



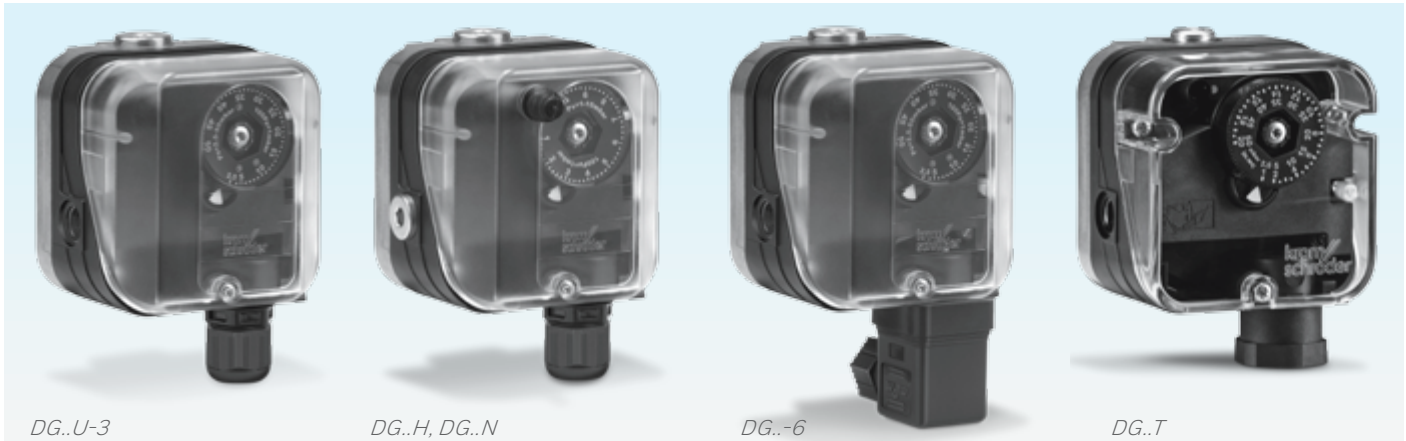
DG



## Pressure switch for gas

- Monitoring of gas and air pressures (positive, negative and differential pressures)
- Certified for systems up to SIL 3 and PL e
- With approved isolating amplifier for Zone 1 and 2 hazardous areas
- EU certified pursuant to EN 1854 and class "S"
- DG..S: special version available for NH<sub>3</sub> and O<sub>2</sub>

## Application



DG..U-3

Adjustable switching point

DG..H, DG..N

DG..H: switches and locks off with rising pressure. DG..N: switches and locks off with falling pressure. Manual reset.

DG..-6

With fitted socket pursuant to DIN EN 175301-803

DG..T

Hand wheel with "WC and mbar scale. NPT conduit for electrical connection.

The gas pressure switch DG monitors extremely low pressure differentials and triggers switch-on, switch-off or switch-over operations if a set switching point is reached. The switching point is adjustable via a hand wheel.

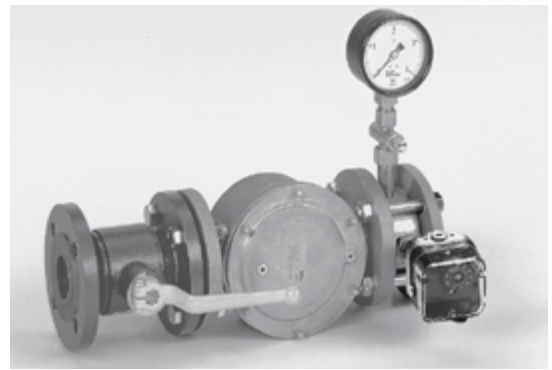
It monitors positive and negative gas pressures on various industrial gas and air appliances, such as boiler fan monitoring and differential pressure monitoring in firing, ventilation and air-conditioning systems.

The TÜV-tested special-design pressure switch is used as defined by VdTÜV Code of Practice "Druck 100/1" (Pressure 100/1) in firing installations for steam and hot-water generators in accordance with TRD 604, Para. 3.6.4, as well as class "S" for DG..B, DG..U and DG..I pursuant to EN 1854.

