MITSUBISHI ELECTRIC

TECHNICAL BULLETIN **[1/14]**

[Issue No.] GOT-A-0070-M

[Title] List of Valid Devices Applicable for GOT2000 Series MODBUS Connection for Japanese Market

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[Relevant Models] GOT2000 Series

Thank you for your continued support of Mitsubishi Electric Graphic Operation Terminal (GOT).
This bulletin provides information on the MODBUS equipment that has been validated for connection with the GOT2000 series.
Regarding the production status and the specifications of each product, confirm with the manufacturer.

Contents

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HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS : 1-14 , YADA-MINAMI 5-CHOME , HIGASHI-KU, NAGOYA , JAPAN

1. Overview

With a MODBUS/RTU or MODBUS/TCP communication driver, the GOT2000 series can communicate with the equipment that supports the MODBUS connection.
The GOT2000 series can be operated as either the master station or the slave station.
Table 1-1 shows the applicable communication drivers by GOT model.

Table 1-1 Applicable communication drivers by GOT model

Connection type	Communication type	Communication driver	GT27, GT25, GT21	GT SoftGOT2000	GT Simulator3
MODBUS/RTU master connection	RS-232 RS-422/485	MODBUS/RTU Master	Supported	Not supported	Not supported
MODBUS/TCP master connection	Ethernet	MODBUS/TCP Master, Gateway	Supported	Supported	Not supported
MODBUS/RTU slave connection	RS-232 RS-422/485	MODBUS/RTU Slave	Supported	Not supported	Not supported
MODBUS/TCP slave connection	Ethernet	MODBUS/TCP Slave, Gateway	Supported	Supported	Not supported

For the setting to connect the MODBUS equipment with the GOT2000 series, refer to the following.

➟ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1
5. MODBUS/RTU MASTER CONNECTION
6. MODBUS/TCP MASTER CONNECTION
7. MODBUS/RTU SLAVE CONNECTION
8. MODBUS/TCP SLAVE CONNECTION

2. Precautions

2.1 Connectable MODBUS equipment

For the relationship between the communication drivers and the connectable MODBUS equipment, refer to table 2-1.

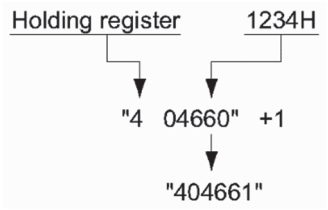
Table 2-1 Connectable MODBUS equipment

Software	Communication driver	Connectable MODBUS equipment
GT Designer3 Version1 (GOT2000)	MODBUS/RTU Master	General MODBUS/RTU slave equipment
	MODBUS/TCP Master, Gateway	General MODBUS/TCP slave equipment
	MODBUS/RTU Slave	General MODBUS/RTU master equipment
	MODBUS/TCP Slave, Gateway	General MODBUS/TCP master equipment

2.2 Device specification method

The following shows the address representation on GT Designer3 Version1 (GOT2000).
-The address number is displayed in decimal format.
-The address number starts from 1.
Therefore, when the GOT monitors the holding register's address "1234H", "404661" is displayed on GT Designer3 Version1 (GOT2000).

Figure 1 Device specification



For the details of the device specification method, refer to the following.

➟ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1
Appendix 1 Settable Device Range - MODBUS ([MODBUS Slave(GOT:Master)])
- Notation of devices ([MODBUS Slave(GOT:Master)])

2.3 Connection check of the MODBUS equipment

When the communication driver (MODBUS/RTU master) is used, the GOT2000 series regularly reads the following device to check the communication with the MODBUS equipment.
If the GOT2000 series communicates with the MODBUS equipment that does not have the following device, a communication error may occur in the equipment.
Even when the MODBUS equipment does not have the following device, the GOT can connect with the equipment as long as the equipment can return a response (whether it is normal or error) to the request from the GOT.
• GT27, GT25
Holding register 400001
• GT21
Coil 000001 or holding register 400001

2.4 MODBUS communication control function (When the communication driver is the MODBUS/RTU master, MODBUS/TCP master, or gateway)

The function codes and the maximum data transfer size of each function code differ according to the MODBUS equipment. This function enables you to select a function code and set the maximum data transfer size of the function code.
Set the MODBUS communication control function according to the connected MODBUS equipment.
You can set this function in the communication detail settings, or with the GS device.
When you set this function both in the communication detail settings and with the GS device, the setting with the GS device has higher priority.
You are recommended to preset this function in the communication detail settings.
For the details of the MODBUS communication control function, refer to the following.

