

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

DESCRIPTION

Gas measuring, monitoring and warning controller based on state-of-the-art micro-technology with integrated sensor and internal buzzer for the continuous monitoring of the ambient air and detecting toxic gases and vapours. 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.

APPLICATION

The SPC-X3-34XX is suitable for a wide range of industrial and commercial applications. Free programmable parameters and set-points enable the individual adaptation to a variety of applications in the field of gas measuring and monitoring.



Standard enclosure

FEATURES

- Continuous monitoring
- Integrated gas sensor
 - Good resistance to poisoning
 - Long life expectancy
- Modular design (plug-in technology)
- Standard version with display/LED/keyboard and internal buzzer
- Reverse polarity protected, overload-proof and short-circuit-proof
- (0) 4 – 20 mA / (0) 2 – 10V analog signal output
- 2 x relay outputs 30 VAC/DC, 0.5 A
- 2 x binary output, 30 VDC, 0.05 A
- 4 – 20 mA input for external transmitter
- Different housing versions
- Approved according to EN 61010-1; ANSI/UL 61010 1; CAN/CSA-C22.2 No. 61010-1
- Communication interface (option)
- LED flashing light in red (option)
- 2 x warning lights, colours: red – orange selectable (option)
- 1 x power light green (option)
- Up to 3 power relays (potential-free, 250 VAC/DC 5A) (option)
- External warning horn (87 dB) mounted on the housing (option)
- External multi-sound horn, mounted on the housing (option)
- 230 VAC power supply (option)
- Uninterruptible emergency power supply (option)
- Heating (option)
- Duct mounting (option)



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 (2)	30 VDC / 0.05 A, open collector output
Analog input	4 – 20 mA overload-proof and short-circuit-proof, input resistance 200 Ω
Voltage for ext. analog transmitter	24 VDC max. load 50 mA

Visualisation

Display	Two lines, 16 characters each
Status LED (4)	Normal operation- Fault- Alarm 1- Alarm 2
Operation	4 push-buttons – menu-driven

Buzzer (internal)

Acoustic pressure	83 dB (A) (distance 200 mm) (0.6 ft.)
Frequency	2300 Hz

Gases

Internal sensor	Combustible gases (see order inform.)
Sensor data	See corresponding datasheet of ADTX3 transmitter
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 (41 °F to 86 °F)
Pressure range	Atmospheric ± 10 %

Physical

Enclosure plastic type C, B und E	Polycarbonate
Flammability	UL 94 V2
Enclosure colour	RAL 7032 (light grey)
Dimensions type C and B (W x H x D)	130 x 130 x 75 mm (5.12 x 5.12 x 2.95 inch.)
Dimensions type E	130 x 130 x 100 mm (5.12 x 5.12 x 3.94 inch.)
Weight	Approx. 0.6 kg (1.323 lbs.)
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 3 x M 20
Wire connection	Screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG)

Guidelines

EMC Directives 2004/108/EC
 Low Voltage Directive 2006/95/EC
 EN 61010-1:2010
 ANSI/UL 61010-1
 CAN/CSA-C22.2 No. 61010-1
 CE

Warranty

1 year on material (without sensor)

GAS ALARM SYSTEMS

Options	
Power supply 230 VAC	
	90 to 250 VAC, 50/60 Hz, 0.5 A
Power relay	
Contact rating	230 VAC, 5 A, potential-free, change-over contact
Emergency power supply	
	Supply duration 60 Min., maintenance-free
LED flashing light	
	IP65, LED, 3500 lm.
Warning light/power light	
Power supply	18 - 28 VDC/AC
Consumption	45 mA, max. (1.2 VA)
Protection class	IP 65
External horn	
Acoustic pressure	87 dB (A) (distance 1000 mm)
Frequency	3500 Hz
Power supply	18 - 28 VDC
Consumption	6 mA, max. (0.15 VA)
External multi-sound horn	
Acoustic pressure	85 -100 dB (A) (depending on sound type)
Sound types	28
Power supply	18 - 28 VDC
Consumption	6 mA, max. (depending on sound type)
Heating	
Temperature controlled	3 °C ±2°C (37.5 °F ± 3.6°F)
Ambient temperature	- 30 °C (- 22 °F)
Power supply	18 - 28 VDC/AC
Power consumption	0.5 A; 12 VA
Enclosure stainless steel, type 5	
Material	V2A steel, 1 mm, material 1.4301 corrosion resistant
Colour	Natural, brushed
Dimensions (B x H xD)	113 x 135 x 45 mm (4.45 x 5.31 x 1.77 inch.)
Weight	ca. 0.5 kg (1.1 lbs.)
Protection class	IP 55
Mounting	Wall mounting, pillar mounting
Cable entry	Standard 2 x M 20

