

Differential pressure switch for air, flue and exhaust gases

LGW...C2

5.14

DUNGS[®]
Combustion Controls

neuvità
nouveau new

• RoHS 2002/95/EG



Technical description

The LGW...C2 differential pressure switch as per EN 1854 is an adjustable differential pressure switch for automatic burner controls.

It is suitable for switching a circuit on, off or over on changes in actual pressure value relative to the set reference value. The reference value (switching point) is adjusted on a setting wheel provided with a scale.

Each pressure chamber has a stepped connection of 6 mm dia. to 4 mm dia. Precise function by special switching system mounted in frictionless bearings.

Application

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

Suitable for air, flue and exhaust gases.

Approvals

EC type test approval as per EC Gas Appliance Directive:

LGW C2

CE-0085 AQ 0693

Approvals in other important gas-consuming countries.

Functional description

Differential pressure switch in pressure and vacuum ranges.

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...C2 differential pressure switch

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

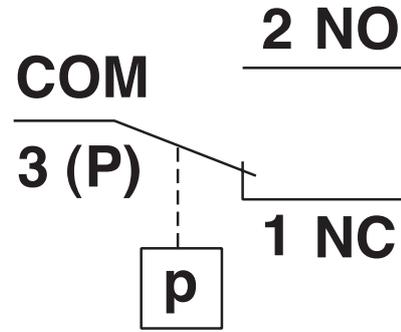
LGW...C2 switching function

As pressure rises:

1 NC opens, 2 NO closes

As pressure falls:

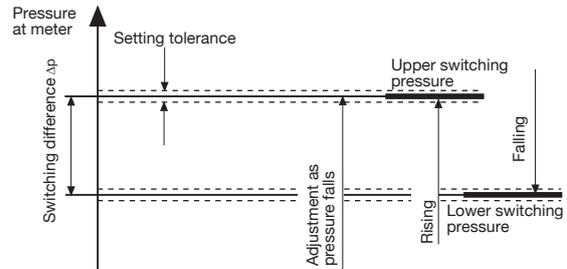
1 NC closes, 2 NO opens



Definition of switching difference Δp

Δp

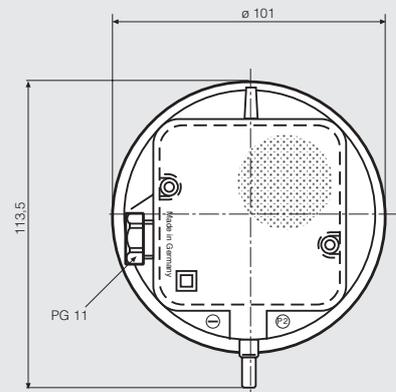
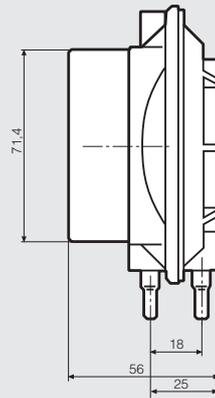
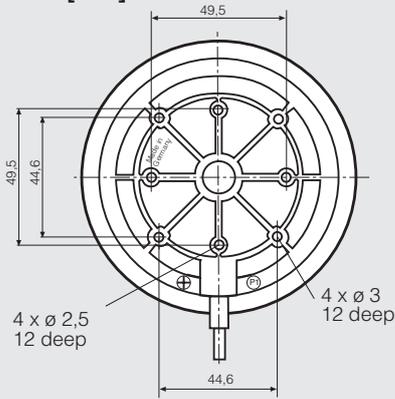
The switching difference Δp is the pressure difference between the upper and lower switching pressures.



Specifications

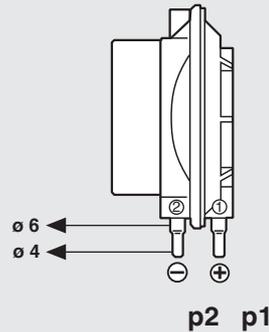
Max. operating pressure	50 mbar (5 kPa)		
Pressure connection	Hose connecting piece suitable for hose $\varnothing 4 / \varnothing 6$		
Temperature range	Ambient temperature	-15 °C to +85 °C	
	Medium temperature	-15 °C to +85 °C	
	Storage temperature	-30 °C to +85 °C	
Materials	Housing:	polycarbonate	
	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
Nominal current	Au contact:	DC min. 5 V	max. 24 V
	Ag contact:	AC eff. 5 A	
	Au contact:	DC 20 mA	
Switching current	Ag contact:	AC eff. max. 5 A	at $\cos \varphi 1$
		AC eff. max. 3 A	at $\cos \varphi 0.6$
		AC eff. min. 20 mA	
		DC min. 20 mA	max. 1 A
	Au contact:	DC min. 5 mA	max. 20 mA
Electrical connection	At screw terminals via PG* 11 cable gland (* = heavy-gauge conduit thread)		
Degree of protection	IP 54 as per IEC 529 (DIN 60 529), optional IP 65		
Setting tolerance	$\pm 15\%$ switching point deviation referred to reference value adjusted as vertical diaphragm position, for pressure direction, refer to table on page 4.		

