

## PolyGard® Single Point Controller SPC-X3-34XX for Combustible Gases

### 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-X3-34XX 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-X3-34XX is suitable for a wide range of industrial and commercial applications. Free programmable parameters and setpoints enable the individual adaptation to a variety of 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 power supply incl. 2 power relays in conjunction with POW-03 module (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)	130 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 (1)	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

### Sensor performance

Gas type	Combustible gases/ vapours (see order inform.)
Sensor element	Ex sensor, catalytic bead (pellistor)
Measuring range	0 - 100% LEL
Accuracy	± 1 % of reading
Long-term zero point drift	< ± 6 % measuring range /year
Long-term sensitivity drift	< ± 1,5 % measuring range / month
Response time	t <sub>50</sub> ≤ 3 s; t <sub>90</sub> ≤ 10 s /methane
Sensor life expectancy	3 years/normal operating environment
Temperature range	- 20 °C to + 50 °C (-4 °F to 122 °F)
Temperature drift	≤ 1%
Storage period	Max. 6 months
Mounting height	Depending on gas type
External transmitter	Toxic gases, Ex gases, Freons, temperature, humidity, pressure, etc.

### Operating environment

Humidity	15 – 95 % 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

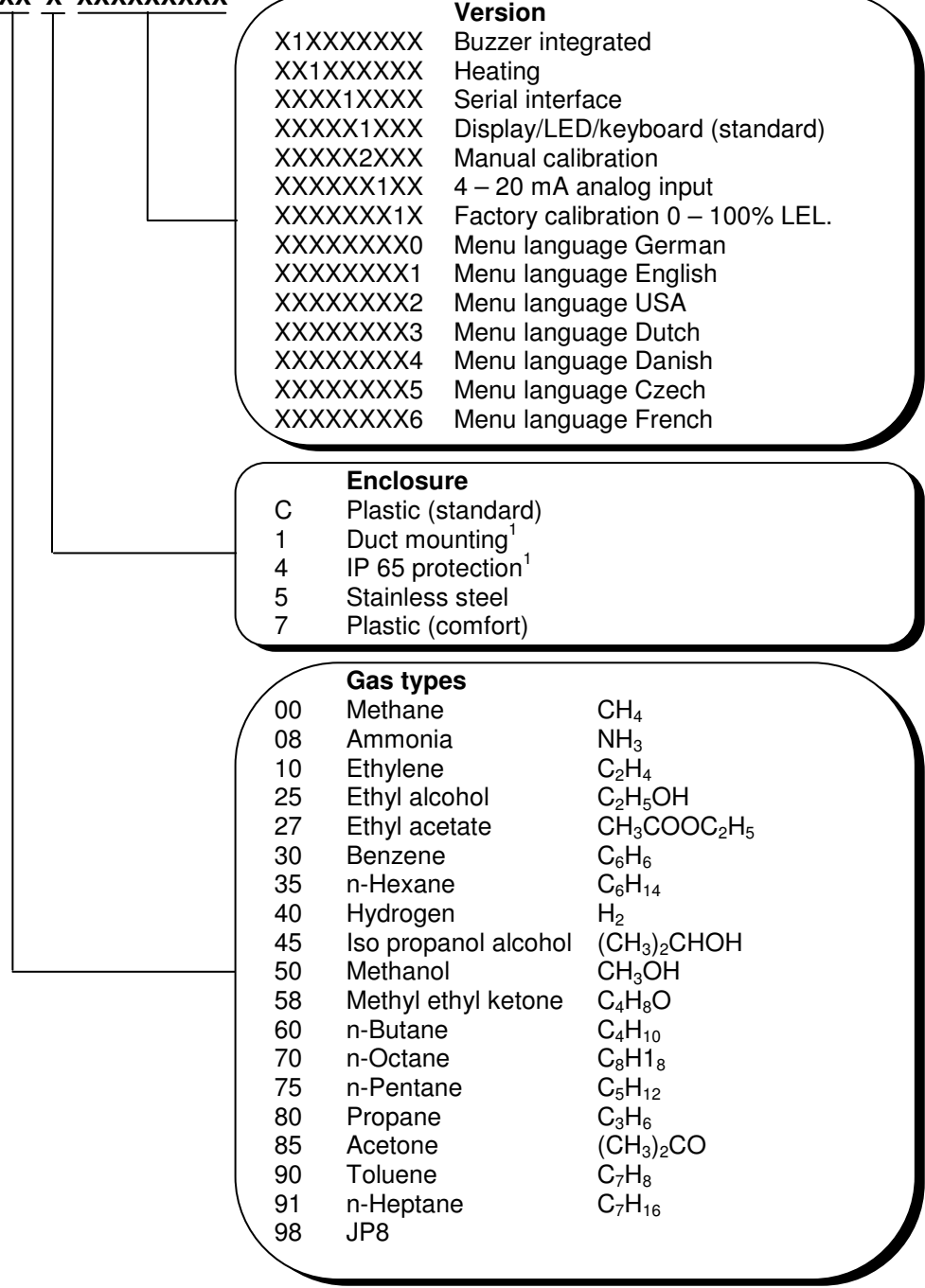
Enclosure Plastic Type C*	Polycarbonate
Flammability	UL 94 V2
Enclosure color*	RAL 7032 (light grey)
Dimensions (W x H x D)	130 x 130 x 75 mm (5.12 x 5.12 x 2.95 inch.)
Weight	Approx. 0.6 kg (1.323 lbs.)
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 6 x M 20
Wire connection	Screw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

