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

**5.01**

DUNGS®
Combustion Controls




## 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

EU type testing certificate as per:
- EU-Gas Appliances Regulation
- EU-Pressure Equipment Directive

Pressure switch class „S“ as per EN 1854.

Approvals in other important gas-consuming countries.

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**Functional description**
Single-acting pressure switch in overpressure range.
The pressure switches operate without any power supply.

**Switching response**
**GW…A6**
Short response time during pressure fluctuations.

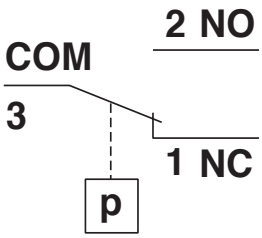
**GW…A6/1**
Slow response time during short-term pressure fluctuations by additional damping nozzle.

**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.

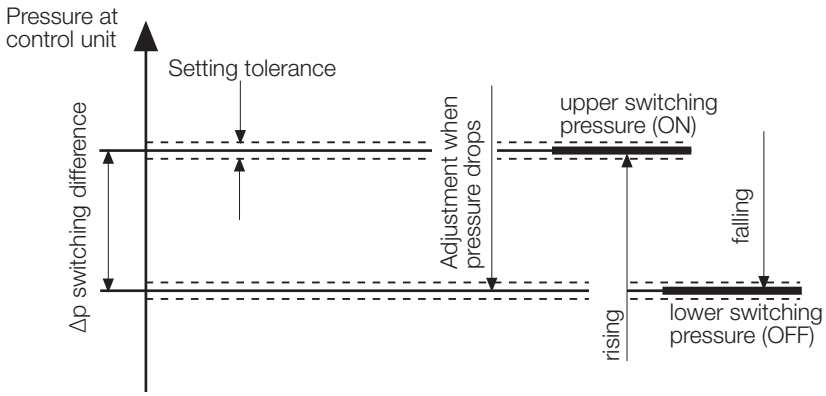
**GW… / …A6 double pressure switch**
Combination of two flanged GW... A6 single pressure switches. The two setpoints are set separately and independently. A combination of different setpoint ranges is therefore possible. The two control units are fed from the same medium at the medium's pressure.

**Switching function**

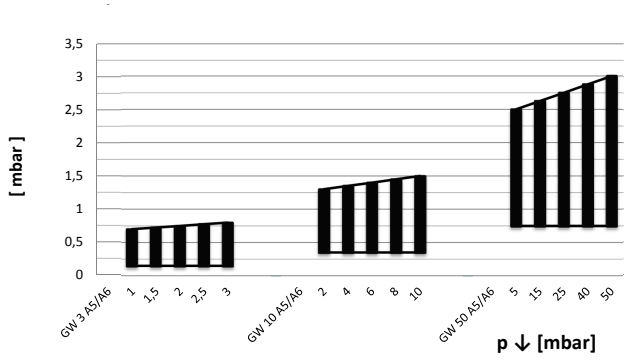
**If pressure increases:**
1 NC opens, 2 NO closes.
**If pressure drops:**
1 NC closes, 2 NO opens.

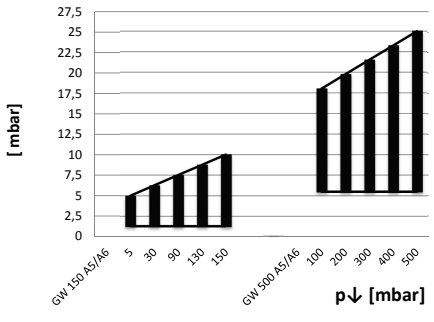



**Definition of Δp switching difference**
The Δp switching difference is the pressure difference between the upper and lower switching pressure.




**Switching difference Δp @ GW...A5/A6**
Depending on the corresponding set value (p↓)



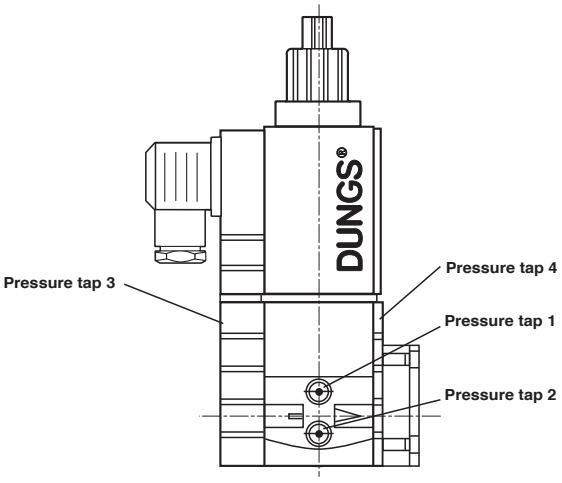



## Specifications

| | | |
|---|---|---|
| Max. operating pressure | GW 3 A6 - GW 150 A6 | 500 mbar (50 kPa) |
| | GW 500 A6 | 1000 mbar (100 kPa) |
| Pressure connection | Standard (V0): | centrally on housing bottom, G 1/4 inner thread as per ISO 228 |
| | Special design (V3): | additionally G 1/4 inner thread (side right) |
| Measuring connection | Test nipple integrated in metal housing ø9 | |
| Temperature range | Ambient temperature | -15 °C to +70 °C |
| | Medium temperatue | -15 °C to +70 °C |
| | Storage temperature | -30 °C to +80 °C |
| Materials | Housing: | Aluminium die cast |
| | Switch part: | Polyamide |
| | Diaphragms: | NBR |
| | Switching contact: | Ag |
| Switching voltage | AC eff. min. 24 V | max. 250 V |
| | DC min. 24 V | max. 48 V |
| Nominal current | **GW 10…500 A6**<br>AC eff. max.10 A | **GW 3 A6**<br>AC eff. max. 6 A |
| Switching current | AC eff. max.6 A at cos φ 1<br>AC eff. max.3 A at cos φ 0,6<br>AC eff. min. 20 mA<br>DC min. 20 mA<br>DC max. 1 A | AC eff. max. 4 A at cos φ 1<br>AC eff. max. 2 A at cos φ 0,6<br>AC eff. min. 20 mA<br>DC min. 20 mA<br>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 | ± 15% switch point deviation referred to setpoint, adjusted for **dropping** pressure, vertical diaphragm position | |
| Deviation | Permissible deviation of the set value ≤ ± 15 % in the service life test according to EN 1854 | |

