XP Series Personal Gas Detector



Operating Instructions and Maintenance Manual



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Diese Bedienungsanleitung wird in gedruckter Form nur in englischer Sprache verfügbar sein. Zusätzliche Sprachen stehen zum Download auf folgender Webseite zur Verfügung. www.honeywellanalytics.com



1. Introduction

The XP Series is an easy to use, personal gas detector, designed for monitoring the atmosphere for potentially hazardous levels of oxygen deficiency or toxic gas. It has built-in cell decay compensation, thermal shock protection, and Reflex™, a patented sensor failure detection system, for maximum reliability.

SAFETY INFORMATION

- · Substitution of components may impair intrinsic safety
- Only use specified batteries: Energizer® CR2 or Sanyo CR2
- · Do not activate the detector after the date on the packaging
- · Perform a self-test prior to each day's use (See Section 6)
- · Do not use in oxygen-enriched atmospheres
- Periodically test the sensor's response to gas by exposing the detector to a target gas concentration
 that exceeds the alarm set points. Manually verify that the audible, visual and vibrating alarms
 are activated.
- Exposure to extremely high levels of over-range gas may cause temporary loss of sensor accuracy. Allow detector to stabilize in a zero gas atmosphere before reuse. It is recommended to perform a sensor response gas test prior to reuse.

IMPORTANT NOTICE

Honeywell Analytics can take no responsibility for the use of its equipment if it is not used in accordance with the appropriate issues and/or amendments of the relevant manual. If further details are required which do not appear in this manual, contact Honeywell Analytics or their agent.

Honeywell Analytics shall not be liable for any incidental or consequential damages in connection with any deletions, errors or omissions in this manual.

What's in the Box?

- XP Series Personal Gas Detector
- Test Adapter
- · Operating Instructions and Maintenance Manual
- · Certificate of Calibration

Product Overview



2. Turning the Detector On and Off

Press the On/Off button for one second and the XP will turn on.

The detector will emit 5 beeps and 5 flashes. XP will warm up for 30 seconds, showing a countdown in seconds and the Test Pass icon () will be flashing. It will then perform a self-test. If the detector passes the Test Pass icon () is displayed. If the Test Fail icon () is displayed then the detector has failed the self-test – please refer to the instructions in Section 6.

To turn off the XP press and hold the On/Off button for 5 seconds - a countdown will be displayed.

3. Display Features



- A. Battery
- B. Fail Icon
- C. Self-Test Pass Icon
- D. Level 1: O2 and Toxics
 - Level 2: Toxics
- E. Level 2: O2
- F. STEL/TWA Alarm
- G. Cal. Status Icon
- H. Low Peak (O2), High Peak (Toxics)
- I. Gas Concentration and Units
- J. Alarm Icon

The XP LCD has a backlight that will operate automatically whenever an alarm occurs, and also whenever any button is pressed.

4. Gas Alarms

The XP has two levels of instantaneous gas alarms, of which the level 2 alarm is more urgent than the level 1 alarm. XP also has a 15 minute STEL alarm and an 8 hour TWA alarm. The alarm set points can be set by the user on the detector. It is supplied with the following default alarm set points:

Gas Type	Level 1 Alarm	Level 2 Alarm	STEL Alarm	TWA Alarm
H_2S	10 ppm	15 ppm	15 ppm	10 ppm
СО	35 ppm	100 ppm	400 ppm	35 ppm
0 ₂	23.5% v/v	19.5% v/v	N/A	N/A

For other toxic gases, see Section 22 Other Gases.

Alarm Level	Display*	Audible Alarm	Visual Alarm	Vibrating Alarm
Level 1 alarm	ALARM A-	3 beeps per second	3 flashes per second	Once every 2 seconds
Level 2 alarm	ALARM AP	5 beeps per second	5 flashes per second	Once every 2 seconds
STEL alarm	ALARM A	5 beeps per second	5 flashes per second	Once every 2 seconds
TWA alarm	ALARM A	5 beeps per second	5 flashes per second	Once every 2 seconds

* Examples shown for H₂S

Note:

When the detected gas level returns to a safe level the gas alarm will stop, unless the alarm mode is set to latching. The user cannot cancel an alarm.

