IAI Corporation
: IA MODBUS

Supported version TOP Design Studio V1.4.3 or higher

CONTENTS

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

1. System configuration

The system configuration of TOP-R and "Corporation Con Series (Modbus)" is as follows:

Series	CPU	Link I/F	Communication method	Communication setting	Cable
IAI Corporation	**A,P,SCON Series**(MODBUS) **ERC Series**(MODBUS)		RS–232C	3. TOP-R Communication setting	5.1. Cable table 1
			RS–485 RS-422	3. TOP-R Communication setting	5.2. Cable table 2

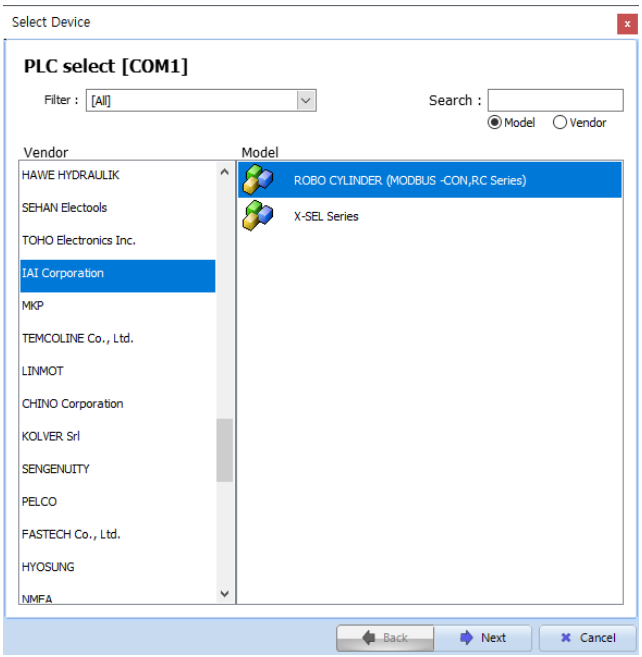
■ Connectable configuration

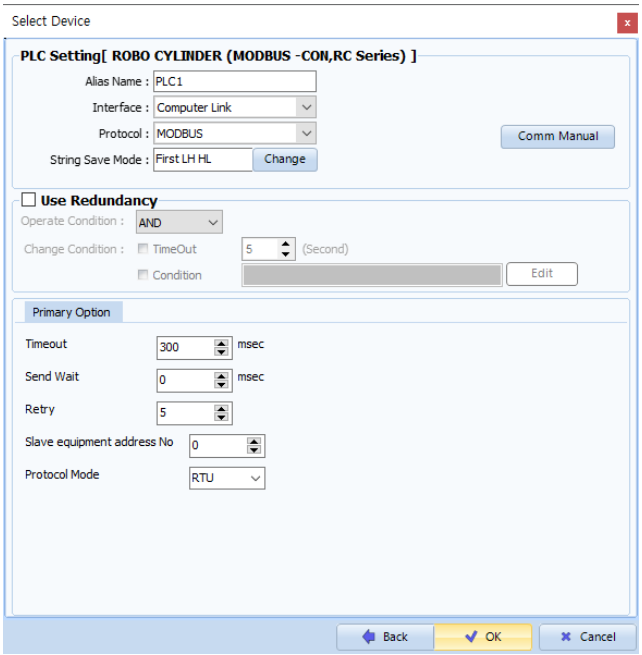
• 1:1 (one TOP-R and one external device) connection – configuration which is possible in RS232C/422/485 communication.

• 1:N (one TOP and multiple external devices) connection – configuration which is possible in RS422/485 communication.

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 "IA Corporation".
	PLC	Select an external device to connect to TOP-R.

Model	Interface	Protocol
ROBO CYLINDER (MODBUS –CON,RC Series)	Computer Link	Modbus

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

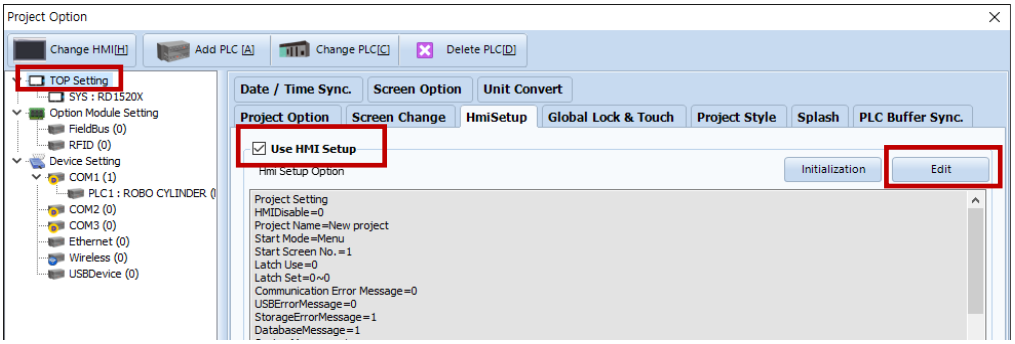
The communication can be set in TOP Design Studio or TOP-R main menu. The communication should be set in the same way as that of the external device.

