

## PolyGard® Single Point Controller SPC-X3-TOX for Toxic Gases and Oxygen

### DESCRIPTION

Gas measuring and monitoring controller based on state-of-the-art microtechnology with integrated sensor for continuous monitoring of the ambient air and detecting toxic gases and vapours. As an option the SPC-X3 is provided with an input for one external analog transmitter. 4 alarm thresholds per sensor/transmitter are free programmable. Configuration and operation are possible via the logical, simple system menu structure without specific programming knowledge.



Standard enclosure

### APPLICATION

The SPC-X3-TOX is suitable for a wide range of commercial and industrial applications. Free programmable parameters and setpoints enable the individual adaptation to a variety of possible applications in the field of gas measuring and monitoring.

### FEATURES

- Continuous monitoring
- Integrated gas sensor
  - Good resistance to poisoning
  - Long life expectancy
- Modular design (plug-in technology)
- Standard version with display/LED/keyboard
- Comfortable calibration and maintenance
- Reverse polarity protected
- Overload-proof and short-circuit-proof
- (0) 4 – 20 mA / (0) 2 – 10V analog signal output
- 2 x relay outputs / 1 binary output
- IP 65 version
- Different housing versions
- 230 VAC / 24 VDC power module with 2 power relays (option)
- 230 VAC / 24 VDC power supply unit (option)
- Uninterruptible emergency power supply (option)
- 4 – 20 mA input for external transmitter (option)
- Integrated buzzer with reset function internal/external (option)
- Serial interface (option)
- Service tool for versions without display/LED/keyboard (option)
- Manual calibration via potentiometers (option)
- Heating (option)
- Duct mounting (option) only without display/LED/keyboard

## SPECIFICATIONS

### Electrical

Power supply	18 - 28 VDC/AC, reverse polarity protected
Power consumption (without options)	100 mA, max. (2,5 VA)
Analog output, current or voltage selectable	0 (4) – 20 mA, load ≤ 500 Ω 0 (2) – 10 V, load ≥ 50 kΩ overload-proof and short-circuit-proof
Alarm relay 1	30 VAC/DC 0,5 A, potential-free, SPDT
Alarm relay 2	30 VAC/DC 0,5 A, potential-free, SPNO/SPNC
Binary output	30 VDC /0,1 A open collector

### Visualisation

Display	Two lines, 16 characters each
Status LED (4)	Normal operation- Fault- Alarm1- Alarm 2
Operation	4 push-buttons – menu-driven

### Gases

Internal gas sensor	See “Ordering Information”
External transmitter	Toxic gases, Ex gases, Freons, temperature, humidity, pressure, etc.

### Operating environment

Humidity	15 – 90 % RH non-condensing
Working temperature	-10 °C to + 50 °C (14 °F to 122 °F)
Storage temperature	5 °C to 30 °C (86 °F to 122 °F)
Pressure range	Atmospheric ± 10 %

### Physical

Enclosure Plastic Type C*	Polycarbonate
Flammability	UL 94 V2
Enclosure color*	RAL 7032 (light grey)
Dimensions (W x H x D)	130 x 130 x 75 mm (5.12 x 5.12 x 2.95 inch.)
Weight	Approx. 0.6 kg (1.323 lbs.)
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 6 x M 20
Wire connection	Screw type terminal, min. 0.25 mm <sup>2</sup> (24 AWG) max. 2.5 mm <sup>2</sup> (14 AWG)
Enclosure Plastic Type C*	Polycarbonate

### Certificates

VDI 2053 “Air treatment systems for garages  
and tunnels”\*

### Guidelines

EMC Directive 89/336/EEC  
CE

### Warranty

1 year on material (without sensor)