➟ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1
5.7 MODBUS Communication Control Function
5.9 Precautions - MODBUS communication control function on the GS device
6.3.2 Communication detail settings
6.6 MODBUS Communication Control Function
6.9 Precautions - MODBUS communication control function on the GS device

2.5 Equipment containing data other than 16-bit length data in the registers

When data in the registers of the MODBUS equipment are read or written, the data are handled as 16-bit length data.
Refer to the manual of the equipment to be connected to check that the data length is 16 bits.

3. List of the equipment validated for the MODBUS/RTU master connection

Table 3-1 shows the MODBUS/RTU slave equipment that has been validated for the MODBUS/RTU master connection.

Table 3-1 MODBUS/RTU slave equipment

Manufacturer	Model		Detailed connection example
Mitsubishi Electric Corporation	Energy measuring module EcoMonitorPlus EMU4-BM1-MB, EMU4-HM1-MB, EMU4-LG1-MB		Refer to 3.1
	Energy measuring module EcoMonitorLight EMU4-BD1-MB, EMU4-HD1-MB		
	Electronic multi-measuring instrument EM series ME110SSR-MB, ME96NSR-MB		
Azbil Corporation	NX series *1	NX-D15, NX-D25, NX-D35, NX-DX1, NX-DX2, NX-DY1, NX-S01, NX-S11, NX-D12, NX-S21	Refer to 3.2
	C7G/C7S series	C7G	
Yokogawa Electric Corporation *1	μR series μR10000, μR20000		Refer to 3.3
	DXAdvanced DX1000, DX2000		
	YS1000 series YS1700, YS1500		
	DAQMASTER MW100		
	SMARTDAC+ GX20, GX10, GP20, GP10, GM10		
SMC Corporation *1	LECP6, LECA6		Refer to 3.4
Hitachi Industrial Equipment Systems Co., Ltd. *3	EHV series	EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	Refer to 3.5
	MICRO-EHV series	MVH-A64DR, MVH-D64DR, MVH-D64DT,MVH-D64DTPS MVL-A64DR, MVL-D64DR, MVL-D64DT,MVL-D64DTPS	
RKC Instrument Inc.	NWS-Mini *2		Refer to 3.6

*1 The operation is not validated with GT21 models.
*2 Up to eight devices can be processed at a time using function code 03h (read holding registers) or 10h (write multiple registers).
*3 The register for reading that is assigned using function code 03h and the register for writing that is assigned using function code 06h are different types; therefore, bit-specified word devices are not accessible.

3.1 Example of connecting the equipment manufactured by Mitsubishi Electric Corporation

Series	Communication module	Communication type	Connection cable
Energy measuring module *1 EcoMonitorPlus EMU4-BM1-MB, EMU4-HM1-MB, EMU4-LG1-MB	-	RS-485	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
Energy measuring module *1 EcoMonitorLight EMU4-BD1-MB, EMU4-HD1-MB			
Electronic multi-measuring instrument EM series ME110SSR-MB, ME96NSR-MB			

*1 After writing the data of the GOT to the set registers, wait for five seconds or more before monitoring the set values or resetting the values.
Not waiting for five seconds or more may cause system alarm 401 to occur.
Even if 401 occurs, data are written to the set registers.
To reset the alarm, turn on the GOT Error Reset signal (System signal 1-1.b13).

3.2 Example of connecting the equipment manufactured by Azbil Corporation

Series	Communication module	Communication type	Connection cable
NX series NX-D15, NX-D25, NX-D35, NX-DX1, NX-DX2, NX-DY1, NX-S01, NX-S11, NX-D12, NX-S21	-	RS-485	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
C7G/C7S series C7G	-	RS-485	

3.3 Example of connecting the equipment manufactured by Yokogawa Electric Corporation

Series	Communication module	Communication type	Connection cable
μR series μR10000 μR20000	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
DXAdvanced DX1000 DX2000	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
YS1000 series YS1700 YS1500	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Use a GT09-C□□R40303-6T cable, or refer to 8.3.2 ■1. (3) RS-485 connection diagram 3) in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1
DAQMASTER MW100	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
SMARTDAC+ GX20 GX10 GP20 GP10	-	RS-232	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
		RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
SMARTDAC+ GM10	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.

3.4 Example of connecting the equipment manufactured by SMC Corporation

Series name	Communication module	Communication type	Connection cable
LECP6, LECA6	-	RS-485	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.

