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Pulse Meter

MP-XGT(RS485)

Technical Support Manual

MP5Y/W

Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

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Preface

Thank you very much for selecting Autonics products.

Please familiarize yourself with the information contained in the **Safety Precautions** section before using this product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

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Technical Support Manual Guide

- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- This manual is not provided as part of the product package. Please visit our home-page (www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice. Upgrade notice is provided through our homepage.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our homepage.

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Technical Support Manual Symbols

Symbol	Description
Note	Supplementary information for a particular feature.
Warning	Failure to follow instructions can result in serious injury or death.
Caution	Failure to follow instructions can lead to a minor injury or product damage.
Ex.	An example of the concerned feature's use.
※1	Annotation mark.

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Safety Precautions

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents, as well as minimizing possible hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

Warning	**Warning**	Failure to follow the instructions may lead to a serious injury or accident.
Caution	**Caution**	Failure to follow the instructions may lead to a minor injury or accident.

Warning

- In case of using this unit with machinery (E.g.: nuclear power control, medical equipment, ship, vehicle, train, airplane, combustion apparatus, safety device, crime/disaster prevention equipment, etc) which may cause damages to human life or property, it is required to install fail-safe device.
  It may cause a fire, human injury or property loss.
- The unit must be installed on a device panel before use.
  Failure to follow this instruction may result in electric shock.
- Do not connect, repair, or inspect the unit while connected to a power source.
  Failure to follow this instruction may result in electric shock.
- Do not disassemble or modify the unit. Please contact us if necessary.
  Failure to follow this instruction may result in electric shock or fire.
- Check the terminal numbers before connecting the power source and measurement input.
  Failure to follow this instruction may result in fire.

Caution

- Do not use the unit outdoors.
  Failure to follow this instruction may result in electric shock or shortening the life cycle of the unit.
- When connecting the power input or measuring input, make sure to tighten the terminal screw bolt above 0.74N•m to 0.90N•m.
  Contact failure may result in fire.
- Use the unit within the rated specifications.
  Failure to follow this instruction may result in electric shock or shortening the life cycle of the unit.
- Do not use loads beyond the rated switching capacity of the relay contact.
  Failure to follow this instruction may result in insulation failure, contact failure, contact bonding, relay damage, or fire.
- Do not use water or oil-based detergent when cleaning the unit. Use dry cloth to clean the unit.
  Failure to follow these instructions may result in electric shock or fire.
- Do not use the unit where flammable or explosive gas, humidity, direct sunlight, radiant heat, vibration, and impact may be present.
  Failure to follow this instruction may result in fire or explosion.

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- Keep dust and wire residue from flowing into the unit.
  Failure may result in fire or product malfunction.
- Check the polarity of the measurement input contact before wiring the unit.
  Failure to follow this instruction may result in fire or explosion.

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1 System

1.1 Version

Software	Version	Note
Ms Windows	Windows 7	—
XG 5000	V4.07	Release : 2016.03.29

1.2 Connections

1.3 Communication cable connection

MP5W	Cable connection	PLC (XGT-XGL-CH2A)
RS – 485 (-)		RX -
		RX +
RS – 485 (+)		TX -
		TX +

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2 Communication Setting

2.1 MP5W Setting

1st Supply power to the MP5W unit. Press the MODE key to enter parameter setting group.

2nd Enter PAr A.3 and set the communication settings as below.

Parameter	Display	Setting	Note
Communication address	Addr	01	User setting
Communication speed	bPS	38400	User setting
Communication parity bit	PrtY	nonE	Fixed
Communication stop bit	StP	2	Fixed
Communication response waiting time	rSYt	20	User setting
Communication write	CoMY	EnA	Fixed

* Hold the MODE key over 3 sec while in setting mode to return to RUN mode.
* Hold the MODE key for 1.5 sec while in setting mode to move to other parameter group.
* Press the MODE key after the setting and it is saved.
* If there is no additional key operation within 60 sec after entering into setting mode, it will be automatically returned to RUN mode and previous set value will be remained.
* Check that RS485 communication models are only available communication.

