

SenSmart 5000 Series

"The Art of Gas Detection"



Non-metallic Poly "PY" Div 2 model

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 options available for extreme low temperature installations.



Aluminum "AL" XP model

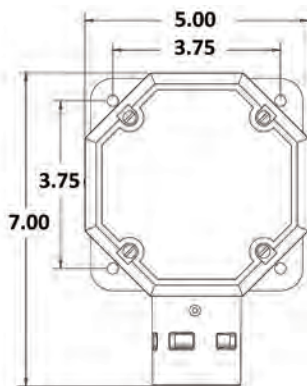
FEATURES HIGHLIGHT:

- 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
- Heated elements available for low temperature
- Remote SmartCal feature allows user to initiate calibrations from connected RCS controller via Modbus connection

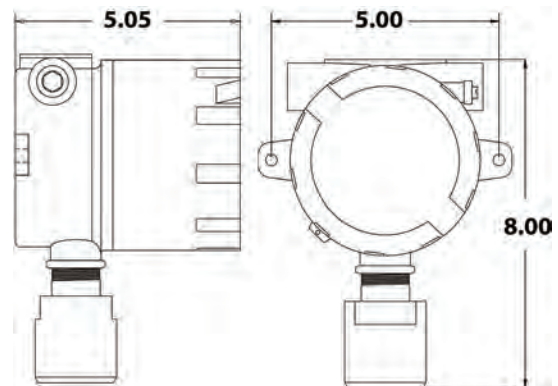
SPECIFICATIONS

Power Supply	10-30VDC at < 6.5 watts with relay board (all relays energized)
Display	128x64 pixel color backlit LCD display
Sensor Input	Electrochemical, Catalytic Bead, Infrared, Photoionization Detector sensor; Modbus 4-20mA
Standard Output	3-wire 4-20mA current source. Max loop Resistance 600 ohms @ 24VDC
Optional Outputs	Two programmable relays plus dedicated FAULT relay Dual master / slave MODBUS RS-485 serial interfaces
Environmental	Operating range -40°C to +60°C Sensors include sensor heater for low temperature operation Relative humidity to 95% for IR; to 85% noncondensing when using electrochemical sensors
Housing	Aluminum with epoxy paint standard; Optional #316 stainless steel, Optional UI94 Poly Black Plastic Enclosure
Dimensions	(Aluminum) Width 5.4" (137 mm), Height 8" (203 mm), Depth 5" (127 mm) Shipping weight 6.5 pounds (3 kg) (Poly) Width 5" (127 mm), Height 7" (178 mm), Depth 4" (101 mm) Shipping weight 3 pounds (2 kg)
Approvals	CSA Certification for: Class I, Div1, Group A, B, C, D, Class I, Zone 1, Group IIC, T4 Class I, Div 2 Groups A, B, C, D, Class I, Zone 2, Group IIC, T4,
Warranty	Up to 5 years * see standard warranty clause on our website

Poly Housing



Single Sensor Aluminum Housing



ALL DIMENSIONS IN INCHES

SenSmart 7000 Series

"The Art of Gas Detection" - Built with our Proven WaveCast Transmitter



Non-metallic Poly "PY" model



Aluminum "AL" XP model



Stainless "SS" model with Dual Sensor

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. The **SenSmart 7000** is compatible with all RC System's toxic sensors, including hydrogen sulfide, carbon dioxide, oxygen, hydrogen cyanide and many others. In addition, the **SenSmart 7000** also supports the new low-power infrared sensor for hydrocarbon combustibles or carbon dioxide.

FEATURES HIGHLIGHT

- CSA Certified for Class 1, Division 2 hazardous locations
- 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)
- Detected gas data transmits on six second intervals
- Supports Single or dual sensor
- Graphic display shows values, units, trend graph, alarm levels
- Power ON / Power OFF using magnetic wand only
- Non-intrusive, user-prompted calibration procedure
- Transmits all setup information to Wireless Receiver
- Security settings to lock critical parameters
- Auto-recognition of Smart Sensors uploads calibration data and more
- Fault supervision circuitry detects failed sensor and transmits warning
- Setup in hazardous area requires only simple magnetic wand
- Magnetic mount option available
- Three adjustable independent alarm levels per sensor
- 5 LEDs indicate alarms and communication status

