Technical Information

SMARTDAC+

Effectively Using SMARTDAC+
Software Introduction

TI 04L60B01-01EN

YOKOGAWA

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TI 04L60B01-01EN

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Introduction

This document introduces the types and scope of use of the SMARTDAC+ series and related software. Please use this as an introduction guide to YOKOGAWA software applications. How to obtain software applications and manuals are provided in the text.

Principle Applicable Products

Recorder

SMARTDAC+ GX/GP Paperless Recorder

SMARTDAC+ GM Data Acquisition System

Software

SMARTDAC+ Universal Viewer

SMARTDAC+ Hardware Configurator

SMARTDAC+ IP Address Configurator

SMARTDAC+ GA10 Data Logging Software

DXA170 DAQStudio

Notes

- The contents of this manual are subject to change without notice.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
- Copying or reproducing all or any part of the contents of this manual without YOKOGAWA's permission is strictly prohibited.

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Scope of This Document

This document does not explain the basic operations of the Windows operating system (OS). For this information, read the relevant user's guide or related materials.

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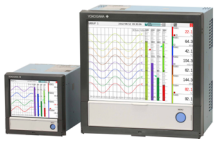
What Is the SMARTDAC+ Series?

SMARTDAC+ series (hereafter referred to as SMARTDAC+) is a series name for the data acquisition control system released in 2012. SMARTDAC+ consists of hardware products (GX/GP, GM) and a software product (GA10). These SMARTDAC+ products have software applications that supplement or improve the products' functionality.

SMARTDAC+
Data acquisition control system

Hardware products

GX10/20
Paperless Recorder
Panel mount type



GP10/20
Paperless Recorder
Portable type

Data Acquisition System
GM

Software product

GA10
Data Logging Software

Software that can be used to monitor and record data from multiple different devices on a PC

For details on the features and overview of SMARTDAC+, visit the YOKOGAWA website. In addition, documents and software applications related to the SMARTDAC+ GX/GP series, GM, and GA10 can be downloaded from this website.

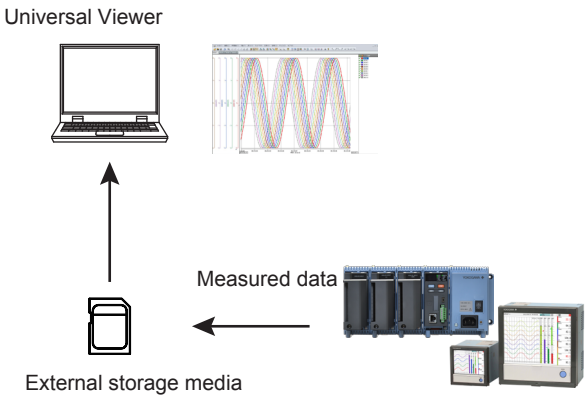
URL: **www.smartdacplus.com**

1. SMARTDAC+ and Software

This chapter describes representative software applications of the SMARTDAC+ series.

Universal Viewer (free, standard software)

This is a software application for displaying the measured data of a recorder on a PC in an offline condition.*

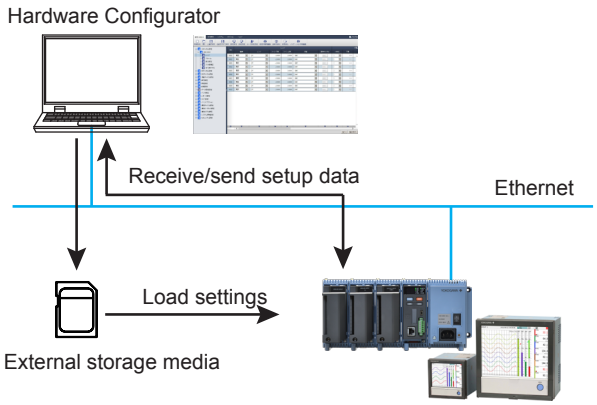


* Universal Viewer cannot be monitor recorders.

Hardware Configurator (free, standard software)

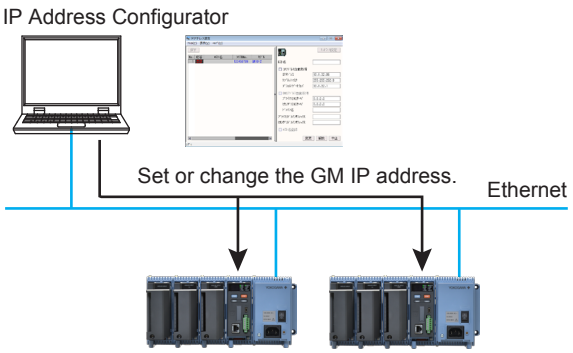
This is a PC software application for creating setup data (or program patterns) for recorders (SMARTDAC+ series).

