CITY TECHNOLOGY
ENGINEERING SAFETY

Intelligent Series Gas Sensors (iseries)

City Technology introduces the Next-Generation intelligent (iseries) gas sensors. These sensors have a digital interface, longer life and numerous built-in diagnostics features.

The iseries' intelligent diagnostic features help enhance the overall instrument performance, making them smarter and safer by indicating faults and monitoring health, thereby decreasing downtime and cost of ownership.

The ease of integration combined with pre-calibration drives a significant benefit to OEMs and users in terms of integrating the sensors easily into the instrument. In-built OEM lock code can be used to prevent unauthorized third-party replacement of sensors in the field. With an extended operating life of five years and extended temperature and humidity range, iseries sensors are apt for usage in wide range of applications and climatic conditions.

City Technology iseries sensors are ATEX and IEC Ex Certified (EN IEC 60079-0 and EN IEC 60079-11) and are designed to meet multiple performance standards, including BS EN 45544-1, BS EN 50104, ANSI/ISA 92.00.01, ANSI / ISA 92.04.01 and AS/NZS 4641.

Available now:

- Electrochemical: CO, H_2S, SO_2 & O_2
- Pellistor: LEL

Future releases include other gases such as:

- Electrochemical - NO, NO_2, O_3, Cl_2, H_2, NH_3, dual CO/H_2S, dual CO/H_2 & H_2S (extended operating range)

UART

Digital interface: The sensor has a UART protocol to communicate with the instrument with chip select option to interface with more than one sensor.

Interchangeable: All intelligent sensors have the same dimensions and communication protocol. Supply voltage of all sensors is in the range from 3.1 V to 3.3 V.

Digital traceability: Sensors contain the following data: serial number, manufacturing date, and gas type for quick and easy identification of the sensor.

OEM lock: Sensors have two levels of lock codes. The first one is an OEM specific code programmed in during manufacture and cannot be modified. This lock code is provided by the OEM.

Pre-calibrated sensors: Sensors will be calibrated during manufacturing and calibration data is written in the sensor. Sensor will output gas concentration when interrogated by instrument.

Predictive calibration: Sensors can predict in advance when its accuracy is becoming too poor to give a reliable, accurate reading (advanced warning of when recalibration is needed).

End-of-life indication: Sensors can predict in advance when its sensitivity is falling too low to give a reliable, accurate reading (advanced warning for sensor replacement).

Fault indication: Intelligent sensors can detect several internal faults like open circuit sensing/high impedance electrode, drift/fault in reference electrode, electrolyte concentration out of range and counter electrode fault.

Compact form fit: The sensor is half the height of a traditional sensor. The design also simplifies target gas access to the sensor face.

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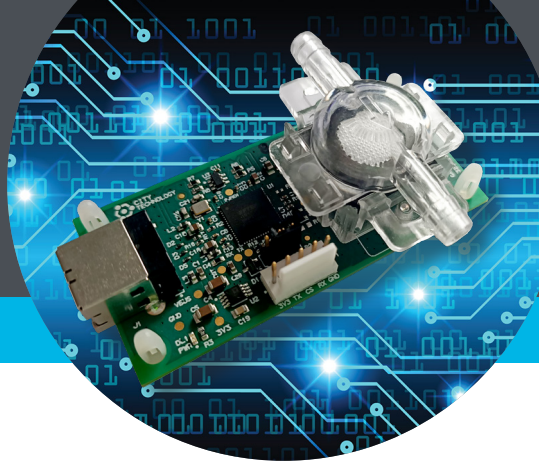
EVALUATION KIT



The Sensor Evaluation Kit, provides an easier way to demonstrate, simulate, and evaluate all City Technology iseries digital sensors. The kit interfaces a digital gas sensor to a board. The software controls the board to take readings from the gas sensors. Sensor measurements and communication commands are displayed on the user's PC and can be recorded to a .CSV file for further analysis. The board can also be used in simulation mode, where it behaves as a virtual sensor.

- **Quicker, easier sensor evaluation:** The Evaluation Kit and associated City Technology software simplify sensor evaluation and demonstration by eliminating the need for the customers to write any code.
- **Command set window:** This function allows the user to visualize how the packets of data are being transferred and how the commands are executed, reducing considerably the development process.
- **Simulation mode:** This mode allows the user to simulate the response of different sensors and their response to gases without the need of having the physical sensor. Additionally, it is possible to emulate the virtual sensor response through the evaluation kit software, including gas readings, sensor status, alarms and errors.
- **Expedite development:** The response of a virtual sensor can be emulated by using the simulation mode and connecting the board to your instrument. The simulated response is configurable through the software.

FEATURES

- The Evaluation Kit has a socket which fits all iseries digital gas sensors
- Digital output for all sensors: ppm, %, %LEL or %vol (depending on the type of sensor)
- OEM/partner code lock
- Configurable alarm settings
- Configurable sampling (up to one per second)
- Compatible with a wide range of sensors that are currently on development

APPLICATIONS

- Sensor demonstration
- Sensor testing and evaluation
- Proof-of-concept testing
- Gas instrument development
- Data logger

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