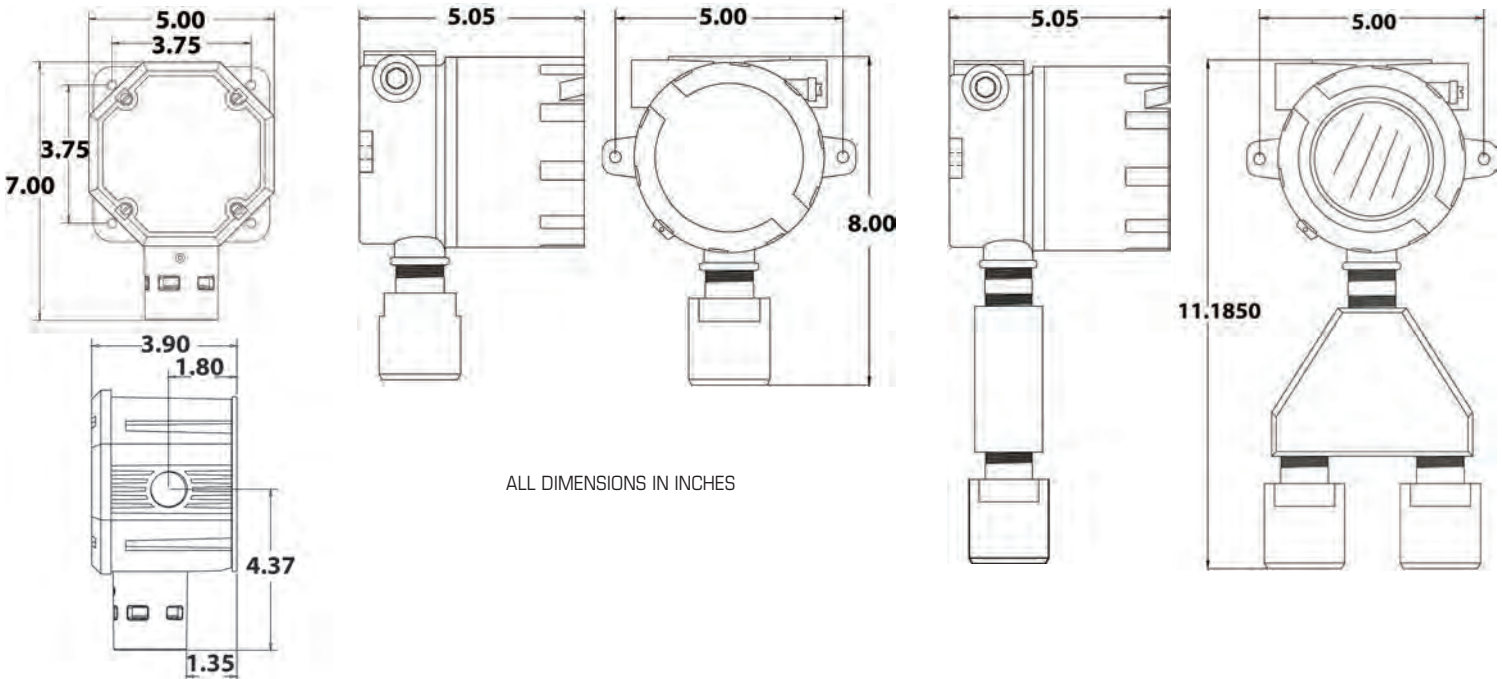
SPECIFICATIONS

Power Supply	Replaceable internal D-cell lithium battery; 9 months Toxic/Oxygen and 6 months LEL operation
Display	Display 64 x 128 pixel LCD with 30-minute trend, bargraph and engineering units display.
Input	Single or dual channel input from toxic or infrared hydrocarbon combustible sensors
Standard Output	License-free 900MHz or 2.4Ghz frequency-hopping spread spectrum (FHSS) wireless modem with data encryption 900MHz power adjustable from 10mW to 1.0 watt/0-30dBm 2.4GHz output set at 125mW/21dB,
Receiver Sensitivity	900 MHz -100dBm typical 2.4 GHz -98dBm typical
Temp	-25°C to +55°C (see sensor limitations)
Housing	Aluminum with epoxy paint standard; Optional #316 stainless steel, Optional UI94 Poly Black Plastic Enclosure
Dimensions	(Aluminum) Width 5.4" (137 mm), Height 8" (203 mm), Depth 5" (127 mm) Shipping weight 6.5 pounds (3 kg) (Poly) Width 5" (127 mm), Height 7" (178 mm), Depth 4" (101 mm) Shipping weight 3 pounds (2 kg)
Approvals	FCC 15.247 & Industry Canada (IC), CSA Certified for Class 1, Division 2 hazardous locations
Performance	2.4GHz frequency range: 2400 - 2483.5 MHz with 42 hops 2.4GHz indoor/urban range: Up to 1500 feet with 7dBi collinear antenna 2.4GHz outdoor RF LOS range: Up to two miles with high-gain antenna 900MHz frequency range: 902 - 928 MHz with 50 hops 900MHz indoor/urban range: Up to 3000 feet with 2dBi dipole antenna 900MHz outdoor RF LOS range: Up to five miles with high-gain antenna

