

IM 04L51B01-91EN

■ About This Manual

- Please pass this manual to the end user. We also ask you to store this manual in a safe place.
- This guide is intended for the following personnel;
Engineers responsible for installation, wiring, and maintenance of the equipment.
Personnel responsible for normal daily operation of the equipment.
- Read this manual thoroughly and have a clear understanding of the product before operation.
- This manual explains the functions of the product. It does not guarantee that the product will suit a particular purpose of the user.
- To ensure correct use, please read this manual and the following (see last page) manuals thoroughly before beginning operation. For specifications, refer to General Specifications.
- 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.

■ Safety Precautions

- This instrument conforms to IEC safety class I (provided with terminal for protective grounding), Installation Category II, and EN61326-1 (EMC standard), Measurement Category II (CAT II)*.
- * Measurement Category II (CAT II) is for the GX90XA analog input module and the GX90UT PID control module. Measurement category II (CAT II) applies to measuring circuits connected to low voltage installation, and electrical instruments supplied with power from fixed equipment such as electric switchboards.
- This instrument is an EN61326-1 (EMC standard) class A instrument (for use in commercial, industrial, or business environments). The influence rate (judgment condition A) in the immunity test environment is within $\pm 10\%$ of the range.
- The general safety precautions described here must be observed during all phases of operation. If the SMARTDAC+ is used in a manner not described in this manual, the SMARTDAC+ safety features may be impaired. Yokogawa Electric Corporation assumes no liability for the customer's failure to comply with these requirements.
- The SMARTDAC+ is designed for indoor use.

■ Precautions Related to the Protection, Safety, and Alteration of the Product

- Improper handling or use can lead to injury to the user or damage to the instrument. This symbol appears on the instrument to indicate that the user must refer to the user's manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word "WARNING" or "CAUTION."



"Handle with care." To avoid injury and damage to the instrument, the operator must refer to the explanation in the manual.



Protective ground terminal



Functional ground terminal (do not use this terminal as a protective ground terminal.)



Alternating current



Direct current



ON (power)



OFF (power)

- For the protection and safe use of the product and the system in which this product is incorporated, be sure to follow the instructions and precautions on safety that are stated in this manual whenever you handle the product. Take special note that if you handle the product in a manner that violates these instructions, the protection functionality of the product may be damaged or impaired. In such cases, YOKOGAWA does not guarantee the quality, performance, function, and safety of product.

- When installing protection and/or safety circuits such as lightning protection devices and equipment for the product and control system or designing or installing separate protection and/or safety circuits for fool-proof design and fail-safe design of the processes and lines that use the product and the control system, the user should implement these using additional devices and equipment.
- If you are replacing parts or consumable items of the product, make sure to use parts specified by YOKOGAWA.
- This product is not designed or manufactured to be used in critical applications that directly affect or threaten human lives. Such applications include nuclear power equipment, devices using radioactivity, railway facilities, aviation equipment, air navigation facilities, aviation facilities, and medical equipment. If so used, it is the user's responsibility to include in the system additional equipment and devices that ensure personnel safety.
- Do not modify this product.