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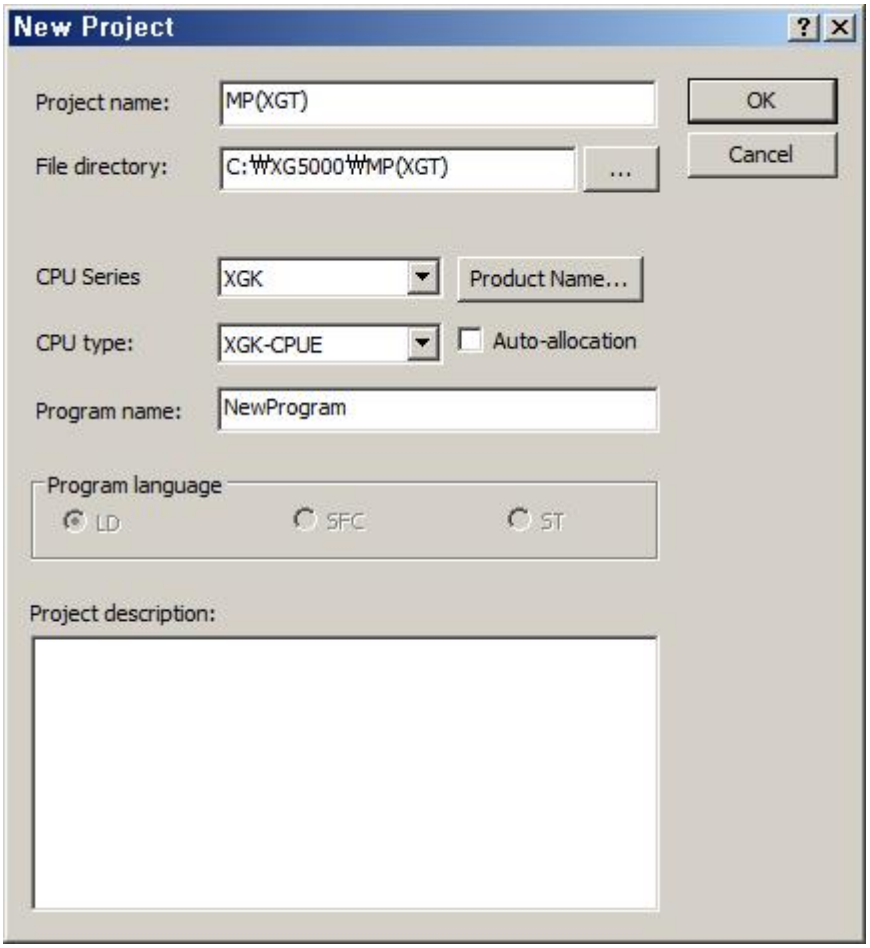
2.2 XG5000 Setting

1st Run XG5000, and select [Project] – [New Project] on menu.

Enter project name and select CPU Series and type.