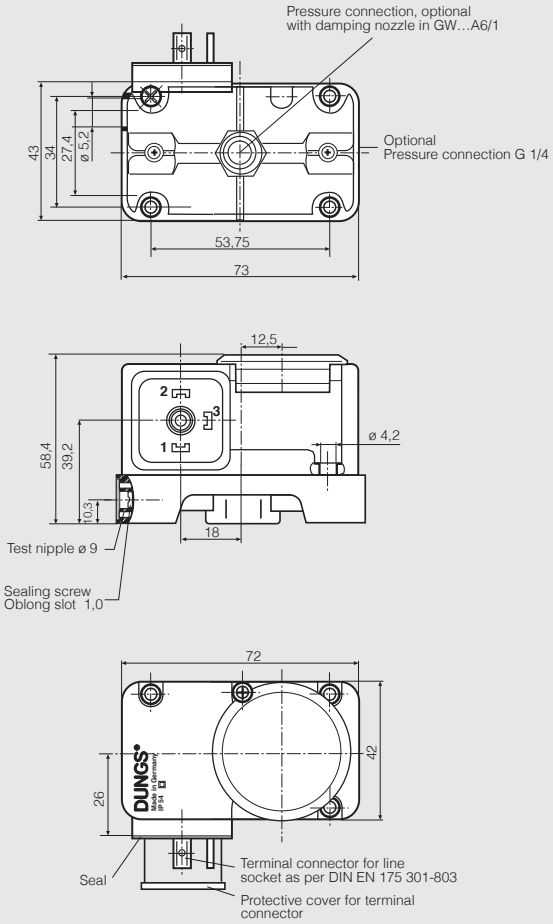
**Mounting options GW…A6**
**Safety solenoid valve**
**SV-… 505-520**

| Pressure tap | GW…A6 mounting possible … |
|---|---|
| 1 | no |
| 2 | no |
| 3 | pe ($p_1$) |
| 4 | pa ($p_2$) |

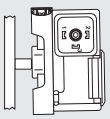


## Dimensions [mm]

**GW … A6, A6/1**




## Installation position

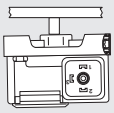


**Standard installation position; if a different installation position is used, pay attention to the changed operating points:**

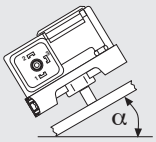
| | |
|---|---|
| **GW 3…50 A6** | **approx. ± 0,6 mbar** |
| **GW 150 A6** | **approx. ± 1 mbar** |
| **GW 500 A6** | **approx. ± 3 mbar** |



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

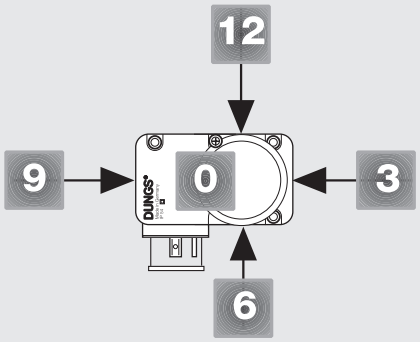


**When installed horizontally overhead, the pressure switch switches at a pressure lower.**



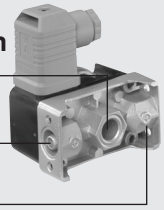

**When installed in an intermediate installation position, the pressure switch switches at pressure deviating from the set reference value.**

## 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]

**Pressure connection**
V0 Pressure connection G 1/4 position 0
V3 Pressure connection G 1/4 position 3

**Sealing screw**
VS0 Sealing screw at position 0
VS3 Sealing screw at position 3

**Test nipple**
MS9 Test nipple at position 9

**Electrical connection**
G3 Equipment connector, 3 pin protection-insulated, w/o grounding

**Contact material**
Ag

**Setting ranges**

| | [kPa] | [mbar] |
|---|---|---|
| 3 | 0.1- 0,3 | 1- 3 |
| 10 | 0.2- 1 | 2- 10 |
| 50 | 0.5- 5 | 5- 50 |
| 150 | 0.5-15 | 5-150 |
| 500 | 10.0-50 | 100-500 |

**Pressure switch design**
GW...A6 Pressure switch switches when the setpoint is exceeded or undershot.

GW...A6/1 Pressure switch with damping nozzle switches if the set value is exceeded or undershot

## 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**

DUNGS®
Combustion Controls

**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 | – | 1 - 3 | ± 15 % | ≤ 0,7 | ≤ 0,8 |
| | GW 10 A6 | 231 112 | – | 2 - 10 | ± 15 % | ≤ 1,3 | ≤ 1,5 |
| | GW 50 A6 | 231 113 | – | 5 - 50 | ± 15 % | ≤ 2,5 | ≤ 3 |
| | GW 150 A6 | 231 114 | – | 5 - 150 | ± 15 % | ≤ 5 | ≤ 10 |
| | GW 500 A6 | 231 115 | – | 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

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

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