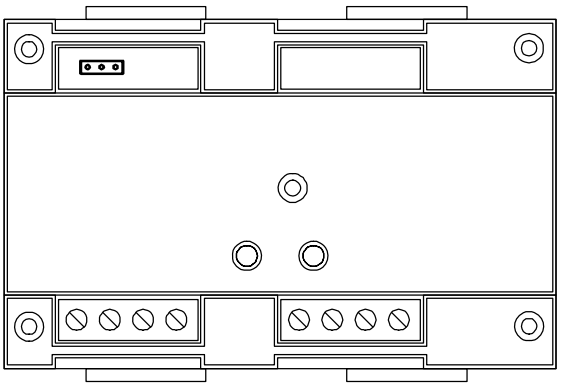
GSA-RM1
Riser Monitor Module

Product description



The Signature Series Riser Monitor Module (model GSA-RM1) is an intelligent analog-addressable device that monitors the integrity of:

- 12 and 24 Vdc circuits
- 25 Vac circuits
- 70 Vac circuits
- Telephone riser signals

Once device address is required. Upon the loss of a signal, the fire alarm control panel indicates an alert status.

The loop controller assigns an address to the GSA-RM1 automatically. A custom address can also be assigned to the module via laptop computer. No addressing switches are used.

Mounting

The GSA-RM1 can be mounted in a North American 2-1/2 in (64 mm) deep 2-gang box or a standard 4 in square box 1-1/2 in (38 mm) deep with 2-gang cover. The terminal blocks accept 12, 14, 16, or 18 AWG wire (2.5, 1.5, 1.0, or 0.75 sq mm). Sizes 16 and 18 are preferred.

System controller compatibility

The GSA-RM1 requires the Signature loop controller. The loop controller downloads the personality code which determines how the module operates. The following personality codes can be downloaded to the GSA-RM1.

Personality code 23: Riser monitor (factory default): Personality code 23 configures the GSA-RM1 to monitor 70 Vac audio, 25 Vac audio, or 12 Vdc and 24 Vdc risers. A trouble condition is reported back to the panel wherever the voltage on the riser drops below the trouble threshold.

Note: The hardware jumper on the GSA-RM1 must be configured for either 70 Vac or 25 Vac / 24 Vdc / 12 Vdc.

Personality code 24: Telephone riser monitor: Personality code 24 configures the GSA-RM1 to monitor telephone risers. A trouble condition is reported back to the panel whenever voltage on the riser drops below the trouble threshold.

The delay time from when the device falls below the trouble threshold to when it sends a trouble signal to the panel is user definable in the appropriate data entry program. A delay of 5 to 75 seconds can be assigned to the device; the default delay period is 15 seconds.

Warnings

1. Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life. Dangerous voltages may be present at the terminals even when power is shut off.
2. 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.
3. This module does *not* support conventional smoke detectors.

Specifications

Operating voltage range: 15.2 to 19.95 Vdc
Maximum input voltages
  Riser monitor: 12 Vdc + 15%, 24 Vdc + 10%, 25 Vac + 15%, 70 Vac + 15%
  Telephone: 3.75 to 28 Vdc
Standby current: 175 μA
Activated current: 175 μA
Input currents
  12 Vdc: 10 mA DC
  24 Vdc: 10 mA DC
  25 Vac: 10 mA RMS
  70 Vac: 10 mA RMS
  Telephone 24 Vdc: 20 mA DC
Riser loading
  70 Vac: Impedance > 11 kΩ
  25 Vac: Impedance > 1 kΩ
  24 Vdc: Resistance > 2.4 kΩ
  12 Vdc: Resistance > 1.2 kΩ
  Telephone: Resistance > 1.2 kΩ, Impedance > 1.2 kΩ
Ground fault impedance: 10 kΩ
Operating environment
  Temperature: 32 to 120 °F (0 to 49 °C)
  Humidity: 0 to 93% RH, noncondensing at 90 °F (32 °C)
Storage temperature: -4 to 140 °F (-20 to 60 °C)
Compatible electrical boxes
  North American 2.5-inch (64 mm) deep 2-gang box
  Standard 4-inch (101.6 mm) x 1.5-inch (38 mm) deep square box with 2-gang cover
Agency listings:
  FM Approval only includes monitoring of the 12 and 24 Vdc circuits

© 2017 United Technologies Corporation

P/N 3102462-EN • REV 01 • ISS 16MAR17

Installation instructions

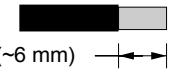
Note: The GSA-RM1 is shipped from the factory as an assembled unit; it contains no user-serviceable parts and should *not* be disassembled.