Poly Housing

Single Sensor Aluminum Housing

Dual Sensor Aluminum Housing



Represented by:

C A Briggs Company

622 Mary Street; Suite 101

Warminster, PA 18974

Phone: 267-673-8117 - 800-352-6265

Fax: 267-673-8118

Sales@cabriggs.com - www.cabriggs.com



8621 Highway 6, Hitchcock, TX 77563

Tel: (409) 986-9800 • Fax: (409) 986-9880

www.rcsystemsco.com

ViewSmart 2150/2050 Controller



ViewSmart 2050 Compact Enclosure



ViewSmart 2150 Extended Enclosure

The **ViewSmart 2050/2150** 2 Channel Controller provides simultaneous display and alarm functions for two monitored variables. Easy to configure and user friendly, the **ViewSmart 2050/2150** can function as a critical alarm controller for toxic gases, combustible gases, vibration, tank levels and other process values.

FEATURES

- Accepts inputs from up to two 4-20mA sensors transmitters, direct electrochemical sensors, or direct catalytic bead sensors. 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® 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: NEMA 4X Non- Metallic, Epoxy Coated Steel, NEMA 4X 316 SS
- 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
- 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
- Local and remote mount sensors available
- Six 1" LED segmented displays. Displays 3 most significant digits up to 999

SPECIFICATIONS

INPUTS

Available inputs include local and remote mounted 4-20mA with precision 100 ohm terminating resistor (0-2 Volt inputs may be accepted by removing the socketed terminating resistor), electrochemical 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)

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

Six 1" LED segmented displays. Displays 3 most significant digits up to 999

AMBIENT TEMPERATURE RANGE

-25 to +60 degrees C

POWER SUPPLY

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

MODELS

ViewSmart 2050 NEMA 4X Compact Enclosure

ViewSmart 2150 NEMA 4X Extended Enclosure

ViewSmart OPTIONS/ACCESSORIES

10-0221/Dual	Dual Channel 4-20mA input
10-0216	One bridge sensor/one EC sensor input combo
10-0219	Dual bridge sensor input
10-0220	Dual Electrochemical sensor input
10-0222	Optional alarm relay board (6, 5A form C relays)
10-0223	Dual 4-20mA output
10-0253	RS-485/RS232 Modbus RTU interface
10-0337	100dB piezo audible option
10-0413	Push button suitable for general purpose areas
1000-2259	50 Watt AC/DC power supply module
1000-2373	120 Watt AC/DC power supply module
1000-2808	Amber strobe general purpose
1000-2809	Blue strobe general purpose
1000-2810	Red strobe general purpose
1000-2812	Purple strobe general purpose
1000-2813	Clear strobe general purpose



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ViewSmart 400 Controller

"The Art of Gas Detection" - Built with our Proven ST-90 Quad Controller



NEMA 4X Non-Metallic Enclosure



Painted Carbon Steel Enclosure

The **ViewSmart 400** 4 Channel Controller provides simultaneous display and alarm functions for four monitored variables. Easy to configure and user friendly, the **ViewSmart 400** 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 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 ENG1000 (CE Mark)
90-12 = NEMA 7 Division 1 Group B,C,D

MODELS

90-50	ViewSmart 400 PY in Non Metallic
90-51	ViewSmart 400 PCS in NEMA 4 painted carbon steel
90-52	ViewSmart 400 SS in NEMA 4X, 316 stainless steel
90-12	ViewSmart 400 XP 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

