



OpreX™ Data Acquisition

SMARTDAC+ Advanced Security Function

Data Integrity Support for
pharmaceutical & medical standards

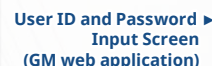


It also supports data integrity in accordance with ALCOA+ (Attributable, Legible, Contemporaneous, Original, Accurate, Complete, Consistent, Enduring, Available) mentioned in PIC/S, WHO, MHRA and FDA guidance documents.

If the data files are damaged or tampered with, SMARTDAG+ Standard Universal Viewer software will identify the nonconformity and notify the user accordingly.

SSL-based encryption

Centralized management of user names and passwords using servers on network is possible through ActiveDirectory.



Login

* Electronic signature to the GM is possible only from the SMARTDAC+ Standard Software. Electronic signature cannot be applied through GM's web server.



The SMARTDAC settings are changed by the setting change command. The setting change command changes the data checking mode, the GX/GP screen, SMARTDAC+ Start

Reason for

DATE	TIME	LOCATION	STATUS
2012/04/14	22:59:03	Set	
2012/04/14	22:59:02	Set	
2012/04/14	22:59:01	Set	
2012/04/14	22:59:00	Set	
2012/04/14	22:58:59	Set	
2012/04/14	22:58:58	Set	
2012/04/14	22:58:57	Set	
2012/04/14	22:58:56	Set	
2012/04/14	22:58:55	Set	
2012/04/14	22:58:54	Set	
2012/04/14	22:58:53	Set	
2012/04/14	22:58:52	Set	
2012/04/14	22:58:51	Set	
2012/04/14	22:58:50	Set	
2012/04/14	22:58:49	Set	

1000

[illegible]

tical & medical standards

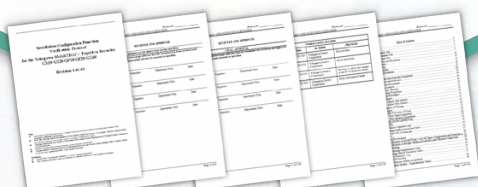
n(/AS)

Validation documentation

Validation documentation (sold separately) is a validation protocol template that simplifies GX/GP/GM and SMARTDAC+ Standard system validation.

The document is provided on the Yokogawa website as an MS Word file for easy editing. *

* The validation and document verification are the customer's responsibility.

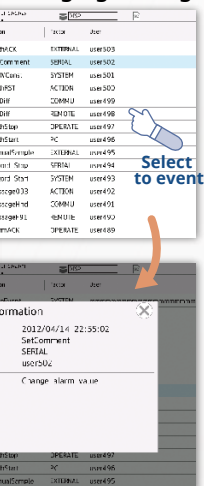


Validation documentation

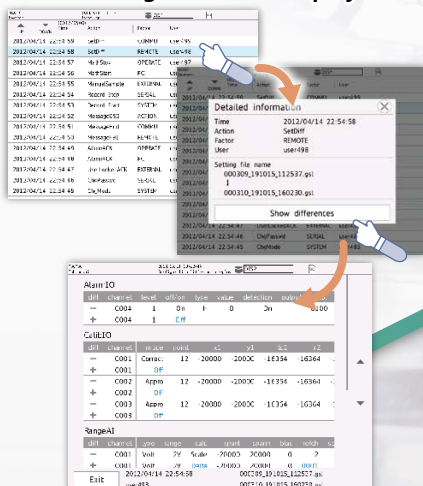
Audit trail function

C+ operation log is saved to a file along with measurement data. When changed, it is possible to record the reason for the change along with the operation. In addition, it is possible to confirm the details of the setting. The Show difference of the setting difference, and this can greatly reduce your work during review and audit. You can view the operation log using the Universal Viewer software. It is also possible to view the operation log using the Standard Universal Viewer software.

Changing settings



Setting difference display



SMARTDAC+ Standard Software

SMARTDAC+ Standard Software is possible to display measurement data, display the operation log, and configure the GX/GP/GM. It is also possible to sign in data using the SMARTDAC+ Standard Universal Viewer.

Universal Viewer software

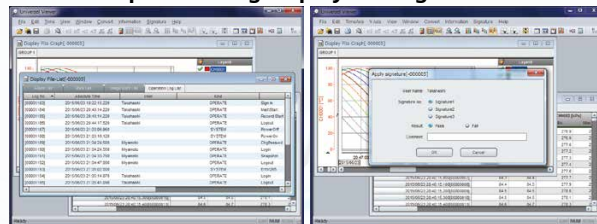
The Universal Viewer software can display data files in various forms such as waveforms and numeric values.

