct communication available Link device <sup>※1</sup> communication available

※1: Please refer to 'GP Editor User Manual' for Link device instruction.

※2: Only Autonics' ARD Series can be connected to CAN port.

**(2) RS422 communication connection diagram**



## 1.3 1:N Communication of Different Controllers

1:N communication stands for one GP/LP communicating with multiple of controllers. The GP/LP observes the connected controllers or relays data between controllers. The GP/LP can communicate with the multiple of different controllers.

### 1.3.1 1:1:1 Communication

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



#### (1) Communication configuration by GP/LP model

The communication configuration by GP/LP model is listed below.

For detailed information about the communication configuration, please refer to 'GP/LP User Manual'.

- GP/LP-S Series

Series	Chanel	Connecting port	Description
GP/LP-S044, GP-S057	CH1	RS232C/RS422	Direct communication available
	CH2	RS422/RS485	Link device*1 communication available
GP/LP-S070	CH1 or CH2	RS422/RS485	Direct communication available Link device*1 communication available

- GP/LP-A Series

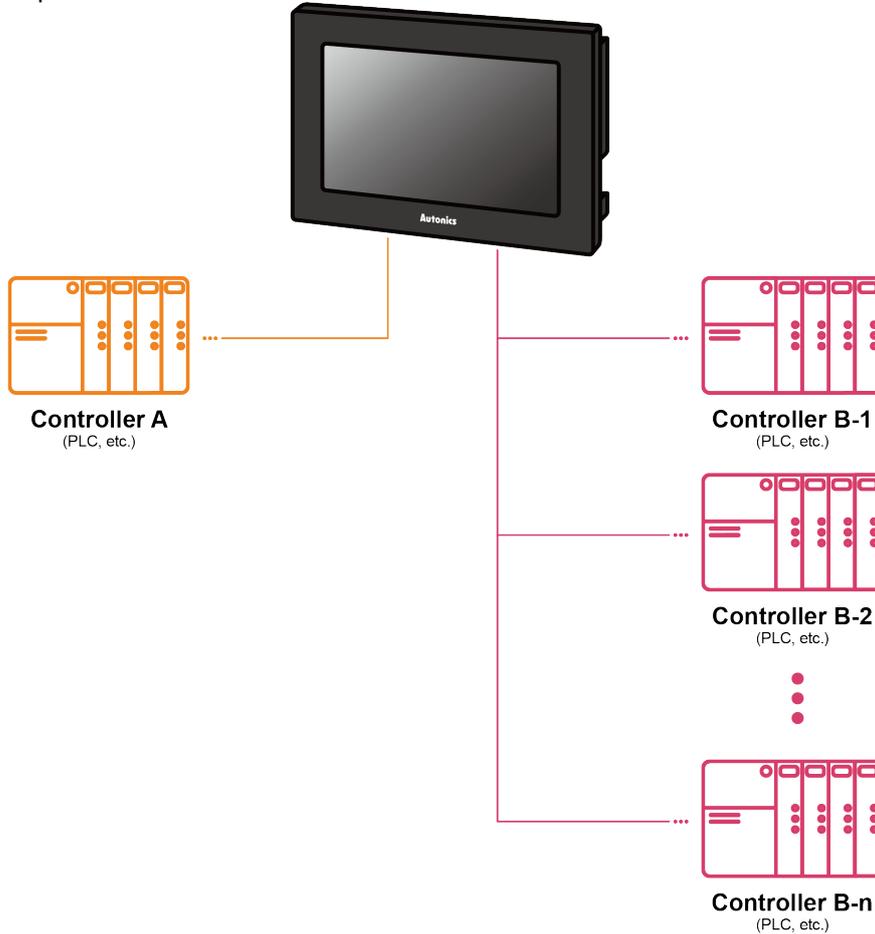
Series	Connecting port	Description
GP/LP-A070	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port	Direct communication available Link device*1 communication available
GP/LP-A104	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port, CAN*2 port	Direct communication available Link device*1 communication available

※1: Please refer to 'GP Editor User Manual' for Link device instruction.

※2: Only Autonics' ARD Series can be connected to CAN port.

### 1.3.2 1:1:N Communication

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.  
 The controller has to be able to set address of each device, and the address should not be duplicated.



#### (1) Communication configuration by GP/LP model

The communication configuration by GP/LP model is listed below.  
 For detailed information about the communication configuration, please refer to 'GP/LP User Manual'.

- GP/LP-S Series

Series	Chanel	Connecting port	Description
GP/LP-S044, GP-S057	CH1	RS232C	Single direct communication available
	CH2	RS422/RS485	Link device <sup>※1</sup> multiple communication available
GP/LP-S070	CH1 or CH2	RS232C	Single direct communication available Link device <sup>※1</sup> single communication available
		RS422/RS485	Multiple direct communication available Link device <sup>※1</sup> multiple communication available

