

# Gas Density and Pressure Monitoring



## Density Controller for SF<sub>6</sub> and other Gases (without indication)

Type: TS for indoor use

The Density Controller Type TS is designed specially to monitor the density of the SF<sub>6</sub> gas used to blanket high-voltage circuit breakers.

- Pressure range 0...10 bar rel.
- Pressure connection concentric
- High long term stability
- Precise switching accuracy
- Rugged construction  
IEC 60529 : IP20
- Up to four micro switches



The Density Controller TS uses a chamber filled with an identical gas as a reference. When the reference chamber and the switching enclosure are at the same temperature, a change in density in the latter will induce a pressure differential. The switching enclosure and the reference chamber are separated one from another by a metal bellow. A differential in pressure will cause a deformation of the bellow. This deflection motion is transferred via a switching rod with a switching plate to actuate the micro switch required for signaling purposes. The switching thresholds can be adjusted by way of lockable screws at the switching cam.

Up to four micro switches with double-throw contacts can be installed in the type TS. The contact output for the micro switches terminate in appropriate plugs DIN 46244: 6,3 x 0,8 mm.

The micro switch response points are calibrated to the specified values.

The arrangement of the measurement mechanism and the use of vibration-resistant micro switches eliminate any shock-induced chattering at the switching contacts.

## Technical Data Density Controller TS

Range:	0 ... 10 bar rel.
Hysteresis:	< 0.1 bar
Switching accuracy:	± 0.08 bar
Threshold:	± 0.05 bar
Leakage of reference chamber:	< 0.005 bar/Year ( $5 * 10^{-9}$ mbar * l * s <sup>-1</sup> )
Operating temperature:	-40...+70 °C
Storage temperature:	-50...+80 °C
Vibration (min. difference 0.05 bar from changeover point):	> 4 g (20...80 Hz)
Protection:	IEC 60529: IP20
Connector:	Plugs DIN 46244: 6,3 x 0,8 mm
Electrical rating:	AC 250 V, 10 (2) A
Switch contacts load, charge resistive (inductive):	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
Electric strength:	2kV (50/60 Hz) to ground
Surge:	IEC 61000-4-5 5 kV 1,2/50 µs to ground
Material of pressure connection and housing:	AlSi1MgMn, anodized
Material reference system:	1.4541 / 1.4301
Typeplate, resistant to UV, Ozone, Climate, chemicals and solvents:	3M Scotchcal foil 3690
Weight:	380 g

