Giddings Lewis

MMC

Supported version TOP Design Studio V4.0 or higher

CONTENTS

We want to thank our customers who use the Touch Operation Panel.

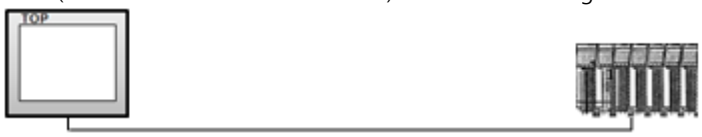
1. System configuration

The system configuration of TOP and "Gidding Lewis – MMC" is as follows:

Series	CPU	Link I/F	Communication method	System setting	Cable
MMC		CPU Direct	RS–232C	3.1 Settings example 1 (Page 4)	5.1. Cable table 1 (Page 9)
			RS–422 (4 wire)	3.2 Settings example 2 (Page 5)	5.1. Cable table 1 (Page 10)

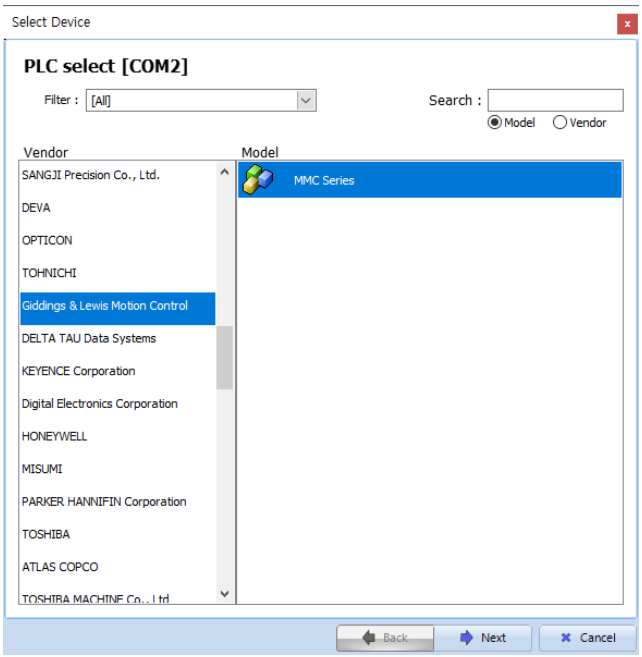
■ Connection configuration

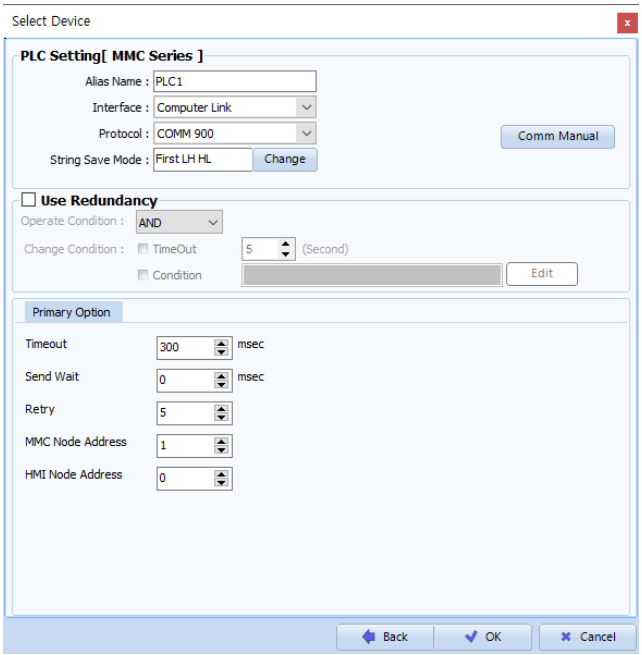
• 1:1 (one TOP and one external device) connection – configuration which is possible in RS232C/422/485 communication.



2. External device selection

■ Select a TOP model and a port, and then select an external device.





Settings		Contents
TOP	Model	Check the TOP display and process to select the touch model.
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select “Gidding Lewis”.
	PLC	Select an external device to connect to TOP. Select “MMC”. Please check the system configuration in Chapter 1 to see if the external device you want to connect is a model whose system can be configured.

