

# GC 064

## Digital Input / Output

- 6 digital inputs at 230vac / 24vac
- 4 control relays (c/o) rated 230Vac 5 A
- 1 communications link  
(2-wire RS485 Modbus RTU)
- DIN rail mounting
- Fixed screw clamp terminals
- 24Vdc/ac operation
- SET lamp and button for Modbus Address

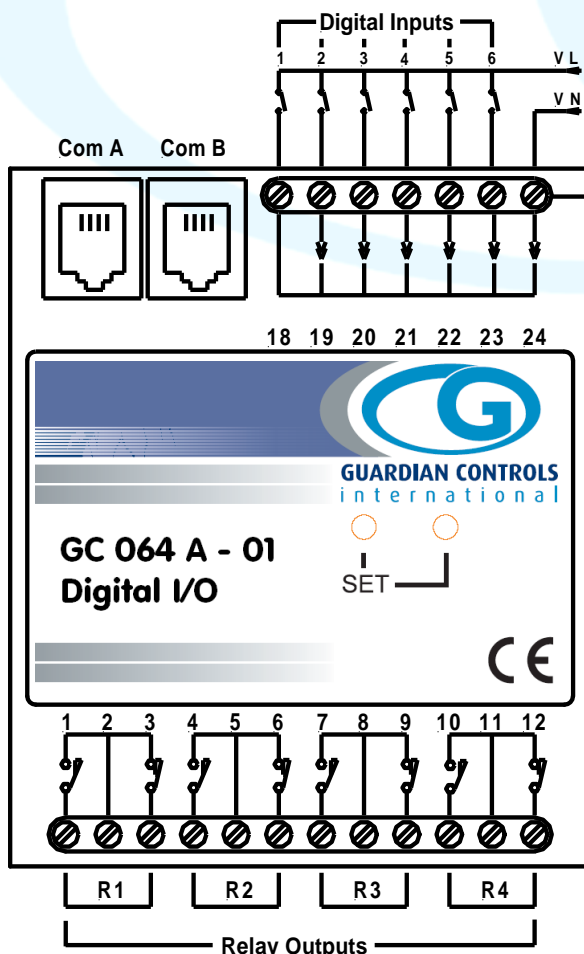


Provides six isolated 24/230 Vac digital inputs and four changeover relays for plant control. It may be used as a local Input/output extension to a plant or compressor controller or remotely as a mains input trip monitor or controller for a SCADA system.

The unit communicates using a single 2-wire RS485 link with MODBUS RTU protocol.

Two 4-way sockets are provided to facilitate simple IN and OUT plug lead interconnection between units for power distribution and RS485 communication connections.

The SET button and lamp on the front panel are used to configure the Modbus address.



SPECIFICATION		GC-064
Power		24Vdc/ac
Operation		0 to 50 °C
Dimensions	Height	85mm
	Length	70 mm
	Depth	55 mm
Mounting		DIN rail
Connectors	digital I/O	5.08mm
	Power and RS485	Fixed Screw clamp terminals 2 x 4-way sockets
Approvals		CE

### GC064 Plant Input Output view

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# MODBUS Specification

Two independant comms links "Com A" "Com B" each able to send / receive all measured values, digital states, parameters and overrides.

Each Channel provides two wire half-duplex communications using MODBUS RTU protocol, at 4800,9600,19200 38400 baud, 8 data bits with odd, even or no parity.

## INPUT REGISTERS FUNCTION CODE 04.

REGISTER ADDRESS	DESCRIPTION	RANGE
(Decimal)	Unit	
001	INPUT STATES	Input signals
002	RELAY STATES	Relay states

Format Type	Description	Open State	Closed State
Relay states	Bit 0: R1	0	1
	Bit 1:R2	0	1
	Bit 2:R3	0	1
	Bit 3:R4	0	1

Format Type	Description	Open State	Closed State
Input signals	Bit 0: Input 1	0	1
	Bit 1: Input 2	0	1
	Bit 2: Input 3	0	1
	Bit 3: Input 4	0	1
	Bit 4: Input 5	0	1
	Bit 5: Input 6	0	1

## Read/Write Contoller Settings

Modbus Addressed parameters are read using function code 03, Read Holding registers, and are written to by using function code 16, Pre-set Multiple registers.

## READ HOLDING REGISTERS FUNCTION CODE 03.

## PRESET MULTIPLE REGISTERS FUNCTION CODE 16.

Modbus Addresses	System Settings			Default	Min.	Max.
65518	Controller type	readonly				
65534	Software version	readonly				
65501 to 65508	Serial number					
64998	Baud rate 2400,4800,9600,19200			19200	2400	19200
64999	Parity none, odd, even.			none	none	even

Modbus Addresses	Unit Settings			Default	Min.	Max.
P1 1	Area No.			99	1	99
P2 2	Panel No.			99	1	99
P3 3	DIO64 Unit No.			8	1	8
P4 4	Modbus Slave Address			255	01	246

## Modbus Addressing for GC-064

For correct operation, gc-064 units need to be setup with a Modbus Address ( normally 1 to 3)

This is done using the SET pushbutton and LED on the GC-064 front panel .

### Address Check Procedure

For each unit power off, depress the SET pushbutton with a pencil or ballpoint pen and power on with the button still pressed.

The LED lights.

Release the pushbutton. The LED goes out , waits and then flashes the current address eg 3 pulses for Modbus address 3, waits again and then goes steady.

### Address Change Procedure

For each unit power off, depress the SET pushbutton with a pencil or ballpoint pen and power on.

The LED lights.

Release the pushbutton. The LED goes out , waits and then flashes the current address eg 3 pulses for Modbus address 3, waits again. Before the lamp comes on steady again, quickly depress the pushbutton the number of times for the new address e.g. press once for address 1. The Led lamp then waits, flashes the new address, waits and then goes steady. The new address selection can be checked as above.