



**Analog or digital “Point-of-Use”
gas detection transmitter to
detect toxic, corrosive and
combustible gases**

Satellite XT



Applications:

Provides gas detection for:

- Gas cabinets
- Valve manifold box
- Equipment enclosure
- Ambient breathing zone
- Gas storage rooms
- OEM equipment

Advantages:

- Fast, reliable, specific gas detection
- Continuous real-time monitoring
- Interchangeable intelligent sensor cell
- No dynamic gas calibration required
- Generic sensor head electronics
- Low cost of ownership
- No moving parts to wear down or replace

The Satellite XT is the simple solution for all “Point-of-Use” gas detection needs. Based upon the market’s smallest and most reliable electrochemical cell technology, the Satellite XT offers flexibility, simplicity and ease of application. The Satellite XT can be purchased in either an analog or digital configuration, allowing it to interface with new or existing facility control technologies.

The digital Satellite XT is built on LonWorks® technology. Life safety systems built on a LonWorks® network platform allow users to leverage the cost efficiencies of distributed controls, while maintaining the integrity and reliability necessary for code compliant safety applications.

The Satellite XT is an intelligent gas detection transmitter which utilizes a unique electrochemical sensor to detect toxic, corrosive, and combustible gas.

The Satellite XT is a “Point-of-Use” monitor normally located at or near a potential source of gas release. Field accessories allow sampling options for various environments including in-situ duct detection and extractive designs for harsh or remote areas. Typical installations for gas detection sampling include gas cabinet exhaust ducting, valve manifold boxes, equipment enclosures and ambient breathing zones.

Each digital Satellite XT transmitter bears a unique address for use on a LonWorks® network. This feature allows it to participate in a community of other intelligent LonWorks® devices, which when considered together, comprise a life safety system network. Gas concentration and alarm information are both displayed locally at the Satellite XT, as well as distributed onto the LonWorks® network for use by other field devices. The Satellite XT provides complete programmability of all monitoring variables including gas type, alarm levels, and maintenance status.



