# TECHNICAL BULLETIN

**[Issue No.]** GOT-A-0037-F **[Page]** 1/7
**[Title]** List of Valid Devices Applicable for GOT1000 Series MODBUS® Connection
**[Date of Issue]** Ver. F: June 2013 (First Edition: January 2011)
**[Relevant Models]** GOT1000 Series

Thank you for your continued support of Mitsubishi Graphic Operation Terminal (GOT).
The MODBUS® equipment listed in this bulletin have been concluded by Mitsubishi to be applicable for the GOT1000 series.
Regarding the production status and the specifications of each product, confirm with the manufacturer.

Recommended Product
A product that complies with our standard.
Make sure that you use the product compliant with the specification (standard).
Compatible Product
A product that satisfies the requirements to be interfaced with Mitsubishi products.
(Note that satisfaction of Mitsubishi specifications is not guaranteed.)
Therefore, make sure to comply with the specifications for that product when using it together with Mitsubishi products.
Even when Compatible Products are used, some products may not be compatible with the GOT1000 series. Because the specifications of the products are changed according to the date of manufacture. When using Compatible Products, examine the products fully and decide whether to use or not.
Discontinued Product
A product that has been introduced as Recommended Product or Compatible Product in the bulletin before. We think that you will have difficulty to obtain the product because of production discontinuation and others.
Incompatible Product
A product that does not satisfy the requirements to be interfaced with Mitsubishi products.
Use Compatible Product.

Contents




MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
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## 1. Overview

By using the MODBUS/RTU communication driver or the MODBUS/TCP communication driver, the GOT1000 series communicates with equipment that supports the MODBUS® connection.
Since the GOT1000 series is operated as the master station, the GOT1000 series can be connected to the equipment operated as a slave station.
Table 1 shows the connection type and the communication drivers applicable to each GOT1000 series model.

**Table 1 Connection type and communication driver applicable to each GOT1000 series model**

| Connection type | Communication type | GOT1000 series communication driver | GT16 | GT15 | GT11 *1 | GT10 | GT SoftGOT1000 |
|---|---|---|---|---|---|---|---|
| MODBUS® /RTU connection | RS-232 | MODBUS/RTU | ○ | ○ | ○ | ○ | × |
| | RS-422/485 | | | | | | |
| MODBUS® /TCP connection | Ethernet | MODBUS/TCP | ○ | ○ | × | × | ○ *2 |

*1: Only the GT11 with the built-in serial interface is applicable.
*2: Only the version 3.26C or later is applicable.

For the setting of the connection between the GOT1000 series and the MODBUS® equipment, refer to the following.
-GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals)
4. MODBUS(R)/RTU CONNECTION
5. MODBUS(R)/TCP CONNECTION

## 2. Precautions

### 2.1 Connectable MODBUS® equipment

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

**Table 2 Connectable MODBUS® equipment**

| Software | Communication driver | Connectable MODBUS® Requipment |
|---|---|---|
| GT Designer3 | MODBUS/RTU | MODBUS® /RTU slave equipment in general |
| | MODBUS/TCP | <1.17T or earlier><br>SCHNEIDER PLC (Modicon Premium series, Modicon Quantum series), YOKOGAWA PLC (STARDOM)<br><1.19V or later><br>MODBUS® /TCP slave equipment in general |
| GT Designer2 | MODBUS/RTU | MODBUS® /RTU slave equipment in general |
| | MODBUS/TCP | SCHNEIDER PLC (Modicon Premium series, Modicon Quantum series), YOKOGAWA PLC (STARDOM) |

## 2.2 Device specification method

The following shows the address representation on GT Designer3 and GT Designer2.
-The address number is displayed in decimal format.
-The address number starts from 1.
Therefore, if the GOT monitors the holding register 1234H, 404661 is specified on GT Designer3 and GT Designer2.

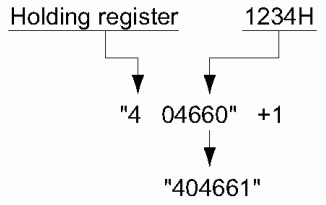


**Figure 1 Device specification**

For the details of the device specification method, refer to the following.
-GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals)
4.5.1 Communication settings ■ Address

## 2.3 Connection check of the MODBUS® equipment

When the MODBUS/RTU driver is used, the GOT1000 series regularly reads the holding register 400001 to check that the GOT1000 series communicates with the MODBUS® equipment.
If the GOT1000 series communicates with the MODBUS® equipment without the holding register 400001, a communication error may occur in the equipment.

## 2.4 MODBUS communication control function

The function codes and the maximum transfer data size of each function code differ according to the MODBUS® equipment models. By using this function, the function codes can be selected or the maximum transfer data size of each function code can be set.
According to the MODBUS® equipment to be connected, set the MODBUS communication control function.
It is recommended to set this function with scripts when starting the GOT1000 series.