WARNING



- **Use the Correct Power Supply**
Ensure that the source voltage matches the voltage of the power supply before turning ON the power. In the case of inlet type and GX60 (power inlet type), ensure that it is within the maximum rated voltage range of the provided power cord before connecting the power cord.
- **Use the Correct Power Cord and Plug (Power inlet type)**
To prevent electric shock or fire, be sure to use the power cord supplied by YOKOGAWA. The main power plug must be plugged into an outlet with a protective earth terminal. Do not disable this protection by using an extension cord without protective earth grounding.
The power cord is designed for use with this instrument. Do not use the power cord with other instruments.
- **Connect the Protective Grounding Terminal**
Make sure to connect the protective grounding to prevent electric shock before turning ON the power.
The power cord that comes with the power inlet type are three prong type power cord. Connect the power cord to a properly grounded three-prong outlet.
- **Do Not Impair the Protective Grounding**
Never cut off the internal or external protective grounding wire or disconnect the wiring of the protective grounding terminal. Doing so invalidates the protective functions of the instrument and poses a potential shock hazard.
- **Do Not Operate with Defective Protective Grounding**
Do not operate the instrument if the protective grounding might be defective. Also, make sure to check them before operation.
- **Do Not Operate in an Explosive Atmosphere**
Do not operate the instrument in the presence of flammable gas, vapors, or combustible dust. Operation in such an environment constitutes a safety hazard.
Prolonged use in a highly dense corrosive gas (H₂S, SO_x, etc.) will cause a malfunction.
- **Do Not Remove Covers**
The cover should be removed by YOKOGAWA's qualified personnel only. Opening the cover is dangerous, because some areas inside the instrument have high voltages.
- **Ground the Instrument before Making External Connections**
Connect the protective grounding before connecting to the item under measurement or control unit.
- **Damage to the Protection**
Operating the instrument in a manner not described in this manual may damage the instrument's protection.
- **Installation and Wiring**
To prevent electric shock while wiring, make sure that the power supply is turned off.
To prevent electric shock, attach the included terminal cover after wiring.
Make sure to use appropriate wires and crimp-on lugs.
To prevent electric shock, do not apply voltages that exceed the ratings to the input or output terminals.
If hazardous external voltage (30V AC or 60V DC or more) is applied to the I/O terminals, provide adequate protection to prevent users or service engineers from inadvertently touching the terminals or tools or the like from coming in contact with the terminals.
Make sure to use appropriate wires, crimp-on lugs, and torque. To prevent electric shock due to damage, prevent strong tension from being applied to the cords.
(From manual at URL: www.smartdacplus.com/manual/en/)

CAUTION

This instrument is a Class A product. Operation of this instrument in a residential area may cause radio interference, in which case the user is required to take appropriate measures to correct the interference.

■ Exemption from Responsibility

- YOKOGAWA makes no warranties regarding the product except those stated in the WARRANTY that is provided separately.
- YOKOGAWA assumes no liability to any party for any loss or damage, direct or indirect, caused by the user or any unpredictable defect of the product.

■ Protection of Environment

● Control of Pollution Caused by the Product (except GX20W)

This is an explanation for the product based on “Control of pollution caused by Electronic Information Products” in the People’s Republic of China.

产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr 6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDB)
印刷电路	N/A	N/A	N/A	N/A	✓	✓
内部接线材料	N/A	N/A	N/A	N/A	✓	✓
外壳 / 机箱	塑料	N/A	N/A	N/A	✓	✓
	金属	N/A	N/A	N/A	✓	✓
I/O 模块外壳	塑料	N/A	N/A	N/A	✓	✓
电源	N/A	N/A	N/A	N/A	✓	✓
正面边框		N/A	N/A	N/A	✓	✓
	显示器 (LCD)	N/A	N/A	N/A	✓	✓
标准附件 / 可选附件	安装支架	N/A	N/A	N/A	✓	✓
	电源线 (GP10/GP20/GX60/GM90PS (power inlet type))	N/A	N/A	N/A	✓	✓
	SD 存储卡	N/A	N/A	N/A	✓	✓
	分流电阻	N/A	N/A	N/A	✓	✓

✓ : 表示该部件的所有均质材料中的有毒有害物质或元素的含量均低于 SJ/T11363-2006 标准所规定的限量要求。
N/A : 表示该部件中至少有一种均质材料中的有毒有害物质或元素的含量超过 SJ/T11363-2006 标准所规定的限量要求。



● 环保使用期限

该标识适用于2006年2月28日颁布的《电子信息产品污染控制管理办法》以及SJ/T11364 - 2006《电子信息产品污染控制标识要求》中所述，在中华人民共和国（除台湾、香港和澳门外）销售的电子信息产品的环保使用期限。

只要您遵守该产品相关的安全及使用注意事项，在自制造日起算的年限内，则不会因产品中有有害物质泄漏或突发变异，而造成对环境的污染或对人体及财产产生恶劣影响

● Waste Electrical and Electronic Equipment (WEEE), Directive



This is an explanation of how to dispose of this product based on Waste Electrical and Electronic Equipment (WEEE), Directive. This directive is only valid in the EU.

● Marking

This product complies with the WEEE Directive marking requirement. This marking indicates that you must not discard this electrical/electronic product in domestic household waste.