It can display and print not only measurement data but also alarm and message lists and operation logs.

With the operation log, a comparison of the settings before the change and those after the change can be displayed, allowing you to check the changes in detail.

It is also possible to sign the data by entering the user name, user ID and password after confirming the measurement data. If the data has already been signed, you can sign at a different level after confirming the signature state on the screen.

Operation log display and signature



Operation Log

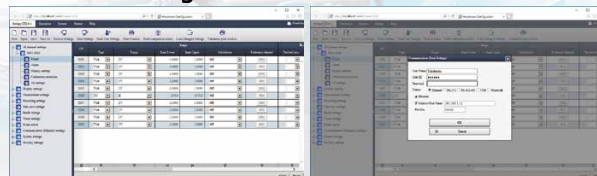
Electronic Signature

Hardware Configurator software

Hardware Configurator software allows for offline system configuration which can be imported via SD memory or external storage media as well as Ethernet communication. System settings can be printed in a table format to support GX/GP/GM system validation (IQ/OP/PQ).

In addition, a pair of selected setup data files can be compared, and their differences can be displayed and printed in table format.

Settings screen with access control



Setting

Network Login

Comparison of settings

Parameter	Value	Unit	Valid
0001	12	20000	10334
0002	12	20000	10334
0003	12	20000	10334
0004	12	20000	10334
0005	12	20000	10334
0006	12	20000	10334
0007	12	20000	10334
0008	12	20000	10334
0009	12	20000	10334
0010	12	20000	10334
0011	12	20000	10334
0012	12	20000	10334
0013	12	20000	10334
0014	12	20000	10334
0015	12	20000	10334
0016	12	20000	10334
0017	12	20000	10334
0018	12	20000	10334
0019	12	20000	10334
0020	12	20000	10334
0021	12	20000	10334
0022	12	20000	10334
0023	12	20000	10334
0024	12	20000	10334
0025	12	20000	10334
0026	12	20000	10334
0027	12	20000	10334
0028	12	20000	10334
0029	12	20000	10334
0030	12	20000	10334
0031	12	20000	10334
0032	12	20000	10334
0033	12	20000	10334
0034	12	20000	10334
0035	12	20000	10334
0036	12	20000	10334
0037	12	20000	10334
0038	12	20000	10334
0039	12	20000	10334
0040	12	20000	10334
0041	12	20000	10334
0042	12	20000	10334
0043	12	20000	10334
0044	12	20000	10334
0045	12	20000	10334
0046	12	20000	10334
0047	12	20000	10334
0048	12	20000	10334
0049	12	20000	10334
0050	12	20000	10334
0051	12	20000	10334
0052	12	20000	10334
0053	12	20000	10334
0054	12	20000	10334
0055	12	20000	10334
0056	12	20000	10334
0057	12	20000	10334
0058	12	20000	10334
0059	12	20000	10334
0060	12	20000	10334
0061	12	20000	10334
0062	12	20000	10334
0063	12	20000	10334
0064	12	20000	10334
0065	12	20000	10334
0066	12	20000	10334
0067	12	20000	10334
0068	12	20000	10334
0069	12	20000	10334
0070	12	20000	10334
0071	12	20000	10334
0072	12	20000	10334
0073	12	20000	10334
0074	12	20000	10334
0075	12	20000	10334
0076	12	20000	10334
0077	12	20000	10334
0078	12	20000	10334
0079	12	20000	10334
0080	12	20000	10334
0081	12	20000	10334
0082	12	20000	10334
0083	12	20000	10334
0084	12	20000	10334
0085	12	20000	10334
0086	12	20000	10334
0087	12	20000	10334
0088	12	20000	10334
0089	12	20000	10334
0090	12	20000	10334
0091	12	20000	10334
0092	12	20000	10334
0093	12	20000	10334
0094	12	20000	10334
0095	12	20000	10334
0096	12	20000	10334
0097	12	20000	10334
0098	12	20000	10334
0099	12	20000	10334
0100	12	20000	10334

Easy to find!
Change point is
Strikethroughs + change color

Paperless Recorder (Panel Mount Type) GX10/GX20



GX10

- Vertical panel mount
- 5.7" TFT color LCD
- Up to 30 channels (built-in), 100 channels (with expansion unit)
- 500 MB internal memory
- Up to 32 GB SD/SDHC card, USB flash memory (option)
- Ethernet, RS-232 (option), RS-422/485 (option)
- 100 to 240 VAC or 24 VDC/AC powered

