

GAS DETECTION FOR SEMICONDUCTOR & PHOTOVOLTAIC INDUSTRY



Maximum Safety

New Cosmos - BIE,
a New Cosmos Group Company.
Your solution for measuring flammable, toxic
and corrosive gases in the semiconductor and
photovoltaic industry.

More than 50 years of experience and a strong
proven track record with respect to solutions for
gas detection.

Monitoring of:

- Tools
- VMB (valve manual boxes)
- Pumps and basements
- Scrubbers
- Gas cabinets and storage areas
- Cleanroom environment



Fixed detection



SH-WAD	
Single point, multi point and multi gas detectors.	
Ranges	From ppm to 100 Vol.% (please refer to table on backside)
Detection method	Sample draw
Power supply	24 VDC
Output	Options: 4 - 20 mA, Profibus DP, Modbus, SIMS and relays
Provision for	Pyrolyzer



PS-7	
Single point gas detector with a cartridge sensor.	
Ranges	From ppm to 100 Vol.% (please refer to table on backside)
Detection method	Sample draw
Power supply	24 VDC
Output	Options: 4 - 20 mA, DeviceNet
Provision for	Pyrolyzer



SH-WAD - TEOS		SH-WAD - CO
Single point gas detector for TEOS and CO.		
IPA compensated	Prevents alarms caused by IPA	
Ranges	0 - 30 ppm	0 - 150 ppm
Detection method	Sample draw	
Power supply	24 VDC	
Output	Options: 4 - 20 mA, Profibus DP, Modbus, SIMS and relays	



KFP	
Single point gas detector. Ideal for safety extract (exhaust) monitoring applications. For example monitoring of gas cabinet extracts.	
Ranges	From ppm to 100 Vol.% (please refer to table on backside)
Detection method	Diffusion type
Power supply	24 VDC
Output	4 - 20 mA
Optional	Sensor protector for environment monitoring applications Local indicator



KS-7O	
Single point gas detector for monitoring oxygen levels.	
Ranges	0 - 25% / 0 - 50%
Detection method	Diffusion type
Power supply	24 VDC
Output	4 - 20 mA, relays for A1, A2 and potential free



KS-7D	
Single point gas detector for the detection of CO.	
Ranges	0 - 150 ppm / 0 - 250 ppm / 0 - 400 ppm
Detection method	Diffusion type
Power supply	24 VDC
Output	4 - 20 mA, relays for A1, A2 and potential free

Portable detection



XPS-7

Portable gas detector for toxic and corrosive gases.	
Range	From ppm to 100 Vol.% (please refer to table on backside) Detects a range of gases with a single-gas detector by replacing the sensor unit
Detection method	Sample draw
Power supply	4 x AA type batteries (up to 12 hrs.) or AC adapter



XP703DIII

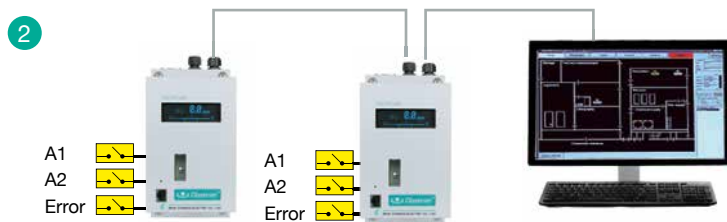
A portable detector suitable for the detection of semiconductor gases like arsine (AsH_3), phosphine (PH_3), diborane (B_2H_6), silane (SiH_4) and hydrogen (H_2).	
Range	ppm
Detection method	Hot wire semiconductor
Power supply	2 x AA type batteries (up to 12 hrs.)

Flexible system configurations



PLC Alarm System

As technology moves on, more sophisticated alarm systems are widely used. When implementing systems with more than twenty five detectors, the use of a PLC-system is worth to consider. Such a compact, software-driven system is simple to expand and allows for quick modifications. User specific functions can easily be programmed. For example functions, which enable the communication with other systems in the facility.



WAD units

Suction type WAD units equipped with a JC-Box and relay module. Bus-line connection to a SIMS-NX PC or stand alone operation. Alarm actions are initiated directly from the WAD units.



RX-WAD, 8CWA and 16CWA

These one, eight and sixteen channel units are the ideal solution for small and medium size gas detection systems which rely on a 4-20mA signal transmission.

Every channel has three free programmable alarm levels - alarm 1, alarm 2 and error. The IP65 protection class allows the units to be deployed in wet and industrial environments.

By means of the RS-485 output signal the units can be connected to a central data-acquisition and monitoring system like SIMS-NX.

Configuration of the units takes place with In-control™ software, which also enables the analysis of diagnostic information stored in the detection unit and sensor.

