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Beijer ELECTRONICS GT-2368 Digital Output Module

About This Manual

This manual contains information on the software and hardware features of the Beijer Electronics GT-2368 Digital Output Module. It provides in-depth specifications, guidance on 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 that, 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

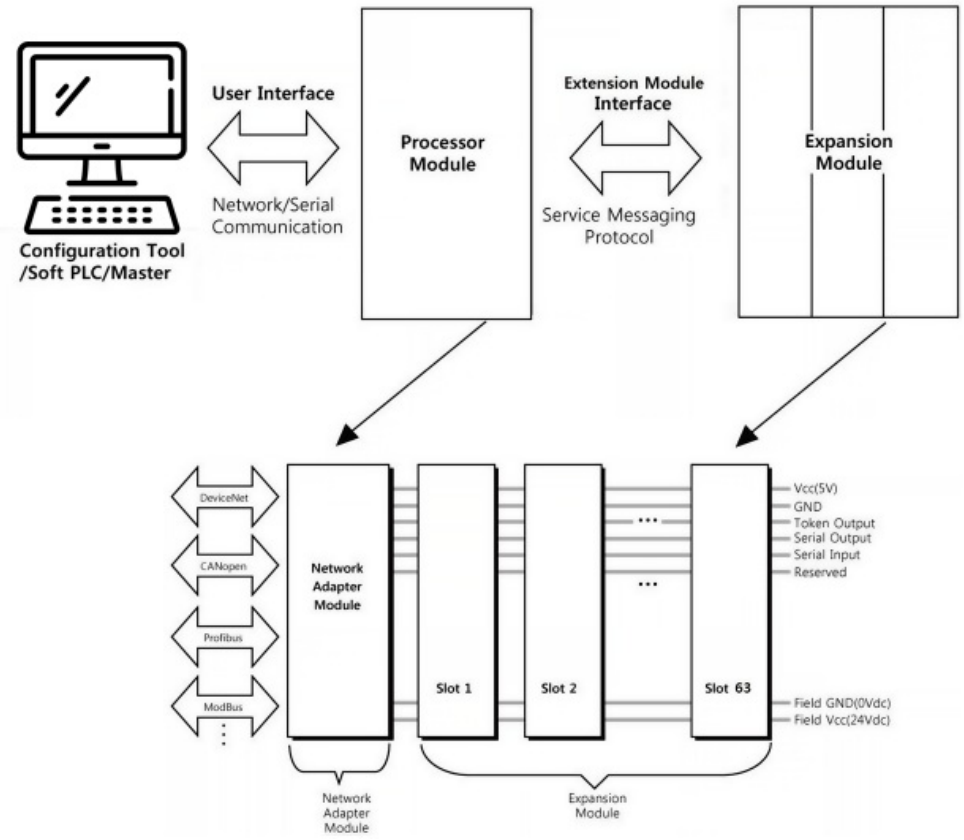
WARNING

- Do not assemble the products and wires with power connected to the system. Doing so cause 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, a short circuit, or a malfunction of the device.
- Never let external metallic objects touch the product when the system is running. Doing so may cause an electric shock, a short circuit, or a malfunction of the device.
- Do not place the product near inflammable material. Doing so may cause a fire.
- An electrical engineer should perform all wiring work.
- When handling the modules, ensure that all persons, the workplace, and the packaging 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 temperature 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

