KOLVER Series

EDU Driver

Supported version TOP Design Studio V1.4.3.2 or higher

CONTENTS

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

1. System configuration Page 2

Describes the devices required for connection, the setting of each device, cables, and configurable systems.

2. External device selection Page 3

Select a TOP-R model and an external device.

3. TOP-R Communication setting Page 4

Describes how to set the TOP-R communication.

4. External device setting Page 9

Describes how to set up communication for external devices.

5. Cable table Page 10

Describes the cable specifications required for connection.

6. Supported addresses Page 11

Refer to this section to check the addresses which can communicate with an external device.

1. System configuration

The system configuration of TOP-R and "KOLVER EDU" is as follows:

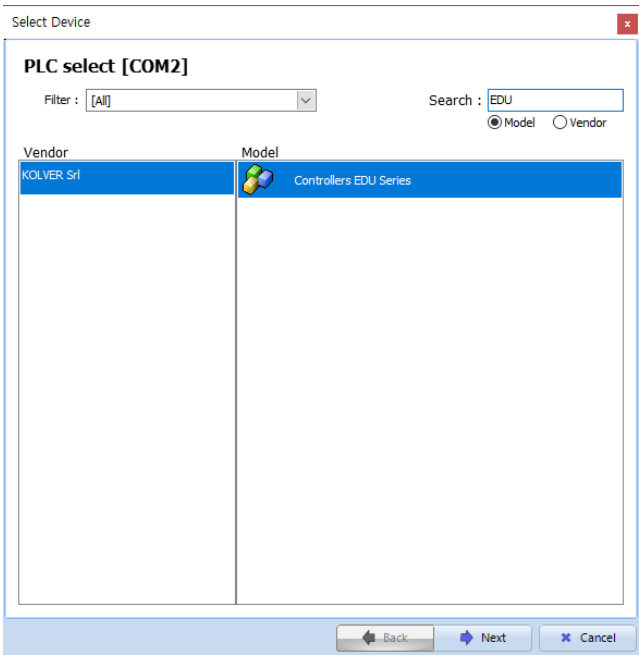
Series	CPU	Link I/F	Communication method	System setting	Cable
KOLVER	EDU	RS-232C I/O Port	RS–232C	3. TOP-R Communication setting 4. External device setting	5. Cable table

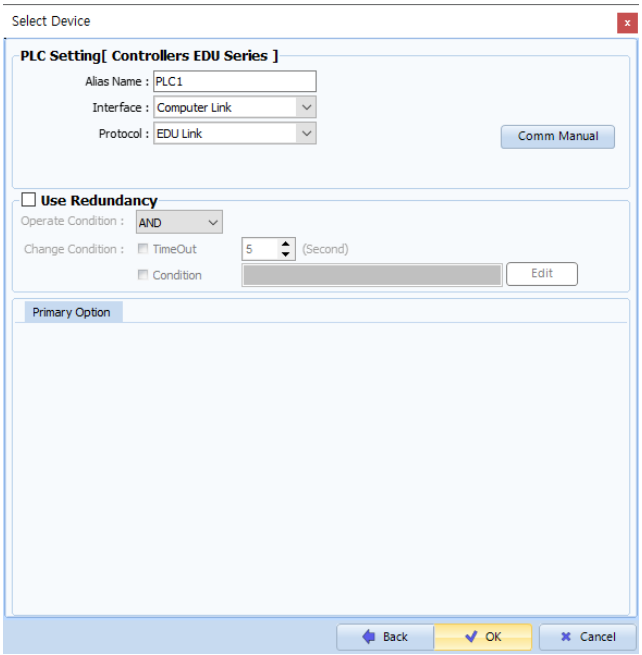
■ Connection configuration

・1:1 connection (one MASTER and one TOP) connection

2. External device selection

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





Settings		Contents
TOP-R	Model	Check the TOP-R display and process to select the touch model.
External device	Vendor	Select the vendor of the external device to be connected to TOP-R. Select "KOLVER".
	PLC	Select an external device to connect to TOP-R. **Model** / **Interface** / **Protocol** EDU / Computer Link / EDU Link 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-R Communication setting