You can use it to edit, save, and print setup data (or program patterns) that you create.
You can also use it to exchange data with a GX/GP or GM and control it via communication.



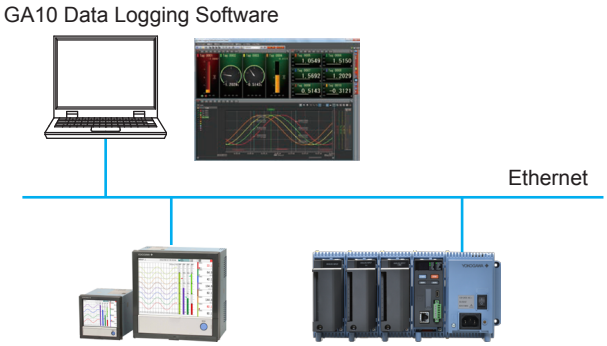
IP Address Configurator (free, standard software for the GM)

This is a software application for setting the IP address of a SMARTDAC+ GM in an online condition.



Data Logging Software GA10 (paid)

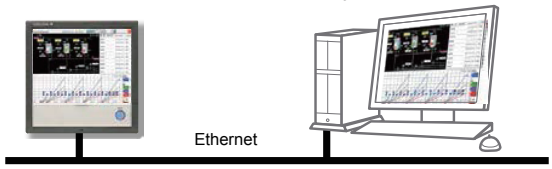
This software application is used to collect data from measuring instruments and controllers via communication and monitor and record the data collected with a PC.

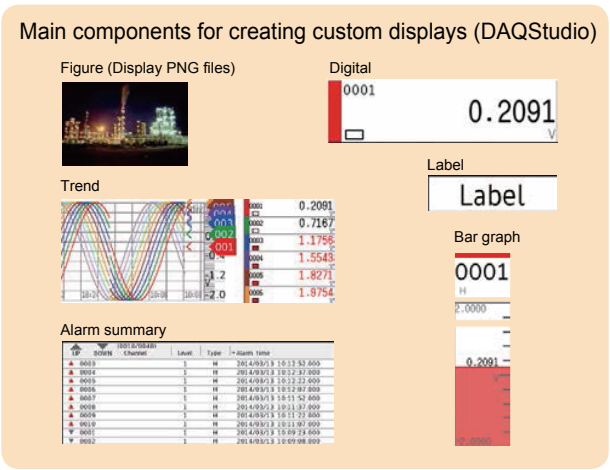


DXA170 DAQStudio (paid)

DAQStudio is a software application for creating custom displays. Screens that you create can be loaded into the GX/GP or GA10* via Ethernet or an external storage medium (SD/USB) to be displayed.

* The custom display function (/CG option) is necessary on the GX/GP or GA10.





Other various software applications are also available.

- Details on each software application: ▶ Descriptions are provided in **"Software Applications"** on the next page.
- Details on downloading and installing software applications: ▶ **page 2-1**

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1.1 SMARTDAC+ Software Applications

In the following table, green cells indicate SMARTDAC+ standard software applications (free).
White cells indicate other free software applications.
Orange cells indicate software applications that require licenses (GA10 has a trial period).

What You Can Do	Name	Function
Display data	**SMARTDAC+ Standard Universal Viewer**	Display on the screen or print data from display data files, event data files, report data files, and so on that recorders generate.
Configure the recorder	**SMARTDAC+ Standard Hardware Configurator (with Program Pattern Setting)**	Create setup data (or program patterns) of GX/GP/GM. Send or receive setup data (or program patterns) to or from the recorder. Control the recorder via communication.
	SMARTDAC+ Standard IP Address Configurator	Assign an IP address to the GM from a PC.
Monitor measurement data from a terminal	**Mobile WEB Application**	Monitor waveforms and digital values of recorders on a Web browser of a smartphone or portable terminal.
Configure, control, and monitor a GM from a terminal	**GM Mobile Tool**	Configure, control, and monitor a GM using Bluetooth wireless communication from an Android terminal.
Create templates	**SMARTDAC+ Report Template Builder**	Create report templates that are necessary to output PDF files or printouts on the GX/GP/GM/GA10 report function.
	SMARTDAC+ Excel Report Simulator	View report template for Excel report files.
Collect and record data	**SMARTDAC+ GA10 Data Logging Software**	Acquire data from various devices via communication and centrally monitor and record the data on a PC.
Customize GX/GP screens or GA10 monitor screens	**DAQStudio (DXA170) Custom Display Builder**	Software for editing and configuring custom displays for the GX/GP or GA10 on a PC. Screens that you create can be saved to files and used as a GX/GP display or GA10 monitor.
Acquire data from WT series power meters using GA10	**GateWT for GA10**	Software for connecting to the WT series power meters from GA10. This software is not needed to connect to the WT3000/WT3000E.
Acquire data from Modbus devices using GA10	**Modbus Device Definition File Creating Tool**	Create definition files that are necessary to connect Modbus devices on GA10.
Communicate using the EtherNet/IP protocol	**EtherNet/IP profile for GX/GP**	EtherNet/IP profile (EDS file) for GX/GP
	EtherNet/IP profile for GM	EtherNet/IP profile (EDS file) for GM
Create validation documents	**Validation Document for SMARTDAC+**	Validation documents for the GX/GP/GM and STANDARD software
Create tag labels	**Tag Plate for SMARTDAC+**	Tag label template for the GX/GP front door
Format SD cards	**SD Card Formatter**	Format on a PC SD/SDHC cards that will be used on a GM
Driver	**LabVIEW Driver**	GX/GP/GM driver for using LabVIEW by National Instruments
	USB Driver for GM10	Driver for using USB communication on a GM
Replace old models	**SMARTDAC+ DXAdvanced/GX Settings File Conversion Tool**	Convert setting files for DXAdvanced series and MVAdvanced series into setting files for SMARTDAC+ GX/GP series
	SMARTDAC+ Setting File Converter	Convert setting files for the DXP/DX/MV series and DARWIN series into setting files for the SMARTDAC+ GX/GP/GM series