GAS ALARM SYSTEMS

ORDER INFORMATION

				Power Supply			Enclosure		
				0	24 VAC/DC (standard)		C	Plastic (standard)	
				1	230 VAC		B	Duct mounting	
				2	230 VAC & UPS		5	Stainless steel (on request)	
								E	Plastic for option Power Relays, Warning lights

Relay 30 V, 0.5A	Relay 30 V, 0.5 A	Internal Buzzer (B)	Open Collect.	Standard configuration alarm outputs
--	--	--	A	Heating
--	--	B	--	Internal buzzer
--	--	C ¹	C ¹	External horn, 87 dB (max. 1 horn)
--	--	D	D	Extern. multi-sound horn (max. 1 horn)
--	--	1 ²	1 ²	LED flashing light red (max. 1 LED)
2	2	2	2	Power relays (max.3 relays)
4	4	4	4	Warning light orange (max. 1 orange)
5	5	5	5	Warning light red (max. 1 red)
7	7	--	--	Power relays & warning light orange
8	8	--	--	Power relays & warning light red

Optional configur. alarm outputs	
Alarm 1	Alarm 2
Alarm 3	Alarm 4

Communication protocol	
0	Without external interface
1	RS 485 / DGC05 protocol
2	RS 485 / MODBus RTU protocol
3	RS 485 / customer specific

Power light green	
0	Without
1	With

Language	
0	German
1	English
2	USA
3	Dutch
4	Danish
5	Czech
6	French
8	Swedish
9	Spanish

