



# GSA-CC1/MCC1

## SIGNAL MODULES



Application Notes  
Available

P/N: See Chart

### Standard Features

- **Single input (riser) select**  
Use for connecting supervised 24 VDC Audible/Visible signal circuits to their power inputs.
- **Plug-in (UIO) or standard 2-gang mount**  
UIO versions allow quick installation where multiple modules are required. The 2-gang mount version is ideal for remote locations that require a single module.
- **Automatic device mapping**  
Signature modules transmit information to the loop controller regarding their circuit locations with respect to other Signature devices on the wire loop.
- **Electronic addressing**  
Programmable addresses are downloaded from the loop controller, a PC, or the SIGA-PRO Signature Program/Service Tool; there are no switches or dials to set.
- **Intelligent device with microprocessor**  
All decisions are made at the module to allow lower communication speed with substantially improved control panel response time and less sensitivity to line noise and loop wiring properties; twisted or shielded wire is not required.
- **Ground fault detection by address**  
Detects ground faults right down to the device level.

### Overview

GSA-CC1/MCC1 Single Input Signal Modules are part of the Signature Series system. They are intelligent analog addressable devices used for connecting, upon command from the loop controller, supervised Class B signal circuits to their respective power inputs. The power inputs may be polarized 24 VDC to operate audible and visible signal appliances.

The actual operation of the GSA-CC1/MCC1 is determined by the “personality code” selected by the installer. It is downloaded to the module from the Signature loop controller during system configuration.

**The GSA-CC1** mounts to standard North American two-gang electrical boxes, making them ideal for locations where only one module is required. Separate I/O and data loop connections are made to each module.

**The GSA-MCC1** is a part of the UIO family of plug-in Signature Series modules. It functions identically to the GSA-CC1, but take advantage of the modular flexibility and easy installation that characterize all UIO modules. Two- and six-module UIO motherboards are available. These can accommodate individual risers for each on-board module, or risers that are shared by any combination of its UIO modules. All wiring connections are made to terminal blocks on the motherboard. UIO assemblies may be mounted in Janus Fire Systems<sup>®</sup> enclosures.



## Signature Series Overview

The Signature Series intelligent analog-addressable system from Janus Fire Systems is an entire family of multi-sensor detectors and mounting bases, multiple-function input and output modules, network and non-network control panels, and user-friendly maintenance and service tools. Analog information from equipment connected to Signature devices is gathered and converted into digital signals. An onboard microprocessor in each Signature device measures and analyzes the signal and decides whether or not to input an alarm. The microprocessor in each Signature device provides four additional benefits – Self-diagnostics and History Log, Automatic Device Mapping, Stand-alone Operation and Fast, Stable Communication.

**Self-diagnostics and History Log** – Each Signature Series device constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in its non-volatile memory. This information is accessible for review any time at the control panel, PC, or using the SIGA-PRO Signature Program/Service Tool. The information stored in device memory includes:

- Device serial number, address, and type
- Time and date of last alarm ( V 2 only.)
- Most recent trouble code logged by the detector — 32 possible trouble codes may be used to diagnose faults.

**Automatic Device Mapping** – The Signature Data Controller (SDC) learns where each device's serial number address is installed relative to other devices on the circuit. The SDC keeps a map of all Signature Series devices connected to it. The Signature Series Data Entry Program also uses the mapping feature. With interactive menus and graphic support, the wired circuits between each device can be examined. Layout or "as-built" drawing information showing branch wiring (T-taps), device types and their address are stored on disk for printing hard copy. This takes the mystery out of the installation. The preparation of as-built drawings is fast and efficient.

Device mapping allows the Signature Data Controller to discover:

- Unexpected additional device addresses
- Missing device addresses
- Changes to the wiring in the circuit.

Most Signature modules use a personality code selected by the installer to determine their actual function. Personality codes are downloaded from the SDC during system configuration and are indicated during device mapping.

## Application

The operation of the GSA-CC1/MCC1 is determined by its sub-type code or "Personality Code". The code is selected by the installer depending upon the desired application and is downloaded from the loop controller.

**Personality Code 5: SIGNAL POWER (SINGLE RISER).** Configures the module for use as a Class B Audible/Visible Signal power (24 VDC polarized). The output circuit is monitored for open or shorted wiring. If a short exists, the control panel inhibits the activation of the audible/visible signal circuit to prevent connection to the power circuit.

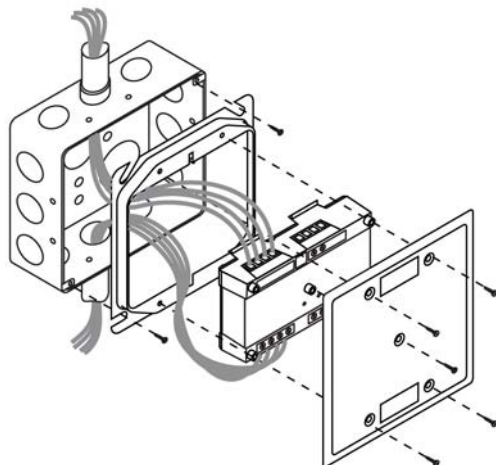
## Compatibility

The Signature Series modules are compatible only with Signature Loop Controllers.

