YASKAWA Electric Corporation High Speed Ethernet Server Driver

Supported version TOP Design Studio

V1.4.2 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 devices required for connection, the setting of each device, cables, and configurable systems.

2. External device selection Page 3

Select a TOP model and an external device.

3. TOP communication setting Page 4

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4. External device setting Page 10

Describes how to set up communication for external devices.

5. Supported addresses

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Refer to this section to check the addresses which can communicate with an external device.



1. System configuration

The system configuration of TOP and "YASKAWA Electric Corp. – High Speed Ethernet Server" is as follows:

Series	CPU	Link I/F	Communication method	Communication setting	Cable
DX200	DX200	LAN port on the controller	Ethernet (UDP)	3. TOP	
DX100	DX100	LAN port on the controller	Ethernet (UDP)	communication	Twisted pair
FS100	FS100	Ethernet port on the controller	Ethernet (UDP)	setting	Cable ^{*Note 1)}
DX200	DX200	LAN port on the controller	Ethernet (UDP)	4. External device	Cabie
FS100L	FS100L	Ethernet port on the controller	Ethernet (UDP)	setting	

*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



• 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.

PLC select [Ethernet] Filter : [Al] Vendor Model M2I Corporation MITSUBISHI Electric Corporation OMRON Industrial Automation L Industrial Automation L Industrial Factors	ndor	
Filter: [All] Search: Model Vendor Model Vendor Model Model Model Mp900 Mp2000 Mp2000 Mp3000 Is Industrial Automation 	ndor	
Model Model Model @ Model M2I Corporation Image: Corporation MITISUBISHI Electric Corporation Image: Corporation OMRON Industrial Automation Image: Corporation Image: Corporation Image: Corporation Image	ndor	
Vendor Model M2I Corporation MITSUBISHI Electric Corporation OMRON Industrial Automation I S Tatkatical Custome Mp3000 Mp300 Mp3000 Mp300 Mp3000 Mp3000 Mp3000 Mp300 M		
M2I Corporation App900 MITSUBISHI Electric Corporation OMRON Industrial Automation U.S. Tada atrial Sustaina Mp3000		
MITSUBISHI Electric Corporation Mp2000 OMRON Industrial Automation Mp3000		
OMRON Industrial Automation		
IS Technicial Sustain		
Lo industrial systems		
MODBUS Organization		
STEMENS AG		
Declaration Declaration		
GE Panue Automátion		
PANASONIC Electric Works		
YASKAWA Electric Corporation		
YOKOGAWA Electric Corporation		
Schneider Electric Industries		
KDT Systems		
RS Automation		
A Rack Next X C	ancel	
Select Device		
PLC Setting[High Speed Ethernet Server]		
Alias Name : PLC1 Bind IP : Auto V		
Interface : Ethernet		
Interface : Ethernet		
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Man	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : Frst LH HL Change Use Redundancy	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : ImeOut Condition : Sec (Second) Condition	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : Frst LH HL Change Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition Edit	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Mana String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : AND Change Condition Edit Primary Opton	ual	
Interface : Ethernet Protocol : High Speed Ethernet Servi String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : AND Change Condition : Condition Primary Option IP 192 168 255 1	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : TimeOut 5 (Second) Condition Edit Primary Option IP 192 168 255 1 Ethernet Protocol UDP	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : AND Change Condition : TimeOut Condition Edit Primary Option IP 192 168 255 1 Change Ethernet Protocol UDP Port 10040	ual	
Interface : Ethernet V Protocci : High Speed Ethernet Serve Comm Manu String Save Mode : Frst LH HL Change Use Redundancy Operate Condition : AND Change Condition : TimeOut 5 C (Second) Condition Edit Primary Option IP 192 I 168 255 1 E Ethernet Protocol UDP Port 10040 msec	ual	
Interface : Ethernet V Protocol : High Speed Ethernet Serve V String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND Change Condition : TimeOut 5 (Second) Condition Edit Primary Option IP 192 168 255 1 2 Ethernet Protocol UDP V Port 10040 1 Timeout 300 1 msec Send Wait 0 msec	ual	
Interface : Ethernet V Protocol : High Speed Ethernet Serve V String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND C Change Condition : TimeOut 5 (Second) Change Condition Edit Primary Option IP 192 168 255 1 2 Ethernet Protocol UDP V Port 10040 msec Send Wait 0 msec Retry 5 1	ual	
Interface : Ethernet ✓ Protocol : High Speed Ethernet Serve ✓ Comm Mana String Save Mode : First LH HL Change Use Redundancy Operate Condition : AND ✓ Change Condition : AND ✓ ✓ Change Condition : ImeOut 5 ♦ (Second) Edit Primary Option III IIII Edit ✓ Port 192 ♥ 168 ♥ 255 ♥ 1 ♥ IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ual	
Interface : Ethernet Protocol : High Speed Ethernet Serve Comm Manu String Save Mode : First LH HL Change Use Redundancy Operate Condition : MD Change Condition : TimeOut 5 \$ (Second) Condition Edit Primary Option IP 192 \$ 168 \$ 255 1 \$ Ethernet Protocol UDP Port 10040 \$ Timeout 300 \$ msec Send Wait 0 \$ msec Retry 5 \$	ual	
Interface: Ethernet ✓ Protocol: High Speed Ethernet Server Comm Mana String Save Mode: First LH HL Change Operate Condition: AND ✓ Change Condition: ImeOut 5 ♀ (Second) Ethernet Protocol UDP ✓ Port 192 ♥ 168 ♥ 255 ♥ 1 ♥ 1 ♥ Ethernet Protocol UDP ✓ Port 10040 ♥ msec Send Wait 0 ♥ msec msec Retry 5 ♥ ♥ 1 ♥	ual	

