

# Compact pressure switches for gas and air GW...A6 GW...A6/1

**DUNGS**<sup>®</sup>  
Combustion Controls

5.01



## Technical description

The pressure switch GW...A6 is an adjustable compact pressure switch according to EN 1854 for combustion plants.

The pressure switches are suitable for switch-on, switch-off and switch-over of an electric circuit at a variable pressure actual value, relative to the set desired value. The setpoint (switching point) is set on an adjusting wheel with scale. A test nipple is integrated in the metal housing as standard.

## Application

Pressure monitoring in combustion, ventilation and air-conditioning technologies.

Suitable for gases of families 1,2,3 and other neutral gaseous media.

## Approvals

EC type testing certificate as per:

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

Pressure switch class „S“ as per EN 1854.

Approvals in other important gas-consuming countries.

### Functional description

Single-acting pressure switch in over-pressure range.

The pressure switches operate without any power supply.

### Switching response

#### GW...A6

Short response time during pressure fluctuations.

#### GW...A6/1

Slow response time during short-term pressure fluctuations by additional damping nozzle.

### GW...A6 pressure switch

The control unit responds to pressure. If the setpoint is exceeded or undershot, the circuit is switched on, off or over.

### GW... / ...A6 double pressure switch

Combination of two flanged GW...A6 single pressure switches. The two setpoints are set separately and independently. A combination of different setpoint ranges is therefore possible. The two control units are fed from the same medium at the medium's pressure.

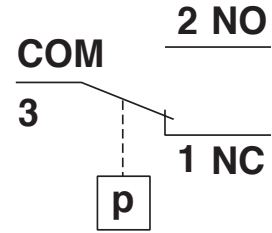
### Switching function

#### If pressure increases:

1 NC opens, 2 NO closes.

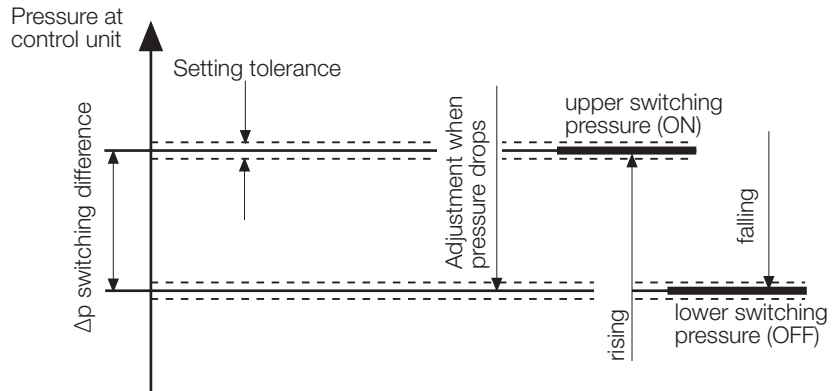
#### If pressure drops:

1 NC closes, 2 NO opens.



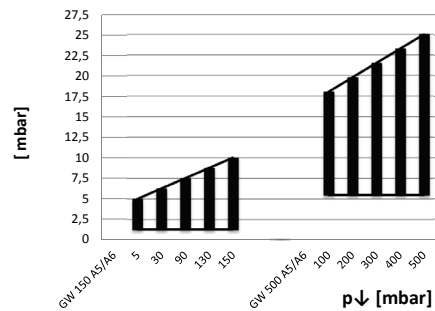
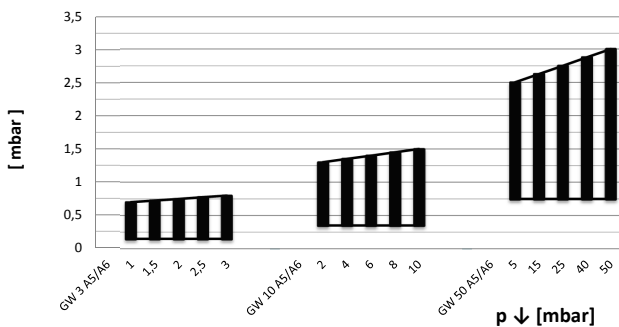
### Definition of $\Delta p$ switching difference

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



### Switching difference $\Delta p$ @ GW...A5/A6

Depending on the corresponding set value ( $p \downarrow$ )



