

## FEATURES:

- Accepts up to four 4-20mA inputs or four bridge sensors
- AC input power supply generates 24 VDC @ 12 watts max for powering external devices. Optional external 50 watt PS available for larger DC loads
- 3 independent alarm levels per channel. *Relay Acknowledge* feature allows silencing of external audible devices during existing alarm conditions
- Graphic LCD readout displays monitored data as bar graphs, trends and engineering units. Alarm LED's flash when *new* and become steady after *acknowledged*
- Two standard SPDT common alarm relays are configurable for HORN, HIGH, WARN or FAULT alarm conditions. Optional discrete channel alarm relays are also available
- Options such as Modbus *slave* RS-485 serial port, data logging, 4-20mA outputs, discrete alarm relays and others are supported
- *Cal Mode* offers pushbutton zero / span calibration for direct sensor interface applications. *Authorization Mode* allows locking of critical configuration variables
- Touch & magnetic keypad for nonintrusive operation in potentially hazardous locations
- NEMA 4X (Div. 2 certified) and Explosion-Proof wall mount packaging options available



The R. C. Systems Co. Inc. ST-90 Quad Channel Display / Alarm Controller is designed to provide simultaneous display and alarm functions for four monitored variables. A graphic LCD displays monitored data as bar graphs, 30 minute trends and engineering units. Three adjustable alarm levels are provided per channel. Relay outputs allow control of beacons, horns and other alarm events.

Up to 12 watts of 24VDC is available for powering monitors or other devices. An external 50 watt supply available for higher power requirements. 4-20mA and Bridge Sensor inputs are offered for interfacing to sensor transmitters that may be long distances from the ST-90.

The ST-90 is easy to configure and user friendly. Measurement ranges in engineering units, adjustable alarm set-points, optional serial interfaces, and many other features offer flexibility to meet most demanding applications.

One popular application is the ST-90 functioning as a critical alarm controller and readout monitoring variables such as toxic / combustible gases, vibration, tank levels, and other process values.

An optional RS-485 Modbus slave port allows up to 128 ST-90's to be multidropped onto a single data highway for interrogation by another Modbus master. 10-BaseT ethernet is also available utilizing the popular Modbus TCP/IP protocol.

Other ST-90 options include six programmable 5 amp SPDT discrete alarm relays, 4-20mA outputs, wireless interface, strobe lights, audible annunciators and external power supplies.

Nonvolatile memory retains all configuration data indefinitely.

## SPECIFICATIONS

### INPUTS

Available inputs include 4-20mA with precision 100 ohm terminating resistor (0-2 Volt inputs may be accepted by removing the socketed terminating resistor) and bridge sensor inputs with adjustable Sensor Excitation and Balance settings

### COMMON ALARM RELAYS (STANDARD)

Two, 5 amp 30VDC or 250VAC resistive Form C

### ANALOG OUTPUTS (OPTIONAL)

10 bit 4-20mA output. Max load 800 ohms with nominal 24VDC power supply

### DISCRETE ALARM RELAYS (OPTIONAL)

Six 5 amp 30VDC or 250VAC resistive Form C

### SERIAL PORT (OPTIONAL)

Slave RS-485 port equipped with Tx / Rx LED's  
Protocol = Modbus® RTU

### DISPLAY

128 x 64 pixel graphic LCD with backlight displays bar graphs, and engineering units.

6 discrete LED's indicate alarm status, CAL MODE, keypad

### AMBIENT TEMPERATURE RANGE

-25 to +50 degrees C.

### POWER SUPPLY

100-240 VAC / 24 VDC are standard primary power supplies

### HOUSING OPTIONS

NEMA 4X / IP66 wallmount approved for Div 2

NEMA 7 explosion-proof wallmount Div 1 (also meets NEMA 4)

### APPROVALS

pending  
NEMA 7 = Div 1 Gr. B,C,D); EN55011 & EN61000 (CE Mark).

## ORDERING INFORMATION

ST-90N4/QUAD = NEMA 4X Enclosure (Div 2)

ST-90SS/QUAD = NEMA 4X SS Enclosure (Div 2)

ST-90XP/QUAD = NEMA 7 Enclosure (Div 1)

Example Order:

1, ST-90N4/QUAD Controller (options shown below)

1, 10-0221-4 QUAD 4-20mA Input Option

1, 10-0222 Discrete Relay Option

1, 1000-1892 Audible Alarm Option

The above combination orders the ST-90N4/Quad four channel controller with 4-20mA inputs, the optional 10-0222 six discrete programmable relays, and the optional 1000-1892 front mounted 100 dB audible alarm.

### ACCESSORIES & SPARE PARTS (see manual)

10-0221-4 = 4 Channel 4-20mA Analog input PCB Option

10-0222 = Discrete relay with six 5 amp Form C relays Option

10-2454 = 900MHZ Wireless Interface

10-0308 = Quad 4-20mA Outputs Option

10-0309 = Quad Bridge Sensor Inputs Option

10-0227 = RS-485 / RS-232 Modbus RTU Interface Option

\*1000-1892 = 100dB piezo audible Option

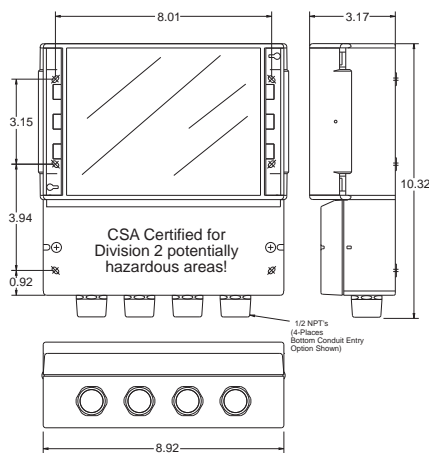
\*10-0284 = Division 2 red xenon strobe light Option

10-0314 = NEMA 7/4X Div 1 Fifty Watt 24VDC External Power Supply

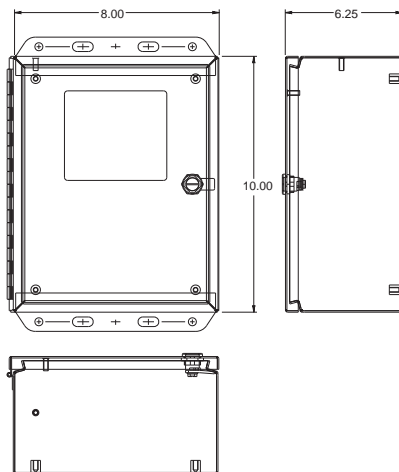
10-0315 = NEMA 4X Div 2 Fifty Watt 24VDC External Power Supply

\*These items only available with NEMA 4X Enclosure

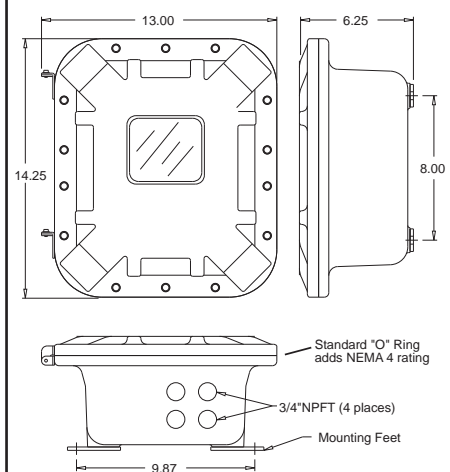
NEMA 4X Non-Metallic Wall Mount



NEMA 4X Stainless Steel Wall Mount



NEMA 7 Explosion-Proof Wall Mount



Dimensions in Inches