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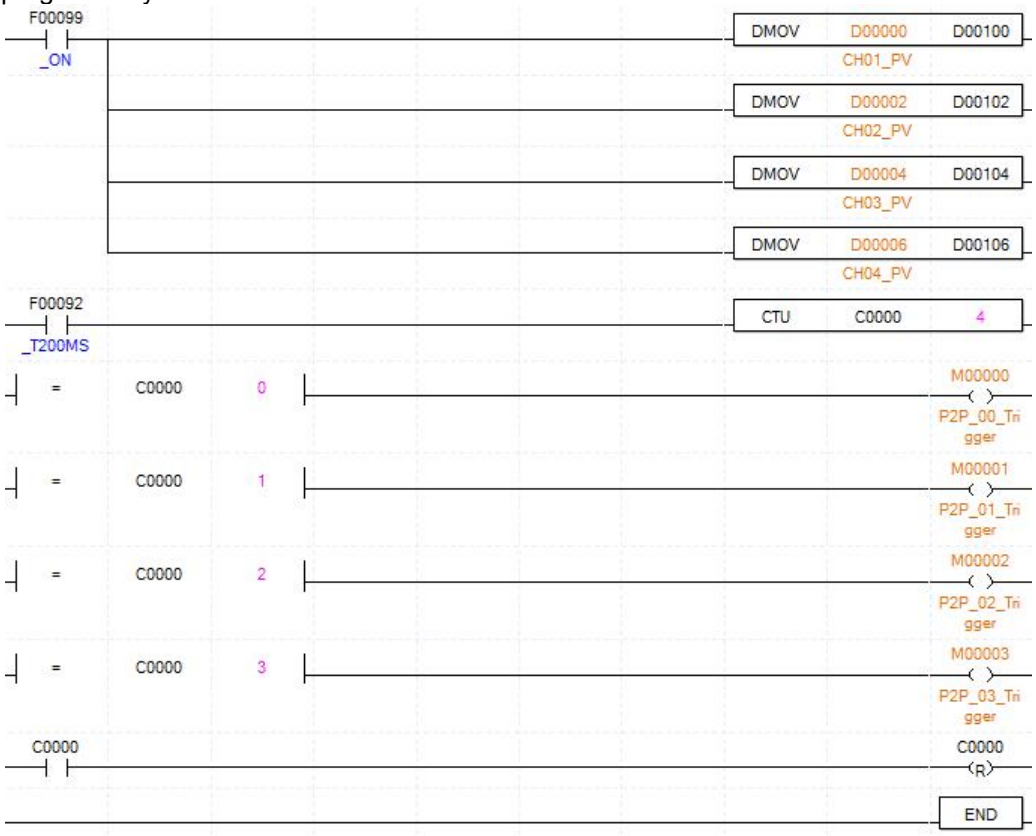
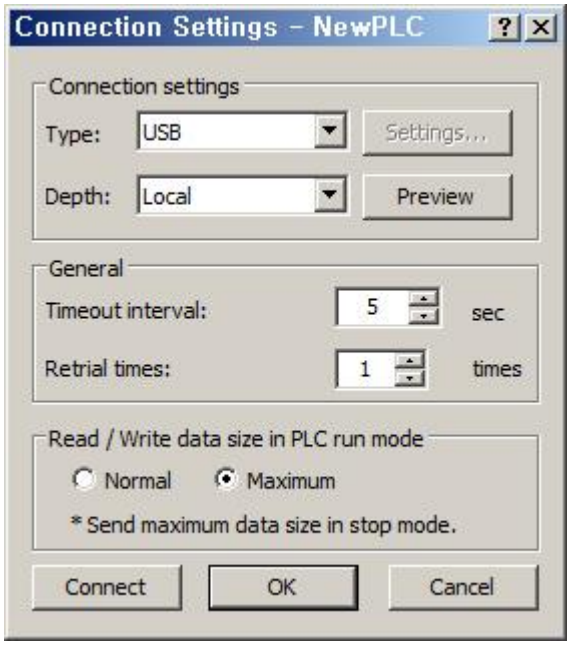
2nd After executing, enter the below contents at XG5000.

* This communication program is only for test. Before using it at field, review and test the program fully.