3. TOP communication setting

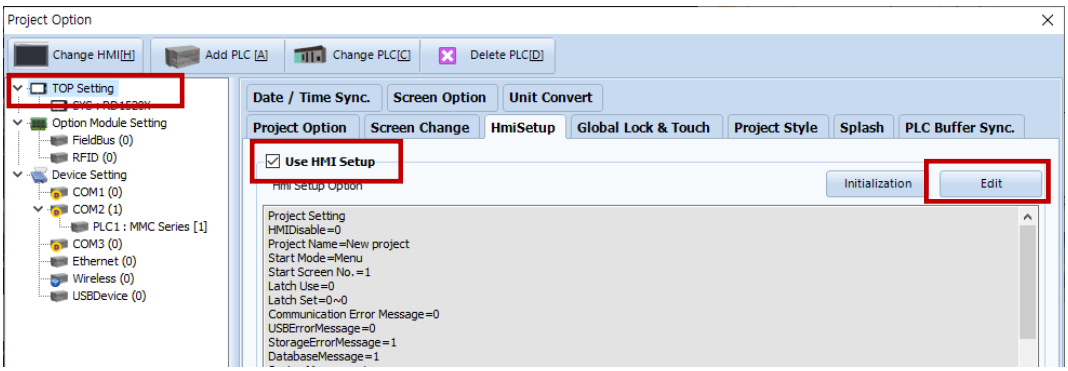
The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

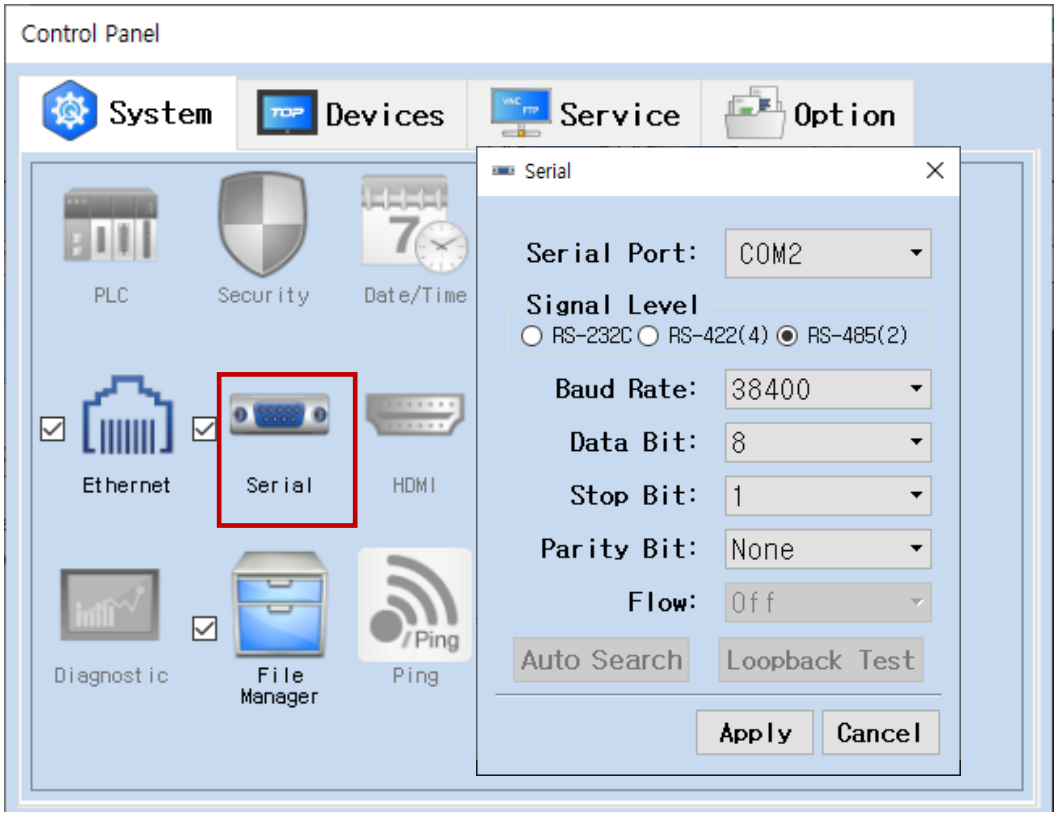
3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

■ [Project > Project Property > TOP Setting] → [Project Option > "Use HMI Setup" Check > Edit > Serial]

– Set the TOP communication interface in TOP Design Studio.





