

Beijer ELECTRONICS GT-22BA Digital Output Module User Manual

[Home](#) » [Beijer ELECTRONICS](#) » Beijer ELECTRONICS GT-22BA Digital Output Module User Manual 

Contents

- [1 Beijer ELECTRONICS GT-22BA Digital Output Module](#)
- [2 Product Information](#)
- [3 Usage Instructions](#)
- [4 About This Manual](#)
- [5 Safety](#)
- [6 About the G-series System](#)
- [7 Specifications](#)
- [8 Wiring Diagram](#)
- [9 LED Indicator](#)
- [10 Mapping Data Into the Image Value](#)
- [11 Parameter Data](#)
- [12 Hardware Setup](#)
- [13 FAQ](#)
- [14 Documents / Resources](#)
 - [14.1 References](#)

Beijer ELECTRONICS GT-22BA Digital Output Module



Specifications

- **Model:** GT-22BA Digital Output Module
- **Channels:** 32
- **Input Voltage:** 24 VDC
- **Current Rating:** 0.3 A
- **Output Type:** Sink
- **Connector:** 40-point connector

Product Information

- The Beijer Electronics GT-22BA Digital Output Module is designed to provide 32 channels of digital output with a voltage rating of 24 VDC and a current rating of 0.3 A per channel.
- It features a sink output type and is equipped with a 40-point connector for easy integration into your system.

Usage Instructions

Installation

1. Ensure power to the system is off before installation.
2. Mount the module securely to a DIN rail using appropriate mounting hardware.
3. Connect field power and data pins to the corresponding terminals.

Setup

- Refer to the G-series system manual for information on IO process data mapping and system overview.

Operation

- Follow the control software instructions to configure the digital outputs as needed for your application.





About This Manual

- This manual contains information on the software and hardware features of the Beijer Electronics GT-22BA Digital Output Module. It provides in-depth specifications and guidance on the installation, setup, and usage of the product.

Symbols Used in This Manual

- This publication includes Warning, Caution, Note and Important icons where appropriate to point out safety-related or other important information.

The corresponding symbols should be interpreted as follows:

-  **WARNING:** The Warning icon indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury and major damage to the product.
-  **CAUTION:** The Caution icon indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury and moderate damage to the product.
-  **NOTE:** The Note icon alerts the reader to relevant facts and conditions.
-  **IMPORTANT:** The Important icon highlights important information.

Safety

- Before using this product, please read this manual and other relevant manuals carefully. Pay full attention to safety instructions!
- In no event will Beijer Electronics be responsible or liable for damages resulting from the use of this product.
- The images, examples and diagrams in this manual are included for illustrative purposes.



- Because of the many variables and requirements associated with any particular installation, Beijer Electronics cannot take responsibility or liability for actual use based on the examples and diagrams.

Product Certifications

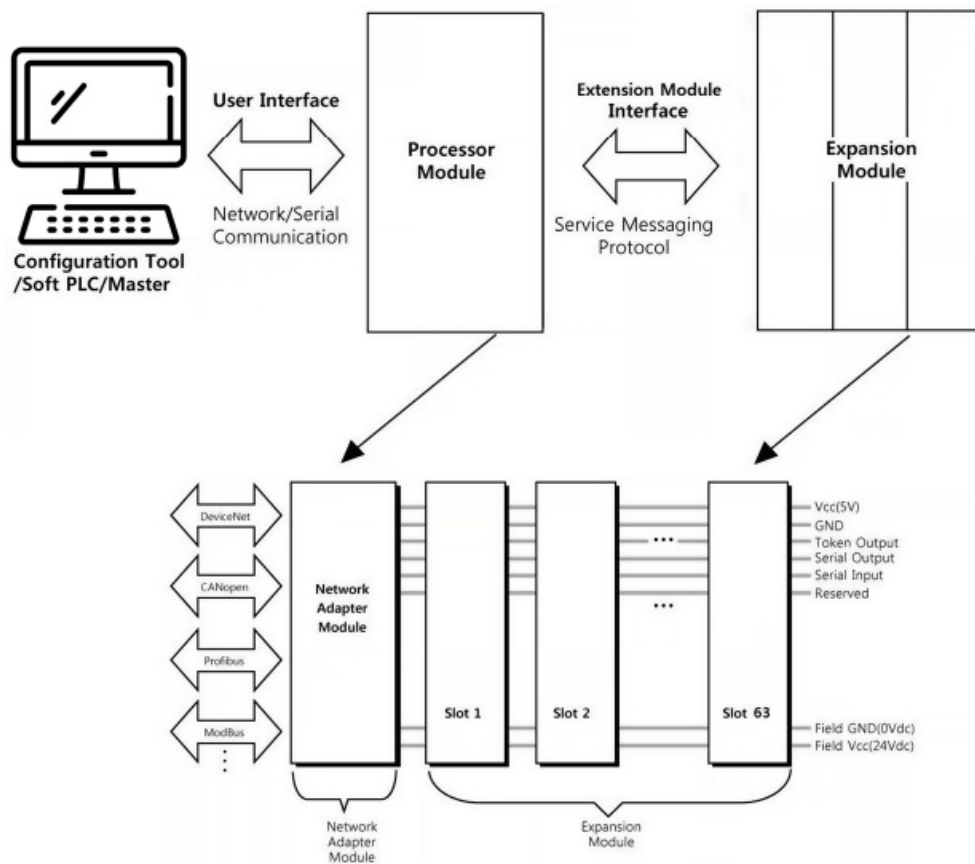
- The product has the following certifications.



