The Art of Gas Detection

Flammable & Toxic Gas Detectors

Smart Alarm Controllers

Fire & Gas System Engineering

Technical Service & Support

RC SYSTEMS
"The Art of Gas Detection"

R.C. Systems has manufactured electronic and gas detection products since 1979. As critical alarm monitoring experts, we specialize in interfacing various gas sensor and analyzer devices to 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.

Our Mission

With our commitment to R&D in all market conditions, we strive to develop state-of-the-art, feature rich safety products and integrate them into innovative system solutions to protect lives and property! We work to build and maintain integrity, trust and responsibility in relationships with our employees, customers and suppliers!

Detectable Gases

Ammonia
Arsine
Benzene
Carbon Dioxide
Carbon Monoxide
Chlorine
Chlorine Dioxide
Ethylene Oxide
Fluorine
Hydrogen
Hydrogen Chloride
Hydrogen Cyanide
Hydrogen Fluoride
Hydrogen Sulfide
Methane
Nitric Oxide
Nitrogen Dioxide
Oxygen
Ozone
Pentane
Sulfur Dioxide
Refrigerants
VOCs
And more.....

Application Fields

Leak Detection
Personnel Protection
Hazard Prevention
Near Process Measurement
Emission Monitoring
Fire and Flame Detection

Industries

Oil & Gas Industries
Petrochemical Industries
Heavy and Metal Industry
Producing and Processing Industries
General Industry
Mining and Tunneling
Shipping
Pharmaceutical Industry
Electronic Industry
Food & Beverage Industry
Utilities and Supplies
Power Generation & Supply
Gas Supply
Water Treatment
Disposal Enterprises
Facility & Maintenance Management
Science & Research

OVERVIEW

Gas and Flame Detectors

SenSmart 1000	2-wire EC sensor 4-20mA transmitter
SenSmart 2000	2-wire EC sensor with graphic display
SenSmart 3000	Universal 3-wire detector (dual sensor support)
SenSmart 4000	Universal 2-wire detector
SenSmart 5000	Universal 3-wire detector with embedded Ethernet
SenSmart 6000	Universal 3-wire detector with embedded Ethernet (dual sensor support)
SenSmart 7000	Universal wireless detector (dual sensor support)
SenSmart 1300M/3300M/6300M	Infrared combustible gas detector
SensePoint	Single Point gas detector
Quasar 900	Open path gas detector
SharpEye 40/40I	IR3 flame detector

Controllers

ViewSmart 200	Dual controller
ViewSmart 400	Quad controller
ViewSmart 1600	16-channel controller
ViewSmart 1600+	16-channel controller
ViewSmart 2150S/2150	Single/Dual controller
ViewSmart 6400	64-channel controller

Wireless System

SenSmart 7000	Universal wireless detector (dual sensor support)
WLR	32-channel wireless receiver
WNR	Wireless relays and alarm status display/wireless repeater
WaveBridge R/M	Wireless repeater and wireless modem
SST	Site survey tool kit

Engineered Products and Solutions

Rig Protector	Transportable perimeter monitoring
Alarm Bars/Stations	
Sampling Systems	
Custom System Solutions	

GAS & FLAME DETECTORS

SenSmart 1000

2-wire EC sensor 4-20mA transmitter

2-wire 4-20mA sensor transmitter. Accepts low power Toxic or Oxygen Electrochemical sensor modules and functions in a 2-wire 4-20mA "sink" mode to transmit gas values to an appropriate receiver device

Features:

- Field replaceable toxic/oxygen sensor module
- Range and target gas configured on sensor module
- System noise immunity
- Industry standard 4-20mA signal on 2-wires
- Class 1, division 1 and 2 hazardous areas

SenSmart 2000

2-wire EC sensor 4-20mA transmitter

2-Wire 4-20mA loop powered gas detector monitors oxygen and toxic gases by offering a wide variety of Electrochemical gas sensors

Features:

- Certified for explosion proof and intrinsically safe installations
- Graphic display shows values, units, trend graph, alarm levels
- Non-polarized loop powered interface eliminates wiring errors
- Three flashing alarm LEDs with programmable alarm levels
- Real time clock tags alarm and calibration events
- Non-intrusive one-man calibration
- Power-up and post-calibration delays eliminate false alarms
- Security settings to lock critical parameters
- Temperature compensation
- Sensor life indication

GAS & FLAME DETECTORS

SenSmart 3000

3-wire universal transmitter for EC, IR, Catalytic bead, PID sensor

Built with reliable ST-48 smart transmitter, which provides cutting-edge technology in toxic and combustible gas detection. It's a universal, easy to use detector that supports dual smart sensor with different types, including Electrochemical, Catalytic Bead, Infrared and Photoionization sensors

Features:

- CSA certified for class 1, division 1 locations
- CSA C22.2 NO. 152 for combustible detection (XP only LEL)
- CSA certified for Class 1, division 2 in poly enclosure
- Graphic LCD display shows values, units, trend graph, alarm levels, sensor life indication
- Backlit display for better visibility in low light conditions
- LED indication of alarm status
- Dual smart sensor capable

SenSmart 4000

2-wire universal transmitter for EC

The SenSmart 4000 2-Wire 4-20mA Loop-Powered Gas Detector accepts electrochemical gas sensors for oxygen and toxic gas detection. SenSmart 4000s utilize our popular GEN 2 smart sensor proprietary technology to provide sensor recognition and temperature compensation within the SenSmart 4000. Each GEN 2 smart sensor has nonvolatile memory to store unique records of serial number, born-on date, initial calibration values, engineering units and temperature compensation algorithm.

