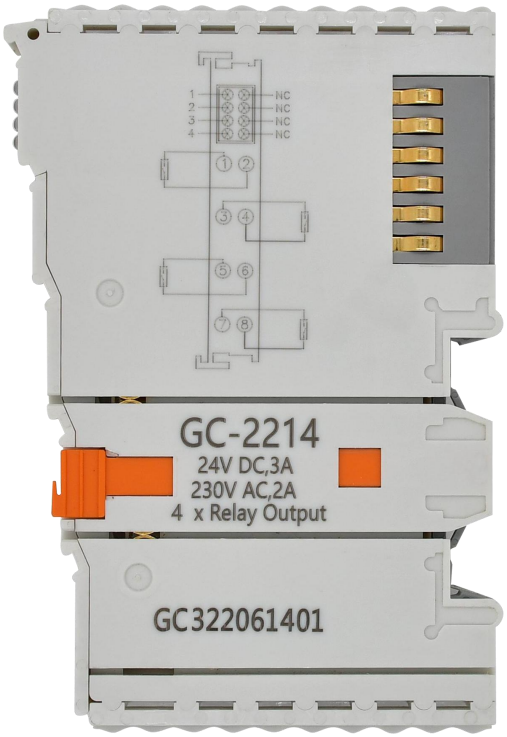
GC-2214

4-channel relay output module

User manual



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1. Introduction

1.1 Overview

The GC-2214 IO module has integrated 4 relay output channels, which can control the switching on and off of the relay according to instructions sent by the GCAN-PLC-400/510/511, GCAN-IO-8000/8100/8200/8300 series controllers.

1.2 Properties at a glance

- 4 relay output channels
- Rated load 1: 2A 230V AC；
- Rated load 2: 3A 24V DC；
- Electrical isolation: 500 V(GC-bus)
- Current consumption:180mA
- No address setting, configuration via bus coupler or controller
- Suitable for all GCAN-PLC-400/510/511 series controller and GCAN-IO-8000 /8100/8200/8300 series IO coupler
- Operating temperature: -40℃～+85℃
- Size: 100mm*69mm*12mm

1.3 Typical application

Output relay signal according to bus coupler or controller

2. Installation and use

This chapter will describe the installation method, wiring method, meaning of the indicator and meaning of the interface of the GC-2214 module.

2.1 Module fixing

The installation method of GC-2214 module as shown in Figure 2.1 and a flat-blade screwdriver is needed for auxiliary installation.

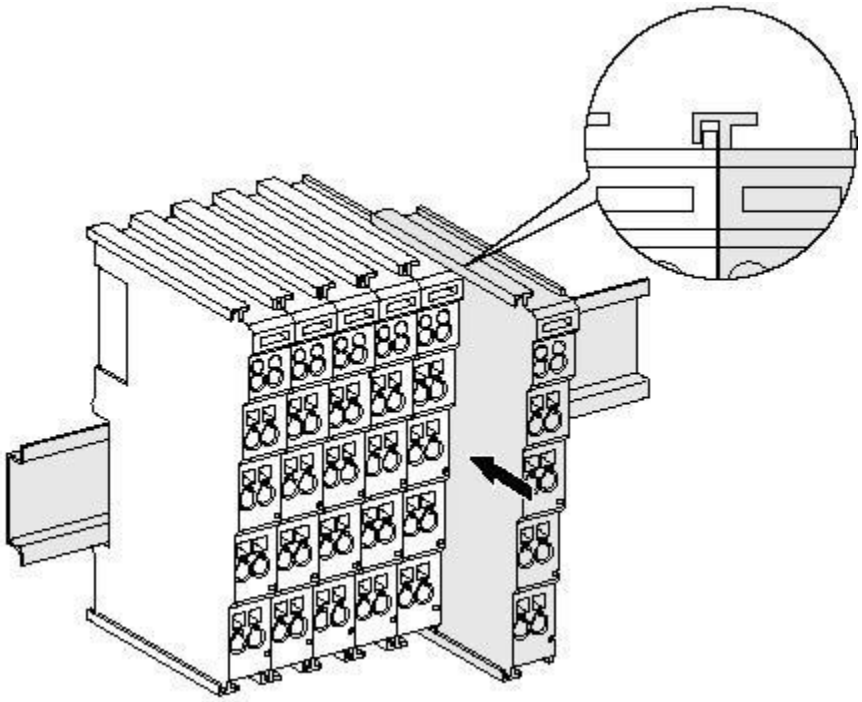

Figure 2.1 Installation of GC-2214 module

First the user need to install the GCAN-PLC on the guide rail and plug the GC-2214 along GCAN-PLC's right side until the lock is stuck. When remove the GC-2214, the user need to release the self-locking mechanism by pulling out the orange label.

Note: The GC-2214 module needs to be used with GCAN-PLC-400/510/511 or GCAN-8000/8100 /8200/8300 series couplers, and can be powered directly through the coupler, so there is no need for a separate additional power supply.