Gas Sensors 9602

Gas Detection with Electrochemical Cells

| Substance / Sensor | | Sensor Part-No | Nominal Range | | Comments |
|-------------------------------|--------------------------|----------------|---------------|--------|----------------------------|
| AsH ₃ | Arsine (3 El.) | 9602-6001 | 0 ... 1.00 | ppm | |
| AsH ₃ | Arsine (2 El.) | 9602-6000 | 0 ... 1.00 | ppm | special application |
| AsH ₃ | Arsine (2 El.) | 9602-6002 | 0 ... 10.0 | ppm | special application |
| B ₂ H ₆ | Diborane | 9602-6200 | 0 ... 1.00 | ppm | |
| Br ₂ | Bromine | 9602-6800 | 0 ... 5.00 | ppm | |
| Cl ₂ | Chlorine | 9602-5300 | 0 ... 5.00 | ppm | |
| ClF ₃ | Chlorine Trifluoride | 9602-7410 | 0 ... 1.00 | ppm | |
| ClO ₂ | Chlorine Dioxide | 9602-7400 | 0 ... 1.00 | ppm | |
| CO | Carbon Monoxide | 9602-5400 | 0 ... 500 | ppm | |
| COCl ₂ | Phosgene | 9602-6600 | 0 ... 1.00 | ppm | |
| F ₂ | Fluorine | 9602-6400 | 0 ... 5.00 | ppm | |
| GeH ₄ | Germane | 9602-6900 | 0 ... 5.0 | ppm | |
| H ₂ | Hydrogen (1%) | 9602-5100 | 0 ... 1.000 | % vol. | |
| H ₂ | Hydrogen (4%) | 9602-5101 | 0 ... 4.00 | % vol. | special range |
| H ₂ S | Hydrogen Sulphide | 9602-5200 | 0 ... 100 | ppm | |
| H ₂ S | Hydrogen Sulphide (org.) | 9602-5201 | 0 ... 30.0 | ppm | special application |
| H ₂ Se | Hydrogen Selenide | 9602-5600 | 0.00 ... 5.00 | ppm | |
| HBr | Hydrogen Bromide | 9602-7000 | 0 ... 30.0 | ppm | |
| HCl | Hydrogen Chloride | 9602-5800 | 0 ... 30.0 | ppm | |
| HCN | Hydrogen Cyanide | 9602-5700 | 0 ... 30.0 | ppm | |
| HF | Hydrogen Fluoride | 9602-6500 | 0 ... 10.0 | ppm | |
| HMDS | Hexamethyldisilazane | 9602-6715 | 0 ... 0.500 | % vol. | |
| HMDS | Hexamethyldisilazane | 9602-6714 | 0 ... 500 | ppm | |
| N ₂ H ₄ | Hydrazine | 9602-7600 | 0 ... 1.00 | ppm | |
| NH ₃ | Ammonia 100ppm | 9602-6704 | 0 ... 100 | ppm | Standard |
| NH ₃ | Ammonia 1000ppm | 9602-6705 | 0 ... 1000 | ppm | Standard, for higher range |
| NO | Nitric Oxide | 9602-7200 | 0 ... 250 | ppm | |
| NO ₂ | Nitrogen Dioxide | 9602-7300 | 0 ... 25.0 | ppm | |
| O ₂ | Oxygen | 9602-5500 | 0 ... 25.0 | % vol. | |
| O ₃ | Ozone | 9602-7100 | 0 ... 1.00 | ppm | |
