

# MODEL ST-90 QUAD CHANNEL "RIG PROTECTOR" CRITICAL MONITORING SYSTEM

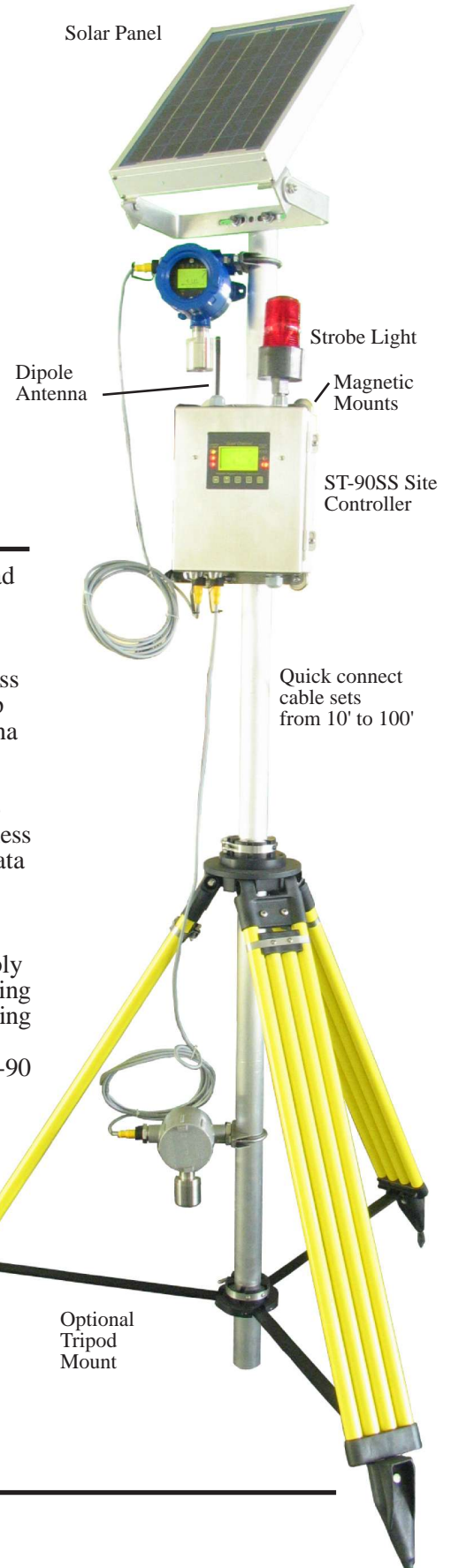
## FEATURES:

- Accepts up to four inputs from monitors and/or bridge sensors
- Division 2 rated "Plug in" ports and cable sets for all connections including sensors and monitors. 10', 25', 50', & 100' male/female cable sets available
- Flexible power supply directly accepts 10-30VDC, 100-240VAC, battery and solar power sources
- Flexible mounting options include pole mount, wall mount and tripod or magnetic mount for portable applications
- Wireless option transmits monitored data to our 4 or 16 channel controller transceivers
- Rugged 316 stainless steel NEMA 4X enclosure for harsh areas
- ST-90 is NRTL certified 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
- Graphic LCD readout displays monitored data as bar graphs, trends and engineering units
- Two standard SPDT common alarm relays are configurable for HORN, HIGH, WARN or FAULT alarm conditions
- Options such as modbus, 4-20mA outputs, discrete alarm relays and others are supported
- *Cal Mode* offers pushbutton calibration for direct sensor interface applications. *Authorization Mode* allows locking of critical configuration variables
- Touch & magnetic keypad for nonintrusive operation in potentially hazardous locations

ST-90SS Site Controller



Solar Panel



The R. C. Systems Inc. ST-90 Quad Channel "Rig Protector" has been designed to offer up to 4 points of critical monitoring in a compact, easy to install package. The wireless option transmits monitored data up to 10 miles with a high gain antenna or 3000' with the standard dipole antenna. FHSS Client / Server addressing allows many ST-90's to transmit in the same area. The wireless port may also be used to receive data from our ST-48 wireless sensor transmitters.

Flexible mounting and power supply options make it suitable for monitoring perimeters, mobile work sites including HAZMAT facilities, rigs, disaster responses, and many more. The ST-90 site controller activates relays for strobes, horns, fans, shut down or other alarm events.

Inputs include 4-20mA from toxic, oxygen, combustible monitors but raw sensor signals from catalytic, infrared and PID are also accepted. All components are suitable for Division 2 area classifications.

Optional Tripod Mount

## 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 Non-Metallic / wallmount approved for Div 2

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

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

Example Order:

1, ST-90SS/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-90SS/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

\*10-0319 MAGNETIC MOUNTING KIT

1000-2281 QUICK CONNECTOR; 3/4" NPT; DIVISION 2

1000-2282 QUICK CONNECTOR; PANEL; DIVISION 2

1000-2283 LOCKFAST CABLE GUARD; DIVISION 2

1000-2284 10 FOOT CABLE SET; DIVISION 2

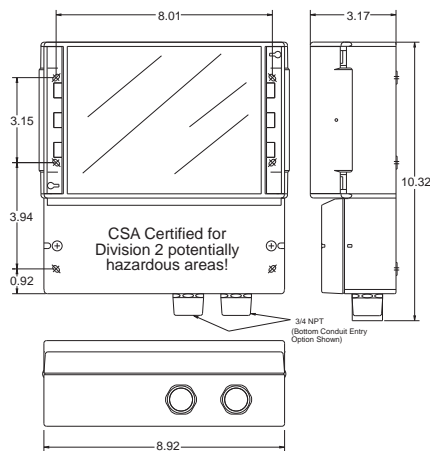
1000-2285 25 FOOT CABLE SET; DIVISION 2

1000-2286 50 FOOT CABLE SET; DIVISION 2

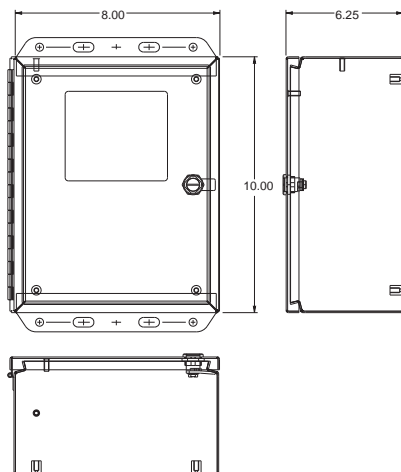
1000-2287 100 FOOT CABLE SET; DIVISION 2

\*These items only available with NEMA 4X Enclosures

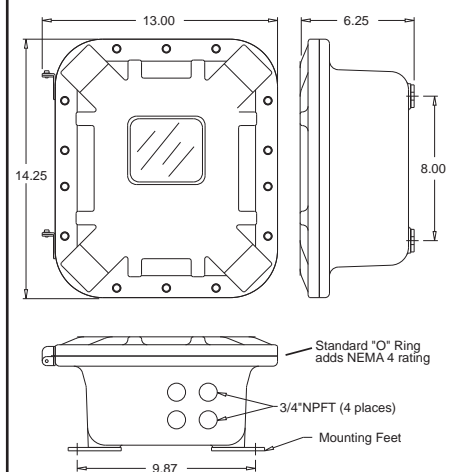
NEMA 4X Non-Metallic Wall Mount



NEMA 4X Stainless Steel Wall Mount



NEMA 7 Explosion-Proof Wall Mount



Dimensions in Inches