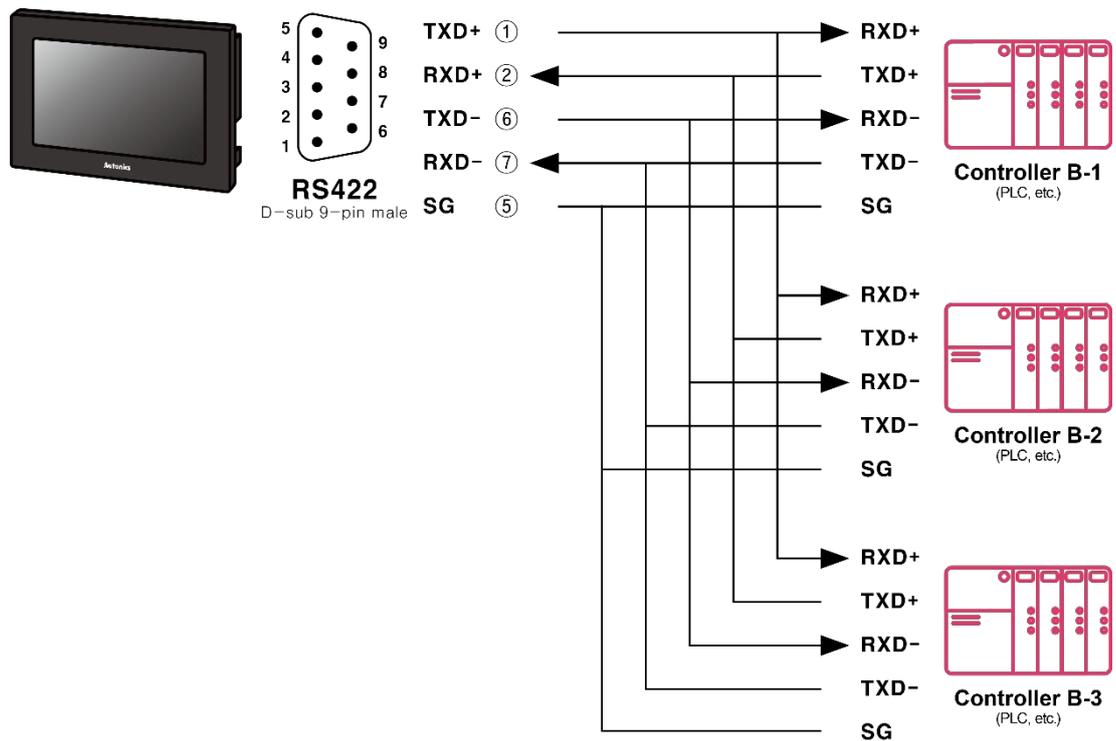
- GP/LP-A Series

Series	Connecting port	Description
GP/LP-A070	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port	Direct communication available Link device*1 communication available
GP/LP-A104	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port, CAN*2 port	Direct communication available Link device*1 communication available

※1: Please refer to 'GP Editor User Manual' for Link device instruction.

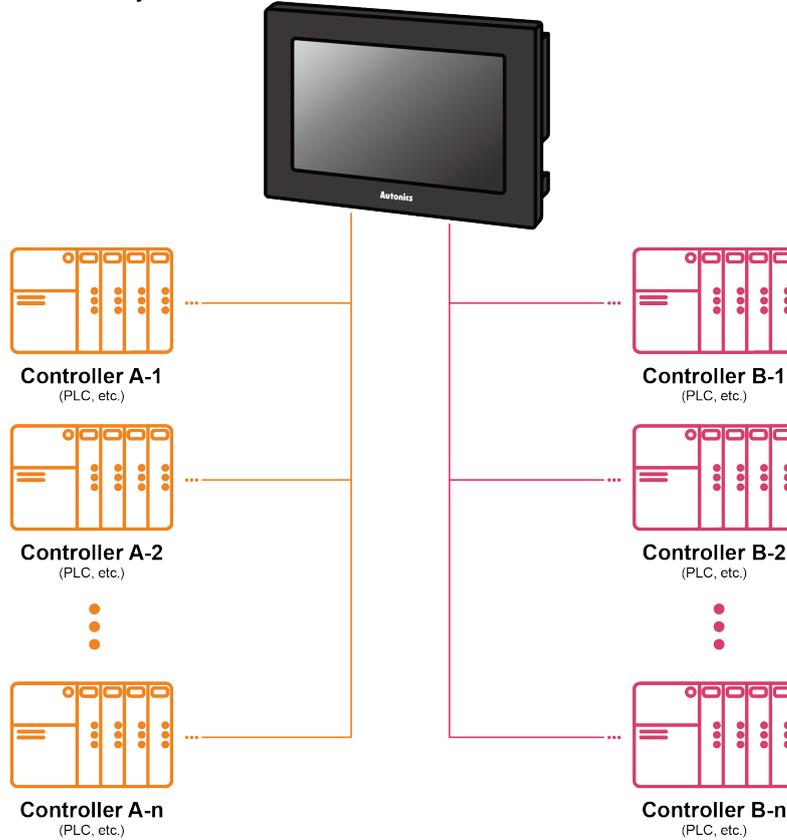
※2: Only Autonics' ARD Series can be connected to CAN port.

**(2) RS422 communication connection diagram**



### 1.3.3 N:1:N Communication

A GP/LP can communicate with the multiple of controller As and Bs. The LP relays communication between the controller A and B.



#### (1) Communication configuration by GP/LP model

The communication configuration by GP/LP model is listed below. For detailed information about the communication configuration, please refer to 'GP/LP User Manual'.

- GP/LP-S Series

Series	Chanel	Connecting port	Description
GP/LP-S070	CH1 or CH2	RS232C/RS422	Multiple direct communication available Link device <sup>※1</sup> multiple communication available

- GP/LP-A Series

Series	Connecting port	Description
GP/LP-A070	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port	Direct communication available Link device <sup>※1</sup> communication available
GP/LP-A104	RS422 or RS232C-A port, RS232C or RS232C-B port, Ethernet port, CAN <sup>※2</sup> port	Direct communication available Link device <sup>※1</sup> communication available

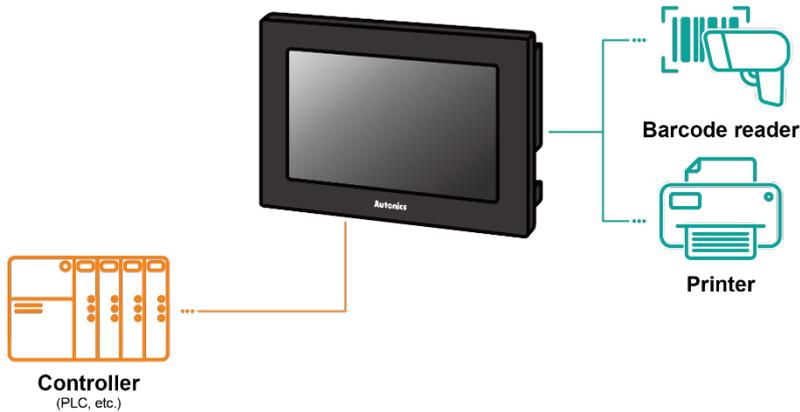
※1: Please refer to 'GP Editor User Manual' for Link device instruction.