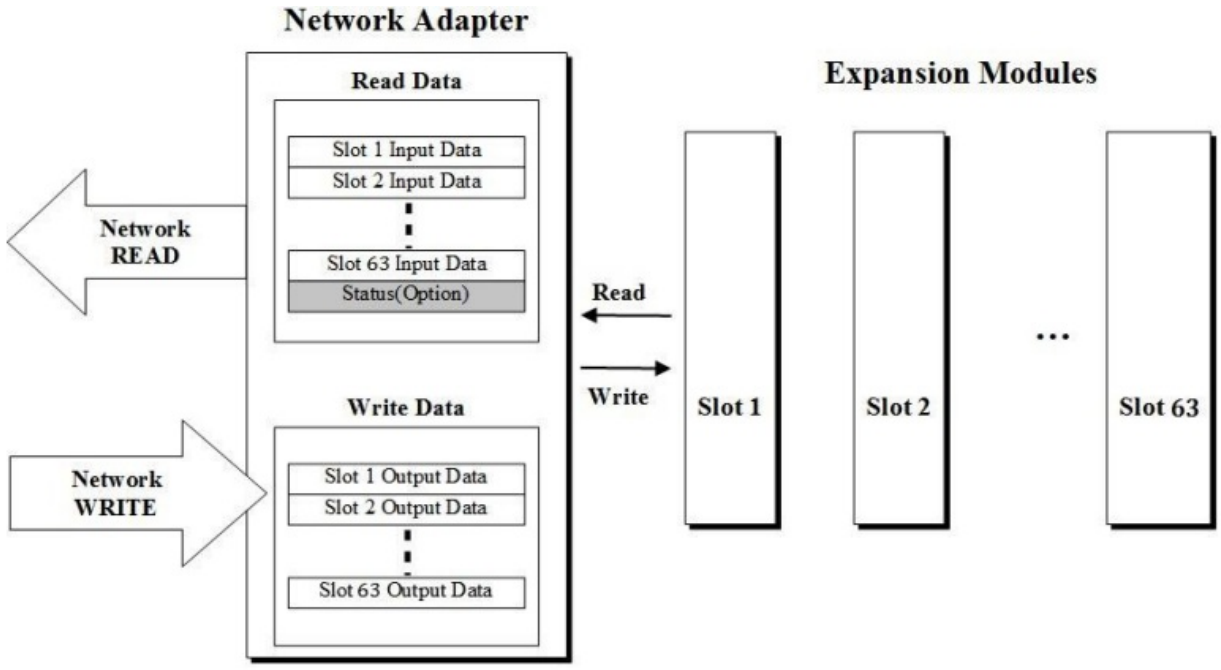


System overview

- 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.

Process Data Mapping

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



Data flow between the network adapter (63 slots) and the 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 the network adapter 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 provides a description of 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

