Pressure switch for gas, air, flue gases and combustion products

GW 500 A4
GW 500 A4/2

5.09

DUNGS®
Combustion Controls

Technical description
The GW…A4 pressure switch is an adjustable pressure switch as per EN 1854 (GW 6000 A4 as per DIN 3398T3) for burners.
It is suitable for closing, opening or switching over a current circuit when the actual pressure value deviates from the specified pressure setpoint. The specified pressure setpoint (operating point) is set at a setting wheel using a scale.

Application
Pressure monitoring in burner control systems
Suitable for gases of gas families 1,2,3 and other neutral gaseous media, as well as air, flue gases and combustion products.

GW 500 A4: Free of non-ferrous metals, suitable for gases up to max. 0.1 % by vol. H_2S, dry.

Approvals
EU type test approval as per EC Gas Appliance Directive:

GW…A4	CE-0085 AO 3220

EU type test approval as per EC Pressure Equipment Directive:

GW…A4	CE0036

Approvals in other important gas-consuming countries.

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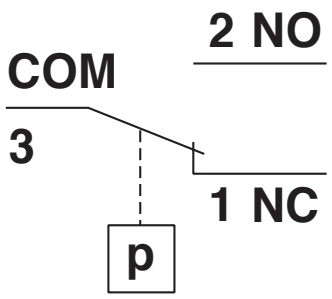
Functional
Pressure switch for applications involving excess pressure.
GW 500 A4
The pressure switch acts via a rubber diaphragm against the force of the setting spring on the micro-switch.

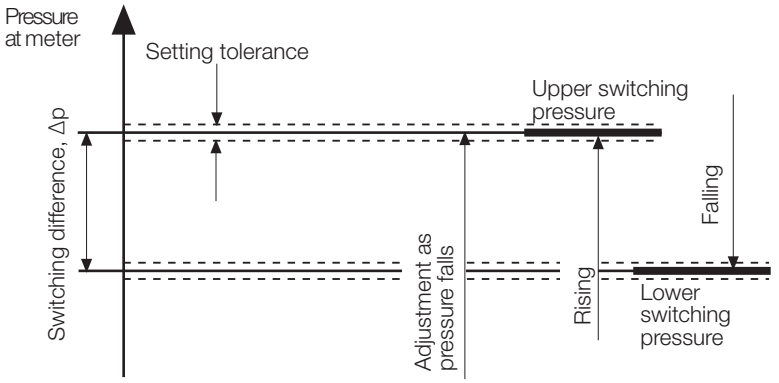
Pressure switch GW…A4
The switching mechanism reacts to overpressure and closes, opens or switches over a current circuit when the specified pressure setpoint is overshot or undershot.

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.



GW…A4, Design: Clear cover
Degree of protection IP 54

IP 54

5 Protection against ingress of solid particles ø ≥ 1 mm
Protection against access to hazardous parts with a wire, ø ≥ 1 mm
Complete contact protection

