Differential pressure switches for air, flue and exhaust gases

GGW…A4
GGW…A4-U
GGW…A4/2
GGW…A4-U/2

5.03

DUNGS®

Technical description
The differential pressure switch GGW…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.

Applications
Differential pressure switch in furnace, ventilation, and air conditioning applications.
Differential pressure switch: Suitable for employment with gas family 1, 2, 3, and other, neutral, gaseous media as well as air, smoke and exhaust gases.

Certifications
EC type test approval as per EC Gas Applicance Directive:

GGW…A4… CE-0085 AO 3220

EC type test approval as per EC Pressure Equipment Directive:

GGW…A4… CE0036

Approvals in other important gas-consuming countries.

TÜV (German Technical Inspectorate) inspection for pressure switches of special construction as per TRD 604 and VdTÜV Technical Data Sheet, edition 100/1, as well as Class "S" as per EN 1854.

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Function
Differential pressure switch operating in the over- and under-pressure ranges. The differential pressure acts on the membrane, pressing it against the force of the adjusting spring and against the microswitch. The pressure switch operates without outside power.

Differential pressure switch GGW…A4 and GGW…A4-U
The switching apparatus reacts to the difference in pressure between the two pressure chambers and, if the pressure exceeds or drops below the setpoint, activates or switches an electrical circuit.

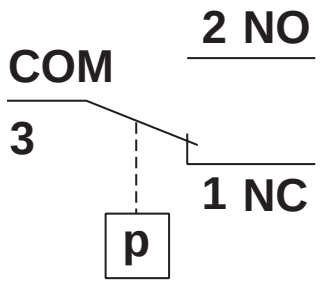
Unit selection
If the lower pressure is p_2 (upper chamber) excess pressure with respect to the atmosphere exists type GGW…A4 must be employed.
If the lower pressure is p_2 (upper chamber), and lower pressure with respect to the atmosphere exists type GGW…A4-U must be employed.

Overpressure switch GGW...A4 Pressure connection G 1/4
The switching mechanism responds if there is an overpressure which switches on, off or over to an electric circuit if the set reference value is exceeded or undershot.
Single-acting pressure switch in the overpressure range. The vent plug G 1/8 may not be closed.

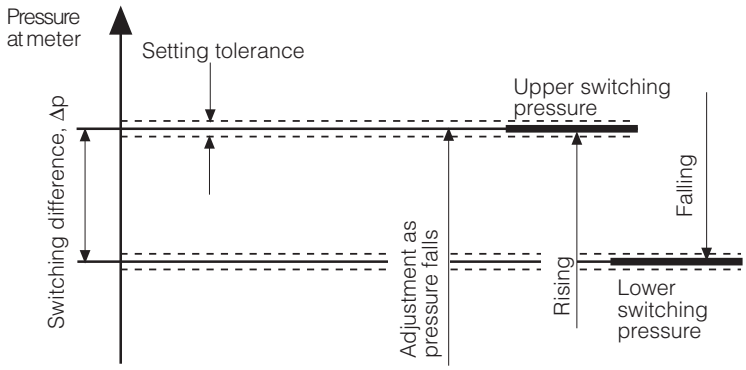
Low pressure switch GGW...A4-U Pressure connection G 1/8
The switching mechanism responds if there is a low pressure which switches on, off or over to an electric circuit if the set reference value is exceeded or undershot.
Single-acting pressure switch in the low pressure range. The vent plug G 1/4 may not be closed.

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.



GGW…A4, Design: Clear cover
Protection class: IP 54

IP 54
5 Protection against ingress of solid particles ø ≥ 1 mm.
Protection against access to hazardous parts using ø ≥ 1 mm wire
Complete contact protection
4 Protection against a water jet.
No hazardous conditions may result.

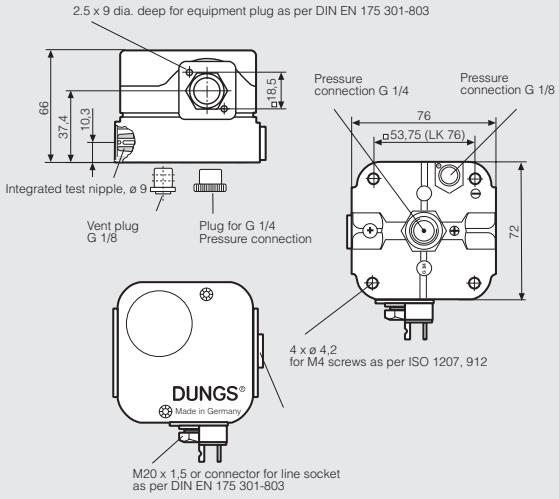
GGW…A4/2, Design: Metal housing
Protection class: IP 65

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).

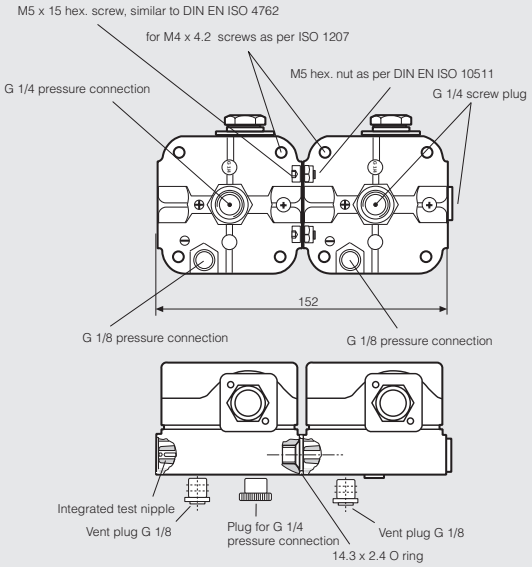
Technical specifications

Max. operating pressure	GGW 3 A4	- GGW 150 A4	500 mbar (50 kPa)	
	GGW 3 A4/2	- GGW 150 A4/2	500 mbar (50 kPa)	
	GGW 3 A4-U	- GGW 150 A4-U	-500 mbar (-50 kPa)	
	GGW 3 A4-U/2	- GGW 150 A4-U/2	-500 mbar (-50 kPa)	
Pressure connection	P+: In the center of the underside of the housing, G 1/4 internal thread in accord. with ISO 228: **Gas or air.**			
	P+: On the side of the housing with closure screw, G 1/4: **Gas or air**			
	P-: On the side of the underside of the housing, G 1/8 internal thread in accord. with ISO 228: **Gas or air.**			
Metering connection	Metering connection tube integrated into the metal housing, ø 9			
Temperature range	Ambient temperature	-15 °C to +70 °C		
	Medium temperature	-15 °C to +70 °C		
	Storage temperature	-30 °C to +80 °C		
Materials	**GGW…A4**			
	Housing base	aluminium die casting		
	Cover	Polycarbonate		
	Switch portion	Polycarbonate		
	Membrane	NBR		
	Switch contact	Standard: fine silver (Ag)		
		Optional: gold-plated fine silver(Au)		
		suitable for DDC applications: 24 VDC; 0.01 A		
	GGW…A4/2			
	Housing base	aluminium die casting		
	Cover	Zinc diecast, powder-coated		
	Switch portion	Polycarbonate		
	Membrane	NBR		
	Switch contact	Standard: fine silver (Ag)		
		Optional: gold-plated fine silver(Au)		
		suitable for DDC applications: 24 VDC; 0.01 A		
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 cos φ 1
		AC eff.	min. 20 mA	max. 3 A cos φ 0,6
		DC	min. 20 mA	max. 1 A
	Au contact	DC	min. 5 mA	max. 10 mA
	The electrical breaking capacity was inspected in accordance with DIN 1854 point 8.5.3 and point 7.5.2.1.			
Electrical connection	Standard	at screw terminals via cable gland, M20 x 1,5		
	Special design	plug connection for line sockets as per DIN EN 175 301-803, 3-pin with protection contact		
Degree of protection	GGW…A4	IP 54 in accord. with IEC 529 (EN 60529), (clear cover).		
	GGW…A4/2	IP 65 in accord. with 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.			
Adjustment tolerance	± 15% switch point deviation based on the setpoint and with unit installed in a vertical position			