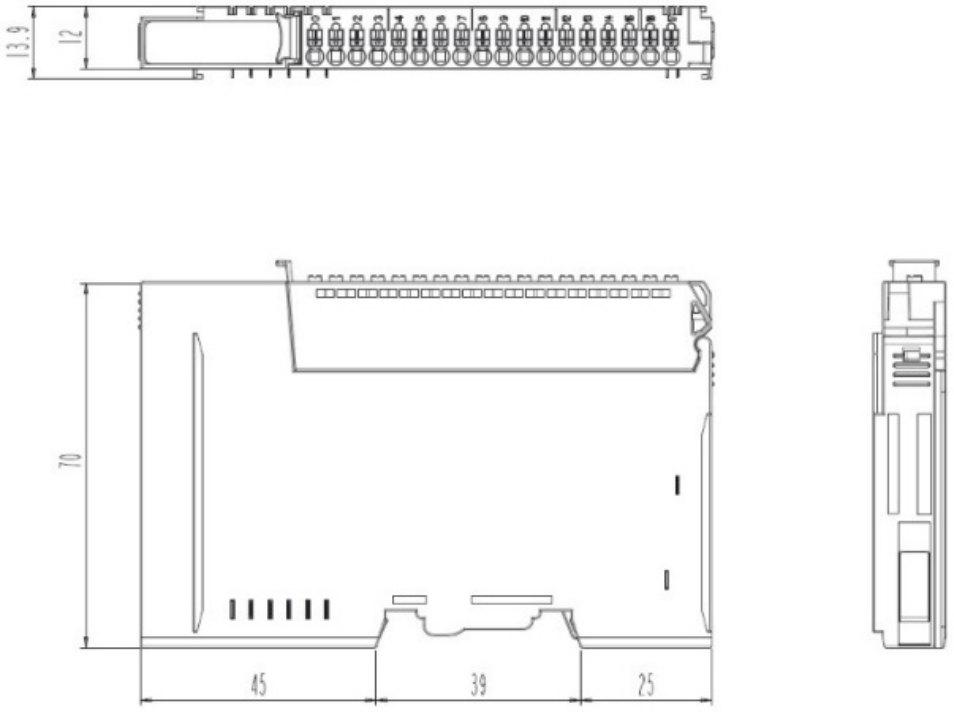
General Specifications

Power dissipation	Max. 50 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 – 28 .8 VDC Power dissipation: Max. 35 mA @ 24 VDC
Wiring	I/O cable max. 0.75 mm^2 (AWG 18)
Weight	65 g
Module size	12 mm x 109 mm x 70 mm

Output Specifications

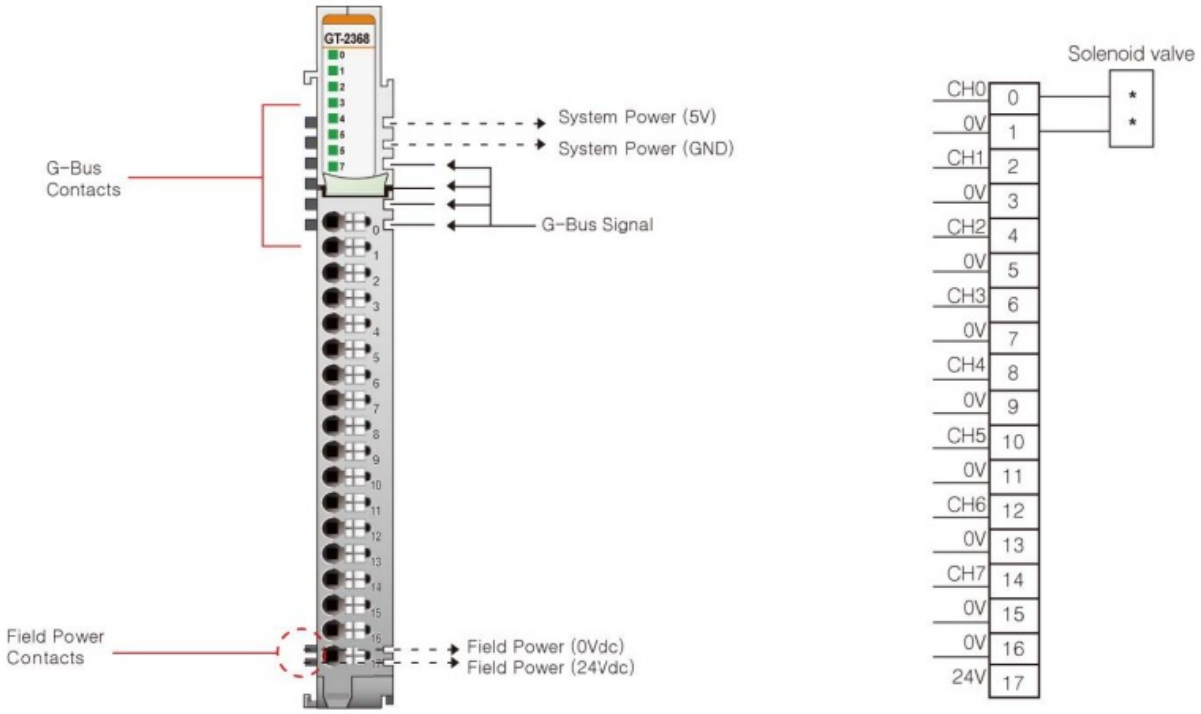
Output per module	8 points source type
Indicators	8 green output status
Output voltage range	24 VDC nominal 15 – 28.8 VDC
On-state voltage drop	0.3 VDC @ 25 ºC 0.5 VDC @ 60 ºC
On-state min. current	Min. 1 mA
Off-state leakage current	Max. 5 uA
Output signal delay	OFF to ON: Max. 0.3 ms ON to OFF: Max. 0.5 ms
Output current rating	Max. 0.5 A per channel / Max. 4 A per unit
Protection	Over current limit: Min. 3.5 A @ 25 ºC per channel Th ermal shutdown: Min 3.0 A @ 25 ºC per channel Short circuit protection
Common type	8 points / 10 COM