Features:

- Certification for Explosion Proof Class 1 Division 1 and Non Incendive Class 1 Division 2 Safe Installations
- Graphic display shows values, units, trend, bar graph, alarm levels Non-polarized 4-20mA loop powered interface eliminates wiring errors
- Real time clock/ calendar flags alarm and calibration events
- Non-Intrusive, magnetic interface calibration sequence prompts the user through zero and span calibration. Span value is user programmable.
- Power-up and post-calibration delays eliminate false alarms
- Security settings to lock critical parameters
- Auto-recognition of Smart Sensors uploads
- Fault supervision circuitry detects failed sensor and transmits warning
- Setup in hazardous area requires only simple magnetic wand

UNIVERSAL GAS DETECTORS

SenSmart 5000

Universal 3-wire transmitter with Modbus

The state-of-the-art SenSmart 5000 gas detector is R.C. Systems' newest release to the gas detection industry. No competitive product offers as many features or better performance to cost ratio. With a bright, vivid backlit color display, Modbus and programmable relays, it will satisfy the most demanding application's requirements. The high performance, universal gas detector supports all temperature compensated smart sensor types including Electrochemical, Catalytic Bead, Infrared and Photoionization sensors. It even has Arctic option available for extreme low temperature installations.

Features:

- CSA Certification for Class 1, Div 1 and Class 1 Div 2 locations
- Color backlit LCD Display
- Display Color Changes with Alarm Status
- Generation 2 Smart Sensor Compatible for increased signal stability
- Sensor Life Indication
- Remote Sensor Mount up to 4000'
- Non-intrusive One-Man Calibration
- Temperature Compensation
- Two RS-485 Ports for Modbus
- 2 Programmable Relays and Fault Relay Available

SenSmart 6000

Universal transmitter with Ethernet

Built with the proven ST-44 transmitter. This versatile unit has a bright, vivid color display and embedded Ethernet with web server and Modbus TCP. The high performance, universal gas detector supports dual smart sensors with different type including Electrochemical, Catalytic Bead, Infrared and Photoionization sensors

Features:

- CSA certified for class 1, division 1 locations
- CSA certified Class 1, division 2 in poly enclosure
- Vivid QVGA backlit color TFT display
- Standard Ethernet port with web server and Modbus TCP
- Dual smart sensor capable
- Sensor life indication
- Remote sensor mount up to 4000'
- Non-intrusive one-man calibration
- Temperature compensation
- Two RS-485 ports for Modbus
- Heated sensor elements available for low temperature

GAS & FLAME DETECTORS

SenSmart 1300M/3300M/5300M/6300M

Intelligent infrared 4-20mA combustible gas detector

The microprocessor based intelligent SenSmart 1300M infrared gas detector is ideally suited for use in harsh environments and where conventional catalytic detectors are prohibitive. These infrared gas detectors perform reliably in the presence of silicone and other catalyst poisoning agents, and operate in oxygen free environments or where high background gas levels are present

Features:

- CSA C22.2 NO. 152 for combustible detection
- Virtually maintenance free infrared sensing technology
- Low cost of ownership with over five years operation life
- Rugged stainless steel construction with fast response time
- Requires no routine calibration
- Patented self-compensating optics
- No moving parts
- Heated optical chamber prevents condensation
- A multi-layered filtering system protects optics from dirt and water ingress

The SenSmart 1300M can directly connect to SenSmart 3000, SenSmart 5000, SenSmart 6000 and SenSmart 7000 transmitters to have local display and other advanced functions from those transmitters

SenSmart 3300M

SenSmart 5300M

SenSmart 6300M

SenSmart 7300M

GAS & FLAME DETECTORS

SensePoint

Single Point gas detector

The SensePoint gas detector is R.C. Systems' newest solution for single point monitoring with local alarm indication. Ideal for laboratory and commercial environments .With a bright, vivid backlit color display, Modbus and programmable relays, it will satisfy the most demanding application's requirements. The SensePoint gas detector supports all temperature compensated smart sensor types including Electrochemical, Catalytic Bead, Infrared and Photoionization sensors. It even has Arctic options available for extreme low temperature installations.

