Rig Protector
Multipoint Critical Gas Detection and Monitoring System
Rig Protection Device
Protecting Personnel from Hazardous Gases

RC Systems has engineered and manufactured industrial electronic products for the instrumentation industry since 1979. As critical alarm monitoring experts, we specialize in interfacing various sensors 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. Some of these applications include fixed and temporary ambient gas detection as well as numerous other multi signal monitoring applications. In addition, we provide various solutions for hard wire or wireless systems. Our wireless monitoring ability/strategy continues to provide recognized solutions for countless customers worldwide.

The Rig Protector package is a wireless detection and monitoring system that warns of hazardous gas levels. The compact, easy-to-install package critically monitors up to four points and can transmit data as far as 3 miles. It is ideally suited for detecting and monitoring gases to include hydrogen sulfide, carbon monoxide, sulfur dioxide, ammonia and certain combustibles. 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 Quad site controller activates relays for strobes, horns, fans, shut down and other alarm events. Our ST-71 and ST-72 controllers provide receiver functions for up to 64 Channels from Rig Protectors.
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, 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

OPTIONAL ALARM RELAYS (OPTIONAL)
Six 5 amp 30VDC or 250VAC resistive Form C

SERIAL PORT (OPTIONAL)
Modbus® Slave RS-485 port equipped with Tx / Rx LED's 900MHz FHSS wireless Modbus® Slave with RP-TNC connector

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

AMBIENT TEMPERATURE RANGE
-25 to +60 degrees C

POWER SUPPLY
100-240VAC/24VDC are standard primary power supplies
Also suitable for 12VDC Solar Power

HOUSING OPTIONS

Non-Metallic (Poly)
NEMA 4X Non-Metallic/wall mount
Approved for Division 2

Painted Carbon Steel (PCS)
NEMA 4 Painted Carbon Steel/wall mount
Approved for Division 2

316 Stainless Steel (SS)
NEMA 4X Stainless Steel/wall mount
Approved for Division 2

RIG PROTECTOR MODELS

- 90-14 ST-90PY/Rig/Quad NEMA 4X non metallic enclosure
- 90-13 ST-90PCS/Rig/Quad NEMA 4 painted carbon steel enclosure
- 90-15 ST-90SS/Rig/Quad NEMA 4X stainless steel enclosure

*ST-90XX/Rig models include Four installed 1000-2282 quick connectors

OPTIONS/ACCESSORIES

10-0221 Four Channel 4-20mA Analog Input PCB option
10-0222 Optional relay with six 5 amp form C relay option
10-0308 Quad 4-20mA output option
10-0253 RS-232/RS-485 Modbus RTU addressable interface
10-0309 Quad bridge sensor inputs option (may accept two 4-20's)
10-0227 RS-485/RS-232 Modbus® RTU interface option
10-0328 900MHz wireless interface with local 2dBi antenna
10-0355 2.4GHz wireless interface with local 7dBi antenna
10-0337 100db piezo audible alarm added to NEMA 4X enclosure
10-0284 Division 2 red xenon strobe light option
10-0334 30 Watt solar power supply for Division 2; with 55AH battery
10-0333 Tripod and column mounting option
10-0319 Magnetic mounting option
1000-2259 Integral Division 2 50 Watt 24VDC power supply
10-0284 Red strobe light suitable for Division 2 hazardous areas
1000-2638 Quick connector; 3/4” NPT; Division 2, Generation 2
1000-XXXX Quick connector; female 3/4” NPT for XP sensor J-box end; Division 2
1000-2639 Quick connector; panel; Division 2, Generation 2
1000-2640 Lockfast cable guard; Division 2, Generation 2
1000-2620 3 Meter cable set; Division 2, Generation 2
1000-2621 8 Meter cable set; Division 2, Generation 2
1000-2622 15 Meter cable set; Division 2, Generation 2
1000-2623 30 Meter cable set; Division 2, Generation 2
1000-2624 50 Meter cable set; Division 2, Generation 2
1000-2625 76 Meter cable set; Division 2, Generation 2
1000-2626 100 Meter cable set; Division 2, Generation 2

*All cables offered in armored cable style (call for details)
Optional Plug-In and other Accessories

RC Systems has an offering of plug-in options for configuring a fit-for-purpose system and easily changing components as requirements vary. Other accessories are also available.

Solar Power Supply
Transporting Case

Tripod Transporting Case

Rig Protector Transporting Case

Vented Fiberglass Battery Box

110 Decibel Audible Horn
Division 2

Alarm Station

Multicolor Strobes

Solar panel for Charging
55AH Battery, 30 Watt

Sun Shield for Improved
LCD Readout Visibility

Yagi Antenna
2.4GHz

Straight Rubber antenna
900MHz and 2.4GHz

Antenna lightning Arrester

Antenna Base
Station 2.4GHz, Collinear

Yagi Antenna
900MHz

Antenna Base Station
900MHz, Collinear

Quick Connects

Quick Connector Cable Set

Quick Connector Panel Mount

Quick Connector Female 3/4” NPT

Quick Connector Male 3/4” NPT

RP-TNC Low Coax
Antenna Cable

Quick Connector Cable Guard
Features and Benefits

- Up to four wireless or tethered inputs from monitors or bridge sensors.
- Standard package suitable for operation in Division 2 potentially hazardous areas.
- System size can be expanded to accommodate change in requirements.
- Wireless data transmitted up to 3000 feet with standard antenna.
- LCD readout with backlight. Displays bar graphs and engineering units.
- Flexible power input accepts 100-240VAC or 10-30VDC from battery and solar sources.
- Optional mounting include tripod, pole mount or magnetic mount.
- Touch and magnetic keypad for operation in potentially hazardous areas.
- Can be installed quickly without disturbing the worksite.
- Four independent alarm levels for each channel.
- Five amp SPDT alarm relays configurable for HORN, HIGH, WARN or FAULT alarm conditions.
ST-90/QUAD Approvals

- CSA C22.2 No 1010-1 and 152 for combustibles
- ISA S82.02
- ISA S82.02
- ISA S82.02
- Division 2 Groups A, B, C, and D for hazardous areas
- EN55011 and EN61000 (CE Mark)

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