

# Gas density monitor Model GDM-100

WIKA data sheet SP 60.02

## Applications

- Medium and high-voltage instruments
- Monitoring of the density of SF<sub>6</sub> gas in closed tanks
- Raising an alarm when defined limit values have been reached

## Special features

- Case and wetted parts from stainless steel
- On-site display with switch contact
- Temperature-compensated and hermetically sealed, therefore no influence of temperature fluctuations, differences in level and atmospheric pressure fluctuations
- Compensation for gas mixtures possible
- Traceability by serial number



Gas density monitor model GDM-100

## Description

Gas density is a crucial operating parameter for high-voltage equipment. If the required gas density is not present, safe operation of the plant cannot be guaranteed.

The WIKA gas density measuring instruments provide reliable warnings against dangerously low gas levels, even in extreme environmental conditions. Electrical switch contacts warn the plant operator when the gas density drops below defined levels due to leakage.

### Numerous fields of application

The WIKA gas density monitor is hermetically sealed and temperature-compensated. Measured value fluctuations and erroneous alarms caused by changes in either ambient temperature or air pressure are therefore prevented.

Via the on-site display, the system pressure based on 20 °C can be read directly on the instrument. With the integrated switch contacts, simple switching tasks can be realised quickly and without complication.

# Gas density monitor

## Nominal size

100

## Calibration pressure $P_E$

To customer specification

## Accuracy specifications

- $\pm 1$  % at ambient temperature  $+20$  °C
- $\pm 2.5$  % at ambient temperature  $-20 \dots +60$  °C and with calibration pressure in accordance with reference isochor (reference diagram KALI-Chemie AG, Hanover, prepared by Dr. Döring 1979)

## Scale range

Vacuum and overpressure range with measuring span of  $1.6 \dots 25$  bar (with an ambient temperature of  $20$  °C and gaseous phase)

## Permissible ambient temperature

Operation:  $-20 \dots +60$  °C ( $-4 \dots +140$  °F), gaseous phase  
Storage:  $-50 \dots +60$  °C ( $-58 \dots +140$  °F)

## Process connection

G  $\frac{1}{2}$  B per EN 837, lower mount  
Stainless steel, spanner flats 22 mm

Other connections or connection locations on request.

## Pressure element

Stainless steel, welded  
Gas-tight: leak rate  $\leq 1 \cdot 10^{-8}$  mbar · l / s  
Test method: helium mass spectrometry

## Movement

Stainless steel  
Bimetal link (temperature compensation)

## Dial

Aluminium  
The scale range is subdivided into red, yellow and green ranges

## Pointer

Aluminium, black

## Case

Selectable versions	
Option 1	Stainless steel, with gas filling
Option 2	Stainless steel, with filling liquid

Gas-tight: leak rate  $\leq 1 \cdot 10^{-5}$  mbar · l / s

## Window

Selectable versions	
Option 1	Laminated safety glass
Option 2	Clear non-splintering plastic

## Ring

Bayonet ring, stainless steel, secured by means of 3 welding spots

## Permissible humidity

$\leq 90$  % r. h. (non-condensing)

## Ingress protection

IP 65 per EN 60529 / IEC 529

## Weight

With gas filling: approx. 0.8 kg  
With filling liquid: approx. 1.2 kg

## High-voltage test 100 %

2 kV, 50 Hz, 1s

## Switch contacts

### Electrical connection

Cable socket with compression fitting M20 x 1.5  
Wire cross-section max.  $2.5 \text{ mm}^2$

### Number of switch contacts

Selectable versions	
Option 1	1 magnetic snap-action contact
Option 2	2 magnetic snap-action contacts
Option 3	3 magnetic snap-action contacts

### Switching directions

Selectable versions	
Option 1	Falling pressure
Option 2	Rising pressure

### Switching functions

Selectable versions	
Option 1	Normally open
Option 2	Normally closed
Option 3	Change-over contact (max. 2 switch points)

### Circuits

Selectable versions	
Option 1	Galvanically connected (not for change-over contact)
Option 2	Galvanically isolated

### Switching accuracy

Switch point = calibration pressure  $P_E$ : see accuracy specifications

Switch point  $\neq$  calibration pressure  $P_E$ : Shifted parallel to calibration pressure