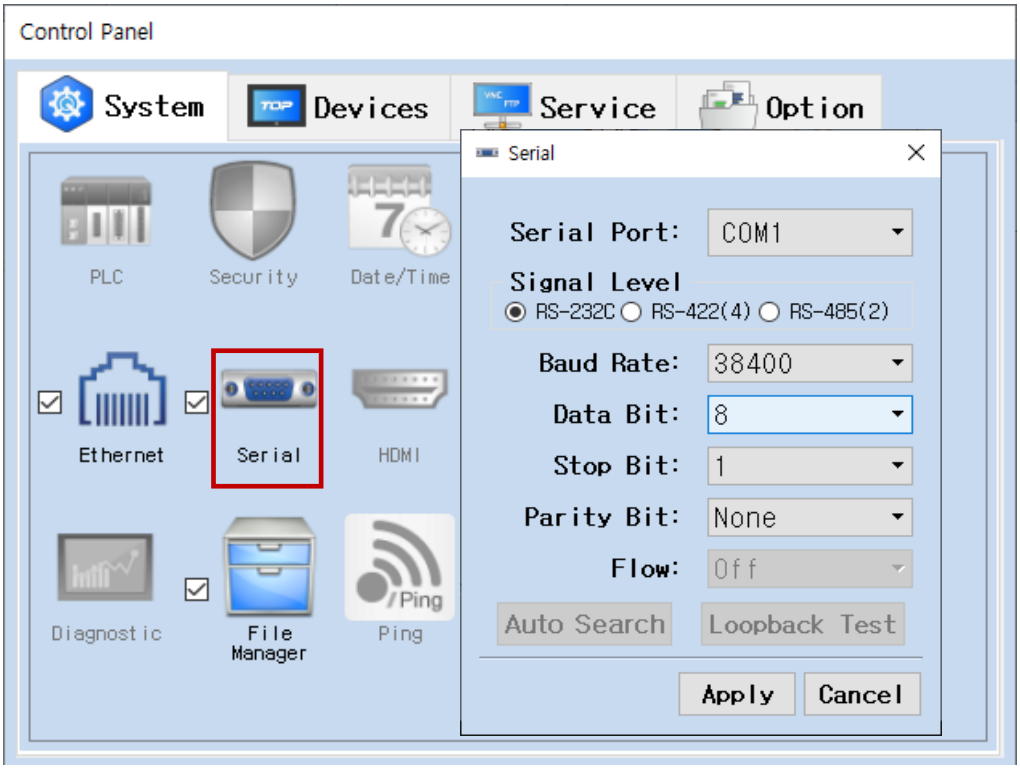
3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

■ [Project > Project property > TOP Settings] → [Project options > "HMI Setting Use" Check > Edit > Serial]

– Set the TOP communication interface in TOP-R Design Studio.





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

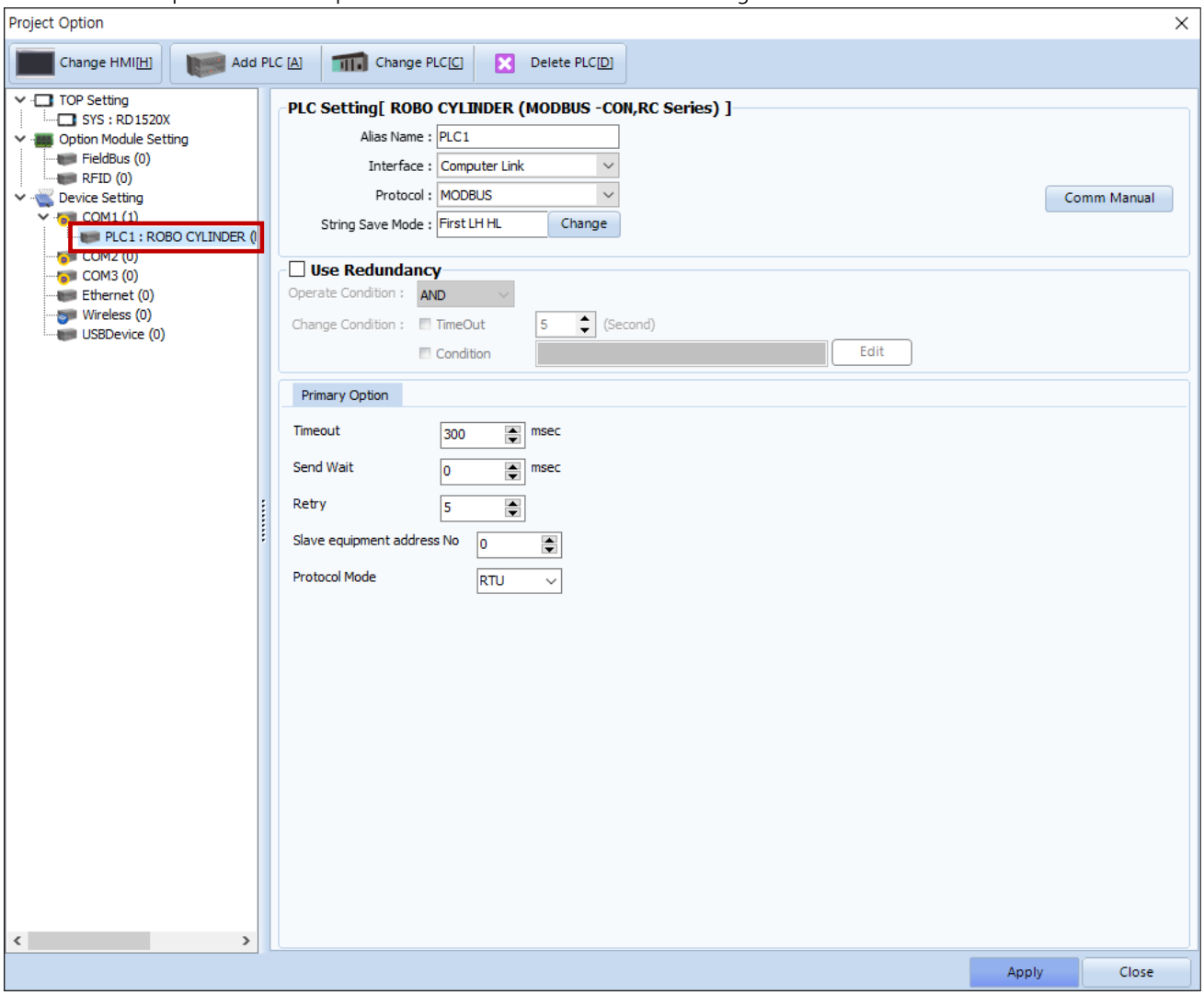
* The above settings are examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP-R and an external device. (COM3 supports only RS-485.)
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 > PLC setting > COM1 > "ROBO CYLINDER (MODBUS –CON, RC Series)"]

– Set the options of the Computer Link communication driver in TOP Design Studio.