If the measured reading exceeds the range of the sensor then the numerical digits will flash the full scale value.

5. Maximum (Peak) Gas, STEL and TWA Reading

The XP records the maximum readings (and also, minimum for oxygen) measured, and the STEL and TWA values (except oxygen). These can be viewed by pressing the Up/Down buttons to scroll through the displays.

a) normal CO









TWA value

c) the maximum (peak CO) reading measured



To clear the peak reading, press the On/Off button once when the peak value is displayed on the LCD.

6. Performing a Self-Test

When the On/Off button is pressed the detector checks the sensor, circuit, batteries, audible and visual alarms, and vibrating alarm.

The XP reminds the user that a Self-Test is required by blinking the Test Pass icon (Δ) 24 hours after switch-on. The Self-Test must then be performed, by pressing the On/Off button. The detector will do the following:

- Turn on all the display elements
- · Test the audible and visual alarms and vibrating alarm
- · Check the battery, electronic circuit and sensor
- · Display the level 1 and level 2 alarm set points
- Display the STEL and TWA alarm set points
- Display the peak, STEL and TWA values
- · Display the result of the self-test as follows:

Self-Test Result	Display	Audible Alarm	Visual Alarm
Pass	M	None	None
Fail	8	1 long beep	1 flash

If the self-test fails, repeat the self-test. The XP will warm up for one minute before the next self-test is performed. If it fails three consecutive times then the detector will display an error code (see Section 9).

Additionally, the XP will periodically check its battery, electronic circuit and sensor. If it fails, the Test Fail icon (S) will be shown and the Test Pass icon (S) will blink. If it passes then the Test Pass icon will be displayed.

7. Testing Sensors and Alarms (Bump Testing)

To maintain optimal accuracy, the detector should be periodically supplied with a known concentration test gas (bump test) and if the readings are outside of 15% of the applied gas concentration, a span calibration should be performed, under conditions of standard temperature (15°C to 25°C/59°F to 77°F), humidity and pressure. Follow local regulations and/or your company's policy on the frequency of bump testing. For more information on test gas, contact your local Honeywell Analytics representative.

8. Low Battery

When the XP battery level reaches a preset level it will warn the user that the battery is low and needs replacing by generating a beep and flashing the LED once every 5 seconds. Also, the battery icon ((\square)) will flash. When the battery is finally exhausted an error code E02 will be displayed (see Section 9) and a beep generated once every second.

9. Error Codes

	Error Code	Reason
	E 01	Reflex [™] error
(EOI)	E 02	Low battery
Example	E 04	System Fault
	E 08	EEPROM Error

10. Alarm Occurred Indication

If an alarm has occurred while the XP has been turned on, the relevant alarm level icon (a or or v) will be displayed. This will be cleared when either the On/Off button, Up or Down button is pressed.

11. Confidence Flash/beep

The visual alarm and audible alarm will flash/beep once every 30 seconds, to indicate that the XP is operating. The user can select whether this feature is activated or not, and whether it is an audible signal, visual signal or both (see Section 14). If any error or fault is detected, the confidence flash will stop. The factory default is no flash and no beep.

12. Zero Calibration (Oxygen Span)



Zero calibration must be performed in a clean atmosphere, and it is recommended that it be performed daily or after any gas alarm. Depress the On/Off button 2 times. The detector will initiate a zero with a countdown showing a '0' for zero calibration, followed by a countdown from '20' to '00'.



blink

When the zero calibration has been completed the XP will indicate a pass by beeping twice and flashing 2 times, and the (Δ) icon will flash for 5 seconds.



If the zero calibration fails, the XP will give a single beep and a single flash, the Test Fail icon (\mathbf{x}) will be displayed, and the zero calibration should be repeated.

13. Span Calibration (Toxic Versions Only)

Calibrate the detector at least every 12 months (O₂, H₂S, CO), depending on use and exposure to contaminants. The other toxic gases (Cl₂, H₂, HCN, NH₃, NO₂, SO₂) should be calibrated at least every 6 months. To carry out the span calibration the user requires the following additional equipment to be available, which can be purchased from Honeywell Analytics.