Model			License	Operating conditions	General specifications	Manual
GXGP	GM10	GA10				
Y	Y	—	Not required	—	GX/GP or GM General Specifications	IM 04L61B01-01EN
Y	Y	—	Not required	—	GS 04L51B01-01EN or GS 04L55B01-01EN	IM 04L61B02-01EN
—	Y	—	Not required	GM10 dedicated software.	See the GM General Specifications. GS 04L55B01-01EN	IM 04L61B03-01EN
—	Y	—	Not required	Common to GX/GP/GM	—	—
—	Y	—	Not required	Dedicated GM10 Bluetooth communication (/C8 option)	—	—
Y	Y	Y	Not required	A report function (/MT option for the GX/GP/GM and /RP for the GA10) must be installed in the GX/GP/GM or GA10.	—	—
Y	Y	Y	Not required		—	—
Y	Y	—	Required (trial period available)	Must have purchased a GA10 license. However, the software can be used without a license for 60 days after installation for trial purposes.	GS 04L65B01-01EN	IM 04L65B01-01EN
Y	—	—	Required (DAQStudio serial number)	The custom display function (/CG option) must be available on the GX/GP or GA10. Or, you must have DAQStudio (DXA170). For the GA10, you can obtain a DAQStudio license by purchasing the custom display function.	See the GX/GP or GA10 General Specifications. GS 04L51B01-01EN GS 04L65B01-01EN	IM 04L41B01-62EN or Reference: GX/GP Custom Display Setup Guide TI 04L51B01-03EN
—	—	Y	Not required	For details on conditions, see “Description” at the download site.	See the GA10 General Specifications. GS 04L65B01-01EN	IM WX1-03EN
—	—	Y	Not required	—	See the GA10 General Specifications GS 04L65B01-01EN	IM 04L65B01-01EN
Y	—	—	Not required	—	—	—
—	Y	—	Not required	—	—	—
Y	Y	—	Required	Must have purchased a “Model 773230 validation document” license.	—	—
Y	—	—	Not required	—	—	—
—	Y	—	Not required	Link to the SD Association	—	—
Y	Y	—	Not required	Link to the NI download site	—	—
—	Y	—	Not required	Used only on GMs. Link to the FTD download site	—	—
Y		—	Not required	Excludes models with the /AS1 option of the DXAdvanced DX1000/DX2000	—	—
Y		—	Not required	—	—	—

1.2 Obtaining the SMARTDAC+ User's Manuals

User's manual for the SMARTDAC+ products are available for download from the YOKOGAWA's website.

If the product comes with paper user's manuals, read them first.

To obtain user's manuals, access the following URL, and download the relevant files. To view the user's manuals, you need to use Adobe Reader 7 or later by Adobe Systems (the latest version recommended).

URL: **www.smartdacplus.com/manual/en/**

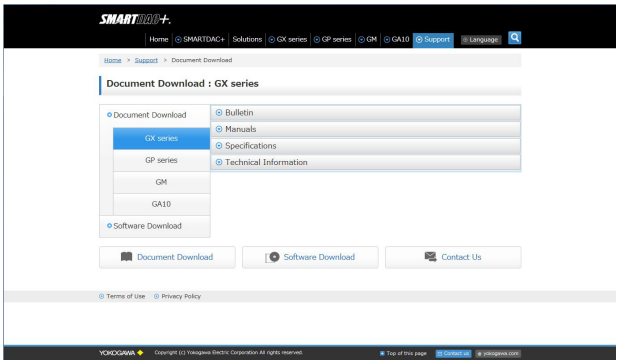
1.2.1 User's Manual Download Procedure

This section explains an example of downloading the GX user's manual. (What is displayed in the figures may differ depending on the OS or browser version.)