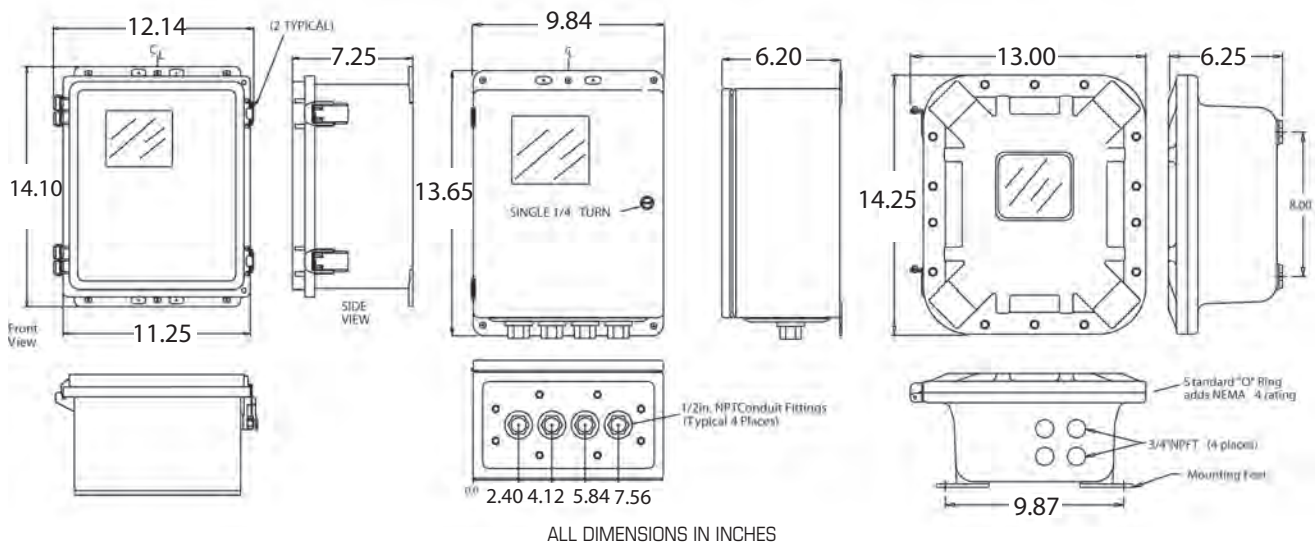
*These items only available with NEMA 4 enclosure

ViewSmart 400 NEMA 4X Non-Metallic Wall Mount

ViewSmart 400 NEMA 4X 316 SS Wall Mount

ViewSmart 400 Explosion Proof Wall Mount

ViewSmart 400 NEMA4 Painted Steel



ViewSmart 6400 Controller

"The Art of Gas Detection" - Built with our Proven ST-72 Controller



Rack/Panel Mount



Nema 4X Compact Fiberglass

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.

CSA certified for *Division 2 potentially hazardous areas (Division 1 model = ST-72XP)*

FEATURES

- 16-32-48-64 channel display modes accept inputs from many sensor types and signal ranges
- Ethernet with Modbus® TCP Master/Slave and web server for configuration and monitoring
- RS-485 serial ports allow simultaneous Modbus Master/Slave operation. Two Standard ports and two optional isolated ports
- Wireless Modbus interface available
- Three independent alarm levels per channel. "Relay Acknowledge" feature allows silencing of external audible devices during alarm conditions
- QVGA Color LCD displays monitored data as trends, bar graphs and engineering units. Readouts change colors to indicate alarms
- Five standard SPDT 5-amp alarm relays for HORN and FAULT, plus three programmable alarm relays
- Options such as Bridge Sensor Inputs, 4-20mA inputs, 4-20mA outputs, discrete and programmable alarm relays are supported via an I2C expansion bus
- Cal Mode offers push-button zero/span calibration for direct sensor interface applications
- Authorization Mode allows locking of critical config variables
- Data Logger onto SD card allows recording of minimum, maximum and average values for one year
- Power supply options 150, 600, and 1200 Watts
- Magnetic keypad standard for non-intrusive operation in potentially hazardous locations
- Enclosures include wall mount NEMA 4X - Non-Metallic - 316 SS, NEMA 7 and Rack/Panel Mount

WaveNet

Wireless Gas Monitoring System

SenSmart 7000 Monitor



“WaveLink Receiver”



The “WaveNet” Wireless Monitoring System consists of 1-32 battery-powered **SenSmart 7000** “WaveCast Monitors” (WCM) and at least one 32 channel “WaveLink Receiver” (WLR). An optional module is available to add data logging, second wired and wireless Modbus port, plus a Wi-Fi port with web-server. The Wi-Fi allows remote HMI functionality via any web enabled device. This means WaveLink Receiver allows responders to view real time and historical data on smart phones and tablet devices prior to entering a hazardous area! This new generation WaveNet wireless system is designed for easy deployment of both fixed installation and temporary site monitoring.

