

RC SYSTEMS **MODEL ST-90 "QUAD"** **CHANNEL CONTROLLER** **WITH SERIAL INTERFACE**

NEMA 4 Models CSA certified for Division 2 potentially hazardous areas!

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
- CSA certified to C22.2 NO. 152 for combustible detection and Class I, Div. 2, Groups A,B,C,D
- 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 configurable for HORN, HIGH, WARN or FAULT alarm conditions. Six optional discrete alarm relays available
- Options such as FHSS wireless, RS-485 serial port, 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



ST-90PCS/QUAD



NEMA 7 (Explosion-Proof) Suitable for Division 1 & 2 hazardous areas!

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.

Even the low cost NEMA 4X model is certified to CSA C22.2 NO. 152 for combustible detection and Class I, DIV.2, Groups A,B,C and D.

A configurable Modbus master/slave RS-485 or FHSS Wireless port allows up to 128 ST-90's to be multidropped for interrogation by another Modbus master. As a master, the modbus port may retrieve data from RS-485 or FHSS wireless sensor transmitters.

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 +60 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

CSA C22.2 No 1010.1 & 152 for combustibles & ISA S82.02;
UL 1604 / C22.2 No 213 (NEMA 4X = Div 2 Groups A,B,C,D,
NEMA 7 = Div 1 Gr. B,C,D); EN55011 & EN61000 (CE Mark).

ORDERING INFORMATION

ST-90PY/QUAD = NEMA 4X Non-Metallic

ST-90SS/QUAD = NEMA 4X 316 SS

ST-90PCS/QUAD = NEMA 4 Painted Carbon Steel

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

Example Order:

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

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

1, 10-0222 Discrete Relay Option

The above combination orders the ST-90PY/Quad four channel controller with 4-20mA inputs and the optional 10-0222 six discrete programmable relays.

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

10-0253 = RS-485 / RS-232 Modbus RTU Interface Option

*10-0337 = 100dB piezo audible Option

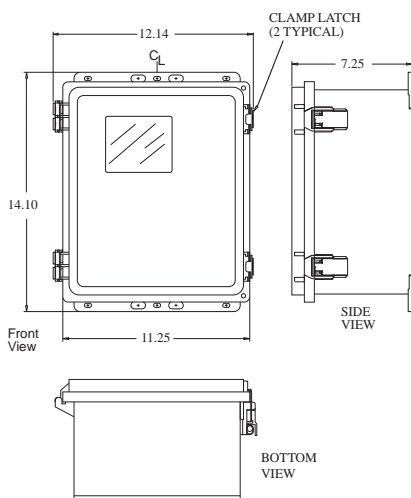
*10-0284 = Division 2 red xenon strobe light Option

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

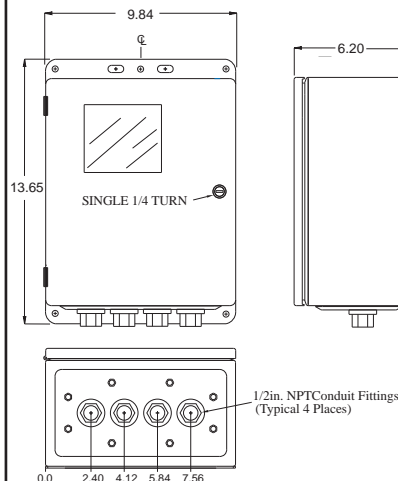
10-0315 = NEMA 4X Div 2 Fifty Watt 24VDC External Power Supply

*These items only available with NEMA 4X Enclosure

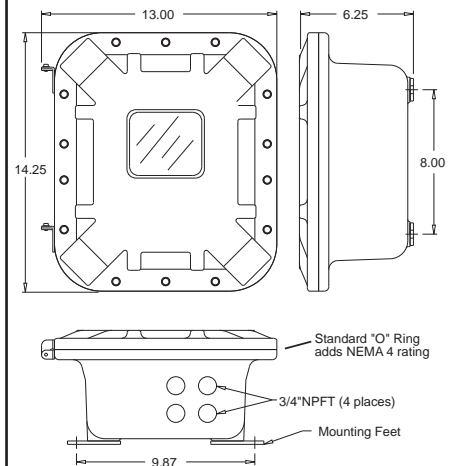
ST-90PY "Extended"
NEMA 4X Non-Metallic Wall Mount



ST-90SS & ST-90PCS "Extended"
NEMA 4 Metallic Wall Mount



NEMA 7 Explosion-Proof Wall Mount



Dimensions in Inches



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