General Safety Requirements

-  **WARNING:** Do not assemble the products and wires with power connected to the system. Doing so causes an “arc flash”, which can result in unexpected dangerous events (burns, fire, flying objects, blast pressure, sound blast, heat).
- Do not touch terminal blocks or IO modules when the system is running. Doing so may cause an electric shock, short circuit or malfunction of the device.
- Never let external metallic objects touch the product when the system is running. Doing so may cause an electric shock, short circuit or malfunction of the device.
- Do not place the product near inflammable material. Doing so may cause a fire.
- All wiring work should be performed by an electrical engineer.
- When handling the modules, ensure that all persons, the workplace, and the packing are well grounded. Avoid touching conductive components, The modules contain electronic components that may be destroyed by electrostatic discharge.
-  **CAUTION:** Never use the product in environments with temperatures over 60°C. Avoid placing the product in direct sunlight.
- Never use the product in environments with over 90% humidity.
- Always use the product in environments with pollution degree 1 or 2.
- Use standard cables for wiring.

About the G-series System

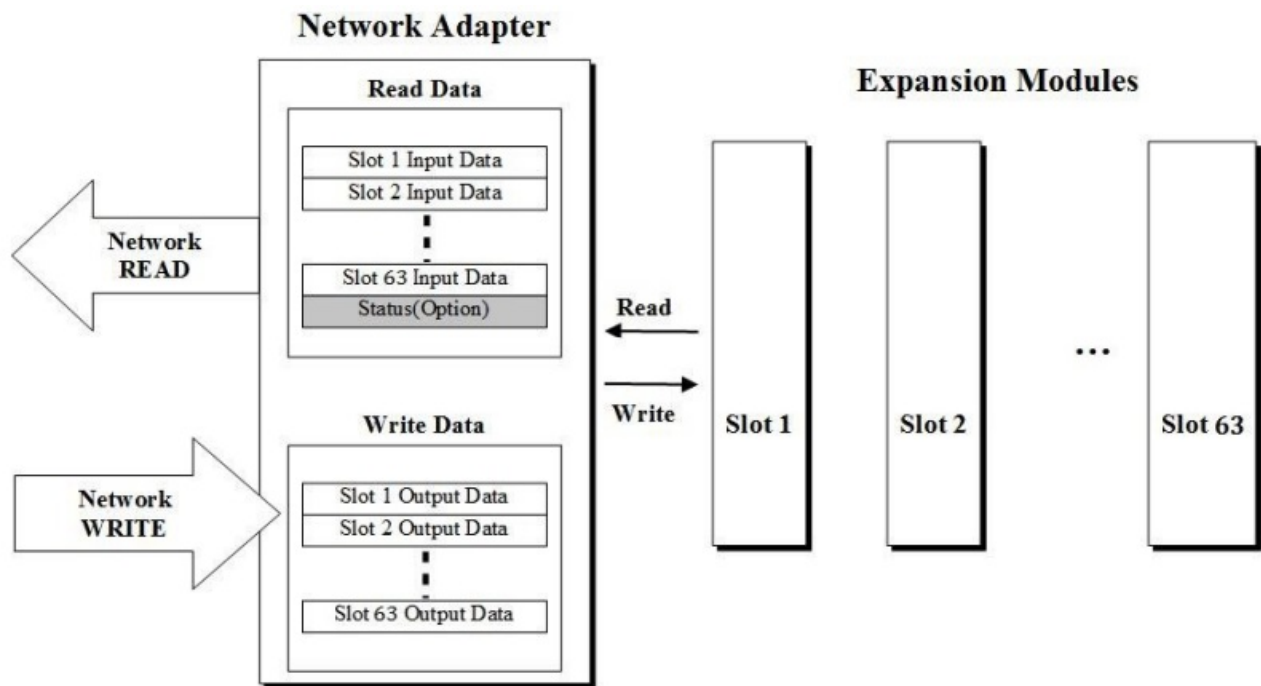


System overview

- **Network Adapter Module** – The network adapter module forms the link between the field bus and the field devices with the expansion modules. The connection to different field bus systems can be established by each of the corresponding network adapter modules, e.g., for MODBUS TCP, Ethernet IP, EtherCAT, PROFINET, CC-Link IE Field, PROFIBUS, CANopen, DeviceNet, CC-Link, MODBUS/Serial, etc.