Procedure

1. Access **www.smartdacplus.com/manual/en/**.

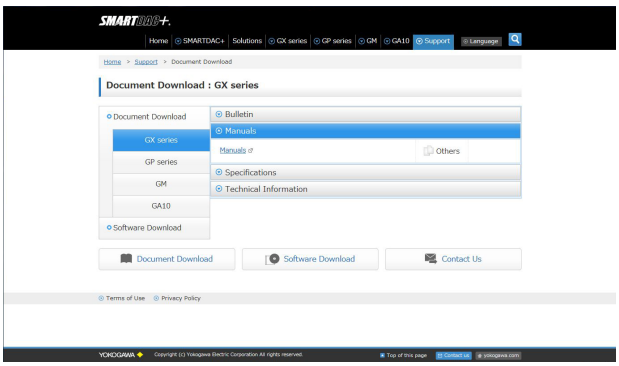
The Document Download : GX series page appears.



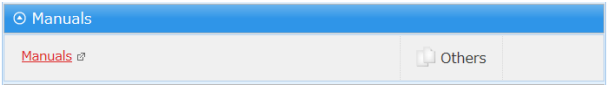
2. From the menu on the left, select the product.

In this example, leave it GX series.

3. From the document types on the right, select the type of document that you want to download, and click ▼.

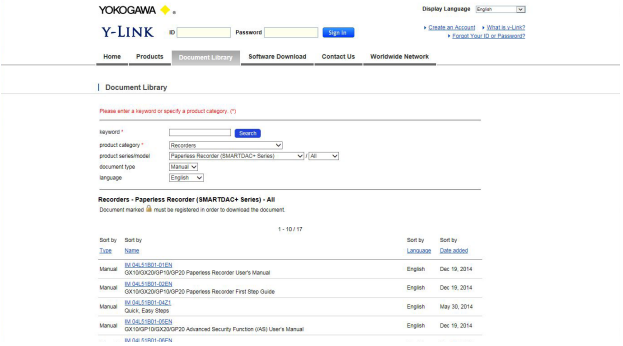


4. Click Manuals.



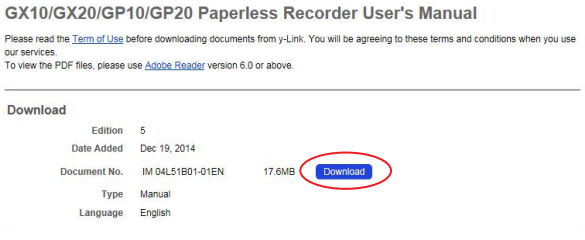
A separate window opens.

5. Click the number of the manual you want to download (the user's manual in this example).



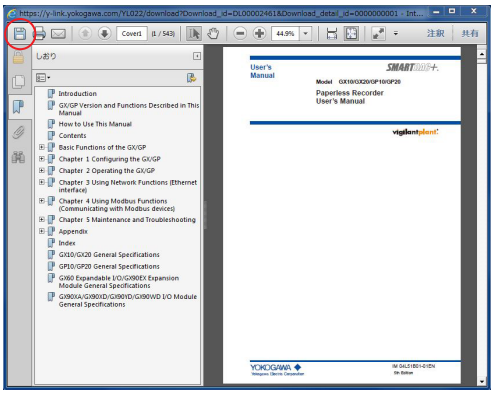
The screen changes.

6. Click **Download**.



The PDF file opens, and the manual is displayed.

7. Click the Save a Copy icon.



A Save a Copy dialog box appears.

8. Select a file save destination, and click Save.

The file is saved to the specified location.

Operation complete

General documents and software applications for recorders, data loggers, and control products can also be searched for from **y-link** (screen shown in step 5). To search directly from y-link, select the product category, series name, or the like, and click the Search button.

1.2.2 List of SMARTDAC+ Manuals to Download

Obtain the following manuals according to the download procedure on the previous page. They are not included as printed manuals in the product package.

Some manuals are common to both the GX/GP and the GM.

