ST-90 Dual Controller with Serial Interface

ST-90SSDUAL Stainless Steel
90-05

ST-90PYDUAL Nema 4X Non- Metallic
90-03

The ST-90 Dual Channel Controller provides simultaneous display and alarm functions for two monitored variables. Easy to configure and user friendly, the ST-90 Dual can function as a critical alarm controller for toxic gases, combustible gases, vibration, tank levels and other process values.

CSA certified for Division 2 potentially hazardous areas

FEATURES

- Accepts inputs from one or two local or remote mounted sensors or transmitters. Generates 24VDC external device power for transmitters and other devices.

- Three adjustable 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, engineering units, and 30 minute trends. Alarm LED's flash when new and become steady after acknowledged.

- Two standard SPDT common alarm relays are configurable for HIGH and WARN or FAULT alarm conditions. Optional discrete channel alarm relays are also available.

- Modbus® slave RS-485 serial port interfaces to Modbus® masters such as PCs, PLCs and DCS.

- Cal Mode offers pushbutton zero/span calibration for direct sensor interface applications.

- Authorization mode allows locking of critical configuration variables.

- Touch and magnetic keypad standard for non-intrusive operation in potentially hazardous locations.

- Non- Metallic, Epoxy Coated Steel, 316 SS, NEMA 4X (Division 2 certified) and NEMA 7 Explosion-Proof wall mount packaging options available.

- Certified to CSA C22.2 NO. 152 for combustible detection and Class I, Division 2, Groups A,B,C,D CE Mark.

- Non-volatile memory retains all configuration data indefinitely.

- RS-485 Modbus® slave port for up to 128 devices to be multidropped on a single data highway for interrogation by another Modbus® master.

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 programmable, 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 with Tx/Rx LED's

Protocol is Modbus® RTU

DISPLAY

128 x 64 pixel graphic LCD with backlight displays bar graphs, and engineering units. Six discrete LED's indicate alarm status for three alarms per channel

AMBIENT TEMPERATURE RANGE

-25 to +60 degrees C

POWER SUPPLY

100-240 VAC / 10-30 VDC are standard primary power supplies

HOUSING OPTIONS

NEMA 4X / IP66 Wall Mount in Carbon Steel, 316 SS, Non-Metallic are approved for Division 2. The NEMA 7 explosion-proof wall mount approved for Division 1 (also meets NEMA 4)

APPROVALS

CSA C22.2 No 1010.1 and C22.2 No.152 for combustibles and ISA S82.02; EN55011 and EN61000 (CE Mark) UL 1604 / C22.2 No 213

90-03 = NEMA 4X = Division 2 Groups A,B,C,D,

90-02 NEMA 7= Division 1 Group B,C,D

ENCLOSURE OPTIONS

90-03	ST-90N4DUAL non metallic extended	
90-04	ST-90PCSDUAL painted carbon steel extended	
90-05	ST-9DUALSS stainless steel extended	
90-02	ST-90XPDUAL Dual bolt on lid	
90-01	ST-90CPDUAL compact non metallic	

OPTIONS/ACCESSORIES

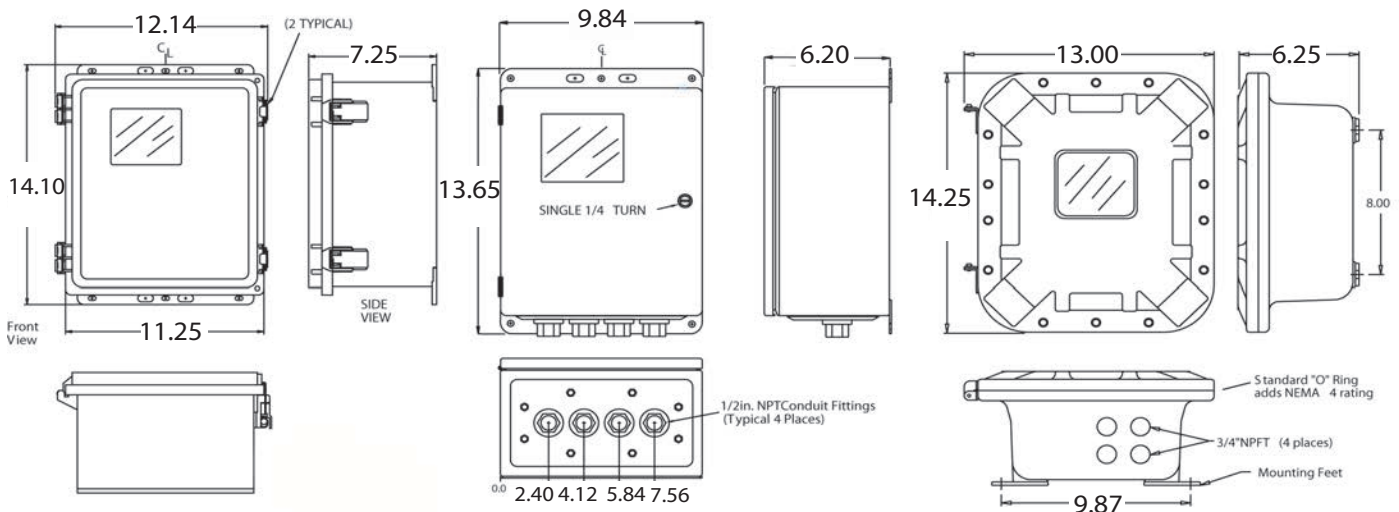|	
10-0221/2	Two Channel 4-20mA analog input PCB option
10-0222	Optional alarm relay board with six 5 amp Form C relays
10-0223	Dual 4-20mA output option
10-0216	One echem (Channel 1) and 1 bridge (Channel 2) sensor input option
10-0219	Dual bridge sensor input option
10-0220	Dual electrochemical sensor 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
*10-0285	Division 2 xenon amber strobe light option
*10-0316	Division 2 xenon blue strobe light option
10-0314	NEMA 4X/7 Division 1, 50 Watt 24VDC external power supply
10-0315	NEMA 4X Division 2, 50 Watt 24VDC external power supply