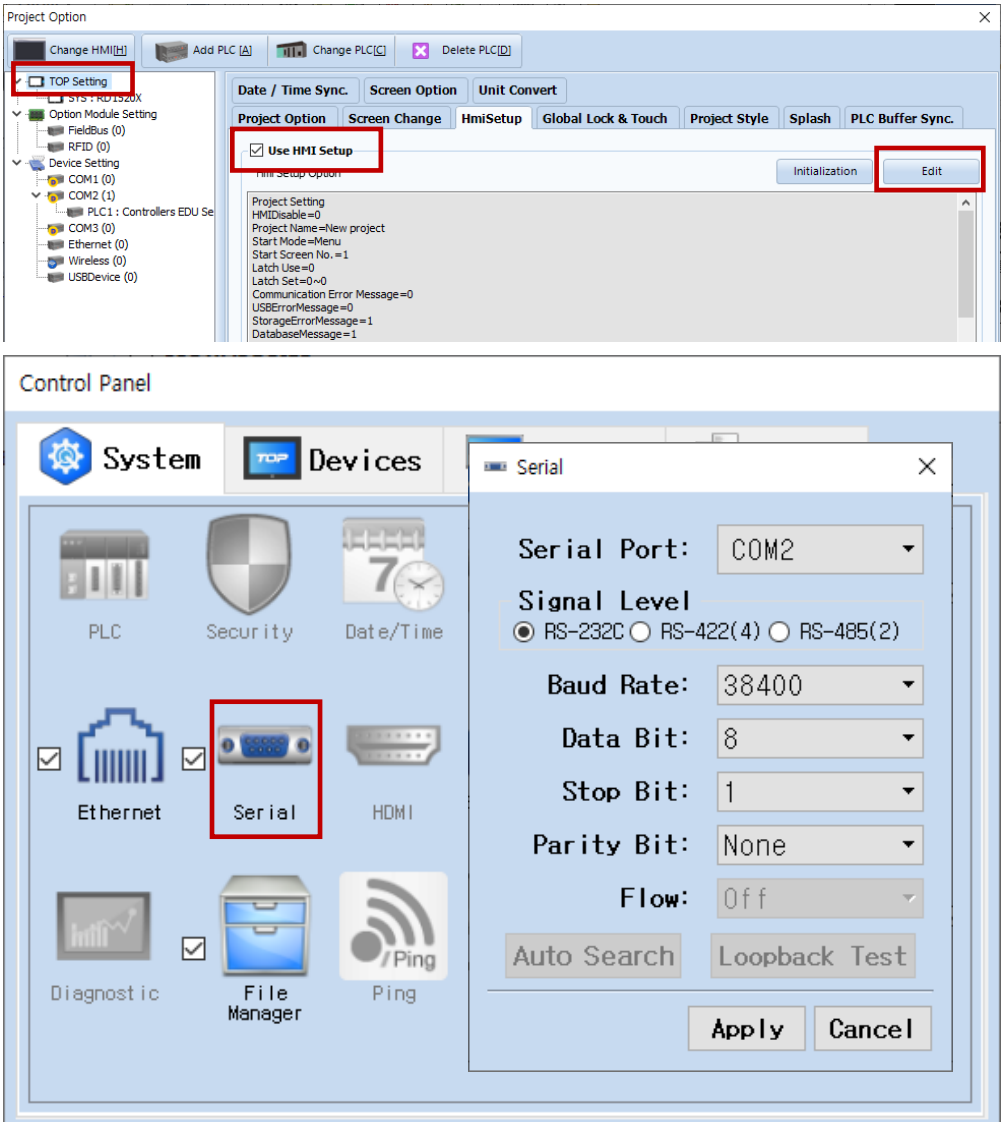
The communication can be set in TOP Design Studio or TOP-R main menu. The communication should be set in the same way as that of the external device.

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-R communication interface in TOP Design Studio.