※2: Only Autonics' ARD Series can be connected to CAN port.

## 1.4 Barcode Reader, Printer Communication

A GP/LP can communicate with the barcode reader and printer.  
 Connect the barcode reader to utilize the barcode data.  
 Connect the printer to print the alarm log or the screen.

- GP/LP-S Series: printing alarm log
- GP/LP-A Series: print alarm log and screen



### 1.4.1 Communication Configuration

#### 1.4.1.1 Barcode Reader

##### (1) Connected communication port

- GP/LP-S Series

Series	Connected device	Communication port		
		RS232C*	RS422*	USB Host
GP/LP-S044, GP-S057	Controller	○	○	-
	Barcode reader	○	○	-
GP/LP-S070	Controller	○	○	-
	Barcode reader	○	○	-

- GP/LP-A Series

Series	Connected device	Communication port		
		RS232C*	RS422*	USB Host
GP/LP-A070 GP/LP-A104	Controller	○	○	-
	Barcode reader	○	○	○

※RS232C/422 converter allows to opposite communication.

**(2) Configuration method**

1st Set the items related to the use of bar codes in the project in the drawing program, GP Editor/atDesigner.

Series	Description	Drawing program menu
GP/LP-S	Device setting for data storage	Common > Barcode
	System device setting for action control	Common > System Information > System Signal 1
GP/LP-A	Device setting for connection port/data storage	Project > Project Property > Special Device Setting

※For detailed information about system device setting, please refer to 'GP Editor/atDesigner User Manual'.

2nd Download the set project in the drawing program , GP Editor/atDesigner, to GP/LP device.

3rd Make communication settings for each port in the GP/LP system menu.

※For detailed information about communication setting, please refer to 'GP/LP User Manual'.

**(3) Communication specification**

Item	Specification
Baud rate	300, 600, 1200, 3200, 4800, 9600, 19200, 38400, 57600, 115200bps
Data length	7, 8 bit
Parity	None, Odd, Even
Stop bit	1, 2 bit
Flow control	DSR/DTR, XON/XOFF

**1.4.1.2 Printer****(1) Connected communication port**

- GP/LP-S Series

Series	Connected device	Communication port		
		RS232C※	RS422※	USB Host
GP/LP-S044, GP-S057	Controller	○	○	-
	Printer	○	○	-
GP/LP-S070	Controller	○	○	-
	Printer	○	○	-

- GP/LP-A Series

Series	Connected device	Communication port		
		RS232C※	RS422※	USB Host
GP/LP-A070, GP/LP-A104	Controller	○	○	-
	Printer	-	-	○

**(2) Configuration method**

1st Set screen printing/alarm log printing device and touch key/switch in drawing program, GP Editor/atDesigner.

Series	Description	Drawing program menu
GP/LP-S	System device setting for action control	Common > System Information > System Signal
GP/LP-A	Device setting for screen print control	Project window > Right-click menu of the screen to print > Screen Printer Setting
	Device setting for alarm log print	Project window > Alarm History > Use Print

2nd Download the set project in the drawing program , GP Editor/atDesigner, to GP/LP device.

3rd Make communication settings for each port in the GP/LP system menu.

※ For detailed information about communication setting, please refer to 'GP/LP User Manual'.

**(3) Communication specification**

Item	Specification
Baud rate	300, 600, 1200, 3200, 4800, 9600, 19200, 38400, 57600 bps
Data length	7, 8 bit
Parity	None, Odd, Even
Stop bit	1, 2 bit
Flow control	DSR/DTR, XON/XOFF



## 2 Communication Configuration by Devices

### 2.1 Autonics Product

GP/LP can be communicated with Autonics's products such as Multi Temperature Controllers (TK/TM/TMH/TZ Series), Temperature/Humidity Transducer (THD-RT Series), Counter/Timer (CT Series), Panel Meter (MT Series), Pulse Meter (MP Series), Display Unit (DS/DA Series), Digital Remote I/O (ARM/ARD Series).

#### 2.1.1 Connection Support Products

PLC type		Communication method	Default baud rate (bps)
Autonics	TK(MODBUS)	RS485/422	9600
	TM(MODBUS)		
	TMH2/4/C_22LE(MODBUS)		
	TZ		
	THD-RT(MODBUS)		
	CT(MODBUS)		
	MT		
	MT(MODBUS)		
	MP		
	DS/DA(MODBUS)		
	ARM(MODBUS)		
ARD(DeviceNet)	DeviceNet	Automatically set as Master	