| O ₃ | Ozone | 9602-7101 | 0 ... 1.00 | ppm | Exhaust monitoring |
| PH ₃ | Phosphine (2 El.) | 9602-6100 | 0 ... 1.00 | ppm | special application |
| PH ₃ | Phosphine (3 El.) | 9602-6101 | 0 ... 1.00 | ppm | |
| SiH ₄ | Silane | 9602-6300 | 0 ... 50.0 | ppm | |
| SO ₂ | Sulphur Dioxide | 9602-5900 | 0 ... 25.0 | ppm | |
| TEOS | Tetraethyl Silicate | 9602-7500 | 0 ... 100 | ppm | |
| TMB | Trimethyl Borate | 9602-7510 | 0 ... 200 | ppm | |
| TMP | Trimethyl Phosphite | 9602-7800 | 0 ... 30.0 | ppm | |

Note: Further gases and ranges on request



Gas Detection with Combustible Gas Sensors

| Substance / Sensor | | Sensor Part-No | Nominal Range | | Comments |
|--------------------|---------|----------------|---------------|-----|--------------------------------|
| CH ₄ | Methane | 9602-9900 | 0 ... 100 | LEL | for Satellite C only /Standard |
| CH ₄ | Methane | 9602-9901 | 0 ... 100 | LEL | for Satellite C only |
| CH ₄ | Methane | 9602-9902 | 0 ... 100 | LEL | for Sat-Ex C Version |
| CH ₄ | Methane | 9602-9903 | 0 ... 100 | LEL | for Sat-Ex C Version |
| CH ₄ | Methane | 9602-9905 | 0 ... 100 | LEL | for Sat-Ex C Version |

Further gases and ranges on request

Pyrolyzer Module XT Gas Detection with Electrochemical Cells

| Substance / Sensor | | Sensor Part-No | Nominal Range | |
|-------------------------------|--------------------------|----------------|---------------|--------|
| C ₄ F ₆ | Hexafluoro-1,3-butadiene | 9602-9732 | 0....50.0 | ppm |
| C ₅ F ₈ | Octafluorocyclopentene | 9602-9730 | 0 ... 20.0 | ppm |
| CH ₃ F | Methyl Fluoride | 9602-9720 | 0 ... 0.500 | % vol. |
| DCE 1,2 | Di-chloro-ethylene 1,2 | 9602-9600 | 0 ... 1000 | ppm |
| NF ₃ | Nitrogen Trifluoride | 9602-9700 | 0 ... 50.0 | ppm |
| SF ₆ | Sulphur Hexafluoride | 9602-9710 | 0 ... 0.500 | % vol. |

Further gases and ranges on request



Sensors

1. How do electrochemical sensors work?

All Honeywell Analytics electrochemical sensor cells are amperometric type (i.e. fuel cell type) acting like batteries, where one component, in order to generate a current, is missing the gas that should be detected (target gas).