- **Expansion Module** – Expansion module types: Digital IO, Analog IO, and Special modules.
- **Messaging** – The system uses two types of messaging: Service messaging and IO messaging.

IO Process Data Mapping

- An expansion module has three types of data: IO data, configuration parameters, and memory register. The data exchange between the network adapter and the expansion modules is made via IO process image data by internal protocol.



Data flow between network adapter (63 slots) and expansion modules

- The input and output image data depend on the slot position and the data type of the expansion slot. The ordering of input and output process image data is based on the expansion slot position.
- Calculations for this arrangement are included in the manuals for network adapters and programmable IO modules.
- Valid parameter data depends on the modules in use. For example, analog modules have settings of either 0-20 mA or 4-20 mA, and temperature modules have settings such as PT100, PT200, and PT500.
- The documentation for each module describes the parameter data.

Specifications

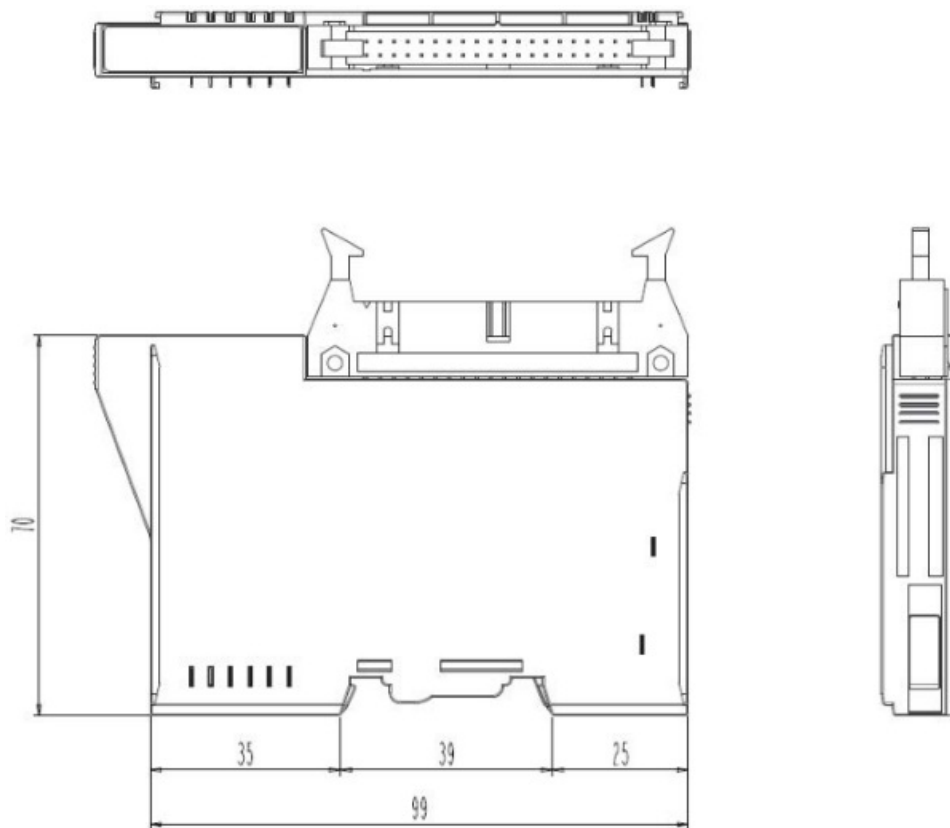
Environmental Specifications

Operating temperature	-20°C – 60°C
UL temperature	-20°C – 60°C
Storage temperature	-40°C – 85°C
Relative humidity	5% – 90% non-condensing
Mounting	DIN rail
Shock operating	IEC 60068-2-27 (15G)
Vibration resistance	IEC 60068-2-6 (4 g)
Industrial emissions	EN 61000-6-4: 2019
Industrial immunity	EN 61000-6-2: 2019
Installation position	Vertical and horizontal
Product certifications	CE, FCC, UL, cUL