Features:

- Color backlit LCD Display
- Display Color Changes with Alarm Status
- Generation 2 Smart Sensor Compatible for increased signal stability
- Sensor Life Indication
- Remote Sensor Option
- Non-intrusive One-Man Calibration
- Temperature Compensation
- RS-485 Modbus Port
- 2 Programmable Relays and Fault Relay standard
- Heated elements available for low temperature
- Multi color visual alarm indicator
- Audible alarm indicator

GAS & FLAME DETECTORS

QUASAR 900

Open path IR detector for hydrocarbon gases

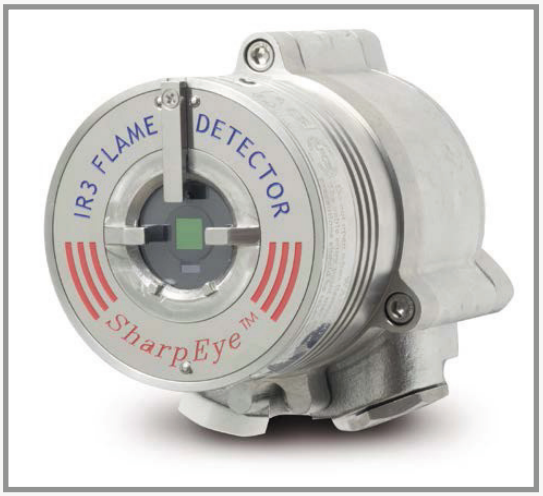
The SafEye Quasar 900 series is the very latest open path IR technology and detects a wide range of hydrocarbon gases – including alkanes (methane to hexane) and ethylene. Path lengths can be up to 660ft (200m). Reliability and performance is assured with SIL2 approval and 3rd party FM performance/function testing to FM and EN standards

Features:

- Wider area coverage
- Most likely method to pick up any leak
- Very high speed of response
- No unrevealed failure modes
- Beam block warning
- Detector location is less critical
- Size of gas hazard indicated

SHARPEYE 40/40I

Triple IR (IR3) flame detector



The new 40/40I can detect a 1 ft^2 ($0.1m^2$) gasoline pan fire at 215 ft (65m) in less than 5 seconds. The 40/40I is the most durable and weather resistant flame detector currently on the market. Its new features include a heated window, to eliminate condensation and icing; HART capabilities for digital communications; lower power requirements; and a compact, lighter design. Due to increased reliability, the 40/40I Series warranty period has been extended to 5 years and is SIL2 (TUV) approved to IEC 61508

Features:

- Multi spectrum design - for long distance detection and high false alarm immunity
- Sensitivity selection - to ensure no zone crossover detection
- Automatic and manual Built-In-Test (BIT) - to assure continued reliable operation
- Heated window - for operation in harsh weather conditions (snow, ice, condensation)
- Multiple output options: relays (3) for alarm, fault and auxiliary,4-20mA (stepped), HART, RS-485, Modbus compatible

RC SYSTEMS ALARM CONTROLLERS

ALARM CONTROLLERS

ViewSmart 200

Two channel controller with serial interface

The ViewSmart 200 Dual channel controller provides simultaneous display and alarm functions for two 4-20mA or bridge sensors. Easy to configure and user friendly, the ViewSmart 200 functions as a critical alarm controller for gas detection system

Features:

- Certified to CSA C22.2 NO. 152 for combustible detection
- Class I, division 2, groups A,B,C,D, CE mark
- Two SPDT common alarm relays configurable for HIGH and WARN or FAULT. Six optional discrete channel alarm relays available
- Graphic LCD displays and alarm LEDs
- Modbus slave RS-485 port
- Available with non–metallic, epoxy coated steel, 316 SS, NEMA 4X (division 2 certified) and NEMA 7 explosion-proof

ViewSmart 400

Four channel controller with serial interface

The ViewSmart 400 Quad channel controller provides simultaneous display and alarm functions for four 4-20mA or bridge sensors. Easy to configure and user friendly, the ViewSmart 400 functions as a critical alarm controller for gas detection system

Features:

- CSA C22.2 NO. 152 for combustible detection
- Class I, division 2, groups A,B,C,D, CE mark
- Graphic LCD displays and alarm LEDs
- Two programmable SPDT alarm relays configurable for HORN, HIGH, WARN or FAULT alarm conditions
- Modbus master/slave RS-485 serial port
- Wireless available
- Six additional 5 amp SPDT discrete programmable relays available
- 4-20mA outputs, event log, strobe lights and audible annunciators also available

ALARM CONTROLLERS

ViewSmart 1600

16 channel alarm controller with Modbus master/slave ports

The ViewSmart 1600 16 channel Modbus master/slave controller provides display and alarm functions for up to 16 monitored variables. Easy to configure and user friendly, ViewSmart 1600 function as a critical alarm controller for gas detection system

Features:

- Certified to CSA C22.2 NO. 152 for combustible detection
- Class I, division 2, groups A,B,C,D, CE mark
- SPDT common alarm relays for HORN, HIGH, WARN and FAULT. Optional alarm relays available
- Graphic LCD displays and alarm LEDs
- Modbus master and slave RS-485 ports
- Available with non–metallic, 316 SS, NEMA 4X (division 2 certified) and NEMA 7 explosion-proof , rack/panel mount

ViewSmart 1600+

16 channel alarm controller with Ethernet web server

The ViewSmart 1600+ controller combines the reliability of our proven Viewsmart 1600 controller with the advanced upgrades of our ViewSmart 6400 channel controller in one low cost package. The ViewSmart 1600+ provides simultaneous display and alarm functions for up to 16 input variables. 8 or 16 channel display modes, and I/O modules arranged in groups of 8 channels, allow economical configuration of systems. This easy-to-configure, user friendly controller is ideal for centralizing display and alarm functions in critical multipoint monitoring applications.

