

# RM420-LR

## RELAY MODULE



### Key Features

- 4-20 mA feed-through design maintains signal output function
- Relay output with Form C dry contacts, 8A, 24VDC, or 120VAC
- 24VDC power requirements with 4-20 mA signal input
- 2-second alarm / 10-second clear, non-latching relay
- Circuit board with terminal block for easy wire landings
- Adjustable alarm setpoints (1-99% of scale), with rotary switches
- Threaded insert allows for 1/2" or 1" conduit and fittings
- LR rigid conduit body allows for outdoor or wash-down installation
- Economical alternative to long control-wiring pulls
- 2 year warranty

Easily add a fail-safe relay output to any 24VDC 4-20 mA device.

The Relay Module is an economical solution to adding a fail-safe relay output to any 4-20 mA device. It can be directly mounted and wired to any GG sensor to provide equipment shutdown such as rooftop AHU's, solenoid valves, etc. The relay module can also be used with a horn strobe to provide audio visual notification at the sensor location.

The 4-20 mA analog signal feeds through the relay module to maintain the existing function of the gas sensor or output device. The alarm setpoint is adjusted via rotary switches in 1% increments for varying alarm setpoints between 1-99% of full scale. The relay will trip once the signal reaches the setpoint on the relay module.

The circuit board of the Relay Module is potted inside the conduit body to completely prevent corrosion due to water or moisture, and is able to withstand harsh weather and washdown environments. This allows the relay module to be used in any environment you place your CTI detector. A 10" 3-wire pigtail is built in for easy wiring to the gas detector.

## SPECIFICATIONS

Due to ongoing research and product improvement, specifications are subject to change

**POWER REQUIREMENTS:** 24VDC, 20mA (plus 1A max current draw of attached device)

**ANALOG INPUT IMPEDENCE:** 10 Ohms

**RELAY:** (1) SPDT relay, Form C contacts, 8A @ 24VDC, 8A @ 120VAC, normally energized, non-latching, Status LED shows relay state

**RELAY TIME DELAY:** 2 second on, 10 seconds off

**FAIL SAFE FUNCTION:** Sensor fault (0.5 mA) or loss of power will de-energize the relay

**FAULT SETPOINT:** 1 mA

**ALARM DIRECTION:** Upscale only

**ENCLOSURE:** Powder coated aluminum, LR conduit body

**OPERATING TEMPERATURE:** -40°F to +122°F

**WARRANTY:** 2 years

## Configurations

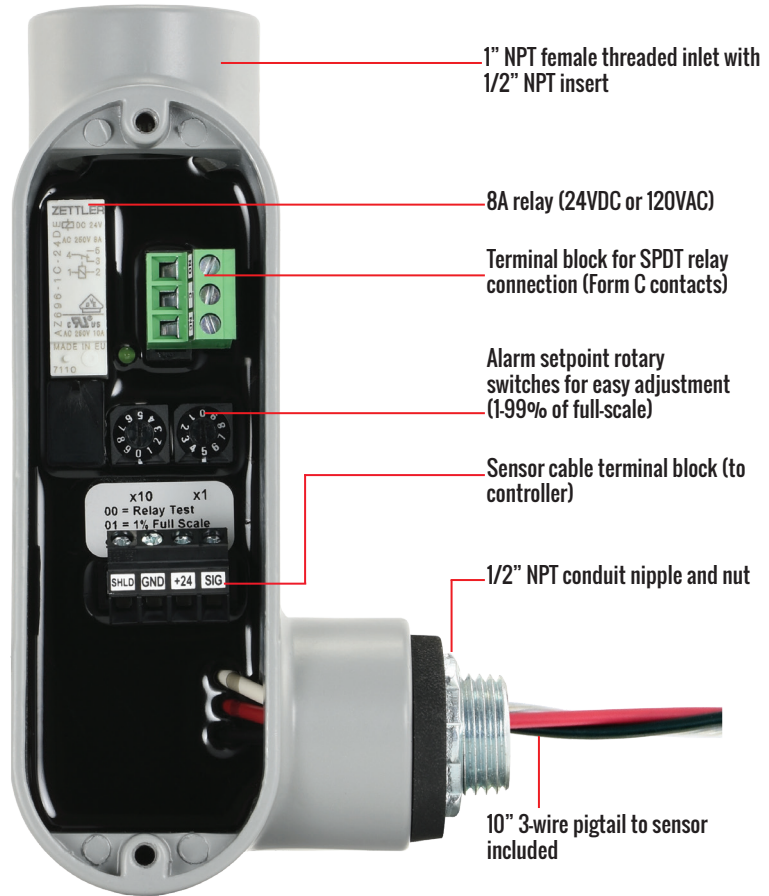
**Order #:** [RM420-LR](#) Relay Module 4-20mA, LR Configuration



