

Atlas Copco POWER FOCUS Ethernet Driver

Supported version

TOP Design Studio

V1.4.11.18 or higher



CONTENTS

We would like to thank our customers for using M2I's "Touch Operation Panel (M2I TOP) Series". Read this manual and familiarize yourself with the connection method and procedures of the "TOP and external device".

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Describes the addresses which can communicate with an external device.

1. System configuration

The following driver is "POWER FOCUS" of "ATLASCOPCO".

The system configuration with an external device supported by this driver is as follows:

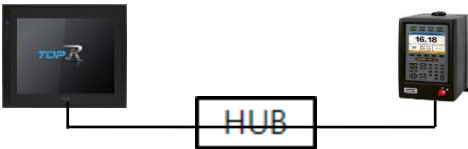
Series	CPU	Link I/F	Communication method	System setting	Cable
	POWER FOCUS		Ethernet (TCP)	3. TOP communication setting	*Note 1)

*Note 1) Twisted pair cable

- Refers to STP (Shielded Twisted Pair Cable) or UTP (Unshielded Twisted Pair Cable) Category 3, 4, 5.
- Depending on the network configuration, you can connect to components such as the hub and transceiver, and in this case, use a direct cable.

■ Connectable configuration

- 1:1 connection (one TOP and one external device) connection



- N:1 connection (multiple TOPs and one external device) connection

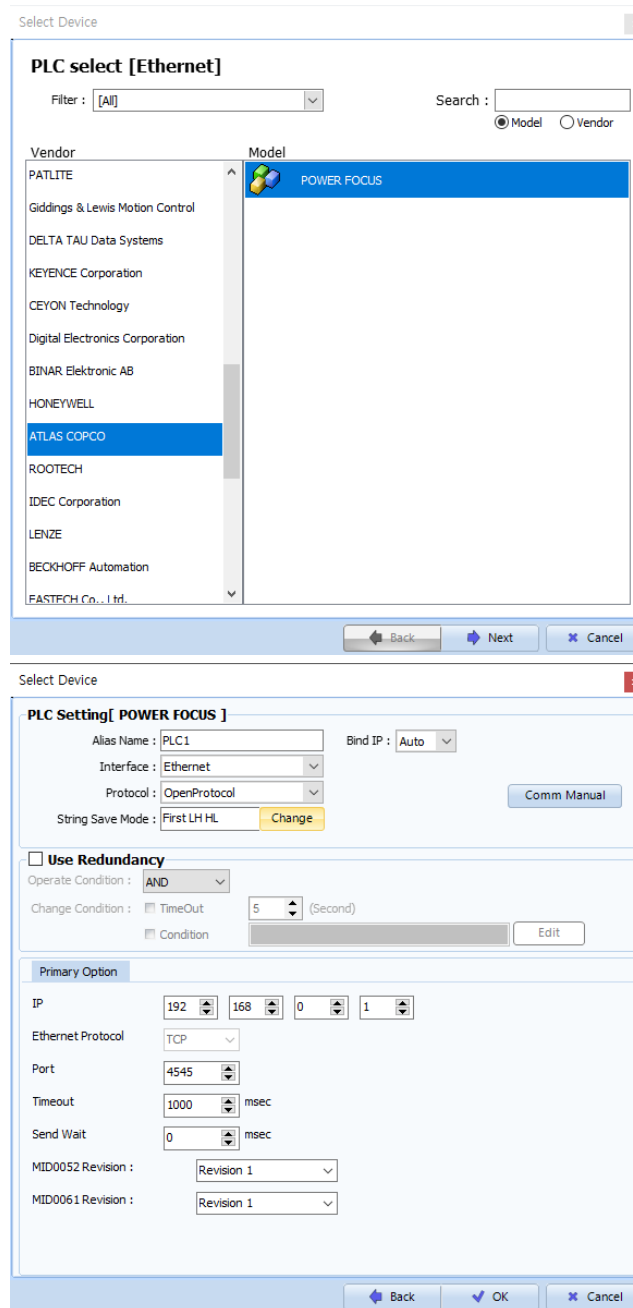


- 1:N connection (one TOP and multiple external devices) connection



2. External device selection

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



Settings		Contents					
TOP	Model	Check the display and process of TOP to select the touch model.					
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select "AtlasCopco".					
	PLC	Select an external device to connect to TOP. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Model</th> <th>Interface</th> <th>Protocol</th> </tr> </thead> <tbody> <tr> <td>POWER FOCUS</td> <td>Ethernet</td> <td>OpenProtocol</td> </tr> </tbody> </table> <p>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.</p>	Model	Interface	Protocol	POWER FOCUS	Ethernet
Model	Interface	Protocol					
POWER FOCUS	Ethernet	OpenProtocol					