GX/GP (GX10/GX20/GP10/GP20 Paperless Recorder)

IM No.	Name	
IM 04L51B01-01EN	User's Manual	
IM 04L51B01-05EN	Advanced Security Function (/AS) User's Manual	
IM 04L51B11-01EN	Wireless Model User's Manual	Applicable only to the GX20W

GM (GM10 Data Acquisition System)

IM No.	Name
IM 04L55B01-01EN	User's Manual
IM 04L55B01-05EN	Advanced Security Function (/AS) User's Manual

Common to GX/GP/GM

IM No.	Name
IM 04L51B01-06EN	Log Scale (/LG) User's Manual
IM 04L51B01-17EN	Communication Command User's Manual
IM 04L51B01-18EN	EtherNet/IP Communication (/E1) User's Manual
IM 04L51B01-19EN	WT Communication (/E2) User's Manual
IM 04L51B01-03EN	Multi-batch Function (/BT) User's Manual
IM 04L51B01-20EN	OPC-UA Server (/E3) User's Manual
IM 04L51B01-21EN	SLMP Communication (/E4) User's Manual
IM 04L51B01-31EN	Loop Control Function, Program Control Function (/PG Option) User's Manual

Software

IM No.	Name	
IM 04L61B01-01EN	Universal Viewer User's Manual	
IM 04L61B01-02EN	Hardware Configurator User's Manual	
IM 04L61B01-03EN	IP Address Configurator User's Manual	Applicable only to the GM
IM 04L65B01-01EN	GA10/GA10CL/GA10UP Data Logging Software User's Manual	
IM 04L41B01-62EN	DXA170 DAQStudio User's Manual	

2. Downloading and Installing Software

2.1 Obtaining Software

Download the latest version of the software from the following URL.

URL: http://www.smartdacplus.com/en/support/software/index.html

- Some programs are large in size. Be aware of the download time.
- Download files are in zip format. Check that your PC has enough free hard disk space.

2.1.1 Free Software

The software applications in the following table can be downloaded and used for free. However, they may not work depending on the recorder specifications or your PC environment. Check "Operating conditions" in **"Software Applications"**.

For the PC environment, see the user's manual of each software application.

What You Can Do	Software
Display data	SMARTDAC+ Standard Universal Viewer
Configure the recorder Create setup data or program pattern files of GX/GP/GM. These files can be sent to or received from the recorder.	SMARTDAC+ Standard Hardware Configurator (with Program Pattern Setting.)
Assign an IP address to the GM	SMARTDAC+ Standard IP Address Configurator (IP address configurator for the GM10)
Monitor measurement data from a terminal	Mobile WEB Application
Configure, control, and monitor a GM from a terminal	GM Mobile Tool
Create report templates	SMARTDAC+ Report Template Builder
	SMARTDAC+ Excel Report Simulator
Acquire data from WT series power meters using GA10	GateWT for GA10
Acquire data from Modbus devices using GA10	Modbus Device Definition File Creating Tool
Communicate using the EtherNet/IP protocol	EtherNet/IP profile for GX/GP
Create tag labels	Tag Plate for SMARTDAC+
Format SD cards	SD Card Formatter
Driver	LabVIEW Driver
	USB Driver for GM10
Replace old models	DXAdvanced/GX setting file conversion tool
	Setting File Converter Setting file conversion tool

2.1.2 Licensed Software

The following table shows paid applications. To use these applications, you need to purchase licenses. Check “License” and “Operating conditions” in **“Software Applications”**.

What You Can Do	Software
Collect and record device data	SMARTDAC+ GA10 Data Logging Software
Customize GX/GP screens or GA10 monitor screens when the custom display function (/CG option) is available.	DAQStudio (DXA170) Custom Display Builder
Create validation documents	Validation documents for SMARTDAC+

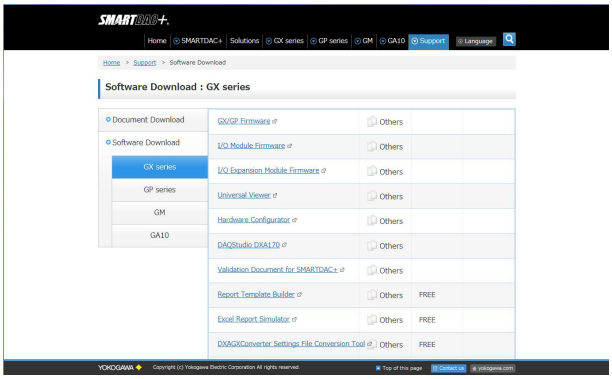
2.1.3 Software Download Procedure

This section explains an example of downloading software. (What is displayed in the figures may differ depending on the OS or browser version.) For the download procedure of Data Logging Software GA10, see section 2.2.3.