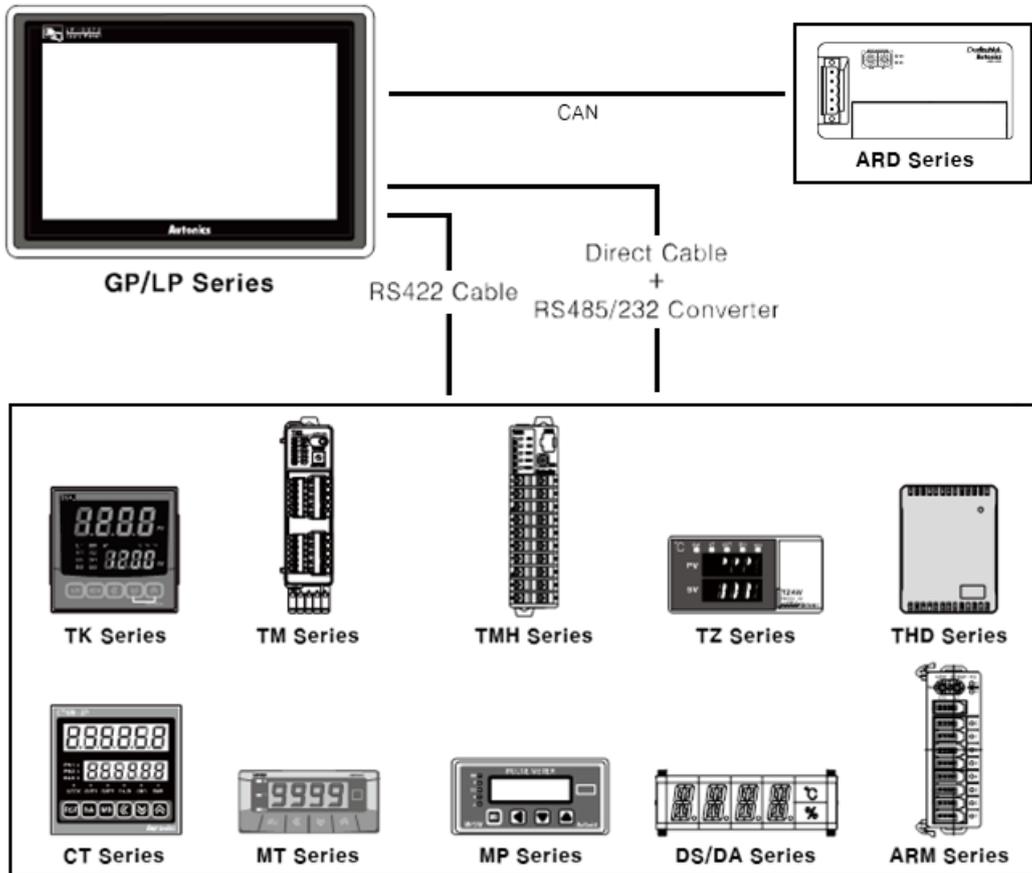
#### 2.1.2 Connectable GP/LP Model

Connected devices	Connection method	GP/LP Model								
		GP-2480 (under V2.70)	GP-2480 (over V3.00)	GP-S057	GP/LP-S044	GP/LP-S070	GP-S057 (V2)	GP/LP-S044 (V2)	GP/LP-S070 (V2)	GP/LP-A Series
TK Series	Modbus	x	○	○	○	x	x	x	x	x
	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
TM Series	Modbus	x	○	○	○	x	x	x	x	x
	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
TMH Series	Modbus (TYPE A)	x	x	x	x	x	○	○	○	○
TZ Series	Dedicated comm.	○	○	○	○	○	○	○	○	○
THD Series	Modbus	○	○	○	○	x	x	x	x	x
	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
CT Series	Modbus	x	○	○	○	x	x	x	x	x
	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
MT Series	Dedicated comm.	○	○	○	○	○	○	○	○	○
	Modbus	x	○	○	○	x	x	x	x	x

Connected devices	Connection method	GP/LP Model								
		GP-2480 (under V2.70)	GP-2480 (over V3.00)	GP-S057	GP/LP-S044	GP/LP-S070	GP-S057 (V2)	GP/LP-S044 (V2)	GP/LP-S070 (V2)	GP/LP-A Series
	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
MP Series	Dedicated comm.	○	○	○	○	○	○	○	○	○
DS/DA Series	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
ARM Series	Modbus (TYPE A)	x	x	○	○	○	○	○	○	○
ARD Series	DeviceNet	x	x	x	x	x	x	x	x	○*

※ Only Autonics' ARD Series can be connected to CAN port.

### 2.1.3 System Organization



Autonics's TK, TM, TMH, TZ, THD-RT, CT, MT, MP, DS/DA, ARM products communicate RS485 as default during cable connection as follows;

Also RS232C communication is available by using RS485/232 converter.

ARD Series can be connected with GP/LP-A104 with CAN communication.



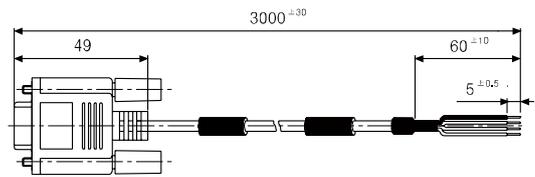
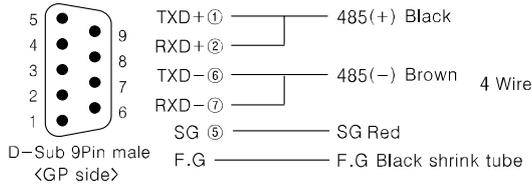
**Note**

Autonics controller's communication speed, address, and GP/LP's communication speed, address must be set the same. For the detailed informations about communication and address setting for each product, please refer to user manual for corresponding products.  
 Since Autonics controllers are classified as Read/Write devices, so take care during use. Especially using as CH2, please refer to '1 System Organization'.

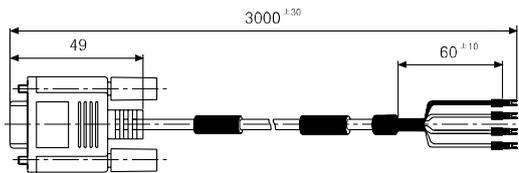
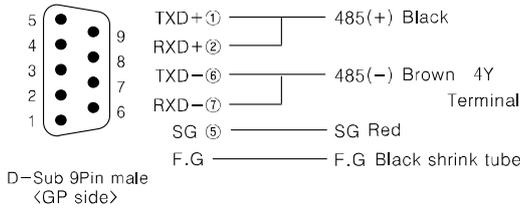
**2.1.4 Communication Cable**

**(1) RS485**

- Applied cable: C3M5P03-D9M0-W4\*0

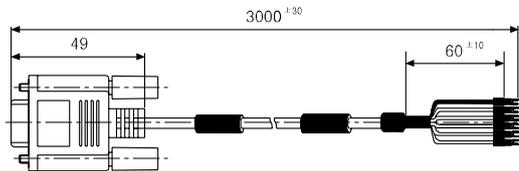
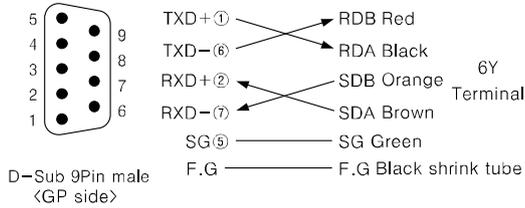


- Applied cable: C3M5P03-D9M0-T4Y0



**(2) RS422**

- Applied cable: C3M5P04-D9M0-T6Y0



**(3) CAN**

Please wire as follows.

