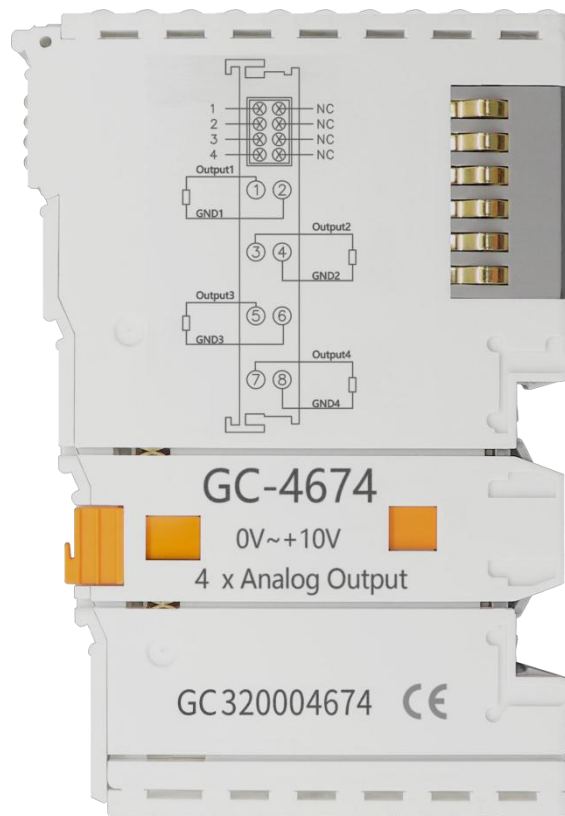


# GC-4674

4-channel analog output module (0V~+10V)

User manual



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# 1. Function introduction

## 1.1 Function overview

GC-4674 (4-channel analog output module, 0V~+10V) can be used to output signals in the range of 0V~+10V. This terminal module can provide electrical isolation signals with a resolution of 12 bits for the processing layer. The GC-4674 module has 2 two-wire output terminals, which are especially suitable for installation in a control cabinet to save space. The GC-4674 module has a common ground potential terminal, and the power contacts are connected together. The reference ground of the output terminal is the 0V power contact.

## 1.2 Performance characteristics

- The number of output points is 4;
- The signal voltage is 0V~+10V;
- Power supply via GC-bus;
- The measurement error is less than  $\pm 0.1\%$  (full scale);
- The measurement resolution is 12 bits;
- The conversion time is about 4ms;
- The electrical isolation is 1500 Vrms (GC-bus/signal voltage);
- GC-bus current consumption is 150mA;
- The bit width output in the process image is 4x 2 bytes;
- Configuration without address settings, through the bus coupler or controller configuration;
- Applicable to all GCAN-PLC-400 series and GCAN-8000 series bus terminal modules;
- Working temperature range:  $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$ ;
- Size: length 100mm \* width 69mm \* height 12mm.

## 1.3 Typical application

- The standard analog signal can be output according to the instruction;
- It can be used to adjust the opening of valves, gates and other control equipment;
- Connect to the bus coupler or controller to realize the transmission of analog signals.

# 2. Equipment installation and use

This chapter will explain in detail the installation method, wiring method, meaning of the indicator light and the meaning of the interface of the GC-4674 module.

## 2.1 Module fixing

The installation method of GC-4674 module is shown in Figure 2.1. You need to use a flat-blade screwdriver to assist in installation.

