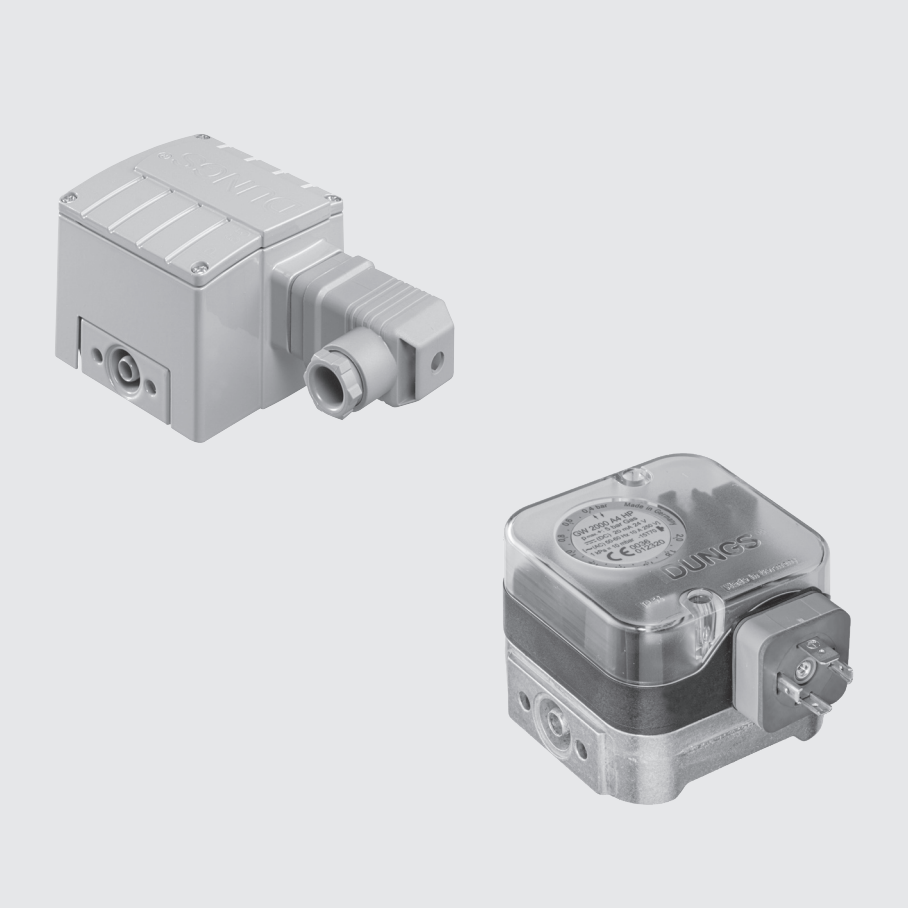
High-pressure switch for gas, air, flue gases and combustion products

GW…A4 HP
GW…A4/2 HP

DUNGS®
Combustion Controls

5.04



Technical description
The GW…A4 HP 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.

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

Approvals in other important gas-consuming countries.

Printed in Germany • Edition 01.21 • Nr. 241 654

Functional
Pressure switch for applications involving excess pressure.

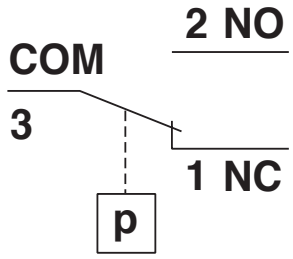
GW…A4 HP
The pressure counteracts the force of the setting spring on the micro-switch via the metal bellows. The pressure switch does not require power assistance.