Detectable Gases

Gas to Detect		Monitoring range (ppm)*
		Standard
Cl ₂	Chlorine	0 - 1 / 0 - 3
HCl	Hydrogen Chloride	0 - 5 / 0 - 15
SO ₂	Sulfur Dioxide	0 - 15
HF	Hydrogen Fluoride	0 - 9
O ₃	Ozone	0 - 0.3
Br ₂	Bromine	0 - 1 / 0 - 3 / 0 - 10
O ₂	Oxygen	0 - 25 %
CO	Carbon Monoxide	0 - 100
CO ₂	Carbon Dioxide	0 - 5 % / 0 - 10 %
F ₂	Fluorine	0 - 3 / 0 - 10 / 0 - 30
ClF ₃	Chlorine Trifluoride	0 - 0.3
H ₂	Hydrogen	0 - 4000 / 0 - 4%
NO	Nitric Oxide	0 - 100
NO ₂	Nitrogen Dioxide	0 - 9
HNO ₃	Nitric Acid Vapour	0 - 6
C ₂ H ₅ OH	Ethyl Alcohol	0 - 1000
IPA	Iso Propyl Alcohol	0 - 1000
CH ₄ , C ₂ H ₆ , H ₂ , ...	Hydrocarbons - IR sensor	0 - 100% LEL
CH ₄ , C ₂ H ₆ , H ₂ , ...	Hydrocarbons - Catalytic sens.	0 - 100% LEL
NH ₃	Ammonia	0 - 75
CH ₃ NH ₂	Methylamine	0 - 30
C ₂ H ₅ NH ₂	Ethylamine	0 - 30
(CH ₃) ₂ NH	Dimethylamine	0 - 30
(CH ₃) ₃ N	Trimethylamine	0 - 75
(C ₂ H ₅) ₃ N	Triethylamine	0 - 75
N ₂ H ₄ ^①	Hydrazine	0 - 2
TDMAT ^②		0 - 1
C ₂ H ₄ (NH ₂) ₂	Ethylene Diamine	0 - 1
Si(C ₂ H ₅ O) ₂	TEOS	0 - 30
Si(C ₂ H ₅ O) ₂	TEOS	0 - 30
General Acid		
H ₂ Se	Hydrogen Selenide	0 - 0.2
C ₂ H ₂	Acetylene	0 - 200
C ₂ H ₄	Ethylene	0 - 2000
Chlorides ^③		0 - 15
HBr	Hydrogen Bromide	0 - 9
Fluorides ^④		0 - 9
H ₂ O ₂	Hydrogen Peroxide	0 - 30
PH ₃	Phosphine ^⑤	0 - 0.5
AsH ₃	Arsine ^⑤	0 - 0.2
SiH ₄	Silane ^⑤	0 - 15
B ₂ H ₆	Diborane ^⑤	0 - 0.3
Al(CH ₃) ₂ H	DMAH ^⑤	0 - 20
NF ₃	Nitrogen Trifluoride	0 - 30
HCFC ^⑥	Freon [®]	0 - 150
CHF ₃		0 - 500
CCl ₄	Carbon Tetrachloride	0 - 30
CHCl ₃	Chloroform	
CH ₃ Br	Methyl Bromide	0 - 50
SF ₆	Sulfur Hexafluoride	0 - 200 / 0 - 300 / 0 - 1000 / 0 - 5000
N ₂ O	Nitrous Oxide	0 - 300 / 0 - 1%
HFC ^⑦ , PFC ^⑧		0 - 50
C ₂ F ₆		0 - 15
C ₂ F ₈		0 - 2000
CF ₂		0 - 500 / 0 - 5000
GeH ₄	Germane	0 - 0.6
(CH ₃) ₃ SiH	Trimethyl Silane	0 - 15
(CH ₃ O) ₃ SiH	Trimethoxy Silane	0 - 15
AsH ₃ , TBA, TBP, TMA, TMB, TMPI, SiH ₄ , PH ₃ , B ₂ H ₆	Arsine	0 - 0.2

* Other ranges available on request

Software for PLC Alarm System

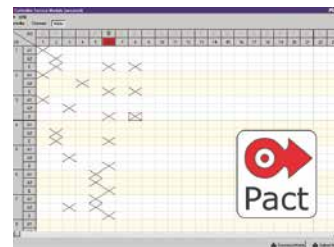
SIMS-NX Software

A PLC-system has lots of advantages. But on its own, it fails to have the possibility of visualisation; it is a 'blind box'. SIMS-NX is designed to monitor and display the signals of a large variety of sensors on pc screens. That makes SIMS-NX the natural partner for a PLC-configuration. The combination is hard to beat when it comes to flexibility, reliability and functionality.



PACT Software

PACT is used to program the alarm handling procedures of the PLC-system. An user friendly, well structured, interface relates the input signals to the output actions. PACT is the only alarm handling software on the market which allows the user to change the settings real time, during full operation of the PLC. There is no down time required while making adjustments to the system! By using Profibus-DP enabled detectors from the Observer WAD range it is even possible to add new detectors without interrupting the processes in the PLC.



In control Software

With In control software the configuring of the WAD units is quite simple. When installing a gas sensor, parameters such as target gas, measurement range and measurement unit are all set automatically. The user only has to specify the alarm values and the desired alarm responses.



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