# GAS ALARM SYSTEMS

<b>Guidelines</b>	EMC Directives 2004 / 108 / EEC CE
<b>Warranty</b>	1 year on material (without sensor)
<b>Options</b>	
<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 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (37,5 $^{\circ}\text{F} \pm 35.5^{\circ}\text{F}$ )
Ambient temperature	- 40 $^{\circ}\text{C}$ (- 40 $^{\circ}\text{F}$ )
Power supply	18 - 28 VDC/AC
Power consumption	0,5 A; 12 VA

## ORDERING INFORMATION

**SPC-X3-34XX-X-XXXXXXXXXX**



### Version

X1XXXXXXXX	Buzzer integrated
XX1XXXXXXXX	Heating
XXXX1XXXXX	Serial interface
XXXXX1XXX	Display/LED/keyboard (standard)
XXXXX2XXX	Manual calibration
XXXXXX1XX	4 – 20 mA analog input
XXXXXXX1X	Factory calibration 0 – 100% LEL.
XXXXXXXXX0	Menu language German
XXXXXXXXX1	Menu language English
XXXXXXXXX2	Menu language USA
XXXXXXXXX3	Menu language Dutch
XXXXXXXXX4	Menu language Danish
XXXXXXXXX5	Menu language Czech
XXXXXXXXX6	Menu language French

### Enclosure

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

### Gas types

00	Methane	CH <sub>4</sub>
08	Ammonia	NH <sub>3</sub>
10	Ethylene	C <sub>2</sub> H <sub>4</sub>
25	Ethyl alcohol	C <sub>2</sub> H <sub>5</sub> OH
27	Ethyl acetate	CH <sub>3</sub> COOC <sub>2</sub> H <sub>5</sub>
30	Benzene	C <sub>6</sub> H <sub>6</sub>
35	n-Hexane	C <sub>6</sub> H <sub>14</sub>
40	Hydrogen	H <sub>2</sub>
45	Iso propanol alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHOH
50	Methanol	CH <sub>3</sub> OH
58	Methyl ethyl ketone	C <sub>4</sub> H <sub>8</sub> O
60	n-Butane	C <sub>4</sub> H <sub>10</sub>
70	n-Octane	C <sub>8</sub> H <sub>18</sub>
75	n-Pentane	C <sub>5</sub> H <sub>12</sub>
80	Propane	C <sub>3</sub> H <sub>6</sub>
85	Acetone	(CH <sub>3</sub> ) <sub>2</sub> CO
90	Toluene	C <sub>7</sub> H <sub>8</sub>
91	n-Heptane	C <sub>7</sub> H <sub>16</sub>
98	JP8	

<sup>1</sup> See data sheet "PolyGard AT/DT Enclosures"

**Example:** Single Point Controller SPC-X3 for methane, stainless steel housing, buzzer, incl. factory calibration 0 - 100 % LEL, menu language English

**Order No.:** SPC-X3-3400-5-X1XXXXX11



## CONNECTING DIAGRAM

