

# GASMAX ECx *Wireless* Monitor

## Battery-Powered, Stand-Alone Wireless Gas Monitor for Toxic and Oxygen Deficiency Hazards

- \* Built-in D-cell lithium battery and integrated wireless modem
- \* Monitor for toxic gases in remote locations without wires
- \* Graphic display shows values, units, trend graph, alarm levels
- \* Supports both local and remote sensors for easy installation
- \* Non-intrusive, prompted calibration with programmable cal gas
- \* Power-up and post-calibration delays eliminate false alarms
- \* 900Mhz (US) or 2.4Ghz (world-wide) wireless modems available
- \* Security settings to lock critical parameters
- \* Auto-recognition of Smart Sensors uploads calibration data & more
- \* Fault supervision circuitry detects failed sensor & transmits warning
- \* Setup in hazardous area requires only simple magnetic wand
- \* Typical > 1 mile range with local 'whip' antenna (900Mhz)
- \* For combustible applications, see the GASMAX Iix gas monitor

The GASMAX ECx wireless gas monitor delivers the latest in toxic gas detection technology, reliability and ease of use. The GASMAX / ECx is designed for use in hazardous or explosion proof installations.

### Wide Variety of Available Sensors

The GASMAX ECx support all GDS Corp toxic sensors; in addition, GDS Corp Smart Sensors enhance this capability by maintaining their own record of serial number, born-on date, initial calibration values, engineering units and more. Using this information, the GASMAX ECx constantly tracks sensor performance and calculates an estimate of sensor life remaining.

### Advanced User Interface

The highly visible display and alarm LEDs constantly show status, calibrated engineering values and a programmable tag name; a trend screen shows alarm levels and the most recent 30 minute data values. An internal real-time clock and event log time-stamp calibration and alarm events for later review. A menu-driven operator interface using magnetic keys eliminates all analog potentiometers and allows complete setup and calibration without hazardous area declassification.

### Fully Integrated Wireless Solution

An internal D-cell lithium battery and 900Mhz or 2.4Ghz license-free spread-spectrum wireless modem provide up to six months of continuous operation in typical applications. Every 6 seconds, the



Shown with local stainless steel sensor head and 900Mhz whip antenna

GASMAX ECx samples the atmosphere and transmits a warning signal if the pre-programmed alarm level is exceeded. Under normal conditions the GASMAX ECx transmits a 'keep-alive' signal every five minutes to verify communications and advise the controller if the battery is low.

### Host Controllers

The GASMAX ECx is designed to operate with the C1 *Protector* 8/16 channel controller / receiver or the C2 *Quad Protector* 4 channel controller / receiver. Both controllers are available with integrated 900Mhz or 2.4Ghz wireless modems.

**GDS**  
**Corp**

Gas and Flame Detection

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GASMAX ECx SPECIFICATIONS	
<b>Power Input</b>	Replaceable internal D-cell lithium battery; six-month operation (typical)
<b>Display</b>	64 x 128 pixel LCD with 30-minute trend, bargraph and engineering units display.
<b>Input</b>	Accepts microamp-level signals from local or remote GDS Corp toxic or oxygen deficiency sensors
<b>Standard Output</b>	License-free 900Mhz or 2.4Ghz frequency-hopping spread spectrum wireless modem with data encryption 900MHz power adjustable from 10mW to 1.0 watt 900MHz; 2.4GHz output fixed at 50mW Receiver sensitivity typically -110dBm
<b>Temp</b>	-25°C to +65°C (see sensor limitations)
<b>Housing</b>	Aluminum housing with epoxy paint standard; #316 stainless steel optional
<b>Dimensions</b>	Width 5.4" (137 mm), Height 8" (203 mm), Depth 5" (127 mm) Shipping weight 6.5 pounds (3 kg)
<b>Approvals</b>	FCC 15.247 & Industry Canada (IC)
<b>Warranty</b>	Two years on electronics and one year on sensors from date of purchase