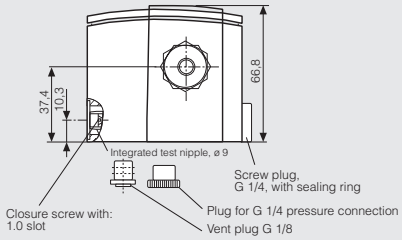
Dimensions [mm]
GGW…A4
GGW…A4-U

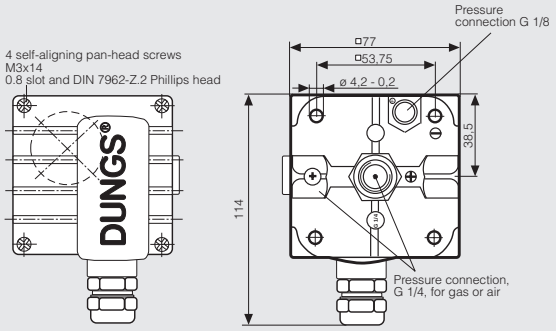


GGW…A4 / GGW…A4

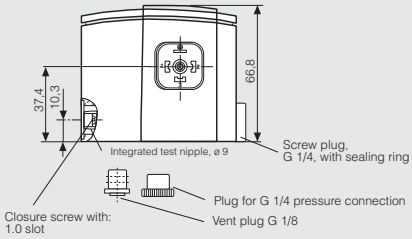


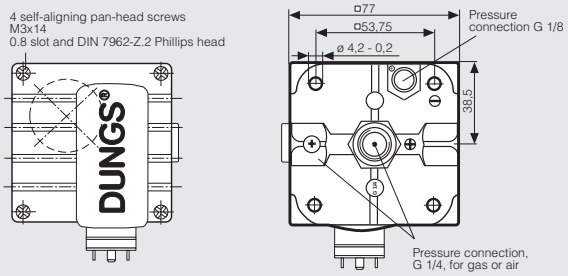
GGW…A4/2
with metal housing,
cable gland M 20 x 1.5



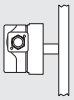


GGW…A4/2
with metal housing, plug-in connection for sockets in accord. with DIN EN 175 301-803





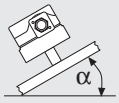
Installation position



Standard installation position

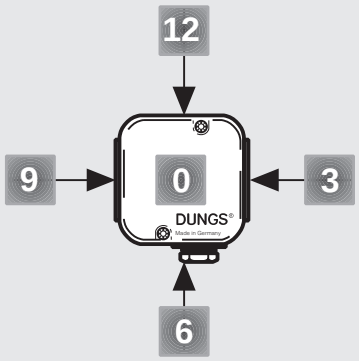
When installed horizontally, the pressure switch switches at a pressure higher by approx. 0.5 mbar

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



GGW 150 A4 [Ag-M-MS9-V0-VS3]

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

screw plug
- VS0 — screw plug at position 0
- VS3 — screw plug at position 3

Test nipple
- MS3 — Test nipple at position 3
- MS9 — Test nipple at position 9
- M9 — Test nipple, open position 9

Electrical connection
- M — M20 x 1.5 cable gland (standard)
- G3 — Device connector

Contact material
- Ag — Fine silver (standard)
- Au — Gold plated fine silver

Adjustment ranges [mbar]
- 0,4 - 3
- 1 - 10
- 2,5 - 50
- 30 - 150

Pressure switch design
- GGW…A4 — Clear cover PC, (IP54) Differential pressure switches when the pressure exceeds or drops below the adjusted setpoint (positive pressure).
- GGW…A4/2 — Metal housing powder-coated, (IP 65) Differential pressure switches when the pressure exceeds or drops below the adjusted setpoint (positive pressure).
- GGW…A4-U — Clear cover PC, (IP54) Differential pressure switches when the pressure exceeds or drops below the adjusted setpoint (negative pressure).
- GGW…A4-U/2 — Metal housing powder-coated, (IP 65) Differential pressure switches when the pressure exceeds or drops below the adjusted setpoint (negative pressure).

Ordering example

Pressure switch design
Differential pressure switch GGW A4
Adjustment range
30 – 150 mbar
Contact material
Ag, fine silver (standard)
Electrical connection
Cable gland M20 x 1,5
Metering connection
MS 9
Pressure connection G1/4
V0-VS3: at position 0 and position 3 with screw plug

GGW 150 A4 [Ag-M-MS9-V0-VS3]

Accessories for pressure switch GGW A4	**Order No.**
Kit: G3 equipment plug, 3-pin + E	219 659
Line sockets, 3-pin + E grey GDMW	210 318
G 1/4 test nipple and seal ring (5 x)	230 398
G 1/4 screw plug and seal ring (5 x)	230 396
Double pressure switch mounting kit	213 910
Metal mounting bracket	230 288
Glowlamp mounting kit, 230 V	231 773
Glowlamp mounting kit, 120 V	231 772
Signal lamp mounting kit, 24 V	231 774

Differential pressure switches for gas, air, flue and exhaust gases

GGW…A4
GGW…A4-U
GGW…A4/2
GGW…A4-U/2

DUNGS®

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

Model	Version [Ag-M-MS9-V0-VS3]	Order number	Setting range [mbar]		Degree of protection	Differential pressure switch Δp [mbar]
GGW…A4	GGW 3 A4	232 108	0,4 - 3		IP 54	≤ 0,3
Differential	GGW 10 A4	232 109	1 - 10		IP 54	≤ 0,5
pressure switch	GGW 50 A4	232 110	2,5 - 50		IP 54	≤ 1
(positive pressure)	GGW 150 A4	232 111	30 - 150		IP 54	≤ 3
GGW…A4-U	GGW 3 A4-U	232 991	-0,4 - -3		IP 54	≤ 0,3
Differential	GGW 10 A4-U	232 992	-1 - -10		IP 54	≤ 0,5
pressure switch	GGW 50 A4-U	232 993	-2,5 - -50		IP 54	≤ 1
(negative pressure)	GGW 150 A4-U	232 994	-30 - -150		IP 54	≤ 3

Supplied in separate packaging

Model	Version [Ag-M-MS9-V0-VS3]	Order number	Setting range [mbar]		Degree of protection	Differential pressure switch Δp [mbar]
GGW…A4/2	GGW 3 A4/2	232 112	0,4 - 3		IP 65	≤ 0,3
Differential	GGW 10 A4/2	232 113	1 - 10		IP 65	≤ 0,5
pressure switch	GGW 50 A4/2	232 114	2,5 - 50		IP 65	≤ 1
(positive pressure)	GGW 150 A4/2	232 115	30 - 150		IP 65	≤ 3
GGW…A4-U/2	GGW 3 A4-U/2	232 995	-0,4 - -3		IP 65	≤ 0,3
Differential	GGW 10 A4-U/2	232 996	-1 - -10		IP 65	≤ 0,5
pressure switch	GGW 50 A4-U/2	232 997	-2,5 - -50		IP 65	≤ 1
(negative pressure)	GGW 150 A4-U/2	232 998	-30 - -150		IP 65	≤ 3

Supplied in separate packaging

Model	Version [Ag-G3-MS9-V0-VS3]	Order number	Setting range [mbar]		Degree of protection	Differential pressure switch Δp [mbar]
GGW…A4/2	GGW 3 A4/2	232 720	0,4 - 3		IP 65	≤ 0,3
Differential	GGW 10 A4/2	232 722	1 - 10		IP 65	≤ 0,5
pressure switch	GGW 50 A4/2	232 723	2,5 - 50		IP 65	≤ 1
(positive pressure)	GGW 150 A4/2	232 724	30 - 150		IP 65	≤ 3
GGW…A4-U/2	GGW 3 A4-U/2	232 999	-0,4 - -3		IP 65	≤ 0,3
Differential	GGW 10 A4-U/2	233 000	-1 - -10		IP 65	≤ 0,5
pressure switch	GGW 50 A4-U/2	233 001	-2,5 - -50		IP 65	≤ 1
(negative pressure)	GGW 150 A4-U/2	233 002	-30 - -150		IP 65	≤ 3

Supplied in separate packaging including 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
Siemensstraße 6-10
D-73660 Urbach, Germany
Telefon +49 (0)7181-804-0
Telefax +49 (0)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

Compact pressure switch for multiple actuators

GW A5

5.12

DUNGS®

Technical description

The GW A5 pressure switch is a compact pressure switch for DUNGS multiple actuators.
The pressure switches are suitable for switching a circuit on, off or over on changes in actual pressure relative to the set switching point (reference value).
The switching point can be set easily and quickly using a setting wheel provided with a scale without using a pressure gauge.