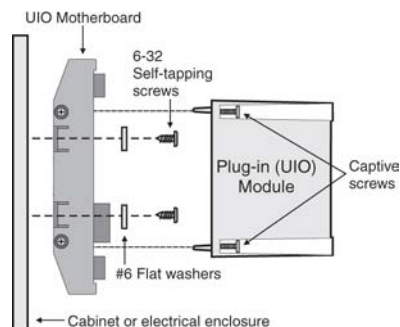


## Installation

**GSA-CC1:** mounts to North American 2-1/2 inch (64 mm) deep two-gang boxes and 1-1/2 inch (38 mm) deep 4-inch square boxes with two-gang covers and GSA-MP mounting plates (see DS1041). The terminals are suited for #12 to #18 AWG (2.5 mm<sup>2</sup> to 0.75 mm<sup>2</sup>) wire size.



**GSA-MCC1:** mounts the UIO motherboard inside a suitable Janus Fire Systems<sup>®</sup> enclosure with screws and washers provided. Plug the GSA-MCC1 into any available position on the motherboard and secure the module to the motherboard with the captive screws. Wiring connections are made to the terminals on the motherboard (see wiring diagram). UIO motherboard terminals are suited for #12 to #18 AWG (2.5 mm<sup>2</sup> to 0.75 mm<sup>2</sup>) wire size.



**Electronic Addressing** - The loop controller electronically addresses each module saving valuable time during system commissioning. Setting complicated switches or dials is not required. Each module has its own unique serial number stored in its on-board memory. The loop controller identifies each device on the loop and assigns a “soft” address to each serial number.

Janus Fire Systems recommends that this module be installed according to latest recognized edition of national and local fire alarm codes.

## Warnings & Cautions

This module will not operate without electrical power. As fires frequently cause power interruption, we suggest you discuss further safeguards with your local fire protection specialist.

## Testing & Maintenance

The module’s automatic self-diagnosis identifies when it is defective and causes a trouble message. The user-friendly maintenance program shows the current state of each module and other pertinent messages. Single modules may be turned off (de-activated) temporarily, from the control panel.

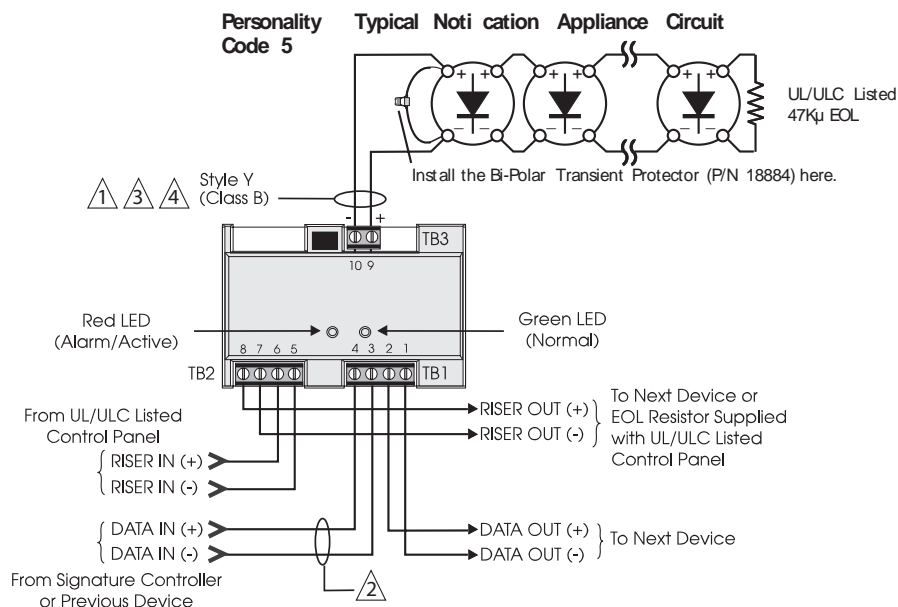
Scheduled maintenance (Regular or Selected) for proper system operation should be planned to meet the requirements of the Authority Having Jurisdiction (AHJ). Refer to current NFPA 72 and ULC CAN/ULC 536 standards.



## Typical Wiring (GSA-CC1/MCC1)

Modules will accept #18 AWG (0.75 mm<sup>2</sup>), #16 (1.0 mm<sup>2</sup>), #14AWG (1.50 mm<sup>2</sup>), and #12 AWG (2.50 mm<sup>2</sup>) wire sizes.