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

## 2.1.5 Available Device

### 2.1.5.1 TK

Please refer to 'TK communication manual' for Autonics TK's available devices

#### (1) Modbus (TK\_Mod)

Type	Device	Mark	Range	
			Start	End
Bit	Bit device area	TK	Refer to TK device table	
Word	Word device area	TK	Refer to TK device table	

#### (2) Modbus TYPE A (TK\_Mod\_A)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	Refer to TK device table	
	Bit device area	1	Refer to TK device table	
Word	Word device area	3	Refer to TK device table	
	Word device area	4	Refer to TK device table	

### 2.1.5.2 TM

Please refer to 'TM communication manual' for Autonics TM's available devices

#### (1) Modbus (TM\_Mod)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	TM	Refer to TM device table	
Word	Word device area	TM	Refer to TM device table	

#### (2) Modbus TYPE A(TM\_Mod\_A)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	Refer to TM device table	
	Bit device area	1	Refer to TM device table	
Word	Word device area	3	Refer to TM device table	
	Word device area	4	Refer to TM device table	

**2.1.5.3 TMH**

Please refer to 'TMH communication manual' for Autonics TMH's available devices

**(1) TMH2**

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	000001	000002
	Bit device area	1	100001 100005	100002 100008
Word	Word device area	3	300101	300114
			300118	300126
			301001	301002
			301005	301006
			301009	301010
			301013	301014
			301017	301018
	Word device area	4	301021	301022
			301025	301031
			400001	400004
			400051	400056
			400101	400132
			400151	400169
			400201	400206
400251	400303			
400351	400359			
400401	400410			

**(2) TMH4**

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	000001	000008
	Bit device area	1	100001 100011	100004 100026
Word	Word device area	3	300101	300114
			300118	300126
			301001	301031
	Word device area	4	400001	400004
			400051	400056
			400101	400132
			400151	400169
			400201	400206
			400251	400303
			400351	400359
400401	400410			

**(3) TMHC-22LE**

Type	Device	Name	Range	
			Start	End
Word	Word device area	3	300083	300088
			300101	300114
			300118	300126
	Word device area	4	400301	400311
			400401	400458

**2.1.5.4 TZ**

Autonics TZ's available devices and parameters can be represented as follows: Only TZ exists for the available device.

Type	Device	Name	Range	
			Start	End
Word	Word device area	TZ	TZ0	TZ1

Device	Description	Read/Write
TZ0	Current value	Read
TZ1	Set value	Read/Write

**2.1.5.5 THD-RT(Modbus)**

Autonics THD-RT's available devices and parameters can be represented as follows: Only TH exists for the available device. Modbus (THD-RT\_Mod)

Type	Device	Name	Range	
			Start	End
Word	Word device area	TH	TH30001	TH30002
	Word device area	TH	TH30101	TH30125

Device	Description	Read/Write
TH30001	Temperature value	Read
TH30002	Humidity value	Read
...	Blank	-
TH30101	Product number H	Read
TH30102	Product number L	Read
TH30103	Hardware version	Read
TH30104	Software version	Read
TH30105	Model name 1	Read
TH30106	Model name 2	Read
TH30107	Model name 3	Read
TH30108	Model name 4	Read
TH30109	Model name 5	Read
TH30110	Model name 6	Read
TH30111	Model name 7	Read
TH30112	Model name 8	Read
TH30113	Model name 9	Read
TH30114	Model name 10	Read
TH30115	Reserved area	Read
TH30116	Reserved area	Read
TH30117	Reserved area	Read
TH30118	Coil start address	Read
TH30119	Coil quantity	Read
TH30120	Input start address	Read
TH30121	Input quantity	Read
TH30122	Holding REG start address	Read

Device	Description	Read/Write
TH30123	Holding REG quantity	Read
TH30124	Input REG start address	Read
TH30125	Input REG quantity	Read

#### (4) Modbus TYPE A( THD-RT\_Mod\_A )

Type	Device	Name	Range	
			Start	End
Word	Word device area	3	300001	300002
	Word device area	3	300101	300125

Device	Description	Read/Write
300001	Temperature value	Read
300002	Humidity value	Read
...	Blank	-
300101	Product number H	Read
300102	Product number L	Read
300103	Hardware version	Read
300104	Software version	Read
300105	Model name 1	Read
300106	Model name 2	Read
300107	Model name 3	Read
300108	Model name 4	Read
300109	Model name 5	Read
300110	Model name 6	Read
300111	Model name 7	Read
300112	Model name 8	Read
300113	Model name 9	Read
300114	Model name 10	Read
300115	Reserved area	Read
300116	Reserved area	Read
300117	Reserved area	Read
300118	Coil start address	Read
300119	Coil quantity	Read
300120	Input start address	Read
300121	Input quantity	Read
300122	Holding REG start address	Read
300123	Holding REG quantity	Read
300124	Input REG start address	Read
300125	Input REG quantity	Read

#### 2.1.5.6 CT

Please refer to 'CT communication manual' for Autonics CT's available devices

##### (1) Modbus (CT\_Mod)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	CT	Refer to CT device table	
Word	Word device area	CT	Refer to CT device table	

##### (2) Modbus TYPE A(CT\_Mod\_A)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	Refer to CT device table	
	Bit device area	1	Refer to CT device table	
Word	Word device area	3	Refer to CT device table	
	Word device area	4	Refer to CT device table	

### 2.1.5.7 MT Series

Autonics MT's available devices and parameters can be represented as follows: Only MT exists for the available device.

