

Differential pressure switch for air, flue and exhaust gases

LGW...A1

factory-adjusted

5.12

DUNGS[®]
Combustion Controls



Technical description

The LGW...A1 is a factory-adjusted differential pressure switch as per EN 1854.

- The LGW...A1 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.
- Electrical connection by means of a flat-type connector.
- Compact size.

Application

Differential pressure monitoring in firing, ventilation and air-conditioning systems. The LGW...A1 can be used as a pressure, vacuum or differential pres-

sure switch for air and non-aggressive gases but not for industrial combustion gases.

Approvals

EC type test approval as per EU Gas Appliance Directive:

LGW...A1 CE-0085 AQ 0673

EC type test approval as per EU Pressure Equipment Directive:

LGW...A1 CE0036

TÜV (German Technical Inspectorate) inspection for pressure switches of special construction as per TRD 604 and VdTÜV Technical Data Sheet, edition 100/1. Approvals in other important gas-consuming countries. Special designs for the North American market with UL, FM and CSA registrations.

Functional description

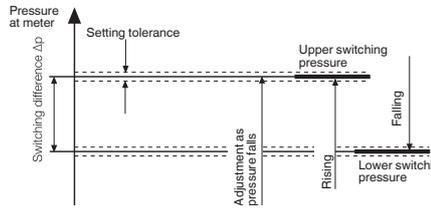
Differential pressure switch in pressure and vacuum ranges.
The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without any auxiliary power.

LGW...A1 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.

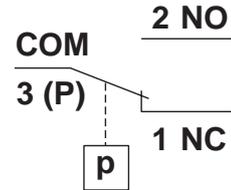
Definition of switching difference Δp

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

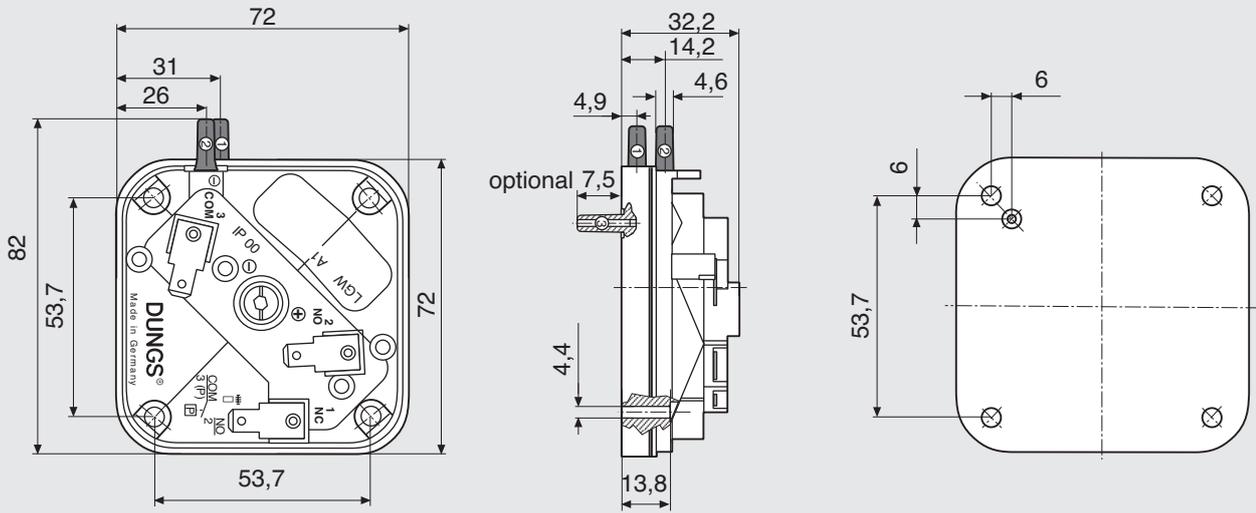


LGW...A1 switching function

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

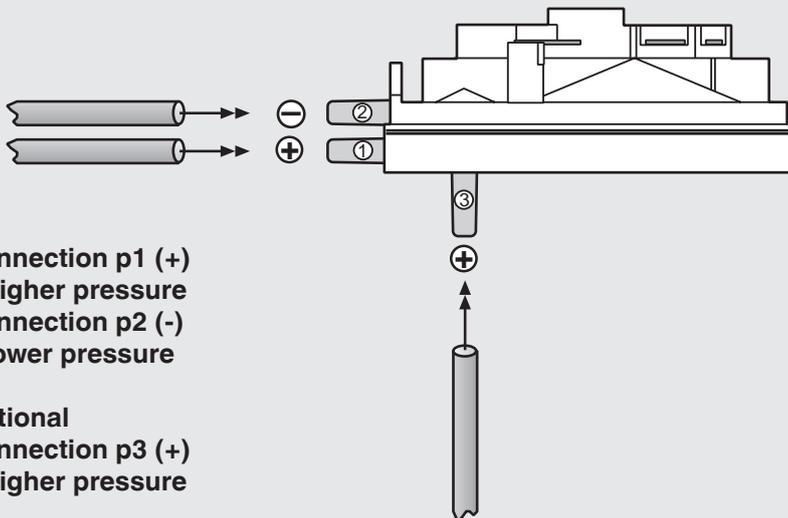


Dimensions [mm]



Height with cover IP 40: 35,6 mm
Height with cover IP 42: 45,6 mm

Pressure connection



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

Optional
Connection p3 (+)
= higher pressure

Specifications

Max. operating pressure	Standard: 100 mbar (10 kPa) option: LGW 3 A1 - 50 A1 : 400 mbar (40 kPa)			
Setting ranges	Refer to "Brief technical data"			
Pressure connection	4.6 mm dia hose gland			
Temperature range	Ambient temperature	-15 °C to +70 °C (option up to +85 °C)		
	Medium temperature	-15 °C to +70 °C (option up 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
	Au - Contact:	DC min.	5 V	max. 24 V
Nominal current	Ag - Contact:	AC eff.	2.5 A	LGW 1.5 A1
	Ag - Contact:	AC eff.	10 A	LGW 3 - 50 A1
	Au - Contact:	DC	20 mA	
Switching current	Ag - Contact.	AC eff.	1.5 A	at cos φ 1
	LGW 1.5 A1:	AC eff.	0.8 A	at cos φ 0.6
	Ag - Contact	AC eff.	6 A	at cos φ 1
	LGW 3 - 50 A1:	AC eff.	3 A	at cos φ 0.6
	Ag - Contact	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 60 529), IP 10 with BS 1, IP 20 with BS3, IP 42 with hood and PG* 11 cable gland (* = heavy-gauge conduit thread) IP 40 with hood			
Setting tolerance	tolerance as per specification			
Installation position	Any, as per specification			

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Technical data

1mbar = 100 kPa = 0.1 Pa ≈ 10 mmWS

1 Pa = 0.01 mbar ≈ 0.1 mWS

Type	Version	Order No.	Setting range [mbar]	Switching difference [mbar]	Max. operating pressure [mbar]
LGW...A1	LGW 1.5 A1	as per specification	0.3 - 1.5	≤ 0.2	100
	LGW 3 A1	as per specification	0.4 - 3	≤ 0.35	100
	LGW 10 A1	as per specification	1 - 10	≤ 0.5	100
	LGW 50 A1	as per specification	2.5 - 50	≤ 1	100

Accessories for pressure switch

BS1 / IP 10 contact protection **230 216**

BS3 / IP 20 contact protection **230 280**

Complete hood (IP 40) **230 282**

Complete hood (IP 42) **230 281**

Attachment plate **230 301**

Additional test button, complete PT 4 **224 940**



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

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