Type	Positive pressure	Negative pressure
DG..B	Gas, air, flue gas or biomethane	-
DG..U, DG..T	Gas, air, flue gas or biomethane	Air or flue gas
DG..H, DG..N, DG..HT, DG..NT	Gas, air, flue gas or biomethane	Air or flue gas
DG..I	Air or flue gas	Gas, air, flue gas or biomethane
DG..S	NH <sub>3</sub> or O <sub>2</sub>	-

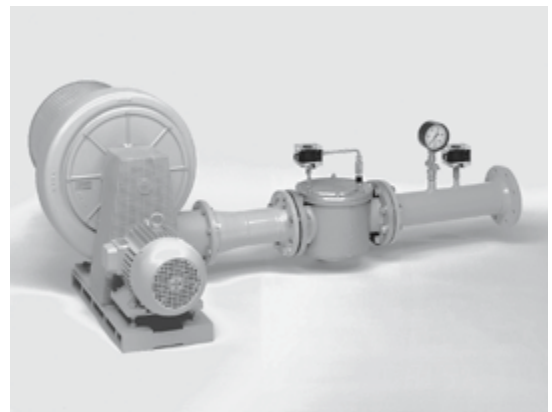
## Examples of application

### Gas deficiency monitoring



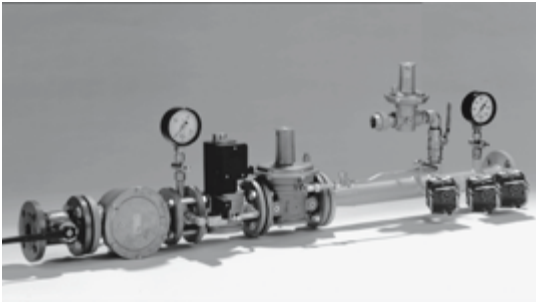
For monitoring the minimum gas inlet pressure

### Differential pressure monitoring



Differential pressure switch for monitoring air filters

### Systems leak tightness check



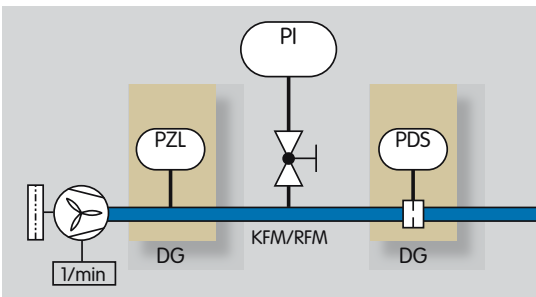
Electronic safety shut-off valve SAV with closed position check of downstream devices.

### Negative pressure monitoring



Monitoring the negative pressure ensures the correct positioning of the components during fully automatic assembly of gas meters.

### Air line with minimum pressure and flow monitoring



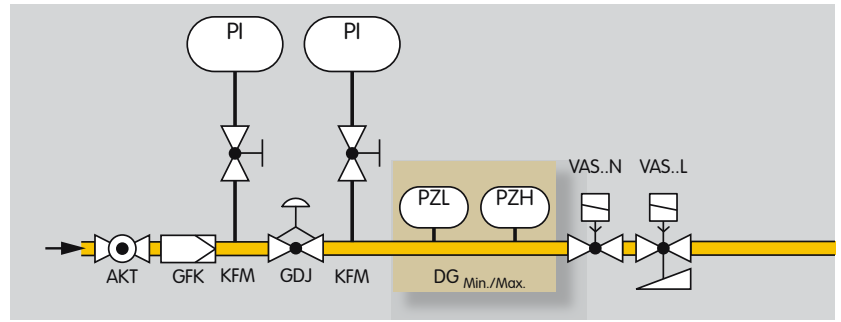
The air flow generated by the fan may be monitored as follows:

The static pressure is monitored by pressure switch DG (PZL), as long as it can be demonstrated that the display consequently shows an adequate and secured flow of air, or

The pressure switch DG (PDS) controls the flow of air via the differential pressure on the orifice.

If there is no air pressure supplied or if there is no differential pressure on the orifice, the system will be blocked.

### Low-pressure cut-off and high gas pressure protection device



If the pressure is either too low or too high, the min./max. pressure switch DG (PZL/PZH) switches in order to avoid start-up or to initiate a safety shut-down.