Application

Pressure switches for DUNGS multiple actuators GasMultiBloc and DMV double solenoid valve which can be either mounted directly on housing or by using an adapter.
Suitable for gases of families 1,2,3 and other neutral gaseous media.

Approvals

EU type test approval as per EU Gas Appliance Directive.
TÜV (German Technical Inspectorate) test as pressure switch; special construction type as per TRD 604 and VdTÜV leaflet, Edition 100/1, as well as Class "S" as per EN 1854.

GW A5 CE-0085 AO 0012

Approvals in other important gas-consuming countries.

Printed in Germany • Rösler Druck • Edition 08.00 • Nr. 225 901

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

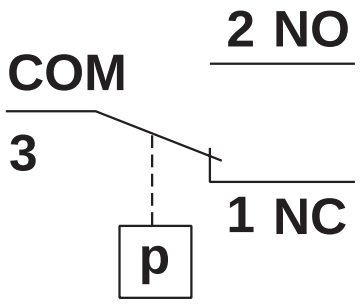
Switching response
GW…A5
Short response time during pressure fluctuations.

GW…A5/1
Slow response time during short-term pressure fluctuations by additional damping nozzle.

Pressure Switch
The GW A5 is a single-acting pressure switch acting in pressure range. The control unit responds to pressure.
If the set reference value is exceeded or undershot, the circuit is switched on, off or over.

Switching function

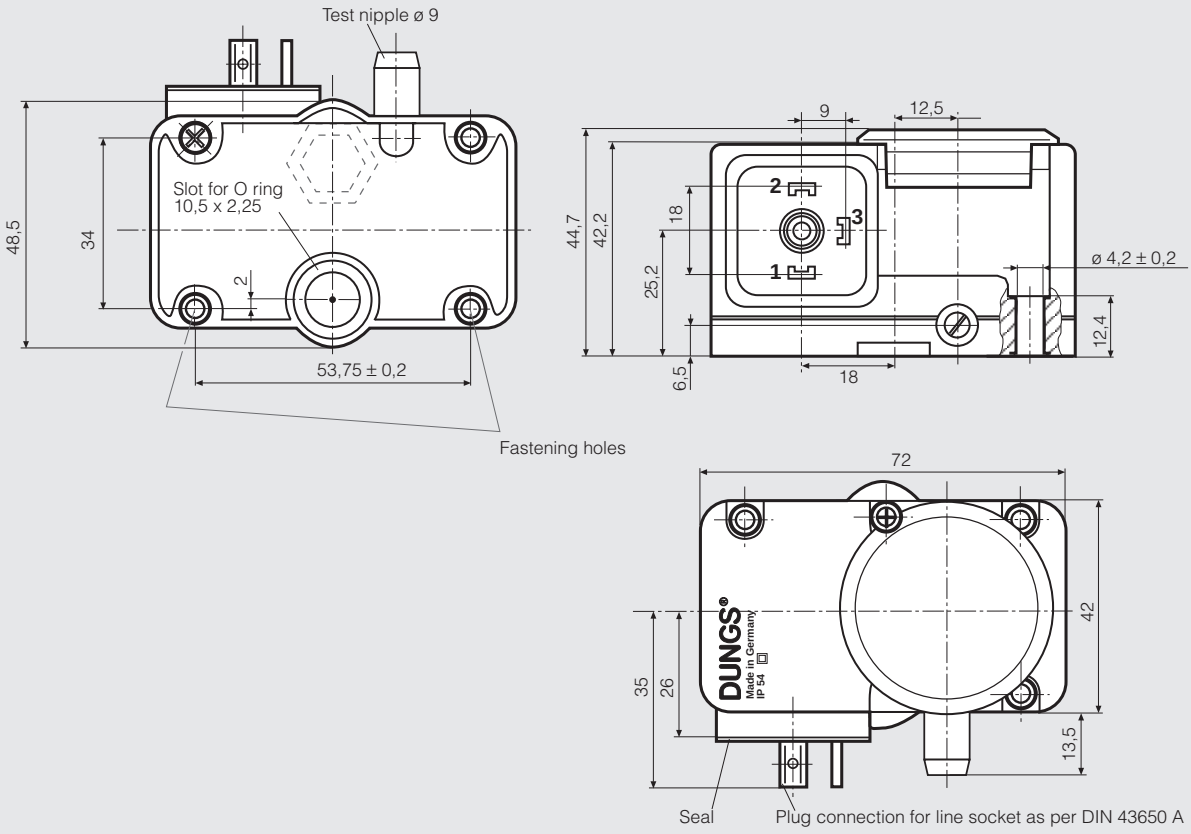
As pressure rises:
1 NC opens, 2 NO closes
As pressure falls:
1 NC closes, 2 NO opens



Specifications

Max. operating pressure	GW 3 A5 - GW 150 A5 to 500 mbar GW 500 A5 to 600 mbar		(50 kPa) (60 kPa)	
Pressure connection	O ring flange connection on underside of pressure switch			
Measuring connection	ø 9, length 10 mm, with screw plug			
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: Diaphragms: Switching contact:	Aluminium die casting Polyamide (PA) NBR basis Ag, fine silver		
Switching voltage	AC rms min. 24 V max. 250 V DC min. 24 V max. 48 V			
Nominal current	**GW 10…500 A5** AC rms 10 A		**GW 3 A5** AC rms 6 A	
Switching current	AC rms 6 A AC rms 3 A AC rms DC DC	at cos φ 1 at cos φ 0,6 min. 20 mA min. 20 mA max. 1 A	AC rms 4 A AC rms 2 A AC rms DC DC	at cos φ 1 at cos φ 0,6 min. 20 mA min. 20 mA max. 1 A
Electrical connection	Plug connection for line sockets as per DIN 43 650 A, 3-pin, protection insulated without ground connection			
Degree of protection	IP 54 as per IEC 529 (EN 60529)			
Setting tolerance	±15% switching point deviation referred to reference value, adjusted at **pressure rises**, vertical diaphragm position			

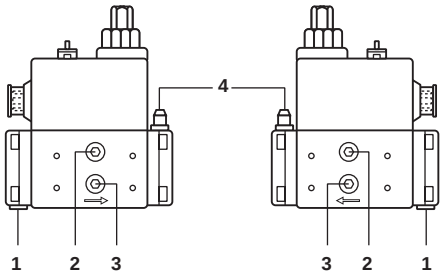
Dimensions [mm]

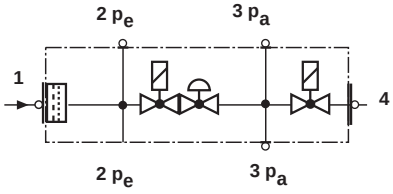


Adapter	Order-No.	for Type	Nominal diameters
Mounting kit	223 280	MB-..., DMV-...	Rp 3/8 - DN 125
Adapter p_{Br}	214 975	MB-D …405 - 420 MB-Z …405 - 420 DMV- …503 - 520	Rp 3/8 - Rp 1 1/4 Rp 3/8 - Rp 1 1/4 Rp 3/8 - Rp 2
Adapter on threaded flange	221 630	MB- … DMV- …	Rp 3/8 - Rp 1 1/4 Rp 3/8 - Rp 1 1/4
Adapter kit for GW … A5/A2 with G 1/4 connection	222 982	DMV- … MB- …	Rp 3/8 - Rp 2
G 3/4 ignition gas flange kit	219 006	DMV- ...525, 5040 - 5125	Rp 2 DN 40 - DN 125
Side cover kit	219 005	DMV- ...525, 5040 - 5125	Rp 2 DN 40 - DN 125
Special adapter on request		MB- … DMV- ... MVD- ...	DN 40 - DN 125 Rp 3/8 - DN 150