Settings		Contents			
ТОР	Model	Check the TOP display and process to select the touch model.			
External device	Vendor	Select the vendor of the externa Please select "YASKAWA Electric	elect the vendor of the external device to be connected to TOP. Please select "YASKAWA Electric Corporation".		
	PLC	Select the external device to be	connected to the TOP.		
		Model	Interface	Protocol	
		High Speed Ethernet Server	Ethernet	High Speed Ethernet Server	
		Please check the system config connect is a model whose syste	guration in Chapter 1 to see if em can be configured.	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. Project Option Х Change HMI[H] W Add PLC [A] T Change PLC[C] X Delete PLC[D] TOP Setting Date / Time Sync. Screen Option Unit Convert Option Module Setting Project Option Screen Change HmiSetup Global Lock & Touch Proj Splash PLC Buffer Sync. FieldBus (0) RFID (0) 🗹 Use HMI Setup Carl Device Setting Initialization Edit - COM1 (0) Project Setting HMIDisable=0 Project Name=New project Start Mode=Menu Start Soreen No. = 1 Latch Use=0 Latch Set=0~0 Communication Error Message=0 USBErrorMessage=0 - COM2 (0) 🗑 COM3 (0) Ethernet (1) Ethernet (1)
 PLC1 : High Speed Ether
 Wireless (0)
 USBDevice (0) Message=1 sage=1 orageErrorM Control Panel System 🔤 Devices Ethernet × Port Ethernet Port : ETH1 - 0 • 1 ~ Link Speed : Auto Ŧ PLC Security Date/Time MAC Address : 00:00:00:00:00:00 IP Address : 192.168.0.50 Subnet Mask : 255.255.255.0 Gateway : 192.168.0.1 . 9 \checkmark \checkmark 🗹 Default Gateway Ethernet HDMI Serial DNS (1) :[DNS (2) :[Ethernet Primary IP : 192.168.0.50 ÷ \checkmark /Ping Cable Status : Diagnost ic File Ping Manager Bridge Mode : 🗌 Use Bridge Check duplicate Apply Cancel

Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.255.50	192.168.255.1	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, <u>192</u>. 168.0. 0) should match.