● Product Category

With reference to the equipment types in the WEEE directive, this product is classified as a “Monitoring and Control instrumentation” product.

Do not dispose in domestic household waste. When disposing products in the EU, contact your local Yokogawa Europe B.V. office.

● How to Dispose the Batteries



This is an explanation about the new EU Battery Directive. This directive is only valid in the EU. Batteries are included in this product. Batteries incorporated into this product cannot be removed by yourself. Dispose them together with this product. When you dispose this product in the EU, contact your local Yokogawa Europe B.V. office. Do not dispose them as domestic household waste.

Battery type: Lithium battery

Notice: The symbol (see above) means they shall be sorted out and collected as ordained in the EU Battery Directive.

Authorised Representative in the EEA

The Authorised Representative for this product in the EEA is:
Yokogawa Europe B.V.
Euroweg 2, 3825 HD Amersfoort, The Netherlands

Downloadable Electronic Manuals

You can download the latest manuals from the following website.
www.smartdacplus.com/manual/en/

Manual Title	Manual No.
Model GX10/GX20/GP10/GP20 Paperless Recorder First Step Guide	IM 04L51B01-02EN
Model GX10/GX20/GP10/GP20 Paperless Recorder User's Manual	IM 04L51B01-01EN
Model GX20W Paperless Recorder Wireless Model User's Manual	IM 04L51B11-01EN
Data Acquisition System GM First Step Guide	IM 04L55B01-02EN
Data Acquisition System GM User's Manual	IM 04L55B01-01EN
Model GX10/GX20/GP10/GP20/GM10 Multi-batch Function User's Manual	IM 04L51B01-03EN
Model GX10/GX20/GP10/GP20 Advanced Security Function (/AS) User's Manual	IM 04L51B01-05EN
Data Acquisition System GM Advanced Security Function (/AS) User's Manual	IM 04L55B01-05EN
Model GX10/GX20/GP10/GP20/GM10 Log Scale (/LG) User's Manual	IM 04L51B01-06EN
Model GX10/GX20/GP10/GP20/GM10 Communication Command User's Manual	IM 04L51B01-17EN
Model GX10/GX20/GP10/GP20/GM10 EtherNet/IP Communication (/E1) User's Manual	IM 04L51B01-18EN
Model GX10/GX20/GP10/GP20/GM10 WT Communication (/E2) User's Manual	IM 04L51B01-19EN
Model GX10/GX20/GP10/GP20/GM10 OPC-UA Server (/E3) User's Manual	IM 04L51B01-20EN
Model GX10/GX20/GP10/GP20/GM10 SLMP Communication (/E4) User's Manual	IM 04L51B01-21EN
Model GX10/GX20/GP10/GP20/GM10 Loop Control Function, Program Control Function (/PG) User's Manual	IM 04L51B01-31EN
SMARTDAC+ STANDARD Universal Viewer User's Manual	IM 04L61B01-01EN
SMARTDAC+ STANDARD Hardware Configurator User's Manual	IM 04L61B01-02EN
SMARTDAC+ STANDARD IP Address Configurator	IM 04L61B01-03EN
Precaution on the use of SMARTDAC+	IM 04L51B01-91EN
DXA170 DAQStudio	IM 04L41B01-62EN

General Specifications

For specifications, refer to General Specifications.

General Specifications Title	General Specifications No.
GX10/GX20 Paperless Recorder (Panel mount type) General Specifications	GS 04L51B01-01EN
GX20W Paperless Recorder Wireless Model General Specifications	GS 04L51B11-01EN
GP10/GP20 Paperless Recorder (Portable type) General Specifications	GS 04L52B01-01EN
GX60 I/O Base Unit (Expandable I/O), GX90EX Expansion Module General Specifications	GS 04L53B00-01EN
GX90XA/GX90XD/GX90YD/GX90WD/GX90XP I/O Modules General Specifications	GS 04L53B01-01EN
GX90UT PID Control Module General Specifications	GS 04L53B01-31EN
Data Acquisition System GM General Specifications	GS 04L55B01-01EN

* The last two characters of the manual number and general specification number indicate the language in which the manual is written.



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