Mounting options GW A5
GasMultiBloc MB-...053/403

Pressure tap	GW A5 mounting possible ...
1	yes, with # 221630
2	yes
3	yes
4	yes, with # 221630

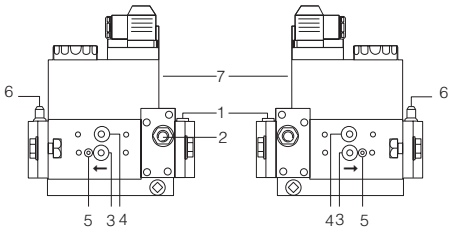


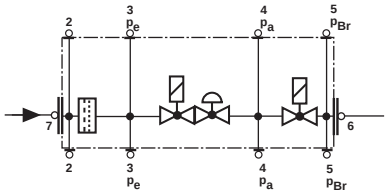


1,3 seal plug G 1/8
2 Instrument gland, optional
4 Instrument gland

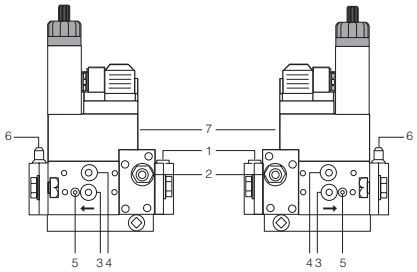
Mounting options GW A5
GasMultiBloc MB-D..405 - 412;
MB-ZR.. 405 - 412

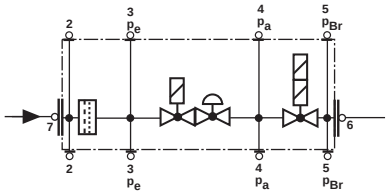
Pressure tap	GW A5 mounting possible ...
1	no, when at 7
2	no
3	yes
4	yes
5	yes, with # 214 975
6	yes, with # 221 630
7	yes, (standard)





1,3,4, seal plug G 1/8
2,6 Instrument gland, optional G 1/8
5 M4 inner hex

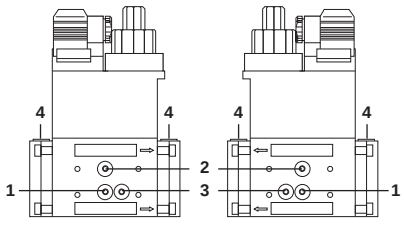


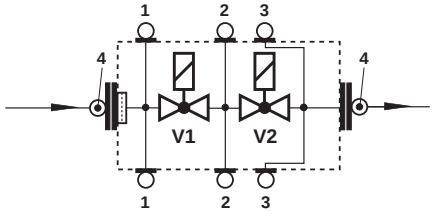


1,3,4, seal plug G 1/8
2,6 Instrument gland, optional G 1/8
5 M4 inner hex

Mounting options GW A5
GasMultiBloc MB - ... 415 - 420

Pressure tap	GW A5 mounting possible ...
1	yes
2	yes
3	yes, with # 214 975
4	yes (horizontal), with # 221 630, or # 222 982 (vertical)



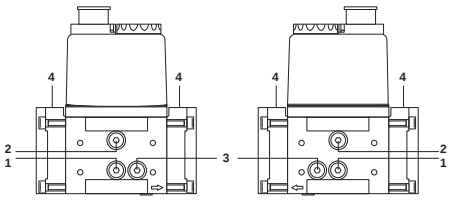


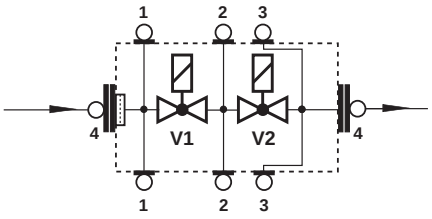
1,2,3,4
G 1/8 seal plug as per DIN ISO 228

The seal plugs **1,2,3** can also be replaced by an instrument gland

Mounting options GW A5
Double solenoid valve DMV 503/11

Pressure tap	GW A5 mounting possible ...
1	yes
2	yes
3	yes, with # 214975
4	yes (horizontal), with # 221 630, or # 222 982 (vertical)



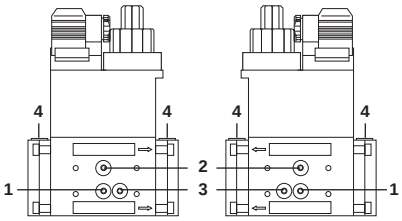


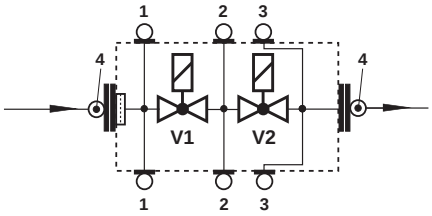
1,2,4
G 1/8 seal plug as per DIN ISO 228

The seal plugs **1, 2, 4** can also be replaced by a G 1/8 instrument gland

Mounting options GW A5
Double solenoid valve DMV 507-520/11
GasMultiBloc MB-...415 - 420

Pressure tap	GW A5 mounting possible ...
1	yes
2	yes
3	yes, with # 214 975
4	yes (horizontal), with # 221 630, or # 222 982 (vertical)



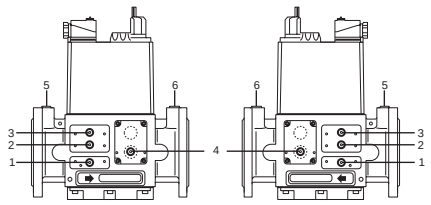


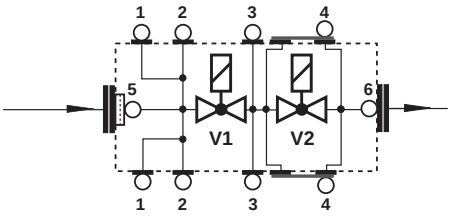
1,2,3,4
G 1/8 seal plug as per DIN ISO 228

The seal plugs **1, 2, 3** can also be replaced by a G 1/8 instrument gland as per DIN ISO 228

Mounting options GW A5
Double solenoid valve
DMV 5040/11-5125/11

Pressure tap	GW A5 mounting possible ...
1	yes
2	yes
3	yes
4	yes
5	no
6	no





1,2,3,4
G 1/8 seal plug as per DIN ISO 228
5,6
G 1/4 DIN ISO 228

The seal plugs **1, 2, 3, 4** can also be replaced by a G 1/8 instrument gland as per DIN ISO 228

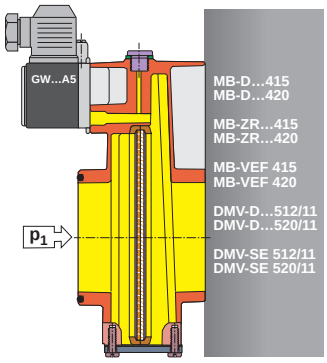
Compact pressure switch
for multiple actuators

GW A5

DUNGS®

Mounting options GW A5
at pre-mount filter for Dungs-multiple actuator

Pressure tap after filter insert



Brief technical data 1 mbar = 100 Pa = 0,1 kPa ≈ 10 mm WS

Type	Version	Order No.	Setting range [mbar]	Switching difference Δp [mbar]
GW A5 pressure switch	GW 3 A5	**229 250**	0,7 - 3	≤ 0,7
	GW 10 A5	**225 938**	2 - 10	≤ 1
	GW 50 A5	**225 939**	5 - 50	≤ 2,5
	GW 150 A5	**225 940**	10 - 150	≤ 5
	GW 500 A5	**227 639**	100 - 500	≤ 15

Standard designs
GW…A5 [Ag-G3-V12]
with mounting kit

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

Head Offices and Factory
Karl Dungs GmbH & Co.
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Telefax +49 (0)7181-804-166

Postal address
Karl Dungs GmbH & Co.
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com

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

DUNGS®

Double pressure switch GW…A6 / GW…A6

5.01

Technical description

The pressure switch GW…A6 and the double pressure switch GW…A6/ GW…A6 are adjustable compact pressure switches for firing systems.
They are suited for switching a circuit on, off or over if the actual pressure value changes compared to the setpoint.
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 test approval as per EC Gas Appliance Directive:

GW...A6	CE-0085 AO 3220

EC type test approval as per EC Pressure Appliance Directive:

GW...A6	CE0063

Approvals in other important gas-consuming countries.