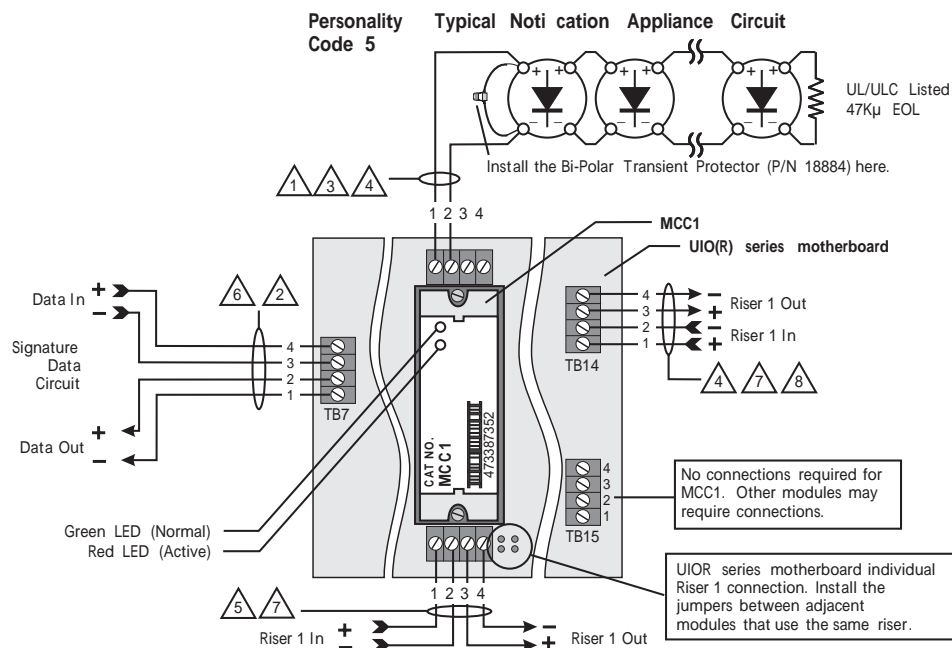
Note: Sizes #16 AWG (1.0 mm<sup>2</sup>) and #18 AWG (0.75 mm<sup>2</sup>) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.



## GSA-CC1

### Notes

- ① Maximum #12 AWG (2.5mm<sup>2</sup>) wire. Min. #18 (0.75mm<sup>2</sup>).
- ② Refer to Signature Loop Controller Installation Sheet for wiring specifications.
- ③ These modules will NOT support two-wire smoke detectors.
- ④ All wiring power limited and supervised. If the input source is non-power limited, then maintain spacing of 1/4 inch or use FPL, FPLP, FPLR or equivalent in accordance with NEC.
- ⑤ The GSA-UIC6 does not come with TB8 through TB13.
- ⑥ Supervised and power-limited.
- ⑦ If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring or use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electrical Code.
- ⑧ The input for this riser is common to all modules.



## GSA-MCC1

<b>Maximum Output Load</b>
<b>24 VDC</b>
Signals
<b>2 A</b>

## Specifications

Catalog Number	GSA-CC1	GSA-MCC1
Description	Single Input (Riser) Signal Module	
Type Code	50 (factory set)	
Address Requirements	Uses one module address	
Wiring Terminations	Suitable for #12 to #18 AWG (2.5 mm <sup>2</sup> to 0.75 mm <sup>2</sup> )	
Mounting	North American 2½ inch (64 mm) deep two-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 2-gang covers and GSA-MP mounting plates	Plugs into UIO2R, UIO6R or UIO6 Motherboards
Operating Current	Standby = 223 µA Activated = 100 µA	
Operating Voltage	15.2 to 19.95 VDC (19 VDC nominal)	
Output Rating	24 VDC = 2 amps	
Construction	High Impact Engineering Polymer	
Storage & Operating Environment	Operating Temperature: 32°F to 120°F (0°C to 49°C) Storage Temperature: -4°F to 140°F (-20°C to 60°C) Humidity: 0 to 93% RH	
LED Operation	On-board Green LED - Flashes when polled On-board Red LED - Flashes when in alarm/active	
Compatibility	Use with: Signature Loop Controller	



## Ordering Information

Model	P/N	Description	Ship Wt. lb (kg)
GSA-CC1	18672	Single Input Signal Module (Standard Mount)	0.5 (0.2)
GSA-MCC1	18678	Single Input Signal Module (UIO Mount)	0.2 (0.1)

Related Equipment			
N/A	18881	Surface Mount Box - Red, 2-gang	2.0 (0.9)
N/A	18882	Surface Mount Box - White, 2-gang	2.0 (0.9)
GSA-UIO2R	18687	Universal Input-Output Module Board w/Riser Inputs — Two Module Positions	0.3 (0.1)
GSA-UIO6R	18689	Universal Input-Output Module Board w/Riser Inputs — Six Module Positions	0.6 (0.3)
GSA-UIO6	18688	Universal Input-Output Module Board — Six Module Positions	0.6 (0.3)
N/A	18884	Bi-polar Transient Protector	0.1 (0.05)

Accessories			
MFC-A	18690	Multifunction Fire Cabinet — Red, supports Signature Module Mounting Plates	7.0 (3.2)
GSA-MP1	18684	Signature Module Mounting Plate, 1 footprint	1.5 (0.7)
GSA-MP2	18685	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.2)
GSA-MP2L	18686	Signature Module Mounting Plate, 1/2 extended footprint	1.0 (0.5)

*Note: Approvals/Listings maintained by and manufactured by General Electric Company.*

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