2.2 Wiring method

The power wiring as shown in figure 2.2. First, use a flat-blade screwdriver to insert into the square hole, hold the top edge of the metal sheet in the square hole, and press toward the hole. Then, insert the wire into the hole. After plugging in, pull out the screwdriver and the wire can be firmly locked in the hole.

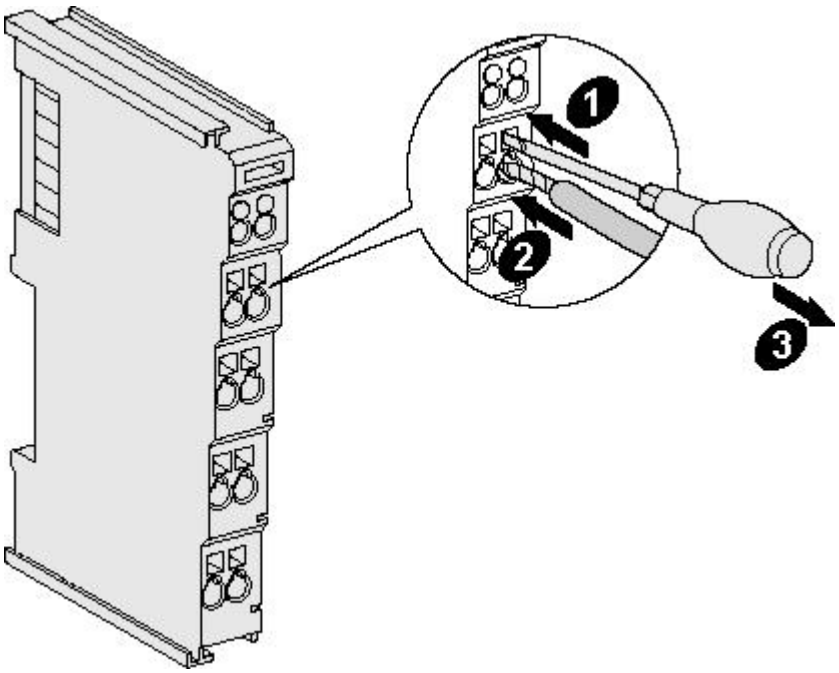

Figure 2.2 Wiring method of GC-2214 module

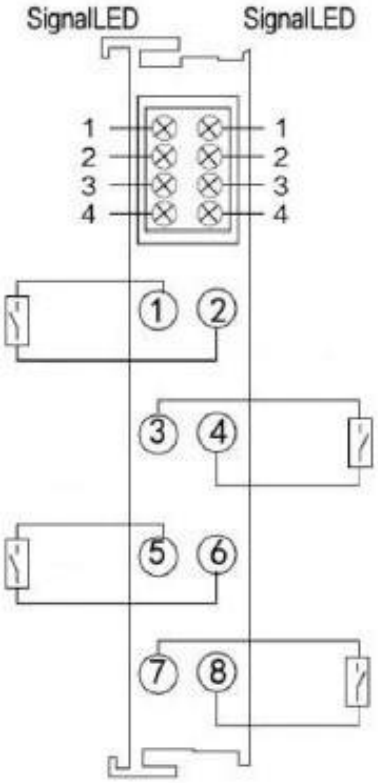

Figure 2.3 GC-2214 module terminal definition

Terminal	No	Definition
Output1	1	Relay output 1
Output2	2	
Output3	3	Relay output 2
Output4	4	
Output5	5	Relay output 3
Output6	6	
Output7	7	Relay output 4
Output8	8	

Table 2.1 GC-2214 module indicator

2.3 System status indicator

The GC-2214 module is equipped with 4 running indicator lights, which are used to indicate the running state of the equipment.The specific indication function of the indicator light is shown in Table 2.2. When the indicator light is on, the status of the GC-2214 module is shown in Table 2.3

Indicator	Color	status
RUN	green	Operation instructions

Table 2.2 Indicators of GC-2214 Module

When the output signal of the GC-2214 module is activated, the running indicator will light up.

Indicator	status	Indicator status
RUN	ON	Output signal activated
	OFF	Output signal not activated

Table 2.3 Indicator status of GC-2214 module

2.4 Combined with GCAN-PLC-400/510/511 series

When used with GCAN-PLC-400/510/511 devices, various GC series IO modules do not need to be configured in a fixed order. The GCAN-PLC-400/510/511 device will assign hardware addresses to the modules according to the user's installation order.

GCAN-PLC-400/510/511 supports programming in five languages. The following is an example of ST language showing how to program GCAN-PLC-400/510/511 to read the state of relay output of GC-2214 module.