Features:

- 8/16 channel display modes accept inputs from many sensor types and signal ranges. Input types include 4-20mA and Modbus.
- Convenient off site e-mail notification included with daily, weekly summary.
- Wireless Modbus and RC Systems' WaveNet wireless interfaces available
- Ethernet with web server Modbus TCP master/slave
- Two standard Modbus RS485 ports and two optional
- QVGA color LCD displays
- Five standard SPDT 5-amp alarm relays for HORN and FAULT, plus three programmable alarm relays

ALARM CONTROLLERS

ViewSmart 2150S/2150

Single/Dual channel controller with serial interface

*Also available with compact enclosures as **ViewSmart 2050**

The ViewSmart 2150S/2150 is a single/dual point, standalone gas detector with local audible and visual alarms and large 1" LED display. Used for non-hazardous locations, the ViewSmart 2150S/2150 inherit the advanced functions and features used in R.C. Systems' site-proven ST-90 dual channel alarm controller.

Features:

- Accepts inputs from one or two local or remote mounted sensors or transmitters
- Three adjustable independent alarm levels per sensor
- Alarm acknowledge for audio alarm silence
- Graphic LCD for configuration and readout displays monitored data as bar graphs, engineering units, and 30 minute trends.
- Large and bright 1" LED display
- Local alarm LEDs flash when alarm set point reached
- Two standard SPDT common alarm relays configurable for HIGH and WARN or FAULT
- Six optional discrete alarm relays are available
- Optional Modbus® slave RS-485 serial port interfaces available
- Non-volatile memory retains all configuration data

ViewSmart 6400

64 channel controller with Ethernet web server

The ViewSmart 6400 controller provides simultaneous display and alarm functions for up to 64 input variables.16-32-48-64 channel display modes, and I/O modules arranged in groups of 16 channels, allow economical configuration of systems. This easy-to-configure, user friendly controller is ideal for centralizing display and alarm functions in critical multipoint monitoring applications

Features:

- Certified to CSA C22.2 NO. 152 for combustible detection
- Class I, division 2, groups A,B,C,D, CE mark
- 16-32-48-64 channel display modes
- Ethernet with web server Modbus TCP master/slave
- Two standard Modbus RS485 ports and two optional
- QVGA color LCD displays
- Five standard SPDT 5-amp alarm relays for HORN and FAULT, plus three programmable alarm relays
- Data logger onto SD card
- Available with NEMA 4X , non-metallic, 316 SS, NEMA 7 and rack/panel mount

WIRELESS SYSTEM

SenSmart 7000

wireless universal transmitter for EC, low power IR

The battery-powered SenSmart 7000 wireless gas detector, with ultra-low power design and easy to use features, provides the most advanced, economical and reliable true wireless toxic and combustible gas detection solution. Compatible with all R.C. System's toxic sensors and also supports the new low-power infrared sensor for hydrocarbon combustibles or carbon dioxide

Features:

- CSA certified for class 1, division 2 hazardous locations in aluminum enclosure (shown) or poly enclosure
- D-cell lithium battery powered for up to 9 months toxic/ oxygen and 6 months LEL operation
- Available for both 900Mhz and 2.4Ghz
- Frequency-hopping spread spectrum (FHSS) technology
- Typical > 1 mile range with local dipole antenna (900Mhz)

WLR

32 channel wireless Wavelink receiver

A WLR receives up to 32 SenSmart 7000 wireless gas detectors. An option module adds data logging, second wired and wireless Modbus port, plus a Wi-Fi or Ethernet port with web-server. The Wi-Fi and Ethernet features allow remote HMI functionality via any web enabled device

Features:

- Displays readings and alarms from 1 to 32 SenSmart 7000s
- Includes 8 programmable 5-amp relays
- Graphic LCD displays
- Event Log (power-up, alarms, calibration and com errors etc)
- 10-30 VDC or 100-240 VAC standard power, solar power optional
- Offers both 900 MHz and 2.4 GHz FHSS models
- Touch and magnetic keypads are standard for non-intrusive operation
- Password protected with security levels

WIRELESS SYSTEM

WNR

Wireless WaveNet Relayer

A WNR receives alarm status from up to 32 SenSmart 7000 wireless transmitters, to activate 5 programmable relays . It can also repeat the wireless signal from wireless gas detector to wireless control panel

Features:

- Display alarm status
- 5 programmable 5A SPDT relays (one for horn)
- Backlit graphic LCD and LED displays
- Wireless packet re-transmit
- 10-30 VDC power supply