TÜV (German Technical Inspectorate) test as pressure switch; special construction type as per TRD 604 and VdTÜV leaflet, Edition 100/1, as well as Class „S“ as per EN 1854.

Printed in Germany • Rösler Druck • Edition 06.04 • Nr. 229 544

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.

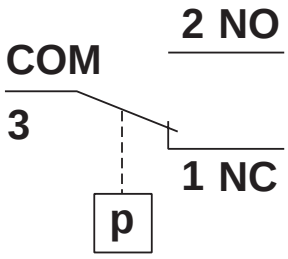
GW…A6/1
Slow response time during short-term pressure fluctuations by additional damping nozzle.

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.

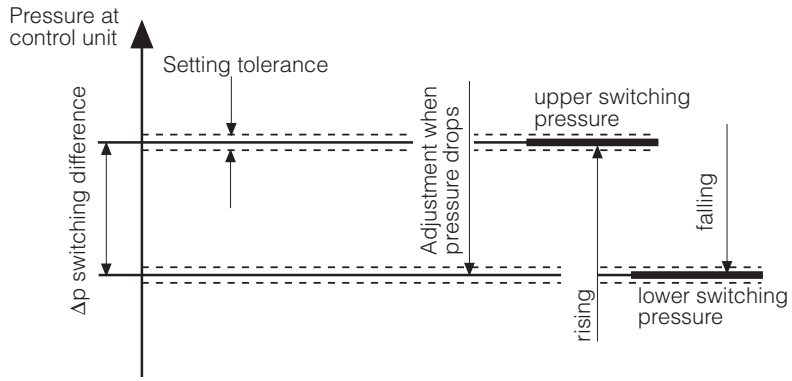
GW…A6 / GW…A6 double pressure switch
Combination of two flanged GW...A6 single pressure switches. The two setpoints are set separately and independently. A combination of different setpoint ranges is therefore possible. The two control units are fed from the same medium at the medium's pressure.

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.



Specifications

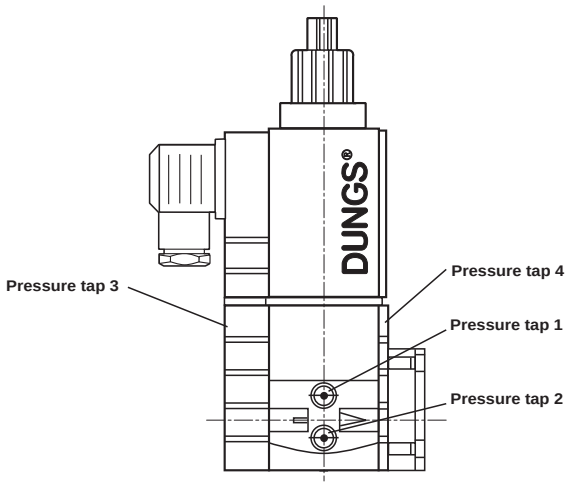
Max. operating pressure	GW 3 A6 - GW 150 A6	500 mbar	(50 kPa)
	GW 500 A6	600 mbar	(60 kPa)
Pressure connection	Standard:	centrally on housing bottom, G 1/4 inner thread as per ISO 228	
	Special design:	additionally G 1/4 inner thread (side right)	
Measuring connection	Test nipple integrated in metal 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 (Fine silver)	
Switching voltage	AC eff. min. 24 V	max. 250 V	
	DC min. 24 V	max. 48 V	

Nominal current	**GW 10…500 A6**		**GW 3 A6**	
	AC eff. max.10 A		AC eff. max. 6 A	
Switching current	AC eff. max.6 A	at cos φ 1	AC eff. max. 4 A	at cos φ 1
	AC eff. max.3 A	at cos φ 0,6	AC eff. max. 2 A	at cos φ 0,6
	AC eff.	min. 20 mA	AC eff.	min. 20 mA
	DC	min. 20 mA	DC	min. 20 mA
	DC	max. 1 A	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

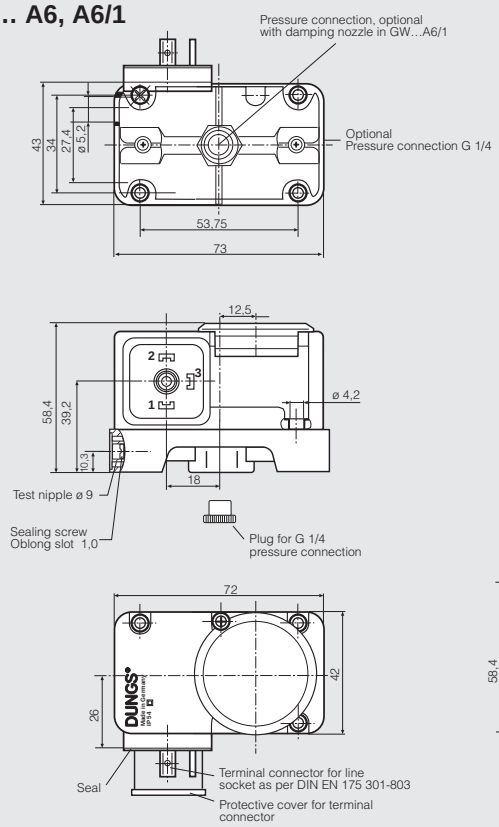
Mounting options GW…A6
Safety solenoid valve
SV-… 505-520

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

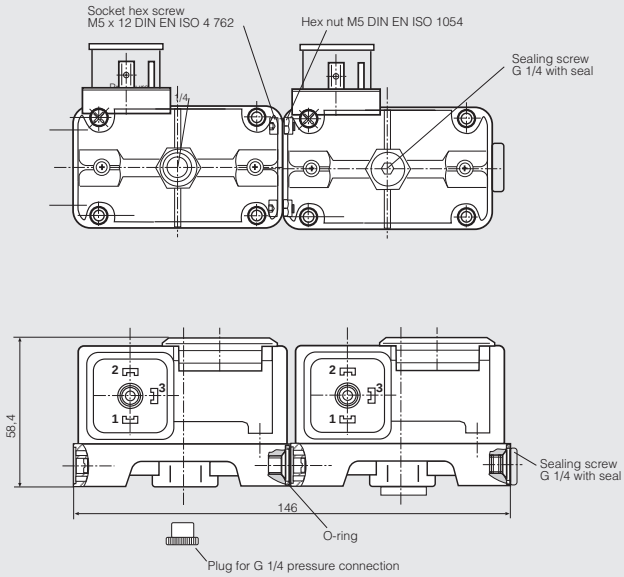


Dimensions [mm]

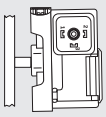
GW … A6, A6/1



GW … A6 / GW … A6

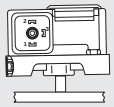


Installation position

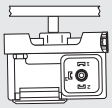


Standard installation position; if a different installation position is used, pay attention to the changed operating points:

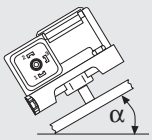
GW 3…50 A6	**approx. ± 0,6 mbar**
GW 150 A6	**approx. ± 1 mbar**
GW 500 A6	**approx. ± 3 mbar**



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

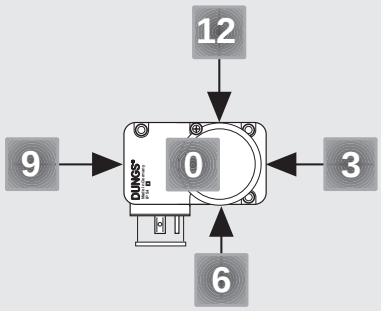


When installed horizontally overhead, the pressure switch switches at a pressure lower.



