

PolyGard® Single Point Controller SPC-X3-11XX for Toxic Gases and Oxygen

DESCRIPTION

Gas measuring and monitoring 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 or oxygen. 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.

APPLICATION

The SPC-X3-TOX is suitable for a wide range of commercial and industrial applications. Free programmable parameters and set-points enable the individual adaptation to a variety of possible 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
- LED flashing light in red (option)
- 2 x warning lights, colours: green – red – orange selectable (option)
- Up to 3 power relays (potential-free, 250 VAC/DC 5A) (option)
- External warning horn (87 dB) mounted on the housing (option)
- 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)	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 (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	Toxic gases, etc. (see Ordering Information)
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 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)
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 x D)	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	
0	24 VAC/DC (standard)
1	230 VAC
2	230 VAC & UPS

Enclosure	
C	Plastic (standard)
B	Duct mounting
5	Stainless steel (on request)
E	Plastic for option Power Relays, Warning lights

Optional configur. alarm outputs				
--	--	--	A	H
--	--	B	--	Internal horn
--	--	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)
3	3	--	--	Warning light green
4	4	--	--	Warning light orange
5	5	--	--	Warning light red
6	6	--	--	Power relays & warning light green
7	7	--	--	Power relays & warning light orange
8	8	--	--	Power relays & warning light red