General Specifications

Power dissipation	Max. 65 mA @ 5 VDC
Isolation	I/O to Logic: Photocoupler isolation Field power: Non-isolation
UL field power	Supply voltage: 24 VDC nominal, Class 2
Field power	Supply voltage: 24 VDC nominal Voltage range: 15-30 VDC Power dissipation: 30 mA @ 24 VDC
Wiring	Module connector: HIF3BA-40D-2.54R
Weight	59 g
Module size	12 mm x 109 mm x 70 mm

Dimensions

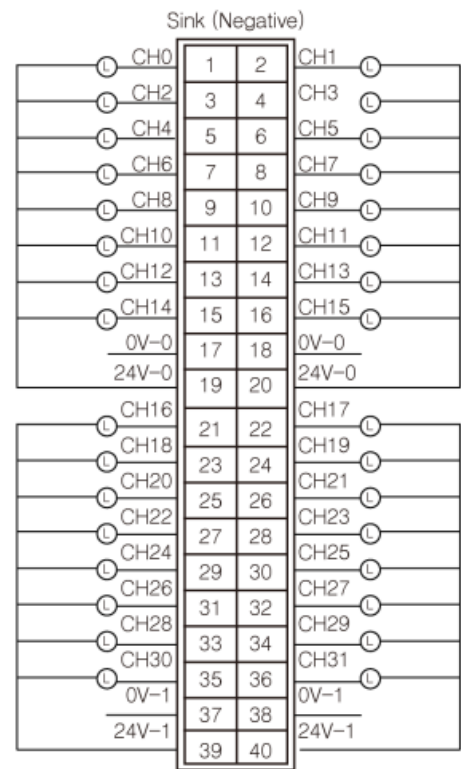
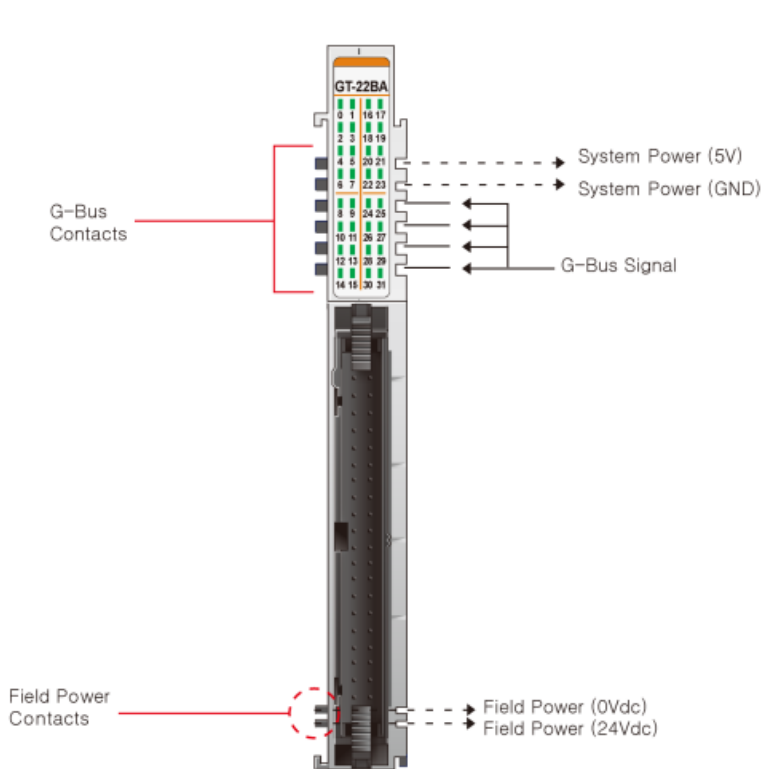


Module dimensions (mm)

Output Specifications

Output per module	32 points sink type
Indicators	32 green output status
Output voltage range	24 VDC nominal 15 VDC – 30 VDC @ 60 °C
On-state voltage drop	0.3 VDC @ 25 °C 0.5 VDC @ 60 °C
On-state min. current	Min. 1 mA
Off-state leakage current	Max. 25 uA
Output signal delay	OFF to ON: Max. 0.3 ms ON to OFF: Max 0.5 ms
Output current rating	Max. 0.3 A per channel / Max. 6.0 A per unit
Protection	Over current limit: Min. 3.5 A @ 25 °C per channel Thermal shutdown: Min 3 A @ 25 °C per channel Short circuit protection
Common type	32 points / 8 COM