Items	TOP	External device	Remarks
Signal Level (port)	RS-232C/RS-485		
Baud Rate	38400		
Data Bit	8		
Stop Bit	1		
Parity Bit	NONE		

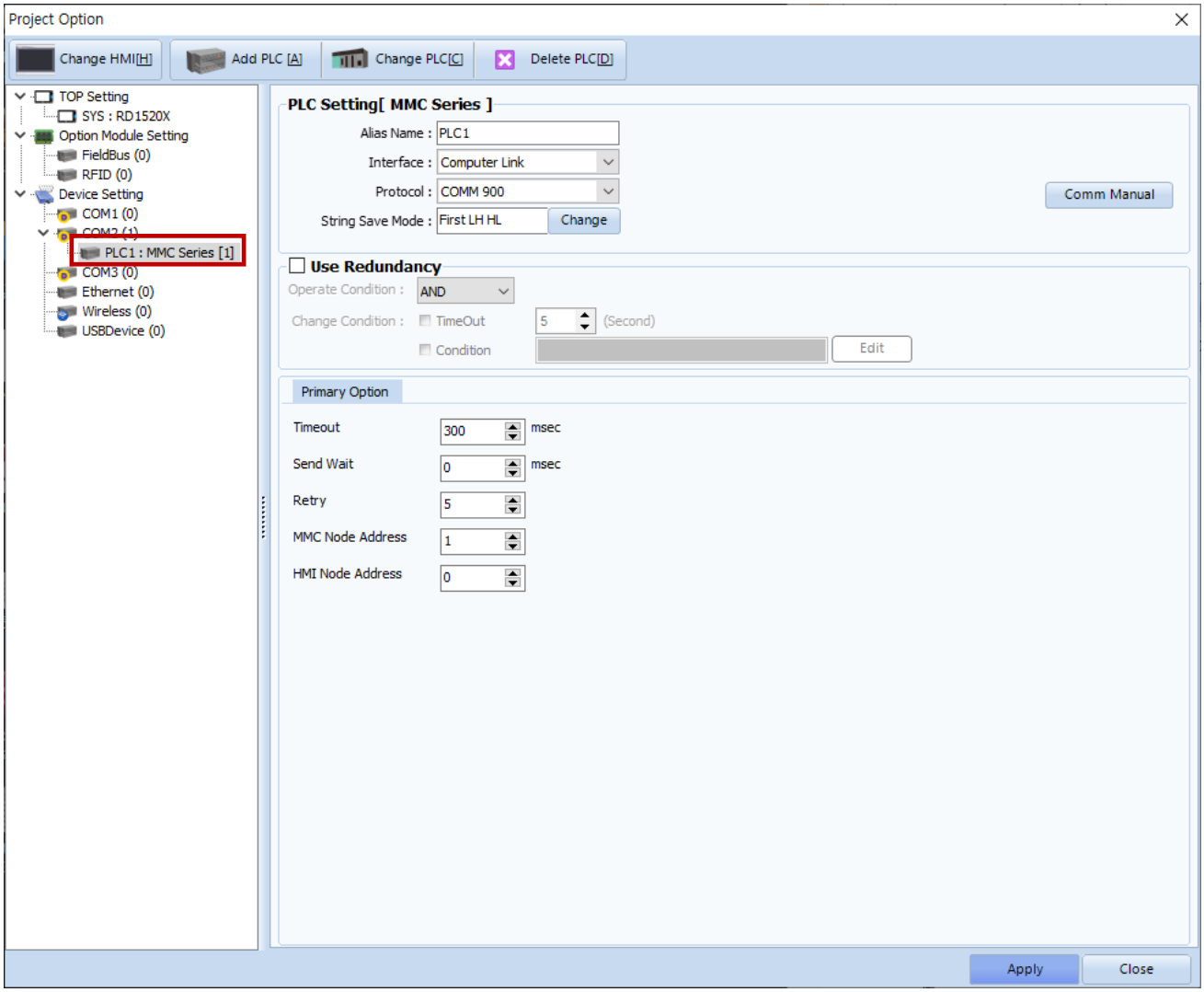
* The above settings are examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device.
Baud Rate	Select the serial communication speed between the TOP and an external device.
Data Bit	Select the serial communication data bit between the TOP and an external device.
Stop Bit	Select the serial communication stop bit between the TOP and an external device.
Parity Bit	Select the serial communication parity bit check method between the TOP and an external device.