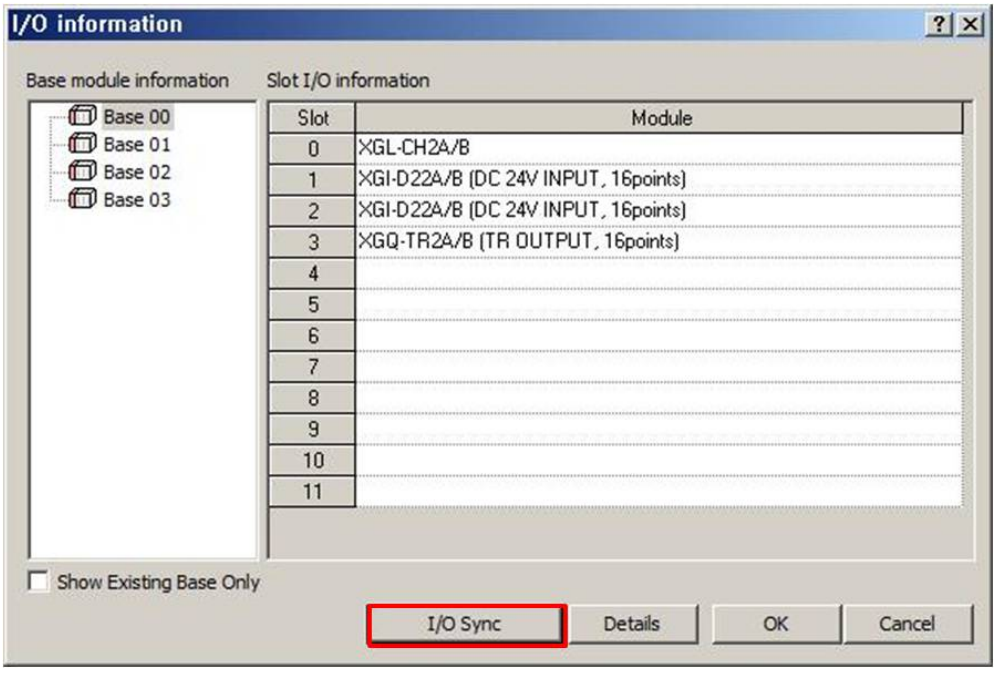


3rd Select [Online] – [Connection Settings] to select connection method. This test is connected via USB. After completing connection, select [Online] – [Mode Switch] – [Stop].

Connection settings	Settings
Type	USB
Depth	Local



4th At [Online] – [Diagnose] – [I/O Information] , click 'I/O Sync'. After I/O synchronize, the settings are set as using module settings.



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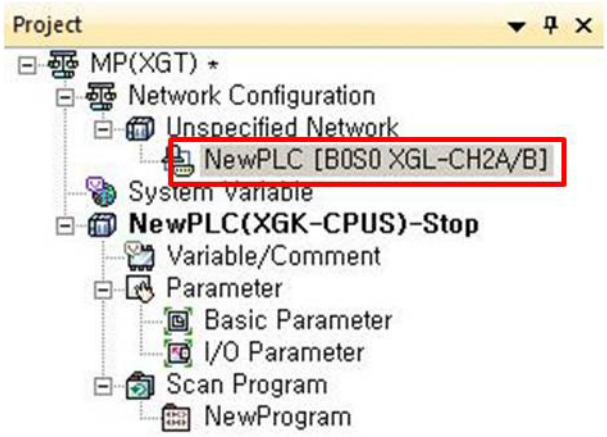
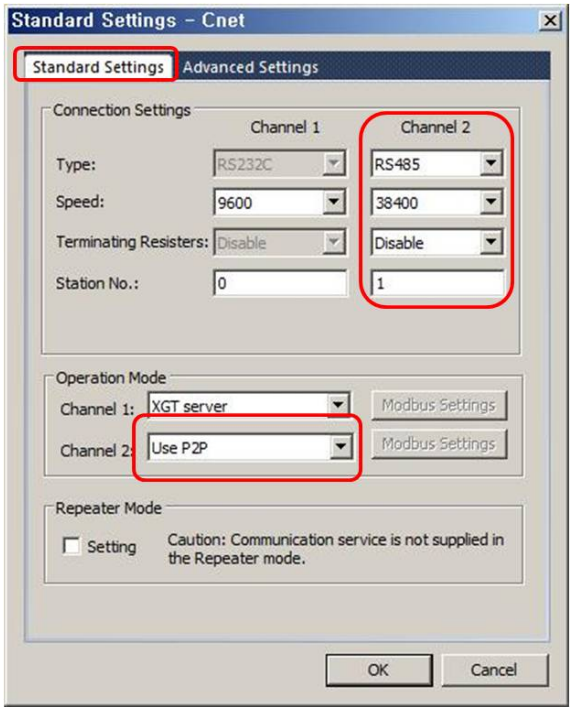
5th After I/O synchronize, you can check the added communication module below standard network. Double-click the right communication module.