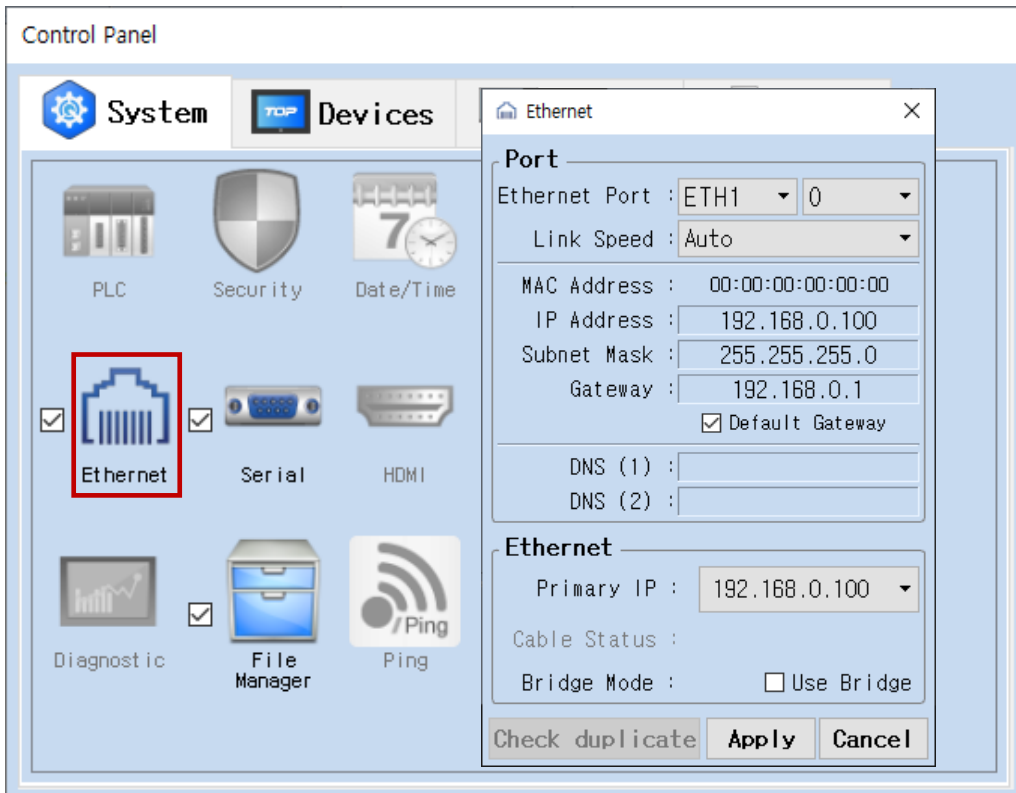
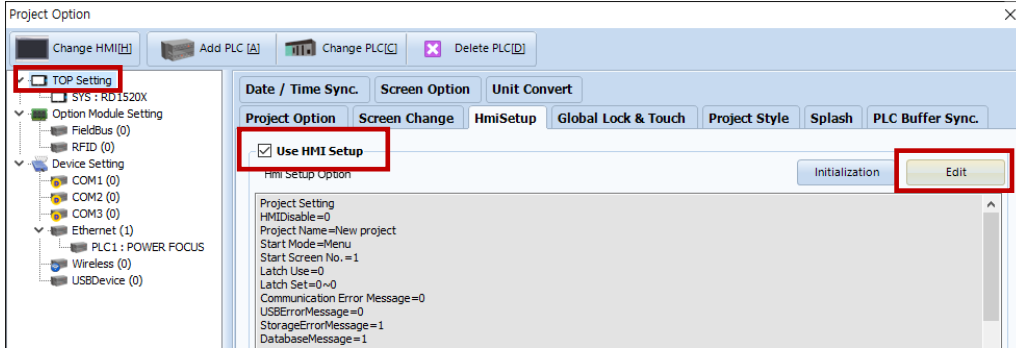
3. TOP communication setting

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 > Ethernet]
- Set the TOP communication interface in TOP Design Studio.



