Atlas Copco POWER FOCUS Ethernet Driver

Supported version TOP Design Studio

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 connectable devices and network configurations.

2. External device selection Page 3 Select a TOP model and an external device. **3.** TOP communication setting Page 4

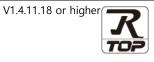
Describes how to set the TOP communication.

4. External device setting Page 9

Describes how to set up communication for external devices.

5. Supported addresses Page 10

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)	<u>3. TOP</u> communication setting	*Note 1)	

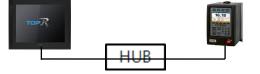
*Note 1) Twisted pair cable

- 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



 \cdot 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.

elect Device					
PLC select [Eth	ernet]				
Filter : [All]		~	5	Search :	
				Mode	○ Vendor
Vendor PATLITE	^	Model			
Giddings & Lewis Motion Co	ontrol	POWE	(FOCUS		
DELTA TAU Data Systems					
KEYENCE Corporation					
CEYON Technology					
Digital Electronics Corporat					
BINAR Elektronic AB					
HONEYWELL					
ATLAS COPCO					
ROOTECH					
IDEC Corporation					
LENZE					
BECKHOFF Automation					
FASTECH Co., 1 td.	*				
PLC Setting[POWER Alias Name : P Interface : E	LC1	~	Bind IP : Auto	~	
	OpenProtocol	~		Co	mm Manual
String Save Mode : F	irst LH HL	Change			
Use Redundancy					
Operate Condition : AND	~				
Change Condition : 🔲 Ti		5 🗘 (Seco	nd)		
C	ondition				dit
Primary Option					
IP [192 🍨 16	58 🌒 0	1		
Ethernet Protocol	TCP ~				
Port	4545 🚖				
Timeout	1000 🚔	msec			
Send Wait)	msec			
	Revision	1 ~			
MID0052 Revision:					
MID0052 Revision : MID0061 Revision :	Revision	1 ~			
	Revision	1 ~			
	Revision	1 ~			

Set	tings		Contents	
ТОР	Model	Check the display and p	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.		ed to TOP.		
		to connect to TOP.		
		Model	Interface	Protocol
		POWER FOCUS	Ethernet	OpenProtocol
		5	n configuration in Chapter 1 t se system can be configured.	to see if the external device you want to



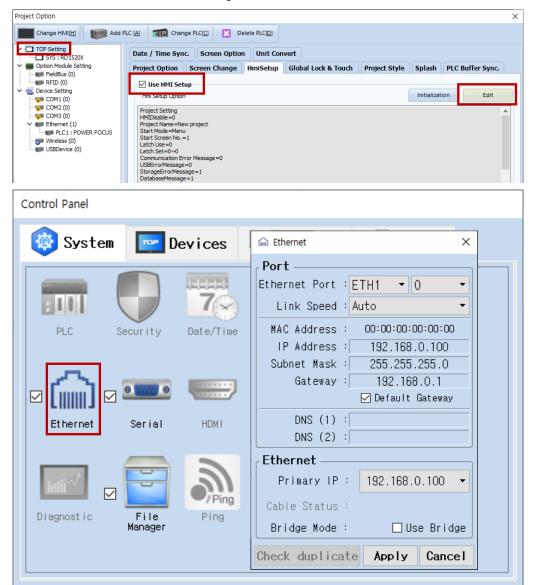
3. TOP communication setting

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.

ltems	ТОР	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.

Project Option		×
Change HMI[H] Me Add PLC [A] The Change PLC [C] Change PLC [D]		
<pre> TOP Setting Option Module Setting Perform (0) Potion Setting Perform (0) Potion Setting Potion Module Setting Perform (0) Potion (0) Potion (0) Potion (0) Potion (0) Perform (0)</pre>	Co	mm Manual
	Apply	Close

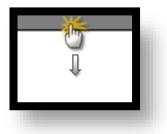
Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External
Protocol	Select "OpenProtocol".	device selection".
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
Port	Enter the Ethernet communication port 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]

õ	Ethernet ×	
Syste	em Port Ethernet Port : ETH1 • 0 • Link Speed : Auto •	Detion
PLC	MAC Address : 00:15:1D:00:00:00 IP Address : 192.168.0.100 Subnet Mask : 255.255.255.0	Sound
	Gateway : 192.168.0.1 Default Gateway DNS (1) : DNS (2) :	(((••
Diagnost ic	Ethernet Primary IP : 192.168.0.100 Cable Status : ETH1 Not connected Bridge Mode : Use Bridge	MRAM Analysis
[System		Close

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Items	ТОР	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 $\underline{\text{examples}}$ 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] \rightarrow [PLC]

> 6	🗎 Ethernet 🔉	×
🙆 System	Port	Option
Run	Ethernet Port : ETH1 • 0 •	
	Link Speed : Auto	1 3)
	MAC Address : 00:15:1D:00:00:00	
PLC Se	IP Address : 192.168.0.100	Sound
VNC	Subnet Mask : 255.255.0	
iewer 6 5	Gateway : 192.168.0.1 Default Gateway	
Ethernet S		Wi-Fi
	DNS (1) : DNS (2) :	2014.775.0
	Ethernet	
shot	Primary IP : 192.168.0.100 -	
Diagnostic 🗍		MRAM Analysis
	Cable Status : ETH1 Not connected	Anarysis
	Bridge Mode : 🗆 Use Bridge	
[System]	Check duplicate Apply Cancel	Close
TOPRX0800S		A 2021-08-31 02

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External
Protocol	Select "OpenProtocol".	device selection".
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.

ОК	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	How to connect the sy	stem	ОК	NG	1. Containing for matters	
configuration	Connection cable name	5	OK	NG	1. System configuration	
ТОР	Version information		OK	NG		
	Port in use		OK	NG		
	Driver name		OK	NG		
	Other detailed settings		OK	NG		
	Relative prefix	Project setting	OK	NG	2. External device selection	
		Communication diagnostics	OK	NG	3. Communication setting	
	Ethernet port setting	IP Address	ОК	NG		
		Subnet Mask	OK	NG		
		Gateway	OK	NG		
External device	CPU name		ОК	NG		
	Communication port name (module name)		ОК	NG		
	Protocol (mode)		ОК	NG		
	Setup Prefix		ОК	NG	4. Estemplished and the	
	Other detailed settings		ОК	NG	4. External device setting	
	Ethernet port setting	IP Address	ОК	NG		
		Subnet Mask	OK	NG		
		Gateway	ОК	NG		
	Check address range		ОК	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 *Note 1)
START_BIT	1	Read	
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.