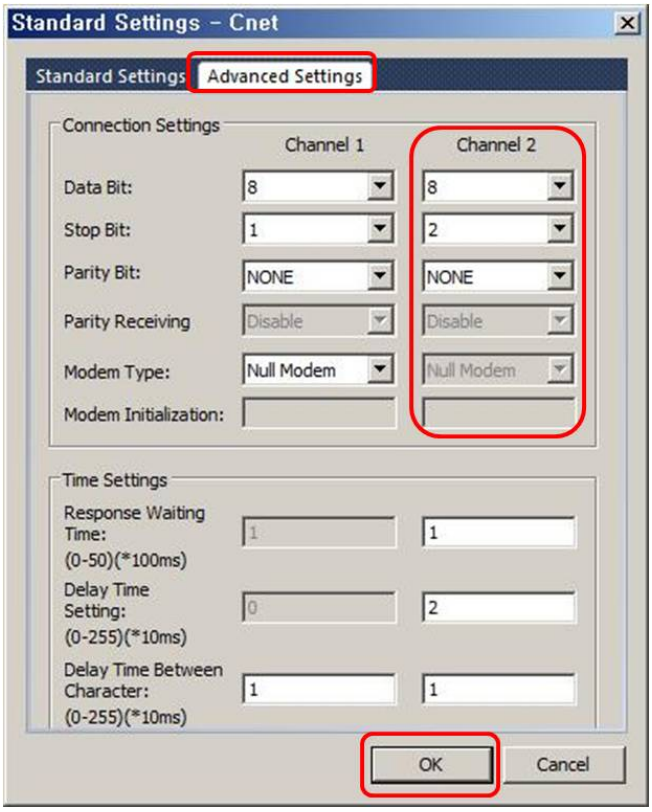
6th [Standard Settings-Cnet] dialog box appears. At standard settings, set as below.

Item		Setting	Note
Standard Settings Channel 2	Communication type	RS-485	Fixed
	Communication speed	38400	User setting
	Terminating resisters	Disable	User setting
	Station No.	1	User setting
Operation mode	Channel 2	Use P2P	

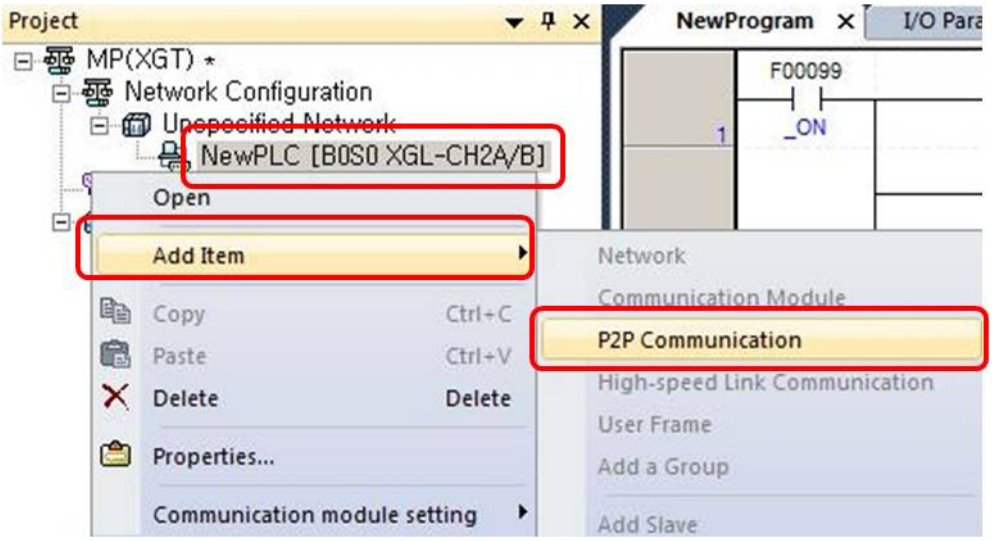


7th At advanced settings, set as below.

Item		Channel 2
Advanced settings	Data bit	8
	Stop bit	2
	Parity bit	NONE



8th At Project window, select the communication module and [Add Item] – [P2P Communication] and click 'OK'.



