

PolyGard® Analog Refrigerant Gas Transmitter AT42 20XX

Description

Analog gas transmitter with semiconductor gas sensor for monitoring leakages of refrigerant Freon gases (HCFC and HFC). The non-linear sensor signal, typical for semiconductors, is transformed into a standard, non linear 4 to 20 mA output signal. The refrigerant gas transmitter can be used for the operation with the PolyGard® gas controller series MGC-02 by MSR and also with other analog 4 to 20 mA input controllers.

Application

The analog Freon transmitter AT-42-20XX is used within commercial range in cooling systems with Freon as refrigerant, such as cold-storage depots, ventilation systems, breweries, etc. for detection of leakages.



Features

- Continuous monitoring
- Easy maintenance / calibration
- Reverse polarity protected
- Overload-proof
- Long life sensor
- Low zero point drift
- Poisoning stable
- Modular plug-in technology

Specifications

Electrical	
Power supply	19 – 40 VDC (reverse polarity protected)
Power consumption	50 mA, max. 1,2 W
Analog output signal	4 to 20 mA, load ≤ 500 Ω, non-linear, overload- and short-circuit-proof
Sensor Performance	
Detected gases	Refrigerant gases
Sensor element	Semiconductor sensor
Range	Depending on the gas type
Response time	$t_{90} \leq 50$ sec.
Oxygen concentration	21 % (Standard); 18 % minimum level
Operating Environment	
Humidity	15 to 95 % RH non-condensing
Working temperature	-20 °C to + 50 °C (-4 °F to 122 °F)
Storage temperature	0 °C to + 40 °C (32 °F to 104 °F)
Pressure range	Atmospheric ±10%
Physical characteristics	
Enclosure material	Plastic
Enclosure color	Cover: light gray, bottom plate: dark gray
Dimensions (HxWxD)	75 x 75 x 40 mm (29.5 x 29.5 x 15.75 in.)
Weight	0.15 kg (0.33 lbs.)
Protection class	IP 30
Mounting	Wall mounting
Cable entry	1 x M 16
Wire connection	screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG)
Wire length	Max. loop resistance 500 Ω (= wire resistance+ controller input resistance)
Approvals/Listings	
	EMV- Directive 89/336/EWG, CE
Warranty	
	One year on material and workmanship (without sensor)



Overview Freon Type

Freon type	Group	Measuring range	Relative gas density (air =1)
R 22	HCFC	0–2000 ppm	3
R 401a	HCFC	0–2000 ppm	> air
R 401b	HCFC	0–2000 ppm	> air
R 402a	HCFC	0–2000 ppm	> air
R 402b	HCFC	0–2000 ppm	> air
R 408a	HCFC	0–2000 ppm	> air
R 409a	HCFC	0–2000 ppm	> air
R 134a	HFC	0–300 ppm	> 1
R 404a	HFC	0–300 ppm	3,45
R 416a	HFC	0–300 ppm	> air
R 507	HFC	0–300 ppm	3,45
R 410a	HFC	0–300 ppm	2,3
R 411a	HFC	0–300 ppm	> air

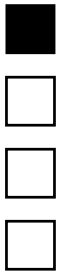
Order Information

AT-42-20XX-9-001

Option	
XX1	With Calibration
X5X	Heater**

Enclosure	
9	Plastic
5	Stainless Steel**
4	IP 65 protected**

Gas type *	
2070	R 22
2071	R 401a
2072	R 401b
2073	R 402a
2074	R 402b
2075	R 408a
2076	R 409a
2077	R 134a
2078	R 404a
2079	R 416a
2069	R 507
2068	R 410a
2067	R 411a



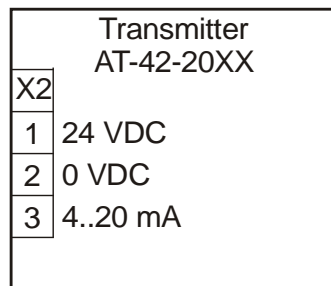
* The sensor R 22 is used for detecting most of the HCFC gases; the sensor R134a for detecting common HFC gases. Gas transmitters for further Freon gases are available on request.

** See data sheet „AT-Options“

*** See data sheet “PolyGard AT/DT Enclosure”

Example: Refrigerant transmitter: R 134a including, Plastic Enclosure, Calibration
Order No.: AT-42-2077-9-001

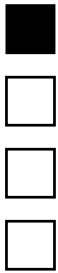
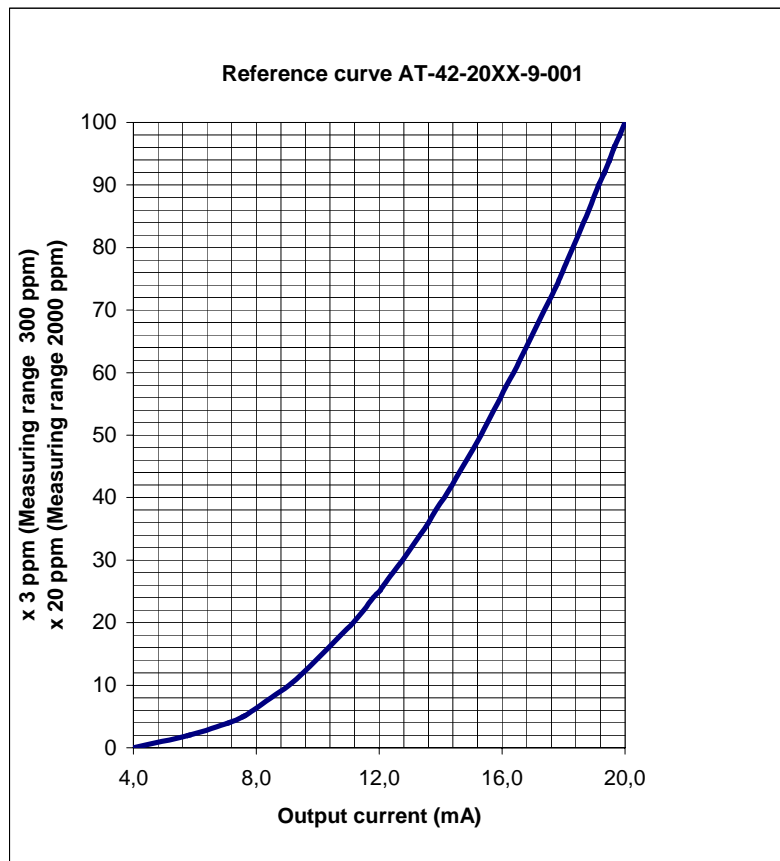
Wiring Configuration



Anschluss / wiring

Output signal

Current signal (mA), depending on the concentration of the refrigerant gas



Dimensions