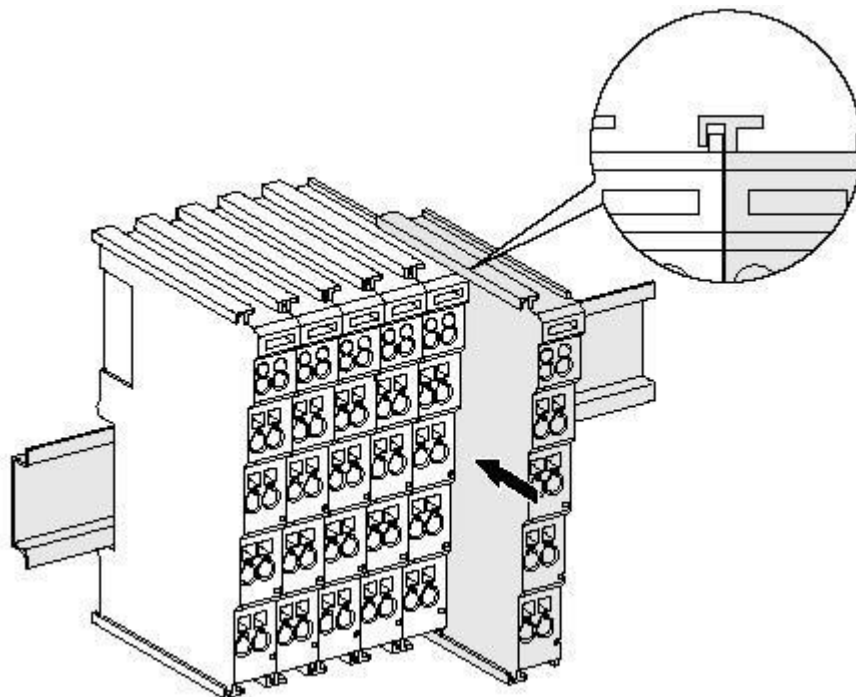


Figure 2.1 GC-4674 module installation

First, you need to install the fieldbus coupler on the rail, and then attach the GC-4674 module to the right side of the fieldbus coupler or other modules to add this component. Please insert the GC-4674 module inward along the slot as shown in Figure 2.1 until the lock catches.

The GC-4674 module is powered by GC-bus, no additional power supply is required. You only need to connect the power supply to the bus coupler and connect the GC-4674 to the module composed of the bus coupler to realize the power supply of the GC-4674.

## 2.2 Wiring method

As shown in Figure 2.2, first insert a flat-blade screwdriver into the square hole and hold the screw in the square hole. Then insert the cable into the circular hole. After plugging it in, pull out the screwdriver and the cable can be firmly locked in the circular hole.