*Note 2) Do not use duplicate IP addresses over the same network.

* The above settings are examples recommended by the company.

Items		Description
IP Address		Set an IP address to be used by the TOP to use over the network.
Subnet Mask		Enter the subnet mask of the network.
Gateway		Enter the gateway of the network.
The default IP for each series is as follows. – DX100, 200 Series: 192.168.255.1 – ES100 Series: 10.0.0.2		t IP for each series is as follows. 200 Series: 192.168.255.1 pries: 10.0.2

– Port number: 10040



(2) Communication option setting

- [Project > Project Property > Device Setting > ETHERNET > "PLC1 : High Speed Ethernet Server"]
 - Set the options of the High Speed Ethernet Server communication driver in TOP Design Studio.

Project Option		×
Change HMI[H] Add PLC [A] TI Change PLC[C] Chete PLC[D]		
PLC Setting High Speed Ethernet Server] Alas Name : PLC : Alas Name : PLC : Bind IP : Auto ¥ Alas Name : PLC : Device Setting COM1 (0) CO20 (0) CO2		mm Manual
	Apply	Close

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External
Protocol	Select "High Speed Ethernet Server".	device selection".
IP	Enter the IP address of the external device.	
Ethernet Protocol	ocol Select the Ethernet protocol between the TOP and an external device.	
Port	Port Enter the Ethernet communication port number of an external device.	
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Vait (ms) Set the waiting time between TOP's receiving a response from an external device	
	and sending the next command request.	



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 <u>drag</u> it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Main Screen > Control Panel > Ethernet]

	Ō	Ethernet ×	×
Bup	🔯 System	Port Ethernet Port : ETH1 • 0 •	Option
		Link Speed : Auto	1)
MIC	PLC Se	MAC Address : 00:15:1D:05:38:C5 IP Address : 192.168.0.100	Sound
VNC Viewer		Subnet Mask : 255.255.255.0 Gateway : 192.168.0.1	
	Ethernet S	DNS (1)	Wi-Fi
		DNS (2) :	
Screen shot	HTIN	Ethernet Primary IP : 192.168.0.100 -	
	Diagnostic M	Cable Status : ETH1 Connected	MRAM Analysis
		Bridge Mode : Use Bridge	
	[System]	Check duplicate Apply Cancel	Close

Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.255.50	192.168.255.1	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, <u>192</u>. <u>168</u>. <u>0</u>. 0) should match.

*Note 2) Do not use duplicate IP addresses over the same network.

* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.



(2) Communication option setting

■ [Main Screen > Control Panel > PLC]

	8	_		
Run Run VNC Viewer	Syste Syste PLC Ethernet	Driver(ETH) Interface Protocol Bind IP IP Ethernet Port	PLC PLC1(High Speed Ethernet Server) • Ethernet • High Speed Ethernet • Auto • 192 • 168 • 255 • 1 • UDP • 10040 •	×
Screen	Diagnost ic	Timeout Send Wait Retry Diagnostic	300 🗣 msec 0 🗣 msec 5 🗣 Ping Test Apply	Cancel
Items	Settings			Remarks
Interface	Select "Etherne	t".		Refer to "2. Externa
Protocol	Select "High Speed Ethernet Server".		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 an external device.			
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.			
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device			

and sending the next command request.



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 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.