*These items only available with NEMA 4X Enclosure

ST-90PYDUAL NEMA 4X Non-Metallic Wall Mount
90-03

ST-90SSQUAD NEMA 4X 316 SS Wall Mount
90-52
ST-90PCSQUAD NEMA4 Painted Steel
90-51

ST-90XPDUAL NEMA 7 Explosion-Proof Wall Mount
90-02

12.14 (2 TYPICAL) 7.25 14.10 11.25 Front View SIDE VIEW

9.84 13.65 SINGLE 1/4 TURN 6.20

2.40 4.12 5.84 7.56 1/2in. NPTConduit Fittings (Typical 4 Places)

13.00 14.25 6.25 8.00 Standard "O" Ring adds NEMA 4 rating 3/4"NPFT (4 places) Mounting Feet 9.87

ALL DIMENSIONS IN INCHES

RC SYSTEMS

RC Systems has manufactured electronic products for the instrumentation industry since 1979. As critical alarm monitoring experts, we specialize in interfacing various sensor and analyzer devices to our alarm and display products. Our products are known for their reliability, performance, and ease of use for applications where maintenance and safety are crucial. Our wired and wireless products continue to provide solutions for customers worldwide.

ST-90/Quad Controller with Serial Interface

The ST-90 Quad Channel Controller provides simultaneous display and alarm functions for four monitored variables. Easy to configure and user friendly, the ST-90 Quad can function as a critical alarm controller for toxic gases, combustible gases, vibration, tank levels and other process values.

ST-90PYQUAD NEMA 4X Non-Metallic
90-50

ST-90PCSQUAD Painted Carbon Steel
90-51

CSA certified for *Division 2 potentially hazardous areas*

FEATURES

- Accepts inputs from up to four 4-20mA sensors transmitters for long distance interfacing. Generates 24VDC external device power for transmitters and other devices.

- Three adjustable 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, engineering units, and 30 minute trends. Alarm LED's flash when new and become steady after acknowledged.

- Two standard programmable SPDT alarm relays are configurable for HORN, HIGH, WARN or FAULT alarm conditions.

- Modbus® master/slave RS-485 serial port interfaces to Modbus® devices such as PCs, PLCs, DCS, and other RC Systems controllers.

- Cal Mode offers pushbutton zero / span calibration for direct sensor interface applications.

- Authorization mode allows locking of critical configuration variables.

- Touch and magnetic keypad are standard for non-intrusive operation in potentially hazardous locations.

- Enclosures Include: Non- Metallic, Epoxy Coated Steel, 316 SS, NEMA 4X, NEMA 7 Explosion-Proof wall mount packaging options available.

- Certified to CSA C22.2 NO. 152 for combustible detection and Class I, Division 2, Groups A,B,C,D.

- Non-volatile memory retains all configuration data indefinitely.

- RS-485 Modbus® master/slave port for up to 128, devices to be multidropped on a single data highway for interrogation by another Modbus® master.

- Six additional 5 amp SPDT discrete channel alarm relays available (two are standard).

- 4-20mA outputs, event log, strobe lights and audible annunciators also available.

- 50 and 120 Watt 24VDC power supplies available.

