SENSCAST

Wireless Gas Detection System

SENSIDYNE ® / FIXED GAS DETECTION

Industrial Health & Safety Instrumentation

SensCast

Wireless Gas Detection System

The Sensidyne SensCast Wireless Monitoring System consists of 1-32 battery-powered SensCast Transmitters and at least one 32 channel SensCast Receiver. Receivers take advantage our NRTL certified and field proven hardware and newly designed firmware. A single Receiver Multi-Interface option module is all that is required to add data logging, second wired and wireless Modbus port, plus a Wi-Fi port with web-server. The Wi-Fi feature is especially exciting since it allows remote HMI functionality via any web enabled device. This means our Receivers allow responders to view real time and historical data on smart phones and tablet devices prior to entering a hazardous area!

The battery powered or hard wired wireless Transmitters are compatible with existing systems. Transmitter features include power On/Off via the magnetic wand, dual sensors, easy battery replacement, and the ability to separate the sensor up to 15 feet using a 4 wire sensor separation kit.

The new SensCast Wireless Monitoring System is designed for simple deployment of both permanent and temporary monitoring sites.

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 SensCast 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 accidently lost
- Password protected with LOW and HIGH security levels
- Easy to change lithium battery
- Three adjustable independent alarm levels per sensor
- Readouts include E-units, bar graphs, 1-hour trends
- "Legacy" setting makes SensCast devices compatible with Sensidyne Model 7100, 7200, and 9000 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
- Available either in rugged cast aluminum or economical and durable UL-94 injection molded enclosure

- Displays monitored readings and alarms from 1 to 32 SensCast Detectors
- Requires little setup since all channel parameters are periodically received from SensCast Sensors via the wireless network
- Includes 8 programmable 5-amp relays to control annunciation and mitigation devices
- "Acknowledge" feature allows audible devices to be silenced
- Displays large E-units 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
- 100-240 VAC or 10-30 VDC standard power making it ideal for solar powered installations
- 900 MHz and 2.4 GHz FHSS models
- Touch & magnetic keypads are standard for non-intrusive operation
- Password protected with LOW and HIGH security levels

- Wi-Fi access point for web enabled devices to view SensCast 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 SensCast data to our Model 7100 Sixteen Channel & Model 7200 64 Channel Controllers

Receiver Enclosure Options

NEMA 4
Powder Coated
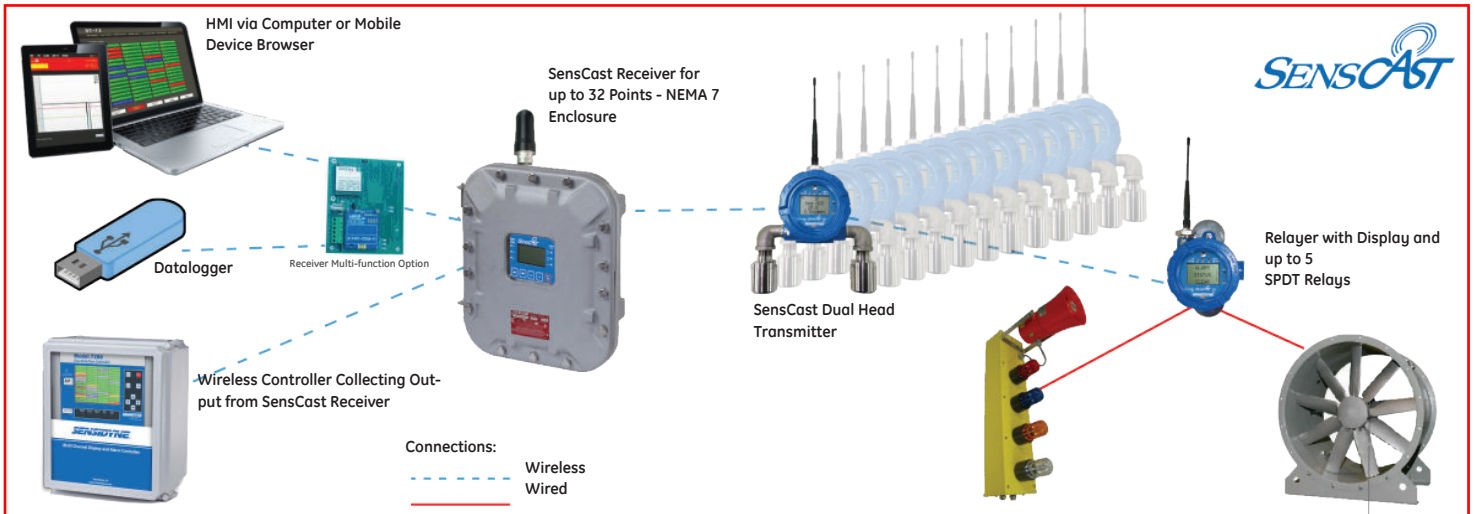Carbon Steel

NEMA 4X 316
Stainless Steel

NEMA 7
Aluminum

NEMA 4X
Polyester

Example SensCast System Configurations

HMI via Computer or Mobile Device Browser

Datalogger

Receiver Multi-function Option

Wireless Controller Collecting Output from SensCast Receiver

SensCast Receiver for up to 32 Points - NEMA 7 Enclosure

SensCast Dual Head Transmitter

Relayer with Display and up to 5 SPDT Relays

Connections:
- - - - Wireless
——— Wired

Drawing 1: SensCast Transmitters transmit wirelessly to the SensCast Receiver. The Receiver sends Transmitter output via wifi or Modbus (wireless or wired). The SensCast Relayer actively "listens" for alarm or fault conditions and activates annunciators or hazard mitigation systems connected to one of 5 relays.