### Type code

Code	Description
DG	Pressure switch for gas
1,5	Negative pressure, adjusting range -1,5 to -0,5/+0,5 to +3 mbar
6	Adjusting range 0,4 to 6 mbar
10	Adjusting range 1 to 10mbar
12	Negative pressure, adjusting range -12 to -1/+1 to +7 mbar
18	Negative pressure, Adjusting range -2 to -18 mbar
30	Adjusting range 2,5 to 30 mbar
50	Adjusting range 2,5 to 50 mbar
120	Negative pressure, adjusting range -10 to -120 mbar
150	Adjusting range 30 to 150 mbar
400	Adjusting range 50 to 400 mbar
450	Negative pressure, adjusting range -80 to -450 mbar
500	Adjusting range 100 to 500 mbar
B	Positive pressure
U	Positive pressure, differential pressure
H	Locks off with rising pressure
N	Locks off with falling pressure
I	Negative pressure for gas
S	Positive pressure only, for oxygen and ammonia
T	T-product
G	With gold-plated contacts
-3	Electrical connection: via screw terminals
-4	via screw terminals, IP 65
-5	via 4-pin plug, without socket
-6	via 4-pin plug, with socket
-9	via 4-pin plug, with socket, IP 65
K2	Red/green pilot LED for 24 V DC/AC
T	Blue pilot lamp for 230 V AC
T2	Red/green pilot LED for 230 V AC
N	Blue pilot lamp for 120 V AC
A	External adjustment

## Technical data

Gas type: natural gas, town gas, LPG (gaseous), flue gas, biologically produced methane (max. 0.1 %-by-vol. H<sub>2</sub>S) and air.

DG: max. inlet pressure  $p_{\max}$  = withstand pressure, see TI DG,

Max. test pressure for testing the entire system: temporarily < 15 minutes 2 bar (29 psig).

Switching capacity:

DG:

$U = 24 - 250 \text{ V AC}$ ,

$I = 0.05 - 5 \text{ A at } \cos \varphi = 1$ ,

$I = 0.05 - 1 \text{ A at } \cos \varphi = 0.6$ .

DG..G:

$U = 5 - 250 \text{ V AC}$ ,

$I = 0.01 - 5 \text{ A at } \cos \varphi = 1$ ,

$I = 0.01 - 1 \text{ A at } \cos \varphi = 0.6$ .

DG..G

$U = 5 - 48 \text{ V DC}$ ,

$I = 0.01 - 1 \text{ A}$ .

DG..T:

$U = 30 - 240 \text{ V AC}$ ,

$I = 5 \text{ A at } \cos \varphi = 1$ ,

$I = 0.5 \text{ A at } \cos \varphi = 0.6$ .

DG..TG:

$U = < 30 \text{ V AC}$ ,

$I = 0.1 \text{ A at } \cos \varphi = 1$ ,

$I = 0.05 \text{ A at } \cos \varphi = 0.6$ .

If the DG (DG..TG) has switched a voltage > 24 V (> 30 V) and a current > 0.1 A at  $\cos \varphi = 1$  or > 0.05 A at  $\cos \varphi = 0.6$  once, the gold plating on the contacts will have been burnt through. It can then only be operated at this power rating or higher power rating.

Maximum medium and ambient temperatures:

DG..B, DG..U, DG..I:

-20 to +80°C (-4 to 176°F),

DG..S:

-15 to +60°C (5 to 140°F),

DG..H, DG..N:

-15 to +60°C (5 to 140°F),

DG..T, DG..HT, DG..NT:

-40 to +60 °C (-40 to 140 °F).

Storage and transport temperature:

DG, DG..T: -20 to +40 °C (-4 to 104 °F).

Diaphragm pressure switch, silicone-free.

Diaphragm:

NBR for DG..U, B, N, H, I,

IIR for DG..S.

Housing: glass fibre reinforced PBT plastic with low gas release.

Lower housing section: AlSi 12.

Enclosure: IP 54 or IP 65.

Safety class: 1.

Line diameter:

0.5 to 1.8 mm (AWG 24 to AWG 13).

Line entrance: M16 x 1.5, clamping range:

diameters of 4 to 10 mm,

DG..T, DG..HT, DG..NT with ½" NPT conduit cable gland.

Electrical connection type:

screw terminals, max. torque: 250 Ncm.

Weight: 270 to 320 g (9.5 to 11.3 oz), depending on equipment..

## Maintenance cycles

At least once a year, twice a year in the case of biologically produced methane.

## Contact

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