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

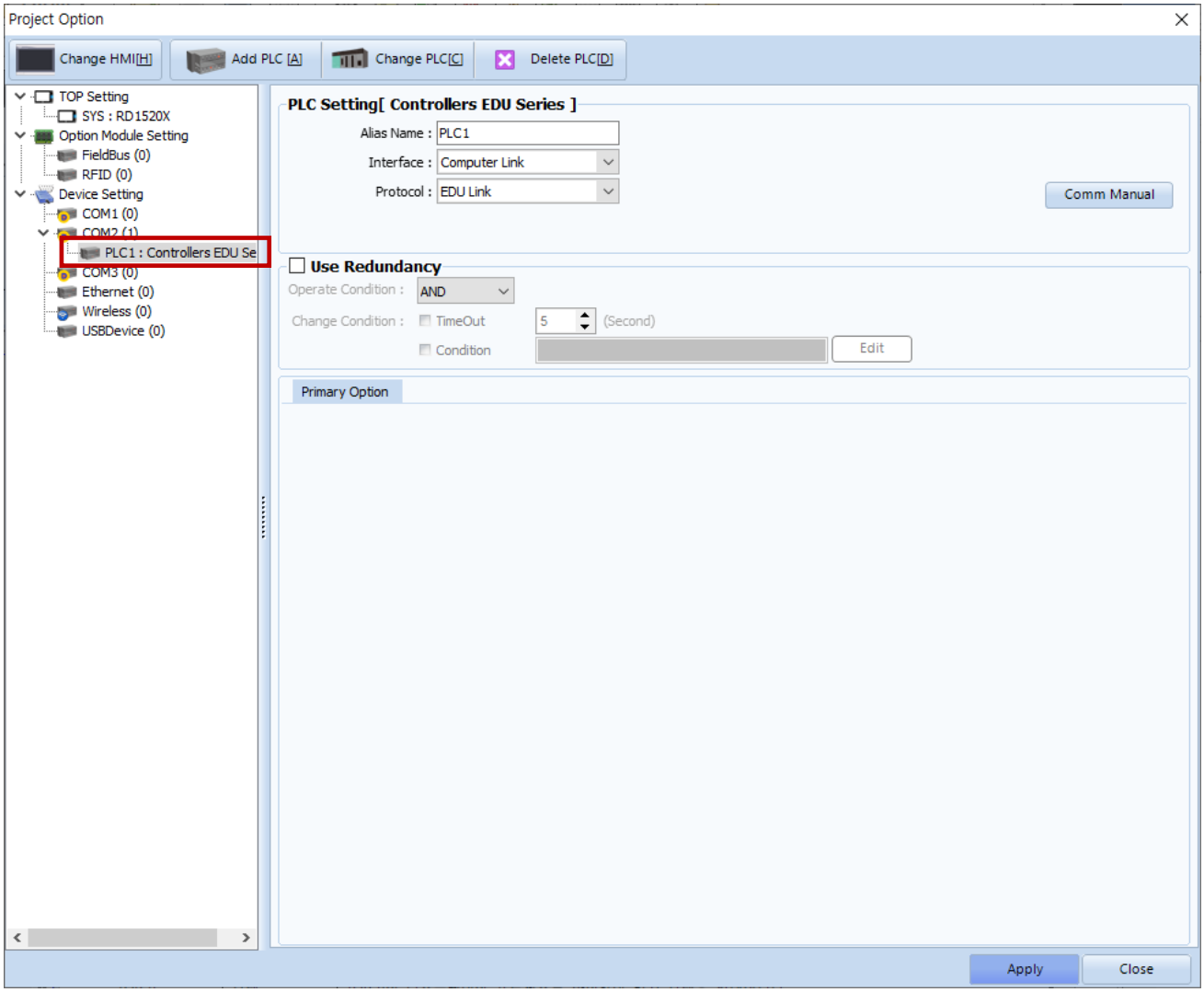
* The above settings are examples recommended by the company.

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

(2) Communication option setting

■ [Project > Project Property > Device Setting > COM1 > "PLC1 : KOLVER EDU"]

Set the options of the communication driver in TOP Design Studio.

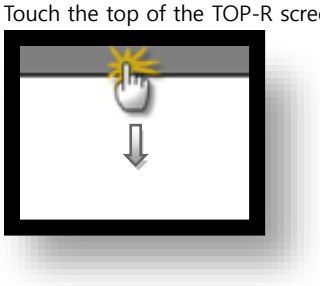


Items	Settings	Remarks
Interface	Select "Computer Link".	Refer to "2. External device selection".
Protocol	Select the communication protocol between the TOP-R and an external device.	

