

# Modbus



## Features

- High resolution position input for up to 0.1% accuracy
- 4-120/240VAC inputs for open and closed limit switches and 2 general purpose inputs
- Simple 4-wire Modbus-485 communication network includes supervisory power
- Robust communication, up to 500m cable length
- Plugable terminal strips for easy field installation
- Direct mounting within the actuator
- Low power consumption; does not require ventilation
- Electronic overload protection with built-in current monitoring optional
- High power outputs can directly drive small motors
- LED indicators on inputs, outputs and communication channel
- Automatic calibration using local push button or remote command
- Multi-vendor PLC support through the standard Modbus communication module

## Typical Applications

- Blending of bulk materials
- Petroleum products and other liquids flow control
- Level control for maintaining process supply

## Application

The Modbus is an application specific controller, designed for positioning electric actuators using rotary feedback. Typical devices include rotary and linear actuators. Feedback may be via a potentiometer or a quadrature optical encoder. Controller outputs can drive small electric motors or motor starters directly.

A Modbus-485 communication network allows up to 100 devices on a single channel. The Modbus is powered by 24VDC and provides four supervisory inputs, configurable as limit switches or force open/close signals.

Automatic calibration is provided which requires no loop tuning. All operating parameters can be set as registers in the Modbus communications map.

## Specifications

### Actuator

Voltage	120/240VAC 1Ø
Current	4A (2 minute 25% duty-cycle)
Fuse	GMA 4 replaceable

### Supervisory

Voltage	10 to 25VDC
Current	30mA @ 24VDC

### Auxiliary Inputs

Voltage	120/240VAC
Current	min 10mA / max 20mA

### Communication

Standard Modbus-RS485 differential	
Distance	500m (1,640ft.)
Input Load	12K ohm, standard
Termination	120Ω balanced line

### Position

Resolution	12 bit (1 part in 4096)
Accuracy	0.1% full scale
Potentiometer	1000Ω typical (500 to 10kΩ)
Quadrature	
Optical Encoder	1000 to 4096 pulses

### Environment

Temperature	-40°C to +70°C (-40°F to +158°F)
Relative Humidity	0 to 95% non-condensing

### Dimensions

Length	96mm (3.75 in)
Width	70mm (2.75 in)
Height	36mm (1.40 in)



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