

Differential pressure switch for air, flue and exhaust gases

LGW...C3

factory-adjusted

DUNGS®
Combustion Controls

5.11



Technical description

The LGW...C3 is a factory-adjusted differential pressure switch as per EN 1854.

- The LGW...C3 is suitable for switching a circuit on, off or over on changes in actual pressure value relative to the reference value set at the factory (reference value).
- Precise function by special switching system mounted in frictionless bearings.
- High switching point stability over complete life, low temperature drift.
- Large diaphragm surface ensures very high sensitivity and small switching differences.
- Electrical connection by means of flat-type connector.
- Stressfree installation by means of securing ring.

Application

Differential pressure monitoring in firing, ventilation and air-conditioning systems.

Flat design; therefore specially designed as integrated unit, particularly for monitoring the blower in wall-mounted equipment.

The LGW...C3 can be used as pressure, vacuum or differential pressure switch for air and non-aggressive gases, but not for combustion gases.

Approvals

EU type test approval as per EU Gas Appliance Directive.

LGW...C3 CE-0085 AQ 0693

Approvals in other important gas-consuming countries.

Functional description

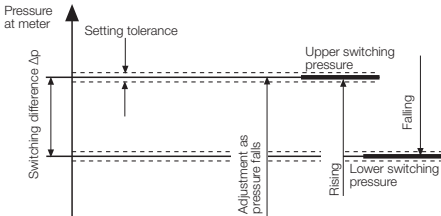
Differential pressure switch in pressure and vacuum range.
The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without any auxiliary power.

LGW...C3 differential pressure switch

The control unit responds to differential pressure. If the set reference value is exceeded or undershot, the circuit is switched on, off or over.

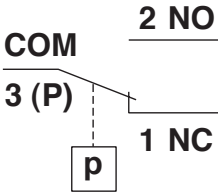
Definition of switching difference Δp

The switching difference Δp is the pressure difference between the upper and lower switching pressure.



LGW...C3 switching function

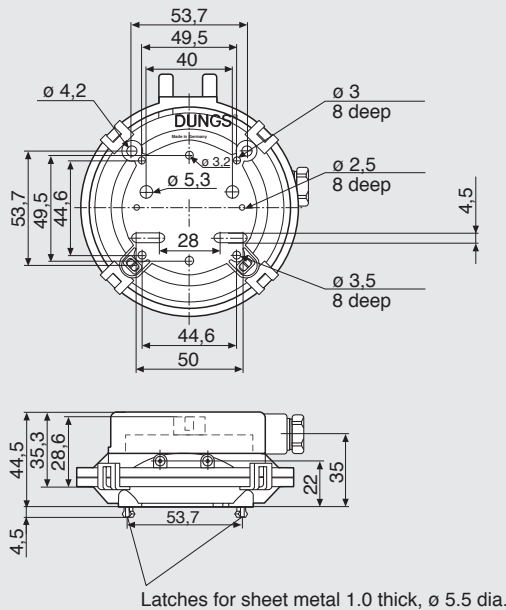
As pressure rises:
1 NC opens, 2 NO closes
As pressure falls:
1 NC closes, 2 NO opens



Specifications

Max. operating pressure	50 mbar (5 kPa)		
Setting ranges	Refer to "Technical data"		
Pressure connection	6 mm dia hose connection		
Temperature range	Ambient temperature	-15 °C to +85 °C	
	Medium temperature	-15 °C to +85 °C	
	Storage temperature	-20 °C to +85 °C	
Materials	Housing:	polycarbonate	
	Switch:	polycarbonate	
	Diaphragms:	NBR	
	Switching contact:	standard: Ag optional: gold-plated silver (AU); suitable for DDC applications: 24 V DC; 0.02 A	
Switching voltage	Ag contact:	AC eff. min. 24 V	max. 250 V
		DC min. 24 V	max. 48 V
	Au contact:	DC min. 5 V	max. 24 V
Nominal current	Ag contact:	AC eff. 2.5 A	
	Au contact:	DC 20 mA	
Switching current	Ag contact:	AC eff. 1.5 A	at cos φ 1
		AC eff. 0.8 A	at cos φ 0.6
		AC eff. min. 20 mA	
		DC min. 20 mA	max. 1 A
	Au contact:	DC min. 5 mA	max. 20 mA
Electrical connection	A 6.3 x 0.8 flat-type connector as per DIN 46244		
Degree of protection	IP 00 as per IEC 529 (EN 60529), IP 10 with BS 1 IP 44 with hood and PG* 9 cable gland (* = heavy-gauge conduit thread) IP 54 with hood, O ring and PG 9 cable gland		
Setting tolerance	±0.03 mbar to ±0.1 mbar; tolerance as per specification		
Installation position	Any, as per specification		