(2) Communication option setting

■ [Project > Project Property > Device Setting > COM > "PLC1: MMC"]

– Set the options of the Gidding Lewis communication driver in TOP Design Studio.

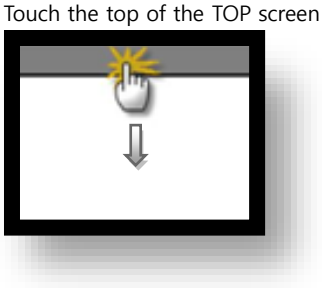


Items	Settings	Remarks
Interface	"Computer Link"	Fixed
Protocol	"COMM 900"	
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device and sending the next command request.	
Retry	Retry attempts upon communication failure.	
MMC Node Address	Enter the MMC Node Address.	
HMI Node Address	Enter the HMI Node Address.	

3.2. Communication setting in TOP

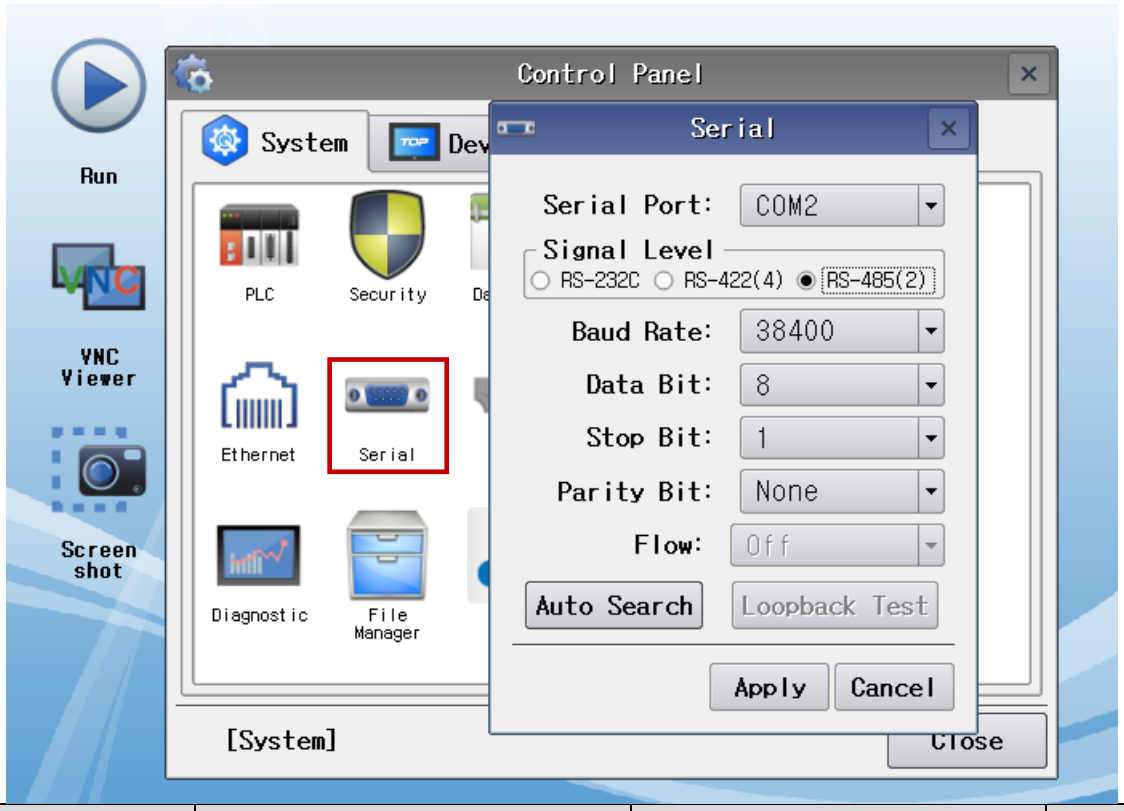
*** This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.**

■ Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Main Screen > Control Panel > Serial]