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

STANDARD ALARM RELAYS (STANDARD)

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

SERIAL PORT (OPTIONAL)

Master/Slave RS-485 port equipped with Tx / Rx LED's

Protocol is Modbus® RTU

DISPLAY

128 x 64 pixel graphic LCD with backlight displays bar graphs,trends, and engineering units. Six discrete LED's indicate alarm status, CAL MODE, keypad activity

AMBIENT TEMPERATURE RANGE

-25 to +60 degrees C

POWER SUPPLY

100-240VAC / 10-30VDC are standard primary power supplies

APPROVALS

CSA C22.2 No 1010.1 and C22.2 No.152 for combustibles and ISA S82.02;
UL 1604 / C22.2 No 213 (NEMA 4X = Division 2 Groups A,B,C,D,
EN55011 and EN61000 (CE Mark)
90-12 = NEMA 7 Division 1 Group B,C,D

MODELS

90-50	ST-90PY in Non Metallic
90-51	ST-90PCS in NEMA 4 painted carbon steel
90-52	ST-90SS in NEMA 4X, 316 stainless steel
90-12	ST-90XP in bolt on lid NEMA 7 cast aluminum

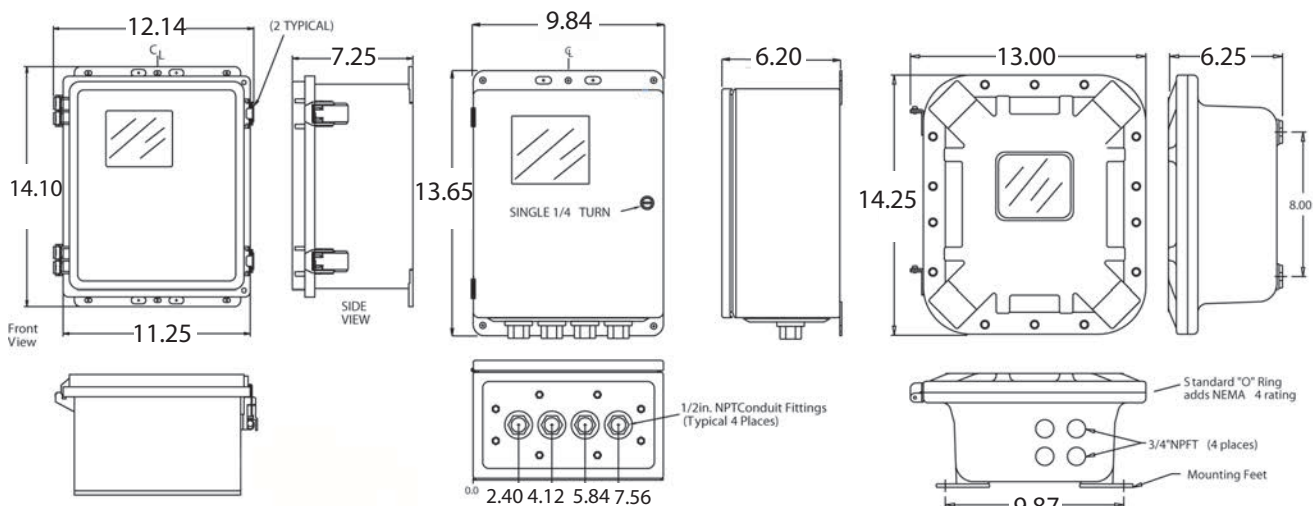## ST-90 OPTIONS/ACCESSORIES

10-0221/4	4-20mA analog input PCB
10-0222	Optional relay board with six programmable 5 amp Form C relays
*10-0328	900MHz wireless kit with rubber dipole antenna
*10-0355	2.4GHz wireless kit with rubber collinear antenna
10-0308	Quad 4-20mA outputs
10-0309	Quad bridge sensor inputs
10-0253	RS-485 / RS-232 Modbus® RTU interface
*10-0337	100dB piezo audible option
*10-0284	Division 2 xenon red strobe light option
*10-0285	Division 2 xenon amber strobe light option
*10-0316	Division 2 xenon blue strobe light option
1000-2259	50 Watt AC/DC power supply module
1000-2373	120 Watt AC/DC power supply module
10-0314	NEMA 4X/7 Division 1, 50 Watt 24VDC external power supply
10-0315	NEMA 4X Division 2, 50 Watt 24VDC external power supply

*These items only available with NEMA 4 enclosure

ST-90PYQUAD NEMA 4X Non-Metallic Wall Mount
90-50

ST-90SSQUAD NEMA 4X 316 SS Wall Mount
90-52
ST-90PCSQUAD NEMA4 Painted Steel
90-51

ST-90XPQUAD Explosion Proof Wall Mount
90-12

ALL DIMENSIONS IN INCHES