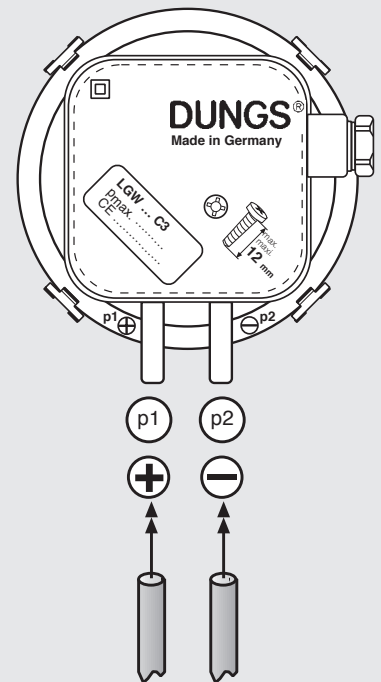
Dimensions [mm]



Securing ring



Pressure connection



Connection p1 (+) = higher pressure
Connection p2 (-) = lower pressure

System vacuum monitor

To monitor the pressure in vacuum systems.

LGW C3 is connected with the air duct via connection p2 (-). Connection p1 (+) is not connected with the air duct. Do not close hose connection sleeve of connection p1 (+), there must be a connection to atmosphere.

Caution: Prevent dirt from entering into the equipment through connection p1(+).

Filter monitoring

To monitor fouling of a filter, the LGW C3 can be connected as shown below. Connect connection p1 (+) upstream of and connection p2 (-) downstream of filter with the air duct in flow direction of volumetric flow.

Example of system pressure

higher pressure:

e.g. 2.8 mbar: connection p1 (+)

lower pressure:

e.g. 1.4 mbar: connection p2 (-)

Blower monitoring

For blower monitoring, connect connection p1 (+) to the air duct on the pressure side downstream of the blower and connection p2 (-) to the air duct upstream of the blower.

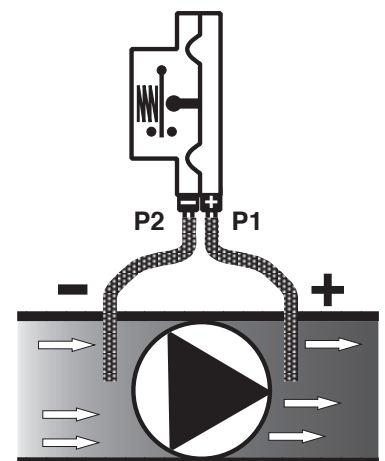
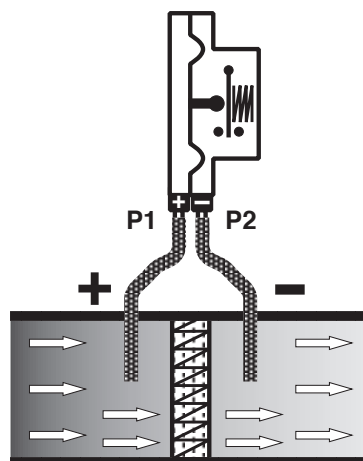
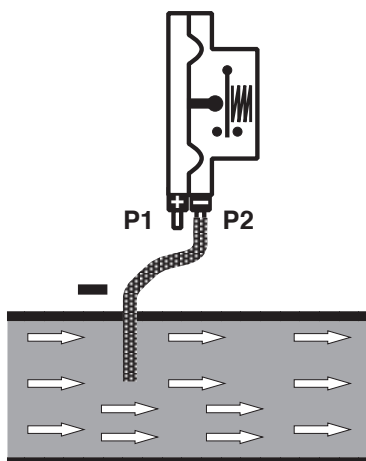
Example of system vacuum

lower vacuum:

e.g. -1.3 mbar: connection p1 (+)

higher vacuum:

e.g. -4.2 mbar: connection p2 (-)



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Technical data

1 mbar = 100 Pa = 0.1 kPa ≈ 10 mmWS

1 Pa = 0.01 mbar ≈ 0.1 mmWS

Type	Version	Order No.	Setting range [mbar]	Switching difference [mbar]	Max. operating pressure [mbar]
LGW...C3	LGW 1,5 C3	as per specification	0.20 - 1.5	0.07 - 0.3	50
	LGW 3 C3	as per specification	0.40 - 3.0	0.12 - 0.4	50
	LGW 10 C3	as per specification	1.0 - 10.0	0.20 - 0.6	50

Accessories for pressure switch

BS1 contact protection IP 10 **230 216**

IP 44 hood with PG 9 **230 217**

IP 54 hood with PG 9 **230 261**

Securing ring
without latches **230 265**

Securing ring
with latches **230 264**

Securing ring
adapter ø 32 **230 269**

Double adapter set **221 167**



We reserve the right to make any changes in the interest of technical progress.

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