#### (1) In case of MT Series, not ModBus communication type

Type	Device	Name	Range	
			Start	End
Word	Word device area	MT	MT0	MT0

Device	Description	Read/Write
MT0	Current value	Read

#### (2) In case of MT Series with ModBus communication type (MT4N)

##### 1) Modbus (MT4N\_Mod)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	MT	MT10001	MT10001
Word	Word device area	MT	MT30001	MT30004
	Word device area	MT	MT30101	MT30109
	Word device area	MT	MT30118	MT30125

Device	Description	Read/Write
MT30001	Current value	Read
MT30002	Dot setting value	Read
MT30003	Max. signal input	Read
MT30004	Min. signal input	Read
MT30101	Product number H	Read
MT30102	Product number L	Read
MT30103	Hardware version	Read
MT30104	Software version	Read
MT30105	Model name 1	Read
MT30106	Model name 2	Read
MT30107	Model name 3	Read
MT30108	Model name 4	Read
MT30109	Model name 5	Read
MT30118	Coil start address	Read
MT30119	Coil quantity	Read
MT30120	Input start address	Read
MT30121	Input quantity	Read
MT30122	Holding REG start address	Read
MT30123	Holding REG quantity	Read
MT30124	Input REG start address	Read
MT30125	Input REG quantity	Read

##### 2) Modbus TYPE A (MT4N\_Mod\_A)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	1	100001	100001
Word	Word device area	3	300001	300004
	Word device area	3	300101	300109
	Word device area	3	300118	300125

Device	Description	Read/Write
300001	Current value	Read
300002	Dot setting value	Read
300003	Max. signal input	Read
300004	Min. signal input	Read
300101	Product number H	Read

Device	Description	Read/Write
300102	Product number L	Read
300103	Hardware version	Read
300104	Software version	Read
300105	Model name 1	Read
300106	Model name 2	Read
300107	Model name 3	Read
300108	Model name 4	Read
300109	Model name 5	Read
300118	Coil start address	Read
300119	Coil quantity	Read
300120	Input start address	Read
300121	Input quantity	Read
300122	Holding REG start address	Read
300123	Holding REG quantity	Read
300124	Input REG start address	Read
300125	Input REG quantity	Read

### (3) In case of MT Series with ModBus type (MT4W, MT4Y)

- 1) Modbus (MT4W\_Mod, MT4Y\_Mod)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	MT	MT10001	MT10001
Word	Word device area	MT	MT30001	MT30004

Device	Description	Read/Write
MT30001	Current value	Read
MT30002	Dot setting value	Read
MT30003	Max. signal input	Read
MT30004	Min. signal input	Read

- 2) Modbus TYPE A ( MT4W\_Mod\_A., MT4Y\_Mod\_A)

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	1	100001	100001
Word	Word device area	3	300001	300004

Device	Description	Read/Write
300001	Current value	Read
300002	Dot setting value	Read
300003	Max. signal input	Read
300004	Min. signal input	Read

#### 2.1.5.8 MP

Autonics MP's available devices and parameters can be represented as follows: Only MP exists for the available device.

Type	Device	Name	Range	
			Start	End
Word	Word device area(32Bit)	MP	MP0	MP11

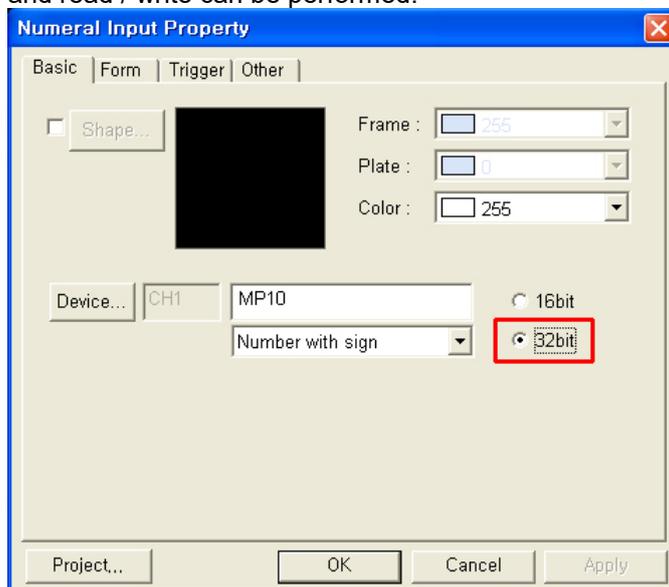
Device	Code	Description	Read/Write
MP0	P0	Current value	Read
MP1	C0	Compare setting value(HH)	Read/Write
MP2	C1	Compare setting value(H)	Read/Write
MP3	C2	Compare setting	Read/Write

Device	Code	Description	Read/Write
		value(L)	
MP4	C3	Compare setting value(LL)	Read/Write
MP5	K0	Peak value (max)	Read
MP6	K1	Peak value (min)	Read
MP7	X0	Prescale value X.Ain	Read/Write
MP8	X1	Prescale value X.Bin	Read/Write
MP9	Y0	Prescale value Y.Ain	Read/Write
MP10	Y1	Prescale value Y.Bin	Read/Write
MP11	R0	Max/min value reset	Write



**Note**

The MP device must be downloaded with the data format set to 32 bits in the setting of numerical display / numeric input / ASCII input / ASCII display of GP Editor, and accurate parameter value and read / write can be performed.