The target gas diffuses through a gas permeable membrane into the sensor where an electrochemical reaction results in a low current that is directly proportional to the measured gas concentration (generally in nA/ppm reading).

2. How does the electrochemical sensor work with the detection instrument?

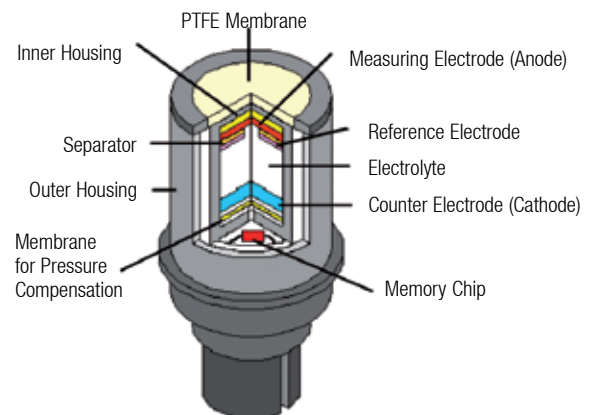
The current is amplified to a signal that is processed through an electronic circuit in order to display the real-time gas concentration.

The zero current of the electrochemical cell is always present and is monitored and suppressed by the electronics.

There are different ways to adjust the correct amplification factor of the electronics. Honeywell Analytics has created the "intelligent sensor" which features a built-in PROM. All relevant sensor data such as sensitivity, target gas, date of first calibration, calibration data, zero current, and alarm levels are programmed onto this chip. Our detectors can read this data and adjust the amplifying factor automatically.

3. How does a sensor self test work?

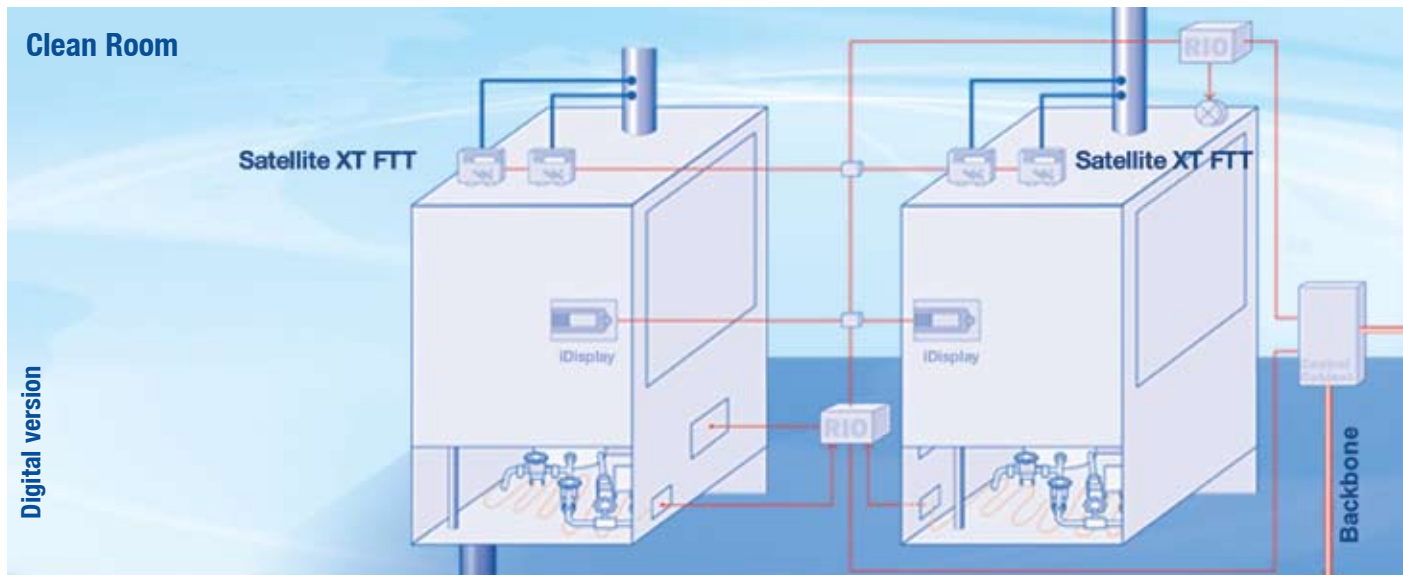
All relevant sensor data (ref. Pos 2) are programmed onto the PROM inside the electrochemical sensor. Our detectors can read this data. Every 24 hours an automatic sensor self-test is performed, which compares an electronically initiated sensor signal with the stored calibration curve. This makes sure that the sensors are always within specification that is set during the first calibration. If the sensor is out of specification the instrument will indicate that the sensor either needs to be checked or needs to be replaced.

