

FEATURES:

- Accepts analog voltage or current inputs and transmits RS-485 data to a Modbus® Master device
- The protocol is Modbus® RTU; supporting function codes 2 through 6
- As many as 128 ST-60A converters may be multidropped onto the same twisted pair data highway
- Transmitted data includes the analog value scaled for range & engineering units, discrete HIGH - WARN & FAULT alarm values, and a 16 character identification descriptor
- Requires 12 or 24 VDC power
- Available in general purpose high density DIN rail mount housing or an explosion-proof instrument enclosure suitable for Class 1, Groups B,C,D; Class 2, Groups E,F,G. Also meets NEMA 4 with included 'O' ring.
- Alarm controllers and displays are also available from R. C. Systems Co. Inc.



The R. C. Systems Co., Inc. Model ST-60A is an analog to RS-485 Modbus® protocol converter. It accepts voltage and current inputs and then scales the signal into the appropriate range. Six engineering unit and sixteen channel identification characters may also be transmitted. In addition, HIGH - WARN & FAULT discrete alarm values are available. ST-60A's are easily configured using a PC or a special hand held battery powered programmer. 128 ST-60A's may be connected to the same twisted pair cable.

A primary advantage over traditional 4-20mA loops is that much more information is available with Modbus®. When a receiver device accepts a 4-20mA signal, it does not know the range, engineering units, location, or if a level alarm exists. All of this must be programmed into the receiver for each input. However, when a Modbus® master receiver device accepts data from an ST-60A, it simply displays the results. No determination must be made concerning alarms, range or location.

Another advantage is that ST-60A wiring may be daisy chained with as many as 128 units on the same run of cable. Traditional analog systems require home runs containing at least 2 wires per signal.

A Modbus® master is required to interrogate ST-60's. R. C. Systems Co. manufactures a complete family of controllers capable of operating as masters. Other examples of Modbus® masters are PC's, DCS's and PLC's which may be equipped with Modbus® software drivers.

ST-60A's are packaged in high density DIN rail mount enclosures.

Non-Volatile RAM retains all configuration data indefinitely.

Modbus is a registered trademark of Modicon Corp.

Revision 1.0

SPECIFICATIONS

ANALOG INPUTS

4-20mA into 100 ohms input impedance.
Any input voltage between 0-100mV & 0-5volts may be selected by adjusting reference voltage with 25 turn potentiometer.

ANALOG TO DIGITAL CONVERTER

10 bit successive approximation.

SERIAL PORT

RS-485 half or full duplex. Protocol = Modbus® RTU.

ACCURACY

±.1% of full scale ± 1 count.

AMBIENT TEMPERATURE RANGE

-20 - 60 degrees C.

TEMPERATURE DRIFT

Less than .1% per degree C over ambient temperature range.

POWER SUPPLY

19 - 30VDC (24VDC nominal) at less than 50mA;
10 - 18VDC (12VDC nominal) available by special order.

HOUSING

DIN rail fire retardant plastic or NEMA 7 explosion-proof.

ORDERING INFORMATION

060-66 = Model ST-60A/DN DIN rail housing part #

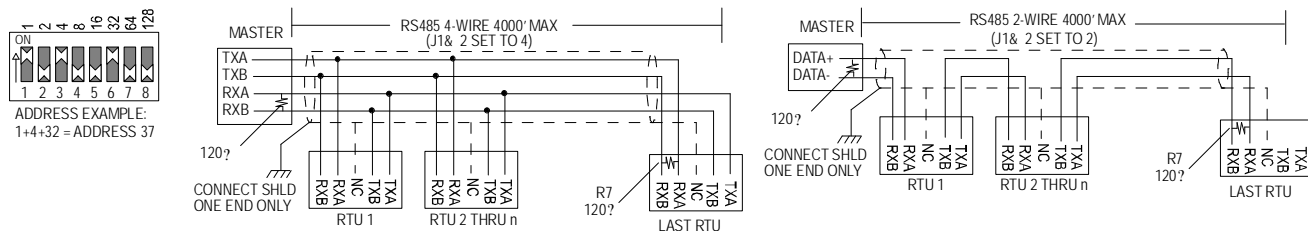
060-67 = Model ST-60A/XP NEMA 7 housing part #
Instrument enclosure suitable for Class 1, Groups B,C,D; Class 2, Groups E,F,G. Also meets NEMA 4 with included 'O' ring.

AVAILABLE OPTIONS:

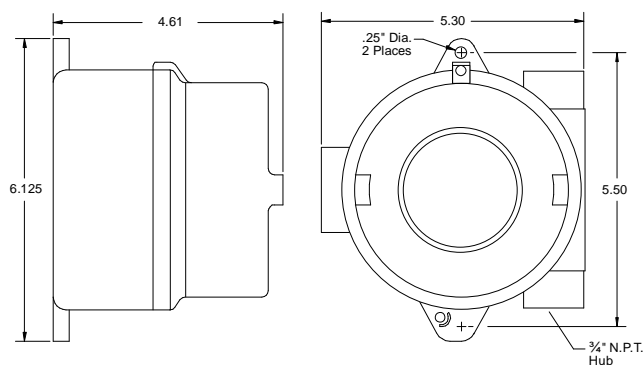
060-68 = Universal hand held programmer. Allows ST-60A multidrop networks be configured using a battery powered portable device.

060-69 = PC programming kit. Includes software, cable & RS-232 to RS-485 Converter to allow ST-60A multidrop networks be configured from any PC.

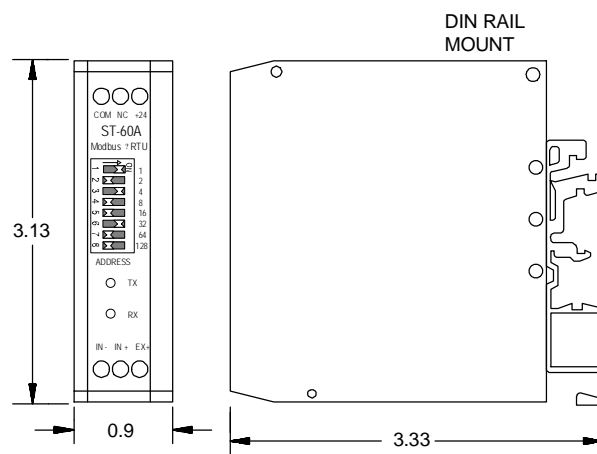
TYPICAL WIRING INSTALLATIONS



ALL DIMENSIONS IN INCHES



NEMA 7 EXPLOSION-PROOF HOUSING OPTION



GENERAL PURPOSE DIN RAIL HOUSING OPTION