**2.1.5.9 DS/DA**

Please refer to 'DS/DA instruction manual' for Autonics Display Unit DS/DA Series's available devices

Type	Device	Name	Range	
			Start	End
Word	Word device area	3	Refer to DS/DA device table	
	Word device area	4	Refer to DS/DA device table	

**2.1.5.10 ARM**

Please refer to 'ARM communication manual' for Autonics ARM Series's available devices

Type	Device	Name	Range	
			Start	End
Bit	Bit device area	0	Refer to ARM device table	
	Bit device area	1	Refer to ARM device table	
Word	Word device area	3	Refer to ARM device table	
	Word device area	4	Refer to ARM device table	

## 2.1.6 Monitorable Device in GP/LP

The status can be changed by monitoring the connected devices in GP/LP.

The following is a list of devices available in this menu, please refer to 'Available devices' for available device range.

### 2.1.6.1 TK Series

#### (1) Modbus

Type	Mark	Device	Note
Bit	TK	Bit device area	
Word	TK	Word device area	

#### (2) Modbus TYPE A

Type	Mark	Device	Note
Bit	0	Bit device area	
	1	Bit device area	
Word	3	Word device area	
	4	Word device area	

### 2.1.6.2 TM Series

#### (1) Modbus

Type	Mark	Device	Note
Bit	TM	Bit device area	
Word	TM	Word device area	

#### (2) Modbus TYPE A

Type	Mark	Device	Note
Bit	0	Bit device area	
	1	Bit device area	
Word	3	Word device area	
	4	Word device area	

### 2.1.6.3 TMH Series

Same as 'Available devices'.

### 2.1.6.4 TZ Series

Type	Mark	Device	Note
Word	TZ	Data register	

### 2.1.6.5 THD-RT(MOD)

#### (1) Modbus

Type	Mark	Device	Note
Word	TH	Word device area	

#### (2) Modbus TYPE A

Type	Mark	Device	Note
Word	3	Word device area	

**2.1.6.6 CT Series****(1) Modbus**

Type	Mark	Device	Note
Bit	CT	Bit device area	
Word	CT	Word device area	

**(2) Modbus TYPE A**

Type	Mark	Device	Note
Bit	0	Bit device area	
	1	Bit device area	
Word	3	Word device area	
	4	Word device area	

**2.1.6.7 MT Series****(1) Modbus**

Type	Mark	Device	Note
Word	MT	Data register	

**(2) Modbus TYPE A**

Type	Mark	Device	Note
Bit	1	Bit device area	
Word	3	Word device area	

**2.1.6.8 MP Series**

Type	Mark	Device	Note
Word	MP16	Data register	16Bit
	MP32	Data register	32Bit

**2.1.6.9 DS/DA Series**

Type	Mark	Device	Note
Word	3	Word device area	
	4	Word device area	

**2.1.6.10 ARM Series**

Type	Mark	Device	Note
Bit	0	Bit device area	
	1	Bit device area	
Word	3	Word device area	
	4	Word device area	

## 2.2 Connection to Autonics LP Series

GP/LP is able to communicate with Autonics LP Series.

### 2.2.1 Connection Support Products

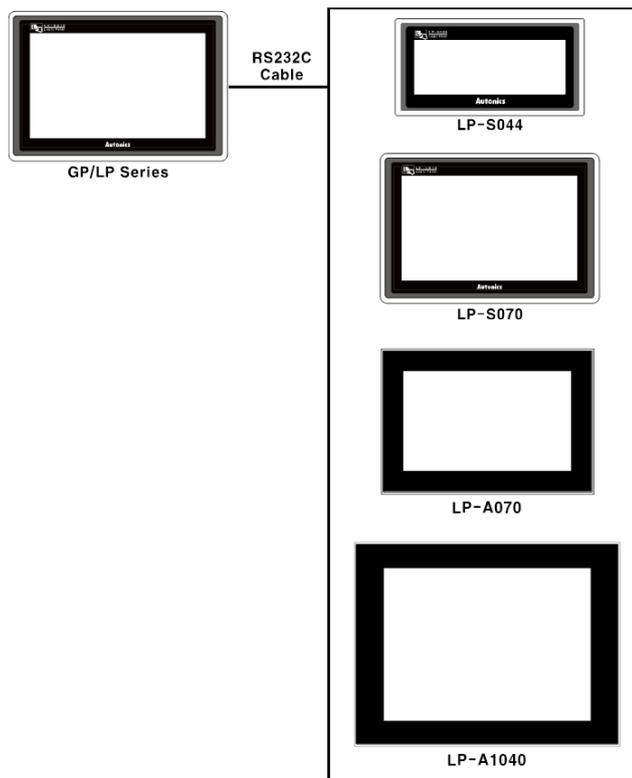
PLC Type		Comm. method	Communication type	Baud rate (bps)
Autonics LP Series	LP-S044 LP-S070 LP-A070 LP-A104	RS-232C, RS422*	CPU direct connection (Loader)	300 to 115200 selectable

\*RS 422 communication is available, when using RS 232/422 converter.

### 2.2.2 Connectable GP/LP Model

Connected devices	Connection method	GP/LP Model								
		GP-2480 (under V2.70)	GP-2480 (over V3.00)	GP-S057	GP/LP-S044	GP/LP-S070	GP-S057 (V2)	GP/LP-S044 (V2)	GP/LP-S070 (V2)	GP/LP-A Series
LP-S044, LP-S070	CPU	x	○	○	○	○	○	○	○	○
LP-A070, LP-A104	CPU	x	x	x	x	x	○	○	○	○

### 2.2.3 System Organization

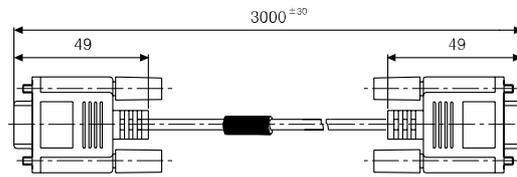
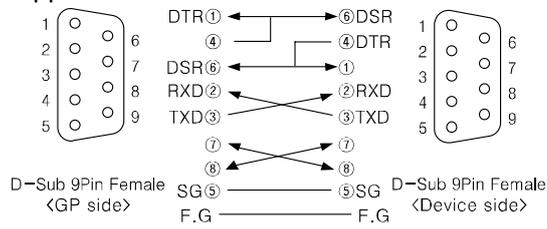


Autonics LP Series performs RS 232C communication as a default.