Dimensions



Module dimensions (mm)

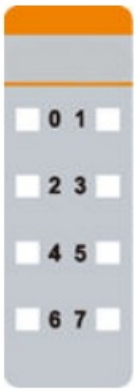
Wiring Diagram



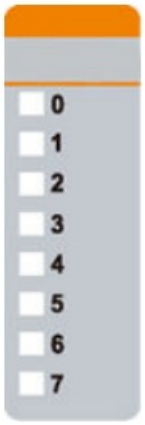
Pin no.	Signal description
0	Output channel 0
1	Common (Field power 0 V)

2	Output channel 1
3	Common (Field power 0 V)
4	Output channel 2
5	Common (Field power 0 V)
6	Output channel 3
7	Common (Field power 0 V)
8	Output channel 4
9	Common (Field power 0 V)
10	Output channel 5
11	Common (Field power 0 V)
12	Output channel 6
13	Common (Field power 0 V)
14	Output channel 7
15	Common (Field power 0 V)
16	Common (Field power 0 V)
17	Common (Field power 24 V)

LED Indicator



- GT-2318, GT-2328, GT-2338, GT-2348, GT-2818, GT-2628



- GT-2358, GT-2368, GT-2378

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

Channel Status

Status	LED	Indicates
Not signal	Off	Normal operation
On signal	Green	Normal operation

Mapping Data into the Image Table

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

Output Module Data

D7	D6	D5	D4	D3	D2	D1	D0

Parameter Data

Valid parameter length: 2 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 value (ch0-ch7) 0: Off, 1: On

Hardware Setup

CAUTION

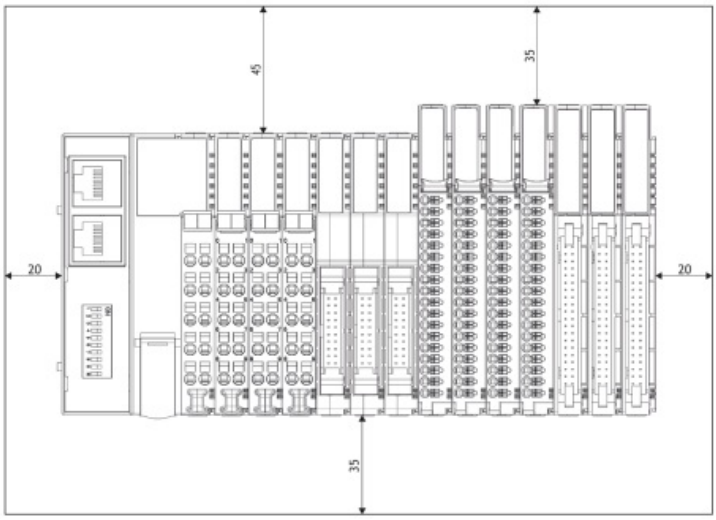
- Always read this chapter before installing the module!
- Hot surface! The surface of the housing can become hot during operation. If the device is used in high ambient temperatures, always let the device cool down before touching it.
- Working on energized devices can damage the equipment! Always turn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

Space Requirements

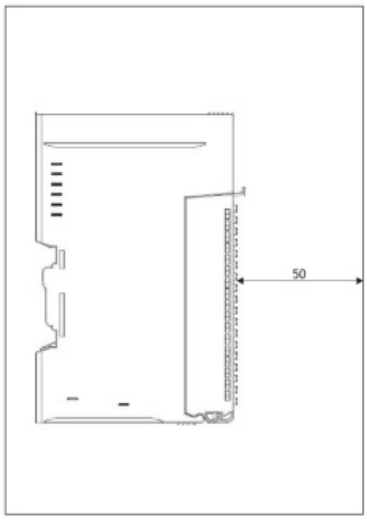
- The following drawings show the space requirements when installing the G-series modules.
- The spacing creates space for ventilation and prevents conducted electromagnetic interference from influencing the operation.
- The installation position is valid vertically and horizontally. The drawings are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

