

Gas density monitor

Model GDM-063

WIKA data sheet SP 60.70



for further approvals,
see page 4

Applications

- Medium-voltage equipment
- Gas density monitoring of closed SF₆ gas 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 possible for gas mixtures
- Traceability by serial number



Gas density monitor model GDM-063

Description

Gas density is a crucial operating parameter for medium-voltage switchgear. 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 under extreme ambient conditions. Electrical switch contacts warn the plant operator when the gas density drops below defined levels due to leakage.

Numerous application areas

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 atmospheric pressure are therefore prevented.

Via the on-site display, the pressure can be read directly on the instrument with reference to 20 °C [68 °F]. With the integrated switch contacts, simple switching tasks can be realised quickly and without complication.

Gas density monitor

Nominal size

63

Calibration pressure PE

To customer specification

Accuracy specifications

- $\pm 1\%$ at ambient temperature $+20\text{ °C}$ [$+68\text{ °F}$]
- $\pm 2.5\%$ at ambient temperature -20 °C ... $+60\text{ °C}$ [-4 °C ... $+140\text{ °F}$] and with calibration pressure in accordance with reference isochore (reference diagram KALI-Chemie AG, Hanover, prepared by Dr. Döring 1979)

Scale ranges

Selectable versions

Option 1	-1 ... +1 bar [-14.5 ... +14.5 psi]
Option 2	-1 ... +3 bar [-14.5 ... +43.5 psi]

Others on request

Permissible ambient temperature

Operation: -30 °C ... $+60\text{ °C}$ [-22 °C ... $+140\text{ °F}$], gaseous phase
Storage: -50 °C ... $+60\text{ °C}$ [-58 °C ... $+140\text{ °F}$]

Process connection

G $\frac{1}{4}$ B per EN 837, back mount
Stainless steel, spanner flats 14 mm

Other connections and connection locations on request.

Pressure element

Stainless steel, welded
Gas-tight: leakage 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 fill fluid

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

Window

Selectable versions

Option 1	Laminated safety glass
Option 2	Acrylic glass

Ring

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

Permissible humidity

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

Ingress protection

IP65 per EN 60529 / IEC 60529

Weight

With gas filling: approx. 0.8 kg [1.76 lb]
With fill fluid: approx. 1.2 kg [2.64 lb]

High-voltage test 100 %

2 kV, 50 Hz, 1 s

Switch contacts

Electrical connection

Cable outlet, length 1 m
Cable bushing from glass

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

Circuits

Selectable versions

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

Switching accuracy

Switch point = calibration pressure PE: see accuracy specifications

Switch point ≠ calibration pressure PE: Parallel to the reference isochore of the calibration pressure

Switching voltage

AC (50 ... 60 Hz) / DC 24 ... 250 V (no undulating voltage)

Switching power

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

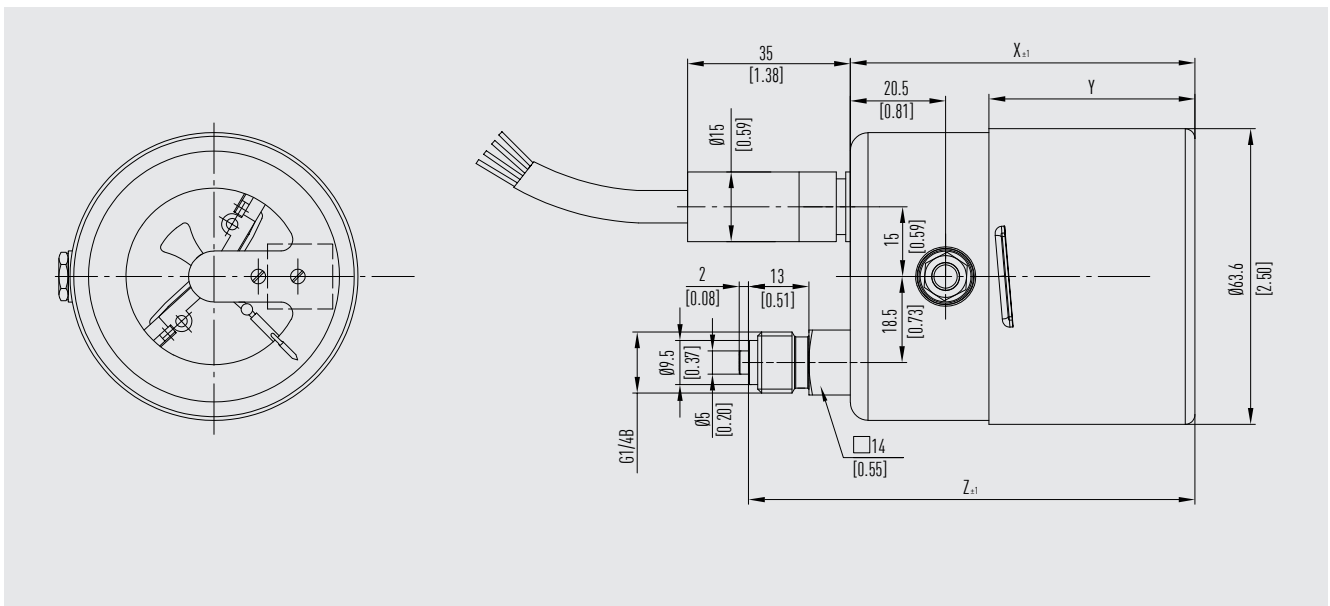
With fill fluid: 20 W / 20 VA, max. 1 A

Material of switch contacts

80 % Ag / 20 % Ni, gold-plated



Further information on magnetic snap-action contacts in data sheet AC 08.05 and IN 00.48.

Dimensions in mm [in]



Switch contact model 821	Dimensions in mm [in]		
	x	y	z
Single and double contacts, without galvanic isolation	66.5 [2.62]	35.5 [1.40]	88.5 [3.48]
Double contacts, with galvanic isolation	75.3 [2.96]	44.3 [1.74]	97 [3.82]
Triple contacts, with galvanic isolation	87.1 [3.43]	56.1 [2.21]	109.1 [4.30]

Approvals

Logo	Description	Region
	EU declaration of conformity	European Union
	Low voltage directive	
	RoHS directive	
	UKCA	United Kingdom
	Electrical equipment designed for use within certain voltage limits in support of the electrical equipment (safety) regulations	
	Restriction of hazardous substances (RoHS) regulations	

Optional approvals

Logo	Description	Region
	EAC	Eurasian Economic Community
	Low voltage directive	

→ For 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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