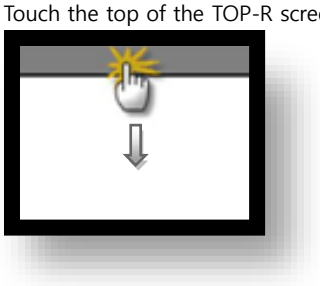


Items	Settings	Remarks
Interface	Configure the communication interface between the TOP-R and an external device.	Refer to "2. External device selection".
Protocol	Configure the communication protocol between the TOP-R and an external device.	
TimeOut (ms)	Set the time for the TOP-R to wait for a response from an external device.	Set Users
SendWait (ms)	Set the waiting time between TOP-R's receiving a response from an external device and sending the next command request.	Set Users
Slave equipment Address No	Set Slave equipment address No.	Set Users
Protocol Mode	Set Protocol Mode (RTU/ASCII).	Set Users

3.2. Communication setting in TOP-R

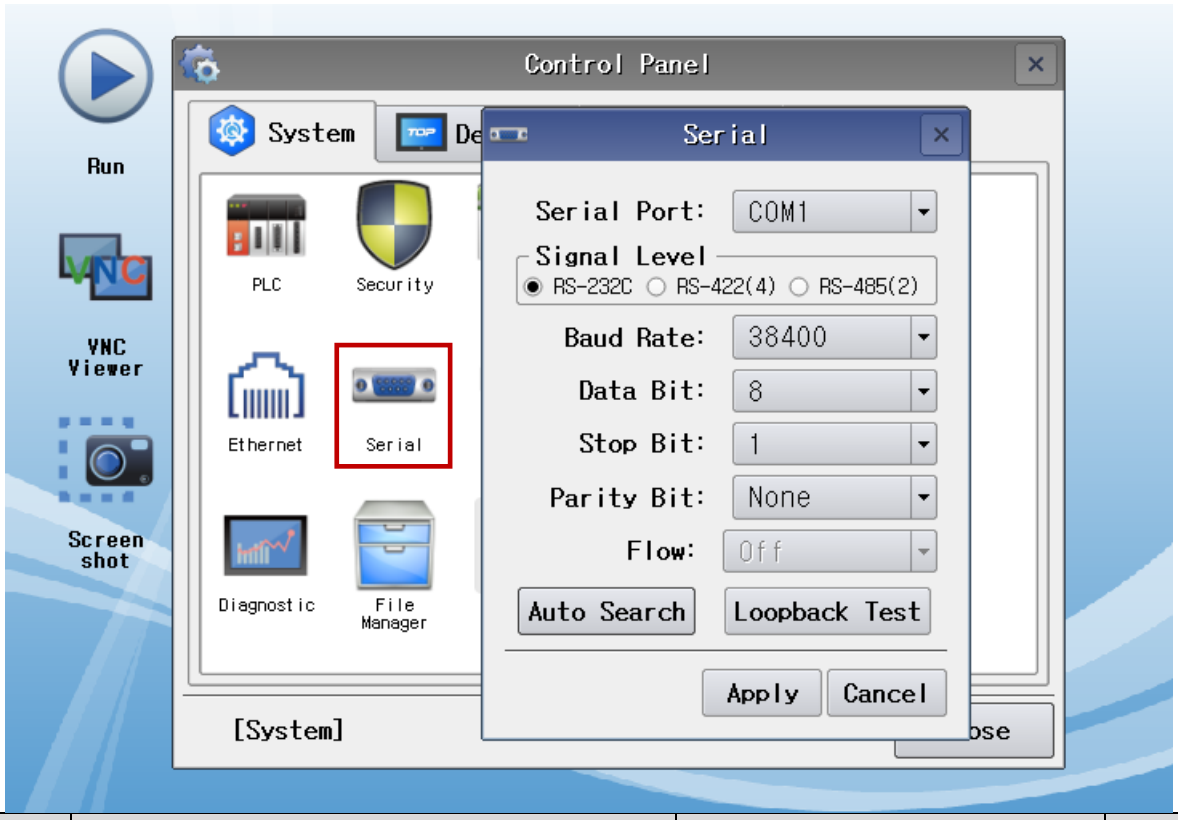
*** This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.**

■ 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]



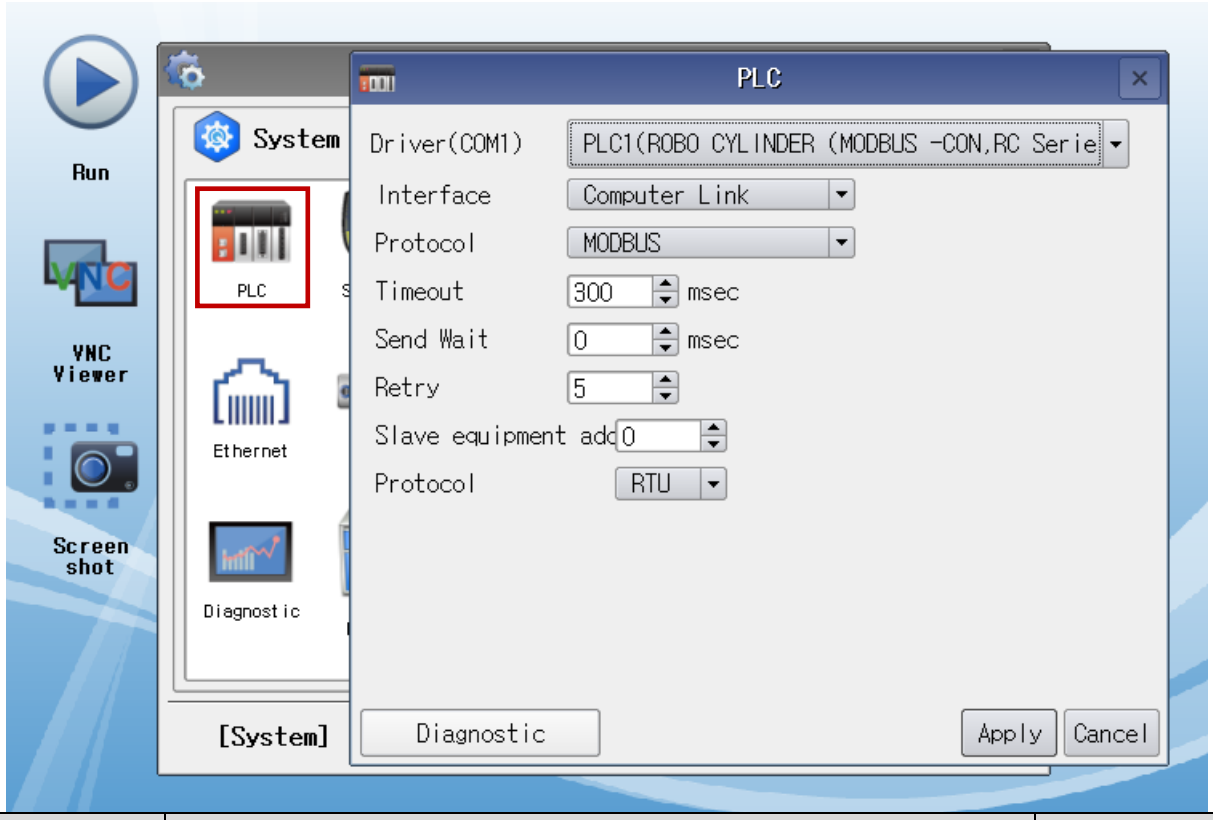
Items	TOP-R	External device	Remarks
Signal Level (port)	RS-232C (COM1/COM2)	RS-232C	Set Users
Baud Rate	38400		Set Users
Data Bit	8		Set Users
Stop Bit	1		Set Users
Parity Bit	None		Set Users