\* in preparation

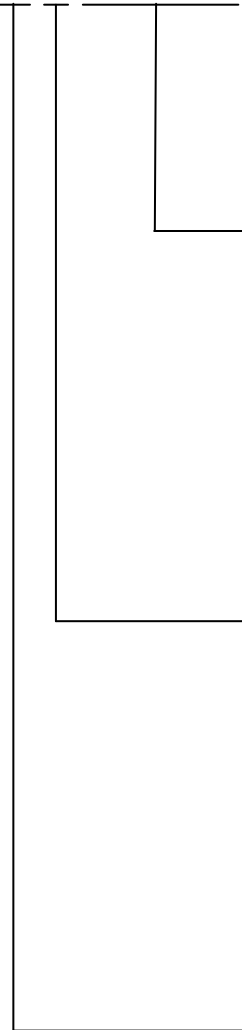
# GAS ALARM SYSTEMS

## Options

<b>Analog input</b>	4 – 20 mA overload-proof and short-circuit-proof, input resistance 200 $\Omega$
Voltage for ext. analog transmitter	24 VDC max. load 50 mA
<b>Buzzer</b>	
Acoustic pressure	83 dB (A) (distance 200 mm) (0.6 ft.)
Frequency	2300 Hz
<b>Serial interface</b>	
Transceiver	RS 485 / 19200 Baud
<b>Heating</b>	
Temperature controlled	3 °C $\pm$ 2°C (37,5 °F $\pm$ 35.5°F)
Ambient temperature	- 40 °C (- 40 °F)
Power supply	18 - 28 VDC/AC
Power consumption	0,5 A; 12 VA

## ORDERING INFORMATION

**SPC-X3-11XX-X-XXXXXXXXXX**



### Version

X1XXXXXXXX	Buzzer int.
XX1XXXXXXXX	Heating
XXXX1XXXX	Serial interface
XXXXX1XXX	Display/LED/keyboard (standard)
XXXXX2XXX	Manual calibration
XXXXXX1XX	4 – 20 mA analog input
XXXXXXX1X	Factory calib. standard measuring range <sup>1</sup>
XXXXXXX2X	CO <sub>2</sub> measuring range 0,6 % vol
XXXXXXX3X	CO <sub>2</sub> measuring range 2,0 % vol
XXXXXXX4X	CO <sub>2</sub> measuring range 4,0 % vol
XXXXXXX0	Menu language German
XXXXXXX1	Menu language English
XXXXXXX2	Menu language USA
XXXXXXX3	Menu language Dutch
XXXXXXX4	Menu language Danish
XXXXXXX5	Menu language Czech

### Enclosure

C	Plastic (standard)
1	Duct mounting <sup>2</sup>
4	IP 65 protection <sup>2</sup>
5	Stainless steel
7	Plastic (comfort)

### Gases

10	Carbon monoxide	CO	0 - 300 ppm
25	Ammonia	NH <sub>3</sub>	0 - 300 ppm
29	Nitrogen monoxide	NO	0 - 25 ppm
30	Nitrogen dioxide	NO <sub>2</sub>	0 - 20 ppm
60	Carbon dioxide	CO <sub>2</sub>	0 - 2000 ppm
2070	Freons – all HCFCs	R22	0 – 2000 ppm
2077	Freons – all HFCs	R134a	0 - 2000 ppm
85	Formaldehyde	CH <sub>2</sub> O	0 - 10 ppm86
	Hydrogen chloride	HCL	0 - 20 ppm
87	Phosphine	PH <sub>3</sub>	0 - 20 ppm
88	Silane	SiH <sub>4</sub>	0 - 50 ppm
89	Ethylene	C <sub>2</sub> H <sub>4</sub>	0 - 10 ppm
90	Ozone	O <sub>3</sub>	0 - 50 ppm
92	Dinitrogen monoxide	N <sub>2</sub> O	0 - 2000 ppm
93	Chlorine	CL <sub>2</sub>	0 - 10 ppm
95	Oxygen	O <sub>2</sub>	0 - 25 % vol
96	Sulphur dioxide	SO <sub>2</sub>	0 - 100 ppm
97	Hydrogen sulphide	H <sub>2</sub> S	0 - 50 ppm
99	Ethylene oxide	C <sub>2</sub> H <sub>4</sub> O	0 - 100 ppm

<sup>1</sup> In case of discrepancy please indicate the special measuring range!

<sup>2</sup> See data sheet "PolyGard AT/DT Enclosures"

**Example:** Single Point Controller SPC-X3 for CO, stainless steel housing, buzzer, incl. factory calibration 0 - 300 ppm, menu language English

**Order No.:** SPC-X3-1110-5-X1XXXXX11



## CONNECTING DIAGRAM