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 system		OK	NG	1 Custom configuration	
configuration	Connection cable name		OK	NG	1. System configuration	
ТОР	Version information		OK	NG		
	Port in use Driver name		OK	NG		
			OK	NG		
	Other detailed settings	Other detailed settings				
	Relative prefix	Project setting	OK	NG	2. External device selection	
		Communication diagnostics	ОК	NG	3. Communication setting	
	Ethernet port setting	IP Address	OK	NG		
		Subnet Mask	OK	NG		
		Gateway	OK	NG		
External device	rnal device CPU name Communication port name (module name)		OK	NG		
			OK	NG		
	Protocol (mode)	OK	NG			
	Setup Prefix	OK	NG	4 External device cotting		
	Other detailed settings	OK	NG	4. External device setting		
	Ethernet port setting	IP Address	OK	NG		
		Subnet Mask	ОК	NG		
		Gateway	OK	NG		
	Check address range		ОК	NG	<u>5. Supported addresses</u> (For details, please refer to the PLC vendor's manual.)	



4. External device setting

Set as below using "Browser". For more detailed setting method than that described in this example, refer to the PLC user manual.



Do not use duplicate IP addresses over the same network.

(2) External device setting

Set as below using "YASKAWA MOTOMAN". For more detailed setting method than that described in this example, refer to the YASKAWA user manual.

Check the configured IP using the following method.

- From "security mode", change to "management mode".
- From the main menu, go to [SYSTEM INFO] -> [NETWORK SERVICE] to check the network settings.



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.

■ Default system: Device & Address



Device	Class	Instance	Attribute	R/W	Remarks
Alarm	0x0070	1: The latest alarm	1: Alarm code	R	
		2: The second alarm from the	2: Alarm data		
		latest	3: By alarm type		
		3: The third alarm from the latest	4: Alarm occurring time		
		4: The fourth alarm from the latest	5: Alarm character string name		
Alarm History	0x0071	1~100 : Major failure	1: Alarm code	R	
		1001~1100: Monitor alarm	2: Alarm data		
		2001~2100: User alarm (system)	3: Alarm type		
		3001~3100: User alarm (user)	4: Alarm occurring time		
		4001~4100: OFF line alarm	5: Alarm character strings name		
Status	0x0072	Fixed to '1'	1: Data 1	R	
			2: Data 2		
Job information	0x0073	1: Master task	1: Job name	R	
		2: Sub task 1	2: Line number		
		3: Sub task 2	3: Step number		
		4: Sub task 3	4: Speed override value		
		5: Sub task 4			
		6: Sub task 5			
		7: Sub task 6			
		8: Sub task 7			
		9: Sub task 8			
		10: Sub task 9			
		11: Sub task 10			
		12: Sub task 11			
		13: Sub task 12			
		14: Sub task 13			
		15: Sub task 14			
		16: Sub task 15			
Axis composition	0x0074	1 : R1~8 : R8Robot (pulse value)	1: "Axis name" of the first axis	R	
		11 : B1~18 : B8Base (pulse value)	2: "Axis name" of the second axis		
		21 : S1~44 : S24Station (pulse	3: "Axis name" of the third axis		
		value)	4: "Axis name" of the fourth axis		
		101 : R1~108 : R8Robot	5: "Axis name" of the fifth axis		
		(cartesian coordinate)	6: "Axis name" of the sixth axis		
		111 : B1~118 : B8Base	7: "Axis name" of the seventh axis		
		(cartesian coordinate)	8: "Axis name" of the eighth axis		
Robot Position	0x0075	1 : R1~8 : R8 Robot (pulse value)	1: Data type	R	
		11 : B1~18 : B8 Base (pulse	2: Form		
		value)	3: Tool number		





