

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

Approvals

EC type testing certificate as per:

- EC-Gas Appliances Regulation
- EC-Pressure Equipment Directive

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.

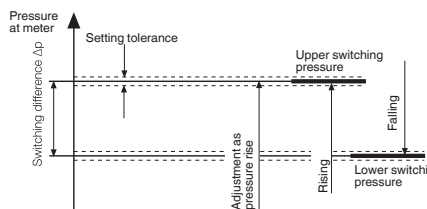
LGW...A1 differential pressure switch

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

Δp

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



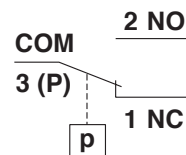
LGW...A1 switching function

As pressure rises:

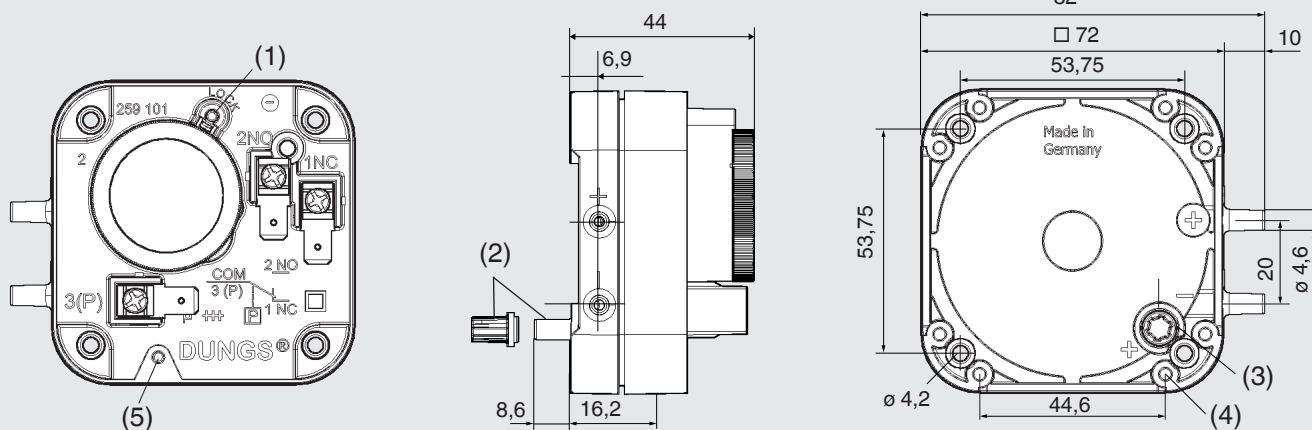
1 NC opens, 2 NO closes

As pressure falls:

1 NC closes, 2 NO opens



Dimensions [mm]



Height with contact protection IP 20: 44 mm

Height with contact protection IP 42: 44 mm

(1) optional switching point lock cheese head screw $\varnothing 3 \times 14$ mm

(2) optional sealing cap and connection p 3, $\varnothing 4,6$ mm

(3) Sealing face area for O-ring $\varnothing 4.87 \times 1.8$ to DIN 3371

(4) Blind hole $8 \times \varnothing 3.8$ deep

(5) optionally Mounting of contact protection for cheese head screw $\varnothing 3 \times 14$ mm

Pressure connection

Connection p1 (+)

= higher pressure

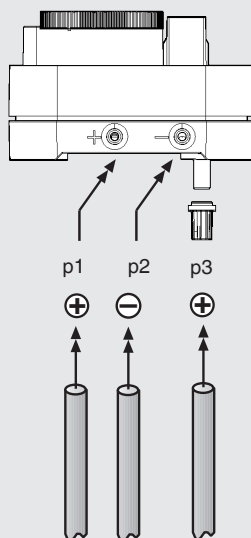
Connection p2 (-)

= lower pressure

Optional

Connection p3 (+)

= higher pressure



Specifications

Max. operating pressure	Standard: 10 kPa			
Setting ranges	Refer to "Brief technical data"			
Pressure connection	4.6 mm dia hose gland			
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		
	contact protection:	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	LGW 1.5 A1, Ag - Contact:	AC eff.	2.5 A	
	LGW 3 - 50 A1, Ag - Contact:	AC eff.	10 A	
	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	protective insulation A 6.3 x 0.8 flat-type connector as per DIN 46244 optional: screw clamps included			
Degree of protection	IP 00 as per IEC 529 (EN 60 529) IP 20 with BS3 IP 42 with contact protection IP 42 with contact protection and traction relief			
Setting tolerance	tolerance as per specification			
Deviation	Permissible deviation of the set value $\leq \pm 15\%$ in the service life test according to EN 1854			
Installation position	As per specification			

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

LGW ... A1

factory-adjusted

DUNGS®
Combustion Controls

Technical data

1 mbar = 1 hPa = 100 Pa = 0,1 kPa ≈ 10 mmWS

1 Pa = 0.01 mbar ≈ 0.1 mWS

Type	Version	Order No.	Adjustment range (ex works) [hPa]	Switching difference [Pa]	Max. operating pressure [hPa]
LGW...A1	LGW 1.5 A1	as per specification	0.3 - 1.5	≤ 20	100
	LGW 3 A1	as per specification	0.4 - 3	≤ 35	100
	LGW 10 A1	as per specification	1 - 10	≤ 50	100
	LGW 50 A1	as per specification	2.5 - 50	≤ 100	100

When ordering, please make sure to specify:

1. Version
2. Switching point
3. Installation position
4. Contact protection

Accessories for pressure switch

Contact protection IP 20
(1 x)

262 045

Contact protection IP 42
(1 x)

262 047

Attachment plate
(1 x)

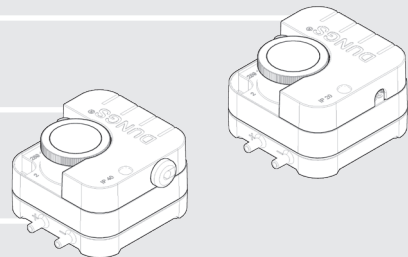
230 301

Adapter ø 4/6 (2 x)

266 037

Cheese head screw
ø 3 x 14 (2 x)

266 045



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

Head Offices and Factory
Karl Dungs GmbH & Co. KG
Karl-Dungs-Platz 1
D-73660 Urbach, Germany
Telephone +49 7181-804-0
Telefax +49 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