* 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. (COM3 supports only RS-485.)
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	Configure the communication interface between the TOP-R and an external device.	Refer to "2. External device selection".
Protocol	Configure the communication protocol between the TOP-R and an external device.	
TimeOut (ms)	Set the time for the TOP-R to wait for a response from an external device.	Set Users
SendWait (ms)	Set the waiting time between TOP-R's receiving a response from an external device and sending the next command request.	Set Users
Slave equipment Address No	Set Slave equipment address No.	Set Users
Protocol Mode	Set Protocol Mode (RTU/ASCII).	Set Users

3.3 Communication diagnostics

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

- 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.
- 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.)

3. TOP-R Communication setting

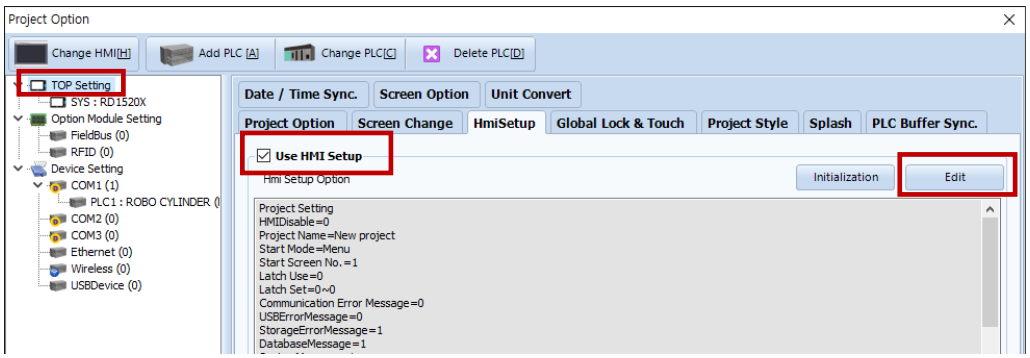
The communication can be set in TOP Design Studio or TOP-R main menu. The communication should be set in the same way as that of the external device.

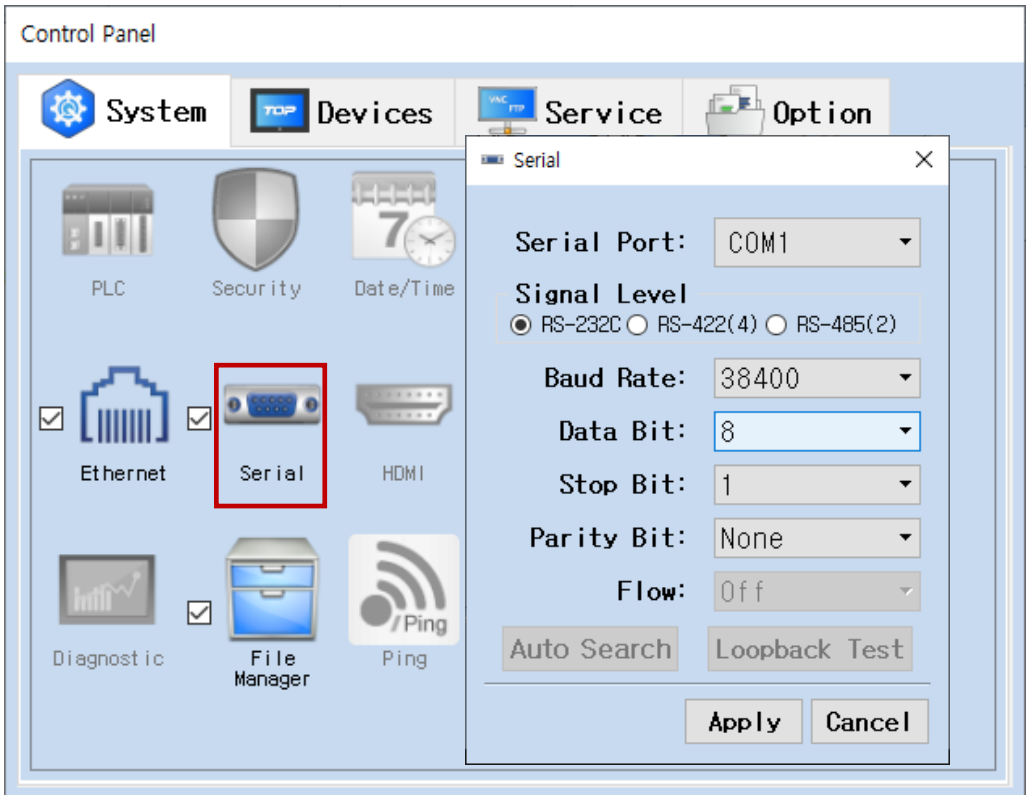
3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

■ [Project > Project property > TOP Settings] → [Project options > "HMI Setting Use" Check > Edit > Serial]

– Set the TOP communication interface in TOP-R 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		