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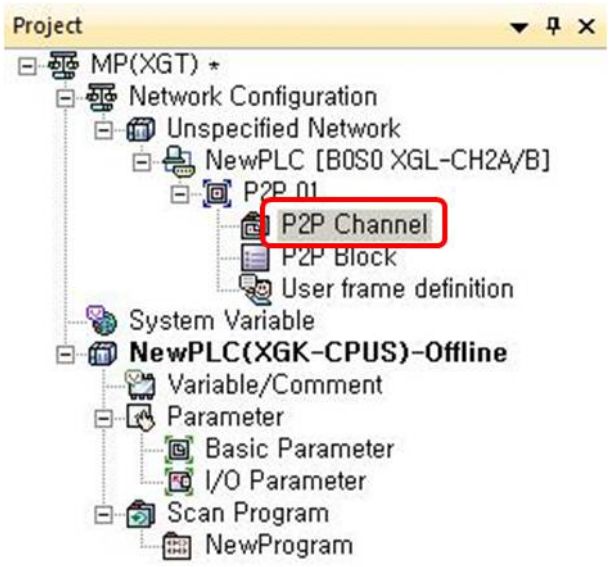
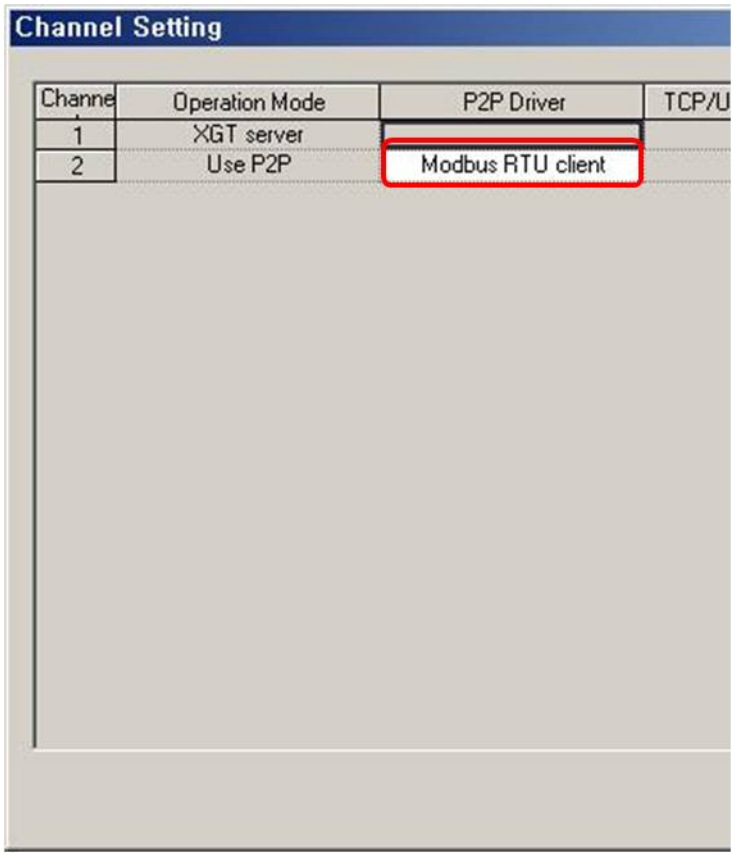
9th Double-click ‘P2P Channel’ and select ‘Modbus RTU client’ of ‘Use P2P’. Click ‘OK’.





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10th Below P2P channel, double-click ‘P2P block’ and set as below.

CH	P2P function	Conditional flag	Command type	Data type	Destination station number
2	READ(PV)	M00000 to M00003	2. Continuous	WORD (size: 2)	Enter destination station (1 to 4)

* Refer to the below table for variable setting for PV and SV.
Click ‘Setting’ to set variable.

* Modbus Mapping Table

Address	Type		Setting range	Factory default
301002(03E9)	PV	Present value	-19999 to 99999	
301003(03EA)				

* Be sure that MP Series requires 2 addresses; 03E9, 03EA for reading present value.