3.5 Example of connecting the equipment manufactured by Hitachi Industrial Equipment Systems Co., Ltd.

Series	Communication module	Communication type	Connection cable
EHV series EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	EH-SIO	RS-422/485	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
		RS-232	
MICRO-EHV series MVH-A64DR, MVH-D64DR, MVH-D64DT, MVH-D64DTPS MVL-A64DR, MVL-D64DR, MVL-D64DT, MVL-D64DTPS	OBV-NES	RS-485 (2-wire type)	
	OBV-485A	RS-485 (4-wire type)	

3.6 Example of connecting the equipment manufactured by RKC Instrument Inc.

Series	Communication module	Communication type	Connection cable
NWS-Mini	-	RS-422/485	Refer to Connecting to GZ Series (GZ400, GZ900) in 9.2 System Configuration in GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
		RS-232	

4. List of the equipment validated for the MODBUS/TCP master connection

Table 4-1 shows the MODBUS/TCP slave equipment that has been validated for the MODBUS/TCP master connection.

Table 4-1 MODBUS/TCP slave equipment

Manufacturer	Model		Detailed connection example
Azbil Corporation	NX series *1	NX-D15, NX-D25, NX-D35, NX-DX1, NX-DX2, NX-DY, NX-S01, NX-S11, NX-S12, NX-S21	Refer to 4.1
	C7G/C7S series	C7G	
Schneider Electric *1	Modicon Premium series		Refer to 4.2
	Modicon Quantum series		
	Twido series		
Yokogawa Electric Corporation *1	STARDOM		Refer to 4.3
	DXAdvanced DX1000, DX2000		
	UTAdvanced series		
	DAQMASTER MW100		
	SMARTDAC+ GX20, GX10, GP20, GP10, GM10		
RKC Instrument Inc *1	COM-JL		Refer to 4.4
Hitachi Industrial Equipment Systems Co., Ltd. *2	EHV series	EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	Refer to 4.5
	MICRO-EHV series	MVH-A64DR, MVH-D64DR, MVH-D64DT, MVH-D64DTPS	
CHINO CORPORATION	SB700 series SB700-00-0 KR2S00 series KR2S2PSE2A-NNN KR3S00 series KR3S81-G7A-NNN		Refer to 4.6
MHI Power Control Systems Co., Ltd. *3	Cloud Socket Q		Refer to 4.7
PATLITE Corporation	LA6-POE series		Refer to 4.8

*1 The operation is not validated with GT21 models.
*2 The register for reading that is assigned using function code 03h and the register for writing that is assigned using function code 06h are different types; therefore, bit-specified word devices are not accessible.
*3 The connection with GT21 models is not available.

4.1 Example of connecting the equipment manufactured by Azbil Corporation

Series	Communication module	Communication type	Connection cable
NX series NX-D15, NX-D25, NX-D35, NX-DX1, NX-DX2, NX-DY1, NX-S01, NX-S11, NX-D12, NX-S21	NX-CB1	Ethernet	Category 5e or later of unshielded twisted pair cable (UTP)
C7G/C7S series C7G	-	Ethernet	

4.2 Example of connecting the equipment manufactured by Schneider Electric

Series	Communication module	Communication type	Connection cable
Modicon Premium series	TSX ETY 4102 TSX ETY 5102	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
Modicon Quantum series	140 NOE 771 00 140 NOE 771 10 140 NWM 100 00		
Twido series	-		

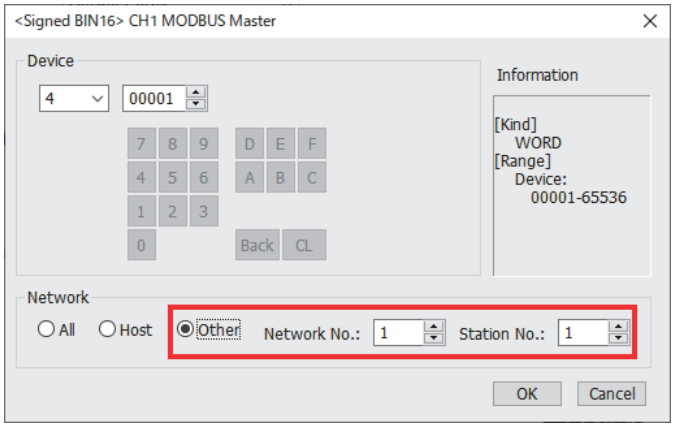
4.3 Example of connecting the equipment manufactured by Yokogawa Electric Corporation

