Wireless Gas Detection System

SPECIFICATIONS

RELAYS
Relays are Form C 5AMP @ 30VDC and 240VAC resistive

PERFORMANCE
2.4GHz frequency range: 2400 - 2483.5 MHz with 42 hops
2.4GHz conducted transmit power is 125mW / 21dBm
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
2.4GHz receiver sensitivity: -98dBm

900MHz frequency range: 902 - 928 MHz with 50 hops
900MHz conducted transmit power (selectable): 10mW-1W/ 0-30dBm
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
900MHz receiver sensitivity: -100dBm

DISPLAY
64 x 128 pixel LCD

AMBIENT TEMPERATURE RANGE
-40 - 60 degrees C

POWER SUPPLY
10 - 30 VDC at less than 2 watts
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.

**FEATURES - WaveCast Transmitters**
- 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 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 WaveCast devices compatible with Sensidyne Model 7200, 7100, 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

**FEATURES - SensCast Receiver**
- Displays monitored readings and alarms from 1 to 32 WaveCast Monitors
- Requires little setup since all channel parameters are periodically received from WaveCast 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

**Multi-Interface Option**
- Wi-Fi access point for web enabled devices to view 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
**SensCast System Components**

**Transmitter**

**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.

**Relayer**
“Listens” on network for alarm or fault condition signals from Transmitters activating one of five, 5 amp SPDT relays.

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

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**Example SensCast System Configurations**

**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.

**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.

- Tripod
- 30 Watt solar power supply with 55AH battery; Div 2
- 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)
- 110 Decibel Horn Suitable for Division 2 Hazardous Areas
- Two Light 10-30VDC Alarm Bar for Division 2 Hazardous Locations
- Two Light 10-30VDC Alarm Bar for Ordinary Locations
- Stand, WaveCast Monitor
- 110 Decibel Horn Suitable for Division 2 Hazardous Areas
- Multicolor Strobe (Not Shown: Clear or Purple Strobes or Green Solid)
- Straight Rubber antenna 900MHz and 2.4GHz
- Antenna Base Station 2.4GHz, Collinear
- Yagi Antenna 900MHz
- Yagi Antenna 2.4GHz
- Antenna Base Station 900MHz, Collinear
- Quick Connect Cable Sets
- RP-TNC Low Coax Antenna Cable
- Antenna, 2 dBi Dipole, Division 1
- Power Supply, DIN Rail, 24VDC 50 Watt
- 110 Decibel Horn Suitable for Division 2 Hazardous Areas
- Multicolor Strobe
- Receiver Multi-function Option
### Transmitters

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>820-1404-01</td>
<td>SensCast Transmitter Single 900 MHz Transmitter (add antenna);</td>
</tr>
<tr>
<td>820-1402-01</td>
<td>Polycarbonate enclosure</td>
</tr>
<tr>
<td>820-1403-01</td>
<td>SensCast Transmitter Single 2.4 GHz Transmitter (add antenna);</td>
</tr>
<tr>
<td>820-1401-01</td>
<td>Polycarbonate enclosure</td>
</tr>
<tr>
<td>820-1404-02</td>
<td>SensCast Transmitter Dual 900 MHz Transmitter (add antenna);</td>
</tr>
<tr>
<td>820-1402-02</td>
<td>Polycarbonate enclosure</td>
</tr>
<tr>
<td>820-1403-02</td>
<td>SensCast Transmitter Dual 2.4 GHz Transmitter (add antenna);</td>
</tr>
<tr>
<td>820-1401-02</td>
<td>Polycarbonate enclosure</td>
</tr>
</tbody>
</table>

### Controllers (Receivers)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>820-1407-01</td>
<td>SensCast Receiver Poly NEMA-4X 32 channel 900MHz wireless receiver</td>
</tr>
<tr>
<td>820-1406-01</td>
<td>(add antenna i.e. 299-0042-01)</td>
</tr>
<tr>
<td>820-1408-01</td>
<td>SensCast Receiver 316 Stainless Steel NEMA-4X 32 Channel 900MHz</td>
</tr>
<tr>
<td>820-1405-01</td>
<td>wireless receiver (add antenna i.e. 299-0042-01)</td>
</tr>
<tr>
<td>820-1407-02</td>
<td>SensCast Receiver Poly NEMA-4X 32 channel 2.4 GHz wireless receiver</td>
</tr>
<tr>
<td>820-1406-02</td>
<td>(add antenna i.e. 299-0045-01)</td>
</tr>
<tr>
<td>820-1408-02</td>
<td>SensCast Receiver 316 Stainless Steel NEMA-4X 32 Channel 2.4 GHz</td>
</tr>
<tr>
<td>820-1405-02</td>
<td>wireless receiver (add antenna i.e. 299-0045-01)</td>
</tr>
</tbody>
</table>