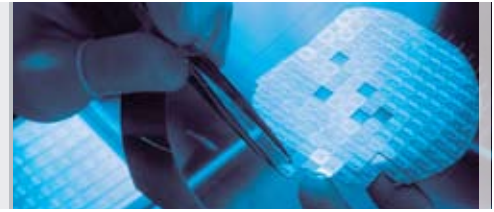
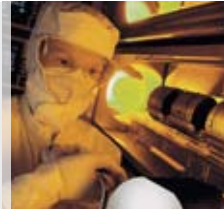


Technical Specifications

Satellite XT FTT

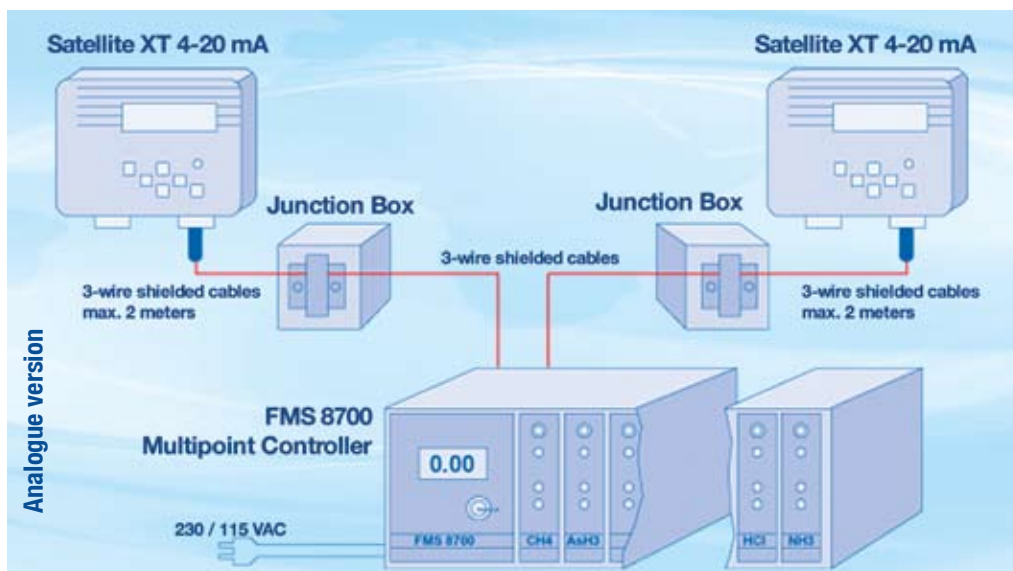
| | | Satellite XT FTT | Satellite XT FTT/R | Satellite XT FTT/C | Satellite XT R |
|------------------------------|-----------------------|---|---|---|---|
| Power requirements | Voltage | 12 to 24 VDC | 12 to 24 VDC | 12 to 24 VDC | 12 to 24 VDC |
| | Consumption | max. 0.6W | max. 1.4W | max. 0.9W | max. 1.4W |
| Network | Data transmission | 78Kb per second | 78Kb per second | 78Kb per second | |
| | Wiring topologies | Free, e.g. Bus, Star, Loop, or Mixed | Free, e.g. Bus, Star, Loop, or Mixed | Free, e.g. Bus, Star, Loop, or Mixed | |
| Wiring | Network | 4-wire shielded cable 2 x 2 x 1.0mm ² / 17 AWG (approx. 2m delivered with instrument) | 4-wire shielded cable 2 x 2 x 1.0mm ² / 17 AWG (approx. 2m delivered with instrument) | 4-wire shielded cable 2 x 2 x 1.0mm ² / 17 AWG (approx. 2m delivered with instrument) | 4-wire shielded cable 2 x 2 x 1.0mm ² / 17 AWG (approx. 2m delivered with instrument) |
| | Relay contacts | | 6-wire shielded cable 6 x 0.25mm ² / 23 AWG (approx. 3m delivered with instrument) | | 6-wire shielded cable 6 x 0.25mm ² / 23 AWG (approx. 3m delivered with instrument) |
| Relay outputs | Contacts | | 3 x SPST (Single-Pole Single-Throw) | | 3 x SPST (Single-Pole Single-Throw) |
| | Max. ratings | | 250 VAC / 30 VDC, 2A | | 250 VAC / 30 VDC, 2A |
| Graphic display | | 122 x 32 dots with backlight | 122 x 32 dots with backlight | 122 x 32 dots with backlight | 122 x 32 dots with backlight |
| Status LED | | Green | Green | Green | Green |
| Keypad | | 6 touch-sensitive membrane function keys | 6 touch-sensitive membrane function keys | 6 touch-sensitive membrane function keys | 6 touch-sensitive membrane function keys |
| Physical dimensions LxWxD | Size | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" |
| | Weight | 480g (17oz) | 650g (23oz) | 520g (18oz) | 620g (22oz) |
| Mounting | | Special mounting plate (delivered with instrument) | Special mounting plate (delivered with instrument) | Special mounting plate (delivered with instrument) | Special mounting plate (delivered with instrument) |
| Housing protection class | IP 52 (option: IP 65) | IP 52 (option: IP 65) | IP 52 (option: IP 65) | IP 52 (option: IP 65) | |
| RFI / EMC | | EN 55022 EN 50082-2 | EN 55022 EN 50082-2 | EN 55022 EN 50082-2 | EN 55022 EN 50082-2 |
| Operating conditions | Temperature | -20°C up to +40°C -4°F up to +104°F | -20°C up to +40°C -4°F up to +104°F | -20°C up to +40°C -4°F up to +104°F | -20°C up to +40°C -4°F up to +104°F |
| | Pressure | 700 up to 1300hPa | 700 up to 1300hPa | 700 up to 1300hPa | 700 up to 1300hPa |
| | Humidity | 20 up to 90% r.h. | 20 up to 90% r.h. | 20 up to 90% r.h. | 20 up to 90% r.h. |
| | Part number | 9602-0400 | 9602-0405 | 9602-0450 | 9602-0505 |