WaveBridge Repeater/Modem

Wireless network gateway/wireless data modem

WaveBridge R is a bridge to link two sub-wireless networks and commonly used to increase the distance and over come obstacles/obstructions in wireless applications. WaveBridge M is a RS485 to wireless bi-directional converter

Features:

- Supports both 900MHz and 2.4GHz FHSS client/server wireless networks
- 10-30VDC power input
- Wireless network parameters configured via non-intrusive magnetic operator interface
- Configurable as the wireless network's client or server
- Standard models suitable for division 2 hazardous areas

WIRELESS SYSTEM

SST

Wireless Site Survey Tool

The hand-held WaveNet Site Survey Tool (SST) is designed for simulating R.C. Systems WaveNet products including SenSmart 7000 wireless gas detector, WaveLink receivers (WLRs) and WaveNet relayers (WNRs). SSTs are supplied with either a 900MHz or 2.4GHz integrated radio module

Features:

- Backlit graphic LCD readout
- Scans airwaves for wireless networks
- RSSI values are trended over time and indicated in dBm for each reception
- Rx Client mode allows network observation without affecting installed wireless devices
- Rx/Tx counters allow calculation of missed data packets over time
- Rx mode timer indicates elapsed time between received messages for each channel

400W/1600W/1600+W/6400W

4 /16/32 channel wireless controller

By adding certain wireless modules, ViewSmart 400, ViewSmart 1600, ViewSmart 1600+ and ViewSmart 6400 controllers can work as wireless receivers for SenSmart 7000 transmitters, and for wired detectors simultaneously

Features:

- Keep all the features of the controllers
- Seamlessly combine the wireless network and wired solutions
- Class1 division 2 hazardous areas

ENGINEERED PRODUCTS & SOLUTIONS

Rig Protector

Transportable multipoint critical perimeter gas monitoring

The Rig Protector package is a wireless monitoring system that warns of hazardous gas levels. The compact, easy-to-install package critically monitors up to four points. It is ideally suited for detecting 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

Features:

- Class1 division 2 hazardous areas
- Typical > 1 mile range with local dipole antenna (900Mhz)
- LCD readout with backlight. Displays bar graphs and engineering units
- Power input accepts 100-240VAC or 10-30VDC from battery and solar sources

Alarm Bars/Stations

Various cost-effective alarm bars and alarm stations are available for general purpose and hazardous locations

Four Light 10-30VDC Alarm Bar

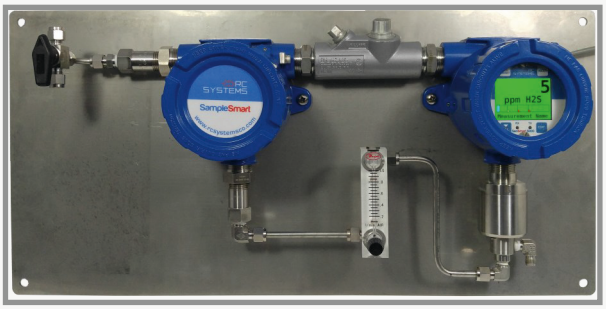
Two Light 10-30VDC Alarm Bar

ENGINEERED PRODUCTS & SOLUTIONS

Sampling Systems

SampleSmart XP

Sample Draw Gas Detection System



The field tested and proven sampling system provides accurate and continuous measurement of target gas concentrations in harsh industrial environments, such as natural gas treating plants, gas production wells and at custody transfer points along gas transmission pipelines. It can be customized for different industrial applications

Features:

- Sample lines (Stainless Steel or Teflon) up to 300 ft. in less than 3 minutes
- Engineered for using in Class 1 Div. 1 locations
- Easy flow regulating with built-in flow meter and valve
- Loss-of-flow detected and indicated on readout
- Long lasting diaphragm pump with DC brushless motor

SampleSmart XP/ASP

Sample Draw Gas Detection System

The SampleSmart XP/ASP sample draw system is engineered to monitor gas atmospheres from extreme conditions with either temperature or pressure challenges. A powerful air aspirator can pull a sample from up to 300 feet away from remote or hostile locations where a gas detector can't be directly or easily installed

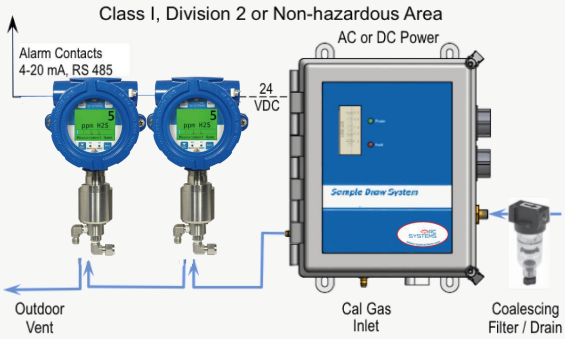
Features:

- Single / Dual channels support sensors for both toxic and combustible gas
- Sample lines (Stainless Steel or Teflon) up to 300 ft. in less than 3 minutes
- Engineered for using in Class 1 Div. 1 locations
- Easy magnetic wand setup in hazardous area
- Easy flow regulating with built-in flow meter and valve Loss-of -flow detected and indicated on readout
- High visibility vivid QVGA color display
- Alarm flashes user selected colors onto display
- Standard RJ-45 Ethernet interface with built-in web server and Modbus TCP

ENGINEERED PRODUCTS & SOLUTIONS

Sample Draw System

For use with R.C. Systems Fixed Gas Detector



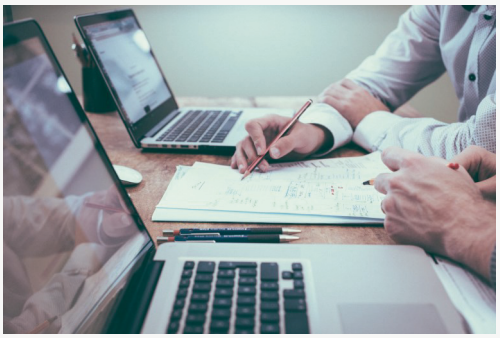
The R.C. Systems Sample Draw System samples air from remote locations pulling a sample to gas detection transmitter (s) and is offered as a diaphragm pumped or an air operated aspirator unit. It is designed for placement in a Class I, Division 2 Hazardous (Classified) area to sample from a Class I, Division 1 Hazardous (Classified) area, Groups C and D. A Division 2 approval eliminates the need for flame arrestors and reduces related maintenance caused by dirt and moisture

Features:

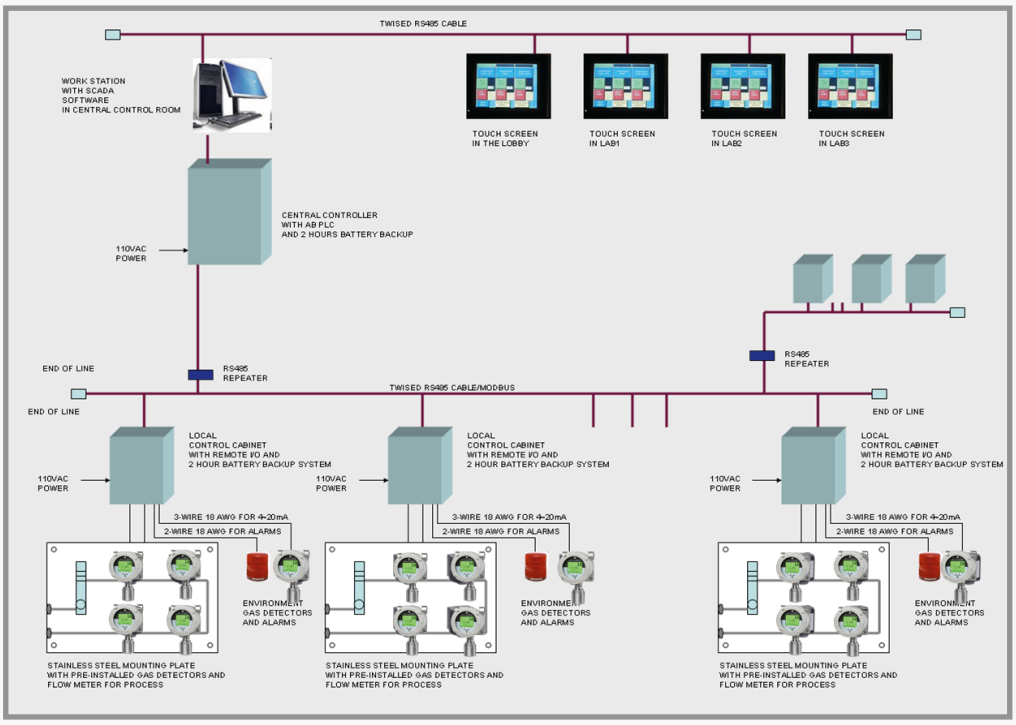
- Class 1, Division 2 Rated for Sampling from a Class 1 Division 1 Area
- FM Listed for NFPA 820 Compliance
- Flow Sensor with Relay that Fails Safe
- Internal Power Switch and Flow Adjust
- 24 VDC Power Source for Gas Detectors
- Long lasting diaphragm pump with DC brushless motor

ENGINEERED PRODUCTS & SOLUTIONS

Custom System Solutions



R.C. Systems has a professional engineering team that can provide solutions for fire & gas detection system engineering, from system design with detailed wiring diagram to site startup and commissioning service. We offer not only the standard R.C. Systems' detectors and controllers, but also any other systems required by the customer, such as PLC, HMI, or SCADA system.



ENGINEERED PRODUCTS & SOLUTIONS

ZoneProtector

Multipoint Gas Detection

*ZoneProtector Quad shown with Sample Draw System

Many traditional small gas detection systems consist of several gas detectors, an alarm/readout controller and annunciators. ZoneProtector integrates all of these into a single compact unit to provide simple cost-effective solutions; especially for protecting small areas from gas leaks. The ZoneProtector provides simultaneous detection, display and alarms for up to four different gases. It supports local or remote mounted Electrochemical, Catalytic Bead, Infrared, and PID sensors for detecting toxics, combustibles and VOCs. It inherits all the features from the popular ViewSmart Dual/Quad controller, including powerful wired/wireless Modbus communications and user-friendly configuration. When combined with a sample draw and conditioning system, such as R.C. Systems' SampleSmart products, ZoneProtector offers an economical way to detect multiple gases in many harsh and hard to reach areas.