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

Designation



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 Fine silver (standard)

Setting ranges [mbar] GW

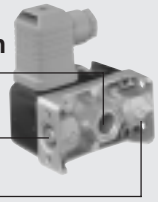
3	0,7 - 3	X
10	2 - 10	X
50	5 - 50	X
150	10 - 150	X
500	100 - 500	X

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

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

Order example

Pressure switch design
Setting range
10 - 150 mbar
Contact material
Ag fine silver
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]

Accessories for GW A6 pressure switch

Line sockets, 3-pin + grounding, grey GDMW	210 318
Test nipple G 1/4 with sealing ring	230 398
Sealing screw G 1/4 with sealing ring	230 396
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 / GW…A6

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

Type	Design [Ag-G3-MS9-V0]	Order number	Setting range [mbar]		Switching difference Δp [mbar]
GW…A6	GW 3 A6	228 723	0,7 - 3		
pressure	GW 10 A6	228 724	2 - 10		≤ 0,7
switch	GW 50 A6	228 725	5 - 50		≤ 1
	GW 150 A6	228 726	10 - 150		≤ 2,5
	GW 500 A6	228 727	100 - 500		≤ 5
					≤ 15
Supplied in collective packaging					

Type	Design [Ag-G3-MS9-V0-VS3]	Order number	Setting range [mbar]		Switching difference Δp [mbar]
GW…A6	GW 3 A6	231 111	0,7 - 3		≤ 0,7
pressure	GW 10 A6	231 112	2 - 10		≤ 1
switch	GW 50 A6	231 113	5 - 50		≤ 2,5
	GW 150 A6	231 114	10 - 150		≤ 5
	GW 500 A6	231 115	100 - 500		≤ 15
Supplied in separate packaging, including line socket					

Type	Design [Ag-G3-MS9-V0-VS3]	Order number	Setting range [mbar]		Switching difference Δp [mbar]	
GW A6 min. /	GW 3 / 3 A6	229 235	0,7 - 3		≤ 0,7	≤ 0,7
GW A6 max.	GW 3 / 10 A6	229 236	0,7 - 3	2 - 10	≤ 0,7	≤ 1
double	GW 10 / 10 A6	229 237	2 - 10		≤ 1	≤ 1
pressure	GW 10 / 50 A6	229 238	2 - 10	5 - 50	≤ 1	≤ 2,5
switch	GW 10 / 150 A6	229 239	2 - 10	10 - 150	≤ 1	≤ 5
	GW 50 / 50 A6	229 240	5 - 50		≤ 2,5	≤ 2,5
	GW 50 / 150 A6	229 241	5 - 50	10 - 150	≤ 2,5	≤ 5
	GW 150 / 150 A6	229 242	10 - 150		≤ 5	≤ 5
	GW 500 / 500 A6	229 243	100 - 500		≤ 15	≤ 15

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

Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telefon +49 (0)7181-804-0
Telefax +49 (0)7181-804-166

Karl Dungs GmbH & Co. KG
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com

Pressure switches for gas and air
Pressure sensors

Product line overview

5.0

DUNGS®









Printed in Germany • Rösler Druck • Edition 08.00 • Nr. 218 373

Karl Dungs GmbH & Co. - The pressure switch specialists

For decades we have been manufacturing pressure switches for a wide variety of applications. The original application field was firing systems followed by air-conditioning and ventilation systems as well as special machine tools.
Today you can select a device tailored to meet your specific requirements from one of the largest pressure switch product lines.

Product line overview of pressure switches for gas and air/Contents

For more detailed information, please refer to the leaflets listed below

Pressure switch product line overview	5.00
High-pressure, gas and air pressure switches GW	5.01
Pressure switch GW…A4	5.02
Pressure switch for multiple actuators GW…A2	5.03
Differential pressure switch for air LGW…A1	5.04
Differential pressure switch for air LGW…A2, LGW…A2P	5.05
Differential pressure switch for air flue and exhaust gases LGW…A4, LGW…A4/2 (IP 65)	5.07
Pressure switch for gas	
Differential pressure switch for air LGW…C2	5.15
Differential pressure switch for air flue and exhaust gases LGW…C3	5.14
Differential pressure sensor for gases and air DDS	9.01
Differential pressure switch for gas GGW…A4	5.11
Klima-Set KS...C2	5.13
Centrifugal switch FW 100 / 2	5.08
Compact pressure switches GW…A5	5.12
Compact pressure switches GW…A6	5.16

Brief technical data	Pressure switch for gas and air	Differential pressure switch for air
Max. operating pressures	Refer to individual tables	Refer to individual tables
Temperature ranges	Ambient temperature: -15 °C to +60 °C Medium temperature: -15 °C to +80 °C	Ambient temperature: -15 °C to +85 °C Medium temperature: -15 °C to +85 °C
	Important: Make sure that no condensate can enter into the pressure switch. Icing may occur at temperatures below zero and may lead to a malfunction or failure of the equipment.	
Materials	Gas-conveying housing: aluminium die casting Diaphragms: NBR basis Protective hood: polycarbonate, for GW../2 design hood made of die-cast aluminium Switching contacts: fine silver Special design: gold-plated fine silver	Housing: polycarbonate Diaphragms: NBR or EPDM Switching contacts: fine silver or gold-plated fine silver
Electrical connection	At terminal screws via PG 11 cable gland, for 7 mm dia. to 12.5 mm dia. cables or plug connection with angle connector as per DIN 43 650, 3-pin and protective contact.	At terminal screws via PG 11 cable gland, for 7 mm dia. to 12.5 mm dia. cables or PG 9 For LGW...A1 and LGW...C3, flat-type connector for 6.3 mm plug-in sleeves as per DIN 46 342 or plug connection with angle connector as per DIN 43 650, 3-pin and protective contact.
Degree of protection	Refer to individual tables	Refer to individual tables

Conversion table for pressure units

Unit	Name	Pa	bar	mbar	μbar	N/mm²	lbf/in²
1Pa = 1 N/m²	Pascal	1	10^{-5}	0.01	10	10^{-6}	0.00014
1 bar	Bar	10^{5}	1	1000	10^{6}	0.1	14.5037
1 mbar	Millibar	100	10^{-3}	1	1000	10^{-4}	0.0145
1μbar	Microbar	0.1	10^{-6}	10^{-3}	1	10^{-7}	0.000014
1 N/mm²	Newton per mm²	10^{6}	10	10^{4}	10^{7}	1	145.03
1lbf/in² (psi)	pounds per square inch	6894.76	0.06895	68.95	68948	0.00689	1

Type overview

Pressure switches for gases and air, $p_{max} \leq 600$ mbar

LGW…A4/2 Square shape • IP 65 • Die-cast hood • Epoxy coating • G 1/4 threaded connection • Switching pressure adjustable by hand wheel

GW...A2 Square shape • Gas pressure switch for DUNGS multiple actuators • O ring flange connection

GW...A3 Square shape • Gas pressure switch for multiple actuators • O ring flange connection

GW...A4 Square shape • Gas pressure switch • G 1/4 threaded connection • Switching pressure adjustable by hand wheel

GW…A5 Rectangular shape • Compact pressure switch for DUNGS multiple actuators • O ring flange connection

GW…A6 Rectangular shape • Compact pressure switch • G 1/4 threaded connection • Switching pressure adjustable by hand wheel

