Satellite XT

Analogue 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 analogue 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 utilises 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.

Sensor Extension

Available lengths:

1 metre
2 metre
3 metre
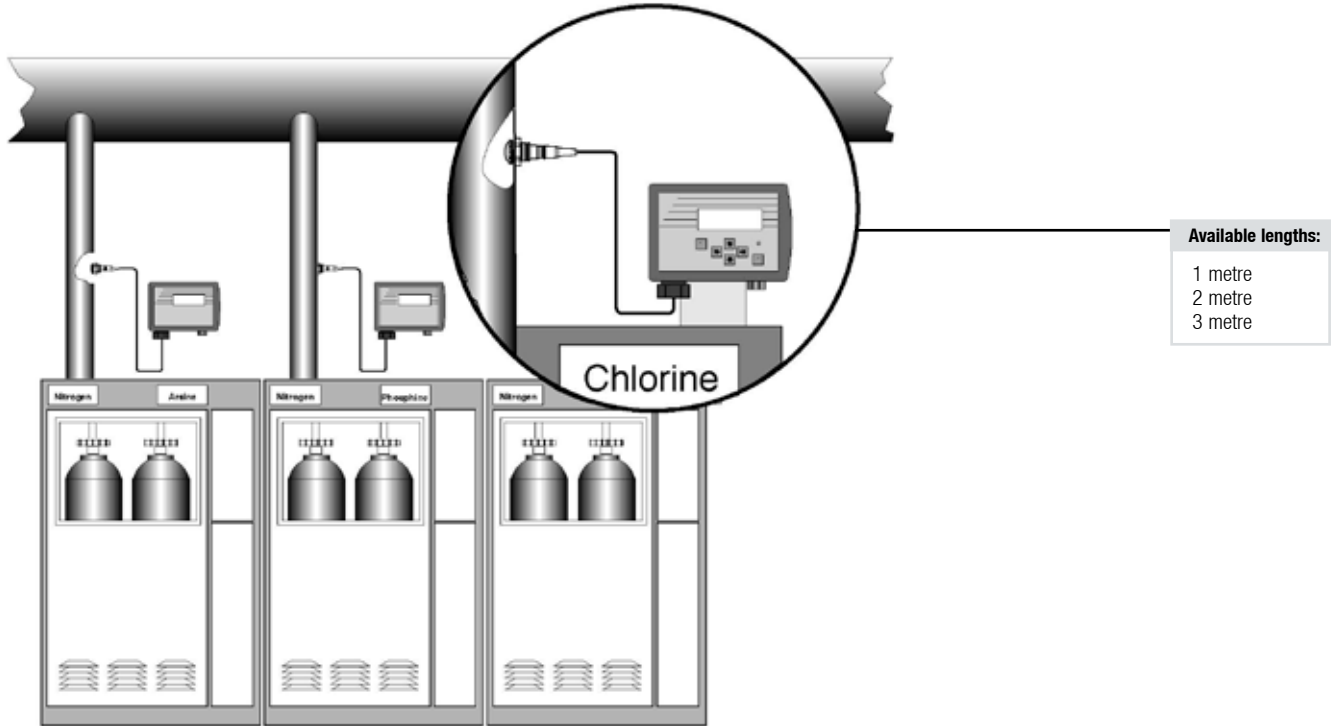
XT Series

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 built-up 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 an 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.

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_2H_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_2S	Hydrogen Sulphide	9602-5200	0 ... 100	ppm	
H_2S	Hydrogen Sulphide (org.)	9602-5201	0 ... 30.0	ppm	special application
H_2Se	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_2H_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. are 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 direct proportional to the measured gas concentration (generally in nA/ppm reading).

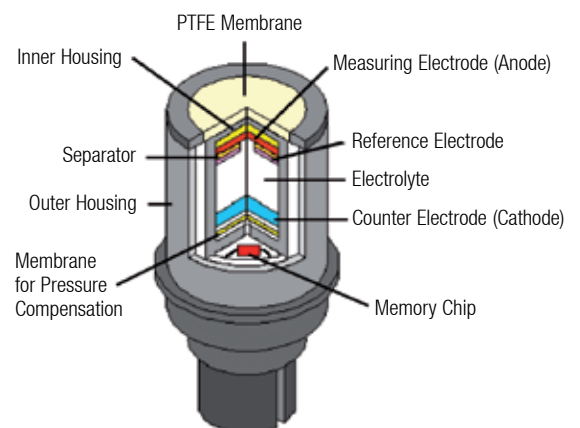### 2. How does the electrochemical sensor work with the detection instrument?

