

# GC-1016

16-channel digital input module

User manual



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# 1. Introduction

## 1.1 Overview

The GC-1016 module has integrated 16 digital input channels, which acquires digital signals in real-time and transmits them to the GCAN-PLC-400/510/511 or GCAN-IO- 8000/8100/8200/8300 coupler. This module can be used with any other GC Series IO module to capture and process digital data in industrial automation or distributed control systems.

## 1.2 Properties at a glance

- 16 input channels
- Nominal voltage: 24V DC(±20%)
- Signal voltage "1":11~30V
- Signal voltage "0":-3~+5V
- Maximum input current:3mA
- Electrical isolation: 500 V(GC-bus)
- Current consumption:100mA
- The bit width input in the process image is 2byte
- No address setting, configuration via bus coupler or controller
- Operating temperature: -40°C ~+85°C
- Size: 100mm\*69mm\*12mm

## 1.3 Typical application

- Distributed acquisition system collects digital quantity
- Industrial field acquisition switch quantity

## 2. Installation

This chapter will describe the installation method, wiring method, meaning of the indicator and meaning of the interface of the GC-1016 module.

### 2.1 Module fixing

The installation method of GC-1016 module as shown in Figure 2.1 and a flat-blade screwdriver is needed for auxiliary installation.

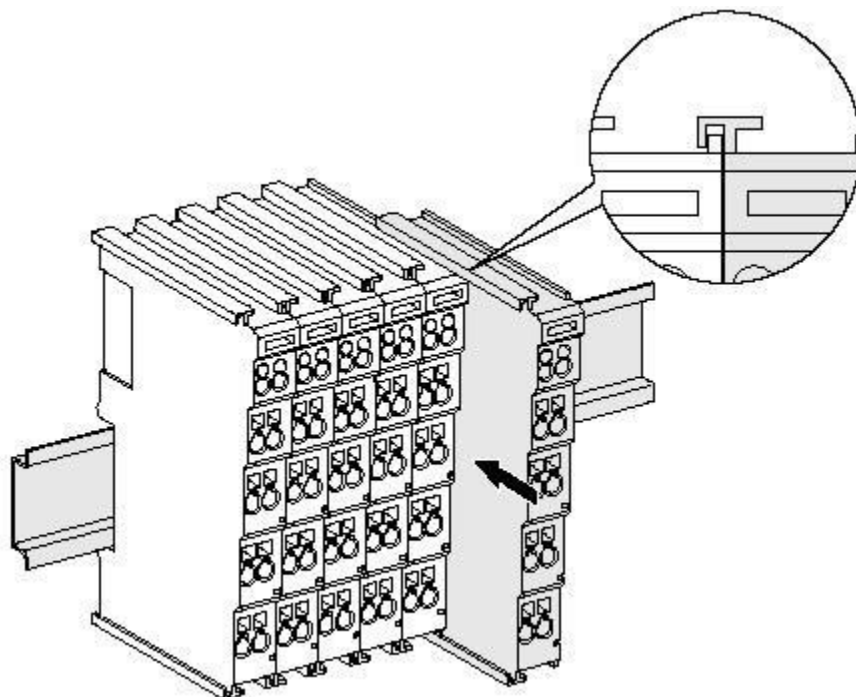


Figure 2.1 Installation of GC-1016 module

First you need to install the fieldbus coupler on the rail, then attach the GC-1016 module to the right side of the fieldbus coupler or other modules to join the assembly. Please insert the GC-1016 module inwards along the slot as shown in Figure 2.1, until the latch locks and makes a "click".

The GC-1016 module needs to be used with GCAN-PLC-400/510/511 or GCAN-IO-8000/8100/8200/8300 series couplers, and can be directly powered by the couplers, so there is no need for additional power supply separately.