3.2. Communication setting in TOP-R

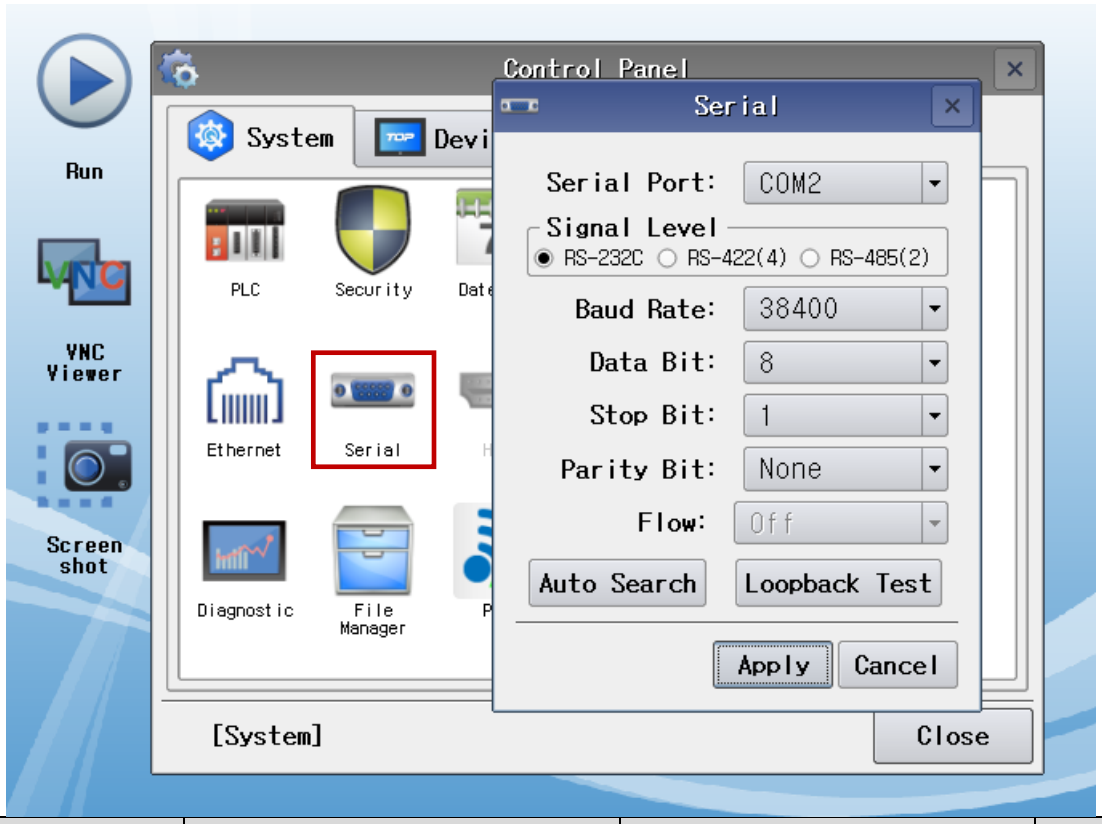
*** This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.**

■ Touch the top of the TOP-R 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]