Procedure

1. Access **http://www.smartdacplus.com/en/support/software/index.html**.

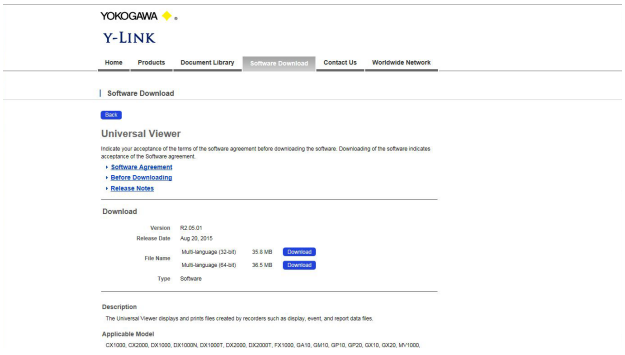
   The Software Download : GX series page appears.



2. From the menu on the left, select the product.

   In this example, leave it GX series.

3. From the list of software on the right, click the software you want to download (Universal Viewer in this example).



   The screen changes.

4. Click Download next to 32-bit or 64-bit, whichever is appropriate.*

* On Windows 7, you can check the version on the System window of Control Panel.

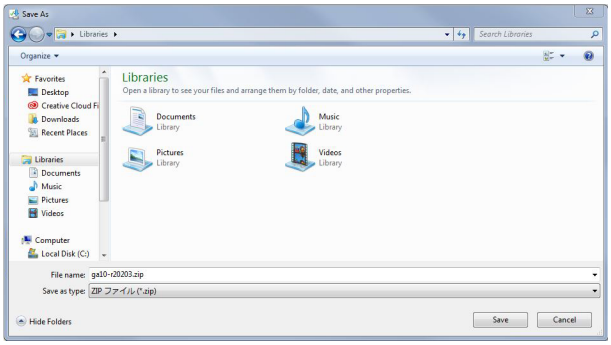
A notification bar appears.

5. Click ▼ to the right of Save.

If you simply click Save in this instance, the download destination will be the default Windows folder (Download folder in the user account folder).

6 Click Save as.

A Save As dialog box appears.



7 Select a file save destination, and click Save.

A download complete notification appears.

Click Open folder to open the save destination folder.

Operation complete

General documents and software applications for recorders, data loggers, and control products can also be searched for from the top page of **y-link**. To search directly from y-link, enter the Keyword and click the Search button.

2.2 Installing Software in the PC

After downloading software, install it.

If you have been using an older version, be sure to back up the data that was created and uninstall the older version before installing the latest version. Moreover, close all other software applications before installing software.

- **The screens in the installation example may differ depending on the OS. Some screens may be omitted.**
- **For instructions on how to start and use software after installation, see the relevant user's manual. You can view the manual from the Help menu of each software application.**
- **For information on how to purchase licenses for paid software, contact your nearest YOKOGAWA dealer.**

2.2.1 Installing Standard Software (SMARTDAC+ STANDARD)

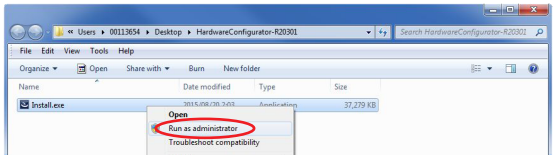
This section explains an example of installing SMARTDAC+ STANDARD Hardware Configurator. License is not required to install SMARTDAC+ standard software.

Procedure

1. Double-click the downloaded file to extract the files.

The folder opens, and the installer (Install.exe) appears.

2. In the folder, right-click Install.exe, and click **Run as administrator**.



3. The installation wizard starts. Follow the instructions on the screen to install the software.
4. Enter the user name and company name, and then click **Next**.
5. Select the country/region, and click **Next**.

6. The installation destination is displayed. Click **Next**.

   The installation process begins. The default save destination is (drive name):\Program Files\Yokogawa Electric Corporation\SMARTDAC+ STANDARD Hardware Configurator. On a 64-bit OS, the default save destination is (drive name):\Program Files (x86)\Yokogawa Electric Corporation\SMARTDAC+ STANDARD Hardware Configurator.

7. When the installation is complete, click **Finish**.

   SMARTDAC+STANDARD > Hardware Configurator will be registered under All Programs in the Windows Start menu.

Operation complete

2.2.2 Installing DAQStudio (GX/GP, GA10 with the custom display function)

DAQStudio (DXA170) can be used to create original GX/GP and GA10 monitor screens. The monitor screens that you create can be displayed using the custom display function (/CG option) of the GX/GP or GA10. **To install this software application, you need a DAQStudio license.**

Procedure

1. Double-click the downloaded file to extract the files.

   The folder opens, and the installer (Install.exe) appears.

2. In the folder, right-click Install.exe, and click **Run as administrator**.

3. The installation wizard starts. Follow the instructions on the screen to install the software.

4. Enter the user name, company name, and license number, and then click **Next**.

5. Select a setup type, and click **Next**.

   A confirmation window is displayed.