FEATURES HIGHLIGHT - SenSmart 7000

- Supports single or dual and local or remote “Smart” temperature compensated sensor modules
- Alarms, gas range and other parameters are stored in the Smart Sensor module and may be edited by the user. Changes are periodically broadcast to the WaveLink Receivers to insure identical readings at all locations
- Allows restore of factory settings from Smart Sensor plus backup and subsequent restore of user settings if parameters are accidentally lost
- Password protected with LOW and HIGH security levels
- Easy to change lithium battery
- Compatible with low powered LEL infrared sensor
- Three adjustable independent alarm levels per sensor
- Readouts include Eunits, bar graphs, 1-hour trends
- “Legacy” setting makes **SenSmart 7000** devices compatible with all RC Systems controllers
- Magnetic mount option available
- License free 900MHz or 2.4 GHz FHSS client and server network
- 5 front panel LEDs indicate alarms and communication status
- Suitable for Division 2 hazardous locations

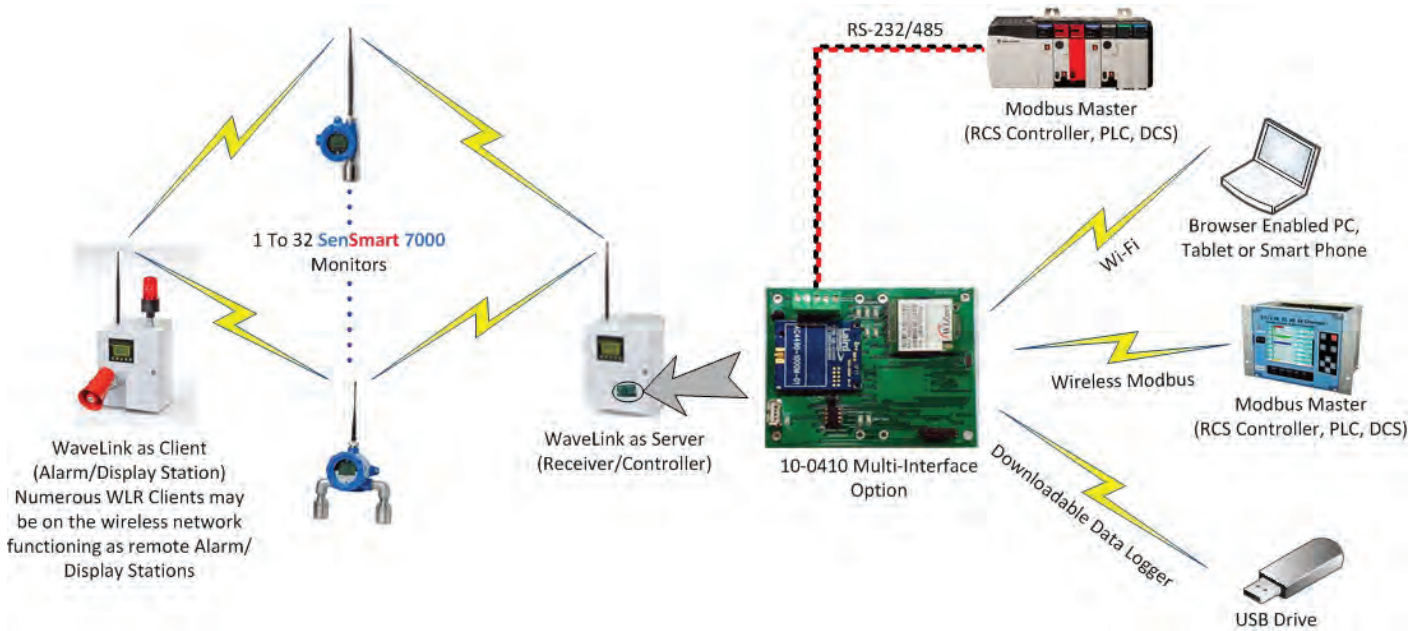
WaveLink Receiver (WLR)

- Displays monitored readings and alarms from 1 to 32 **SenSmart 7000** Monitors
- Requires little setup since all channel parameters are periodically received from **SenSmart 7000** Sensors via the wireless network
- Includes 8 programmable 5-amp relays to control lights, horns, fans etc
- “Acknowledge” feature allows audible devices to be silenced during alarms
- Graphic LCD displays large Eunits and bar graph for each active channels
- Clock / Calendar time and date stamps “Event Log” sensor items including Power-Up, Alarms, Calibration and Com Errors
- 10-30 VDC or 100-240 VAC standard power. Easy to solar power
- Offers both 900 MHz and 2.4 GHz FHSS models
- Touch and magnetic keypads are standard for non-intrusive operation
- Password protected with LOW and HIGH security levels

10-0410 MULTI-INTERFACE OPTION

- Wi-Fi access point for web enabled devices to view WaveLink embedded webpages including real time and historical sensor readings, channel parameters, and remote setup capability
- Data logger stores more than 1 year of readings and alarm history
- RS-485 and wireless Modbus Slave port for transmitting WaveNet data to our ST-71 Sixteen Channel and ST-72 64 Channel Controllers

SYSTEMS SETUP



A typical WaveNet FHSS Client / Server wireless monitoring system consists of one WaveLink Receiver (WLR) configured as the network's Server, receiving wireless data from up to 32 Single Gas, or 16 Dual Gas, **SenSmart 7000** Monitors (**SenSmart 7000**'s). Additional WLR's may also receive the same **SenSmart 7000** data and act as remote alarm stations and displays, but must be configured as a Clients since only one Server is permitted per network. **SenSmart 7000**'s are powered by an internal lithium battery while WLR's require either 100-240 VAC or 10-30VDC and are very easy to solar power.