*ZoneProtector Dual shown with Diffusion Sensors

Features:

- Backlit graphic LCD readout
- Scans airwaves for wireless networks
- RSSI values are trended over time and indicated in dBm for each reception
- Rx Client mode allows network observation without affecting installed wireless devices
- Rx/Tx counters allow calculation of missed data packets over time
- Rx mode timer indicates elapsed time between received messages for each channel

RC SYSTEMS SENSOR GUIDE

Target gas	Formula	Relative Gas Density	TWA	IDLH	Min Span	Max Span	TYPE	T50
Combustible	Hydrocarbons	varies	--	asphyxiant	--	100%LEL	CB	3
Acetaldehyde	C2H4O	1.5	200ppm	2000ppm (Ca)	30ppm	1500ppm	PID	--
Acetylene	C2H2	0.91	--	asphyxiant	--	0-100% LEL	IR	<5
Ammonia	NH3	0.6	50ppm	300ppm	25ppm	1000ppm	EC	<20
Ammonia	NH3	0.6	50ppm	300ppm	1250ppm	5000ppm	EC	<30
Arsine	AsH3	2.69	0.5ppm	3ppm	--	1ppm	EC	--
Arsine	AsH3	2.69	0.5ppm	3ppm	--	0.5ppm	EC	<20
Benzene	C6H6	2.6961	1ppm	500ppm	3ppm	25ppm	PID	--
Butane	C3H8	1.55	1000ppm (pel)	2100ppm	--	0-100% LEL	IR	--
Carbon Dioxide	CO2	1.53	5000ppm	40000ppm	--	1.5%/vol	IR	--
Carbon Dioxide	CO2	1.53	5000ppm	40000ppm	--	5%/vol	IR	--
Carbon Dioxide	CO2	2.33	0.1ppm C	5ppm	--	5%/vol	IR	<5
Carbon Dioxide	CO2	1.53	5000ppm	40000ppm	--	0-100%vol	IR	<15
Carbon Monoxide	CO	0.97	50ppm	1200ppm	40ppm	5000ppm	EC	--
Chlorine	Cl2	2.47	1ppm C	10ppm	5ppm	20ppm	EC	--
Chlorine Dioxide	ClO2	2.33	0.1ppm C	5ppm	3ppm	6ppm	EC	--
Ethane	C2H6	1.07	--	asphyxiant	--	0-100% LEL	IR	<5
Ethanol	C2H6O	1.6	1000ppm	3300ppm	--	0-100% LEL	IR	<5
Ethyl Alcohol	C2H6O	1.59	1000ppm	3300ppm	40ppm	3300ppm	PID	--
Ethylene	C2H4	0.98	200ppm	asphyxiant	--	0-100% LEL	IR	<5
Ethylene Oxide	C2H4O	1.49	<0.1ppm (Ca)	800ppm (Ca)	20ppm	100ppm	EC	--
Flourine	F2	1.31	0.1ppm	25ppm	--	1ppm	EC	<30
Hexane	C6H14	2.97	500ppm	1100ppm	--	0-100% LEL	IR	<5
Hydrazine	N2H4	1.1	C 0.03ppm (Ca)	50ppm (Ca)	--	1ppm	EC	<30
Hydrogen	H2	0.07	--	asphyxiant	5000ppm	0ppm or 100	EC	<40
Hydrogen	H2	0.07	--	asphyxiant	250ppm	5000ppm	EC	--
Hydrogen	H2	0.07	--	asphyxiant	500ppm	10000ppm	EC	<40
Hydrogen Chloride	HCl	1.27	5ppm C	50ppm	10	10	EC	--
Hydrogen Cyanide	HCN	0.94	ST 4.7ppm	50ppm	35ppm	100pm	EC	--
Hydrogen Flouride	HF	0.69	3ppm	30ppm	10ppm	10ppm	EC	--
Hydrogen Sulfide	H2S	1.19	20ppm	100ppm	5ppm	2000ppm	EC	--
Methane	CH4	0.6	--	asphyxiant	--	0-100% LEL	IR	--
Methane	CH4	0.6	--	asphyxiant	--	0-100% LEL	IR	<5
Methane	CH4	0.6	--	asphyxiant	/vol (100%L	100%/vol	IR	--
Nitric Oxide	NO	1.04	25ppm (pel)	100ppm	10ppm	250ppm	EC	--
Nitric Oxide	NO	1.04	25ppm (pel)	100ppm	70ppm	500ppm	EC	--
Nitrogen Dioxide	NO2	2.62	5ppm C	20ppm	15ppm	20ppm	EC	--
Nitrogen Dioxide	NO2	2.62	5ppm C	20ppm	25ppm	200ppm	EC	--
Oxygen	O2	1.1	--	19.50%	--	25%/vol	EC	--
Ozone	O3	1.66	0.1ppm	10ppm	510ppb	2ppm	EC	--