* The above settings are examples recommended by the company.

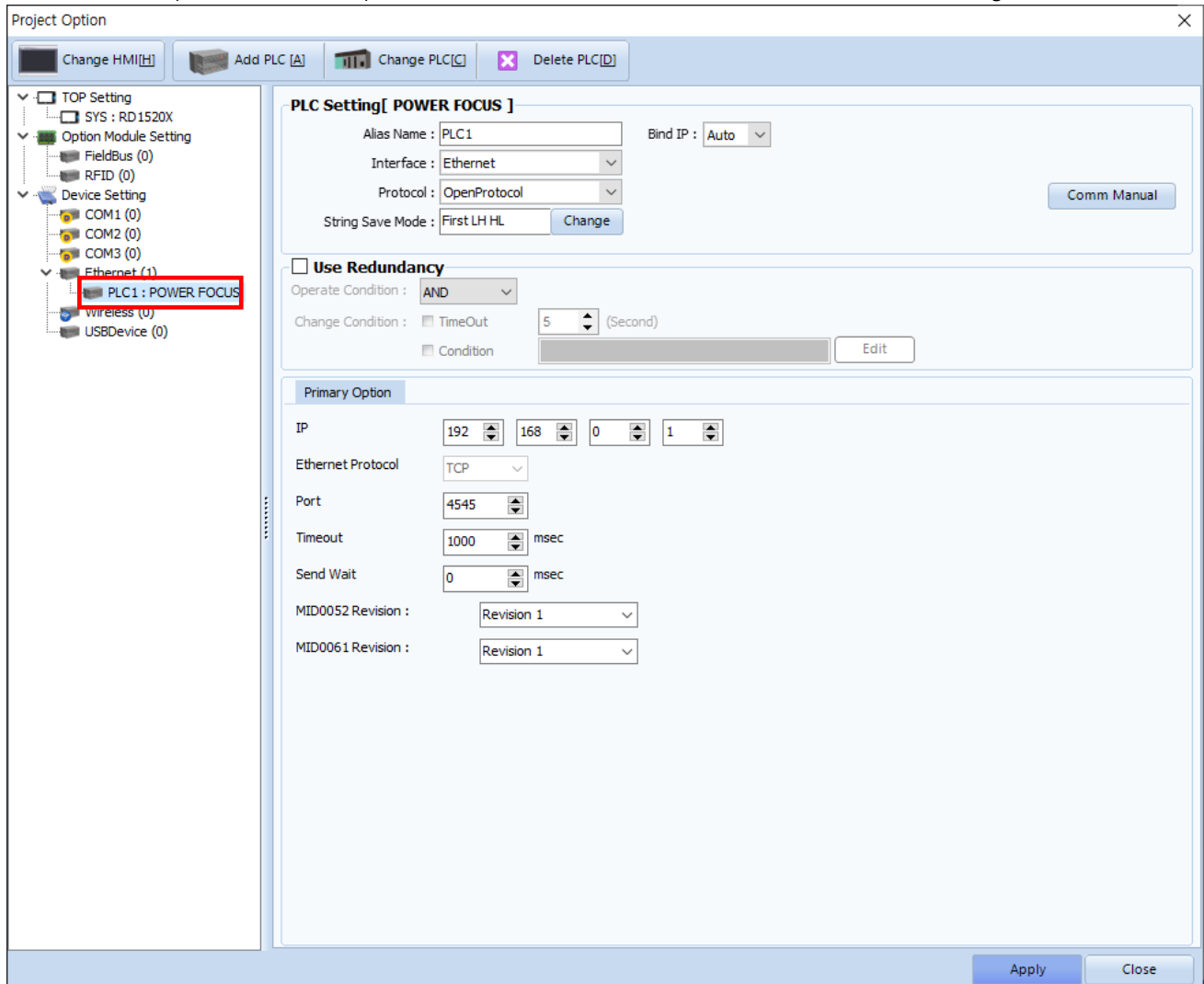
Items	TOP	External device	Remarks
IP Address	192.168.0.100	192.168.0.50	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

* The above settings are examples recommended by the company.