The 10-0410 Multi-Interface Module is a plug in PCB option which adds a tremendous amount of functionality and is easily added to WaveLink Receivers. Features added by the 10-0410 include Data Logging of > 1year of readings and alarms, a WiFi web server sending monitored data to browser enabled smart devices, and RS-485 / FHSS Wireless Modbus slave ports for transferring data to Modbus master devices such as RC Systems ST-72 Sixty Four Channel Controllers.

OPTIONS

- 10-0289 Antenna, 900MHz 8 dBi Fiberglass Omni Base Station
- 1000-2312 Antenna, 2.4GHz 9 dBi Fiberglass Omni Base Station
- 1000-2310 Antenna, 900MHz 9 dBi Yagi Directional
- 1000-2309 Antenna, 2.4GHz 12 dBi Yagi Directional
- 1000-2193 Antenna, 900MHz, Dipole, Division 1
- 1000-2301 Antenna, 2.4Ghz Dipole, Division 1
- 10-0334 30 Watt Solar Power Supply with 55AH Battery; Division 2

REMOTE SENSOR KIT



Shown with 10-0247 stainless steel sensor head

The 10-0411 Remote Sensor Kit allows smart sensors to be mounted up to 15 feet away from the **SenSmart 7000**. **SenSmart 7000**s may be configured as single or dual sensor monitors so either one or two 10-0411 Remote Sensor kits may be connected to each **SenSmart 7000**. When combined with the 10-0247 Stainless Steel sensor head, the 10-0411 is suitable for Division 1 hazardous locations.



SampleSmart XP

Sample Draw Gas Detection System

Sample Draw System ---- Gas Detection Beyond limitation

The **SampleSmart XP** sample draw system is engineered to draw a sample from remote or hostile locations where a gas detector can't be directly or easily installed. The standard **SampleSmart XP** unit integrates **SenSmart** gas detector(s), flow meter with adjustable flow control valve, and robust diaphragm pump into a compact package to be used in Class 1 Div 1 hazardous locations. Accessories may be added to condition sample gases drawn from difficult environments containing dust, moisture, corrosives etc. Temperature controlled and compensated gas sensors and industrial rated components ensure reliable operation and rapid response.

In the Heart of SampleSmart XP ---- SenSmart 6000 Gas Detector

The **SampleSmart** sample draw system utilizes the state-of-the-art **SenSmart 6000**, a single/dual channel gas detector with vivid full-color graphic display with exceptional visibility. The display shows gas values, user tag names, engineering units, bar-graphs and trends. Alarm conditions flash color alerts onto the entire screen to warn operators of high concentrations. The **SenSmart 6000** supports Smart Sensors for toxic and combustible gases as well as volatile organics and inert gases such as CO₂. A menu-driven operator interface eliminates analog potentiometers and allows setup and calibration without hazardous area declassification. An integrated Run/Cal valve and user prompted calibration procedure make routine maintenance and field 'bump tests' quick and easy. The **SenSmart 6000** incorporates an industry standard RJ-45 Ethernet interface with integrated web server that allows users to monitor the system through standard Ethernet network

Applications:---- Where to use SampleSmart XP

The **SampleSmart XP** is ideal for sampling toxic or combustible gases in:

- Air conditioning intake / exhaust
- Boiler burners / ducting
- Cabinets / storeroom with limited access
- Plenums / ducts
- Sumps / enclosed areas
- Ventilation / airflow
- Pipelines



FEATURES HIGHLIGHT:

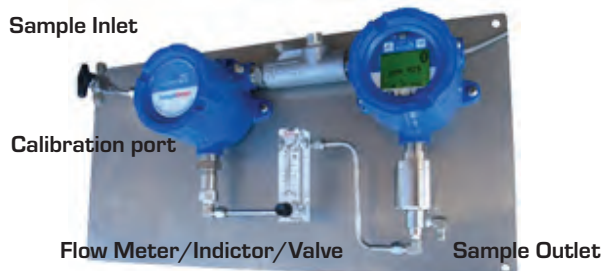
- Single / Dual channels support sensors for both toxic and combustible gas
- Sample lines (Stainless Steel or Teflon) up to 300 ft. in less than 3 minutes
- Engineered for using in Class 1 Div. 1 locations
- Easy magnetic wand setup in hazardous area
- Easy flow regulating with built-in flow meter and valve
- Loss-of-flow detected and indicated on readout
- Long lasting diaphragm pump with DC brushless motor
- 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
- Standard 4x alarm relays and dual serial MODBUS master/slave RS-485 interface
- **SenSmart 6000** auto-configuration with Smart Sensor
- Dedicated calibration port for fast and easy maintenance
- Options for sample conditioning with filters for dust and/or moistures
- Customized for special conditions available

SPECIFICATIONS

Power Supply	24VDC at < 10 watts
Display	High visibility color QVGA LCD displays engineering units, alarm levels and trend data
Gas Sensor Channel One	Smart Sensors supported are EC for toxic / O ₂ , Catalytic Bead or IR for combustibles, PID for VOC's.
Gas Sensor Channel Two	Supports Smart Sensor EC for toxic or O ₂ , 4~20mA Devices
Signal Output	<p>Single or dual 3-wire 4-20mA current source. Max loop R is 750, ohms with nominal 24VDC power supply.</p> <p>10/100 Ethernet with MODBUS/TCP and web server allows remote view / configuration of gas detector values and settings</p> <p>5 Bright LED's including red / green flow status indicator. Shows GREEN if flow OK, RED if flow blocked.</p> <p>Four standard form C Relays rated 5A @ 30VDC / 240VAC</p> <p>Dual RS-485 2-wire MODBUS® interface wiring junction box with power-on indicator and easy-connect wiring terminals.</p> <p>Two 3/4" NPT female connections</p>
Sample Pump	1.5SLPM diaphragm pump with 24VDC brushless motor
Flow Error	LCD indication with 4~20mA error signal
Housing	Aluminum housing with epoxy paint (#316 stainless Steel optional)
Dimensions	20" x 12" x 6", With Stainless steel plate, 24" x 12"
Weight	12 pounds, With Stainless Steel Mounting Plate, 18 Pounds
Inlet/Outlet Tubing	1/4" compression, stainless steel
Warranty	5 year limited warranty

Order Information	
SampleSmart XP H/F/A/B	
"H"	0 = None 1 = 24 "x12" stainless Steel Plate 2 = 24" x 24" Poly Enclosure 3 = 24" x 24" Stainless Steel Enclosure
"F"	0 = None 1 = Particulate filter 2 = Coalescing Filter
"A"	Channel 1 Gas Type (See below Table)
"B"	Channel 2 Gas Type

Gas Type		
00	None	
01	Arsine	32°F to 104°F
02	Benzene	32°F to 131°F
03	Carbon Dioxide	32°F to 158°F
04	Carbon Monoxide	32°F to 122°F
05	Ethylene Oxide	32°F to 122°F
06	Hydrogen	32°F to 122°F
07	Hydrogen Sulfide	32°F to 122°F
08	Nitric Oxide	32°F to 122°F
09	Nitrogen Dioxide	32°F to 122°F
10	Sulfur Dioxide	32°F to 122°F
11	Oxygen	32°F to 131°F
12	Butane	32°F to 158°F
13	Ethane	32°F to 158°F
14	Ethanol	32°F to 158°F
15	Hexane	32°F to 158°F
16	Methane	32°F to 158°F
17	Pentane	32°F to 158°F
18	Propane	32°F to 158°F
19	Propylene	32°F to 158°F
20	Contact RC Systems for Unlisted Gas	32°F to 131°F



Note 1: Please contact R. C. Systems to fill sample conditioning system questionnaire for better system performance.

Note 2: Reactive gases not suitable for Class 1 Div. 1

Note 3: Contact R.C. Systems for detection range of the target gas

Note 4: AC powered system is also available

Note 5: Web server requires password to change settings



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 Phone: 267-673-8117 - 800-352-6265; Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com

Gas Detection Sample Draw System

- For use with RC Systems Fixed Gas Detector

The RC 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.

