

## PolyGard® Single Point Controller SPC-X3-20XX for refrigerant gases and vapours

### 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 refrigerant gases and vapours. 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-X3-20XX is particularly suitable for the leak detection in commercial applications such as cold-storage depots, ventilation systems, breweries, ice rinks etc.

In cooling systems the SPC-X3-20XX is employed for the leak detection of HCFC (hydrochlorofluorocarbon) and HFC (hydrofluorocarbon) cooling agents.

Free programmable parameters and set-points enable the individual adaptation to a variety of applications in the field of gas measuring and monitoring.

### FEATURES

- Continuous monitoring
- Integrated gas sensor for Freons
- 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)



Standard enclosure



## SPECIFICATIONS

### Electrical

Power supply 18 - 28 VDC/AC, reverse polarity protected

Power consumption (without options) 130 mA, max. (2.5 VA)

Analog output, 0 (4) – 20 mA, load ≤ 500 Ω

current or voltage selectable 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 Refrigerant gases, Freons (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 (W x H x D) 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<sup>2</sup> (24 AWG) max. 2.5 mm<sup>2</sup> (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

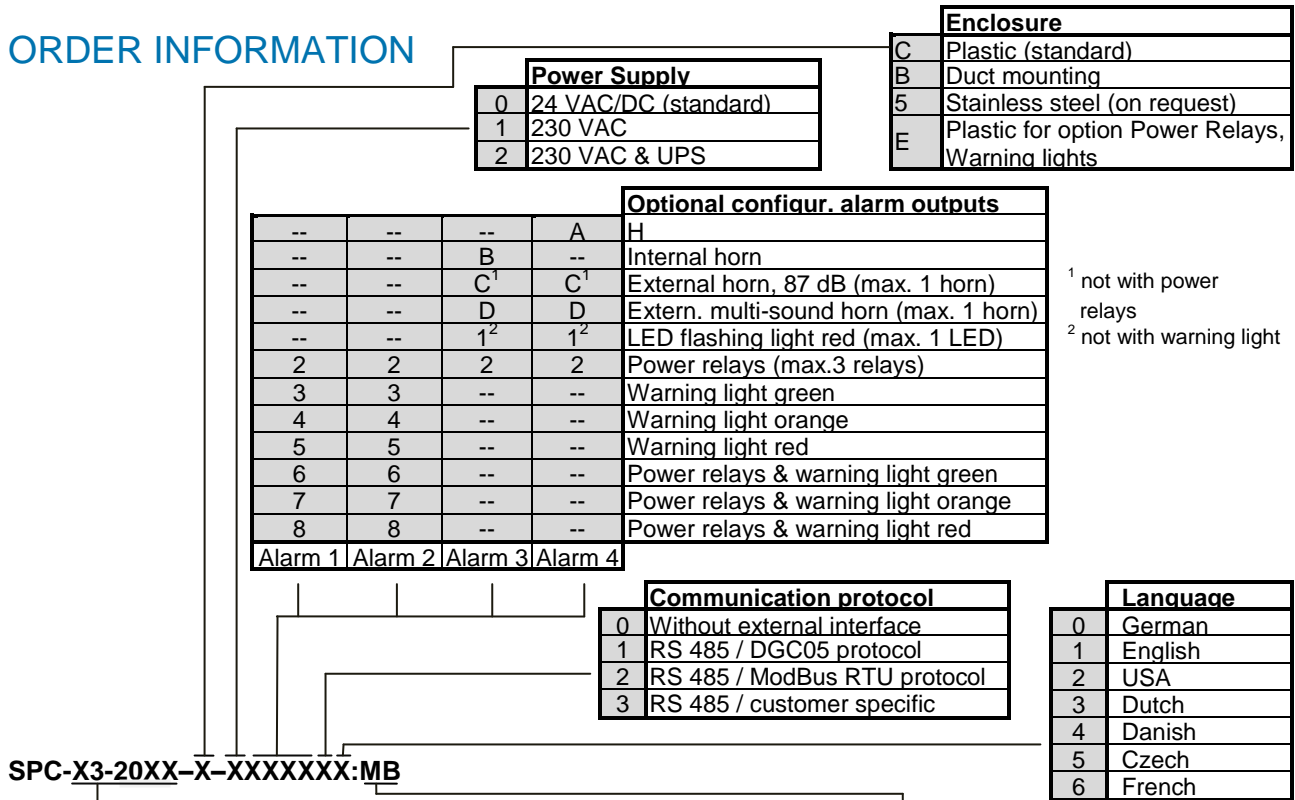
1 year on material (without sensor)

# GAS ALARM SYSTEMS

Options	
<b>Power supply 230 VAC</b>	
	90 to 250 VAC, 50/60 Hz, 0.5 A
<b>Power relay</b>	
Contact rating	230 VAC, 5 A, potential-free, change-over contact
<b>Emergency power supply</b>	
	Supply duration 60 Min., maintenance-free
<b>LED flashing light</b>	
	IP65, LED, 3500 lm.
<b>Warning light</b>	
Power supply	18 - 28 VDC/AC
Consumption	45 mA, max. (1.2 VA)
Protection class	IP 65
<b>External horn</b>	
Acoustic pressure	87 dB (A) (distance 1000 mm)
Frequency	3500 Hz
Power supply	18 - 28 VDC
Consumption	6 mA, max. (0.15 VA)
<b>Multi-sound horn</b>	
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)
<b>Heating</b>	
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
<b>Enclosure stainless steel, type 5</b>	
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



Type	Available measuring ranges (others on request)					
43-2070	R 22	HCFC	Semiconductor	20 – 2000 ppm		
43-2071	R 401a	HCFC	Semiconductor	20 – 2000 ppm		
43-2072	R 401b	HCFC	Semiconductor	20 – 2000 ppm		
43-2073	R 402a	HCFC	Semiconductor	20 – 2000 ppm		
43-2074	R 402b	HCFC	Semiconductor	20 – 2000 ppm		
43-2075	R 408a	HCFC	Semiconductor	20 – 2000 ppm		
43-2076	R 409a	HCFC	Semiconductor	20 – 2000 ppm		
43-2064	R 123	HCFC	Semiconductor	20 – 2000 ppm		
43-2077	R 134a	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
43-2078	R 404a	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
43-2079	R 416a	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
43-2069	R 507	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
43-2068	R 410a	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
43-2067	R 411a	HFC	Semiconductor	20 – 300 ppm	20 – 2000 ppm	
D3-2064	R 123	HCFC	Infrared	0 – 2000 ppm		
D3-2065	R 125	HFC	Infrared	0 – 2000 ppm		
D3-2070	R 22	HCFC	Infrared	0 – 2000 ppm		
D3-2077	R 134a	HFC	Infrared	0 – 2000 ppm		
D3-2078	R 404a	HFC	Infrared	0 – 2000 ppm		

**Example:** Single Point Controller SPC-X3-20XX for Freon R 134a, semi-conductor sensor, plastic housing, 230 VAC supply, 2 x power relay, internal buzzer, menu language English, incl. factory calibration 20 – 300 ppm,

**Order No:** SPC-43-2077-E-122B001:20-300ppm



## CONNECTING DIAGRAM