SPC-X3-3XXX-X-XXXXXXXX:MB

¹ not with power relays
² not with warning light

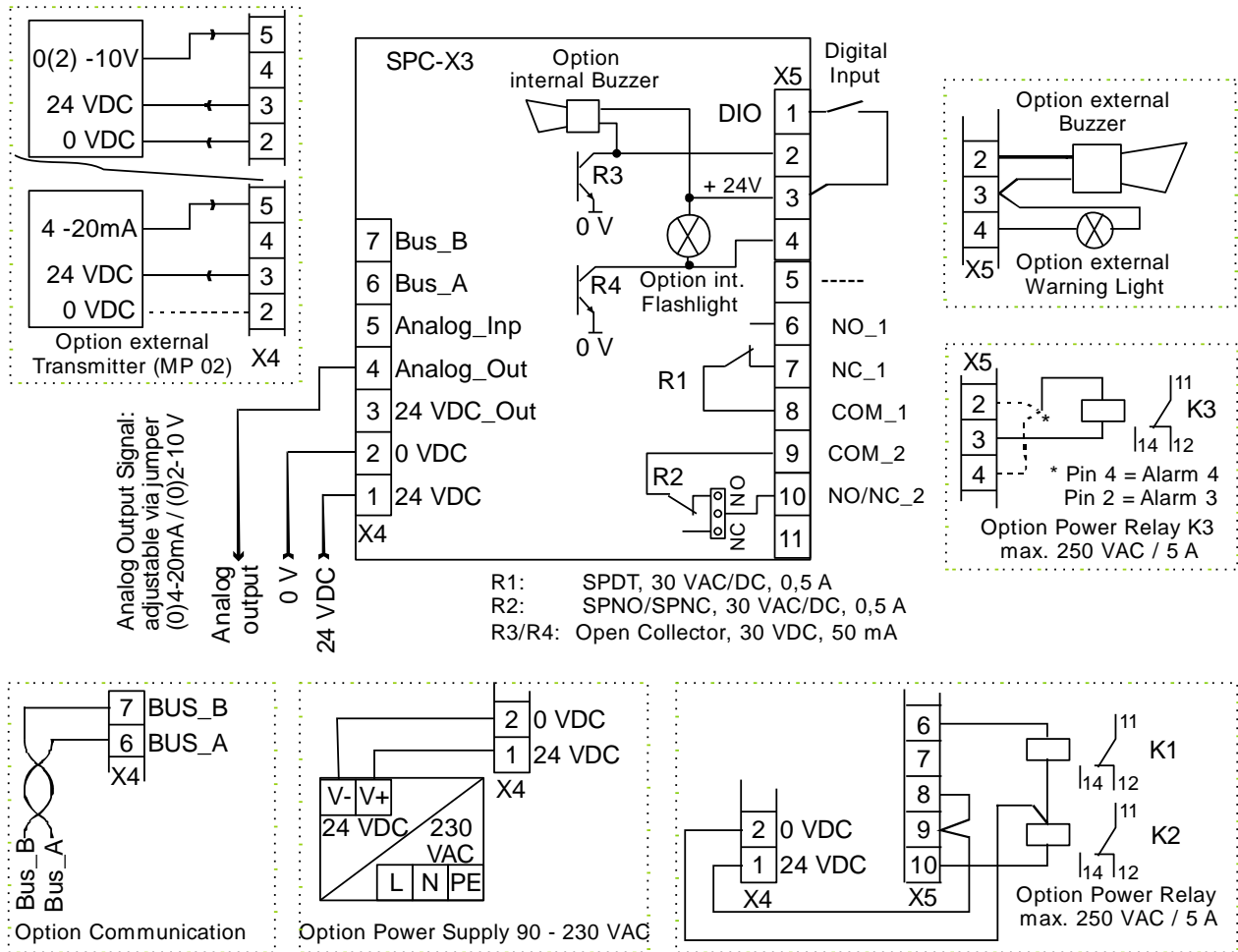
Type	Available measuring ranges (others on request)		
23-3400	Methane	CH ₄	0 - 100% LEL
23-3408	Ammoniac	NH ₃	0 - 100% LEL
23-3410	Ethylene	C ₂ H ₄	0 - 100% LEL
23-3425	Ethyl alcohol	C ₂ H ₆ O	0 - 100% LEL
23-3427	Ethyl acetate	C ₄ H ₈ O ₂	0 - 100% LEL
23-3430	Benzene	C ₆ H ₆	0 - 100% LEL
23-3435	n-Hexane	C ₆ H ₁₄	0 - 100% LEL
23-3440	Hydrogen	H ₂	0 - 100% LEL
23-3445	Iso propanol alcohol	C ₃ H ₈ O	0 - 100% LEL
23-3450	Methanol	CH ₄ O	0 - 100% LEL
23-3458	Methyl ethyl ketone	C ₄ H ₈ O	0 - 100% LEL
23-3460	n-Butane	C ₄ H ₁₀	0 - 100% LEL
23-3470	n-Octane	C ₈ H ₁₈	0 - 100% LEL
23-3475	n-Pentane	C ₅ H ₁₂	0 - 100% LEL
23-3480	Propane (LPG)	C ₃ H ₈	0 - 100% LEL
23-3485	Acetone	C ₃ H ₆ O	0 - 100% LEL
23-3490	Toluene	C ₇ H ₈	0 - 100% LEL
23-3491	n-Heptane	C ₇ H ₁₆	0 - 100% LEL
23-3498	JP8		0 - 100% LEL
D3-3400	Methane (infrared)	CH ₄	0 - 100% LEL
D3-3480	Propane ((infrared	C ₃ H ₈	0 - 100% LEL
43-3H55	Methane (semi-con.)	CH ₄	0 - 50% LEL
43-3H60	n-Butane (semi-con.)	C ₄ H ₁₀	0 - 100% LEL
43-3H80	Propane (semi-con.)	C ₃ H ₈	0 - 100% LEL

Example: Single-Point-Controller SPC-X3-34XX for methane, plastic housing, 230 VAC supply, 2x power relays, internal buzzer, menu language English, factory calibration 0 - 100 % LEL

Order No: SPC-23-3400-E-122B0001:0-100%LEL



CONNECTING DIAGRAM



Note:

The alarm outputs R3 and R4 are designed as open collector outputs. Warning lamps / horn combination units with common ground can therefore not be connected!