**Table 2 Whether the MODBUS communication control function is supported**

| Software | Communication driver | MODBUS communication control function |
|---|---|---|
| GT Designer2 | MODBUS/RTU | Supported |
| | MODBUS/TCP | Not supported |
| GT Designer3 | MODBUS/RTU | Supported |
| | MODBUS/TCP | Supported (GT Works3 Version 1.19V or later) |
| GT SoftGOT1000 | MODBUS/TCP | Supported (GT SoftGOT Version 3.23Z or later) |

For the details of the MODBUS communication control function, refer to the following.
-GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals)
4.5.1 Communication settings ■ MODBUS communication control function on the GS device
4.6 Precautions ■ MODBUS communication control function on the GS device
5.5 Device Range that Can Be Set ■ MODBUS communication control function on the GS device

## 3. List of valid equipment applicable for the MODBUS® /RTU connection

The following table shows the list of valid MODBUS® /RTU equipment applicable for the MODBUS® /RTU connection.
(Compatible Product)

| Manufacturer | Model | Details of connection example |
|---|---|---|
| Azbil Corporation | NX series | Refer to 3.1. |
| Yokogawa Electric Corporation | µR series µR10000, µR20000 | Refer to 3.2. |
| | DXAdvanced DX1000, DX2000 | |
| | YS1000 series YS1700, YS1500 | |
| | DAQMASTER MW100 | |
| SMC Corporation | LECP6, LECA6 | Refer to 3.3 |

### 3.1 Details of connection example manufactured by Azbil Corporation

| Series name | Communication module | Communication type | Connection cable |
|---|---|---|---|
| NX series<br>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 GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) and the manual of the MODBUS® equipment. |

### 3.2 Details of connection example manufactured by Yokogawa Electric Corporation

| Series name | Communication module | Communication type | Connection cable |
|---|---|---|---|
| µR series<br>µR10000<br>µR20000 | — | RS-485 | Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed.<br>Refer to 8.3.2 RS-485 cable in the GOT1000 Series Connection Manual (Non-Mitsubishi Products 1) for GT Works3. |
| DXAdvanced<br>DX1000<br>DX2000 | — | RS-485 | Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed.<br>Refer to 8.3.2 RS-485 cable in the GOT1000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3. |
| YS1000 series<br>YS1700<br>YS1500 | — | RS-485 | Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed.<br>Refer to 8.3.2 RS-485 cable in the GOT1000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3. |
| DAQMASTER<br>MW100 | — | RS-485 | Between the GOT and the YOKOGAWA product, the polarity of poles A and B in signal names are reversed.<br>Refer to 8.3.2 RS-485 cable in the GOT1000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3. |

### 3.1 Details of connection example manufactured by SMC Corporation

| Series name | Communication module | Communication type | Connection cable |
|---|---|---|---|
| LECP6, LECA6 | — | RS-485 | Refer to the GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) and the manual of the MODBUS® equipment. |

## 4. List of valid equipment applicable for the MODBUS® /TCP connection

The following table shows the list of valid MODBUS® /TCP equipment applicable for the MODBUS® /TCP connection.
(Compatible Product)

| Manufacturer | Model | Details of connection example |
|---|---|---|
| Azbil Corporation | NX series NX-D15, NX-D25, NX-D35, NX-DX1, NX-DX2, NX-DY, NX-S01, NX-S11, NX-S12, NX-S21 | Refer to 4.1. |
| Schneider Electric SA | Modicon Premium series | Refer to 4.2. |
| | Modicon Quantum series | |
| Yokogawa Electric Corporation | STARDOM | Refer to 4.3. |
| | DXAdvanced DX1000, DX2000 | |
| | UTAdvanced series | |
| | DAQMASTER MW100 | |
| RKC INSTRUMENT INC. | COM-JL | Refer to 4.4. |

### 4.1 Details of connection example manufactured by Azbil Corporation

| Series name | Communication module | Communication type | Connection cable |
|---|---|---|---|
| NX series<br>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) |

### 4.2 Details of connection example manufactured by Schneider Electric SA

| Series name | Communication module | Communication type | Connection cable |
|---|---|---|---|
| Modicon Premium series | TSX ETY 4102<br>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<br>140 NOE 771 10<br>140 NWM 100 00 | | |

### 4.3 Details of connection example manufactured by Yokogawa Electric Corporation

| Series name | 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<br>DX1000<br>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<br>MW100 | — | Ethernet | Shielded twisted pair cable (STP) or category 3, 4, or 5 of unshielded twisted pair cable (UTP) |

*1 In GT Designer2 or GT Designer3, set 1 for the PLC No. in the Ethernet setting. Do not set the host station.

### 4.4 Details of connection example manufactured by RKC INSTRUMENT INC.

| Series name | 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 a communications converter for connecting the controller RKC INSTRUMENT INC. (SRZ series, FB series).
For more information on how to connect, please refer to the documentation for details RKC.

| Version | Print date | Revision |
|---|---|---|
| * | January 2011 | - First edition |
| A | July 2011 | - Added the YOKOGAWA products in Chapters 3 and 4. |
| B | - | - Changed the specifications of the connection cables for YAMATAKE NX series and YOKOGAWA DXAdvanced DX2000 in Chapter 4.<br>- Added YOKOGAWA DXAdvanced DX1000 in Chapters 3 and 4. |
| C | August 2011 | - Added YOKOGAWA YS1500 in Chapter 3. |
| D | July 2011 | - Added YOKOGAWA MW100 in Chapter 3. |
| E | October 2012 | - Added SMC products in Chapter 3.<br>- Co., Ltd. changed its name to Azubiru from Yamatake Corporation.<br>- Added Azbil NX-S01, NX-S11, NX-S21 in Chapter 3 and 4. |
| F | June 2013 | - Added RKC products in Chapter 4. |