Lenze Corp.
L-Force Servo Driver
Ethernet Driver

Supported version   TOP Design Studio   V1.4.2 or higher

CONTENTS

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

1. System configuration

The system configuration of TOP and "Lenze corp. – L-Force servo driver Ethernet driver" is as follows:

The system configuration of TOP and "L-Force" is as follows:

Series	Module	Link I/F	Communication method	System setting	Cable
L-Force	All CPU	Ethernet port on CPU module	Ethernet (TCP)	3.1 Settings example 1	Twisted pair cable*Note 1)

*Note 1) Twisted pair cable

- Refer 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
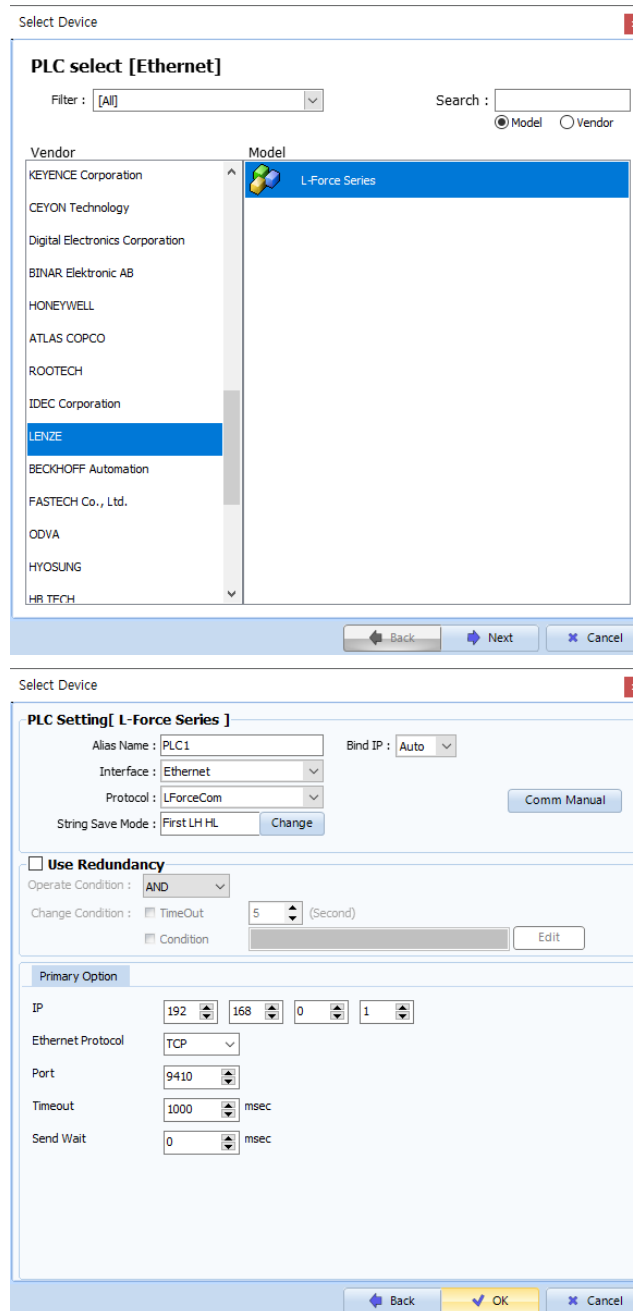

・1:N connection (one TOP and multiple external devices) connection

2. External device selection

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

Settings		Contents
TOP	Model	Check the 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 "Lenze Corp".
	PLC	Select an external device to connect to TOP.