6. Click **Install** to start the installation.

7. When the installation is complete, click **Finish**.

   SMARTDAC+STANDARD > DAQStudio >DAQStudio will be registered under All Programs in the Windows Start menu.

Operation complete

2.2.3 Downloading and Installing GA10 (Data Logging Software)

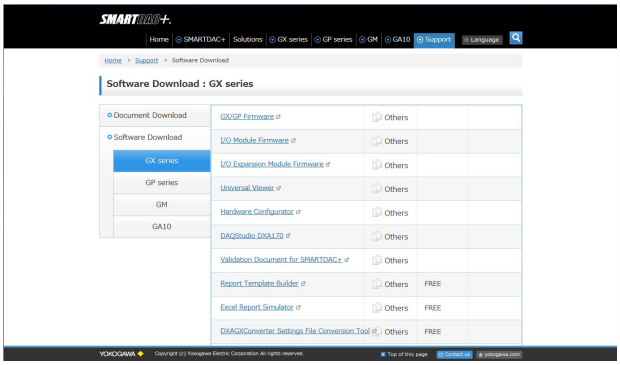
Data Logging Software GA10 can be used to acquire data from devices via communication and monitor and record data on a PC.

You can install the software even before you purchase a license. You can try it for 60 days with full options. (To download the software, you need to register as a member.)

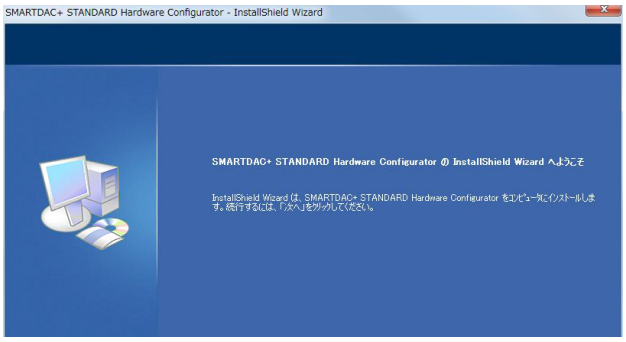
Download

1. Access **http://www.smartdacplus.com/en/support/software/index.html**.

   The Software Download : GX series page appears.



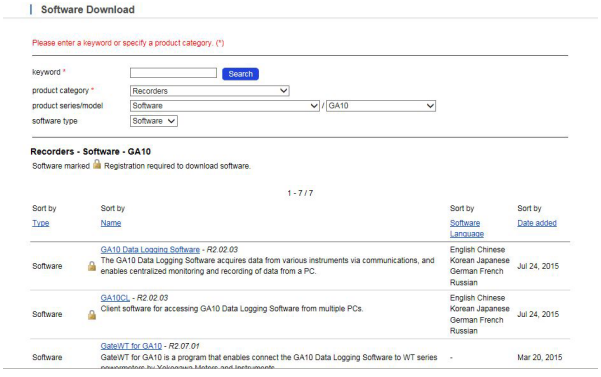
2. From the menu on the left, select **GA10**.



   A list of GA10 software applications is displayed.

3. Click **GA10 Data Logging Software**, at the top.

   A software download page appears.



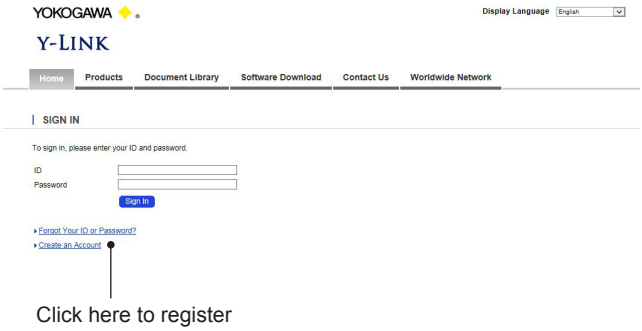
4 Click **GA10 Data Logging Software**, at the top with a key mark .

A login screen appears.

- Downloading software applications with key marks requires a member registration.
- GA10CL is client only. To use GA10 for the first time, install Data Logging Software.

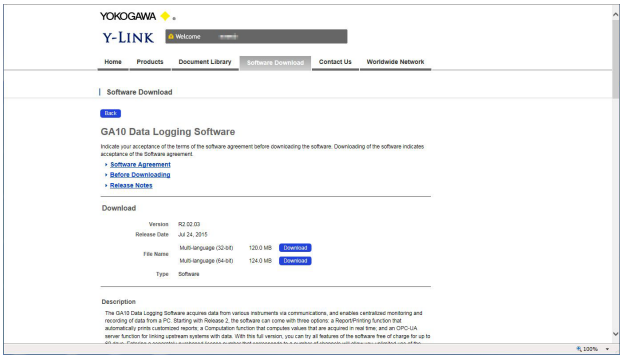
5 Enter the ID and password, and click **Sign In**.