In the process of ST programming definition, gc-2214 module needs to define

variable type, output signal position, start character, delimiter and so on.
For example: “DO0 AT%Q0.0:BOOL;”
DO0 is the variable name of the hardware address variable, "0.0" represents the input point position, "0.0" ~ "0.3" respectively define the input points 1-4 in the first GC-2214 module. When the user uses more than one GC-2214 module, the second GC-2214 needs to be defined from "1.0" to "1.3", and so on; "%" (percent sign) is the direct variable start symbol, and ";" (semicolon) is the variable or type separator. Use the symbolic variable DO0 to read the Boolean value from the %Q0.0 address. AT represents the address of the variable access, and the additional attributes of the variable

2.5 Combined with GCAN- 8000series

The state of the digital output is represented by a byte, channel 8 in the high and channel 1 in the low.

For example, if the node number of the gcan-io-8000 module is 1, 4 channels of the first GC-2214 module should be set The output state of channel is logical "1", and the output state of other channels is logical "0", which needs to pass through the master stationGcan-io-8000 sends data, its frame ID is 0x201, the data length (DLC) is 8, The frame data is 0x08, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00. Please note that if only one GC-2214 module is used, only the first byte in the frame data is valid. The following table lists two common DO states and their corresponding state data.

DO status								
channel	8	7	6	5	4	3	2	1
status	0	0	0	0	1	0	0	0
CAN bus data	BYTE1	BYTE2	BYTE3	BYTE4	BYTE5	BYTE6	BYTE7	BYTE8
	0x08	00	00	00	00	00	00	00

DO status								
channel	8	7	6	5	4	3	2	1
status	0	0	0	0	0	0	1	1
CAN bus data	BYTE1	BYTE2	BYTE3	BYTE4	BYTE5	BYTE6	BYTE7	BYTE8
	0x03	00	00	00	00	00	00	00

3. Technical Specifications

Interface characteristics	
Number of outputs	4
Related load 1	2A 230V AC
Related load 2	3A 24V DC
Electrical isolation	500 V (GC-bus/Signal voltage)
Bit width in the process image	Output 1 byte
Installation position	In sequential order
Power supply	Powered by GCAN-PLC, current consumption 180mA
Environmental testing	
Operating temperature	-40℃~+85℃
Permissible relative humidity	95%RH，no condensation
EMC test	EN 55024:2011-09 EN 55022:2011-12
Vibration/shock resistance	EN 60068-2-6/EN 60068-2-27/29
EMC resistance burst/ESD	EN 61000-6-2 /EN 61000-6-4
Protection class	IP 20
Basic information	
Dimensions	100mm *69mm *12mm
Weight	50g

4. Disclaimer

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5. Module selection table

GCAN-PLC-400 series products consist of a programmable main control module, several GC series IO modules and a terminal resistance module.
GC series IO modules currently include five categories: digital input, digital output, analog input, analog output, and communication extension. The specific selection table is shown in Table 5.1.

I/O	Type	Characteristic	Signal	Channel
PLC Control module	GCAN-PLC-400	CPU:168M	-	-
	GCAN-PLC-510	CPU:400M	-	-
	GCAN-PLC-511	CPU:400M (2CAN)	-	-
Digital input	GC-1008	Digital input (PNP)	24V DC	8-channel
	GC-1018	Digital input (NPN)	24V DC	8-channel
	GC-1502	Counter（200kHz max）	-	2-channel
Digital output	GC-2008	Digital output (PNP)	24V DC	8-channel
	GC-2018	Digital output (NPN)	24V DC	8-channel
	GC-2214	relay output	-	4-channel
	GC-2302	PWM （20Hz~200kHz）	-	2-channel
Analog input	GC-3604	Voltage input, 16 bits	-5~+5V	4-channel
	GC-3624	Voltage input, 16 bits	10V~+10V	4-channel
	GC-3644	Current input, 16 bits	0-20mA	4-channel
	GC-3654	Current input, 16 bits	4-20mA	4-channel
	GC-3664	Voltage input, 16 bits	0~+5V	4-channel
	GC-3674	Voltage input, 16 bits	0~+10V	4-channel
	GC-3804	2-wire PT100, 16 bits	Thermal resistance	4-channel
	GC-3822	3-wire PT100, 16 bits	Thermal resistance	2-channel

	GC-3844/3854/3864	K type / S type / T type thermocouple	Thermocouple	4-channel
Analog output	GC-4602	Voltage output, 16 bits	-5V~+5V	2-channel
	GC-4622	Voltage output, 16 bits	-10V~+10V	2-channel
	GC-4642	Current output, 16 bits	0-20mA	2-channel
	GC-4652	Current output, 16 bits	4-20mA	2-channel
	GC-4662	Voltage output, 16 bits	0~5V	2-channel
	GC-4672	Voltage output, 16 bits	0~10V	2-channel
	GC-4674	Voltage output, 12 bits	0~10V	4-channel
Special module	GC-6101	RS232/RS485 extension	-	-
	GC-6201	GPRS extension	-	-
	GC-6221	4G extension	-	-
	GC-6501	WiFi extension	-	-

Table 5.1 Selection table

Sales and service

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