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

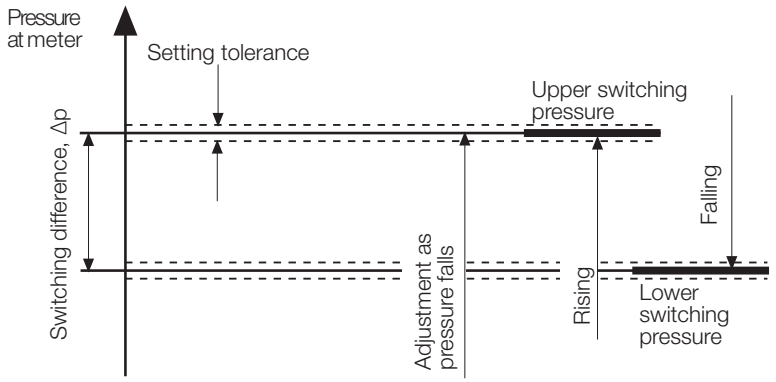
All gas-carrying parts are made of 1.4541 stainless steel and, therefore, are suitable for:
- applications involving operating pressures greater than 600 mbar
- aggressive media such as sulphuric acid up to a concentration of 1.0 % by vol., humid
- fluids (on request)

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.

GW…A4, Design: Metal housing
Degree of protection IP 65

IP 65

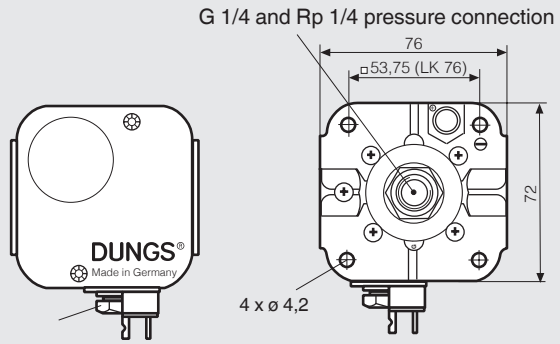
6 Protection against the entry of dust (dust sealed).
Protection against access to hazardous parts with a wire, ø ≥ 1 mm
Complete contact protection

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. operating pressure	GW 500 A4 HP	p_{max} = 2 bar (gas) @ setting range 0.1 - 0.15 bar p_{max} = 5 bar (gas) @ setting range 0.15 - 0.5 bar		
	GW 2000 A4 HP GW 6000 A4 HP	p_{max} = 5 bar (gas) p_{max} = 8 bar (gas)		
Pressure connection	p+: centrally on underside of housing internal thread G 1/4 and Rp 1/4, **Gas or air**			
Temperature range	Ambient temperature Medium temperature Storage temperature	-15 °C to +70 °C -15 °C to +70 °C -30 °C to +80 °C		
Materials	**GW…A4 HP** Housing lower section Switch Switching contact Metal bellows Hood **GW…A4/2 HP** Hood	 aluminium die casting polycarbonate standard: silver gold-plated (Au), suitable for DDCapplications: DC 24 V; 0,02 A 1.4541 (stainless steel) polycarbonate die cast zinc, powder coated		
Switching voltage	 DDC application:	AC eff. DC DC	min. 24 V min. 24 V min. 5 V	max. 250 V max. 48 V max. 24 V
Nominal current	 DDC application:	AC eff. DC max.	10 A 20 mA	
Switching current	 DDC application:	AC eff. AC eff. DC DC	min. 20 mA min. 20 mA min. 5 mA	max. 6 A with cos φ 1 max. 3 A with cos φ 0,6 max. 1 A max. 20 mA
Electrical connection	Plug connection for line sockets as pert DIN EN 175 301-803, 3-pin with protection contact			
Degree of protection	GW…A4 HP GW…A4/2 HP	IP 54 to IEC 529 (EN 60529), (clear hood) IP 65 to 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			
Deviation	Permissible deviation of the set value ≤ ± 15 % in the service life test according to EN 1854			

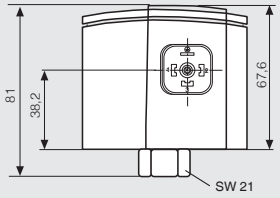
Dimensions [mm]
GW…A4 HP



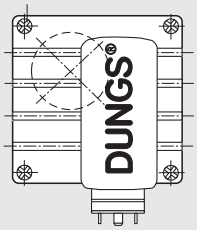
M20 x 1.5 or plug-type
connection for
cable socket according to DIN EN 175 301-803