If you do not have an ID, create a new account.



When you sign in, a GA10 download screen will appear.

6. Click Download next to 32-bit or 64-bit, whichever is appropriate.



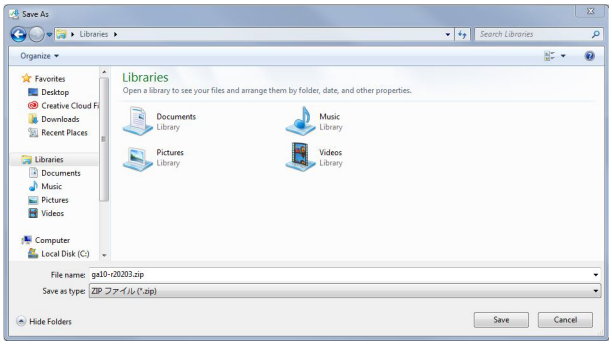
A notification bar appears.

7. Click ▼ to the right of Save.

If you simply click Save in this instance, the download destination will be the default Windows folder (Download folder in the user account folder).

8 Click Save as.

A Save As dialog box appears.



9 Select a file save destination, and click Save.

A download complete notification appears.

Click Open folder to open the save destination folder.

Operation complete

Installation

1. Double-click the downloaded file to extract the files.

The folder opens, and the installer (Install.exe) appears.

2. In the folder, right-click Install.exe, and click **Run as administrator**.

3. The installation wizard starts.

4. If you accept the license agreement, click **Next**.

The Customer Information dialog box appears.

5. Enter the user name and company name. To use the software as a trial version for 60 days, leave the license number blank, and click **Next**. If you have purchased a license and you want to use it as an official version, type the number.

6. The installation destination is displayed. Click **Next**.

The default save destination is C:\Program Files\Yokogawa Electric Corporation\SMARTDAC+ STANDARD Hardware Configurator.

6. Click **Install** to start the installation.

7. When the installation is complete, click **Finish**.

SMARTDAC+STANDARD > DAQStudio >DAQStudio will be registered under All Programs in the Windows Start menu.

Operation complete

- ## Installing Different Versions

If you have purchased a GA10 license and would like to try a new version for 60 days

You can try the new version, but install it in a PC different from the one you are running the old version on.

If you have tried an old version before and would now like to try a new version

You can try the new version, but install it in a PC different from the one you tried the old version on.

If you have already purchased a license for an old version and would like to upgrade to a new version

You can upgrade for free. Uninstall the old version, enter your license, and install the new version. You can use it with the same specifications as the purchased (old) version.

- ## Adding Option Functions and Clients

Read the following sections in section 2.7.3, “Entering a License Number,” in the GA10 User’s Manual (IM 04L65B01-01EN).

- Adding Functions (GA10UP-RP, -MT, -UA)
- Adding a Client (GA10CL)
- Entering a License Number during the Trial Period
- Entering a License Number after the Trial Period

Note that in addition to the General Specifications and User’s Manual, the following explanatory materials are available for your use.

TI 04L65B01-01EN	GA10 Data Logging Software Product Introduction Guide
TI 04L65B01-02EN	GA10 Data Logging Software Setup Guide

2.3 If You Cannot Install or Set Up Software

For PC and network settings, check with the support site of your PC or OS or your network administrator. Use the following diagnosis for reference.

Restart the PC

Restart Windows, and check whether you can install when other software applications are not running.

Check the Operating Environment

Check OS compatibility, difference in 32-bit and 64-bit editions, free hard disk space, and so on.

Check the User Account Privileges

Check whether the logged-on user account has privileges for installing or operating the software.

Check the Network

Use ping to check the Internet connection status. If ping fails, it may be a problem with the cable, HUB, IP address settings or the like.

Check the Firewall Function of the Windows OS

If the Windows firewall is enabled, problems may occur with downloading or communication. To avoid these problems, configure Allow a program or feature through Windows Firewall. For details on how to change the settings, check the Microsoft support website.

TI 04L00L00-01EN_010	Windows 7 Firewall Settings Operation Guide (To correctly operate recorder related software)

Viewing the FAQ

Below is the URL for the FAQ top page of recorders, data loggers, and control products. You can search by keyword or from the product category Software.

FAQ top page: http://kb.yokogawa.com/en/faq/

Searching for Other Software Applications and Firmware

Below is the URL for the software download top page of recorders, data loggers, and control products. You can search for software applications not covered in this material and firmware for products.

Software download top page:

http://www.smartdacplus.com/en/support/software/index.html

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