Double pressure switches for gases and air (Überdruckbereich)

GW...A6/...A6 Rectangular shape • Flanged single housings • Switching pressures adjustable by hand wheel

Pressure switches for gases and air, $p_{max} \geq 2{,}0$ bar, Metallmembrane

GW 500/2000/6000 A4 Round shape • G 1/4 threaded connection • Switching pressure adjustable by hand wheel

GW 500 A4/2, GW 2000 A4/2, GW 6000 A4/2

Pressure limiters for gas and air

NB...A2 Square shape • Interlocked as pressure falls • Pressure switch for DUNGS multiple actuators

NB...A4 Square shape • Interlocked as pressure falls • Switching pressure adjustable by hand wheel • Compact pressure switch

ÜB...A2 Square shape • Interlocked as pressure rises • Pressure switch for DUNGS multiple actuators

ÜB...A4 Square shape • Interlocked as pressure rises • Switching pressure adjustable using hand wheel • Compact pressure switch

Differential pressure switches for gases and air

GGW…A4 Square shape • Differential pressure switch for gas in pressure range • G 1/4 and G 1/8 threaded connections • Switching pressure adjustable by hand wheel

GGW…A4/U Square shape • Differential pressure switch for gas in vacuum range • G 1/4 and G 1/8 threaded connections • Switching pressure adjustable by hand wheel

LGW…A4 Square shape • Differential pressure switch for air, pressure switch for gas • G 1/4 and G 1/8 threaded connections • Switching pressure adjustable by hand wheel

Differential pressure switches for air

LGW...A1 Square shape • Fixed adjustment at factory • Connection for 4 mm dia. hose

LGW...A2 Square shape • Switching pressure adjustable by hand wheel • Connection for 4 mm dia. hose

LGW...A2P Square shape • Test button • Switching pressure adjustable by hand wheel • G 1/4 (tapered) and G 1/8 threaded connections

LGW...C2 Round shape • Large diaphragm diameter • Switching pressure adjustable by hand wheel • Connection for 4 mm dia. and 6 mm dia. hoses

LGW...C3 Round shape • Fixed adjustment at factory • Connection for 6 mm dia. hose

LGW...A4/2 Square shape • IP 65 • Die-cast hood • Powder-coated • G 1/4 and G 1/8 threaded connection • Switching pressure adjustable by hand wheel

Klima-Set (differential pressure switch for ventilation and air-conditioning systems with complete range of accessories)

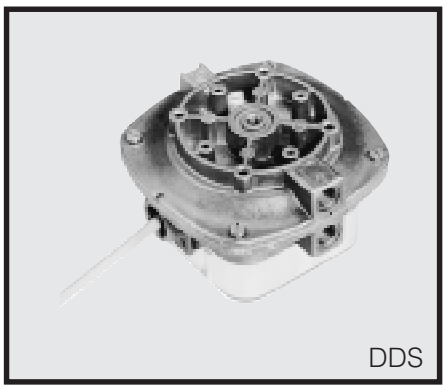
KS...C2 Round shape • Switching pressure adjustable by hand wheel • Suitable for DDC applications

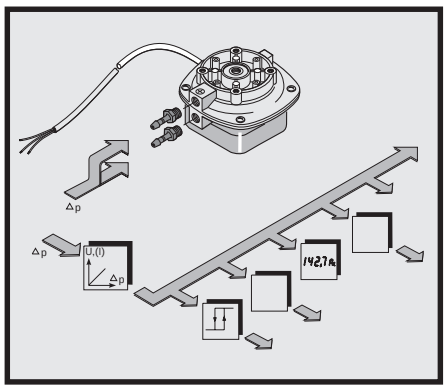
Electronic differential pressure sensor for gases and air

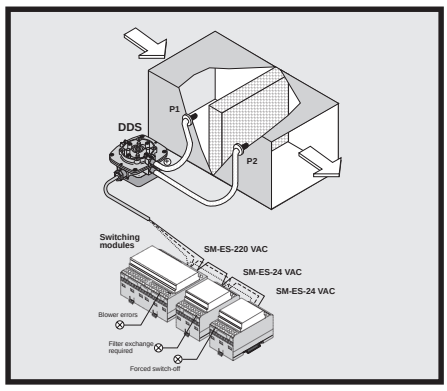
DDS Non-contacting transformer (pressure to voltage) with continuous output 0 - 10 V • Round shape, aluminium version • Different measuring ranges possible • G 1/8 threaded connection

Differential pressure sensor for gas and air
Pressure sensor in compliance with DIN 3398.
For gases of families 1, 2, 3 and other neutral media.

Product	Type	Order No.	Setting ranges [Pa]	Air	Gas	Degree of protection	Max. operating pressure [kPa]
Differential pressure sensor	DDS 100-M2	215 052	0 - 100	X	X	IP 54	5
	DDS 150-M2	216 538	0 - 150	X	X	IP 54	5
	DDS 500-M2	215 055	0 - 500	X	X	IP 54	5
	DDS 1000-M2	215 056	0 - 1000	X	X	IP 54	5
	DDS 1500-M2	215 057	0 - 1500	X	X	IP 54	5
	DDS 3000-M2	231 313	0 - 3000	X	X	IP 54	5
Differential pressure sensor with mounting kit	DDS 100-M2	219 099	0 - 100	X	—	IP 54	5
	DDS 150-M2	219 102	0 - 150	X	—	IP 54	5
	DDS 500-M2	219 105	0 - 500	X	—	IP 54	5
	DDS 1000-M2	219 108	0 - 1000	X	—	IP 54	5
	DDS 1500-M2	219 111	0 - 1500	X	—	IP 54	5
	DDS 3000-M2	231 284	0 - 3000	X	X	IP 54	5
Mounting kit, complete		216 992		X	—		
Mounting bracket		230 288		X	—		
Connection hose ø 4 (10 x)		230 303		X	—		

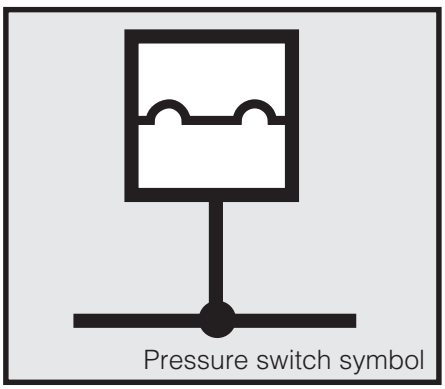






Pressure switch for firing systems
Pressure switch as per EN 1854 for gases of families 1, 2, 3 and other neutral gaseous media. EU type test approval as per EU Gas Appliance Directive.

Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure switch for gas and air [AG G3 V12]	GW 3 A2	215 230	0,4 - 3	≤ 0,3	X	X	IP 54	500
	GW 10 A2	215 231	1 - 10	≤ 0,5	X	X	IP 54	500
	GW 50 A2	215 232	2,5 - 50	≤ 1	X	X	IP 54	500
	GW 50 A2	215 233	5 - 50	≤ 1	X	X	IP 54	500
	GW 150 A2	215 234	5 - 150	≤ 3	X	X	IP 54	500
	GW 150 A2	215 235	30 - 150	≤ 3	X	X	IP 54	500
	GW 500 A2	215 236	100 - 500	≤ 10	X	X	IP 54	600
	GW 10 A3	as per Spez.	1 - 10	≤ 1,0	X	X	IP 00-54	150
	GW 50 A3	as per Spez.	2,5 - 50	≤ 2,5	X	X	IP 00-54	150
	GW 100 A3	as per Spez.	20 - 100	≤ 8,0	X	X	IP 00-54	150
[AG G3 V12]	GW 3 A5	229 250	0,7 - 3	≤ 0,7	X	X	IP 54	500
	GW 10 A5	225 938	2 - 10	≤ 1	X	X	IP 54	500
	GW 50 A5	225 939	5 - 50	≤ 2,5	X	X	IP 54	500
	GW 150 A5	225 940	10 - 150	≤ 5	X	X	IP 54	500
	GW 500 A5	227 639	100 - 500	≤ 15	X	X	IP 54	600
[AG M MS9 V0 VS3]	GW 500 A4/2	237 804	100 - 500	≤ 10	X	X	IP 65	600


Pressure switch symbol


GW A5


LGW…A4/2

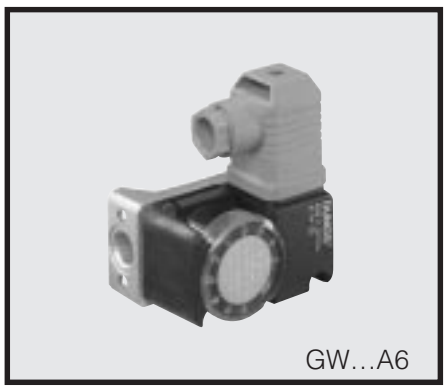
Pressure switch for firing systems
Double pressure switch as per EN 1854 for gases of families 1, 2, 3 and other neutral gaseous media. EU type test approval as per EU Gas Appliance Directive.