(2) Communication option setting

■ [Project > Project Property > Device Setting > Ethernet > "PLC1 : POWER FOCUS"]

- Set the options of the AtlasCopco POWER FOCUS Series Ethernet communication driver in TOP Design Studio.

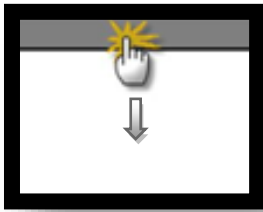


Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External device selection".
Protocol	Select "OpenProtocol".	
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
Port	Enter the Ethernet communication port number of the external device.	
Timeout	Set the time for the TOP to wait for a response from an external device.	
Send Wait	Set the waiting time between TOP's receiving a response from an external device and sending the next	
MID0052 Revision	Configure the revision for MID0052.	
MID0061 Revision	Configure the revision for MID0061.	

3.2. Communication setting in TOP

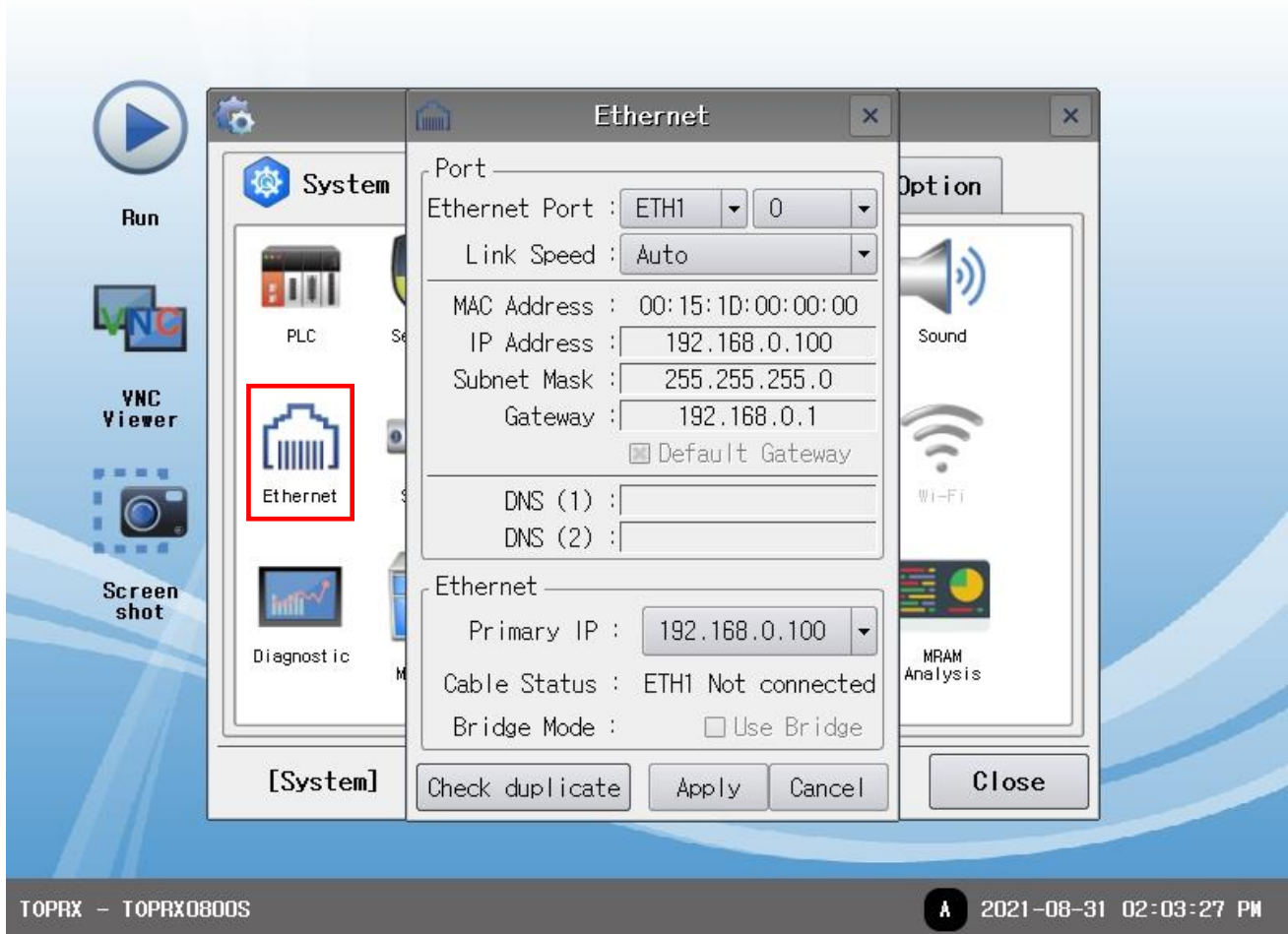
* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