Series	Communication module	Communication type	Connection cable
STARDOM	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
DXAdvanced DX1000 DX2000	-	Ethernet	Category 3, 4, or 5 of unshielded twisted pair cable (UTP)
UTAdvanced series *1	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
DAQMASTER MW100	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
SMARTDAC+ GX20 GX10 GP20 GP10 GM10	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)

*1 Set "1" for [Station] in [Connected Ethernet Controller Setting] in GT Designer3 Version1 (GOT2000).
In the device setting dialog, select [Other] and set [Network No.] and [Station No.].
The following shows example settings.
- Settings in [Connected Ethernet Controller Setting] (When connecting four controllers)

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	1	MODBUS/TCP	1.1.1.1	502	TCP
2		2	1	MODBUS/TCP	1.1.1.2	502	TCP
3		3	1	MODBUS/TCP	1.1.1.3	502	TCP
4		4	1	MODBUS/TCP	1.1.1.4	502	TCP

- Settings in the device setting dialog (When monitoring Network No. 1, Station No. 1)



4.4 Example of connecting the equipment manufactured by RKC Instrument Inc.

Series	Communication module	Communication type	Connection cable
COM-JL *1	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)

*1 Ethernet communication converter COM-JL is used for connecting an RKC controller (SRZ series, FB series, or SRJ series). For more information on how to connect, refer to the manual of the RKC controller used.

4.5 Example of connecting the equipment manufactured by Hitachi Industrial Equipment Systems Co., Ltd.

Series	Communication module	Communication type	Connection cable
EHV series EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
MICRO-EHV series MVH-A64DR, MVH-D64DR, MVH-D64DT, MVH-D64DTPS			

4.6 Example of connecting the equipment manufactured by CHINO CORPORATION

Series	Communication module	Communication type	Connection cable
SB700 series SB700-00-0	SB133-20-0	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)
KR2S00 series KR2S2PSE2A-NNN *1 KR3S00 series KR3S81-G7A-NNN *1	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)

*1 If communication with the equipment is not established for five seconds or longer, the equipment performs disconnection. This causes a communication timeout.
Set a shorter send delay time, set a trigger action for the device of the equipment, or take other measure so that communication with the equipment is always established.

4.7 Example of connecting the equipment manufactured by MHI Power Control Systems Co., Ltd.

Series	Communication module	Communication type	Connection cable
Cloud Socket Q *1	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)

*1 This software enables the use of HMI software or SCADA systems on the market to display data that are stored/managed in the cloud. For information on how to purchase or use the software, contact MHI Power Control Systems Co., Ltd.

4.8 Example of connecting the equipment manufactured by PATLITE Corporation

Series	Communication module	Communication type	Connection cable
LA6-POE series LA6-5DSNWB-POE	-	Ethernet	Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP)

5. List of the equipment validated for the MODBUS/RTU slave connection

Table 5-1 shows the MODBUS/RTU master equipment that has been validated for the MODBUS/RTU slave connection.

Table 5-1 MODBUS/RTU master equipment

Manufacturer	Model		Detailed connection example
Mitsubishi Electric Corporation	MELSEC-Q series MELSEC-FX series		Refer to 5.1
Schneider Electric *1	Twido series		Refer to 5.2
Yokogawa Electric Corporation *1	SMARTDAC+ GX20, GX10, GP20, GP10, GM10		Refer to 5.3
Hitachi Industrial Equipment Systems Co., Ltd.	EHV series	EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	Refer to 5.4
	MICRO-EHV series	MVH-A64DR, MVH-D64DR, MVH-D64DT, MVH-D64DTPS MVL-A64DR, MVL-D64DR, MVL-D64DT, MVL-D64DTPS	

*1 The operation is not validated with GT21 models.

5.1 Example of connecting the equipment manufactured by Mitsubishi Electric Corporation

Series	Communication module	Communication type	Connection cable
MELSEC-Q series	QJ71MB91	RS-232, RS-422/485	*1
MELSEC-FX series	FX3U-232ADP-MB	RS-232	
	FX3U-485ADP-MB	RS-422/485	

*1 For the connection cable, refer to the following manual.