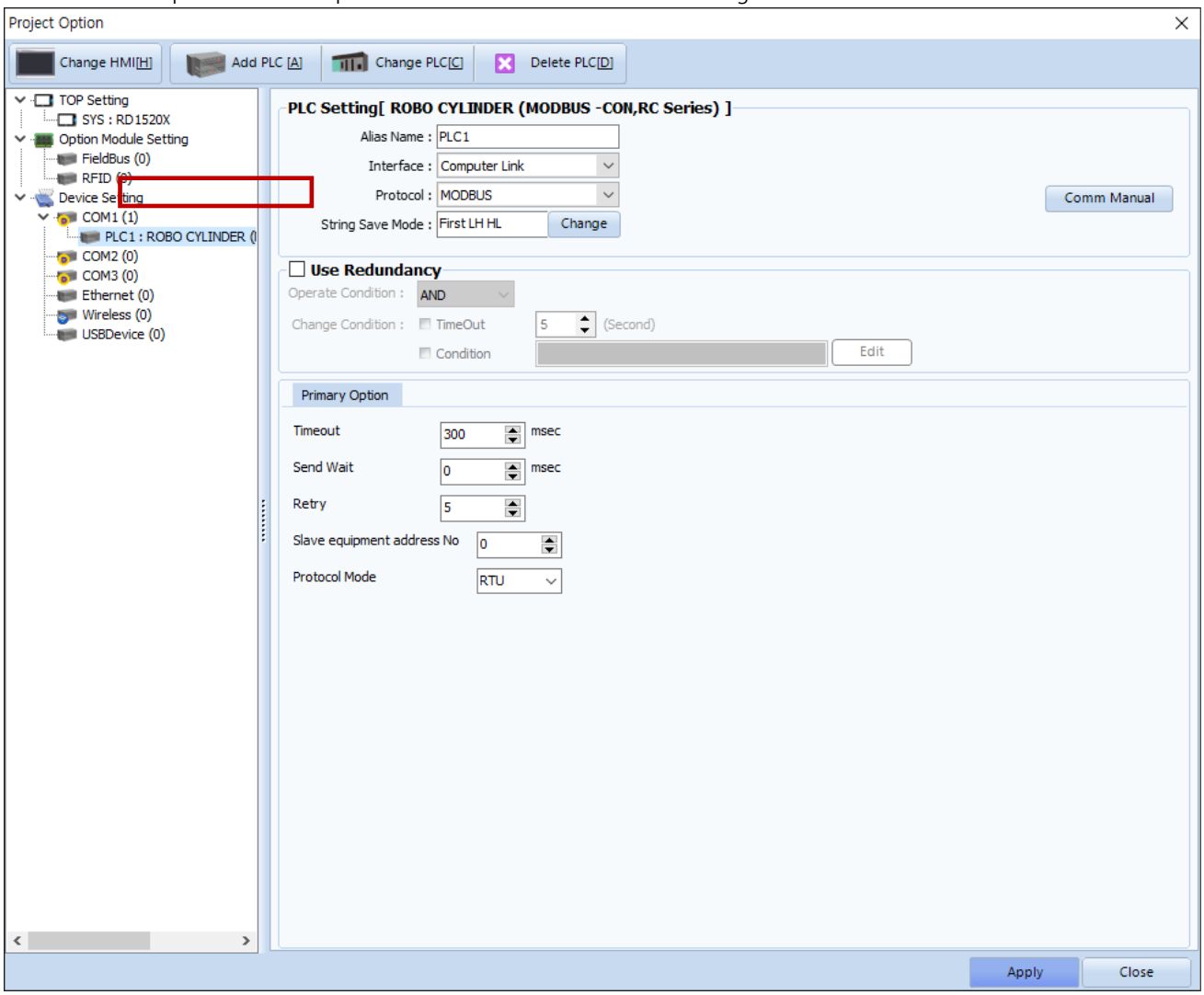
* The above settings are examples recommended by the company.

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 > PLC setting > COM1 > "ROBO CYLINDER (MODBUS –CON, RC Series)"]

– Set the options of the Computer Link communication driver in TOP Design Studio.

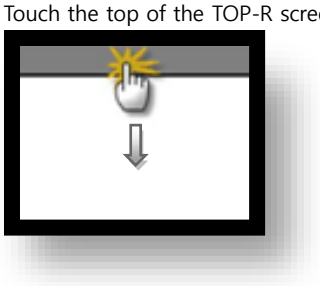


Items	Settings	Remarks
Interface	Configure the communication interface between the TOP-R and an external device.	Refer to "2. External device selection".
Protocol	Configure the communication protocol between the TOP-R and an external device.	
TimeOut (ms)	Set the time for the TOP-R to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP-R's receiving a response from an external device and sending the next command request.	
Slave equipment Address No	Set Slave equipment address No.	
Protocol Mode	Set Protocol Mode (RTU/ASCII).	

3.2. Communication setting in TOP-R

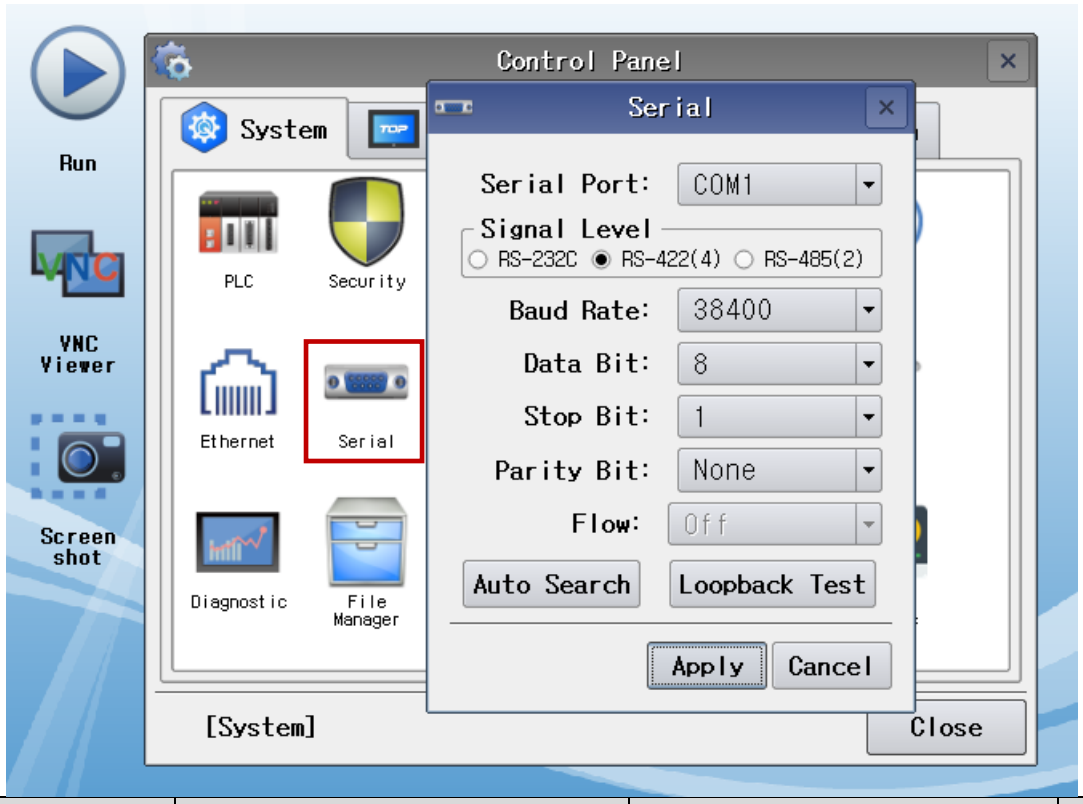
*** This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.**

