

# Differential pressure switch for air, flue and exhaust gases

LGW...A1

factory-adjusted

5.04



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## Technical description

The LGW...A1 is a factory-adjusted differential pressure switch.

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

## Approvals

EU type test approval as per EU Gas Appliance Directive. TÜV (German Technical Inspectorate) inspection for pressure switches of special construction as per TRD 604 and VdTÜV Technical Data Sheet, edition 100/1.

LGW...A1

CE-0085 AQ 0673

Approvals in other important gas-consuming countries. Special designs for the North American market with UL, FM and CSA registrations.

## 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 +60°C (option up to +85°C)	
	Medium temperature	-15°C to +60°C (option up to +85°C)	
	Storage temperature	-30°C to +85°C	
Materials	Housing:	polycarbonate	
	Switch:	polycarbonate	
	Diaphragms:	NBR	
	Switching contact:	standard: fine silver (Ag) optional: gold-plated fine 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 $\varphi$ 1
	LGW 1.5 A1:	AC eff. 0.8 A	at cos $\varphi$ 0.6
	Ag - Contact	AC eff. 6 A	at cos $\varphi$ 1
	LGW 3 - 50 A1:	AC eff. 3 A	at cos $\varphi$ 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 46342		
Degree of protection	IP 00 as per IEC 529 (EN 60 529), IP 10 with BS 1, cover IP 20 with BS3, cover IP 42 with hood and PG* 11 cable gland (* = heavy-gauge conduit thread) IP 40 with hood		
Setting tolerance	±15% switching point deviation referred to switching point (reference value); tolerance as per specification		
Installation position	Any, as per specification		

## Functional description

Differential pressure switch in pressure and vacuum ranges.

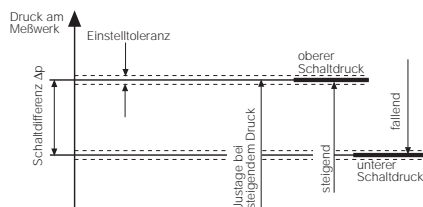
The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without any auxiliary power.

## LGWA1 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.

### Definition of switching difference $\Delta p$

The switching difference  $\Delta p$  is the pressure difference between the upper and lower switching pressures.



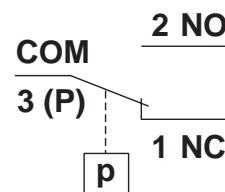
### LGW A1 switching function

As pressure rises:

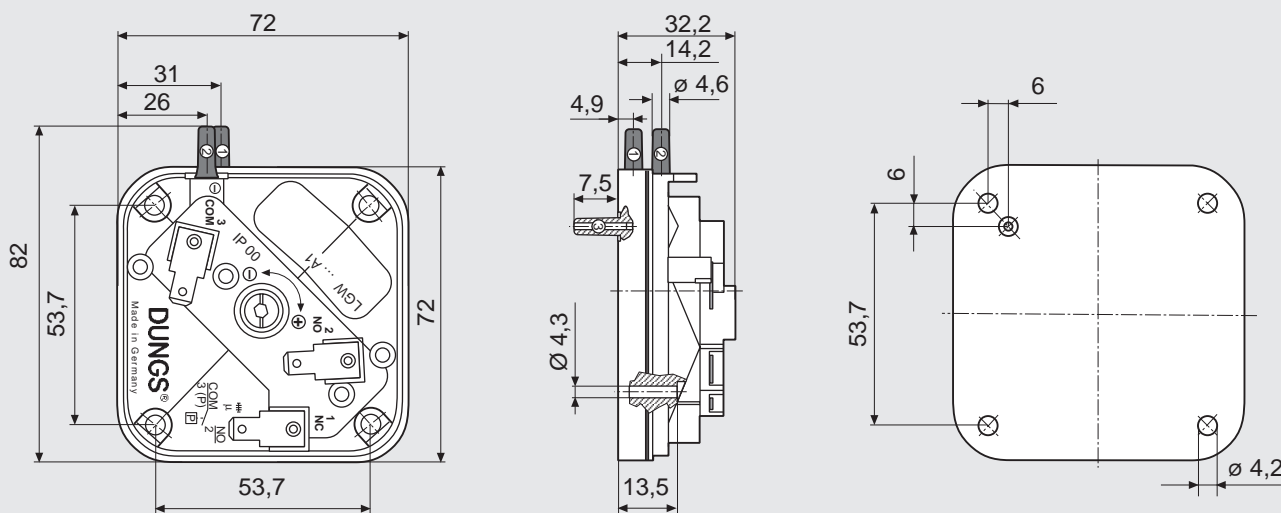
1 NC opens, 2 NO closes

As pressure falls:

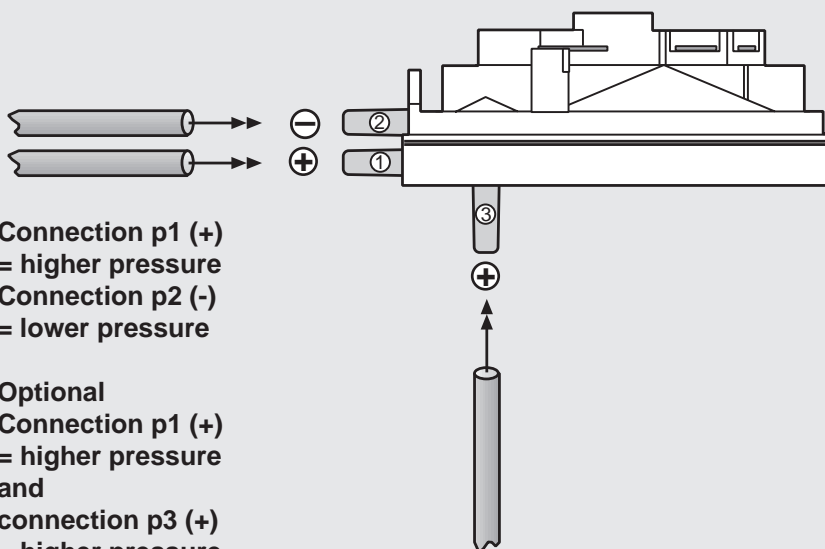
1 NC closes, 2 NO opens



### Dimensions [mm]



### Pressure connection



Connection p1 (+)

= higher pressure

Connection p2 (-)

= lower pressure

Optional

Connection p1 (+)

= higher pressure

and

connection p3 (+)

= higher pressure  
alternatively possible

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**Technical data**

1mbar = 100 Pa = 0.1 .Pa ≈ 10 mmWS

1 Pa = 0.01 mbar ≈ 0.1 mWS

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

**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**

Ω clip for hose (2 x) **123 612**

Mounting bracket **230 273**

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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