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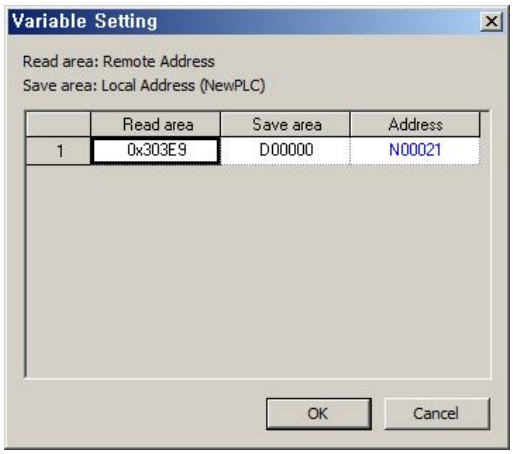
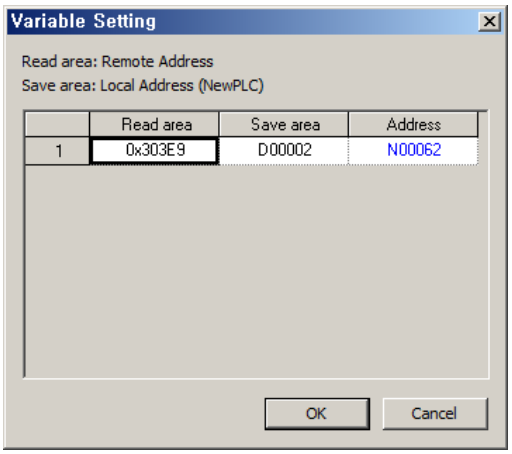
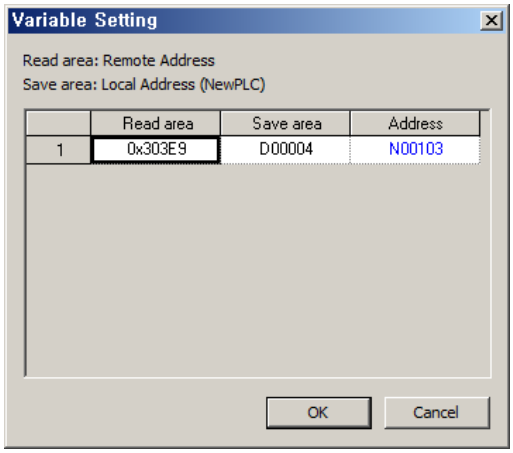
* PV setting

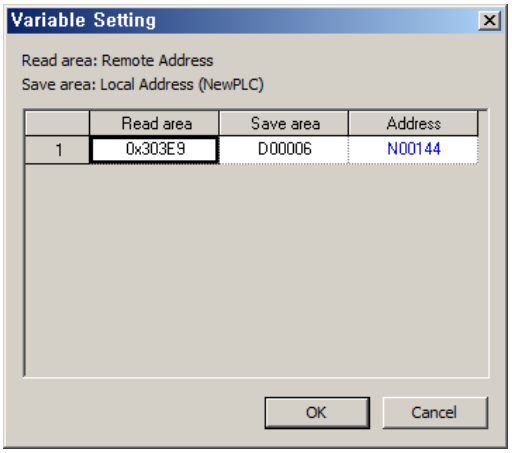
Station	Read area (setting)	Save area (setting)	Address (fixed)
Station 1	0x303E9	D00000	N00021
Station 2	0x303E9	D00002	N00062
Station 3	0x303E9	D00004	N00103
Station 4	0x303E9	D00006	N00144

Address	Type	Note
301002(03E9)	PV	Present value
301003(03EA)		









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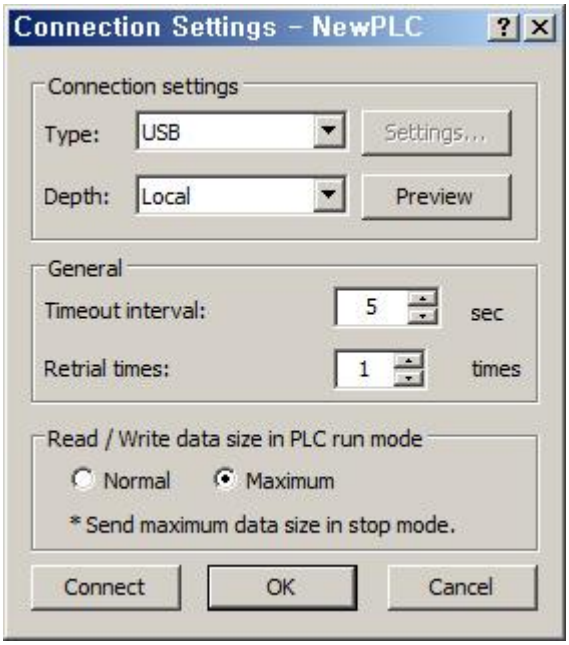
11th At [Online] – [Connection Settings], select connection type.