### Relayer

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>820-1410-01</td>
<td>SensCast Relay UL-94 injection molded enclosure 32 channel wireless</td>
</tr>
<tr>
<td>820-1409-01</td>
<td>Relay; five configurable Samp SPDT relays (add antenna)</td>
</tr>
</tbody>
</table>

### Antenna

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>299-0042-01</td>
<td>SensCast Antenna, 900 MHz dipole, rubber, Div 2</td>
</tr>
<tr>
<td>299-0048-01</td>
<td>SensCast Antenna, 900 MHz Yagi, Stainless Steel</td>
</tr>
<tr>
<td>299-0070-01</td>
<td>SensCast Antenna, 900 MHz collinear, 8 dBi Fiberglass Omni Base Station</td>
</tr>
<tr>
<td>299-0043-01</td>
<td>SensCast Antenna, 900 MHz, dipole, explosion-proof, Div 1</td>
</tr>
<tr>
<td>299-0045-01</td>
<td>SensCast Antenna, 2.4 GHz collinear, rubber, Div 2</td>
</tr>
<tr>
<td>299-0047-01</td>
<td>SensCast Antenna, 2.4 GHz Yagi, 120dB, tilt mount</td>
</tr>
<tr>
<td>299-0049-01</td>
<td>SensCast Antenna, 2.4 GHz collinear, 9 dBi Fiberglass Omni Base Station</td>
</tr>
<tr>
<td>299-0046-01</td>
<td>SensCast Antenna, 2.4 GHz, dipole, explosion-proof, Div 1</td>
</tr>
<tr>
<td>299-0146-01</td>
<td>SensCast Antenna Cable, 15 feet, Low Loss coax</td>
</tr>
<tr>
<td>299-0147-01</td>
<td>SensCast Antenna Cable, 25 feet, Low Loss coax</td>
</tr>
<tr>
<td>299-0052-01</td>
<td>SensCast Antenna Cable, 50 feet, Low Loss coax</td>
</tr>
<tr>
<td>299-0149-01</td>
<td>SensCast Antenna Cable, 75 feet, Low Loss coax</td>
</tr>
</tbody>
</table>

### Additional SensCast Items/Options

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>299-0145-01</td>
<td>SensCast Site Survey Kit, to mimic either monitor or receiver.</td>
</tr>
<tr>
<td>299-0133-01</td>
<td>Use two kits for both monitor and receiver.</td>
</tr>
<tr>
<td>299-0132-01</td>
<td>SensCast Sensor head calibration adaptor</td>
</tr>
<tr>
<td>299-0091-01</td>
<td>SensCast Transmitter XP sensor separation kit with 15ft com cable</td>
</tr>
<tr>
<td>299-0085-01</td>
<td>Multi-interface board with standard data-logging and wired Modbus</td>
</tr>
<tr>
<td>299-0088-01</td>
<td>485/232 slave port and Wi-Fi radio kit with embedded web page</td>
</tr>
<tr>
<td>299-0087-01</td>
<td>Multi-interface board with standard data-logging and wireless Modbus</td>
</tr>
<tr>
<td>299-0086-01</td>
<td>485/232 slave port with 2.4 GHz Wireless Modbus radio kit</td>
</tr>
<tr>
<td>299-0090-01</td>
<td>Multi-interface board with standard data-logging, wireless Modbus</td>
</tr>
<tr>
<td>299-0089-01</td>
<td>485/232 slave port, 2.4 GHz Wireless Modbus radio kit and</td>
</tr>
<tr>
<td>299-0151-01</td>
<td>Multi-interface board with standard data-logging, wireless Modbus</td>
</tr>
<tr>
<td>299-0077-01</td>
<td>SensCast Transmitter Sunshield</td>
</tr>
<tr>
<td>299-0077-01</td>
<td>SensCast Antenna Sunshield</td>
</tr>
<tr>
<td>299-0053-01</td>
<td>Transmitter stand with pole mount kit</td>
</tr>
<tr>
<td>299-0074-01</td>
<td>Fiberglass tripod mounting kit with clamps and 8 FT. aluminum pole</td>
</tr>
<tr>
<td>299-0071-01</td>
<td>Magnetic mounting kit (includes 4 magnets)</td>
</tr>
<tr>
<td>299-0044-01</td>
<td>50 watt AC/DC power supply module; Div 2</td>
</tr>
<tr>
<td>299-0050-01</td>
<td>120 Watt AC/DC power supply module; Div 2</td>
</tr>
<tr>
<td>299-0075-01</td>
<td>30 Watt solar power supply with 55AH battery; Div 2</td>
</tr>
<tr>
<td>299-0062-01</td>
<td>Replacement Transmitter battery with pull tab</td>
</tr>
<tr>
<td>299-0149-01</td>
<td>SensCast Transmitter XP sensor separation kit with 15ft com cable</td>
</tr>
</tbody>
</table>