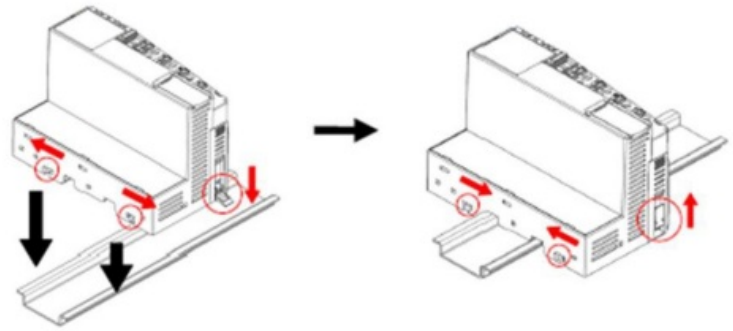
GN-9XXX modules have three locking levers, one at the bottom and two on the side. For mounting instructions, refer to Mount GN-9XXX Module.

Mount to DIN rail

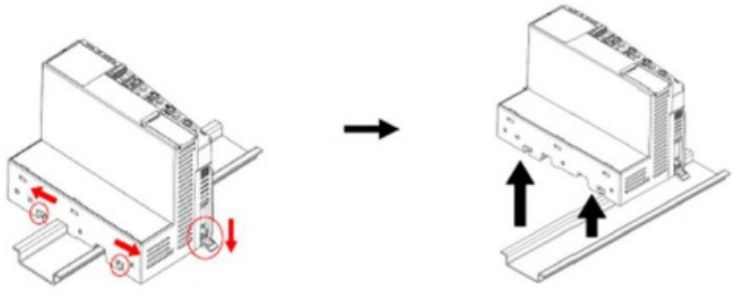
Dismount from DIN rail

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:



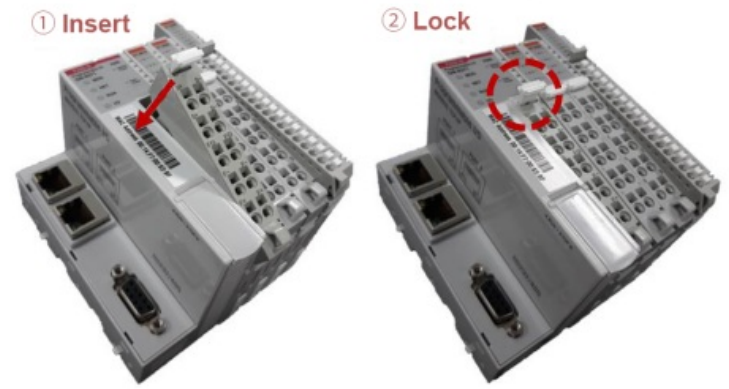
Mount to DIN rail



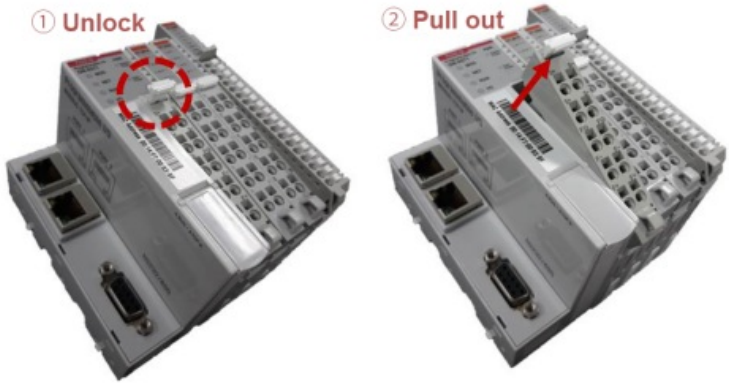
Dismount from DIN rail

Mount Removable Terminal Block

To mount or dismount a removable terminal block (RTB), see the instructions below.



