



I N T E L L I S E N S E [®]

INTELLIGENT, STAND ALONE GAS SENSORS

Remote sensing transmitters featuring non-intrusive, one-person calibration and alarm set point adjustments with optional remote control.

Sensors detect a wide range of combustible gases and vapors.

Easy, routine maintenance does not require hot work permits and area declassification.

Large, easy to read LED's continuously display gas concentration or diagnostic and user-adjustable settings.

Totally self-contained for operation as a stand alone, single gas sensor.

Industry standard 4-20 mA current loop permits data transmission to a host controller.

Dual EEPROMS protect programmed data from loss.

CSA approved for use in Class 1, Div. 1, Groups B, C, and D hazardous locations.

Remote Control CSA approved for use in Class 1, Div. 1, Groups B, C, and D hazardous locations.



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**ADVANCED ELECTRONICS
POWERED BY EXPERIENCE.**

Intellisense® , a new family of continuous gas and vapor remote sensing heads, is the latest addition to Airwave Electronics' full line of gas detection equipment. Totally self-contained and "intelligent", Intellisense® heads can be operated independently (stand alone) or connected to a central monitor/controller accepting a 4-20 mA signal. Featuring a non-intrusive operation and easy-maintenance design, Intellisense® is the cost-effective alternative to sensing heads that require hot work permits and area declassification.



The Intellisense® sensing heads can be used in any industry which requires monitoring of gases and vapors for environmental purposes. Some specific applications include chemical, refinery, petrochemical, pipeline and pump station, and water and sewage treatment facilities.

Intelligent Electronics

Intellisense® sensing heads are microprocessor controlled and perform self-diagnostics. The microprocessor continually reviews operation of the electronics, software and sensors to ensure optimum functionality. Should an error be detected, an alphanumeric message is displayed on the LED, and the optional fail relay alarm is activated for fail-safe operation.



Intellisense® LED displays "real word" messages in alpha and/or numeric symbols - enabling the operator to interpret the message immediately, without referring to a reference source.

Five modes of operation have been designed into the Intellisense® electronics: Default Settings, Power-up/Self Test, Warm Up, Display and Sleep. The first four modes are sequential and bring Intellisense® up to active operation. The fifth mode, Sleep, is an Intellisense® exclusive.

Only Intellisense® sensing heads

Sleep - An Intellisense® Exclusive

feature a Sleep mode to conserve power and provide added security against tampering. During Sleep, the LED displays only three flashing decimal points.



Sleep mode displays three flashing decimal points to conserve power.

If the gas exceeds an acceptable level, Intellisense® awakens from Sleep and returns to the Display mode until the gas level returns to normal.

Programmed data is protected with dual EEPROM's (Electrically Erasable Programmable Read Only Memory.) Should a power failure occur while Intellisense® is actively monitoring, alarm levels, calibration settings and other programmed information will not be lost.

Stand Alone Capability



Intellisense® heads can be powered by a local supply for stand alone, single gas monitoring and alarm .

Since Intellisense® heads are totally self-contained, they can be operated independently of a central controller or monitor. An optional alarm relay board, located within the head, supports three relays designated Alarm 1, Alarm 2, and Fail, which can be used to activate external warning devices.

Data transmission to a controller is also possible with the industry standard 4-20 mA current loop allowing continuous monitoring from a central location.

Non-intrusive Operation

Calibration and adjustments can be performed without opening the sensing head housing with the Intellisense® infra red, hand-held, remote control device. Use of the remote control eliminates the need for hot work permits and area declassification during routine maintenance.

One person calibration and function adjustments are easily performed with the remote control. And since infra red technology is utilized, physical contact does not have to be made with the sensing head during maintenance procedures. Furthermore, since the remote control emits a specific pulse frequency, no other devices can accidentally alter the programmed settings.

Manual operation is also possible, if required, with the internal adjustment buttons that correspond to the keys on the remote control device.



The remote control is operational from up to 12 feet away from the Intellisense® sensor.

Easy Maintenance



Plug-in circuit boards make maintenance quick and easy.

Intellisense® is a modular design with “plug-in” circuit boards and sensors. No special tools or complicated procedures are required - simply pull out and snap-in the replacement parts for quick and simple maintenance.