Wiring Diagram

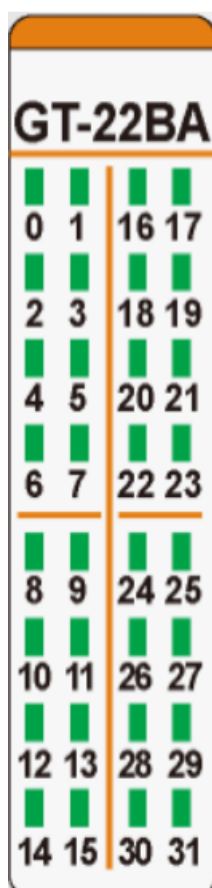


Pin no.	Signal description
1	Output channel 0
2	Output channel 1
3	Output channel 2
4	Output channel 3
5	Output channel 4
6	Output channel 5
7	Output channel 6
8	Output channel 7
9	Output channel 8
10	Output channel 9
11	Output channel 10
12	Output channel 11

13	Output channel 12
14	Output channel 13
15	Output channel 14
16	Output channel 15
17	Common (Field power 0 V)
18	Common (Field power 0 V)
19	Common (Field power 24 V)
20	Common (Field power 24 V)
21	Output channel 16
22	Output channel 17
23	Output channel 18
24	Output channel 19
25	Output channel 20
26	Output channel 21
27	Output channel 22
28	Output channel 23
29	Output channel 24
30	Output channel 25
31	Output channel 26
32	Output channel 27
33	Output channel 28
34	Output channel 29

35	Output channel 30
36	Output channel 31
37	Common (Field power 0 V)
38	Common (Field power 0 V)
39	Common (Field power 24 V)
40	Common (Field power 24 V)

LED Indicator



LED no.	LED function/description	LED color
0	OUTPUT channel 0	Green
1	OUTPUT channel 1	Green
2	OUTPUT channel 2	Green
3	OUTPUT channel 3	Green
4	OUTPUT channel 4	Green
5	OUTPUT channel 5	Green
6	OUTPUT channel 6	Green
7	OUTPUT channel 7	Green
8	OUTPUT channel 8	Green
9	OUTPUT channel 9	Green
10	OUTPUT channel 10	Green
11	OUTPUT channel 11	Green
12	OUTPUT channel 12	Green
13	OUTPUT channel 13	Green
...
31	OUTPUT channel 31	Green

Beijer Electronics, Doc ID: 130889

Channel Status

Status	LED	Indicates
Off signal	Off	No output signal
On signal	Green	Normal operation

Mapping Data Into the Image Value

Output Image Value

Bit no.	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	D7	D6	D5	D4	D3	D2	D1	D0
Byte 1	D15	D14	D13	D12	D11	D10	D9	D8
Byte 2	D23	D22	D21	D20	D19	D18	D17	D16
Byte 3	D31	D30	D29	D28	D27	D26	D25	D24



Output Module Data

D7	D6	D5	D4	D3	D2	D1	D0
D15	D14	D13	D12	D11	D10	D9	D8
D23	D22	D21	D20	D19	D18	D17	D16
D31	D30	D29	D28	D27	D26	D25	D24

Parameter Data

Valid parameter length: 8 Bytes

Bit no.	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Byte 0	Fault action (ch0-ch7) 0: Fault value, 1: Hold last state							
Byte 1	Fault action (ch8-ch15) 0: Fault value, 1: Hold last state							
Byte 2	Fault action (ch16-ch23) 0: Fault value, 1: Hold last state							
Byte 3	Fault action (ch24-ch31) 0: Fault value, 1: Hold last state							
Byte 4	Fault value (ch0-ch7) 0: Off, 1: On							
Byte 5	Fault value (ch8-ch15) 0: Off, 1: On							
Byte 6	Fault value (ch16-ch23) 0: Off, 1: On							
Byte 7	Fault value (ch24-ch31) 0: Off, 1: On							