➞ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1

5.2 Example of connecting the equipment manufactured by Schneider Electric

Series	Communication module	Communication type	Connection cable
Twido series	TWDLMDA20DRT	RS-232	Multifunction communication cable (TSXPCX1031)

5.3 Example of connecting the equipment manufactured by Yokogawa Electric Corporation

Series	Communication module	Communication type	Connection cable
SMARTDAC+ GX20 GX10 GP20 GP10	-	RS-232	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
		RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.
SMARTDAC+ GM10	-	RS-485	Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed. Refer to 8.3.2 RS-485 cable in the GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1.

5.4 Example of connecting the equipment manufactured by Hitachi Industrial Equipment Systems Co., Ltd.

Series	Communication module	Communication type	Connection cable
EHV series EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	EH-SIO	RS-422/485	Refer to the GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 and the manual of the MODBUS equipment.
		RS-232	
MICRO-EHV series MVH-A64DR, MVH-D64DR, MVH-D64DT, MVH-D64DTPS MVL-A64DR, MVL-D64DR, MVL-D64DT, MVL-D64DTPS	OBV-NES	RS-485 (2-wire type)	
	OBV-485A	RS-485 (4-wire type)	

6. List of the equipment validated for the MODBUS/TCP slave connection

Table 6-1 shows the MODBUS/TCP master equipment that has been validated for the MODBUS/TCP slave connection.

Table 6-1 MODBUS/TCP master equipment

Manufacturer	Model	Detailed connection example
Mitsubishi Electric Corporation	MELSEC-Q series	Refer to 6.1
Yokogawa Electric Corporation *1	SMARTDAC+ GX20, GX10, GP20, GP10, GM10	Refer to 6.2
Hitachi Industrial Equipment Systems Co., Ltd.	EHV series EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	Refer to 6.3

*1 The operation is not validated with GT21 models.

6.1 Example of connecting the equipment manufactured by Mitsubishi Electric Corporation

Series name	Communication module	Communication type	Connection cable
MELSEC-Q series	QJ71MT91	Ethernet	*1

*1 For the connection cable, refer to the following manual.

➞ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1

6.2 Example of connecting the equipment manufactured by Yokogawa Electric Corporation

Series	Communication module	Communication type	Connection cable
SMARTDAC+ GX20 GX10 GP20 GP10 GM10	QJ71MT91	Ethernet	*1

*1 For the connection cable, refer to the following manual.

➞ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1

6.3 Example of connecting the equipment manufactured by Hitachi Industrial Equipment Systems Co., Ltd.

Series	Communication module	Communication type	Connection cable
EHV series EHV-CPU16, EHV-CPU32, EHV-CPU64, EHV-CPU128	-	Ethernet	*1

*1 For the connection cable, refer to the following manual.

➞ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1

7. Appendix

7.1 Function code

For the function codes (sub function codes) supported by the GOT, refer to the following manual.

➞ GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1
5.6 Function Code
6.5 Function Code
7.6 Function Code
8.5 Function Code

REVISIONS

Version	Print Date	Revision
-	January 2014	- First edition
A	February 2017	- The MODBUS slave connection is supported.
B	January 2018	- The equipment validated for the MODBUS/RTU master connection has been added. - The equipment validated for the MODBUS/TCP master connection has been added. - The equipment validated for the MODBUS/RTU slave connection has been added. - The equipment validated for the MODBUS/TCP slave connection has been added.
C	May 2018	- The RKC controllers validated for the MODBUS/TCP master connection have been added.
D	April 2019	- Mitsubishi Electric equipment validated for the MODBUS connection has been added. - Hitachi Industrial Equipment Systems equipment validated for the MODBUS connection has been added.
E	January 2020	- Description has been added to "2.3 Connection check of the MODBUS equipment".
F	June 2020	- GT21 models have been added.
G	August 2020	- The equipment validated for the MODBUS/RTU master connection has been added.
H	November 2020	- "2.5 Equipment containing data other than 16-bit length data in the registers" has been added. - Description has been added to "4 List of the equipment validated for the MODBUS/TCP master connection". - Hitachi Industrial Equipment Systems equipment validated for connection has been changed.
I	December 2020	- The equipment validated for the MODBUS/TCP master connection has been added.
J	May 2021	- The equipment validated for the MODBUS/RTU master connection has been added. - The equipment validated for the MODBUS/TCP master connection has been added. - The equipment validated for the MODBUS/RTU slave connection has been added.
K	June 2021	- The equipment validated for the MODBUS/TCP master connection has been added.
L	January 2022	- The equipment validated for the MODBUS/TCP master connection has been added.
M	February 2022	- Description of "4.3 Example of connecting the equipment manufactured by Yokogawa Electric Corporation" has been changed.