Satellite XT 4-20 mA

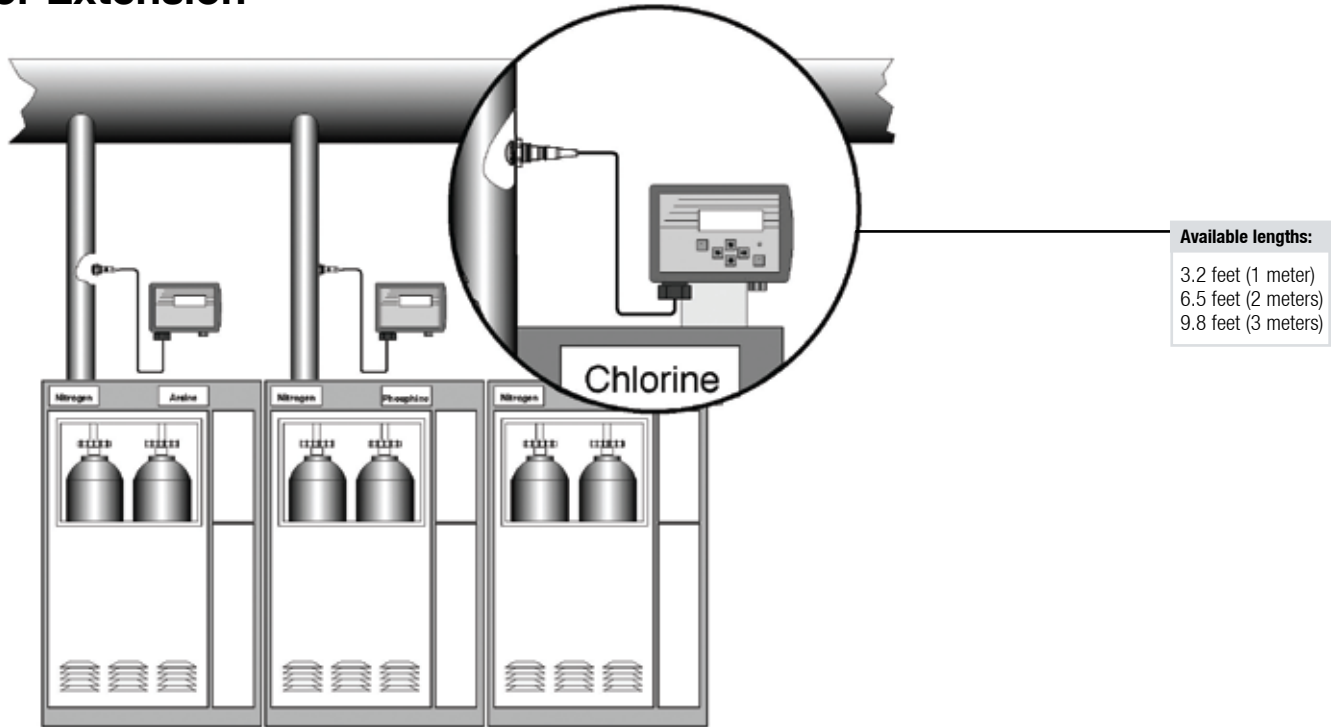
| | | Satellite XT 4-20 mA | Satellite XT 4-20 mA/R | Satellite XT4-20 mA/C |
|---------------------------|-----------------------|--|---|--|
| Power requirements | Voltage | 12 to 24 VDC | 12 to 24 VDC | 12 to 24 VDC |
| | Consumption | max. 1W | max. 1.8W | max. 1.4W |
| Analog Signal Output | Monitoring mode | 4-20mA | 4-20mA | 4-20mA |
| | Warning condition | 2.8-4 mA 0.1Hz | 2.8-4 mA 0.1Hz | 2.8-4 mA 0.1Hz |
| | Maintenance mode | 2.4-4 mA 1Hz | 2.4-4 mA 1Hz | 2.4-4 mA 1Hz |
| | Fault range | 0-2mA | 0-2mA | 0-2mA |
| | Relay contacts | | 6-wire shielded cable 6x0.25mm ² / 23 AWG (approx. 3m delivered with instrument) | |
| Wiring | Analogue interface | 3-wire shielded cable 3x1.0mm ² / 17 AWG (approx. 2m delivered with instrument) | 3-wire shielded cable 3x1.0mm ² / 17 AWG (approx. 2m delivered with instrument) | 3-wire shielded cable 3x1.0mm ² / 17 AWG (approx. 2m delivered with instrument) |
| | Relay contacts | | 3 x SPST (Single-Pole Single-Throw) | |
| Relay Outputs | Contacts | | 250 VAC / 30 VDC, 2A | |
| | Max. ratings | | | |
| Graphic Display | | 122 x 32 dots with backlight | 122 x 32 dots with backlight | 122 x 32 dots with backlight |
| Status LED | | Green | Green | Green |
| Keypad | | 6 touch-sensitive membrane function keys | 6 touch-sensitive membrane function keys | 6 touch-sensitive membrane function keys |
| Physical Dimensions LxWxD | Size | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" | 145 x 95 x 50mm 5.7" x 3.7" x 2.0" |
| | Weight | 480g (17oz) | 650g (23oz) | 520g (18oz) |
| Mounting | | Special mounting plate (delivered with instrument) | Special mounting plate (delivered with instrument) | Special mounting plate (delivered with instrument) |
| Housing Protection Class | IP 52 (option: IP 65) | IP 52 (option: IP 65) | IP 52 (option: IP 65) | IP 52 (option: IP 65) |
| RFI / EMC | | EN 55011 EN 50082-2 | EN 55022 EN 50082-2 | EN 55011 EN 50082-2 |
| Operating Conditions | Temperature | -20°C up to +40°C -4°F up to +104°F | -20°C up to +40°C -4°F up to +104°F | -20°C up to +40°C -4°F up to +104°F |
| | Pressure | 700 up to 1300hPa | 700 up to 1300hPa | 700 up to 1300hPa |
| | Humidity | 20 up to 90% r.h. | 20 up to 90% r.h. | 20 up to 90% r.h. |
| | Part number | 9602-0200 | 9602-0205 | 9602-0250 |



