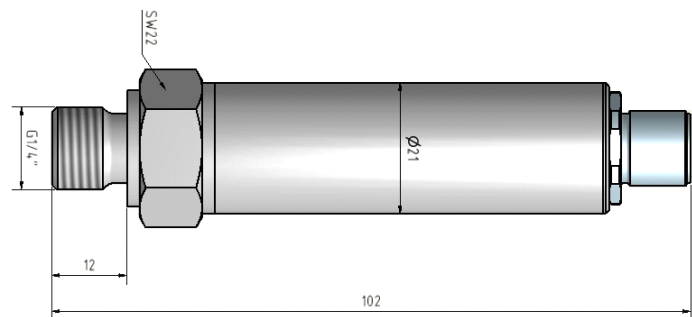


Gas Density Transmitter for SF₆

Type: GDS02

Gas density transmitters are used for monitoring the gas density in high voltage circuit breakers and systems (containing SF₆ gas).

- Pressure range 0...10 bar rel.
0...145 psi rel.
- Digital or analog output of pressure, temperature, SF₆, density and pressure @20°C
- Three programmable switches (open collector)
- Built in XEMIX based analysing processor unit
- Compensation of pressure and temperature
- Rugged construction
IEC 60529: IP 65



Fields of Application

- Power supply facilities
- High voltage and gas insulated switchboards (GIS)
- Medium voltage systems
- Gas filled converters and generator switches as well as other applications, for indoor and outdoor use.

Gas density transmitters in high voltage systems, in combination with gas density monitors or PC's as well as customer specified diagnostic systems are used for documentation, trend analysis and data transmission.

Gas density transmitters can also be used for monitoring SF₆ emissions caused by high voltage systems

Compared to electromechanical density monitoring devices, which only feature several deactivation functions in case the SF₆-density drops below a certain level, the gas density transmitter allows the online monitoring of the gas density.

This electronic gas density transmitter consists of a piezoresistive pressure sensor and a build in analyzing unit with a XEMIX-processor.

The electronic gas density transmitter GDS 02 has the advantage of featuring additional outputs:

- RS 485
- 4...20 mA
- Three open collector transistor outputs can be programmed and adjusted by PC (level, hysteresis, delay). The function of the switch point can be choosed as downwards / upwards and connector open or closed.

Based on the piezoresistive sensor's highly accurate, digitally compensated pressure and temperature signals, the accurate gas density is determined by using an optimized formula for polynomial SF₆ gas density approximation. The correct density value data will be displayed with a cycle time of 64 ms.

The gas density transmitter can also be used for monitoring the density of other gases.

Optional

- Control module
- Memory module
- Remote transmission module

Technical Data Gas Density Transmitter Typ GDS 02

Ranges

Density according to Beattie-Bridgeman formula	0...67 kg/m ³
Pressure	0...10 bar abs. / 0...145 psi abs.
Temperature	-40...+80 °C
Overload pressure	20 bar / 290 psi

Accuracy RS 485

Total error band pressure	<+/- 0,3% FS
Total error band temperature	<+/- 1 °C
Stability error pressure	<0,1 % FS
Stability error temperature	<0,3 % FS

Operation / store and transport conditions

Operating temperature	-40...+80 °C / -40...176 °F
Storage Temperature	-50...+85 °C / -58... 185 °F
Shock resistance test IEC 60068-2-29	100 x 20g / 6ms halve sine wave
Switch impact test	20g / 5 x 20 ms sine

Connectors

Pressure connection	G 1/4"
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Electrical connection

Connector	Connector M12 x 1 / 8 pins
Supply voltage	8...30 VDC
Power consumption	2,6...2,7 mA
Additional power consumption of every oc output	350...450 µA
Max Current for open collector output	200 mA
Reverse voltage protection	yes
Short circuit proof	yes
Type of Protection IEC 60947	P 65

Outputs

Digital Output (including integrated communication interface)	RS485
Read out cycle	every 64 ms
Response time (typical)	1...10 ms (2...5 ms)
Open collector outputs	3 outputs (programmable by PC)
Analog output	4...20 mA

Material / Weight

Housing material	Stainless steel 1.4305
Weight	115 g

Burden diagram