## 2.2.4 Communication Cable

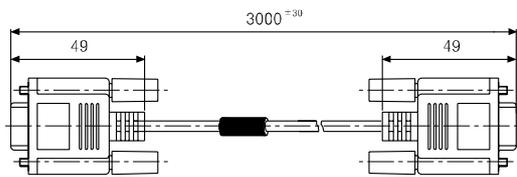
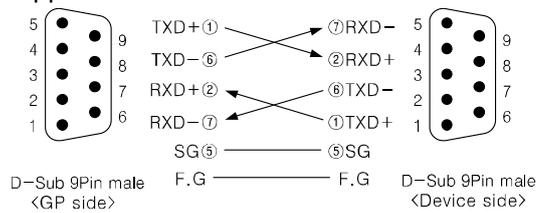
### (1) RS232C

- Applied cable: C3M5P14-D9F0-D9F0



### (2) RS422

- Applied cable: C3M5P15-D9M0-D9M0



## 2.2.5 Available Device

The device range differs depending on the PLC model and the number of I/O contacts.

The available PLC model in GP/LP are as follows.

For detailed information about each device, please refer to the manuals provided by each manufacturer and

For detailed information about GP/LP internal device, please refer to 'atLogic Programming Manual'.

### 2.2.5.1 Device Structure

X	00	0
---	----	---

①Device name

②Word address

③Bit address

Type	①	②	③
Bit	X	Decimal	Hexadecimal
	Y	Decimal	Hexadecimal
	M	Decimal	Hexadecimal
	F	Decimal	Hexadecimal
	L	Decimal	Hexadecimal
	S	Bit address(Decimal)	
	T	Bit address(Decimal)	
	C	Bit address(Decimal)	
Word	X	Word address(Decimal)	none
	Y	Word address(Decimal)	none
	M	Word address(Decimal)	none
	F	Word address(Decimal)	none
	L	Word address(Decimal)	none
	T	Word address(Decimal)	
	C	Word address(Decimal)	
	D	Word address(Decimal)	
	R	Word address(Decimal)	



Ex.

Word X1 = Bit X10 to X1F , Word UW10 = UB100 to UB10F

## 2.2.5.2 Device Range

## (1) LP-S044

Type	Device	Name	Range	
			Start	End
Bit	Input relay	X	X0	X255F
	Output relay	Y	Y0	Y255F
	Internal auxiliary relay	M	M0	M9999F
	Status relay	S	S0	S25599
	Special relay	F	F0	F255F
	Link relay	L	L0	L255F
	Timer contact [10ms]	T	T0	T127
	Timer contact [100ms]	T	T128	T255
	Counter contact [16 bit]	C	C0	C255
Word	Input register	X	X0	X255
	Output register	Y	Y0	Y255
	Internal auxiliary register	M	M0	M9999
	File register	R	R0	R3999
	Special register	F	F0	F255
	Link register	L	L0	L255
	Timer current value [10ms]	T	T0	T127
	Timer current value [100ms]	T	T128	T255
	Counter current value [16 bit]	C	C0	C255
Data register	D	D0	D9999	

## (2) LP-S070

Type	Device	Name	Range	
			Start	End
Bit	Input relay	X	X0	X255F
	Output relay	Y	Y0	Y255F
	Internal auxiliary relay	M	M0	M9999F
	Status relay	S	S0.00	S255.99
	Special relay	F	F0	F300F
	Link relay	L	L0	L255F
	Timer contact [10ms]	T	T0	T127
	Timer contact [100ms]	T	T128	T255
	Counter contact [16 bit]	C	C0	C255
Word	Input register	X	X0	X255
	Output register	Y	Y0	Y255
	Internal auxiliary register	M	M0	M9999
	File register	R	R0	R3999
	Special register	F	F0	F300
	Link register	L	L0	L255
	Timer current value [10ms]	T	T0	T127
	Timer current value [100ms]	T	T128	T255
	Counter current value [16 bit]	C	C0	C255
Data register	D	D0	D9999	

**(3) LP-A070/A104**

Type	Device	Name	Range	
			Start	End
Bit	Input relay	X	X0	X15999F
	Output relay	Y	Y0	Y15999F
	Internal auxiliary relay	M	M0	M14999F
	Status relay	S	S0	S999.99
	Special relay	F	F0	F299F
	Link relay	L	L0	L999F
	Timer contact [10ms]	T	T0	T127
	Timer contact [100ms]	T	T128	T255
	Counter contact [16 bit]	C	C0	C255
Word	Input register	X	X0	X15999
	Output register	Y	Y0	Y15999
	Internal auxiliary register	M	M0	M14999
	File register	R	R0	R4099
	Special register	F	F0	F299
	Link register	L	L0	L999
	Timer current value [10ms]	T	T0	T127
	Timer current value [100ms]	T	T128	T255
	Counter current value [16 bit]	C	C0	C255
	Data register	D	D0	D28999

**2.2.6 Monitorable Device in GP/LP**

The status can be changed by monitoring the connected devices in GP/LP.

The following is a list of devices available in this menu, please refer to 'Available devices' for available device range.

Type	Name	Device	Note
Bit	X	Input relay	
	Y	Output relay	
	M	Internal auxiliary relay	
	F	Special relay	
	S	Status relay	
	L	Link relay	
	T	Timer contact	
	C	Counter contact	
Word	X	Input register	
	Y	Output register	
	M	Internal auxiliary register	
	F	Special register	
	L	Link register	
	T	Timer current value	
	C	Counter current value	
	D	Data register	16 bit
R	File register		

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\* Dimensions or specifications on this manual are subject to change and some models may be discontinued without notice.

**MTA-GPLPC\_Autonics-V1.0-1907US**