4 Protection against a water jet.
No hazardous conditions may result.

LGW…A4/2, Design: Metal housing
Protection class: IP 65

IP 65

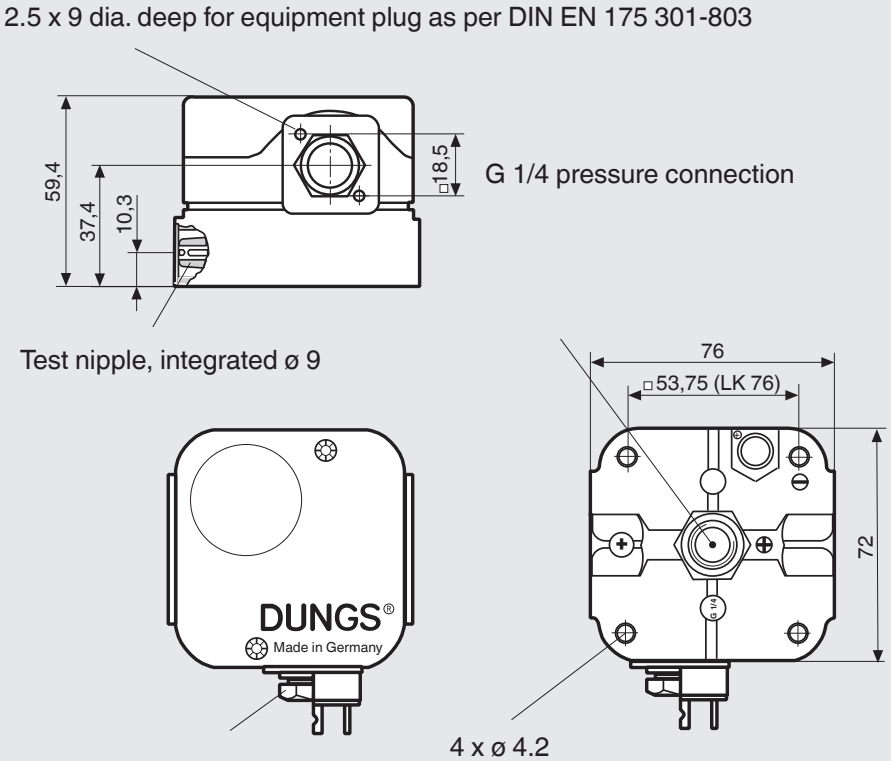
6 Protection against the entry of dust (dust sealed).
Protection against access to hazardous parts using ø ≥ 1 mm wire
Complete contact protection

5 Protection against a water jet from a nozzle directed at the unit (housing) from any directions
No hazardous conditions may result (water jet).

Specifications

Max. Betriebsdruck	GW 500 A4	600 mbar (60 kPa)		
Pressure connection	p+: centrally on underside of housing, G 1/4 internal thread to ISO 228: **Gas or air** Special version: additional G 1/4 internal thread at side			
Temperature range	Ambient temperature	-15 °C to +70 °C		
	Medium temperature	-15 °C to +70 °C		
	Storage temperature	-30 °C to +80 °C		
Materials	**GW…A4**			
	Housing lower section	aluminium die casting		
	Switch	Polycarbonat		
	Switching contact	Standard: Silber (Ag) Optional: gold-plated (Au) silver, suitable for DDC applications: DC 24 V; 0.02 A		
	Diaphragm	NBR		
	Hood	polycarbonate		
	GW…A4			
	Housing lower section	aluminium die casting		
	Switch	Polycarbonat		
	Switching contact	Standard: Silber (Ag) Optional: gold-plated (Au) silver, suitable for DDC applications: DC 24 V; 0.02 A		
	Diaphragm	NBR		
	Hood	Extrusion cast zinc, powder-coated		
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.	10 A	
	Au contact	DC	20 mA	
Switching current	Ag contact	AC eff.	min. 20 mA	max. 6 A with cos φ 1
		AC eff.		max. 3 A with cos φ 0,6
		DC	min. 20 mA	max. 1 A
	Au contact	DC	min. 5 mA	max. 20 mA
Electrical connection	Standard:	at screw terminals via cable gland, M20x1.5		
	Special version:	plug connection for line sockets as per DIN EN 175 301-803, 3-pin with protection contact		
Degree of protection	GW…A4	IP 54 to IEC 529 (EN 60529), (clear hood)		
	GW…A4/2	IP 65 as per IEC 529 (EN 60529), (metal housing)		
Adjustment	With rising pressure and installed in a vertical position. Optional rising or dropping pressure adjustment on-site possible. Note switch point change if installation position changes.			
Setting tolerance	±15% switch point deviation based on the setpoint and with unit installed in a vertical position			