■ 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]



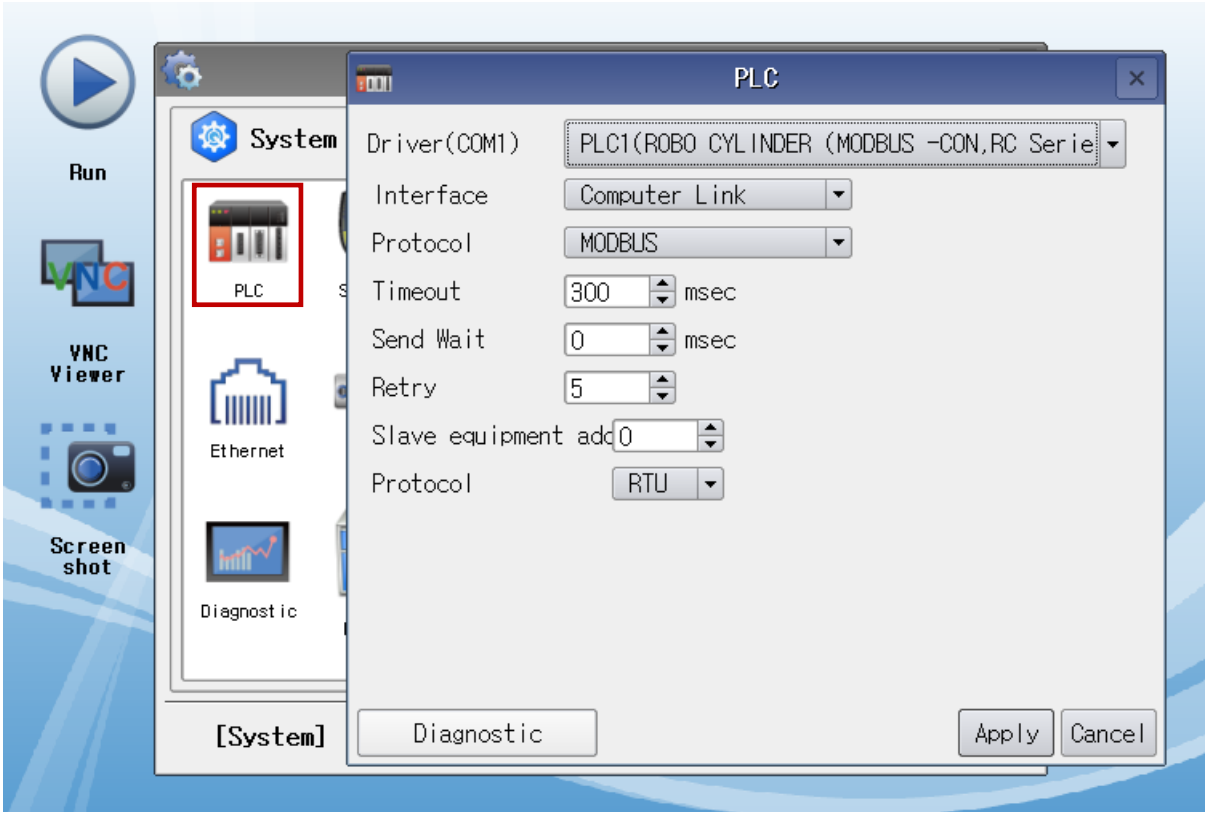
Items	TOP-R	External device	Remarks
Signal Level (port)	RS-485/RS-422	RS-485/RS-422	
Baud Rate	38400		
Data Bit	8		
Stop Bit	1		
Parity Bit	None		

* 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	Configure the communication interface between the TOP-R and an external device.	Refer to "2. External device selection".
Protocol	Configure the communication protocol between the TOP-R and an external device.	
TimeOut (ms)	Set the time for the TOP-R to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP-R's receiving a response from an external device and sending the next command request.	
Slave equipment Address No	Set Slave equipment address No.	
Protocol Mode	Set Protocol Mode (RTU/ASCII).	

3.3 Communication diagnostics

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

- 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.
- 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

Configure the communication setting of the external device by referring to its user manual.

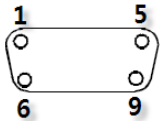
5. Cable table

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 "**IAI Corporation - IA MODBUS**")

5.1. Cable table 1

■RS232C

TOP COM Port (9 pin)

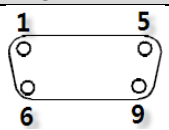
TOP COM			Cable connection	"PLC"
Pin arrangement*Note 1)	Signal name	Pin number		Signal name
 Based on communication cable connector front, D-SUB 9 Pin male (male, convex)	CD	1		
	RD	2		SD
	SD	3		RD
				DTR
	SG	5		SG
	DSR	6		DSR
	RTS	7		RTS
	CTS	8		CTS
		9		

*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

5.2. Cable table 2

■ RS422/485

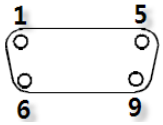
TOP COM Port (9 pin) - RS422

TOP COM			Cable connection	"PLC"
Pin arrangement*Note 1)	Signal name	Pin number		Signal name
	RDA	1		SDA
		2		SDB
		3		RDA
	RDB	4		RDB
	SG	5		SG
	SDA	6		
		7		
		8		
	SDB	9		

Based on communication cable connector front, D-SUB 9 Pin male (male, convex)

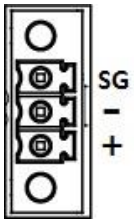
*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

TOP COM Port (9 pin) - RS485

TOP COM			Cable connection	"PLC"
Pin arrangement*Note 1)	Signal name	Pin number		Signal name
	RDA	1		+
		2		–
		3		SG
	RDB	4		
	SG	5		
	SDA	6		
		7		
		8		
	SDB	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.

