



Gas Detector PCE-FGD Series



PCE-FGD Series

Gases and gas mixtures have become indispensable in industry and research. The PCE-FGD series gas detectors are particularly suitable for monitoring the industrial gases required in many industries. Processes such as combustion may produce harmful toxic gases which should be monitored to protect people. The gas detectors of the PCE-FGD series are also particularly suitable for monitoring the gases generated during digestion processes such as in sewer shafts or silos. The risk of carbon dioxide poisoning as it is used in the beverage industry or for the better flourishing of fruit and vegetables in greenhouses can be significantly reduced with these gas detectors. For example the fact that nitrogen displaces atmospheric oxygen, can be counteracted with the gas detectors. The already integrated standard signal output 4 ... 20 mA / 2 ... 10 V ensures easy connection of the gas detectors to existing process systems. The required operating voltage of 16 ... 19 V DC is already provided in many systems. By connecting the gas detector to a control panel or PLC, visual and acoustic alarms can be triggered if the limit values are exceeded or underrun.

For example the IP65 protected housing of the gas detectors of the PCE-FGD series enables installation in humid sewer shafts for monitoring hydrogen sulfide, for example, as well as in carbon dioxide stores which are often found in dispensing systems. The mounting holes already provided in the robust ABS housing allow for mounting directly on a wall. Optional mounting brackets or a mounting plate can also be purchased for easier assembly of the gas detectors.

- ▶ Protection class IP65
- ▶ Analogue output 4 ... 20 mA / 2 ... 10 V
- ▶ Exchangeable sensor element

General Features PCE-FGD Series

Electrical

Supply voltage	16 ... 29 V DC, reverse polarity protected
Power consumption (at 24 V DC)	
toxic gases (except CO ₂)	approx. 23 mA
flammable gases	approx. 75 mA
F gases	approx. 65 mA
Carbon Dioxide	approx. 40 mA
Analogue output	4 ... 20 mA or 2 ... 10 V
	Proportional, overload and short-circuit proof
burden	4 ... 20 mA
	0 ... 10 V
Underrange	<3.2 ... 4 mA or <1.6 ... 2 V
Overrange	> 20 ... 21.2 mA or > 10 ... 10.6 V
Fault	2 mA or 1 V
Fault High	> 21.8 mA or 10.9 V

Mechanically

Housing	Polycarbonate (Sensor element optionally made of stainless steel)
Burning behavior	UL 94 V2
Housing color	
Sensor element	RAL 7032
Housing	RAL 7024
Dimensions	125 x 113 x 62 mm
Protection Class	IP65
Mounting	Screw mounting
Wire connection	Screw terminal min. 0.25 mm ² ; Max. 1.3 mm ² , three-pole terminal
Cable entry	M12, black, plastic
Weight	approx. 180 g

General sensor

Sensor element	
toxic gases (except CO ₂)	electrochemical
flammable gases	catalytic
F gases	semiconductor
Carbon Dioxide	infrared
Pressure range	Atmosphere ± 10%
storage time	
toxic gases	6 months
flammable gases	6 months
F gases	12 months
Operating conditions	-20 ... +65 ° C
Storage conditions	+5 ... +30 ° C
	10 ... 95% r.h. non-condensing

Subject to change

Models and measuring ranges PCE-FGD Series**Sensors for toxic gases and oxygen**

Gas type	Item no.	Measuring range in ppm (otherwise specified)
Ammonia	PCE-FGD-NH3-XXXX	0 ... 100, 300, 500, 1000, 5000
Chlorine	PCE-FGD-CL2-XX	0 ... 10, 20
Hydrogen chloride	PCE-FGD-HCL-20	0 ... 20
Hydrogen cyanide	PCE-FGD-HCN-XXX	0 ... 50, 100
Ethylene	PCE-FGD-C2H4-200	0 ... 200
Ethylene oxide	PCE-FGD-C2H4O-10	0 ... 10
Formaldehyde	PCE-FGD-CH2O-10	0 ... 10
Carbon dioxide (infrared)	PCE-FGD-CO2-IR-5	0 ... 5 % VOL
Carbon monoxide	PCE-FGD-CO-XXX	0 ... 100, 150, 250, 300, 500
Ozone	PCE-FGD-O3-XX	0 ... 5, 10
Oxygen	PCE-FGD-O2-25-X	0 ... 25 % VOL, 2, 3, 5, 7 years
Sulphur dioxide	PCE-FGD-SO2-20	0 ... 20
Nitrogen dioxide	PCE-FGD-NO2-XXX	0 ... 10, 20, 30, 100, 500