DCS/PLC via Wireless Modbus

Wireless Controller Collecting up to 64 Points.

SensCast Receiver for up to 32 Points

SensCast Transmitters

Relayer with Display and up to 5 SPDT Relays

HMI via Computer Browser

Connections:
- - - - Wireless
——— Wired

Drawing 2: Two independent networks consisting of a Receiver and 32 SensCast Transmitters (or 16 Dual Head Transmitters) exist in one facility. A Sensidyne wireless-enabled controller (Model 7200 shown) collects all 64 outputs sending them to a DCS or PLC via wireless Modbus. A SensCast Relayer actively "listens" for alarm or fault conditions and activates annunciators or hazard mitigation systems.

SensCast Accessories

Sensidyne 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.

30 Watt solar power supply
with 55AH battery; Div 2

Tripod

Yagi Antenna
2.4GHz

Straight Rubber antenna
900MHz and 2.4GHz

Antenna lightning Protector

Antenna Base Station
2.4GHz, Collinear

Yagi Antenna
900MHz

Sun Shield for Improved
LCD Readout Visibility

Four Light 10-30VDC Alarm
Bar for Division 2 Hazardous
Locations

Four Light 10-30VDC Alarm Bar
for Ordinary Locations (Shown
with three strobes)
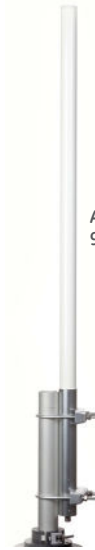
Antenna Base Station
900MHz, Collinear

Quick Connect Cable Sets

110 Decibel Horn Suitable
for Division 2 Hazardous
Areas

RP-TNC Low Coax Antenna Cable

Two Light 10-30VDC Alarm
Bar for Division 2 Hazardous
Locations

Two Light 10-30VDC
Alarm Bar for
Ordinary Locations

WaveCast Transmitters
Replacement Lithium Battery

Power Supply, DIN Rail,
24VDC 50 Watt

Multicolor Strobe

(*Not Shown*: Clear or Purple Strobes or Green Solid)

Stand, WaveCast Monitor

Antenna, 2 dBi Dipole,
Division 2

Receiver Multi-function Option

SensCast Wireless System Components

1. SensCast Detector
Single and Dual Head models for oxygen and toxic gas monitoring. Div 2 and GP enclosures options. Battery powered.

2. SensCast Receiver
Monitors/displays up to 32 points. 8 on-board relays, and LCD display. Requires 100-240 VAC or 10-30 VDC for solar power applications. Can be fitted with annunciators.

3. SensCast Relayer
"Listens" on network for alarm or fault condition signals from Transmitters activating one of five, 5 amp SPDT relays.

4. SensCast Bridge Repeater
Redistributes SensCast signal to extend range and overcome transmission obstacles.

Technical Specifications

Sensors
Gas Sensors .... Electrochemical
Temperature .... See Sensor Data Sheets
Humidity .... See Sensor Data Sheets

Controls
Magnetic Keypad.................................... ACK, << (Go Back), ▲, ▼
Security ....Password Protected Configuration Menu

Displays
LEDs................................ Four (4) Red, corresponding to magnetic keypad, and Alarm Relays when equipped.
Graphic LCD .... 128 by 64 pixel screen

1. SensCast Detector
Approval Rating .... Class I Div 2, Grps A, B, C, D
Temperature.. -40°C to 60°C
Power .... 3.6 V 19AH Lithium D-cell battery
Memory.. non-volatile

2. SensCast Receiver
Approval Rating .... Class I Div 2, Grps A, B, C, D
Temperature .... -25°C to 60°C
Humidity .... 0-90% RH, non-condensing
Power .... 10 - 30VDC or 100 - 240VAC
8mA max 40W at 240VAC
208mA max 5W @ 24VDC
Relays ....8 standard Form C dry contacts 5A 28VDC and 250VAC resistive loads

3. SensCast Relayer
Approval Rating .... Class I Div 2, Grps A, B, C, D (Enclosure)
Power .... 10 - 30VDC @ 3W
Memory.. non-volatile

4. SensCast Bridge Repeater
Approval Rating .... Class I Div 2, Grps A, B, C, D (Enclosure)
Temperature .... -40°C to 60°C
Power .... 10 - 30VDC @ 10W max
Memory.. non-volatile

WiFi 900MHz Transmission
- 2mA during "sleep" mode
- 40mA recieving
- Up to 1A transmit at 1W
  (transmit may be set from 10mW, 100mW, 400mW to 1W)
  - 30dBm at 1W transmit
  - -100 dBm recieve
  - 902 - 928MHz hopping frequencies

WiFi 2.5GHz Transmission
- 2mA during "sleep" mode
- 170mA at 125mW transmit (fixed)
  - 21dBm at 125mW transmit
  - -95 dBm recieve
  - 2400 - 2483.5MHz hopping frequencies

Sensidyne SensCast Brochure Rev.B_022620

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