· Gas cylinder containing a known concentration calibration gas as follows:

Toxic Gas	Recommended Calibration Gas Concentration	Calibration Gas Concentration Range
H ₂ S	25 ppm in air or N_2	20-30 ppm
CO	100 ppm in air or N ₂	70-200 ppm

See Section 22 for other toxic gases

- · A gas regulator supplying the gas at 300 ml/min flow rate
- Tubing for use between the regulator and the test adaptor (See Section 24, Calibration Accessories)

The following is a list of calibration times (in seconds) for the different toxic gases. The detectors are pre-programmed with the appropriate calibration time.

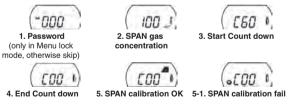
Toxic Gas	Calibration Time	Toxic Gas	Calibration Time
CO	60	H ₂ S	60
Cl ₂	300	NH ₃	300
H ₂	120	NO ₂	180
HCN	250	SO ₂	120

Important Note for Cl, Users:

Honeywell Analytics recommends dedicating a regulator for use with Cl_2 gas to avoid lower calibration readings due to cross-interference with other gases.

Prior to performing the span calibration with Cl_2 detectors it is recommended that the user purge the regulator for 5 minutes (300 seconds) with Cl_2 gas to ensure the regulator is properly conditioned. This should be done any time a significant amount of time has passed since the regulator was last used (i.e. days).

Carry out the zero calibration procedure as described in Section 12. A span calibration can only be performed if the zero calibration is successful. At the end of the zero calibration procedure, the On/Off button must be pressed continuously for 5 seconds while the Test Pass icon (a) is flashing. If the Menu Lock feature has been activated then the unit prompts the user to enter the password. If the correct password is entered then the span gas concentration will be displayed and can be changed with the Up and Down buttons (refer to Section 22 for the table of span gas concentration ranges for the limits). Press the On/Off button to select the span gas concentration. Connect the gas cylinder and test adaptor and apply the gas at 300 ml/min. The detector will count down the appropriate calibration time for the gas type. When the count down is below 100, the detector will display a' C' (for calibration) in addition to the count down value. This sequence is shown below:



If the span calibration is successful the detector will give 2 beeps, 2 flashes and will display the Test Pass icon (a). If the span calibration fails, the detector gives a long beep, long flash, displays the Test Fail icon (a), and the calibration remains as it was before the span calibration was attempted. If the span calibration fails, verify the calibration gas expiration date and concentration, then rerun the span calibration procedure.

14. Changing the Detector Set-up

The XP is provided with a means for the user to change the following aspects of its operation:

- Alarm 1 set point
- Alarm 2 set point
- · Latching/non-latching alarms (factory default is non-latching)
- STEL alarm set point
- TWA alarm set point
- · Set the confidence signal as a beep, flash, beep and flash or none
- Set a new password (or disable the password function), which allows access to change the gas
 concentration for carrying out a span calibration

To access these functions press and hold both the Up and Down buttons on the side of the detector for 3 seconds. The XP will generate two beeps and 2 flashes, and enter the Set-up mode. If the Menu Lock feature has been activated then the detector prompts the user to enter the password before entering setup mode.

The following display will be shown while the two buttons are being pressed and held:

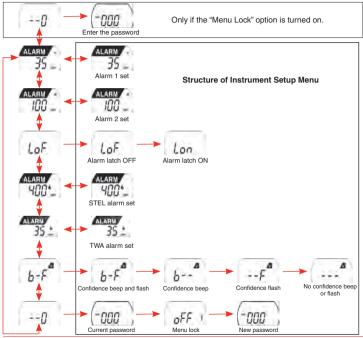


In set-up mode, pressing the Up or Down button selects the function and pressing the On/Off button activates the function, so that the displayed value may be changed. For each value, pressing the Up button increases the displayed value, pressing the Down button decreases the displayed value, and pressing the On/Off button sets the displayed value. Once the displayed value has been changed and accepted, then the new value is stored within the detector. The value can be returned to its previous value by pressing the Up and Down buttons together, e.g.