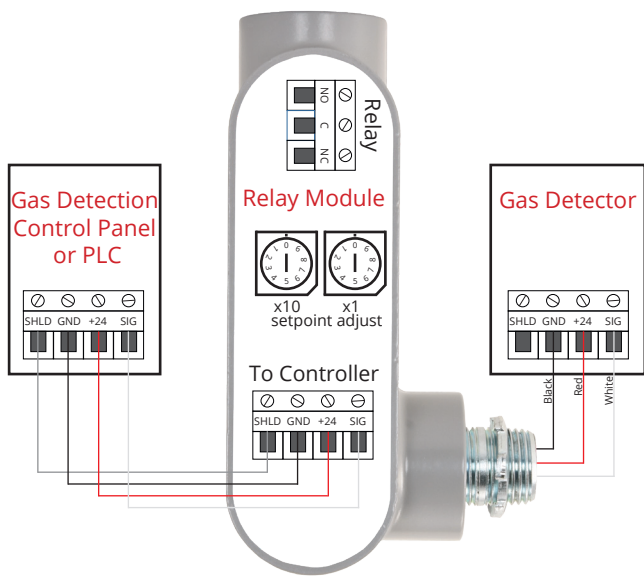
The Relay Module can be used as a stand-alone device or feed-through, either terminating the 4-20mA signal, or passing it through to a controller input.

Precise alarm setpoints in 1% of full-scale increments are achieved using the two rotary switches. For example, setting the switches to positions 2 and 5 (from left to right), equates to 25% of full-scale (or 8 mA). The relay will trip once the signal reaches the setpoint. The fail-safe design also de-energizes the relay upon loss of power or sensor fault.

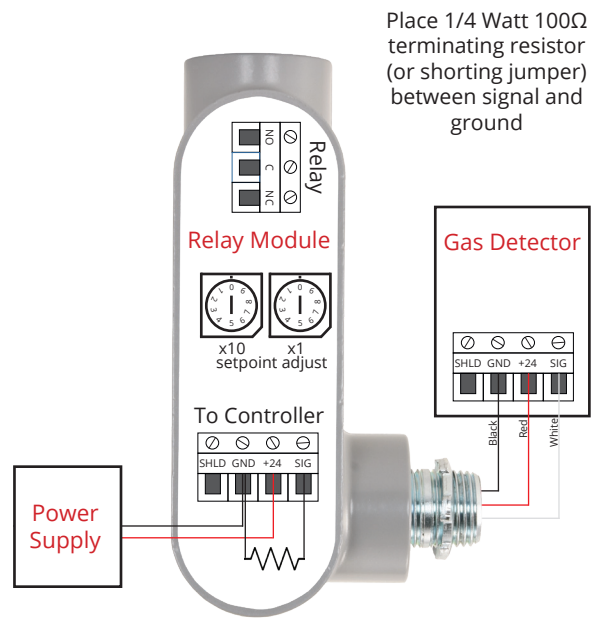
To test the relay, turn both rotary switches to 0. This will instantaneously de-energize the relay and allow verification of the relay output. To clear the relay, adjust the switches back to their intended alarm positions.



### Wiring Diagram



**Figure 1**  
Feed-through configuration



**Figure 2**  
Stand-alone configuration

Place 1/4 Watt 100Ω terminating resistor (or shorting jumper) between signal and ground