¹ not with power relays
² not with warning light

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

Language	
0	German
1	English
2	USA
3	Dutch
4	Danish
5	Czech
6	French

SPC-X3-11XX-X-XXXXXXX:MB

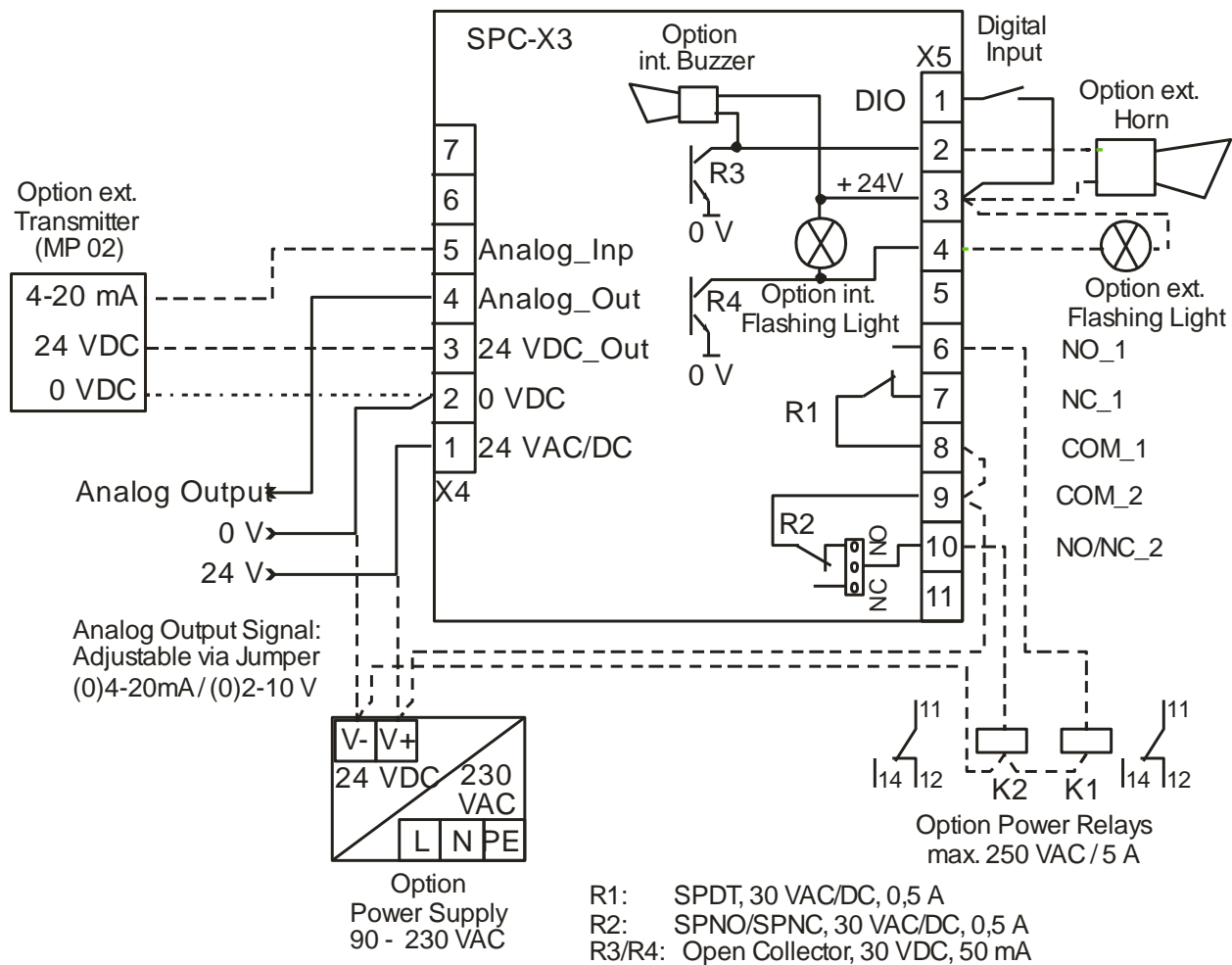
Type	Available measuring ranges (others on request)										
03-1110	Carbon monoxide	ppm	0-50	0-100	0-150	0-200	0-250	0-300	0-400	0-500	0-1000
13-1110	Carbon monoxide (UL)	ppm	0-50	0-100	0-150	0-200	0-250	0-300	0-400	0-500	0-1000
53-1110	Carbon monoxide	ppm	0-2000								
23-1120	Ammoniac (el-chem.)	ppm	0-300	0-1000							
33-1120	Ammoniac (semi-cond.)	ppm	20-300	20-1000	20-3000						
93-1129	Nitrogen oxide	ppm	0-10	0-20	0-50						
23-1130	Nitrogen dioxide	ppm	0-10	0-20	0-30						
C3-1160	VOC (semi-cond.)	ppm	0-2000	0-4000							
D3-1164	Carbon dioxide (IR)	ppm/ %Vol	0-2000 ppm	0-5000 ppm	0-1 %Vol	0-2 %Vol	0-5 %Vol	0-10 %Vol	0-20 %Vol	0-100 %Vol	
63-1181	Chlorine dioxide	ppm	0-1								
63-1182	Hydrogen fluoride	ppm	0-5	0-10							
53-1183	Hydrogen cyanide	ppm	0-50	0-100							
D3-1184	Sulphur hexafluoride (IR)	ppm	0-1000								
53-1185	Formaldehyde	ppm	0-10	0-20							
53-1186	Hydrogen chloride	ppm	0-20								
53-1187	Phosphine	ppm	0-5								
53-1188	Silane	ppm	0-50								
53-1189	Ethylene (el-chem.)	ppm	0-5	0-10	0-50	0-100					
43-1189	Éthylene (semi-cond.)	ppm	20-1000	20-2000							
D3-1189	Ethylene (IR)	ppm	0-1000	0-2000							
53-1190	Ozone	ppm	0-5	0-10	0-200	0-1000					
53-1193	Chlorine	ppm	0-2	0-5	0-10	0-20					
93-1195	Oxygen	%Vol	0-25	0-30							
53-1196	Sulphur dioxide	ppm	0-20	0-50							
53-1197	Hydrogen sulphide	ppm	0-50	0-100	0-200						
63-1198	Fluorine	ppm	0-2	0-5							

Example: Single-Point-Controller SPC-X3-11XX for CO, plastic housing, 230 VAC supply, 2x power relays, internal horn, menu language English, factory calibration 0 - 300 ppm

Order No: SPC-03-1110-E-122B001:0-300ppm



CONNECTING DIAGRAM



- R1: SPDT, 30 VAC/DC, 0,5 A
- R2: SPNO/SPNC, 30 VAC/DC, 0,5 A
- R3/R4: Open Collector, 30 VDC, 50 mA