

FEATURES:

- Accepts inputs from one or two local or remote mounted sensors or transmitters. 24 VDC @ 12 watts max provides external device power
- CSA certified to C22.2 NO. 152 for combustible detection and Class I, Div. 2, Groups A,B,C,D CE mark
- 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

Shown with 10-0284
Division 2 xenon strobe



“Compact” NEMA 4X Wall Mount
CSA certified for Division 2
potentially hazardous areas!



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

The R. C. Systems Co. Inc. Two Channel Display / Alarm Controller is designed to provide simultaneous display and alarm functions for two 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.

24VDC power is available for transmitters or other devices. An external 50 watt supply is available for higher power requirements. Resistive bridge or electrochemical toxic sensors attach directly to the ST-90 enclosure, or, may be remote mounted using the 10-0193 Sensor Mounting Kit. 4-20mA inputs may also be accepted when applications require sensor transmitters due to longer wire distances.

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 dual gas detector equipped with one local oxygen sensor and one local toxic sensor. Two identical gases may be monitored at two locations by having one sensor local and another remote. 4-20mA inputs are also accepted.

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

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 protocol.

Other ST-90 options include 5 amp SPDT discrete alarm relays per channel, 4-20mA outputs, light stacks and audible annunciators.

Nonvolatile memory retains all configuration data indefinitely.

SPECIFICATIONS

INPUTS

Sensor input PCB's are available for dual bridge sensors, dual toxic (electrochemical), one bridge sensor / one toxic, and dual 4-20mA. All versions may be configured for 4-20mA inputs

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)

Configurable Master / Slave RS-485 port 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 for 3 alarms per channel

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 (shown below)
NEMA 7 explosion-proof wall mount Div 1 & 2 (shown below)

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

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

Example Order:

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

1, 10-0221-2 DUAL 4-20mA Input Option

1, 10-0222 Discrete Relay Option

1, 10-0377 Audible Alarm Option

The above combination orders the ST-90N4/Dual two channel controller with 4-20mA inputs, the optional 10-0222 six discrete programmable relays, and the optional 10-0377 front mounted 100 dB audible alarm.

ACCESSORIES & SPARE PARTS (see manual)

10-0221-2 = Two Channel 4-20mA Analog Input PCB Option

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

10-0223 = Dual 4-20mA Output Option

10-0216 = 1 Echem (Ch. 1) and 1 Bridge (Ch. 2) Sensor Input Option

10-0219 = Dual Bridge Sensor Input Option

10-0220 = Dual Electrochemical Sensor Input Option

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

*10-0377 = 100dB piezo audible Option

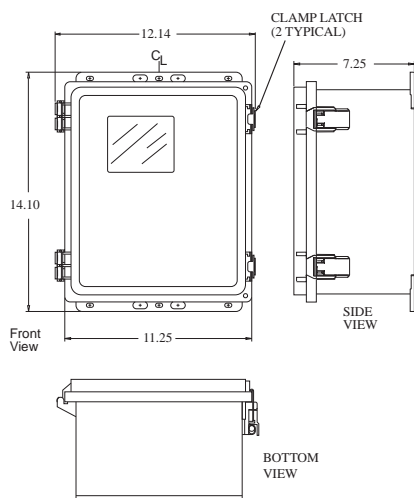
*10-0284 = Division 2 red xenon strobe light Option

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

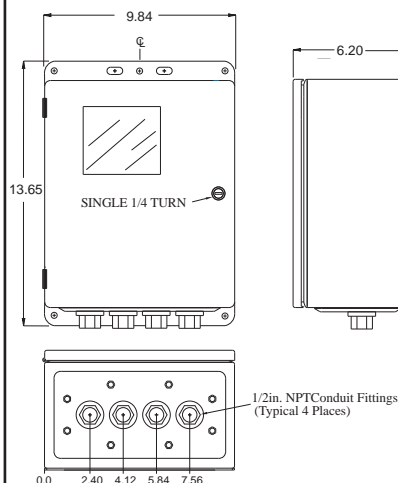
10-0315 = NEMA 4X Div 2 Fifty Watt 24VDC External Power Supply

*These items only available with NEMA 4X Enclosure

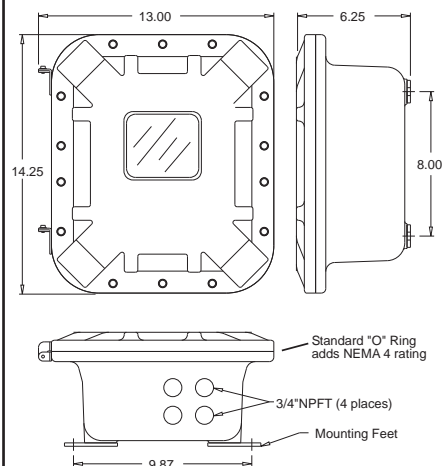
ST-90PY "Extended"
NEMA 4X Non-Metallic Wall Mount



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



NEMA 7 Explosion-Proof Wall Mount



Dimensions in Inches