



3204 Rocky River Road, Heath Springs, SC 29058  
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# MicroManager

## Modbus® Slave Expansion Module

### Model MM3010-MBS

The MicroManager MM3010-MBS is a microprocessor based Modbus® RTU I/O expansion module. It is designed for use in industrial SCADA (Serial Control And Data Acquisition) applications. It provides analog and digital I/O plus frequency inputs that can be accessed/controlled over an RS485 Modbus® RTU network. Combined with an appropriate HMI Touchscreen, it becomes a simple, but powerful, data acquisition & logging system.

Model MM3010-MBS provides two Modbus® RS485 slave ports. The main port (located on the terminals) is typically used to connect to the primary Modbus® network. Setup and configuration is accomplished by using Carotron's MicroLink software. A serial port is required on a PC to connect to the MM3010-MBS. If a serial port is not available, a USB to Serial Adapter can be used. The Modbus® RS485 communications port allows for all parameters to be read and for selected parameters to be changed.

### Electrical Specifications

#### Power Requirements

- 18-36VDC regulated, 500mA max.
- Nominal 24VDC
- Fused internally

#### Power Supply Output

- +10V regulated supply; 10mA max.
- -10V regulated supply; 10mA max.
- +12V regulated supply; 50mA max.

#### Digital Inputs (4 Total)

- Sinking or Sourcing Logic (selectable)
- Sinking Mode
  - $V_{il}=+20.0VDC$  max
  - $V_{ih}=0.0VDC$  min to  $+17.0VDC$  max
- Sourcing Mode
  - $V_{il}=+5.0VDC$  max
  - $V_{ih}=+8.0VDC$  min to  $+30.0VDC$  max

#### Voltage Inputs (4 Total)

- 13 bit resolution
- Voltage Range: -10VDC to +10 VDC
- Input Impedance: 220k $\Omega$



#### Current Inputs (2 Total)

- 10 bit resolution
- Range: 0 to 20mA, 4 to 20mA
- Input Impedance: 250 $\Omega$

#### Frequency/Counter Inputs (2 Total)

- Frequency: 42kHz max, square wave
- 32 bit counters
- Voltage: +15VDC max
  - $V_{il}=0.0VDC$  min to  $+1.1VDC$  max
  - $V_{ih}=+3.0VDC$  min to  $+15.0VDC$  max

#### Relay Outputs (4 Total)

- Form C contacts
- 2A @115VAC
- 2A @60VDC

#### Analog Outputs (4 Total)

- 2 dedicated voltage
- 2 current/voltage
- 12 bit resolution
- Voltage: 0 to  $\pm 10VDC$
- Current: 0 to 20mADC (max load 400 $\Omega$ )

#### Communications Ports (2 Total)

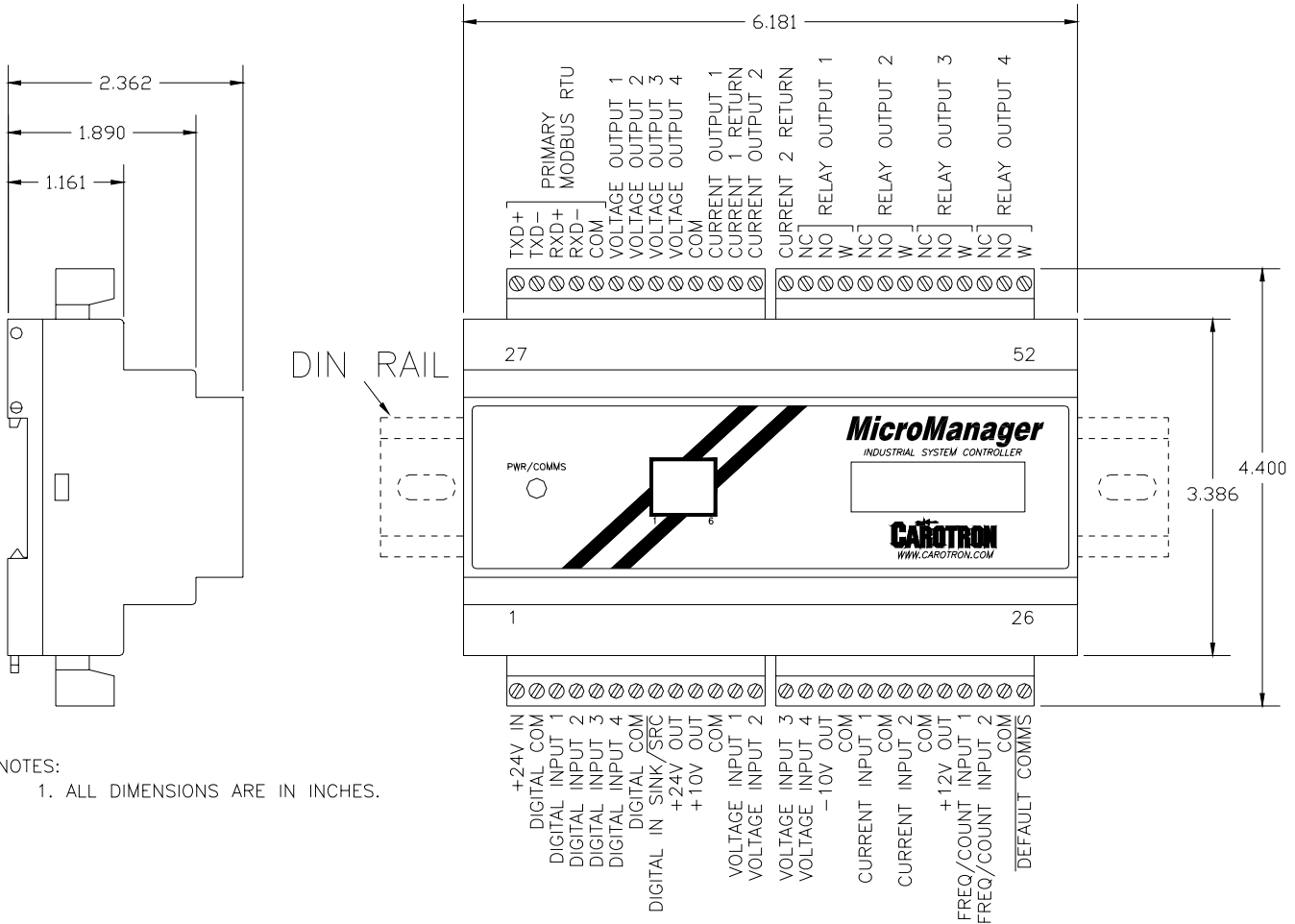
- Modbus® RTU Slave
- RS485 Multidrop (2 or 4 wire)
- Primary Port: Terminals
- Secondary Port: Modular

#### Default Communications Input

- $V_{il(max)}=0.5VDC$
- $V_{ih(min)}=2.0VDC$

#### Temperature Range

- Chassis: 0-55 $^{\circ}C$



NOTES:  
1. ALL DIMENSIONS ARE IN INCHES.

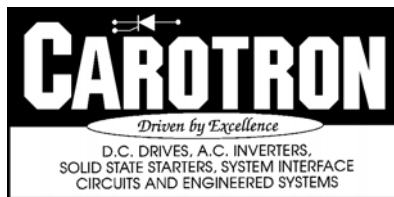
## MicroManager MM3010-MBS

Physical Specifications

4.400”H x 6.181W x 2.362”D

Shipping Weight: 2 lbs.

View or download the complete MicroManager MBS Instruction Manual (MAN1048-3A) from [www.carotron.com](http://www.carotron.com).



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