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.
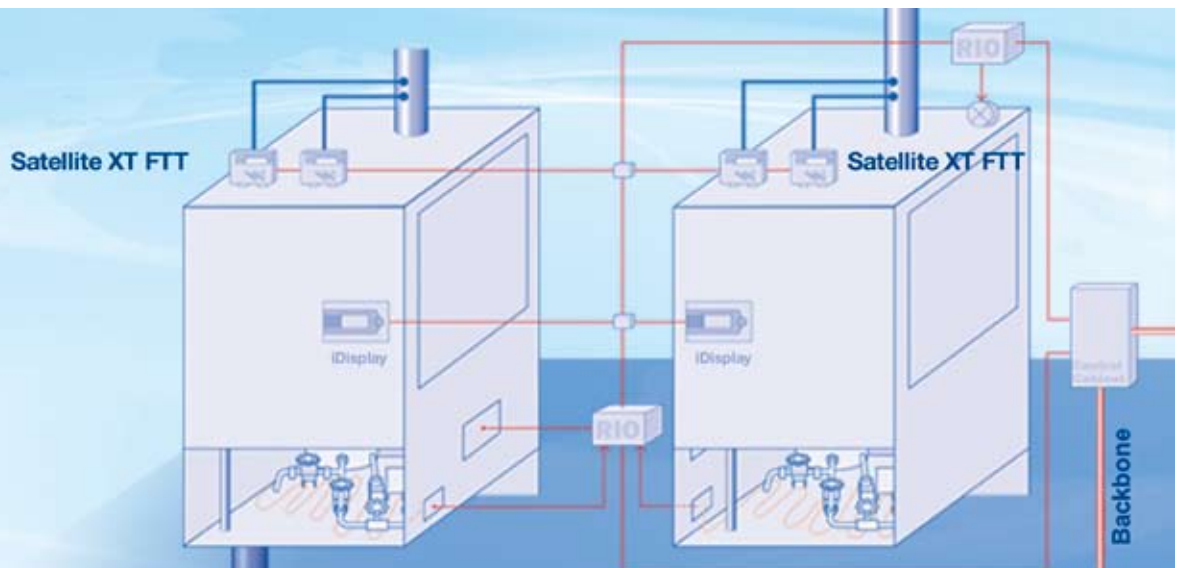
PTFE Membrane

Inner Housing

Measuring Electrode (Anode)

Reference Electrode

Separator

Electrolyte

Outer Housing

Counter Electrode (Cathode)

Membrane for Pressure Compensation

Memory Chip

Satellite XT FTT

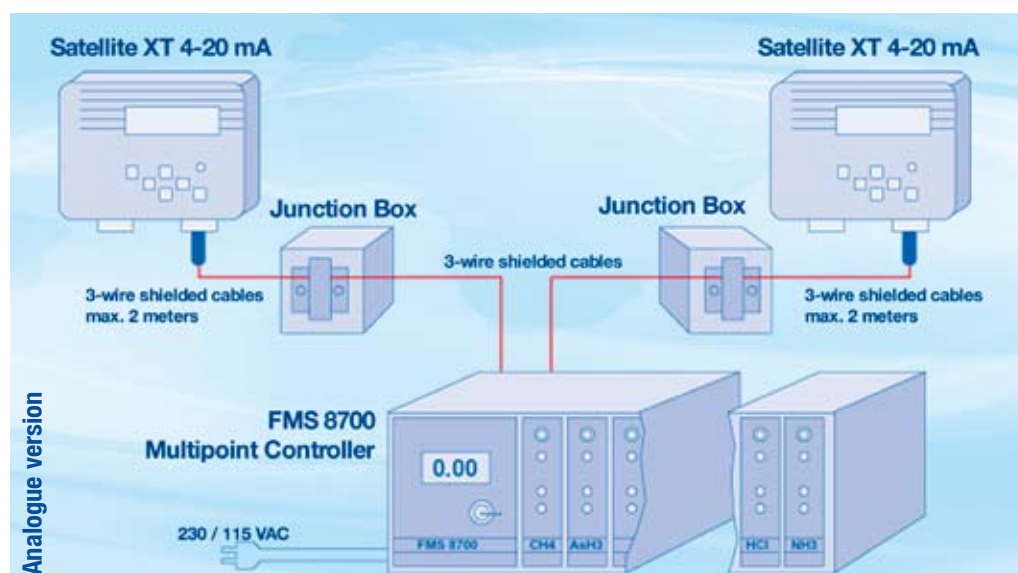|		Satellite XT FTT	Satellite XT FTT/R	Satellite XT FTT/C	Satellite XT R
Power requirements	Voltage	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC
	Consumption	max. 0.6W	max. 1.4W	max. 0.9W	max. 1.4W
Network	Data transmission	78Kb per second	78Kb per second	78Kb per second	
	Wiring topologies	Free, 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 1.0mm²/ 17 AWG (approx. 2m delivered with instrument)	4-wire shielded cable 2 x 2 x 1.0mm²/ 17 AWG (approx. 2m delivered with instrument)	4-wire shielded cable 2 x 2 x 1.0mm²/ 17 AWG (approx. 2m delivered with instrument)	4-wire shielded cable 2 x 2 x 1.0mm²/ 17 AWG (approx. 2m delivered with instrument)
	Relay contacts		6-wire shielded cable 6 x 0.25mm²/ 23 AWG (approx. 3m delivered with instrument)		6-wire shielded cable 6 x 0.25mm²/ 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

Clean Room

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
Analogue Signal Output	Monitoring mode	2-20mA	4-20mA	78Kb per second
	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
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		6-wire shielded cable 6x0.25mm^2/ 23 AWG (approx. 3m delivered with instrument)	
Relay Outputs	Contacts		3 x SPST (Single-Pole Single-Throw)	
	Max. ratings		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
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

Analogue version

Satellite XT 4-20 mA   Satellite XT 4-20 mA

Junction Box   Junction Box

3-wire shielded cables

3-wire shielded cables max. 2 meters

3-wire shielded cables max. 2 meters

FMS 8700 Multipoint Controller

0.00

230 / 115 VAC

FMS 8700   CH4   AsH3   HCl   NH3

Our Product Range

Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

» Detection of flammable, oxygen and toxic gases (including exotics)

» Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared

» Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)

» Cost effective regulatory compliance solutions

Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces. These include:

» Detection of flammable, oxygen and toxic gases

» Single gas personal monitors – worn by the individual

» Multi-gas portable gas monitors – used for confined space entry and regulatory compliance

» Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

» Full technical support

» Expert team on hand to answer questions and queries

» Fully equipped workshops to ensure quick turnaround on repairs

» Comprehensive service engineer network

» Training on product use and maintenance

» Mobile calibration service

» Customised programmes of preventative/corrective maintenance

» Extended warranties on products

Find out more
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Honeywell

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