Hardware Setup

CAUTION

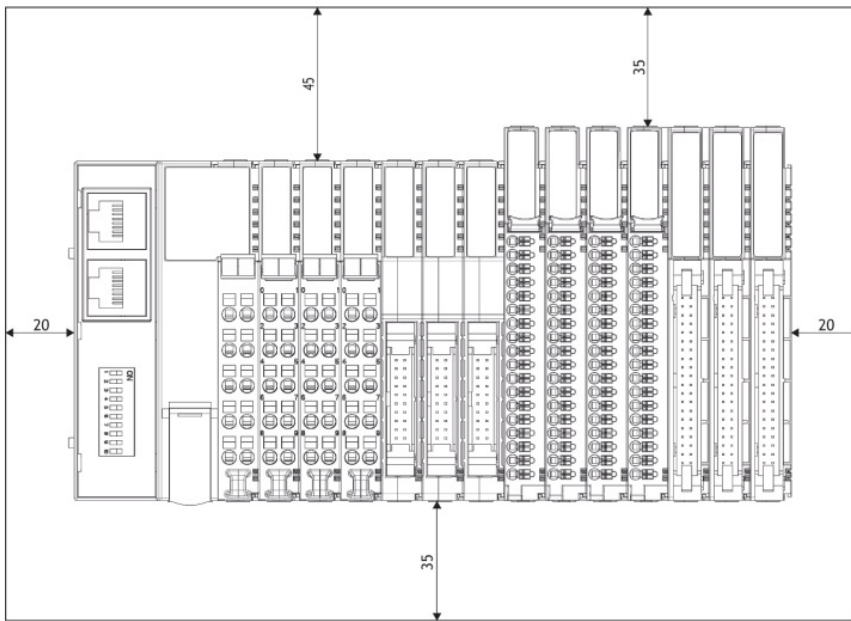
- Always read this chapter before installing the module!
- Hot surface! The surface of the housing can become hot during operation. If the device is used in high ambient temperatures, always let the device cool down before touching it.
- Working on energized devices can damage the equipment! Always turn off the power supply before working on the device.

Space Requirements

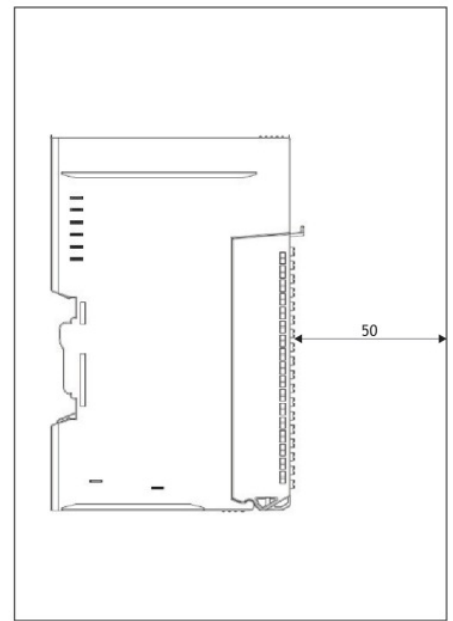
- The following drawings show the space requirements when installing the G-series modules. The spacing creates space for ventilation and prevents conducted electromagnetic interference from influencing the operation.
- The installation position is valid vertically and horizontally. The drawings are illustrative and may be out of

proportion.

- **CAUTION:** NOT following the space requirements may result in damaging the product.



Vertical and horizontal space requirements



Required distance to door

Mount Module to DIN Rail

- The following chapters describe how to mount the module to the DIN rail.
- **CAUTION** The module must be fixed to the DIN rail with the locking levers.

Mount GL-9XXX or GT-XXXX Module

- The following instructions apply to these module types.
- GL-9XXX
- GT-1XXX
- GT-2XXX
- GT-3XXX
- GT-4XXX
- GT-5XXX
- GT-7XXX
- GN-9XXX modules have three locking levers, one at the bottom and two on the side. For mounting instructions, refer to Mount GN-9XXX Module.