**Max. switching voltage**

AC 250 V

**Switching power**

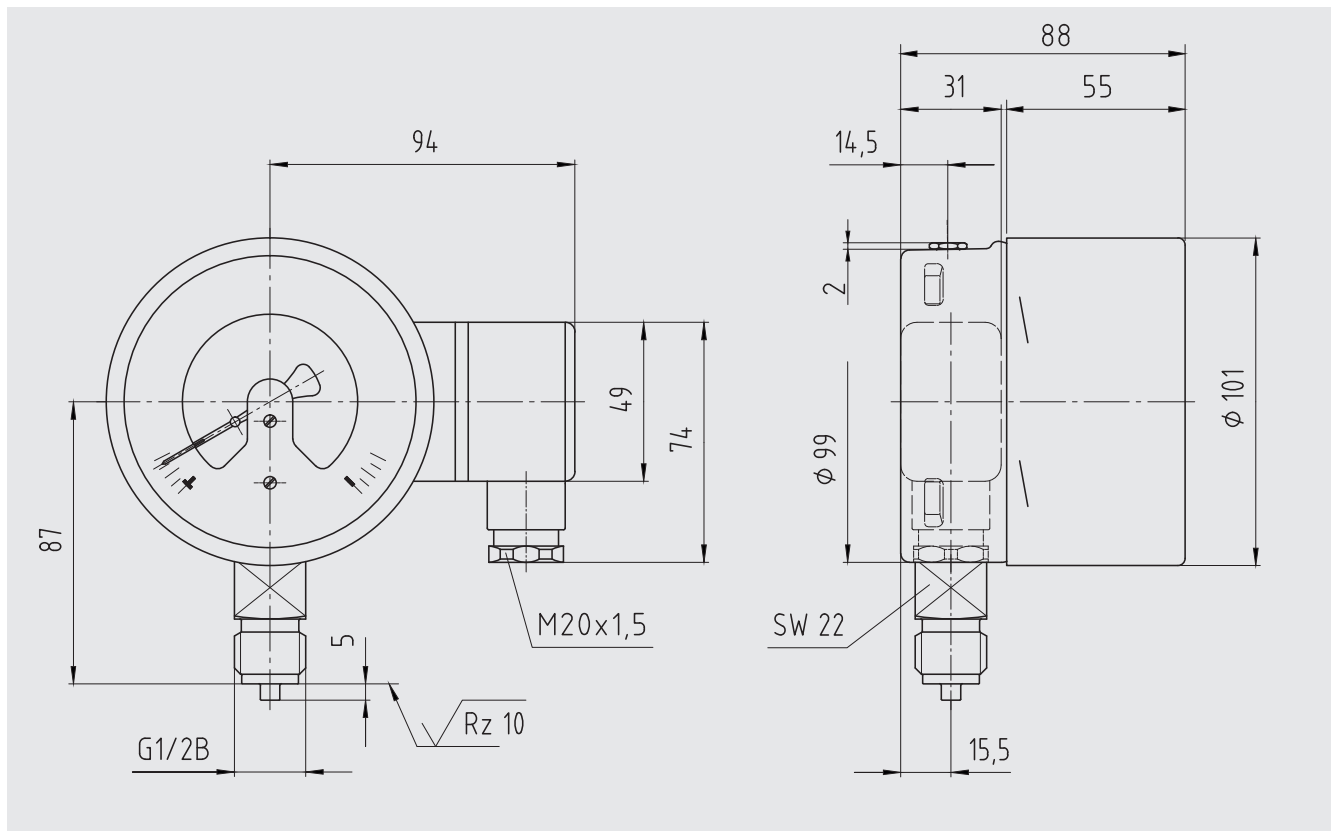
With gas filling: 30 W / 50 VA, max. 1 A

With filling liquid: 20 W / 20 VA, max. 1 A

**Material of switch contacts**

80 % Ag / 20 % Ni, gold-plated

Further information on magnetic snap-action contacts in data sheet AC 08.01

**Dimensions in mm****Approvals**

Logo	Description	Land
CE	EC declaration of conformity Low voltage directive 2006/95/EC, EN 61010-1	European Community

**Manufacturer's information and certifications**

- RoHS conformity 2011/65/EC

Approvals and certificates, see website

## Ordering information

Model / Process connection / Pressure unit / Measuring range / Filling pressure / Switch configuration / Gas mixture / Options

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**WIKAL Alexander Wiegand SE & Co. KG**  
Alexander-Wiegand-Straße 30  
63911 Klingenberg/Germany  
Tel. +49 9372 132-0  
Fax +49 9372 132-406  
info@wika.de  
www.wika.de