MM420-LR

MODBUS MODULE

Key Features

- Converts 4-20 mA output signals to Modbus RS485 outputs
- Backwards compatibility for GG series sensors and the GasMark M255 Control Panel
- Modbus RS-485 allows sensors to be daisy chained together, no need to wire all sensors directly back to controller
- Modbus addressable via 8-position Dip Switch
- Potted components contained within a rigid conduit body enclosure, suitable for wet locations (UL 514A)
- Threaded insert allows for 1/2" or 1" conduit and fittings
- LR rigid conduit body allows for outdoor or washdown installation
- 2-year warranty

Easily monitor existing 4-20 mA sensors with Modbus 485

The Modbus Module is an economical solution to adding the versitility of Modbus communications to your existing system of GG series sensors. It can be mounted adjacent and wired to an existing GG gas detector allowing communication with the GasMark M255 Control Panel via Modbus RS485.

RS-485 Modbus communication allows the sensors to be wired together in a daisy chain, reducing the need for individual sensors to be home run to the controller. Due to voltage drops, 24Vdc power supplies may need to be added along the runs if the supply voltage to the devices drops below spcified voltage requirements.

The circuit board of the Modbus 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 modbus module to be used in any environment you place your CTI detector.

SPECIFICATIONS

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

VOLTAGE: 24VDC, 50mA (plus 2A max current draw of attached device)

DEVICE CURRENT: 25mA @ 24VDC

PASS-THROUGH CURRENT: 2A max @ 24VDC

ANALOG INPUT: 25 mA max

COMMUNICATIONS: 4-20 mA analog in to RS-485 Modbus out

OPERATING TEMPERATURE: -49°F-120°F (-45°C-49°C)

HUMIDITY: 5-100% Condensing

WARRANTY: 2-years

Configurations

Order #: **MM420-LR** Modbus Module, LR Configuration

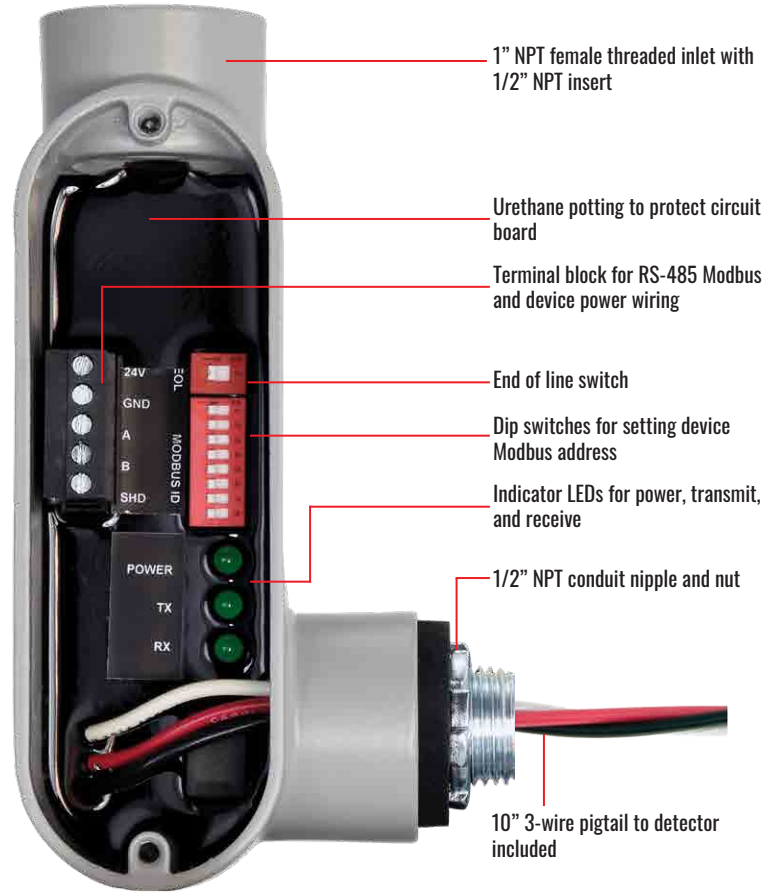920 N Tradewinds Pkwy, Columbia, MO 65201   866-394-5861   www.ctigas.com   sales@ctigas.com

Each Modbus Module gas detector has a communication port with three terminals: A, B and SHLD. On these three terminals the communication cable is connected so that all devices that take part in the communication are connected in parallel. All of the 'A' terminals must be connected together and all of the 'B' terminals must be connected together, respectively. These wires can be doubled-up in each terminal.

24V: To 24Vdc terminal of power supply.
GND: To ground terminal (0V or -) of power supply.
A: To RS-485-A terminals of next and previous devices in line.
B: To RS-485-B terminals of next and previous devices in line.
SHD: To case (earth) ground of monitoring equipment.

For "end of line" devices, set the EOL switch position to "ON". For all other devices, verify that the EOL switch is in the "OFF" position (see Figure 1).

For setting the Modbus addresses, use this convenient online tool:
Modbus ID dip switch calculator

1" NPT female threaded inlet with 1/2" NPT insert

Urethane potting to protect circuit board

Terminal block for RS-485 Modbus and device power wiring

End of line switch

Dip switches for setting device Modbus address

Indicator LEDs for power, transmit, and receive

1/2" NPT conduit nipple and nut

10" 3-wire pigtail to detector included

Wiring Diagram
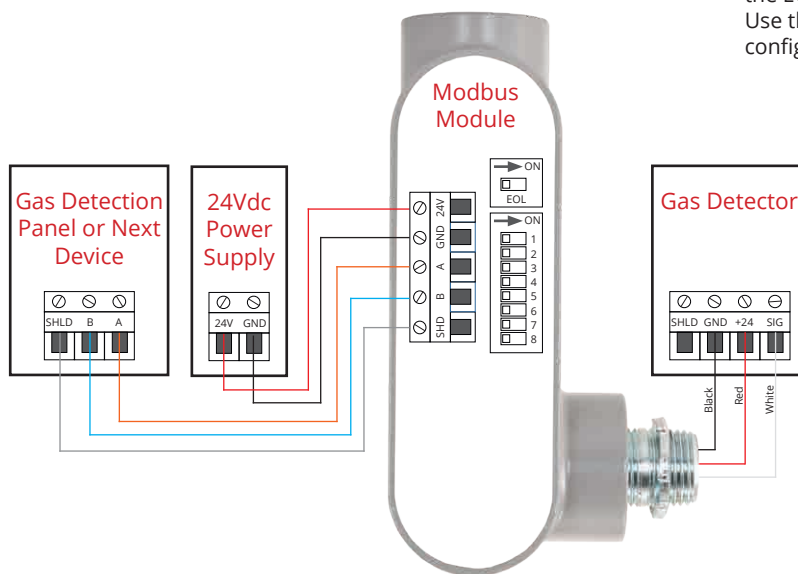
Note:
For all "end of line" devices, be sure to set the EOL switch position to "ON".
Use the Modbus ID dip switch calculator to configure Modbus addresses.

Figure 1