
**User's
Manual**

**Modbus Device Definition File
Creating Tool
for GA10 Data Logging Software**

IM 04L65B91-01EN

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Software Product: Modbus Device Definition File Creating Tool

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End of document

■ **Introduction**

This software program is a tool for creating Modbus device definition files that are necessary for connecting to Modbus devices using the GA10 SMARTDAC+ data logging software.

■ **PC System Requirements**

Operating System

OS	Edition/32-bit,64-bit
Windows7	Home Premium、Professional/32bit,64bit
Windows8.1	Windows8.1(No edition name、Professional/32bit,64bit

Hardware

Item	Description
CPU	PentiumIV3.2GHz or faster
Main memory	At least 2GB
Harddisk	Free space of at least 100MB, NTFS recommended
Display	A display that is supported by the OS,

■ **How to use**

Modbus Definition File Creating Tool

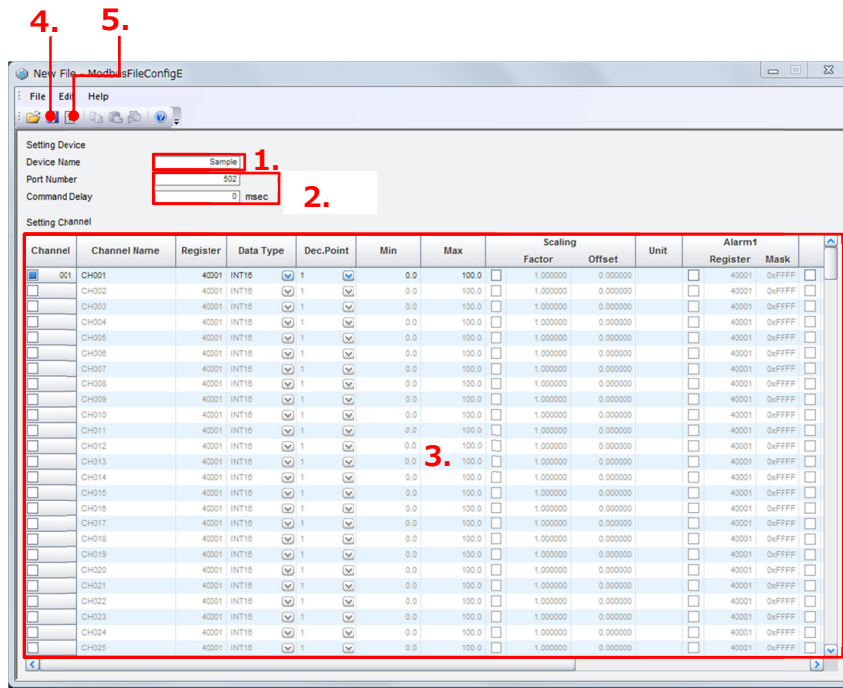


Fig.1 Main screen

1. Device name

Enter the name to be displayed in the GA10's device list. Up to 15 half-width alphanumeric characters can be used. Symbols are not allowed.

2. Port Number, Command Delay

Enter the port number and command delay for communication between the GA10 and the device. There is usually no need to change the setting unless there is a problem.

3. Setting Channel

Enter settings for the reading channels. See the Notes for details.

4. Save the active document

You can save the settings from steps 1–3 to a file (*.mbf). This file is available for changing settings. Please go to the next step to output definition file.

5. Output definition file

Outputs the Modbus device definition file (*.xml) for loading on the GA10. The file name must be the same as the device name.

GA10 SMARTDAC+ Data Logging Software

1. Modbus device definition files that you create are saved to the following folder.
C:\Program Files\Yokogawa Electric Corporation\SMARTDAC+ Data Logging Software\Modbus
2. In the Windows service screen, restart the service called "DLGServer."
3. Start the GA10 data logging software and confirm that it was added to the device list.

This completes the setting procedure.

■ **Channel information setting**

Channel	Channel Name	Register	Data Type	Dec.Point	Min	Max	Scaling		Unit	
							Factor	Offset		
<input checked="" type="checkbox"/> 001	CH001	40001	INT16	1	0.0	100.0	<input type="checkbox"/>	1.000000	0.000000	

Alarm1		Alarm2		Alarm3		Alarm4	
Register	Mask	Register	Mask	Register	Mask	Register	Mask
<input type="checkbox"/> 40001	0xFFFF	<input type="checkbox"/> 40001	0xFFFF	<input type="checkbox"/> 40001	0xFFFF	<input type="checkbox"/> 40001	0xFFFF

Fig.2 Channel information setting screen

- Channel
Turn reading channels ON and OFF.
- Channel Name
Enter the text displayed for GA10 tag numbers and comments.
- Register
Enter the read register numbers.
- Data type
Select the type of data to read.

Data type	Description
INT16	Signed 16–Bit Integer
UINT16	Unsigned 16–Bit Integer
INT32B	Signed 32–Bit Integer, Big Endian*
INT32L	Signed 32–Bit Integer, Little Endian*
UINT32B	Unsigned 32–Bit Integer, Big Endian*
UINT32L	Unsigned 32–Bit Integer, Little Endian*
FLOAT32B	32–Bit Floating Point, Big Endian*
FLOAT32L	32–Bit Floating Point, Little Endian*

*Big Endian, Little Endian

The higher or lower bytes of data from the reading channel differs depending on the order in which the registers are assigned from smallest to largest.

Example 1) Higher bytes --> Lower bytes order

<u>Channel</u>		<u>Register</u>
Ch0001	Higher bytes	300001
Ch0001	Lower bytes	300002

--> Big endian, input Ch0001's register as 300001

Example 2) Lower bytes --> Higher bytes order

<u>Channel</u>		<u>Register</u>
Ch0001	Lower bytes	300001
Ch0001	Higher bytes	300002

--> Little endian, input Ch0001's register as 300001

- Dec.Point

Input the decimal places displayed on the GA10. This is the same as the number of digits after the decimal point.

Example) 12.5 Dec.Point : 1
 1.25 Dec.Point : 2

- Min, Max

Set the min/max of the Y axis displayed in the GA10 trend screen.

- Scaling

If the values obtained from reading registers via Modbus communications are not physical values, the scaling is calculated as follows.

$$X = A \cdot x + B$$

X: calculated result x: Modbus register value

A: Factor B: Offset

- Unit

You can set the displayed units.

- Alarm1~4

If alarm status information is assigned to registers on the device, you can reflect this on the GA10 display screen as an alarm occurrence/non-occurrence on the corresponding channel. This setting is unavailable if there are no assignments on the main unit.

Supplement

Function codes are assigned automatically as follows through the registers that are entered.

Register: 40001~49999, 400001~465535 -> Function code : 03

Register: 30001~39999, 300001~365535 -> Function code : 04