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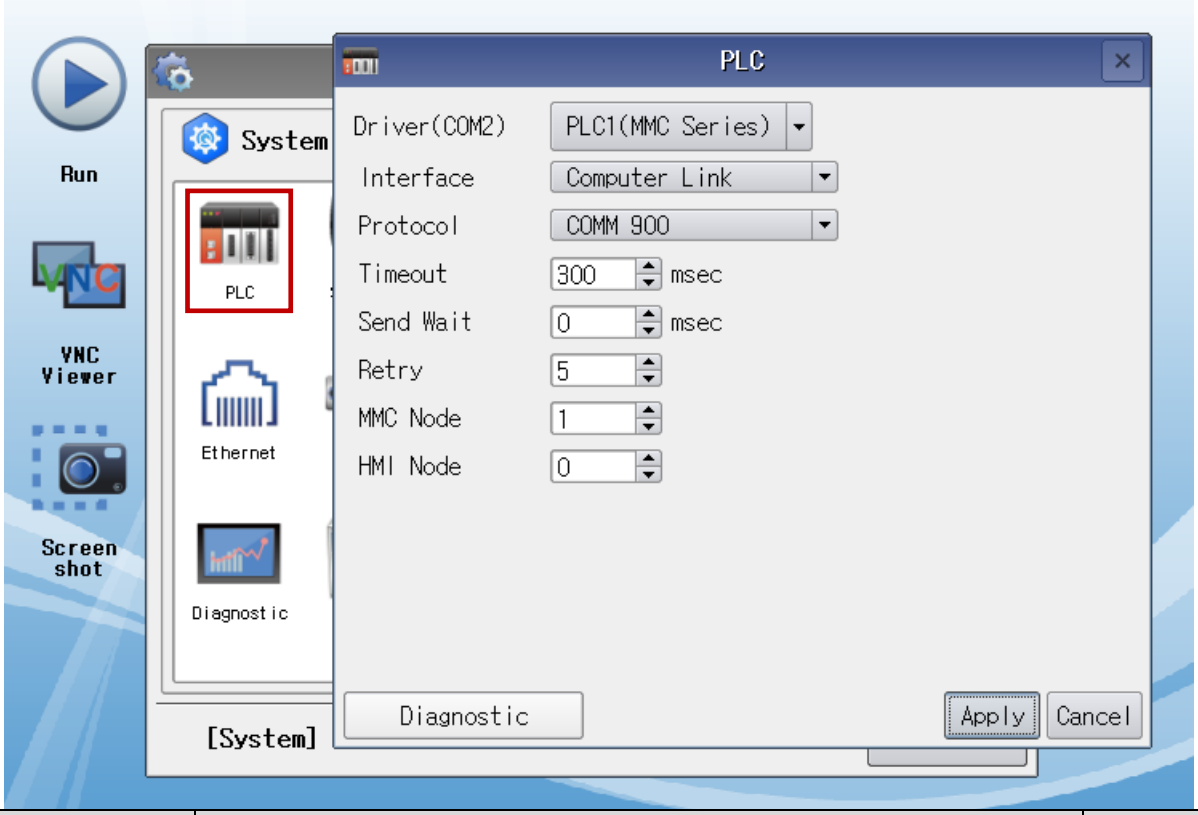
(2) Communication option setting

■ [Main Screen > Control Panel > PLC]



Items	Settings	Remarks
Interface	"Computer Link"	Fixed
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HMI Node Address	Enter the HMI Node Address.	

3.3 Communication diagnostics

■ Diagnosis of whether the port communication is normal or not

- Touch "Communication diagnostics" in [Control Panel > PLC].
- The Diagnostics dialog box pops up on the screen and determines the diagnostic status.

OK	**Communication setting normal**
Time Out Error	**Communication setting abnormal** - Check the cable, TOP, and external device setting status. **(Reference: Communication diagnostics sheet)**

■ Communication diagnostics sheet

- If there is a problem with the communication connection with an external terminal, please check the settings in the sheet below.

Items	Contents		Check		Remarks
System configuration	How to connect the system		OK	NG	1. System configuration
	Connection cable name		OK	NG	
TOP	Version information		OK	NG	2. External device selection 3. Communication setting
	Port in use		OK	NG	
	Driver name		OK	NG	
	Other detailed settings		OK	NG	
	Relative prefix	Project setting	OK	NG	
		Communication diagnostics	OK	NG	
	Serial Parameter	Transmission Speed	OK	NG	
		Data Bit	OK	NG	
		Stop Bit	OK	NG	
		Parity Bit	OK	NG	
External device	CPU name		OK	NG	4. External device setting
	Communication port name (module name)		OK	NG	
	Protocol (mode)		OK	NG	
	Setup Prefix		OK	NG	
	Other detailed settings		OK	NG	
	Serial Parameter	Transmission Speed	OK	NG	
		Data Bit	OK	NG	
		Stop Bit	OK	NG	
		Parity Bit	OK	NG	
	Check address range		OK	NG	6. Supported addresses (For details, please refer to the PLC vendor's manual.)