### 2.2 Wiring method

For a cable using a flat-blade terminal connector, align the terminal connector with the round hole of the corresponding channel and insert it; when removing the wire, use a flat-head screwdriver, insert it into the corresponding square hole of the channel to be removed, and press down firmly (or Slight prying), at this time the clips in the corresponding round holes will loosen, and the cables can be pulled out easily

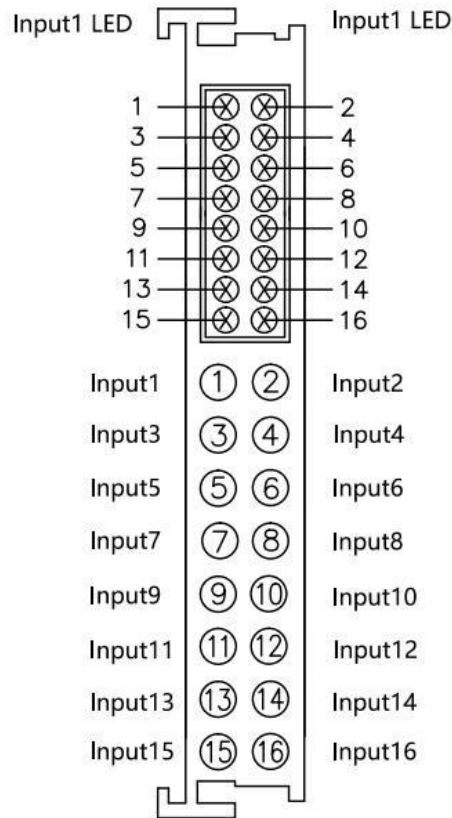


Figure 2.2 GC-1016 module wiring terminal block

The wiring terminal block of GC-1016 module is shown in Figure 2.2. GC-1016 can access up to 16 digital input signals. The definition of each terminal is shown in Table 2.1.

Terminal	Meaning
Input1	digital input1
Input2	digital input2
Input3	digital input3
Input4	digital input4
Input5	digital input5
Input6	digital input6
Input7	digital input7
Input8	digital input8
Input9	digital input9
Input10	digital input10
Input11	digital input11
Input12	digital input12
Input13	digital input13
Input14	digital input14
Input15	digital input15
Input16	digital input16

Table 2.1 GC-1016 module terminal definition

When using, please connect the digital input signal to the terminal of GC-1016, and connect the reference ground to the IO of GCAN-PLC-400/510/511 or GCAN-IO-8000/8100/8200/8300 series coupler The power supply is negative (corresponding to pins 5 and 6).

## 2.3 System status indicator

Indicators	Definition
1	Digital input 1 is valid.
2	Digital input 2 is valid.
3	Digital input 3 is valid.
4	Digital input 4 is valid.
5	Digital input 5 is valid.
6	Digital input 6 is valid.
7	Digital input 7 is valid.
8	Digital input 8 is valid.
9	Digital input 9 is valid.
10	Digital input 10 is valid.
11	Digital input 11 is valid.
12	Digital input 12 is valid.
13	Digital input 13 is valid.
14	Digital input 14 is valid.
15	Digital input 15 is valid.
16	Digital input 16 is valid.

Table 2.2 Definition of GC-1016 module indicator lights

The GC-1016 module does not have an error indicator light, please judge Status of the GC-1016 module through the "IO RUN" and "IO ERR" indicators of the GCAN-PLC-400/510/511 or GCAN-IO-8000/8100/8200/8300 series couplers . If the "IO ERR" indicator of GCAN-PLC-400/510/511 or GCAN-IO-8000/8100/8200/8300 series couplers is on, it means that the IO module is not working properly, please check the installation of the module first







### 3. Technical Specifications

<b>Interface characteristics</b>	
Number of inputs	16
Signal voltage "1"	11~30V
Signal voltage "0"	-3~+5V
Input current (Max.)	3mA
Electrical isolation	500 V (GC-bus/ Signal voltage)
Bit width in the process image	Input 2 byte
Installation position	Automatic configuration in sequence
Power supply	Powered by GCAN-PLC, current consumption 100mA
<b>Environmental testing</b>	
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
<b>Basic information</b>	
Dimensions	100mm *69mm *12mm
Weight	50g

## 4. Disclaimer

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## 5. Module selection table

GSCAN-PLC 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 below

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	-	-

## Sales and service



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