Mount a removable terminal block



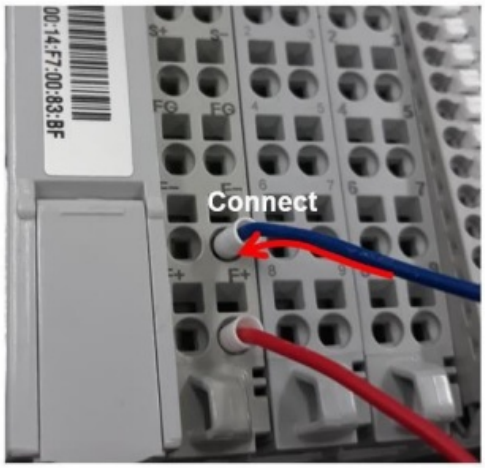
Dismount a removable terminal block

Connect Cables to Removable Terminal Block

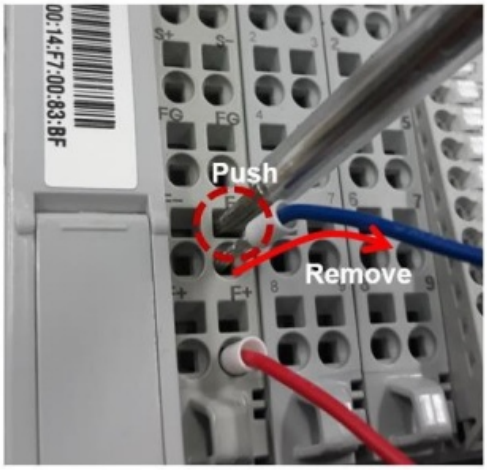
To connect/disconnect cables to/from the removable terminal block (RTB), see the instructions below.

WARNING

Always use the recommended supply voltage and frequency to prevent damage to the equipment and ensure optimal performance.