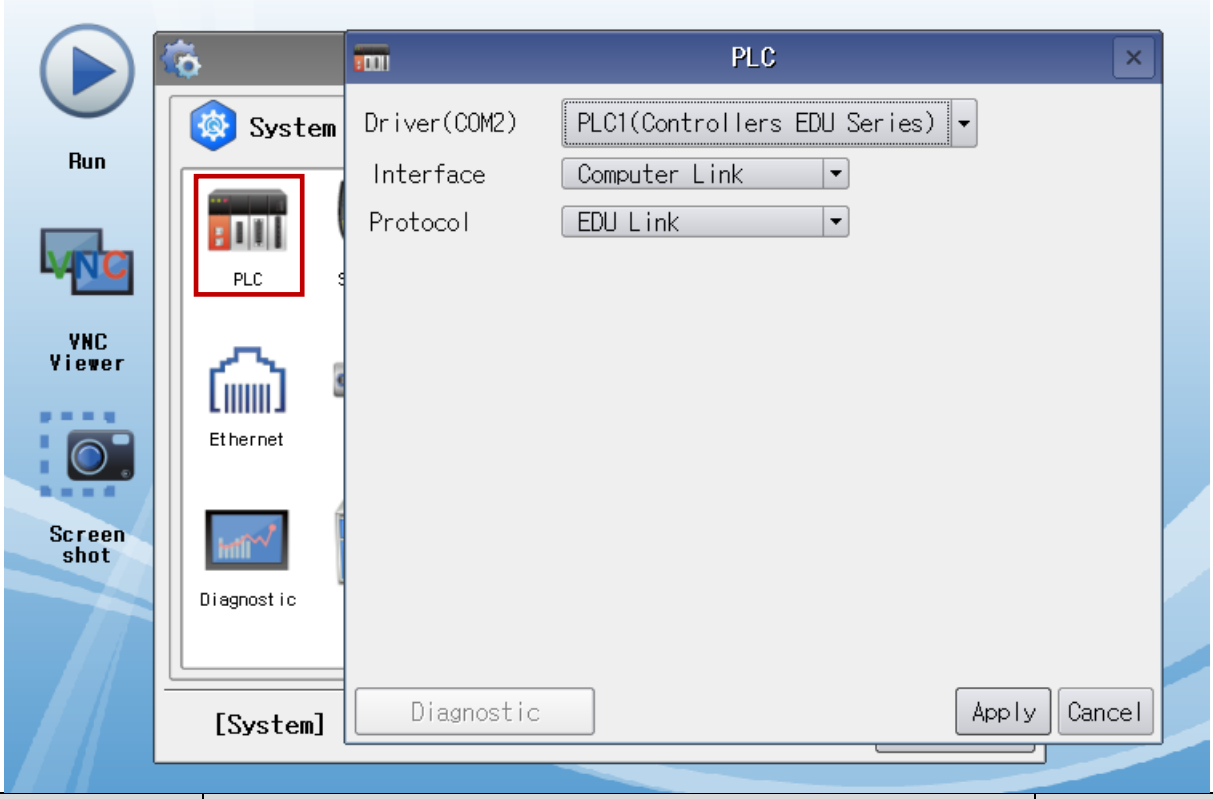
Items	TOP-R	External device	Remarks
Signal Level (port)	RS-232C (COM1/COM2)	RS-232C	
Baud Rate	38400		
Data Bit	8		
Stop Bit	1		
Parity Bit	none		

* The above settings are setting examples recommended by the company.

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

(2) Communication option setting

■ [Main Screen > Control Panel > PLC]



Items	Settings	Remarks
Interface	Select "Computer Link".	Refer to "2. External device selection".
Protocol	Select the communication protocol between the TOP-R and an external device.	

3.3 Communication diagnostics

■ Check the interface setting status between the TOP-R and an external device.

- Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.
- Check if the COM port settings you want to use in [Control Panel > Serial] are the same as those of the external device.

■ 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-R, 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-R	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.)

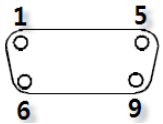
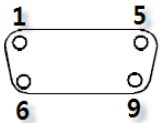
4. External device setting

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-R and the corresponding device.
(The cable diagram described in this section may differ from the recommendations of "**KOLVER EDU**")

■ **RS-232C** (1:1 connection)

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

*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-R 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.

SYS Address	SIZE	Remarks
0	1	RESULT
1	1	PRG_NUM
2	5	MODEL
7	1	TORQUE_PERCENT
8	1	SPEED
9	1	JOINT
10	1	SCREW_CUR
11	1	SCREW_TOTAL
12	1	SEQ_STAGE_CUR
13	1	SEQ_STAGE_TOTAL
14	1	TORQUE
15	1	ANGLE
16	1	DATE
17	1	MONTH
18	1	YEAR
19	1	HOUR
20	1	MINUTE
21	1	SECOND
22	15	NOTICE 22–37
40	1	PACKET_RECEIVE SET after receiving
41	-	BARCODE