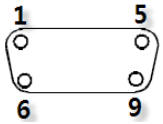
4. External device setting

Refer to the vendor's user manual to identically configure the communication settings of the external device to that of the TOP.

5. Cable table

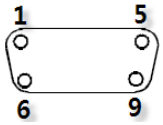
This chapter introduces a cable diagram for normal communication between the TOP and the corresponding device.
(The cable diagrams described in this section may differ from the external device vendor's recommendations.)

■ RS-232C (1:1 connection)

TOP			Cable connection	External device	
Pin arrangement*Note 1)	Signal name	Pin number		Signal name	
 Based on communication cable connector front, D-SUB 9 Pin male (male, convex)	CD	1			
	RD	2		SD	
	SD	3		RD	
	DTR	4		DTR	
	SG	5		SG	
	DSR	6		DSR	
	RTS	7		RTS	
	CTS	8		CTS	
		9			

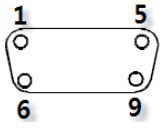
*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

■ RS-422 (1:1 connection)

TOP			Cable connection	External device	
Pin arrangement*Note 1)	Signal name	Pin number		Signal name	
 Based on communication cable connector front, D-SUB 9 Pin male (male, convex)	RDA(+)	1		SDA(+)	
		2		SDB(-)	
		3		RDA(+)	
	RDB(-)	4		RDB(-)	
	SG	5		SG	
	SDA(+)	6			
		7			
		8			
	SDB(-)	9			

*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

■ RS-485 (1:1 connection)

TOP			Cable connection	External device	
Pin arrangement*Note 1)	Signal name	Pin number		Signal name	
 Based on communication cable connector front, D-SUB 9 Pin male (male, convex)	RDA(+)	1		SDA(+)	
		2		SDB(-)	
		3		RDA(+)	
	RDB(-)	4		RDB(-)	
	SG	5		SG	
	SDA(+)	6			
		7			
		8			
	SDB(-)	9			

*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

6. Supported addresses

The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

DATA TYPE	DEVICE	LABEL	Data size	Misc.
00	BOOL	TYPE_BOOL	1	*Note 1)
01	BYTE	TYPE_BYTE	1	
02	WRD	TYPE_WORD	2	
03	DWRD	TYPE_DWORD	4	
04	LWRD	TYPE_LWORD	8	
05	ISIN	TYPE_ISINT	1	
06	USIN	TYPE_USINT	2	
07	UDIN	TYPE_UDINT	4	
08	ULIN	TYPE_ULINT	8	
09	SINT	TYPE_SINT	1	
0A	INT	TYPE_INT	2	
0B	DINT	TYPE_DINT	4	
0C	LINT	TYPE_LINT	8	
0D	REAL	TYPE_REAL	4	
0E	LREL	TYPE_LREAL	8	
0F	STR	TYPE_STRING	Variable	
10	DATE	TYPE_DATE	2	
11	DTIM	TYPE_DATETIME	4	
12	TDAY	TYPE_TIMEOFDAY	4	
13	TDUR	TYPE_TIMEDURA	4	
14	CUS1	TYPE_CUST1	User Define	*Note 2) Note 3)
15	CUS2	TYPE_CUST2	User Define	*Note 2) Note 3)
16	CUS3	TYPE_CUST3	User Define	*Note 2) Note 3)
17	CUS4	TYPE_CUST4	User Define	*Note 2) Note 3)
18	CUS5	TYPE_CUST5	User Define	*Note 2) Note 3)
19	CUS6	TYPE_CUST6	User Define	*Note 2) Note 3)
1A	CUS7	TYPE_CUST7	User Define	*Note 2) Note 3)
1B	CUS8	TYPE_CUST8	User Define	*Note 2) Note 3)

*Note 1)Bit contact

*Note 2) Read-only (cannot be written)

*Note 3) When using a custom device, the communication speed is improved by consecutively registering the devices.