- 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

- [Control Panel] → [Ethernet]



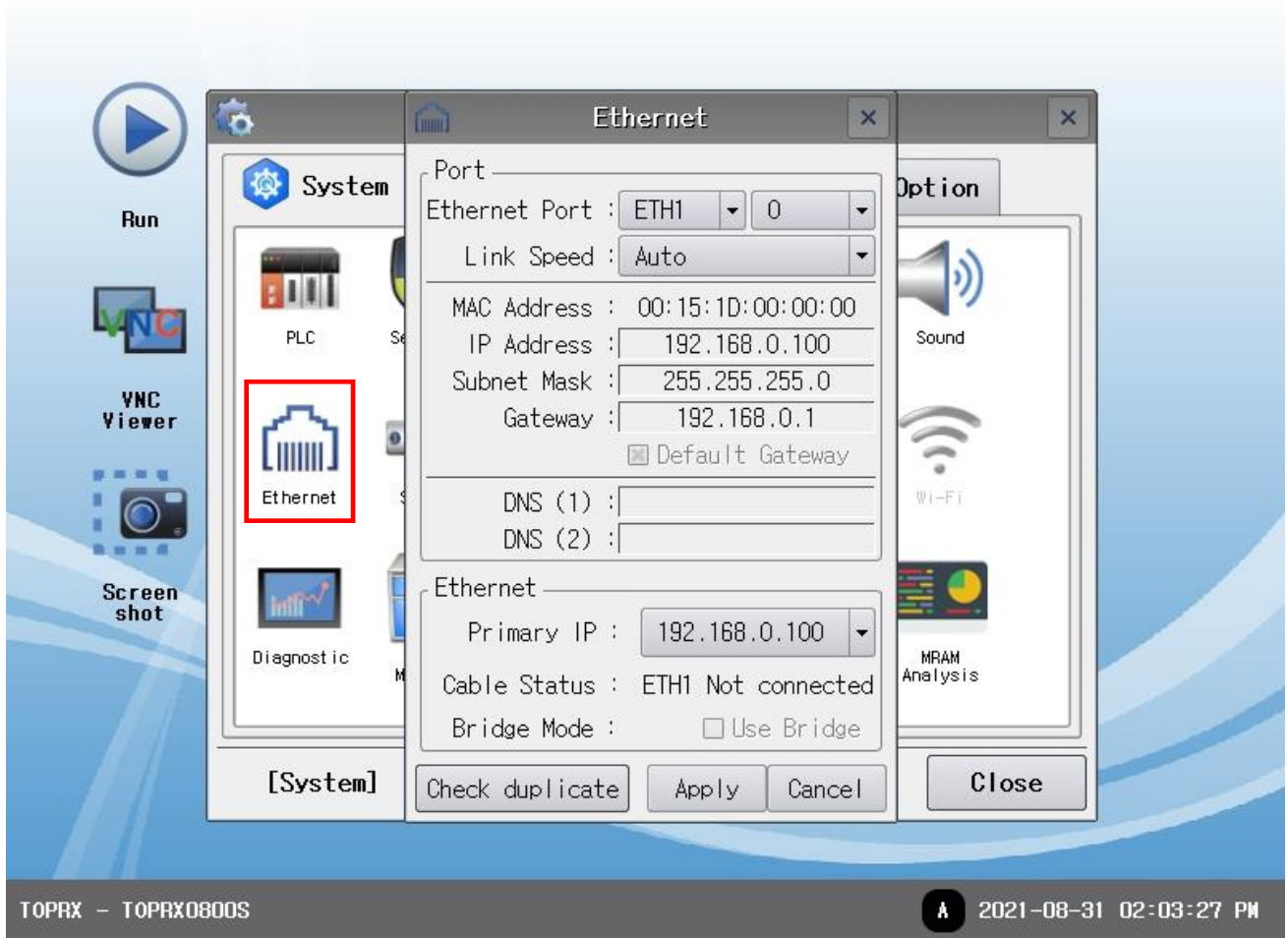
Items	TOP	External device	Remarks
IP Address	192.168.0.100	192.168.0.50	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