Connect cable

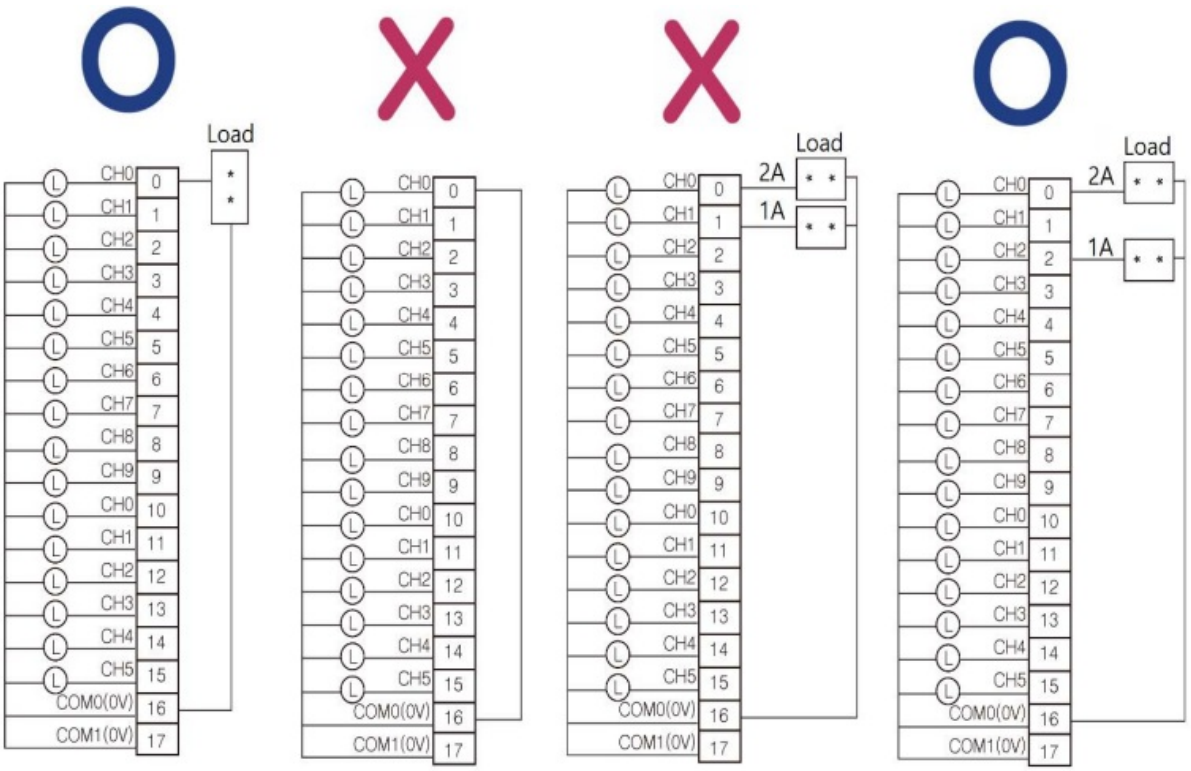


Disconnect cable

Wiring Guide

WARNING

Observe the maximum output current of the I/O module. Parts may be damaged! Do not connect the input and GND pins without any load. Parts may be damaged!If you are using the current above 1A, do not use the next channel.

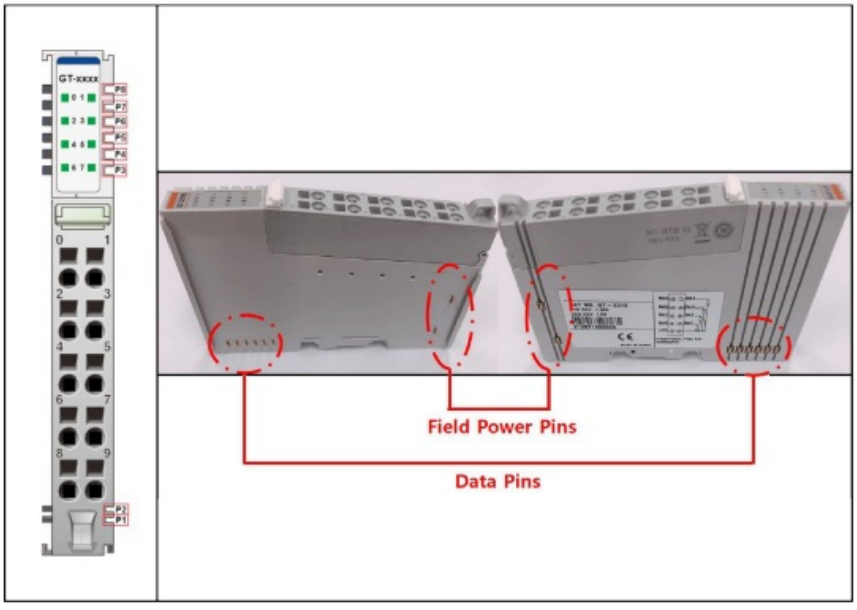


Field Power and Data Pins

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)

installation or use of equipment mentioned in this document. Beijer Electronics AB prohibits all modification, changes, or conversion of the equipment.

CONTACT

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- +46 40 358600

FAQ

- **Q:** What should I do if the output signals are not working?
- **A:** Check the wiring connections, power source, and module setup to ensure everything is correctly configured. If issues persist, contact customer support for further assistance.

Documents / Resources

	Beijer ELECTRONICS GT-2368 Digital Output Module [pdf] User Manual GT-2368, GT-2368 Digital Output Module, Digital Output Module, Output Module, Module

References

- User Manual

Beijer ELECTRONICS

Beijer ELECTRONICS, Digital Output Module, GT-2368, GT-2368 Digital Output Module, Module, Output Module

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