Sensors for flammable gases

Gas type	Item no.	Measuring range in % UEG
Acetone	PCE-FGD-C3H6O	0 ... 100
Ammonia	PCE-FGD-NH3	0 ... 100
Petrol fumes	PCE-FGD-C6H14O2	0 ... 100
Benzene	PCE-FGD-C6H6	0 ... 100
Butadiene	PCE-FGD-C4H6	0 ... 100
Butane	PCE-FGD-C4H10	0 ... 100
Butanol	PCE-FGD-C4H10O	0 ... 100
Cyclohexane	PCE-FGD-C6H12	0 ... 100
Cyclopentane	PCE-FGD-C5H10	0 ... 100
Ethane	PCE-FGD-C2H6	0 ... 100
Ethanol	PCE-FGD-C2H5OH	0 ... 100
Ethyl acetate	PCE-FGD-C4H8O2	0 ... 100
Ethylene	PCE-FGD-C2H4	0 ... 100
N-heptane	PCE-FGD-C7H16	0 ... 100
Hexane	PCE-FGD-C6H14	0 ... 100
LPG	PCE-FGD-LPG	0 ... 100
Methane	PCE-FGD-CH4	0 ... 100
Methane (infrared)	PCE-FGD-CH4-IR	0 ... 100
Methanol	PCE-FGD-CH3OH	0 ... 100
Methyl acetate	PCE-FGD-C3H6O2	0 ... 100
Methyl ethyl ketone	PCE-FGD-C4H8O	0 ... 100
Nonane	PCE-FGD-C9H20	0 ... 100
Octane	PCE-FGD-C8H18	0 ... 100
Pentane	PCE-FGD-C5H12	0 ... 100
Propane	PCE-FGD-C3H8-100	0 ... 100
	PCE-FGD-C3H8-30	0 ... 30
	PCE-FGD-C3H8-5000	0 ... 5000 ppm
Propane (infrared)	PCE-FGD-C3H8-IR	0 ... 100
Toluol	PCE-FGD-C7H8	0 ... 100
Hydrogen	PCE-FGD-H2	0 ... 100

Sensors for refrigerant gases/ F gases

Gas type	Item no.	Measuring range
R123	PCE-FGD-R123	20 ... 2000 ppm
R1233zd	PCE-FGD-R1233zd	20 ... 2000 ppm
R1234yf	PCE-FGD-R1234yf	20 ... 2000 ppm
R1234ze	PCE-FGD-R1234ze	20 ... 2000 ppm
R125	PCE-FGD-R125	20 ... 2000 ppm
R134a	PCE-FGD-R134a	20 ... 2000 ppm



R143b	PCE-FGD-R143b	20 ... 2000 ppm
R22	PCE-FGD-R22	20 ... 2000 ppm
R23	PCE-FGD-R23	20 ... 2000 ppm
R32	PCE-FGD-R32	20 ... 2000 ppm
R401a	PCE-FGD-R401a	20 ... 2000 ppm
R401b	PCE-FGD-R401b	20 ... 2000 ppm
R402a	PCE-FGD-R402a	20 ... 2000 ppm
R402b	PCE-FGD-R402b	20 ... 2000 ppm
R403a	PCE-FGD-R403a	20 ... 2000 ppm
R404a	PCE-FGD-R404a	20 ... 2000 ppm
R407a	PCE-FGD-R407a	20 ... 2000 ppm
R407c	PCE-FGD-R407c	20 ... 2000 ppm
R407f	PCE-FGD-R407f	20 ... 2000 ppm
R408a	PCE-FGD-R408a	20 ... 2000 ppm
R409a	PCE-FGD-R409a	20 ... 2000 ppm
R410a	PCE-FGD-R410a	20 ... 2000 ppm
R411a	PCE-FGD-R411a	20 ... 2000 ppm
R416a	PCE-FGD-R416a	20 ... 2000 ppm
R417a	PCE-FGD-R417a	20 ... 2000 ppm
R422a	PCE-FGD-R422a	20 ... 2000 ppm
R422d	PCE-FGD-R422d	20 ... 2000 ppm
R427a	PCE-FGD-R427a	20 ... 2000 ppm

Subject to change