

## 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.



Standard enclosure

### FEATURES

- Continuous monitoring
- Integrated gas sensor
- 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, 0.5A
- 1 binary output, 30 VDC, 0.05A
- 4 – 20 mA input for external transmitter
- Different housing versions
- Flashlight (option)
- 230 VAC power supply (option)
- Up to 3 power relays (potential-free, 250 VAC/DC 5A) (option)
- Uninterruptible emergency power supply (option)
- Heating (option)
- Duct mounting (option)

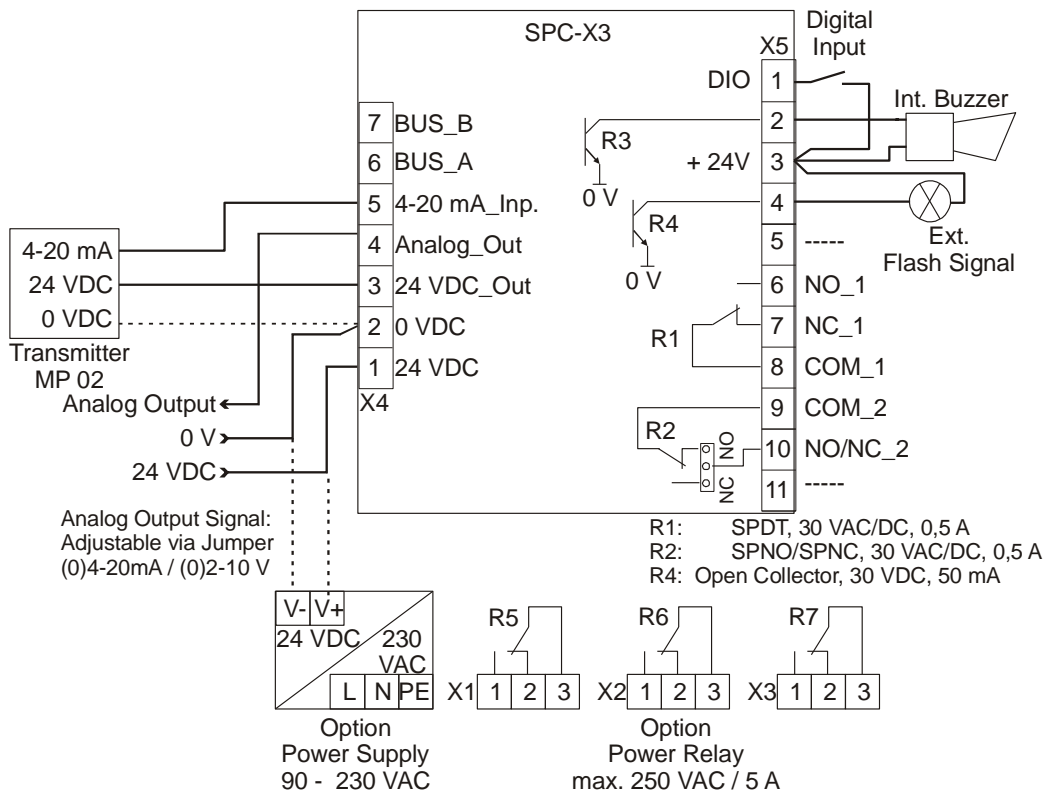
## SPECIFICATIONS

<b>Electrical</b>	
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 (1)	30 VDC /0.05 A, open collector
<b>Analog input</b>	4 – 20 mA overload-proof and short-circuit-proof, input resistance 200 Ω
Voltage for ext. analog transmitter	24 VDC max. load 50 mA
<b>Visualisation</b>	
Display	Two lines, 16 characters each
Status LED (4)	Normal operation- Fault- Alarm1- Alarm 2
Operation	4 push-buttons – menu-driven
<b>Buzzer</b>	
Acoustic pressure	83 dB (A) (distance 200 mm) (0.6 ft.)
Frequency	2300 Hz
<b>Gases</b>	
Internal sensor	Refrigerant gases, Freons (see order inform.)
Sensor data	See corresponding datasheet of ADT transmitter
External transmitter	Toxic gases, Ex gases, Freons, temperature, humidity, pressure, etc.
<b>Operating environment</b>	
Humidity	15 – 95 % RH non-condensing
Working temperature	-10 °C to + 40 °C (14 °F to 104 °F)
Storage temperature	5 °C to 30 °C (86 °F to 122 °F)
Pressure range	Atmospheric ± 10 %
<b>Physical</b>	
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)
<b>Guidelines</b>	EMC Directives 2004 / 108 / EEC
	CE
<b>Warranty</b>	1 year on material (without sensor)

# GAS ALARM SYSTEMS

	Options
<b>Power supply 230 VAC</b>	90 bis 250 VAC 50/60 Hz
<b>Power relay</b>	230 VAC, 5 A, potential-free, change-over contact
<b>Emergency power supply</b>	Supply duration 60 Min., maintenance-free
<b>Flashlight</b>	IP65, LED, 3500 lm.
<b>Heating</b>	
Temperature controlled	3 °C ±2°C (37,5 °F ± 3.6°F)
Ambient temperature	- 40 °C (- 40 °F)
Power supply	18 - 28 VDC/AC
Power consumption	0,5 A; 12 VA

## CONNECTING DIAGRAM



## ORDERING INFORMATION

**SPC-X3-20XX-X-XXXXXXXXXX**

Version	
1XXXXXXXX	Power supply 230 VAC <sup>1</sup>
2XXXXXXXX	Emergency power supply <sup>2</sup>
X3XXXXXXXX	Flashlight
XX1XXXXXX	Heating
1XX1XXXXX	1 x power relay <sup>2</sup>
1XX2XXXXX	2 x power relay <sup>2</sup>
1XX3XXXXX	3 x power relay <sup>2</sup>
XXXXXXXX1X	Factory calibration
XXXXXXXX4X	Change of meas. range to 2000ppm <sup>3</sup>
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)
B	Duct mounting
5	Stainless steel
E	Plastic (for option EPS/ power relay)

Gas types					
43-2070	R 22	HCFC	Semi-cond.	20 – 2000 ppm	
43-2071	R 401a	HCFC	Semi-cond.	20 – 2000 ppm	
43-2072	R 401b	HCFC	Semi-cond.	20 – 2000 ppm	
43-2073	R 402a	HCFC	Semi-cond.	20 – 2000 ppm	
43-2074	R 402b	HCFC	Semi-cond.	20 – 2000 ppm	
43-2075	R 408a	HCFC	Semi-cond.	20 – 2000 ppm	
43-2076	R 409a	HCFC	Semi-cond.	20 – 2000 ppm	
43-2064	R 123	HCFC	Semi-cond.	20 – 2000 ppm	
43-2077	R 134a	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
43-2078	R 404a	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
43-2079	R 416a	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
43-2069	R 507	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
43-2068	R 410a	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
43-2067	R 411a	HFC	Semi-cond.	20 – 300 ppm <sup>3</sup>	
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	

<sup>1</sup> Not available with stainless steel enclosure

<sup>2</sup> Only in combination with 230 VAC supply

<sup>3</sup> Change of measuring range possible with the specified gases

**Example:** Single Point Controller for Freon R 134a, plastic housing, 230 VAC supply, 1x power relay, incl. factory calibration 20 – 300 ppm, menu language English

**Order No.:** SPC-43-2077-E-100100011