SENSOR TYPES					
10	Oxygen (0-25%)	-30 to +55C	21	Ozone (0-1) <sup>6</sup>	-20 to +40C
11	Carbon Monoxide (0-300)	-30 to +50C	22	Ethylene Oxide (0-20)	-20 to +50C
12	Chlorine (0-5) <sup>6</sup>	-20 to +50C	23	Arsine (0-1)	-20 to +40C
13	Chlorine Dioxide (0-1) <sup>6</sup>	-20 to +40C	24	Silane (0-50)	-20 to +40C
14	Hydrogen (0-2000)	-20 to +50C	25	Fluorine (0-1)	-10 to +40C
15	Hydrogen Sulfide (0-100)	-30 to +50C	26	Phosgene (0-1)	-20 to +40C
16	Hydrogen Cyanide (0-50)	-20 to +50C	27	Hydrazine (0-1)	-10 to +40C
17	Hydrogen Chloride (0-30) <sup>6</sup>	-20 to +50C	28	Nitric Oxide (0-50)	-20 to +50C
18	Hydrogen Fluoride (0-10) <sup>6</sup>	-20 to +50C	29	Nitrogen Dioxide (0-100)	-20 to +50C
19	Sulfur Dioxide (0-25)	-30 to +50C	30	Mercaptan TBM (0-15)	-10 to +40C
20	Ammonia (0-100) <sup>6</sup>	-20 to +40C	31	Tetrahydrothiophene (0-100)	-10 to +40C

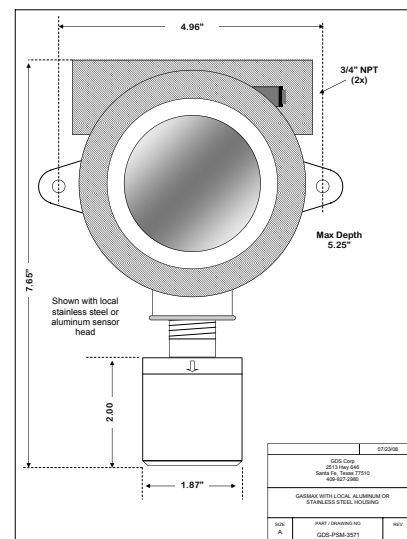
### Determining Wireless Communications Range

The distance at which any wireless connection will operate reliably is dependent on many factors, including terrain, frequency, path length, interference from existing radio sources, combined antenna height, transmitter power and receiver sensitivity. For reliable communication, the system power margin (TX power + RX gain + Antenna gain - Path Loss) must exceed 20 dB. Range can be improved by increasing antenna height, using directional antennas or increasing transmitter power. Contact GDS Corp for more information.



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GASMAX ECx Order Guide	
GM ECx A - B - C	
<b>“A”</b>	<b>SENSOR HEAD</b> <sup>1,2,4,6</sup> 1 = Stainless Steel Sensor Head (XP) 2 = Stainless Steel Sensor Head w/ Splash Guard 3 = Aluminum Sensor Head (for non-XP areas only) 4 = Aluminum Sensor Head (non-XP) w/ Splash Guard 5 = Remote Stainless Steel Sensor Head (XP) 6 = Remote Stainless Steel Sensor Head w/ Splash Guard 7 = Remote Aluminum Sensor Head (for non-XP areas) 8 = Remote AL Sensor Head (non-XP) w/ Splash Guard 12=Local ATEX Stainless Steel Sensor Head
<b>“B”</b>	<b>SENSOR TYPE</b> (see chart) <sup>5</sup>
<b>“C”</b>	<b>DETECTION RANGE</b> <sup>5</sup> 1 = 0 - 1      5 = 0 - 50 2 = 0 - 5      6 = 0 - 100 3 = 0 - 10     7 = 0 - 500 4 = 0 - 25     8 = 0 - 1000 Custom RXXXX (0-9999)



NOTES
Note 1: Remote sensor installations do not utilize Smart Sensor interface
Note 2: Maximum distance for remote e-chem sensor connection is 25ft (3m).
Note 4: ATEX certification not available
Note 5: Standard ranges shown; contact factory for additional ranges
Note 6: Certain highly reactive gases require aluminum sensor head w/o flame arrestor