

Macurco™ Modbus RS-485 Adapter MRS-485



For use with Macurco 6-Series™ Detectors

Addressable Gas Detection and Control

The Macurco MRS-485 adapter is an accessory used to convert the 4-20mA analog signal from Macurco 6-Series type detectors to a digital signal for use with multipoint addressable systems. The Macurco MRS-485 simply plugs into the back of the detector and a single screw fastens it in place. The MRS-485 accepts the 4-20mA output and is powered from the same connection as the detector. The MRS-485 has the ability to interface with Building Automation Systems, Control Panels or other Control Devices that accept Modbus communications.

Features:

- The Macurco MRS-485 interfaces the detector power and 4-20mA output lines with a mounted connector
- The MRS-485 monitors sensor type, gas level and trouble status communications from any of the Macurco 6-Series detectors
- · Communication is on a Modbus serial line
- · Commercial type enclosure to protect and support the electronics
- Tricolor LED indicates power, test and communication status

Installation

- Mounts behind the detector inside of a standard 4" x 4" electrical box
- · Held in place on the back of the 6-Series detector with a single screw
- 8 bit dip switch address selector
- RS-485 termination uses 4 pin connector with jumper to select termination: The user selects no termination or one of the two Modbus line termination options
- Communications connections include signal (A and B), common and shield terminals
- Intended for use in non-hazardous areas such as parking garages, warehouses or other commercial facilities



MRS-485 Specifications

- Power & Current (with detector): 3.25W (max) from 12 to 24 VAC or VDC, 85mA in alarm, 60mA fan relay on and 33mA stand by @ 24 VDC
- Shipping Weight: 0.25 lb (0.11 kg)
- Size: 3 1/2 x 2 x 1 3/4 in. (8.9 X 5.1 X 4.4 cm)
- Operating Environment : 0°F to 125° F (-18°C to +52°C), 10 to 90% RH non-condensing
- · Connections: plugs/terminals
- · Mounting screw and screwdriver included
- MRS-485 operates in the RTU Modbus Transmission Mode
- BaudRate: 4800, 9600, 19200 (default), 38400, 57600, 115200 bps

Gas Detection

The Macurco MRS-485 Adapter converts the Macurco 6-Series 4-20mA analog output to a digital output for use with addressable network systems The Macurco 6-Series is a family of fully programmable, low voltage, dual relay gas detectors, controllers and transducers for BAS, HVAC and Fire & Security applications. The 6-Series detectors are used to measure the concentration of various gas and provide feedback and automatic control to help ensure a safe environment: Carbon Monoxide, Methane, Propane, Hydrogen, Nitrogen Dioxide and other gases.

Connection

The Macurco MRS-485 output is connected via a four terminal screw type connector. The MRS-485 adapter is wired in the standard 2W-Modbus circuits definition with selectable built-in terminating resistors at the ends of

the RS-485 bus. The power for the MRS-485 adapter is connected via a two terminal screw type connector, 12 to 24 VAC or 12 to 24 VDC and no polarity. Note: Running the Modbus cable adjacent to or in the same conduit with high voltage wires is not recommended as there may be interference from the high voltages.

TYPICAL CONNECTION OF MRS-485





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6-Series Rear View



Installed MRS-485 View

SIGNAL WIRE REQUIREMENTS

Note: It is recommended to always use twisted wires and shielded cable to reduce noise and allow for reliable data communication over greater distances.

Use at least 3-conductor wire with one twisted pair providing a pair for signal (A & B) and common (COM) connections.

For best performance use shielded 3-conductor wire with one twisted pair providing a pair for signal (A & B), common (COM) and shield ground (SHD) connections.