RC SYSTEMS SENSOR GUIDE

T90	TEMP °F	Relative Humidity (non-condensing)	A1	A2	A3	FAULT	1K	1200	2K	3K	4K	5K	6K	7K
8	-4° to 158°	0 to 100%	20%	40%	60%	-10%		X	**X**	X	X	X	X	X
<3	-40° to 131°	0 to 99%	20%	40%	60%	-10%		**X**		X		X	X	
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<60	-4° to 104°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<90	-4° to 104°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<30	-4° to 104°	10 to 95%	20%	40%	60%	-10%	X				X	X	X	X
<60	-4° to 104°	20 to 95%	20%	40%	60%	-10%	X				X	X	X	X
<3	-40° to 131°	0 to 99%	20%	40%	60%	-10%		X		X		X	X	
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X		X		X	X	
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X				X	X	
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X		X		X	X	
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X		X		X	X	
<30	-4° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<60	-4° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<60	-4° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<3	-40° to 131°	0 to 99%	20%	40%	60%	-10%		X		X		X	X	
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<200	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<80	14° to 104°	15 to 90%	20%	40%	60%	-10%	X				X	X	X	X
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<120	14° to 104°	20 to 95%	20%	40%	60%	-10%	X				X	X	X	X
<60	-4° to 104°	15 to 95%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<80	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<70	-4° to 104°	16 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<200	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X				X	X	X	X
<120	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<90	-4° to 104°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<55	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<30	-4° to 122°	0 to 95%	20%	40%	--	-10%		X				X	X	
<10	-40° to 158°	0 to 99%	20%	40%	60%	-10%				X		X	X	
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X		X		X	X	
<30	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<75	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<60	-22° to 104°	15 to 85%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<40	-4° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<15	-22° to 131°	5 to 95%	19	18	17	-2.5	X		X	X	X	X	X	X
<150	-4° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X

RC SYSTEMS SENSOR GUIDE

Target gas	Formula	Relateive Gas Density	TWA	IDLH	Min Span	Max Span	TYPE	T50
Pentane	C5H12	2.487	1000ppm	1500ppm	--	0-100% LEL	IR	<5
Phosphine	PH3	1.18	0.3ppm	50ppm	5ppm	10ppm	EC	--
Propane	C3H8	1.55	1000ppm (pel)	2100ppm	--	0-100% LEL	IR	--
Propane	C3H8	1.55	1000ppm (pel)	2100ppm	--	0-100% LEL	IR	<5
Propane	C3H8	1.55	1000ppm (pel)	2100ppm	--		IR	--
Propylene	C3H6	1.45	--	asphyxiant	--	0-100% LEL	IR	<5
Silane	SiH4	1.11	5ppm	asphyxiant	45ppm	50ppm	EC	--
Sulfur Dioxide	SO2	2.26	5ppm	100ppm	10ppm	100ppm	EC	--
Sulfur Dioxide	SO2	2.26	5ppm	100ppm	100ppm	2000ppm	EC	--

APPLICATION NOTES AVAILABLE

TARGET GAS	FORMULA	APPLICATION NOTES
Acetylene	C2H2	Millenium sensor
Arsine	AsH3	Available with or without H2S filter
Carbon Dioxide	CO2	Low power IR
Carbon Dioxide	CO2	Low power IR in development
Carbon Dioxide	CO2	Millenium sensor
Carbon Dioxide	CO2	Specify span when ordering
Ethane	C2H6	Millenium sensor
Ethanol	C2H6O	Millenium sensor
Ethylene	C2H4	Millenium sensor
Hexane	C6H14	Millenium sensor
Methane	CH4	Low power IR
Methane	CH4	Millenium sensor
Methane	CH4	Specify span when ordering
Pentane	C5H12	Millenium sensor
Propane	C3H8	Low power IR
Propane	C3H8	Millenium sensor
Propylene	C3H6	Millenium sensor

RC SYSTEMS SENSOR GUIDE

T90	TEMP °F	Relative Humidity (non-condensing	A1	A2	A3	FAULT	1K	1200	2K	3K	4K	5K	6K	7K
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<20	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<30	-4° to 122°	0 to 95%	20%	40%	60%	-10%		X				X	X	
<10	-40° to 158°	0 to 99%	20%	40%	60%	-10%				X		X	X	
<30	-4° to 122°	0 to 95%	20%	40%	--	-10%		X		X		X	X	
<10	-40° to 158°	up to 99%	20%	40%	60%	-10%				X		X	X	
<60	-4° to 104°	10 to 95%	20%	40%	60%	-10%	X				X	X	X	X
<40	-22° to 122°	15 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X
<30	-22° to 122°	16 to 90%	20%	40%	60%	-10%	X		X	X	X	X	X	X

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MM-1038 Rev J

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