Device	Class	Instance	Attribute	R/W	Remarks
		21 : S1~44 : S24 Station (pulse	4: User coordinate number		
		value)	5: Extended form		
		101 : R1~108 : R8 Robot	6: First axis data		
		(cartesian coordinate	7: Second axis data		
			8: Third axis data		
			9: Fourth axis data		
			10: Fifth axis data		
			11: Sixth axis data		
			12: Seventh axis data		
			13: Eighth axis data		
Fach axis positional	0x0076	1 · R1~8 · R8 Robot axis	1 [.] First axis data	R	
deflection		11 : B1~18 : B8 Base axis	2: Second axis data		
		21 : S1~44 : S24 Station axis	3: Third axis data		
			4 [:] Fourth axis data		
			5: Fifth axis data		
			6. Sixth axis data		
			7: Seventh axis data		
			8: Fighth axis data		
Each shaft torque	0x0077	1 · B1~8 · B8 Bobot axis	1: First axis data	R	
	0,0077	$11 \cdot B1 \sim 18 \cdot B8$ Base axis	2: Second avis data	IX.	
		$21 \cdot 51 \times 14 \cdot 524$ Station axis	3: Third axis data		
			4: Fourth axis data		
			5. Fifth avis data		
			6: Sixth axis data		
			7: Seventh avis data		
			8: Eighth axis data		
	0v78	• 1~512 : Robot user input signal	Eived to "1"	R/M/	
10 Data	0.70	• 1001~1512: Robot user output			
		signal			
		• 2001~2512 External input signal			
		• 2701~2956: Network input signal			
		• 3001~3512: External output			
		signal			
		• 3701~3956: Network output			
		signal			
		• 4001~4160. Robot system input			
		signal			
	0200	• 5001~5300: Robot system output	Fixed to "O"		
IO Data(Multi)	0x300	signal	Fixed to U.	R/W	
		• 6001~6064: Interface panel input			
		signal			
		• 7001~7999 Auviliary relay signal			
		• 8001~8128: Robot control status			
		signal			
		• 8201~8220: Pseudo input signal			
Pagistar data	0v70	$-6201 \approx 6220$. Fiseddo input signal	Fixed to "1"	D ///	
Register data(Multi)	0x79		Fixed to "0"	P/M	
	0,74	0.00 (for standard satting)	Fixed to "1"		
	0x7A	0~99 (IOI Standard Setting)	Fixed to "0"		
	0.70		Fixed to U.	K/W	
	Ux/B	U~99 (for standard setting)	Fixed to "1".	R/W	
I(Multi)	0x303		Fixed to "0".	R/W	
D	0x7C	0~99 (for standard setting)	Fixed to "1".	R/W	
D(Multi)	0x304		Fixed to "0".	R/W	
R	0x7D	0~99 (for standard setting)	Fixed to "1".	R/W	





Device	Class	Instance	Attribute	R/W	Remarks
R(Multi)	0x305		Fixed to "0".	R/W	
S 16 byte	0x7E	0~99 (for standard setting)	Fixed to "1".	R/W	
S 16 byte(Multi)	0x306		Fixed to "0".	R/W	
Р	0x7F	0~127 (for standard setting)	1: Data type	R/W	
			2: Form		
			3: Tool number		
			4: User coordinate number		
			5: Extended form		
			6: "Coordinated data" of the first		
			axis		
			7: "Coordinated data" of the		
			second axis		
			8: "Coordinated data" of the third		
			axis		
			9: "Coordinated data" of the		
			fourth axis		
			10: "Coordinated data" of the		
			fifth axis		
			11: "Coordinated data" of the		
			sixth axis		
			12: "Coordinated data" of the		
			seventh axis		
			13: "Coordinated data" of the		
		-	eighth axis		
P(Multi)	0x307		Fixed to "0".	R/W	
BP	0x80	0~127 (for standard setting)	1: Data type	R/W	
			2: "Coordinated data" of the first		
			axis		
			3: "Coordinated data" of the		
			second axis		
			4: "Coordinated data" of the third		
			axis		
			5: "Coordinated data" of the		
			fourth axis		
			6: "Coordinated data" of the fifth		
			axis		
			7: "Coordinated data" of the sixth		
			8: "Coordinated data" of the		
			seventh axis		
			9: Coordinated data of the		
	0,209	-	Eived to "0"	D ///	
	0x500	0 127 (for standard satting)			
EA	0x01		1. Data type	r,/ vv	
			2: "Coordinated data" of the		
			second axis		
			4. "Coordinated data" of the third		
			5. "Coordinated data" of the		
			fourth axis		
			6: "Coordinated data" of the fifth		
			axis		