Model	Interface	Protocol
L-Force Servo Driver	Ethernet	LForceCom

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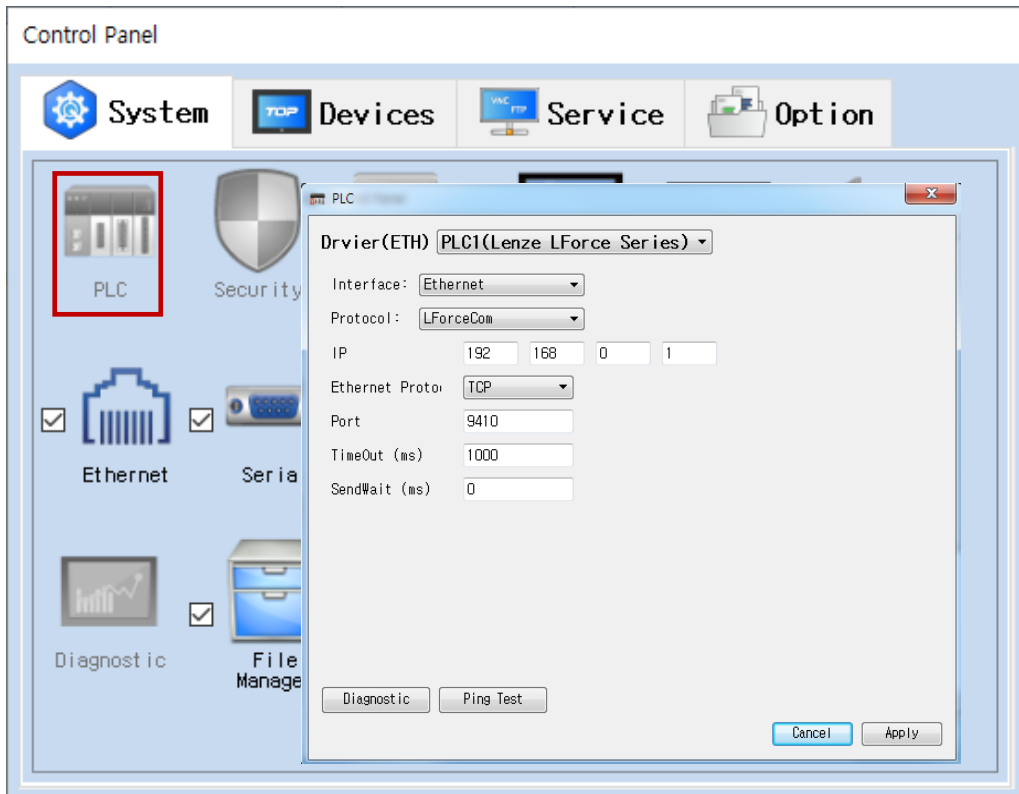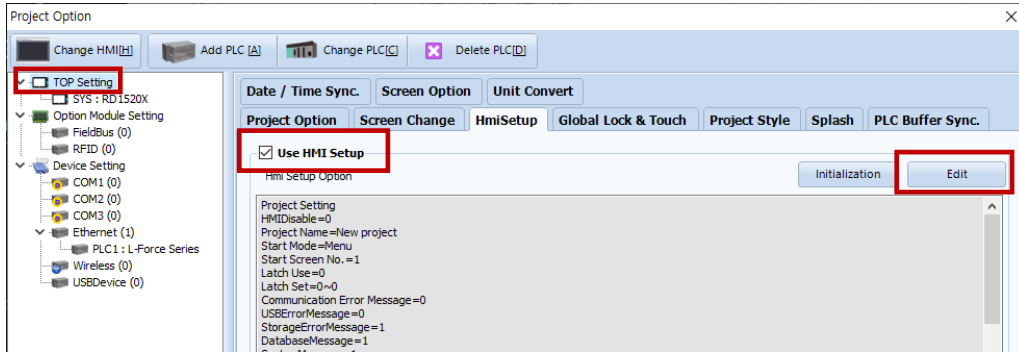
* The above settings are examples recommended by the company.

Items	TOP	"L-FORCE Series"	Remarks
IP Address*Note 1) Note 2)	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	
Port	Don`t Care	9410 (fixed)	
Protocol	TCP		

(2) Communication option setting

■ Communication interface setting

Items	Contents
IP Address	Configure the network IP address for the TOP.
Subnet mask	Enter the subnet mask for the network.
Gateway	Enter the subnet mask for the network.
PLC IP address	Enter the IP for the external device.
Read port/Write port	Select the port number to use for the Ethernet communication of the external device.
TOP port	Ethernet communication with "L-FORCE Series" will automatically configure the port number.
PLC prefix. [0–65535]	The prefix of the counterpart device. Select from range [0–65535].
Ethernet timeout	Configures the TOP's waiting time to [0–99] x 100 mSec for a response from the external device.
Delay time prior to transmission [x1 mSec]	Set the transmission latency between response reception–next command request to [0–5000] x 1 mSec.
Protocol	Select the permitted protocol depending on the "L-FORCE Series" and configured port number.

3.2 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 ETH 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	

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. 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 Notation

[DATA TYPE NAME]	[CODE]	/	[SUB CODE *Note 1)]

*Note 1) For arrangement type data, enter at least 1 [SUB CODE]. However, any other data types must use default value of 0.

Device	Bit Address	Word Address	Remarks
INTEGER_8	NB0/0.0 ~ NB65535/99.7	NB0/0 ~ NB65535/99	
INTEGER_16	NW0/0.0 ~ NW65535/99.15	NW0/0 ~ NW65535/99	
INTEGER_32	ND0/0.0 ~ ND65535/99.31	ND0/0 ~ ND65535/99	32$_{BIT}$
UNSIGNED_8	UB0/0.0 ~ UB65535/99.7	UB0/0 ~ UB65535/99	
UNSIGNED_16	UW0/0.0 ~ UW65535/99.15	UW0/0 ~ UW65535/99	
UNSIGNED_32	UD0/0.0 ~ UD65535/99.31	UD 0/0 ~ UD65535/99	32$_{BIT}$
FLOATING_POINT	——	F0/0 ~ F65535/99	
VISIBLE_STRING	——	VS0 ~ VS65535	
BITFIELD_8	BB0/0.0 ~ BB65535/99.7	BB0/0 ~ BB65535/99	
BITFIELD_16	BW0/0.0 ~ BW65535/99.15	BW0/0 ~ BW65535/99	
BITFIELD_32	BD0/0.0 ~ BD65535/99.31	BD0/0 ~ BD65535/99	32$_{BIT}$