TOP COM		Cable connection	External device
Pin arrangement	Signal name		Signal name
	+		+
	–		-
	SG		SG

*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

6. Support Address

The devices available in TOP-R are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP-R series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be careful not to deviate from the address range supported by the device you want to use.

Name	Description	Bit Address	Word Address	R/W	Size
ALA0	Alarm detail code	ALA0.00 ~ ALA0.15	ALA0	Read	16bit
ALA1	Alarm address	ALA1.00 ~ ALA1.15	ALA1	Read	16bit
ALC0	Alarm code	ALC0.00 ~ ALC0.15	ALC0	Read	16bit
ALT0	Alarm occurrence time	ALT0.00 ~ ALT0.31	ALT0	Read	32bit
TLMC	Total moving count (PCON-CA/CFA, ACON-CA/CB, SCON-CA/CAL/CB and ERC3 only)	TLMC.00 ~ TLMC.31	TLMC	Read	32bit
ODOM	Total moving distance (PCON-CA/CFA, ACON-CA/CB, SCON-CA/CAL/CB and ERC3 only)	ODOM.00 ~ ODOM.31	ODOM	Read	32bit
TIMN0	Present time (SCON-CA/CAL/CB only)	TIMN0.00 ~TIMN0.31	TIMN	Read	32bit
TIMN1	Present time (PCON-CA/CFA, ACON-CA/CB only)	TIMN1.00 ~TIMN1.31	TIMN	Read	32bit
TFAN0	Total FAN driving time (SCON-CA/CAL/CB only)	TFAN0.00 ~ TFAN0.31	TFAN0	Read	32bit
TFAN1	Total FAN driving time (PCON-CFA only)	TFAN1.00 ~ TFAN1.31	TFAN1	Read	32bit
PNOW	Current position monitor	PNOW.00 ~ PNOW.31	PNOW	Read	32bit
ALMC	Present alarm code query	ALMC.00 ~ ALMC.15	ALMC	Read	16bit
DIPM	Input port query	DIPM.00 ~ DIPM.15	DIPM	Read	16bit
DOPM	Output port monitor query	DOPM.00 ~ DOPM.15	DOPM	Read	16bit
DSS1	Device status query 1	DSS1.00 ~ DSS1.15	DSS1	Read	16bit

Name	Description	Bit Address	Word Address	R/W	Size
		[DEC]<- Bit position [1] Emergency stop [2] Safety speed enabled/disabled [3] Controller ready [4] Servo ON/OFF [5] Missed work part in push-motion operation [6] Major failure [7] Minor failure [8] Absolute error [9] Brake [10] Pause [11] Home return completion [12] Position complete [13] Load cell calibration complete [14] Load cell calibration status			
DSS2	Device status query 2	DSS2.00 ~ DSS2.15	DSS2	Read	16bit
		[DEC]<- Bit position [1] Enable [2] Load output judgment (check-range load current threshold) [3] Torque level (load current threshold) [4] Teaching mode (normal/teaching) [5] Position data load (normal/complete) [6] Jog+ (normal/command active) [7] Jog- (normal/command active) [8] Position complete 7 [9] Position complete 6 [10] Position complete 5 [11] Position complete 4 [12] Position complete 3 [13] Position complete 2 [14] Position complete 1 [15] Position complete 0			
DSSE	Expansion device status query	DSSE.00 ~ DSSE.15	DSSE	Read	16bit
		[DEC]<- Bit position [1] Emergency stop (emergency stop input port) [2] Motor voltage low [3] Operation mode (AUTO/MANU) [4] Home return [5] Push-motion operation in progress [6] Excitation detection [7] PIO/Modbus switching [8] Position-data write completion status [9] Moving			

Name	Description	Bit Address	Word Address	R/W	Size
STAT	System status query	STAT.00 ~ STAT.31	STAT	Read	32bit
VNOW	Current speed monitor	VNOW.00 ~ VNOW.31	VNOW	Read	32bit
CNOW	Current ampere monitor	CNOW.00 ~ CNOW.31	CNOW	Read	32bit
DEVI	Deviation monitor	DEVI.00 ~ DEVI.31	DEVI	Read	32bit
STIM	System timer query	STIM.00 ~ STIM.31	STIM	Read	32bit
SIPM	Special input port query	SIPM.00 ~ SIPM.15	SIPM	Read	16bit
		[DEC]<- Bit position [1] Command pulse NP [2] Command pulse PP [3] Port Switch [3] Mode switch [4] Enable Switch [5] Home check sensor [6] Overtravel sensor [7] Creep sensor [8] Limit sensor			
ZONS	Zone status query	ZONS.00 ~ ZONS.15	ZONS	Read	16bit
		[DEC]<- Bit position [1] LS2 (PIO pattern solenoid valve mode [3-point type] [2] LS1 (PIO pattern solenoid valve mode [3-point type] [3] LS0 (PIO pattern solenoid valve mode [3-point type] [4] Position zone [5] Zone 2 [6] Zone 1			
POSS	Positioning complete position No. status query Exected program No. register (Servo Press)	POSS.00 ~ POSS.15	POSS	Read	16bit
SSSE	Expansion system status register	SSSE.00 ~ SSSE.15	SSSE	Read	16bit
		[DEC]<- Bit position [1] Cold start level alarm occurred/not occurred [2] RTC (calendar) function used/not used (ERC3, PCON/ACON-CA/CFA/CB type only)			
FBFC	Force feedback data monitor	FBFC.00 ~ FBFC.31	FBFC	Read	32bit
OLLV	Overload level monitor	OLLV.00 ~ OLLV.15	OLLV	Read	16bit