Applications



Sensor Extension



XT Series

Advantages:

XT Series:

- Modular set up to meet the needs of today and tomorrow
- DIN rail mounting for easy installation
- Small footprint

Extractive Module XT:

- In-situ flow control
- Low maintenance
- Easy installation

Options for the Satellite XT:

The XT Series is a product generation designed to meet various gas detection and life safety requirements. The XT Series is comprised of the Satellite XT, the Extractive Module XT, and the Pyrolyzer Module XT. The modular set up allows users to easily change from "Point-of-Use" detection to extractive detection.



Extractive Module XT:

The Extractive Module XT is the ideal add-on component which allows for gas sampling and detection in various environments, such as in-situ duct detection and detection in harsh or remote areas. Its primary function is the transportation of gas samples from the monitored point to the sensor. Typical installations include gas cabinet exhaust ducts, valve manifold boxes, and equipment enclosures, as well as installations under waffle slabs.

Pyrolyzer Module XT:

The Pyrolyzer Module XT completes the XT Series allowing for the detection of gases with Fluorine content. The central component of the Pyrolyzer Module XT, is the Pyrolyzer itself, which converts the gases to mineral acids.

Honeywell Analytics Lines of Business



Commercial

Vulcain-brand gas detection from stand-alone units to fully engineered, multi-point systems, all offering cost-effective regulatory compliance

- » Applications: parking structures, chillers, mechanical rooms, office towers, commercial buildings, shopping centers, swimming pools, golf courses, schools and universities, laboratories

Industrial

Renowned Sieger and Manning gas detection systems with advanced electrochemical, infrared and open path sensing technologies

- » Applications: oil and gas, cold storage, water/wastewater treatment, chemicals, engine rooms, plastics and fibers, agriculture, printing and light industrial

Portables

Single or multi-gas Lumidor and other premium detectors with compact, lightweight designs ranging from simple alarm only units to advanced, fully configurable and serviceable instruments

- » Applications: underground utility and electricity ducts, boiler rooms, post-fire sites, sewers, industrial plants, industrial hygiene, first responder teams, remote fleets



Find out more

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- » Complete range of spares, consumables and accessories

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