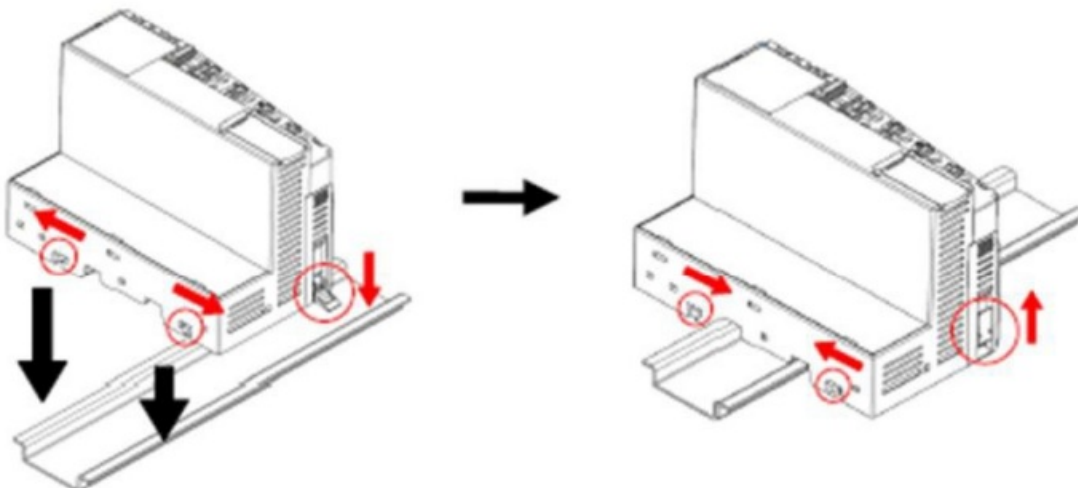
- Mount to DIN rail



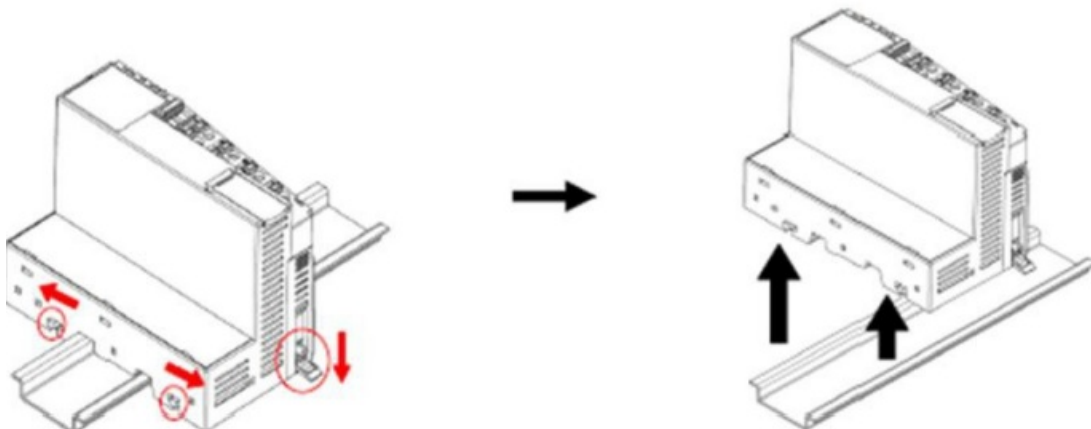
- Dismount from DIN rail

Mount GN-9XXX Module

- To mount or dismount a network adapter or programmable IO module with the product name GN-9XXX, for example GN-9251 or GN-9371, see the following instructions:



- Mount to DIN rail



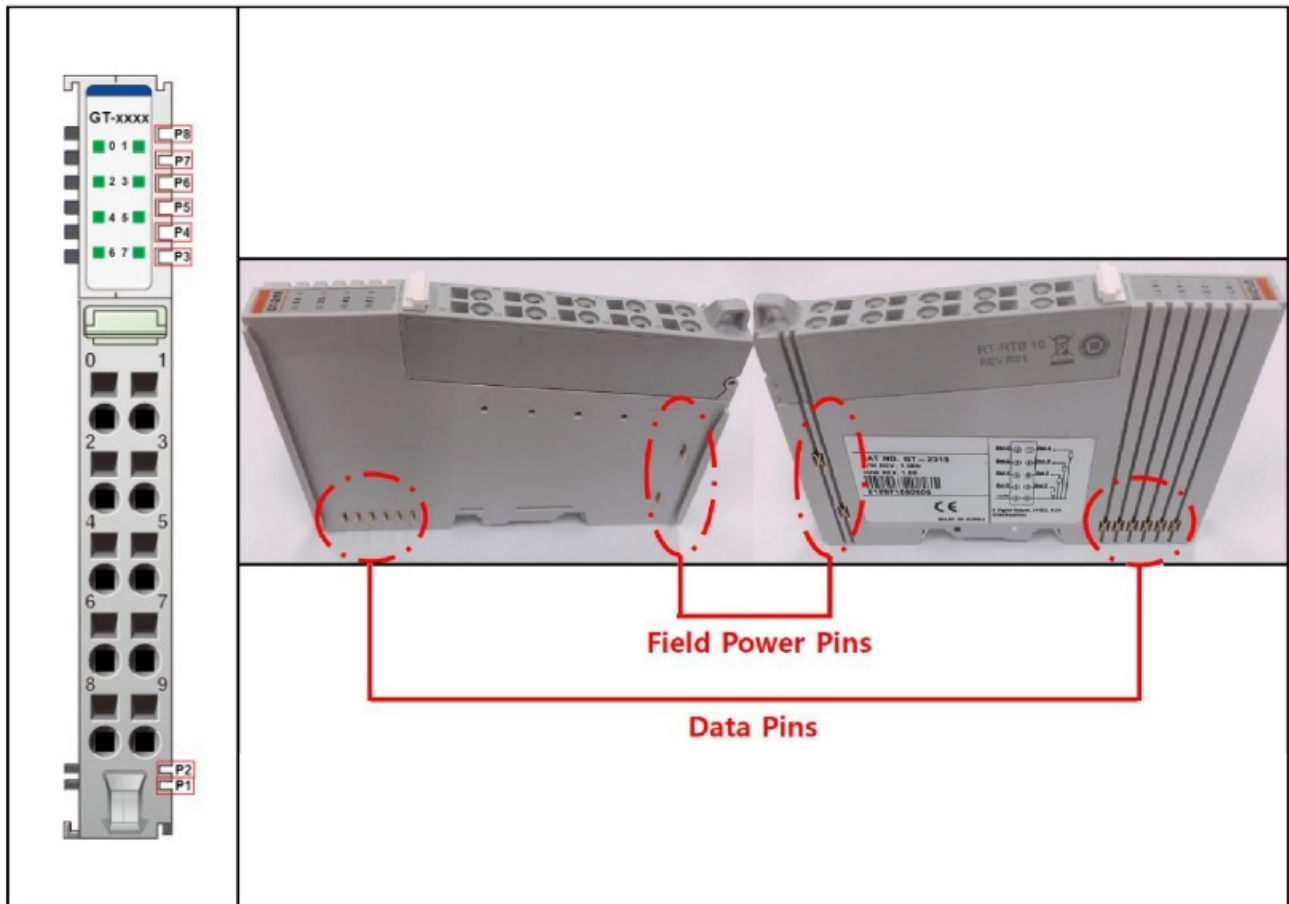
- Dismount from DIN rail

Field Power and Data Pins

- Communication between the G-series network adapter and the expansion module, as well as the system /field power supply of the bus modules, is carried out via the internal bus. It is comprised of 2 Field Power Pins and 6

Data Pins.

- **WARNING:** Do not touch the data and field power pins! Touching can result in soiling and damage by ESD noise.



Pin no.	Name	Description
P1	System VCC	System supply voltage (5 VDC)
P2	System GND	System ground
P3	Token output	Token output port of processor module
P4	Serial output	Transmitter output port of processor module
P5	Serial input	Receiver input port of processor module
P6	Reserved	Reserved for bypass token
P7	Field GND	Field ground
P8	Field VCC	Field supply voltage (24 VDC)

Copyright


- © 2025 Beijer Electronics AB. All rights reserved.
- The information in this document is subject to change without notice and is provided as available at the time of printing. Beijer Electronics AB reserves the right to change any information without updating this publication.

- Beijer Electronics AB assumes no responsibility for any errors that may appear in this document. All examples in this document are only intended to improve understanding of the functionality and handling of the equipment.
- Beijer Electronics AB cannot assume any liability if these examples are used in real applications.
- Given the wide range of applications for this software, users must acquire sufficient knowledge themselves to ensure that it is correctly used in their specific application.
- Persons responsible for the application and the equipment must themselves ensure that each application complies with all relevant requirements, standards, and legislation in respect to configuration and safety.
- Beijer Electronics AB will accept no liability for any damage incurred during the installation or use of the equipment mentioned in this document. Beijer Electronics AB prohibits all modification, changes, or conversion of the equipment.
- **Head Office**
- **Beijer Electronics AB**
- **Box 426**
- **201 24 Malmö, Sweden**
- www.beijerelectronics.com
- **+4640358600**

FAQ

- **Q: What are the symbols used in the manual?**
 - **A:** The symbols used in the manual include Warning, Caution, Note, and Important icons to highlight safety-related or important information.
- **Q: How many channels does the GT-22BA Digital Output Module have?**
 - **A:** The module provides 32 channels of digital output.

Documents / Resources

	<p>Beijer ELECTRONICS GT-22BA Digital Output Module [pdf] User Manual GT-22BA, GT-22BA Digital Output Module, Digital Output Module, Output Module, Module</p>
---	--

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.