If no button is pressed within 20 seconds or both buttons are pressed together the XP will revert back to its normal gas monitoring mode.

The flowchart diagram on the following page explains the process.



XP Series Personal Gas Detector

The user can select whether the detector set-up menu is password protected. All settings are maintained, even when the XP is turned off. Note that the initial password (which can be changed) is '000'.

00

Menu lock

Menu unlock

15. Specifications

Operating Life	Typically up to three years before battery replacement, assuming 8 hours use per day and 3 minutes of alarm per day*		
	со	0 to 999 ppm	
Sensor Range	H ₂ S	0 to 250 ppm	
	0 ₂	0 to 30% v/v	
For other gapes See Section 22			

For other gases See Section 22

		Level 1	Level 2	STEL	TWA
Alarm Set points	CO ppm	35	100	400	35
Alarm Set points	$H_2S ppm$	10	15	15	10
	O ₂ %	23.5	19.5	-	-

For other gases See Section 22

Calibration	Toxics	Zero and Span adjustment	
Calibration	0 ₂	Span adjustment	
Operating Temperature	-4°F to +122°F (-20°C to +50°C) (temperature compensated)		
Humidity	5-95% RH (non-condensing)		
Audible Alarm	95db @ 4" (95db @ 10cm)		
Visual Alarm	High intensity red LEDs		
Vibrating Alarm	Standard		
Display	Backlit Custom LCD		

Sensor Type	Electrochemical (replaceable)		
Diagnostics	Self-test of circuitry, battery, LCD, software Sensor test using Reflex™		
Battery	3V Lithium (replaceable) Energizer CR2 or Sanyo CR2 only		
IP Rating	IP65 (IP54 for sensor aperture)		
Intrincia Cafaty	Ex ia IIC T4		
Intrinsic Safety	UL/ C-UL Class I, Div. 1, Groups A,B,C&D, T4 RFI/EMC CE EN50270:1999 and EN55011		
Dimensions	3.6" (H) x 2" (W) x 1.1" (D) (93 mm x 50 mm x 27 mm) excluding clip		
Waisht	Toxics	81.5g (2.8oz)	
Weight	0 ₂	93.0g (3.3oz)	

*Excessive alarms will significantly reduce the battery life

16. Contacting Honeywell Analytics

To contact Honeywell Analytics, call: +1 800 433 7220 (USA and Canada)

+ 41 (0)44 943 4300 (ROW)

Or visit our web-site at www.honeywellanalytics.com

17. Sensor Cross Sensitivity Data

H₂S SureCell Cross Sensitivity Data

Gas Type	Concentration Applied (ppm)	Reading (ppm H ₂ S)
Carbon Monoxide	50	0
Sulfur Dioxide	2	0
Nitrogen Dioxide	3	0
Nitric Oxide	25	0
Chlorine	0.5	0
Hydrogen	100	0
Ethylene	100	0
Carbon Dioxide	5000	0

CO SureCell Cross Sensitivity Data

Gas Type	Concentration Applied (ppm)	Reading (ppm CO)
Hydrogen Sulfide	25	0
Sulfur Dioxide	50	0.5
Nitrogen Dioxide	800	20
Nitric Oxide	50	8
Chlorine	2	0
Hydrogen	100	20
Ethylene	100	85
Ammonia	100	0

O, Cross Sensitivity Data

Gas Type	Concentration Applied	Reading (%v/v O ₂)
Hydrogen	100%	-9%
Methane	100%	0
Nitrogen Dioxide	25 ppm	0

18. Accuracy Statement

To achieve optimal accuracy, the detector should be periodically supplied with a known concentration test gas, and if the readings are outside of 15% of the applied gas concentration, a span calibration should be performed, under conditions of standard temperature (15°C to 25°C), humidity and pressure.

Poisons should not affect the accuracy of the XP but certain compounds can block the gas access port of the sensor, such as silicone oils, giving a lower than expected reading.