Select [Online] – [Write] to execute download.



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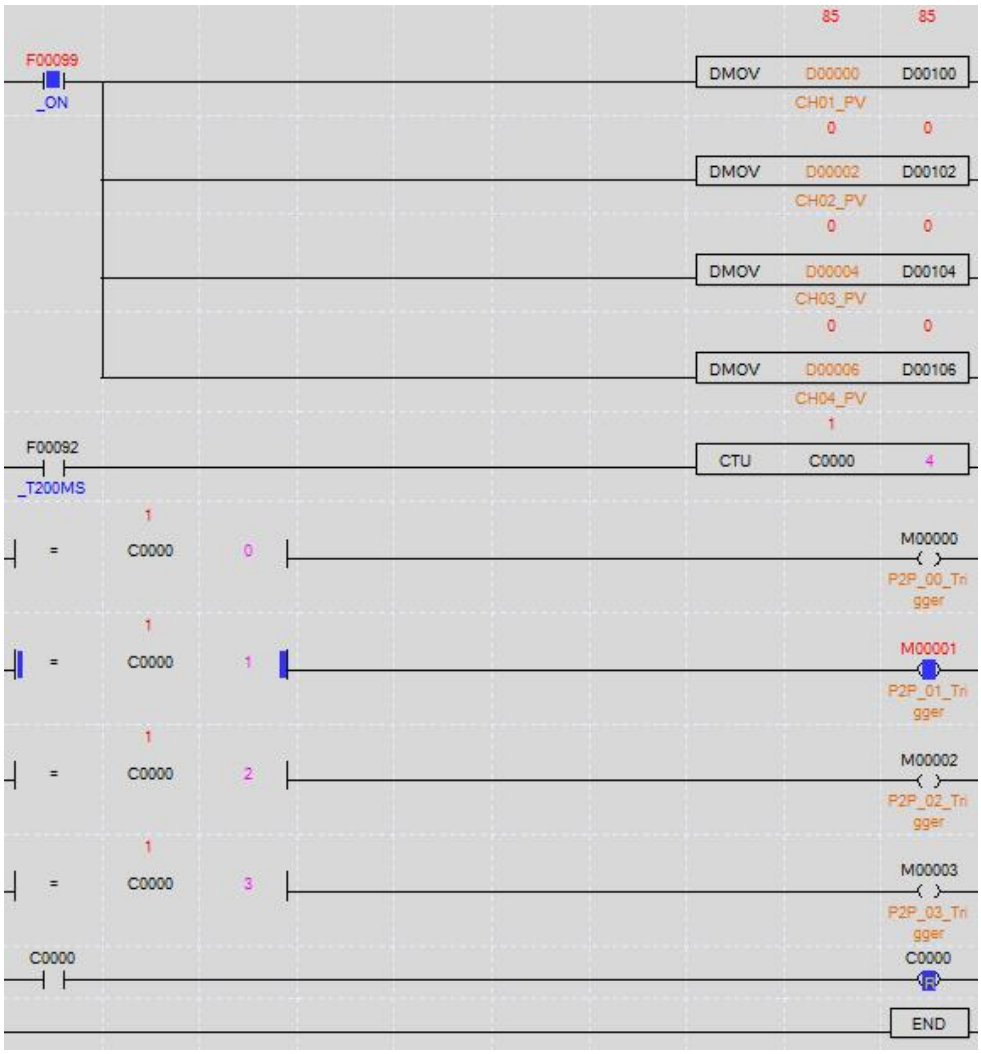
3 Operation Check



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