Dimensions [mm]
GW 500 A4



Installation position

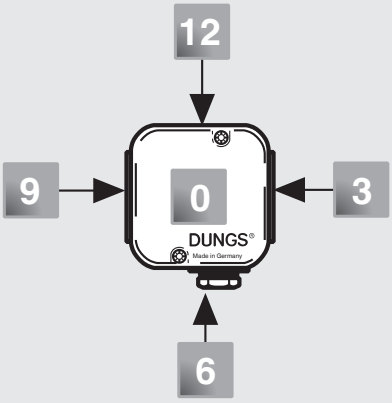
Standard installation position; if a different installation position is used, pay attention to the changed operating points:
GW 500 A4 ca. ± 5 mbar

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 at an intermediate position, the pressure switch responds if there is maximum upper or lower pressure deviation w.r.t. the set pressure reference value.

Designation



GW 500 A4 **Ag-M-MS9-V0-VS3**

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

Verschlußschraube
VS0 Verschlußschraube an Position 0
VS3 Verschlußschraube an Position 3

Pressure connection
V0 Pressure connection G 1/4 position 0

Meßstutzen nur GW 500 A4 (600 mbar)
MS3 Meßstutzen an Position 3
MS9 Meßstutzen an Position 9
M9 Meßstutzen, offen. Position 9

Electrical connection
M Cable gland M20 x 1,5
G 3 Equipment plug

Contact material
Ag silver
Au silver, gold-plated

Adjustment ranges [mbar]
GW 500 A4 100-500

Pressure switch type
GW…A4 Clear cover, PC, (IP 54) Pressure switch switches when the pressure exeeds or drops below the adjusted setpoint.

GW…A4/2 Metal housing, powder-coated (IP 65) Differential pressure switch switches when the pressure exeeds or drops below the adjusted setpoint.

Ordering example

Pressure switch design
Pressure switch GW A4
Adjustment range
100 - 500 mbar
Contact material
Ag
Electrical connection
Cable gland M20 x 1.5
G 1/4 pressure connection
V0; at position 0

GW 500 A4 [Ag-M-V0]

Accessories for pressure switches GW…A4	Order No.
Kit: G3 equipment plug, 3-pin + E for GW…A4	219 659
Line sockets, 3-pin + E grey GDMW for GW…A4,GW…A4/2	210 318
Fluorescent lamp assembly kit 230 V yellow	231 773
Fluorescent lamp assembly kit 120 V yellow	231 772
Display LED assembly kit 24 V yellow	231 774
Fluorescent lamp assembly kit 230 V green	248 239
Display LED assembly kit 24 V green	248 240
Test nipple G 1/4 with ring seal (5 x)	230 398
Screw plug G 1/4 with ring seal (5 x)	230 396
Double pressure switch assembly kit (not for /2-version)	213 910
Mounting bracket, metal	230 288

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Technical overview 1 mbar = 100 Pa = 0,1 kPa ≈ 10 mm WS 1 Pa = 0,01 mbar ≈ 0,1 mm WS

Type	Version [Ag-M-MS9-V0]	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
GW 500 A4 Pressure switch	GW 500 A4	157 060	100-500	IP 54	≤ 10
Supplied in colletive packaging					

Type	Version [Ag-M-MS9-V0-VS3]	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
GW 500 A4 Pressure switchr	GW 500 A4	221 201	100-500	IP 54	≤ 10
Supplied in colletive packaging					

Type	Version [Ag-G3-MS9-V0-Ag]	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
GW 500 A4 Pressure switch	GW 500 A4	218 270	100-500	IP 54	≤ 10
Supplied in colletive packaging					

Type	Version [Ag-M-MS9-V0-VS3]	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
GW 500 A4/2 Pressure switch	GW 500 A4	237 804	100-500	IP 65	≤ 10
Supplied in separate packaging					

Type	Version [Ag-G3-MS9-V0-VS3]	Order No.	Setting range [mbar]	Degree of protection	Differential pressure switch Δp [mbar]
GW 500 A4/2 Pressure switch	GW 500 A4	238 572	100-500	IP 65	≤ 10
Supplied in separate packaging					

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

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