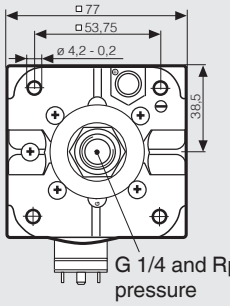
GW…A4/2 HP IP 65

with metal housing, plug-in connection for sockets
in according to DIN EN 175 301-803



4 self-tapping cylinder bolts
M3 x 14
slot 0.8 and cross slot to
DIN 7962-Z2





G 1/4 and Rp 1/4
pressure
connection gas or air

SW = Wrench width

Installation position

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

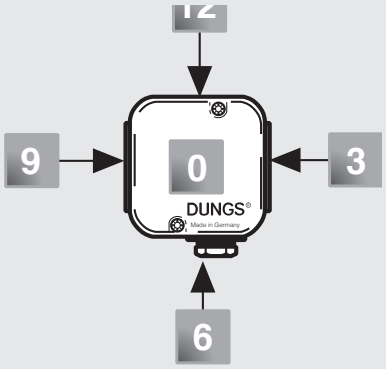
GW 500 A4	**HP**	**ca. ± 0,010 bar**
GW 2000 A4	**HP**	**ca. ± 0,020 bar**
GW 6000 A4	**HP**	**ca. ± 0,080 bar**

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

When installed horizontally overhead, the pressure switch switches at a pressure lowe

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 HP Au-G3-V0

Pressure connection
V0 Pressure connection G 1/4 position 0

Electrical connection
G 3 Equipment plug

Contact material
Au silver, gold-plated

Version
HP High-pressure

Adjustment ranges [bar]
GW 500 A4 0,1 - 0,5
GW 2000 A4 0,4 - 2,0
GW 6000 A4 1,0 - 6,0

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

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

Ordering example

Pressure switch design
Pressure switch GW…A4 HP
Adjustment range
0.1 - 0.5 bar
Contact material
Au
Electrical connection
G3 equipment plug
G 1/4 pressure connection
V0; at position 0

GW 500 A4 HP [Au-M-V0]

Accessories for pressure switches GW…A4 HP	**Bestell-Nr.**
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

High-pressure switch for gas, air, flue gases and combustion products

GW…A4 HP
GW…A4/2 HP

DUNGS®
Combustion Controls

Technical overview 1 bar = 1000 mbar = 100 kPa ≈ 10000 mm WS

Type	Version [Au-G3-V0]	Order No. 1 piece	Setting range [bar] ± 15 %	p_{max} [bar]	Degree of protection	Differential pressure switch Δp [bar] p ↑min.	p ↑max.
GW…A4 HP Pressure switch	GW 500 A4 HP	254 285	0.1 - 0.5	2 @ 0.1 - 0.15 bar 5 @ 0.15 - 0.5 bar	IP 54	≤ 0,03	≤ 0,03
	GW 2000 A4 HP	254 286	0.4 - 2.0	5	IP 54	≤ 0,05	≤ 0,10
	GW 6000 A4 HP	254 287	1.0 - 6.0	8	IP 54	≤ 0,30	≤ 0,30
with line socket							

Type	Version [Au-G3-V0]	Order No. 1 piece	Setting range [bar] ± 15 %	p_{max} [bar]	Degree of protection	Differential pressure switch Δp [bar] p ↑min.	p ↑max.
GW…A4/2 HP Pressure switch	GW 500 A4/2 HP	254 282	0.1 - 0.5	2 @ 0.1 - 0.15 bar 5 @ 0.15 - 0.5 bar	IP 65	≤ 0,03	≤ 0,03
	GW 2000 A4/2 HP	254 283	0.4 - 2.0	5	IP 65	≤ 0,05	≤ 0,10
	GW 6000 A4/2 HP	254 284	1.0 - 6.0	8	IP 65	≤ 0,30	≤ 0,30
with line socket							

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
Telefon +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