Device	Class	Instance	Attribute	R/W	Remarks
			7: "Coordinated data" of the sixth		
			axis		
			8: "Coordinated data" of the		
			seventh axis		
			9: "Coordinated data" of the		
			eighth axis		
EX(Multi)	0x309		Fixed to "0".	R/W	
Alarm (detailed)	0x30A	1: The latest alarm	1: Alarm code	R	
		2: The second alarm from the	2: Alarm data		
		latest	3: By alarm type		
		3: The third alarm from the latest	4: Alarm occurring time		
		4: The fourth alarm from the	5: Alarm character string name		
		latest	6: Sub code data additional		
			information character strings		
			7:Sub code data character strings		
			8:Sub code data character strings		
			reverse display information		
Alarm history (detailed)	0x30B	1~100 : Maior failure	1:Alarm code	R	
,		1001~1100: Monitor alarm	2. Alarm data		
		2001~2100: User alarm (system)	3:Alarm type		
		3001~3100 [.] User alarm (user)	4: Alarm occurring time		
		4001~4100 [.] OFF line alarm	5:Alarm character strings name		
			6:Sub code data additional		
			information character strings		
			7:Sub code data character strings		
			8:Sub code data character strings		
			reverse display information		
Reset cancellation	0x0082	1: Resetting of alarm	Fixed to "1"	W	
	GROOOL	2. Cancelling of error			
On/off	0x0083	1: HOLD	Fixed to "1".	w	
- , -		2: Servo ON			
		3: HLOCK			
Start switch	0x0084	2. CYCLE (switching of	Fixed to "1"	w	
Start Switch	0,0001				
Sting display to pendant	0x0085	Fixed to "1"	Fixed to "1"	W	
Start	0x0086	Fixed to "1"	Fixed to "1"	w	
Job select	0x0087	1: Set the executing job	1: Job name	w	
	0.0000	10: Set the master job (task 0)	2: Line number (valid only when		
		11: Set the master job (task 1)	executing job setting)		
		12: Set the master job (task 2)			
		13: Set the master job (task 3)			
		14: Set the master job (task 4)			
		15: Set the master job (task 5)			
		16: Set the master job (task 6)			
		17: Set the master job (task 7)			
		18: Set the master job (task 8)			
		19: Set the master job (task 9)			
		20: Set the master job (task 1)			
		21: Set the master job (task 10)			
		27. Set the master job (lask 11)			
		22. Set the master job (lask 12)			
		23. Set the master job (task 15)			
		25. Set the master job (task 14)			
Administration Hour	0v0088	1 :Control nower ON time	1: Operation start time	R	+
, anning a during the local	0,0000			1 1 1	





Device	Class	Instance	Attribute	R/W	Remarks
		10 :Servo power ON time (TOTAL)	2: Elapse time		
		11~18 :Servo power ON time (R1			
		to R8)			
		21~ 44 :Servo power ON time			
		(S1~S24)			
		110 :Play back time (TOTAL)			
		111~118 :Play back time (R1~ R8)			
		121~144 :Play back time (S1~S24)			
		210 :Motion time (TOTAL)			
		211~218 :Motion time (R1~R8)			
		221~244 :Motion time (S1~S24)			
		301~308 :Operation time			
		(application 1~ 8)			
System information	0x0089	11~18: Type information (R1~R8)	1: System software version	R	
		21~44: Type information (S1~24)	2: Model name / application		
		101~108: Application information	3: Parameter version		
		(application 1~8)			
S 32 byte	0x8E	0~99 (for standard setting)	Fixed to "1".	R/W	
S 32 byte(Multi)	0x30C		Fixed to "0".	R/W	