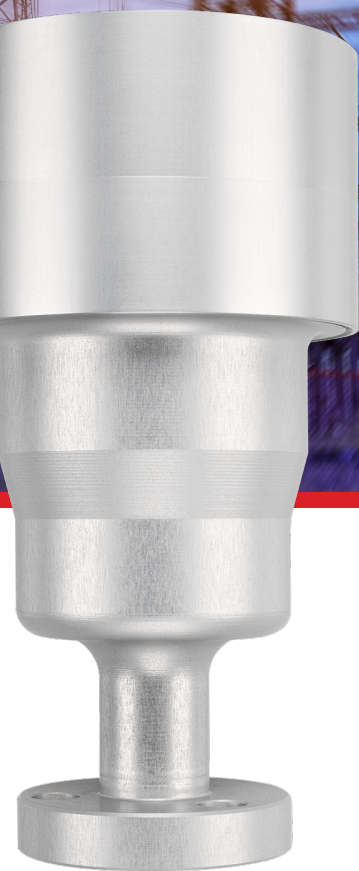


Gas Density Monitors



Gas Density Monitor **TS** for SF₆ gas-insulated high-voltage circuit breakers



Gas Density Monitor TS

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The gas density monitor TS continuously monitors the density of the insulating gas SF₆. Up to five microswitches inside the device respond reliably to any decreases in the density and pressure of the SF₆ insulating gas. The operating points can be set at the factory according to the customer's requirements.

- Pressure range 0 ... 10 bar rel.
(0 ... 145 psi rel.)
- High switching accuracy and long-time stability
- Rugged design (IP 10)
- Up to 5 microswitches
- Concentric pressure connector



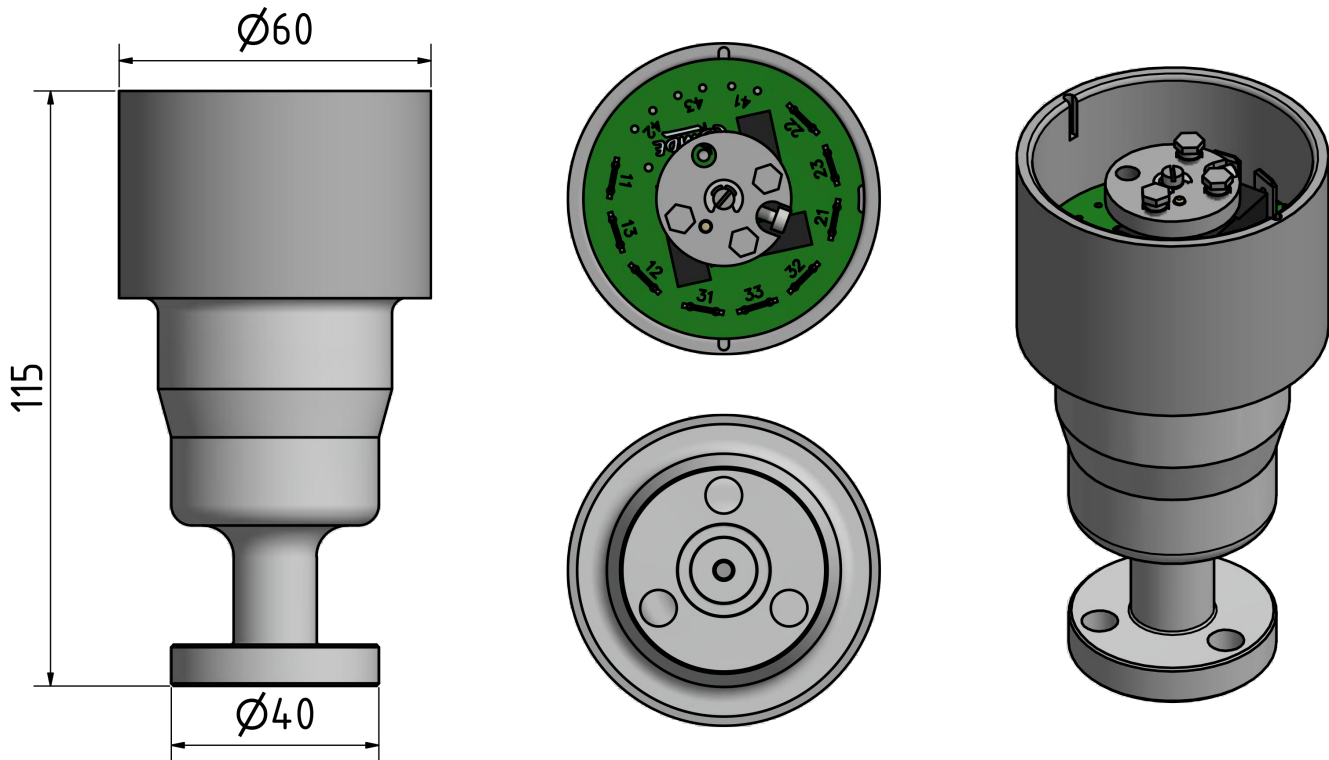
Version with 3 microswitches



Version with 4 microswitches

Gas Density Monitor TS

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Design

The gas density monitor TS consists of the following principal components:

- Strong aluminum die-cast housing and pressure connector
- Electronic PCB with up to five microswitches, switching function configurable as NO or NC
- Reference gas bellow filled with SF₆ gas

Operating principle

The density monitor TS monitors gas density by way of a reference chamber filled with SF₆ gas. The gas and reference chambers are separated by a metal bellows. A pressure difference corresponds to a density difference between the two chambers and deflects the metal bellows. The movement of the bellows is transmitted by a switch rod. In case of a pressure drop, a switch plate activates, the microswitches.

The operating points for triggering the signal can be set at the factory according to the customer's requirements by way of lockable screws (plungers). Up to five microswitches with changeover contacts can be installed in the housing. The microswitch contact outputs are taken to terminal tabs on the PCB. The use of vibration-resistant microswitches rules out any shock-induced chattering at the switching contacts.

Gas Density Monitor TS

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Technical Data

Connection	Flat plugs, 6.3 x 0.8 mm, IAW DIN 46244
Microswitches	3 to 5 included, max. 2.5 mm ² IAW IEC 60947
Protection	IP 10 IAW IEC 60529
Vibration stability	> 4 g (20 ... 80 Hz), 0.05 bar from switching point

Pressure range	0 ... 10 bar rel.
Hysteresis	< 0.1 bar (typ.)
Switching accuracy	± 0.08 bar
Response threshold	± 0.05 bar
Reference chamber leakage rate	< 0.005 bar/year (5 * 10 ⁻⁹ mbar * l * s ⁻¹)

Electric strength	2 kV (50/60 Hz) to ground
Rated surge voltage	5 kV (1.2/50 µs) to ground IAW IEC 61000-4-5
Electric switch rating, Resistive load (inductive load)	AC 250 V, 10 (2) A DC 250 V, 0.2 (0.2) A DC 220 V, 0.25 (0.2) A DC 125 V, 0.4 (0.25) A DC 110 V, 0.5 (0.3) A DC 60 V, 1.5 (0.4) A DC 48 V, 1.9 (0.7) A DC 24 V, 3.0 (2) A

Operating temperature	-40 ... +70 °C
Storage temperature	-50 ... +80 °C
Weight	380 g

Material pressure connection and tubular housing	AlSi1MgMn, anodized
Material reference gas bellows system	Stainless steel 1.4541 (bellows) / 1.4301 (bellows housing)

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