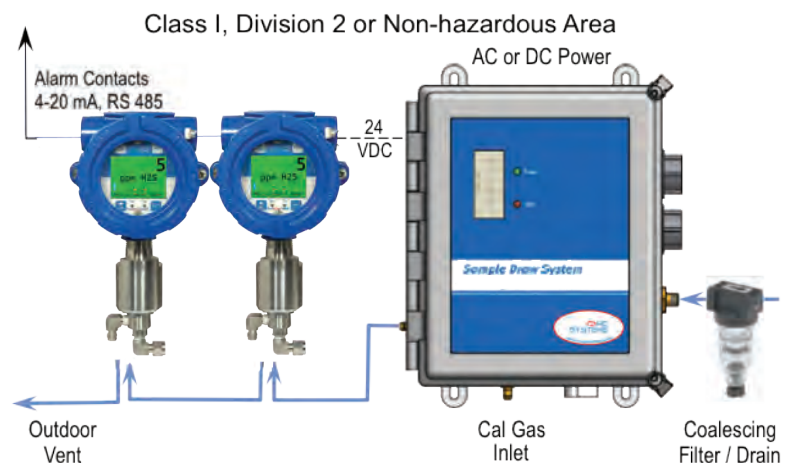
Flow rate is easily adjustable and a rotameter is provided for visual indication of flow. A fail-safe flow switch can de-actuate the relay and provide a signal on loss of flow or power. A two-way valve permits the application of calibration standards to the gas sensor(s) for routine preventative maintenance.

The Sample Draw System is housed in a wall-mount fiberglass enclosure and rated NEMA 3R. The system power supply is capable of operating the pump and multiple in-line transmitters, enabling up to four gas sensors placed downstream of the sample for monitoring different gases. This integral power source enhances capabilities for remote applications such as pumping stations, large laboratories, and gas hoods while significantly reducing installation costs.



FEATURES

- Class 1, Division 2 Rated for Sampling from a Class 1 Division 1 Area
- FM Listed for NFPA 820 Compliance
- Pumped or Air Aspirated Versions
- Flow Sensor with Relay that Fails Safe
- Internal Power Switch and Flow Adjust
- 24 VDC Power Source for Gas Detectors
- Fiberglass Wall-mount Enclosure



SPECIFICATIONS

Indicators/ Controls	External: Flowmeter, green power LED and red fault/low flow LED Internal: On-Off switch, voltage out adjust and flow rate adjust Outputs: Two 24 VDC power terminals, SPDT fault/low flow relay contact Power In/Out: 85-264 VAC, 47-63 Hz, 1.2 Amps; 24 VDC, 1.1 Amp max
Environmental	Temperature: -4° to 104°F (-20° to 40°C, Humidity: 5-95% RH, non-condensing for indoor or outdoor locations
Housing	NEMA 3R Fiberglass wall mount with two 3/4" conduit entries
Dimensions	11" (H) X 10" (W) X 6.375" (D) (27.9cm X 25.4cm X 16.2cm), 6.6 lbs (3.0 kg)
Approvals	Hazloc: FM approved for Class I, Division 2, Groups C & D location to sample from Class I, Division 1, Groups C & D; DC Supply: UL60950-1, UL508, UL1310(3), EN60950-1, CE Mark Pump: Diaphragm type rated at 1.0 lpm @ 40" H2O at pressurized leak rate of < 1.0 inch wc drop in 5 seconds at 25 inches wc Wetted parts: Polycarbonate, Neoprene, Tygon 2075, Silicone Silastic, 304/316ss, Buna-N, Brass, PVC, Glass, Acrylic and User Tubing
Warranty	5 year limited warranty For sensor warranty see sensor specifications sheet
Caution	Do not use for Acid gases such as Cl ₂ , ClO ₂ , HCl, HF, HCN, NO ₂ , SO ₂ and others since the PPM gases are absorbed by the tubing, moisture and various wetted parts slowing or completely eliminating response to the target gas. Do not attempt to use below freezing without heat tracing and a means to keep the system above 32°F (0° C). Excessive condensation will occur when sampling from a higher to a lower temperature.

Sample A & E Specification

Furnish and install an FM listed sample draw system in compliance with NFPA 820, FM approved for installation in Class I, Division 2 hazardous (classified) areas to sample from a Class I, Division 1 hazardous (classified) area. Flame traps or arrestors are not permitted due to their high maintenance requirements.

The system shall have a fail-safe flow switch with a SPDT relay, a front panel flowmeter and LED indicators for low-flow/fault and power on. An air operated aspirator or a diaphragm sample pump shall be capable of pulling a 0.75 to 1.0 LPM sample against 40 inches water column pressure. An integral two-way valve will be furnished for the application of calibration standards. A coalescing filter must be supplied to remove excess water in the gas sample.

A universal AC to DC power supply shall be furnished capable of powering the sample draw unit, associated gas detection, communications, alarm relays and annunciation.