## Specifications

Max. operating pressure	GW 3 A6 - GW 150 A6 GW 500 A6	500 mbar 600 mbar	(50 kPa) (60 kPa)
Pressure connection	Standard (V0): Special design (V3):	centrally on housing bottom, G 1/4 inner thread as per ISO 228 additionally G 1/4 inner thread (side right)	
Measuring connection	Test nipple integrated in metal housing $\varnothing 9$		
Temperature range	Ambient temperature Medium temperature Storage temperature	-15 °C to +70 °C -15 °C to +70 °C -30 °C to +80 °C	
Materials	Housing: Switch part: Diaphragms: Switching contact:	Aluminium die cast Polyamide NBR Ag	
Switching voltage	AC eff. min. 24 V DC min. 24 V	max. 250 V max. 48 V	
Nominal current	<b>GW 10...500 A6</b> AC eff. max. 10 A	<b>GW 3 A6</b> AC eff. max. 6 A	
Switching current	AC eff. max. 6 A at $\cos \varphi 1$ AC eff. max. 3 A at $\cos \varphi 0,6$ AC eff. min. 20 mA DC min. 20 mA DC max. 1 A	AC eff. max. 4 A at $\cos \varphi 1$ AC eff. max. 2 A at $\cos \varphi 0,6$ AC eff. min. 20 mA DC min. 20 mA DC max. 1 A	
Electrical connection	Terminal connection for line sockets as per DIN EN 175 301-803, 3-pin, protection-insulated without ground connection		
Degree of protection	IP 54 as per IEC 529 (EN 60529)		
Setting tolerance	$\pm 15\%$ switch point deviation referred to setpoint, adjusted for <b>dropping</b> pressure, vertical diaphragm position		
Deviation	Permissible deviation of the set value $\leq \pm 15\%$ in the service life test according to EN 1854		

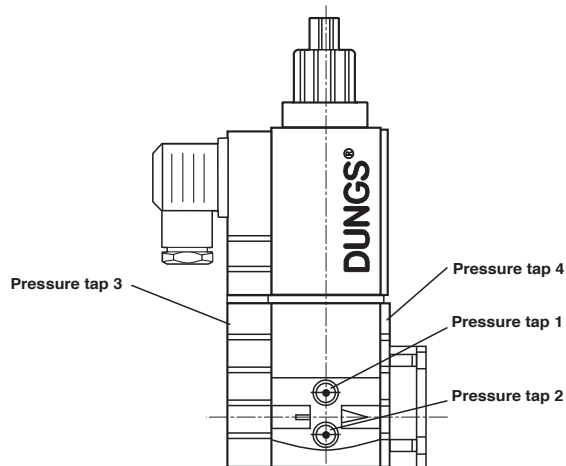
### Mounting options GW...A6

#### Safety solenoid valve

#### SV-... 505-520

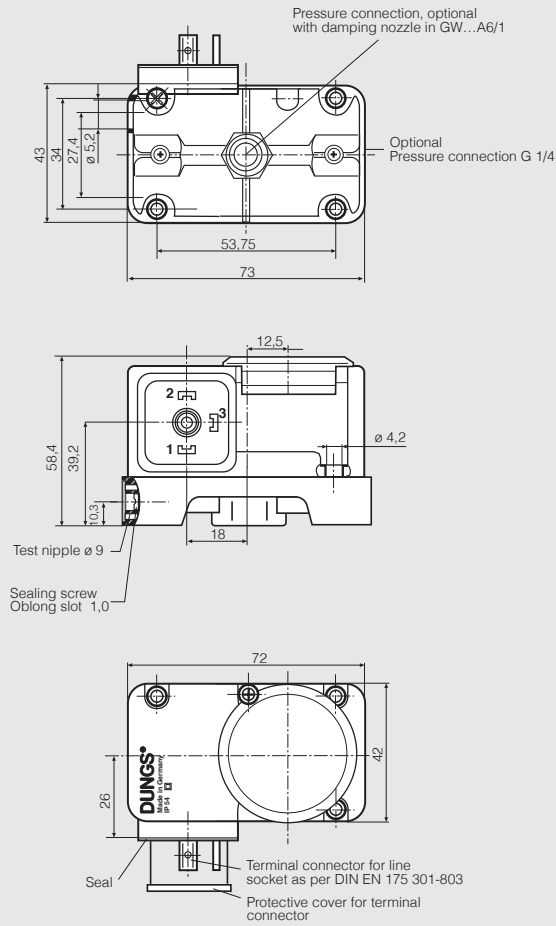
#### Pressure tap GW...A6 mounting possible ...

1	no
2	no
3	pe ( $p_1$ )
4	pa ( $p_2$ )

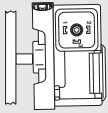


## Dimensions [mm]

GW ... A6, A6/1

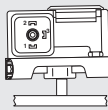


## Installation position

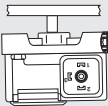


**Standard installation position; if a different installation position is used, pay attention to the changed operating points:**

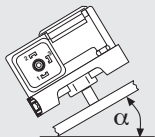
GW 3...50 A6	approx. $\pm 0,6$ mbar
GW 150 A6	approx. $\pm 1$ mbar
GW 500 A6	approx. $\pm 3$ mbar



**When installed horizontally, the pressure switch switches at a pressure higher.**

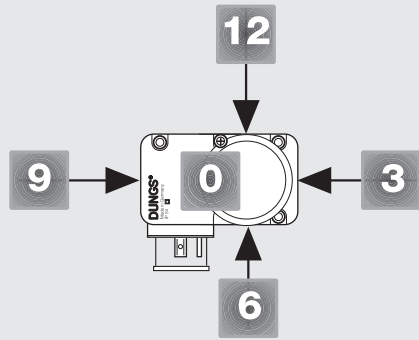


**When installed horizontally overhead, the pressure switch switches at a pressure lower.**



**When installed in an intermediate installation position, the pressure switch switches at pressure deviating from the set reference value.**