Dimensions [mm]



Pressure connection

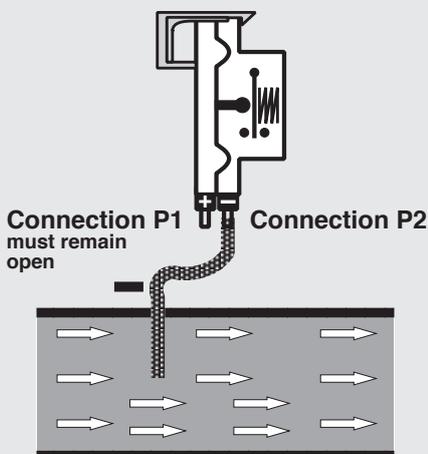
Each pressure connection is stepped (6/4 mm dia.).



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

Schematic diagram

Application and connection examples



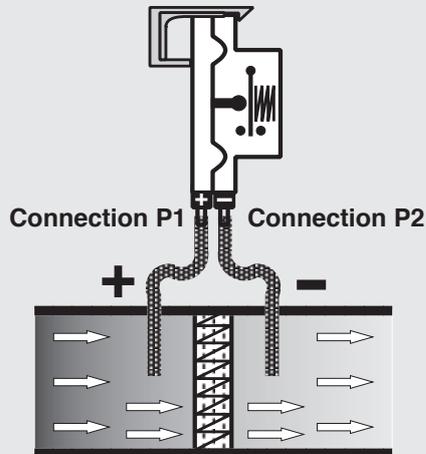
System vacuum monitor

To monitor the pressure in vacuum systems.

LGW...C2 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.

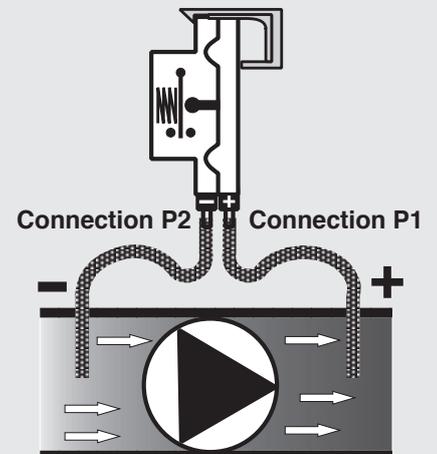
Caution: Prevent dirt from entering into the device through connection p1 (+).



Filter monitoring

To monitor fouling of a filter, the LGW...C2 can be connected as shown above.

In the flow direction of the volumetric flow, the connecting piece p1 (+) is connected to the air channel upstream and the connecting piece p2 (-) downstream of the filter.



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.

Always connect higher pressure to connection p1 (+).

Always connect higher vacuum to connection p2 (-).

Example of system pressure higher pressure:

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

lower pressure:

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

Example of system vacuum lower vacuum:

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

higher vacuum:

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

**Differential pressure switch
for air, flue and exhaust gases**

LGW...C2



Brief technical data

1 mbar = 100 Pa = 0.1 kPa ≈ 10 mm WS

1 Pa = 0.01 mbar ≈ 0.1 mm WS

Type	Design	Order No. [Ag-PG-V3]	Setting range [mbar]	Switching difference Δp [mbar]	Max. operating pressure [mbar]
LGW C2	LGW 1.5 C2	212 200	0.20 - 1.5 ↓	≤ 0.18	50
	LGW 3 C2	230 167	0.20 - 3.0 ↓	≤ 0.20	50
	LGW 3 C2	212 571	0.40 - 3.0 ↑	≤ 0.20	50
	LGW 5 C2	230 168	0.30 - 5.0 ↑	≤ 0.25	50
	LGW 6 C2	220 991	0.70 - 6.0 ↑	≤ 0.30	50
	LGW 10 C2	212 572	1.0 - 10.0 ↑	≤ 0.40	50
	LGW 30 C2	220 992	3.0 - 30.0 ↑	≤ 0.80	50

Accessories for pressure switch

Klima-Set accessories	217 897
Double adapter kit	221 167
Fixing bracket	230 273
Mounting kit glowlamp 230 V yellow	231 773
Mounting kit glowlamp 120 V yellow	231 772
Mounting kit display-LED 24 V yellow	231 774
Mounting kit glowlamp 230 V green	248 239
Mounting kit display-LED 24 V green	248 240
Replacement-set hood IP 54	230 270
Replacement-set hood IP 65	230 271

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

Head Offices and Factory
Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Telefax +49 (0)7181-804-166

Postal address
Karl Dungs GmbH & Co. KG
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com