* The above settings are examples recommended by the company.

Items	Description
IP Address	Set the IP address of the TOP.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.

(2) Communication option setting

■ [Control Panel] → [PLC]



* The above settings are examples recommended by the company.

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External device selection".
Protocol	Select "OpenProtocol".	
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
Port	Enter the Ethernet communication port number of the external device.	
Timeout	Set the time for the TOP to wait for a response from an external device.	
Send Wait	Set the waiting time between TOP's receiving a response from an external device and sending the next	
MID0052 Revision	Configure the revision for MID0052.	
MID0061 Revision	Configure the revision for MID0061.	

3.3 Communication diagnostics

- Check the interface setting status between the TOP 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 port settings you want to use in [Control Panel > Ethernet] 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, 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
	Ethernet port setting	IP Address	OK		NG
Subnet Mask		OK	NG		
Gateway		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		
	Ethernet port setting	IP Address	OK		NG
		Subnet Mask	OK	NG	
Gateway		OK	NG		
Check address range	OK	NG	5. Supported addresses (For details, please refer to the PLC vendor's manual.)		

4. External device setting

- Refer to the manual of the external device and configure the communication options.

5. 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.

Address	Size (Bit)	Read/Write	Remarks
START_BIT	1	Read	*Note 1)
MID0052_VIN_NUMBER	ASCII	Read	
MID0061_CELL_ID	16	Read	
MID0061_CHANNEL_ID	16	Read	
MID0061_TORQUE_CONTROLLER_NAME	ASCII	Read	
MID0061_VIN_NUMBER	ASCII	Read	
MID0061_JOB_ID	16	Read	*
MID0061_PARAMETER_SET_ID	16	Read	
MID0061_BATCH_SIZE	16	Read	
MID0061_BATCH_COUNTER	16	Read	
MID0061_TIGHTENING_STATUS	16	Read	*Note 2)
MID0061_TORQUE_STATUS	16	Read	*Note 3)
MID0061_ANGLE_STATUS	16	Read	*Note 3)
MID0061_TORQUE_MIN_LIMIT	32	Read	*Note 5)
MID0061_TORQUE_MAX_LIMIT	32	Read	*Note 5)
MID0061_TORQUE_FINAL_TARGET	32	Read	*Note 5)
MID0061_TORQUE	32	Read	*Note 5)
MID0061_ANGLE_MIN	32	Read	
MID0061_ANGLE_MAX	32	Read	
MID0061_FINAL_ANGLE_TARGET	32	Read	
MID0061_ANGLE	32	Read	
MID0061_TIME_STAMP	ASCII	Read	
MID0061_LAST_CHANGE_TIME	ASCII	Read	
MID0061_BATCH_STATUS	16	Read	*Note 4)
MID0061_TIGHTENING_ID	32	Read	

*Note 1) SET when communication starts.

*Note 2) 0 : NOK 1 : OK

*Note 3) 0. Low / 1. OK / 2 .High

*Note 4) 0 : NOK 1 : OK 2: not used

*Note 5) Must configure to show 2 decimal points at the object properties of the registered address.