19. Replacing the Battery or Sensor

The XP battery and sensor can be replaced (see Section 20, Warnings). The following items are needed:

- Replacement battery Energizer® CR2 or Sanyo CR2 only (Lumidor P/N: MiniMAX-XP-BATT or Neotronics P/N: 0140-0003)
- Replacement sensor filter (Lumidor P/N: MiniMAX-XP-07 or Neotronics P/N: 2566-0249)
- Crosshead (Phillips) screwdriver
- Replacement sensor: (See Section 23)

Use only the sensor specifically designed for the XP. Otherwise the detector will not detect the target gas. Full disassembly is not necessary if only the battery needs replacement.

Carry out the following procedure in a safe area:

- 1. Turn the detector off.
- 2. See illustration on page 24 on how to replace the battery or sensor.
- After replacement, switch on the XP and perform a self-test, to ensure that the display and electronics are operating correctly, and perform a zero calibration. (If the detector does not turn on after battery replacement, check the polarity is correct, as indicated.)
- 4. After replacing the sensor, calibrate the XP.

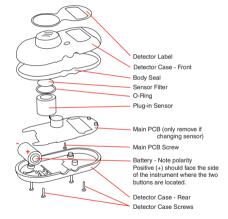
Note:

Dispose of battery according to local or national regulations.

20. Warnings

The use of any battery other than the ones indicated will void the intrinsic safety approval of the detector.

Substitution of any components could void the intrinsic safety approval of the detector. Replace batteries only in a safe area.





Remove the battery before removing this insulator. Be sure that the insulator is secured in place prior to re-installing the battery.

21. Warranty

All products are designed and manufactured to the latest internationally recognized standards by Honeywell Analytics under a Quality Management system that is certified to ISO 9001:2000.

Device	Warranty Terms	
XP Series (Models other than H_2S , CO and O_2)	12 months from date of switch on / installation provided this takes place prior to the 'Activate Before' / install by date. Pro rata after 'Activate Before' / install by date.	
XP Series (H_2S , CO and O_2 models only)	24 months from date of switch on / installation provided this takes place prior to the 'Activate Before' / install by date. Pro rata after 'Activate Before' / install by date.	
Service	Warranty Terms	
A. Replacement with new product within the first 90 days of the original warranty period.	Full warranty period as specified in Warranty Terms above.	
B. Repair (or replacement with new or reconditioned product at HA discretion) after the first 90 days of the original warranty period.	Pro-rata warranty realized as balance of original warranty specified in Warranty Terms above, or equivalent discounted price on a new, fully warranted instrument or component.	
Components replaced under original product warranty.	Warranted against same fault for 3 months	
Repair or Replacement outside of original warranty period.	from date of repair	

Warranty Conditions

- The HA Limited Product Warranty only extends to the sale of new and unused products to the original buyer where purchased from a HA authorized distributor or service center.
- 2. Not covered are:
 - consumable items such as dry-cell batteries, filters and fuses or routine replacement parts due to the normal wear and tear of the product;
 - any product which in HA's opinion has been altered, neglected, misused or damaged by accident or abnormal
 conditions of operation, handling, use or severe sensor poisoning; or failure to maintain and calibrate the product
 as prescribed in the product documentation;
 - defects attributable to improper installation, repair by an unauthorized person or the use of unauthorized accessories/ parts on the product;
- Any claim under the HA Product warranty must be made within the warranty period and as soon as reasonably possible after a defect is discovered.
- 4. If a warranty claim is being sought it is the responsibility of the buyer to return the product to the distributor or HA authorized service center along with a full description of the fault. If no description of the fault is provided, HA reserves the right to charge an investigation fee.
- 5. A warranty claim will only be accepted if a proof of purchase is submitted and all conditions contained within this Warranty are met. When, in the opinion of HA, a warranty claim is valid, HA will repair or replace the defective product according to the terms herein. Where repair or replacement provides significant upgrade, enhancement or modification of the instrument, HA reserve the right to charge a reasonable fee in respect of such.
- In the course of the investigation it may be determined that recalibration of the instrument is required. In such cases, calibration charges may apply.
- Please note that if, in the opinion of HA the warranty claim is not valid, HA reserves the right to charge for an investigation, any repair work carried out and for any attendance by its service engineer at the usual rates in force at the time the claim was received.
- 8. In no event shall HA's liability exceed the original purchase price paid by the buyer for the product.
- After the effective date, this warranty supersedes all existing warranty statements and HA makes no other warranty
 expressed or implied except as stated above.