To install the module:

1. Verify that all field wiring is free of opens, shorts, and ground faults.
2. Make all wiring connections as shown in the wiring diagram.
3. Write the address assigned to the module on the label provided and apply the label to the module. Peel off the removable serial number label from the module and apply it to the appropriate location in the serial number logbook.
4. Using the 4-24 x 5/16 in (8 mm) self-tapping screw provided, mount the wall plate to the module.
5. Using the four 6-32 x 1/2 in (13 mm) machine screws provided, mount the module to the electrical box.

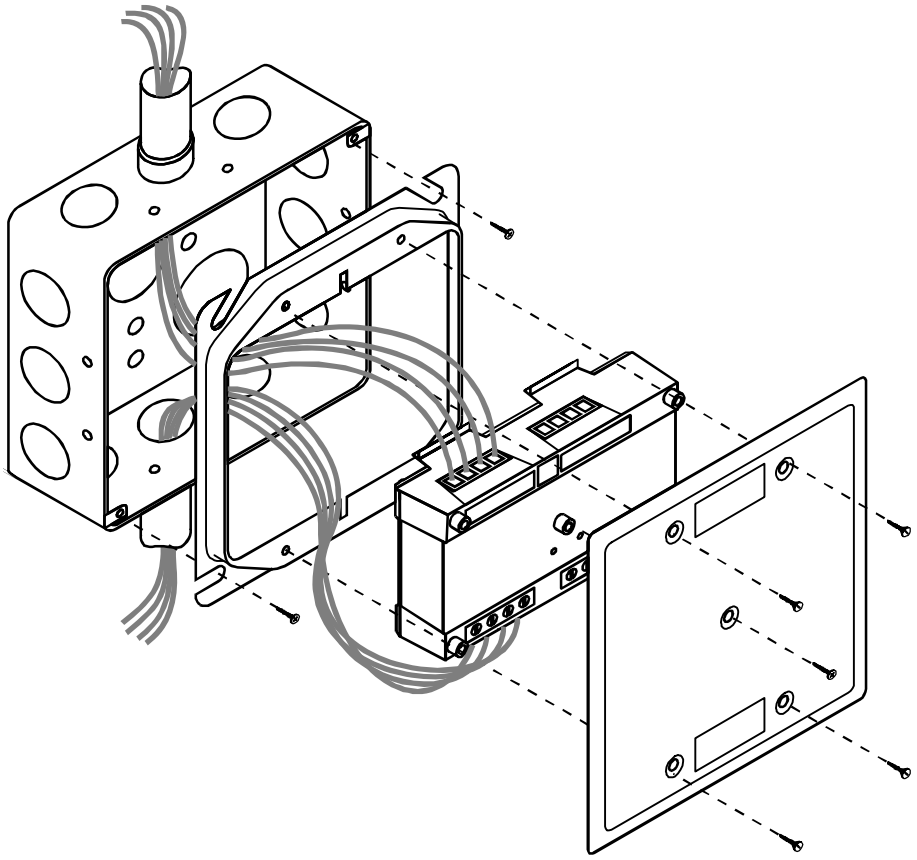
Note: Wire in accordance with NFPA 70 *National Electrical Code.*