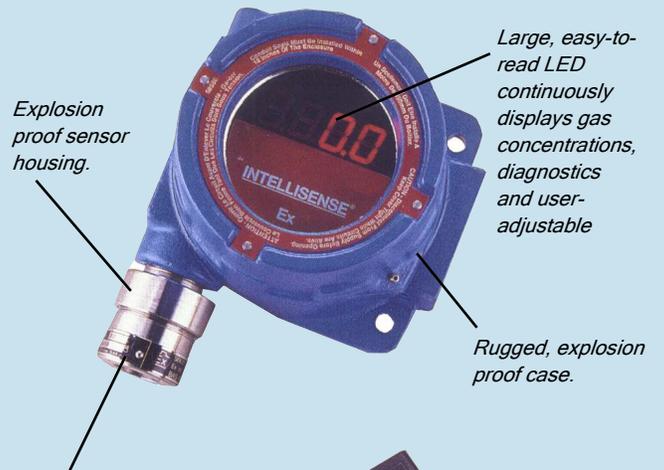
A calibration extender is available to provide easy access to controls on the personality board. Manual calibration is only required when the sensor is replaced.

Durable Design

Intellisense® is housed in a rugged, explosion-proof case suitable for operation in hazardous locations. A splash guard accessory is extremely effective in protecting the sensor from water spray or splash, condensing moisture, dust and dirt. In areas subject to windy or turbulent air conditions, the splash guard also serves as a wind screen to reduce the air velocity over the face of the sensor, keeping gas readings as accurate as possible.



Optional splash guard protects the sensor from harsh environments.



Explosion proof sensor housing.

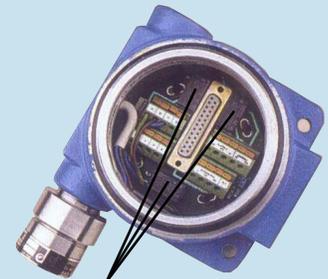
Large, easy-to-read LED continuously displays gas concentrations, diagnostics and user-adjustable

Rugged, explosion proof case.

Plug-in sensor provides accurate and reliable detection of gas and vapors.

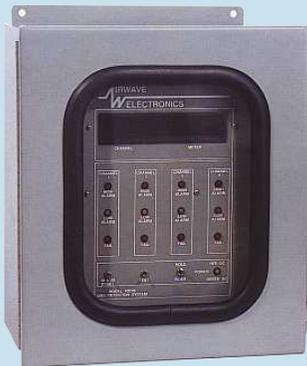


Hand-held, infra red remote control permits non-intrusive operation.



Optional relay package easily converts Intellisense® Sensing Heads to “Stand Alone” Sensors.

Multi-Channel Gas Monitoring System



The Model 4001 System Controllers provide concentration display, alarm activation, and power supply functions for field mounted gas sensing devices. The system controller works in conjunction with any 4 - 20 mA Sensing Head for monitoring a wide variety of toxic and combustible gases.

There are two adjustable alarm levels for each channel which provides for the setting of alarm activation points to conform with particular applications or local regulations. The front panel contains a large, highly visible, LED display as well as individual alarm indicators for each channel and alarm level. Thus providing a comprehensive visual report on the gas monitoring and instrument status.

The system controller is housed in a rugged, weather-proof housing. These wall mountable enclosures are available in single or four channel sizes. The Model 4001 monitors up to four different sites or different gases from a central location. New gas sensing channels can be added to the system as your needs grow or change over time.

ORDERING INFORMATION

Intellisense® Sensing Head

Combustible Gas (Ex)	400888-EX
Combustible Gas (Ex) Infra Red	400-888-EXIR

Also available for H₂S, CO, O₂, SO₂, NO, NO₂, CL₂, HCN, NH₃, ETO, PH₃

Optional Accessories

Remote Control	401-890
Splash Guard	114-3050
Calibration extender	114-3000

Calibration Supplies

Calibration Adaptor, Nylon	120-0154
Cylinder Regulator	810-205
Calibration Gas, Combustible, 50% LEL Methane	820-501
Calibration Gas, Combustible, 50% Pentane	834-500
Calibration Gas, Nitrogen, 100% (Zero Gas)	831-089

TECHNICAL SPECIFICATIONS <i>Intellisense</i> ®		
Dimensions:	6.5" x 4.7" x 3.5" (length includes sensor)	
Weight:	3.75 lb	
Temperature:	Operating	Storage
	-40°F to +167°F	-40°F to +212°F
	-40°C to +75°C	-40°C to +100°C
Humidity Range:	10 to 95% (non condensing)	
Input:	Voltage:	24 VDC nominal (15-30 VDC at unit) or 24 VAC
	Power:	0.7 watts nominal
		3.0 watts maximum
	<i>Polarity-reversal protection</i>	
Long Term Drift @ 25°C	Zero	≤1% of full scale/month
	Sensitivity	≤3% of full scale/month
Accuracy: (relative to output current) F.S. = 100% LEL	Electronics	±1% F.S. or ±3% of reading at 25°C ±3% F.S. @ -4°C to +75°C
	Sensor Electronics	±3% F.S. @ 25°C..... 1 to 60% LEL ±15% F.S. @ -40°C to +75°C..... 1 to 100% LEL

Airwave Electronics is continuously involved in product improvement; therefore, we reserve the right to change specifications without notice.