### Transmitters

- **SensCast Transmitter Single 900 MHz Transmitter** (add antenna)
  - Polycarbonate enclosure
- **SensCast Transmitter Single 2.4 GHz Transmitter** (add antenna)
  - Polycarbonate enclosure
- **SensCast Transmitter Dual 900 MHz Transmitter** (add antenna)
  - Polycarbonate enclosure
- **SensCast Transmitter Dual 2.4 GHz Transmitter** (add antenna)
  - Polycarbonate enclosure

### Controllers (Receivers)

- **SensCast Receiver Poly NEMA-4X 32 channel 900MHz wireless receiver**
  - (add antenna i.e. 299-0042-01)
- **SensCast Receiver 316 Stainless Steel NEMA-4X 32 Channel 900MHz wireless receiver**
  - (add antenna i.e. 299-0042-01)
- **SensCast Receiver Poly NEMA-4X 32 channel 2.4 GHz wireless receiver**
  - (add antenna i.e. 299-0042-01)
- **SensCast Receiver 316 Stainless Steel NEMA-4X 32 Channel 2.4 GHz wireless receiver**
  - (add antenna i.e. 299-0042-01)

### Relayer

- **SensCast Relay UL-94 injection molded enclosure 32 channel wireless Relay; five configurable Samp SPDT relays (add antenna)**
- **SensCast Relay Suitable for Div 2 installation; 32 Channel wireless Relay; five configurable Samp SPDT relays (add antenna)**

### Antenna

- **SensCast Antenna, 900 MHz dipole, rubber, Div 2**
- **SensCast Antenna, 900 MHz Yagi, Stainless Steel**
- **SensCast Antenna, 900 MHz collinear, 8 dBi Fiberglass Omni Base Station**
- **SensCast Antenna, 900 MHz, dipole, explosion-proof, Div 1**
- **SensCast Antenna, 2.4 GHz collinear, rubber, Div 2**
- **SensCast Antenna, 2.4 GHz Yagi, 120dB, tilt mount**
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- **SensCast Antenna, 2.4 GHz, dipole, explosion-proof, Div 1**
- **SensCast Antenna Cable, 15 feet, Low Loss coax**
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- **SensCast Sensor head calibration adaptor**
- **SensCast Transmitter XP sensor separation kit with 15ft com cable**
- **Multi-interface board with standard data-logging and wired Modbus 485/232 slave port**
- **Multi-interface board with standard data-logging, wireless Modbus 485/232 slave port and Wi-Fi radio kit with embedded web page**
- **Multi-interface board with standard data-logging and wireless Modbus 485/232 slave port with 2.4 GHz Wireless Modbus radio kit**
- **Multi-interface board with standard data-logging and wireless Modbus 485/232 slave port with 900 MHz Wireless Modbus radio kit**
- **Multi-interface board with standard data-logging, wireless Modbus 485/232 slave port, 2.4 GHz Wireless Modbus radio kit and Wi-Fi radio kit**
- **Multi-interface board with standard data-logging, wireless Modbus 485/232 slave port, 900 MHz Wireless Modbus radio kit and Wi-Fi radio kit**
- **SensCast Transmitter lightning arrester**
- **SensCast Transmitter Sunshield**
- **Transmitter stand with pole mount kit**
- **Fiberglass tripod mounting kit with clamps and 8 FT. aluminum pole**
- **Magnetic mounting kit (includes 4 magnets)**
- **50 watt AC/DC power supply module; Div 2**
- **120 Watt AC/DC power supply module; Div 2**
- **30 Watt solar power supply with 55AH battery; Div 2**
- **Replacement Transmitter battery with pull tab**
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