Name	Description	Bit Address	Word Address	R/W	Size
ALMP0	Press program alarm code	ALMP0.00 ~ ALMP0.15	ALMP0	Read	16bit
ALMP1	Alarm generated press program No.	ALMP1.00 ~ ALMP1.15	ALMP1	Read	16bit
PPST	Pres program status register	PPST.00 ~ PPST.15	PPST	Read	16bit
		[DEC]<- Bit position [1] Waiting [2] While in returning operation [3] While in depression operation [4] Pressurize during the stop [5] While in pressurizing operation [6] While in probing operation [7] While in approaching the operation [8] Program home return during the movement [9] Program alarm [10] Program finished in normal condition [11] While in excecuting program [12] Program home position			
PPJD	Press program status judgements register	PPJD.00 ~ PPJD.15	PPJD	Read	16bit
		[DEC]<- Bit position [1] Load judgement NG [2] Load judgement OK [3] Position (distance) judgement NG [4] Position (distance) judgement OK [5] Total judgement NG [6] Total judgement OK			
SFTY	Safety speed command	SFTY	-	Read/ Write	1bit
SON	Servo ON command	SON	-	Read/ Write	1bit
ALRS	Alarm reset command	ALRS	-	Read/ Write	1bit
BKRL	Brake forced-release command	BKRL	-	Read/ Write	1bit
STP	Pause command	STP	-	Read/ Write	1bit
HOME	Home return command	HOME	-	Read/ Write	1bit
CSTR	Positioning start command	CSTR	-	Read/ Write	1bit
JISL	Jog/inch switching	JISL	-	Read/ Write	1bit
MOD	Teaching mode command	MOD	-	Read/ Write	1bit

Name	Description	Bit Address	Word Address	R/W	Size
TEAC	Position data load command	TEAC	-	Read/ Write	1bit
JOG+	Jog+ command	JOG+	-	Read/ Write	1bit
JOG-	Jog- command	JOG-	-	Read/ Write	1bit
ST7	Start position 7 (solenoid valve mode)	ST7	-	Read/ Write	1bit
ST6	Start position 6 (solenoid valve mode)	ST6	-	Read/ Write	1bit
ST5	Start position 5 (solenoid valve mode)	ST5	-	Read/ Write	1bit
ST4	Start position 4 (solenoid valve mode)	ST4	-	Read/ Write	1bit
ST3	Start position 3 (solenoid valve mode)	ST3	-	Read/ Write	1bit
ST2	Start position 2 (solenoid valve mode)	ST2	-	Read/ Write	1bit
ST1	Start position 1 (solenoid valve mode)	ST1	-	Read/ Write	1bit
ST0	Start position 0 (solenoid valve mode)	ST0	-	Read/ Write	1bit
CLBR	Load cell calibration command	CLBR	-	Read/ Write	1bit
PMSL	PIO/Modbus switching specification	PMSL	-	Read/ Write	1bit
STOP	Deceleration stop	STOP	-	Read/ Write	1bit
ENMV	Axis operation permission	ENMV	-	Read/ Write	1bit
PHOM	Program home return movement	PHOM	-	Read/ Write	1bit
SSTP	Search stop	SSTP	-	Read/ Write	1bit
FPST	Program compulsoly finish	FPST	-	Read/ Write	1bit
PSTR	Program start	PSTR	-	Read/ Write	1bit
DRG1	Device control register 1	DRG1.00 ~ DRG1.15	DRG1	Read/ Write	16bit
		[DEC]<- Bit position [0~2]Cannot be used [3] Positioning start command [4] Home return command [5] Pause command [6] Cannot be used [7] Brake forced-release command [8] Alarm reset command [9~11] Cannot be used [12] Servo ON command [13] Cannot be used [14] Safety speed command [15]EMG operation specification			
DRG2	Device control register 2	DRG2.00 ~	DRG2	Read/	16bit

Name	Description	Bit Address	Word Address	R/W	Size
		DRG2.15		Write	
		[DEC]<- Bit position [0~7]Start Posistion 0~7 [8] Jog- command [9] Jog+ command [10]Position data load command [11]Teaching mode command [12~13]Cannot be used [14]Jog/inch switching 0:Jog 1:Inching [15]Cannot be used			
POSR0	Position number command register /Program number command register	POSR0.00 ~ POSR.15	POSR0	Read/ Write	16bit
POSR1	Position movement command register	POSR1.00 ~ POSR1.15	POSR1	Read /Write	16bit
PCMD	Target position specification register	PCMD0.00 ~ PCMD1.15	PCMD	Read /Write	32bit
INP	Positioning band specification register	INP0.00 ~ INP1.15	INP	Read/ Write	32bit
VCMD	Speed specification register	VCMD0.00 ~ VCMD1.15	VCMD	Read/ Write	32bit
ACMD	Acceleration/deceleration specification register	ACMD.00 ~ ACMD.15	ACMD	Read/ Write	16bit
PPOW	Push-current limiting value specification register	PPOW.00 ~ PPOW.15	PPOW	Read/ Write	16bit
CTLF	Control flag specification register	CTLF.00 ~ CTLF.15	CTLF	Read/ Write	16bit

Position Data Description Reading (With RC Series controllers)

Name	Description	Bit Address	Word Address	R/W	Size
PDDR	Position Data Description Reading (With RC Series controllers)	PDDR:000:0.00 ~PDDR:767:F.00 (DEC:HEX.DEC)	PDDR	Read	16bit/32bit

Address Format
Name -> PDDR
Position Number -> :000 ~ :767
Offset from Top Address -> :0 ~ :F
bit Position Number -> .00

Offset from Top Address
[0~1]PCMD - Target position(32bit)
[2~3]INP - Positioning band(32bit)
[4~5]VCMD - Speed command(32bit)
[6~7]ZNMP - Individual zone boundary + (32bit)
[8~9]ZNLP - Individual zone boundary - (32bit)
[A]ACMD - Acceleration command(16bit)
[B]DCMD - Deceleration command(16bit)
[C]PPOW - Push-current limiting value(16bit)
[D]LPOW - Load current threshold(16bit)
[E]CTLF - Control flag specification(16bit)
[F]Cannot be used (16bit)

※ For PDDR 32bit, you must check wordswap.

Name	Bit Address	Word Address	R/W
D(Data register)	D0000.15-DFFFF.15	D0000-DFFFF	Read/Write
S(Status register)	S0000-SFFFF	S0000-SFFF0	Read/Write