GX20

- Vertical panel mount
- 12.1" TFT color LCD
- Up to 100 channels (built-in), 450 channels (with expansion unit)
- Maximum 1.2 GB internal memory
- Up to 32 GB SD/SDHC card, USB flash memory (option)
- Ethernet, RS-232 (option), RS-422/485 (option)
- 100 to 240 VAC or 24 VDC/AC powered

Product Brochure: Bulletin 04L51B01-01EN
General Specifications: GS 04L51B01-01EN, GS 04L53B00-01EN

Paperless Recorder (Portable Type) GP10/GP20



GP10

- Desktop
- 5.7" TFT color LCD
- Up to 30 channels (built-in), 100 channels (with expansion unit)
- 500 MB internal memory
- Up to 32 GB SD/SDHC card, USB flash memory (option)
- Ethernet, RS-232 (option), RS-422/485 (option)
- 100 to 240 VAC or 12 VDC powered

GP20

- Desktop
- 12.1" TFT color LCD
- Up to 100 channels (built-in), 450 channels (with expansion unit)
- Maximum 1.2 GB internal memory
- Up to 32 GB SD/SDHC card, USB flash memory (option)
- Ethernet, RS-232 (option), RS-422/485 (option)
- 100 to 240 VAC powered

Product Brochure: Bulletin 04L51B01-01EN
General Specifications: GS 04L52B01-01EN, GS 04L53B00-01EN

Data Acquisition System GM

- Desktop, DIN rail mount, wall (screw) mount
- Up to 100 channels (single-unit configuration), 420 channels (multi-unit configuration)
- Maximum 1.2 GB internal memory
- Up to 32 GB SD/SDHC card
- Ethernet, USB communication, RS-422/485 (option), Bluetooth (option)
- 100 to 240 VAC or 12 to 28 VDC powered



Product Brochure: Bulletin 04L55B01-01EN
General Specifications: GS 04L55B01-01EN, GS 04L53B00-01EN

I/O Modules



Model	Product Name, Description	Channels
GX90XA-10-U2	DCV/TC/RTD/DI, Solid State Relay Scanner Type	10
GX90XA-10-L1	DCV/TC/DI, Solid State Relay Scanner Type	10
GX90XA-10-T1	DCV/TC/DI, Electromagnetic Relay Scanner Type	10
GX90XA-10-C1	DC Current (mA), Solid State Relay Scanner Type	10
GX90XD	Digital Input Module	16
GX90YD	Digital Output Module	6
GX90WD	Digital Input/Output Module	DI: 8/DO:6
GX90XP	Pulse Input Module	10

General Specifications: GS 04L53B01-01EN

Optional Accessories and Application Software (Sold Separately)

Accessories, Software	Model & Suffix
SD Memory Card (1GB)	773001
Shunt Resistor for Screw Terminal (M3)	250 $\Omega \pm 0.1\%$ 415940
	100 $\Omega \pm 0.1\%$ 415941
	10 $\Omega \pm 0.1\%$ 415942
Shunt Resistor for Clamp Terminal	250 $\Omega \pm 0.1\%$ 438920
	100 $\Omega \pm 0.1\%$ 438921
	10 $\Omega \pm 0.1\%$ 438922
Dummy Cover	B8740CZ
Validation Documents (for /AS option) *1	773230
DAQStudio (Custom Screen Building Software for GX/GP with /CG option) *2	DXA170

*1 Provision of Validation Documents

A license sheet containing the license key required for installation is provided.

Download the validation document from the following URL.

<http://www.smartdacplus.com/software/en/>

*2 A CD-ROM with installation license key will be shipped.

Calibration Certificate (Sold Separately)

A calibration certificate is available for each analog input module. When ordering the GX10/GX20/GP10/GP20 with analog input options, the calibration certificate for the modules is included in and shipped with the calibration certificate of the main unit. When ordering an analog input module separately, each module gets its own calibration certificate (one certificate per module).

Test Certificate (QIC, Sold Separately)

A QIC is available for each unit/module. When ordering the GX10/GX20/GP10/GP20 with analog input options, the QIC for the modules is included in and shipped with the QIC of the main unit.

User's Manual

Product user's manuals can be downloaded or viewed at:

<http://www.smartdacplus.com/manual/en/>

Software

SMARTDAC+ Standard software and other useful tools can be downloaded at:

<http://www.smartdacplus.com/software/en/>

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NOTICE



Before operating the product, read the user's manual thoroughly for proper and safe operation.

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