

Differential pressure switches for air, flue and exhaust gases

Pressure switch for gas

LGW A4

DUNGS®

5.07



Technical description

The differential pressure switch LGW A4 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. The test nipple is integrated in metal housing as standard.

Application

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

Differential pressure switches: suitable for air, flue and exhaust gases.

Pressure switches: suitable for gases of families 1,2,3 and other neutral gaseous media.

Approvals

EU type test approval as per EU Gas Appliance Directive.

LGW A4

CE-0085 AQ 0673

Approvals in other important gas-consuming countries. Special designs for the North American market with U_L, 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 A4 pressure switch

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

LGW A4 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.

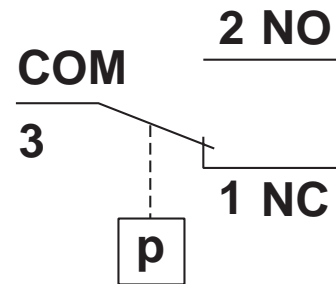
LGW A4 switching function

As pressure rises:

1 NC opens, 2 NO closes

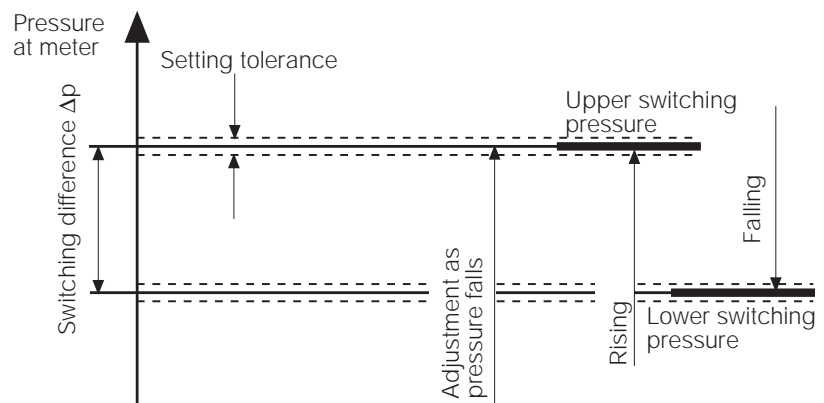
As pressure falls:

1 NC closes, 2 NO opens



Definition of switching difference Δp

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



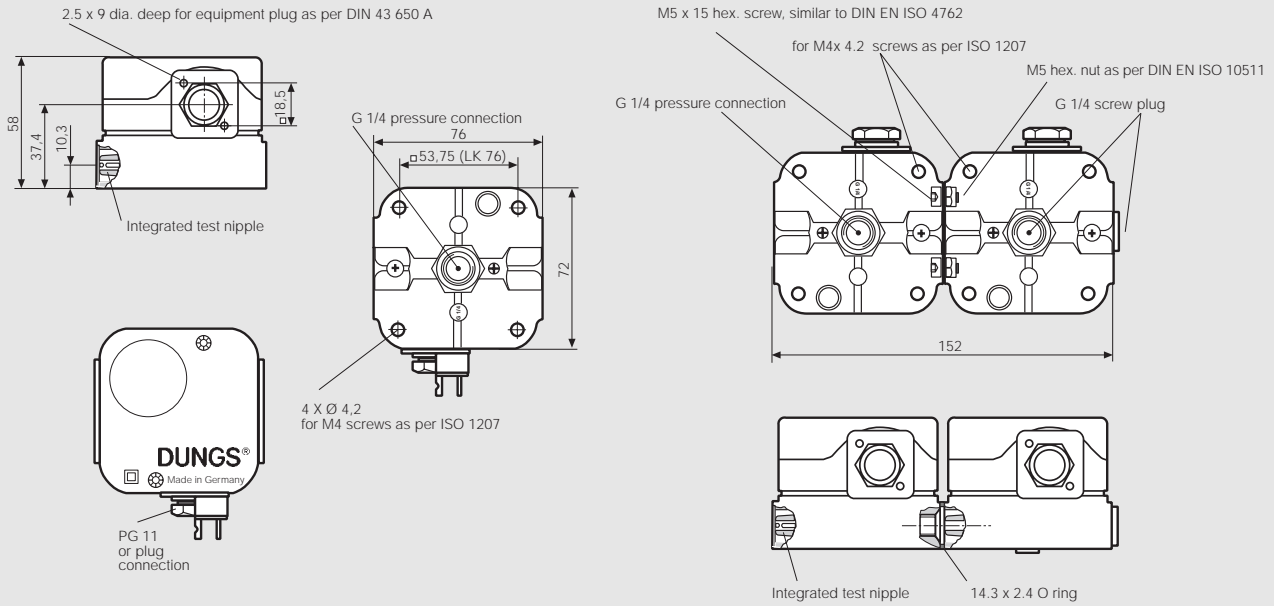
Specifications

Max. operating pressure	LGW 3 A4-LGW 150 A4 500 mbar (50 kPa)			
Pressure connection	G 1/4 female thread on centre of housing underside: gas or air LGW 4: 2 x G 1/8 female thread on side of housing underside: only air optional; G 1/4 screw plug on side of housing: gas or air			
Measuring connection	Instrument gland integrated in metal housing			
Temperature range	Ambient temperature	-15°C to +60°C		
	Medium temperature	-15°C to +60°C		
	Storage temperature	-30°C to +80°C		
Materials	Housing	aluminium die casting		
	Switch	PBTB		
	Diaphragms	NBR		
	Switching contact	standard:	fine silver (Ag)	
		optional:	gold-plated fine silver (AU); suitable for DDC applications: 24 V DC; 0.01 A	
Switching voltage	Ag contact	AC eff. min.	10 V	max. 250 V
		DC min.	12 V	max. 48 V
	Au contact	DC min.	5 V	max. 24 V
Nominal current	Ag contact	AC eff.	10 A	
	Au contact	DC	20 mA	
Switching current	Ag contact	AC eff. max.	6 A	at $\cos \varphi$ 1
		AC eff. max.	3 A	at $\cos \varphi$ 0.6
		AC eff.	min. 20 mA	
	Au contact	DC	min. 20 mA	
		DC	max. 1 A	
		DC min. 5 mA	max. 10 mA	
Electrical connection	Standard:	at screw terminals via PG* 11 cable gland (* = heavy-gauge conduit thread)		
	Special design:	plug connection for line sockets as per DIN 43 650 A, 3-pin with protection contact		
Degree of protection	LGW A4	IP 54 as per IEC 529 (EN 60529), (transparent hood), optional IP 65		
Adjustment	Optionally adjustment for rising or falling pressure possible on site			
Setting tolerance	±15% switching point deviation referred to reference value, adjusted as pressure rises, vertical diaphragm position			

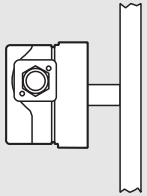
Dimensions [mm]

LGW... A4

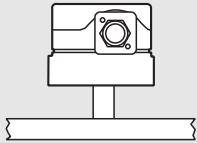
LGW... A4 / LGW...A4



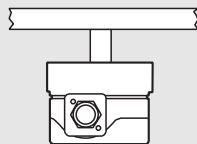
Installation position



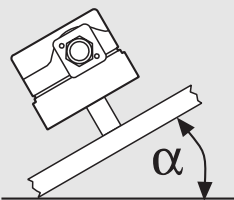
Standard installation position



When installed horizontally, the pressure switch switches at a pressure higher by approx. 0.5 mbar

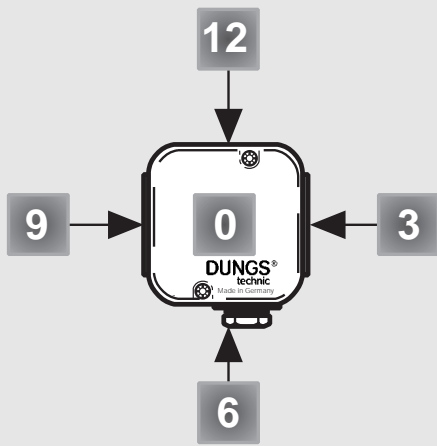


When installed horizontally overhead, the pressure switch switches at a pressure lower by approx. 0.5 mbar



When installed in an intermediate installation position, the pressure switch switches at pressure deviating from the set reference value by max. ± 0.5 mbar.

Designation



Order example

Pressure switch design

LGW A4 differential pressure switch

Setting range

30 - 150 mbar

Contact material

Ag fine silver (standard)

Electrical connection

PG screw union

Test nipple

MS 9

Pressure connection

At position 0

LGW 150 A4 [AG-PG 11-MS9-V0]

LGW 3 A4 [AG-PG-MS9-V0]

<p>Pressure connection V0 V3</p> <p>Screw plug VSO VS3</p> <p>Test nipple MS3 MS9 M9</p> <p>Electrical connection PG G 3</p> <p>Contact material Ag Au</p> <p>Setting ranges (mbar) 3 10 50 150</p> <p>Pressure switch design LGW ... A4 IP 54</p>	<p>Pressure connection G 1/4, G 1/8 Position 0 Pressure connection G 1/4, optional Position 3</p> <p>Screw plug at position 0 Screw plug at position 3</p> <p>Test nipple at position 3 Test nipple at position 9 Test nipple, open Position 9</p> <p>PG 11 cable gland (standard) Equipment plug</p> <p>Fine silver (standard) Gold-plated fine silver</p> <p>0,4 - 3 1 - 10 2,5 - 50 30 - 150</p> <p>Differential pressure switch switches if set reference value is exceeded or undershot.</p>
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Accessories for LGW A4 pressure switch

Order No.

Kit: G3 equipment plug, 3-pin + E	219 659
Kit: G2 equipment plug, 2-pin + E	219 660
Line sockets, 3-pin + E grey GDMW	210 318
Line sockets, 2-pin + E grey GDMW	210 317
G 1/4 test nipple and seal ring	022 335
G 1/4 screw plug and seal ring	087 858
Double pressure switch mounting kit	213 910
Metal mounting bracket	136 220
G 1/4 screw-in glands, only for air	083 410
G 1/8 screw-in glands, only for air	083 402

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Technical data

1 mbar = 100 Pa = 0.1 kPa ≈ 10 mm WS

1 Pa = 0.01 mbar ≈ 0.1 mm WS

Type	Version [Ag PG MS9 VS3 VO] Vertical installation position	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
LGW A4 Differential pressure switch	LGW 3 A4	221 590	0.4 - 3		≤ 0.3
	LGW 10 A4	221 591	1 - 10		≤ 0.5
	LGW 50 A4	221 592	2.5 - 50		≤ 1
	LGW 150 A4	221 593	30 - 150		≤ 3

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



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