Wire stripping guide

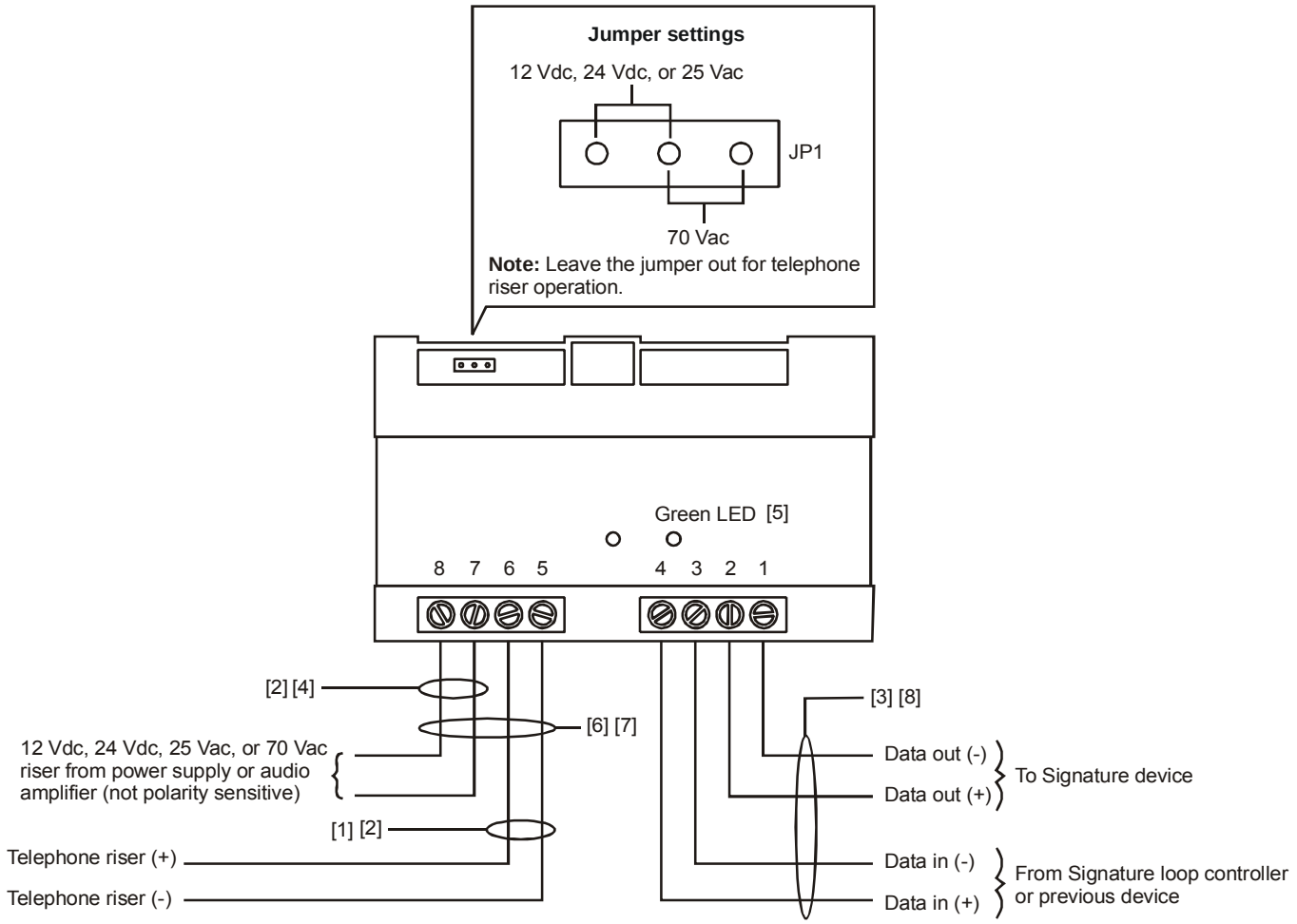


Strip 1/4 in (about 6 mm) from the ends of *all* wires that connect to the terminal block of the module.

Caution: Exposing more wire may cause a ground fault. Exposing less wire may result in a faulty connection.



Wiring diagram



Notes

[1] Supervised and power-limited

[2] 12 AWG (2.5 sq mm) max; 18 AWG (0.75 sq mm) min

[3] See the Signature loop controller installation sheet for wiring specifications

[4] Supervised and power-limited unless connected to a nonpower-limited source. If the source is nonpower-limited, eliminate the power-limited mark and:

- Maintain a 1/4 inch (6.4 mm) space from power-limited wiring

  or

- Use FPL, FPLR, FPLP, or an equivalent cable in accordance with NFPA 70 *National Electric Code*

Wire size must be capable of handling fault current from nonpower-limited source.

[5] Active when communicating with the Signature loop controller

[6] You cannot use the telephone riser while you use the 12 and 24 Vdc, 25 Vac, or 70 Vac riser

[7] Riser circuits are Style 4 (Class B)

[8] Data circuits are Style 4 (Class B) or Style 6 (Class A)