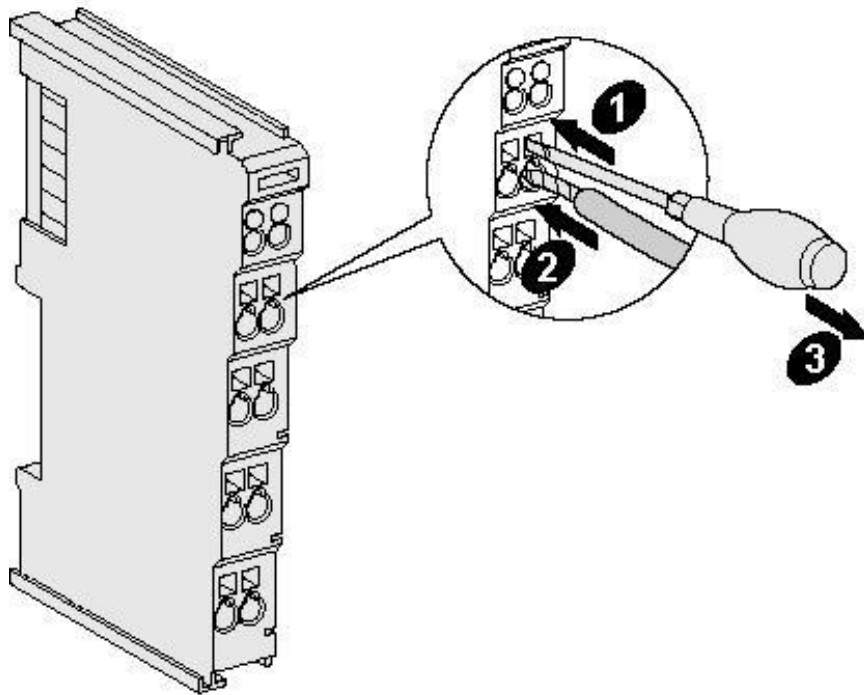


Figure 2.2 GC-4674 module installation

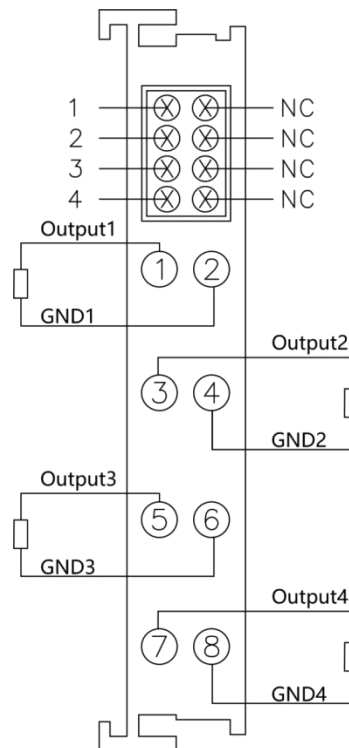


Figure 2.3 GC-4674 module wiring terminal block

The wiring terminal block of GC-4674 module is shown in Figure 2.3. GC-4674 contains 2 groups of output points, and can connect to 2 groups of analog signals at most. The serial numbers corresponding to each terminal and their meanings are shown in Table 2.1.

Terminal	Serial number	Meaning
Output1	1	The first group of voltage signal is positive
GND1	2	Group 1 voltage signal negative
Output2	3	Group 2 voltage signal positive
GND2	4	Group 2 voltage signal negative
Output3	5	Group 3 voltage signal positive
GND3	6	Group 3 voltage signal negative
Output4	7	Group 4 voltage signal positive
GND4	8	Group 4 voltage signal negative

Table 2.1 Indicators of GC-4674 module

## 2.3 System status indicator

The GC-4674 module has 2 running indicators to indicate the running status of the device. The specific indication function of the indicator light is shown in Table 2.2. When the indicator is on, the status of the GC-4674 module is shown in Table 2.3.

Indicator light	Colour	Indicating status
RUN	Green	Operation instructions

Table 2.2 Indicators of GC-4674 module

When the output signal of the GC-4674 module is activated, the running indicator will light up.

Indicator light	Colour	Indicating status
RUN	Always bright	Output signal activated
	not bright	The output signal is not activated

Table 2.3 Indicator status of GC-4674 module

## 2.4 Use in combination with PLC400/510 series

GCAN-PLC-400/510 supports programming in five languages. The following uses ST language as an example to introduce how to use GCAN-PLC-400 to program and write the status of the analog output of the GC-4674 module.

When GC-4674 module performs ST programming definition, it is necessary to define the variable type, output signal position, start character, separator, etc. For example: "AO AT%Q0.0:INT;", where "0.0" represents the start address of the first channel, each channel occupies 2 bytes, 0V~+10V corresponds to 0~4095, so the second channel's starting address is Q2.0. When the user uses more than one GC-4674 module, the second GC-4674 needs to be defined from "Q8.0", because each 4674 has 4 channels; "%" (percent sign) is the direct variable start symbol; ":" (semicolon) is a variable or type separator. Use the symbol variable AO to write the signed integer from the %Q0.0 address. AT stands for the address of variable access and the

additional attributes of the variable

(Note: Input only affects input, output only affects output, and output and input do not affect each other. That is, if there is and only an input module in front of the output module, then no matter how many input modules there are in front, the address of the first output module is still Q0 .0.)

## **2.5 Combination with GCAN-IO-8000 series equipment**

The status of the analog output is represented by two bytes. For example: GCAN-IO-8000 module node number is 1, if you want the input state of channel 1 of the first GC-4674 module to be +5V, and the input state of other channels are all 0V, you need to set the GCAN-IO-8000 module Write CAN data frame ID is 0x201, data length (DLC) is 8, frame data is 0xFF, 0x07, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00 data.

### 3. Technical specifications

<b>Interface characteristics</b>	
Output points	4
Signal voltage	0V~+10V
power supply	Power supply via GC-bus
Resolution	12 bits
Conversion time	~4 ms
Measurement error	<±0.1% (full scale)
ESD rating	7 kV
Electrical isolation	1500 Vrms
GC-bus current consumption	150mA
Bit width in the process image configuration	Output: 2 x 2 bytes No address setting, configuration via bus coupler or controller
Pluggable wiring	Applicable to all GCAN-PLC-400 series, GCAN-8000 series
<b>Environmental test</b>	
Operating temperature	-40°C~+85°C
Working humidity	95%RH, no condensation
EMC test	EN 55024:2011-09
Vibration/shock resistance	EN 55022:2011-12
Anti-electromagnetic interference/anti-electricity	EN 60068-2-6/EN 60068-2-27/29
Magnetic radiation performance	EN 61000-6-2 /EN 61000-6-4
<b>Basic Information</b>	
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-2204	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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