22. Other Gases

G	as Type	Range	Level 1 Alarm	Level 2 Alarm	STEL Alarm	TWA Alarm
	SO ₂	150 ppm	2 ppm	5 ppm	5 ppm	2 ppm
	Cl ₂	50 ppm	0.5 ppm	1 ppm	1 ppm	0.5 ppm
	HCN	100 ppm	5 ppm	10 ppm	10 ppm	5 ppm
	NO ₂	150 ppm	3 ppm	5 ppm	5 ppm	3 ppm
	H_2	999 ppm	100 ppm	500 ppm	N/A	N/A
	$\rm NH_3$	100 ppm	25 ppm	50 ppm	35 ppm	25 ppm

Default Alarm Set Points

Calibration Gas Concentration

Toxic Gas	Recommend Calibration Gas Concentration	Calibration Gas Concentration Range	Calibration Frequency
SO ₂	10 ppm in air or N_2	2~20 ppm	6 months
Cl ₂	5 ppm in N ₂	1~20 ppm	6 months
HCN	10 ppm in N ₂	5~20 ppm	6 months
NO ₂	10 ppm in air	5~20 ppm	6 months
H ₂	200 ppm in air or $\rm N_2$	100~200 ppm	6 months
NH ₃	25 ppm in air or $\rm N_{_2}$	25~100 ppm	6 months

23. Replacement Parts

Lumidor Part Number	Neotronics Part Number	Item
XP-LBL-O2	2566-0251	Replacement O2 label
XP-LBL-CO	2566-0252	Replacement CO label
XP-LBL-H2S	2566-0253	Replacement H ₂ S label
XP-LBL-CL2	2566-0254	Replacement Cl ₂ label
XP-LBL-SO2	2566-0255	Replacement SO ₂ label
XP-LBL-NO2	2566-0256	Replacement NO ₂ label
XP-LBL-HCN	2566-0258	Replacement HCN label
XP-LBL-NH3	2566-0257	Replacement NH ₃ label
XP-LBL-H2	2566-0259	Replacement H ₂ label
MiniMAX-XP-07	2566-0249	Replacement XP Sensor Filter
MiniMAX-XP-BATT	0140-0003	Replacement Energizer® CR2 or Sanyo CR2 Battery
HOR132	2566-0260	Replacement XP Sensor O-Ring
HOR133	2566-0261	Replacement XP Body Seal

Energizer® is a trademark of the Eveready Battery Company, Inc.

Replacement Sensors

Sensor	Lumidor Part Number	Neotronics Part Number
02	EGS265	2566-0240
со	EGS267	2566-0241
H2S	EGS268	2566-0242
Cl2	EGS254	2566-0243
SO2	EGS244	2566-0244
NO2	EGS255	2566-0245
NH3	EGS257	2566-0246
HCN	EGS246-K	2566-0247
H2	EGS272	2566-0248

24. Calibration Accessories

Item	Lumidor Part Number	Neotronics Part Number
Spare Test Adaptor	MiniMAX-XT-01	2566-0121
Tubing	402-19	0-120
Regulator	N600-10	002-10

EC Declaration of Conformity The undersigned, representing the Manufacturer: Honeywell Analytics Inc. 400 Sawgrass Corporate Parkway Sunrise, Florida 33325 USA Hereby declares that the product(s) listed below: MiniMAX XT series - Single Gas Toxic or Oxygen Monitor, MiniMAX XP series - Single Gas Toxic or Oxygen Monitor with user settings. Brand Name "Lumidor" are in conformity with the provisions of the following EC Directive(s), when installed, operated, serviced and maintained in accordance with the installation/operating instructions supplied in the product documentation: 89/336/EEC EMC directive 94/9/EC ATEX Directive, construction on EMC Standard(s): EN 50270, 1999 Electromagnetic compatibility - Electrical apparatus for the delection and assurement of combustible mases, toxic pases or oxygen. EN 50271, 2002 Requirements and tests for apparatus using software and/or digital cimplomes. ATEX Standard(s): EN 50014, 1997 Electrical agginatus for explosive atmospheres - General Regultements, EN 50020, 2002 Electrical apparatos for explosive atmospheres - Intrinsic Safety "Ex I". Manufactured in accordance with article 9, Annexes IV and VII of the council directive 94/9/EC. Notified Body for ATEX: **Certificate Not QA** Notification No: UL International DEMILO A/S B3 ATEX 0320585X REMA Quality B.V. Lyskaer 8, P.O. Box 514 No. HEMA BEATEXBO141, ISS 1 Type Approval: Notified Body No. 0344 DK-3730 Heriev, Demmark II 2 O EEx In IIC T4 Year of CE marking: For and on behalf of the authorized manufacturer in the community:

Name: John Strafman Position: Director of Certification Relations, Honeywell Analytics Inc. Sunnse, Florida, USA Signature: John Straturon Date: 27.Sep-06

EC Declaration of Conformity

The undersigned, representing the Manufacturer:

	alytics Inc.		
400 Sawgrass	Corporate Pa	rkway	
Sunrise, Florid	a 33325 USA		
Hereby declares			
Impulse XT serie	s - Single Gas Te	sxic or Oxygen Monitor	
Impulse XP serie	s - Single Gas Te	xic or Oxygen Manitor	with user settings.
Brand Name "New	otronics"		
are in conformity	with the provisi	ions of the following EC	Directive(s), when
installed, operate	ed, serviced and	maintained in accorda	nce with the
Installationlopera	ting instruction	s supplied in the produ	ct documentation:
89/336/EEC	EMC directive		
94/9/EC	ATEX Directiv	0, construction requirements	for explosive atmospheres.
EMC Standard(s)	r		
EN 50270, 1999	Electromagneitic c	ompatibility - Electrical appa	ratus for the detection and
	manutament of c	ombuistible gases, toxic gase	s or oxygen.
EN 50271, 2002	Requirements and	tests for apparatus using sat	twere and/or digital
and and the state	technologues.		
ATEX Standard(s			
EN 50014, 1997	Electrical apparent	us for explosive atmospheres	
EN 50014, 1997 EN 50020, 2002	Electrical apparent	us for explosive atmospheres as for explosive atmospheres	
EN 50014, 1997 EN 50020, 2002	Electrical apparat	as for explosive atmospheres	- Intrinsic Safety "Ex.I".
EN 50014, 1997 EN 50020, 2002 Manufactured in	Electrical against Electrical against accordance with		- Intrinsic Safety "Ex.I".
EN 50014, 1997 EN 50020, 2002 Manufactured in directive 94/9/EC	Electrical apparat Electrical apparat accordance with	as for explosive atmospheres	- Intrinsic Safety "Ex.I".
EN 50014, 1997 EN 50020, 2002 Manufactured in directive 94/9/EC Notified Body for	Electrical apparent Electrical opparent accordance with ATEX:	as for explosive atmospheres 1 article 9, Annexes IV Certificate No:	- Intilatic Safety "Ex I". and VII of the council QA Notification No:
EN 50014, 1997 EN 50020, 2002 Manufactured in directive 94/9/EC Notified Body for UL International DEM	Electrical apparent Electrical opparent accordance with ATEX:	n for explosive atmospheres a article 9, Annexes IV	and VII of the council
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Customer business center

Americas Honeywell Analytics 400 Sawgrass Corporate Pkwy Suite 100 Sunrise, FL 33325 Tel: +1 954 514 2700 Toll free: +1 800 538 0363 Fax: +1 954 514 2784 sales@zelana.com

Customer business centre Europe and the rest of the world

Honeywell Analytics Wilstrasse 11-U11 CH-8610 Uster Switzerland Tel: +41 (0)1 943 4300 Fax: +41 (0)1 943 4398 sales@zelana.co.uk

www.honeywell.com

Customer business center Canada Honeywell Analytics - Vulcain 4004 Matte Boulevard Unit G Brossard, QC J4Y 2P4

Toll free: +1 800 563 2967 Fax: +1 888 967 9938 sales@vulcaininc.com



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