## Designation



## Order example

### Pressure switch design

Pressure switch GW...A6

### Setting range

0,5 - 15 kPa (5-150 mbar)

### Contact material

Ag

### Electrical connection

Equipment connector

### Pressure connection

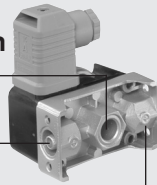
G 1/4 at position 0

### Test nipple

MS 9

### Sealing screw

At position 3



**GW 150 A6 [Ag-G3-MS9-V0-VS3]**

## GW 150 A6 [Ag-G3-MS9-V0-VS3]

<p><b>Pressure connection</b> V0 Pressure connection G 1/4 position 0 V3 Pressure connection G 1/4 position 3</p> <p><b>Sealing screw</b> VS0 Sealing screw at position 0 VS3 Sealing screw at position 3</p> <p><b>Test nipple</b> MS9 Test nipple at position 9</p> <p><b>Electrical connection</b> G3 Equipment connector, 3 pin protection-insulated, w/o grounding</p> <p><b>Contact material</b> Ag</p>	<p><b>Setting ranges</b></p> <table border="1"> <thead> <tr> <th></th> <th>[kPa]</th> <th>[mbar]</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1- 3</td> <td>1- 3</td> </tr> <tr> <td>10</td> <td>2- 10</td> <td>2- 10</td> </tr> <tr> <td>50</td> <td>5- 50</td> <td>5- 50</td> </tr> <tr> <td>150</td> <td>5-150</td> <td>5-150</td> </tr> <tr> <td>500</td> <td>100-500</td> <td>100-500</td> </tr> </tbody> </table>		[kPa]	[mbar]	3	1- 3	1- 3	10	2- 10	2- 10	50	5- 50	5- 50	150	5-150	5-150	500	100-500	100-500
	[kPa]	[mbar]																	
3	1- 3	1- 3																	
10	2- 10	2- 10																	
50	5- 50	5- 50																	
150	5-150	5-150																	
500	100-500	100-500																	
<p><b>Pressure switch design</b> GW...A6 Pressure switch switches when the setpoint is exceeded or undershot.</p> <p>GW...A6/1 Pressure switch with damping nozzle switches if the set value is exceeded or undershot</p>																			

## Accessories for GW A6 pressure switch

Line sockets, 3-pin + grounding, grey GDMW

210 318

Test nipple G 1/4 with sealing ring (1 x)

266 042

Sealing screw G 1/4 with sealing ring (1 x)

266 044

Mounting kit for double pressure switch

213 910

Mounting bracket, metal

230 288

Mounting kit GW...A6 (for fitting to SV)

242 771

**Compact pressure switches  
for gas and air  
GW...A6  
GW...A6/1**

**Double pressure switch  
GW... / ...A6**



**Short technical overview** 1 kPa = 10 mbar = 1000 Pa ≈ 100 mm WS

Type	Design [Ag-G3-MS9-V0]	Order number (1 piece)	Order number (80 pieces)	Setting range [mbar]	max.	Switching difference Δp [mbar]		
						p ↓ min.	p ↓ max.	
GW...A6 pressure switch	GW 3 A6	272 343	228 723	1 - 3	± 15 %		≤ 0,7	≤ 0,8
	GW 10 A6	272 620	228 724	2 - 10	± 15 %		≤ 1,3	≤ 1,5
	GW 50 A6	272 615	228 725	5 - 50	± 15 %		≤ 2,5	≤ 3
	GW 150 A6	272 616	228 726	5 - 150	± 15 %		≤ 5	≤ 10
	GW 500 A6	272 618	228 727	100 - 500	± 15 %		≤ 18	≤ 25

Type	Design [Ag-G3-MS9-V0-VS3]	Order number (1 piece)*	Order number (80 pieces)	Setting range [mbar]	max.	Switching difference Δp [mbar]		
						p ↓ min.	p ↓ max.	
GW...A6 pressure switch	GW 3 A6	231 111	229 958	1 - 3	± 15 %		≤ 0,7	≤ 0,8
	GW 10 A6	231 112	229 959	2 - 10	± 15 %		≤ 1,3	≤ 1,5
	GW 50 A6	231 113	229 960	5 - 50	± 15 %		≤ 2,5	≤ 3
	GW 150 A6	231 114	229 961	5 - 150	± 15 %		≤ 5	≤ 10
	GW 500 A6	231 115	229 962	100 - 500	± 15 %		≤ 18	≤ 25

\* including line socket

Type	Design [Ag-G3-MS9-V0-VS3]	Order number (1 piece)	Order number (80 pieces)	Setting range [mbar]	max.	Switching difference Δp [mbar]		
						p ↓ min.	p ↓ max.	
GW...A6/1 pressure switch	GW 50 A6/1	275 411	242 676	5 - 50	± 15 %		≤ 2,5	≤ 3
	GW 150 A6/1	275 412	242 677	5 - 150	± 15 %		≤ 5	≤ 10
	GW 500 A6/1	275 413	242 678	100 - 500	± 15 %		≤ 18	≤ 25

with damping nozzle 2x