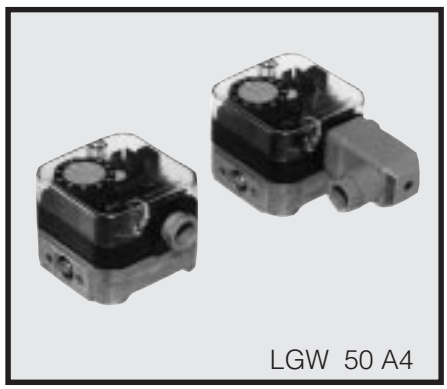
Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure switch for gas and air [AG G3 MS9 V0]	GW 3 A6	228 723	0,7 - 3	≤ 0,7	X	X	IP 54	500
	GW 10 A6	228 724	2 - 10	≤ 1,0	X	X	IP 54	500
	GW 50 A6	228 725	5 - 50	≤ 2,5	X	X	IP 54	500
	GW 150 A6	228 726	10 - 150	≤ 5	X	X	IP 54	500
	GW 500 A6	228 727	100 - 500	≤ 15	X	X	IP 54	600
Double pressure switch for gas and air [MIN: G3 M9 VS3 VS0] [MAX: G3 MS9 V3 V0]	GW3A6/3A6	229 235	0,7 - 3 0,7- 3	≤ 0,7 ≤ 0,7	X	X	IP 54	500
	GW3A6/10A6	229 236	0,7 - 3 2 - 10	≤ 0,7 ≤ 1,0	X	X	IP 54	500
	GW10A6/10A6	229 237	2 - 10 2 - 10	≤ 1,0 ≤ 1,0	X	X	IP 54	500
	GW10A6/50A6	229 238	2 - 10 5 - 50	≤ 1,0 ≤ 2,5	X	X	IP 54	500
	GW10A6/150A6	229 239	2 - 10 10 -150	≤ 1,0 ≤ 5	X	X	IP 54	500
	GW50A6/50A6	229 240	5 - 50 5 - 50	≤ 2,5 ≤ 2,5	X	X	IP 54	500
	GW50A6/150A6	229 241	5 - 50 10 -150	≤ 2,5 ≤ 5,0	X	X	IP 54	500
	GW150A6/150A6	229 242	10 - 150 10 -150	≤ 5 ≤ 5	X	X	IP 54	500
	GW500A6/500A6	229 243	100 - 500 100-500	≤ 15 ≤ 15	X	X	IP 54	600

Pressure switch for firing systems
Pressure switch as per DIN 3398, DIN EN 3398, Part 3 and DIN EN 1854 for gases of families 1, 2, 3 and other neutral gaseous media. EU type test approval as per EU Gas Appliance Directive.

Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure switch	GW 500 A4	232 034	100 - 500	≤ 15	X	X	IP 54	2000
	GW 500 A4/2	232 105	100 - 500	≤ 15	X	X	IP 65	2000
	GW 2000 A4	232 037	300 - 2000	≤ 30	X	X	IP 54	4000
	GW 2000 A4/2	232 106	300 - 2000	≤ 30	X	X	IP 65	4000
	GW 6000 A4	232 039	1000 - 6000	≤ 300	X	X	IP 54	7200
	GW 6000 A4/2	232 107	1000 - 6000	≤ 300	X	X	IP 65	7200

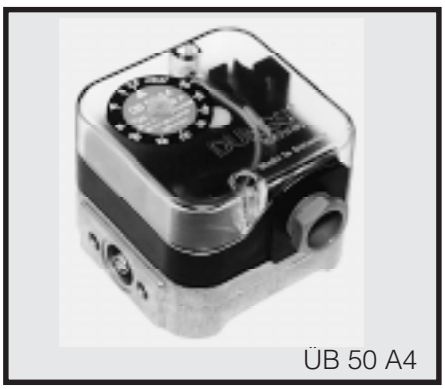

GW 50 A2


GW…A6


LGW 50 A4

Pressure switch for firing systems
Pressure switch as per DIN 3398, Part 1, EN 1854 for gases of families 1, 2, 3 and other neutral gaseous media.
EU type test approval as per EU Gas Appliance Directive.

Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure limiter	NB 50 A2	215 237	2,5 - 50	—	X	X	IP 54	500
	NB 150 A2	215 240	30 - 150	—	X	X	IP 54	500
[AG G3 V12]	NB 500 A2	215 241	100 - 500	—	X	X	IP 54	600
	NB 50 A4	210 534	2,5 - 50	—	X	X	IP 54	500
[AG PG MS9 V0]	NB 150 A4	210 931	30 - 150	—	X	X	IP 54	500
	NB 500 A4	210 971	100 - 500	—	X	X	IP 54	600
Pressure limiter	ÜB 50 A2	215 242	2,5 - 50	—	X	X	IP 54	500
	ÜB 150 A2	215 245	30 - 150	—	X	X	IP 54	500
[AG G3 V12]	ÜB 500 A2	215 246	100 - 500	—	X	X	IP 54	600
	ÜB 50 A4	210 537	2,5 - 50	—	X	X	IP 54	500
[AG PG MS9 V0]	ÜB 150 A4	138 630	30 - 150	—	X	X	IP 54	500
	ÜB 500 A4	210 970	100 - 500	—	X	X	IP 54	600


ÜB 50 A4


LGW 3 A2


LGW 3 A2 P

Pressure switch for firing systems
Differential pressure switch as per EN 1854 for gases of families 1, 2, 3 and other neutral gaseous media. EU type test approval as per EU Gas Appliance Directive.

Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure [AG M MS9 V0 VS3 NH_3best.]	GGW 3 A4	232 108	0,4 - 3	≤ 0,3	X	X	IP 54	500
	GGW 10 A4	232 109	1 - 10	≤ 0,5	X	X	IP 54	500
	GGW 50 A4	232 110	2,5 - 50	≤ 1	X	X	IP 54	500
	GGW 150 A4	232 111	30 - 150	≤ 3	X	X	IP 54	500
Vacuum [AG M MS9 V0 VS3 NH_3best.]	GGW 3 A4-U	232 991	-0,4 - -3	≤ 0,3	X	X	IP 54	–500
	GGW 10 A4-U	232 992	-1 - -10	≤ 0,5	X	X	IP 54	–500
	GGW 50 A4-U	232 993	-2,5 - -50	≤ 1	X	X	IP 54	–500
	GGW 150 A4-U	232 994	-30 - -150	≤ 3	X	X	IP 54	–500


LGW A1


LGW C2


LGW C3

Differential pressure switches for air, flue and exhaust gases in firing systems
Differential pressure switches per DIN 3398 Part 2; LGW A4 DIN EN 1854
EU type test approval as per EU Gas Appliance Directive.

Product	Type	Order No.	Setting ranges [mbar]	Switching difference Δp [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Differential pressure switch for air	LGW 3 A1	as per Spez.	0,4 - 3	≤ 0,35	X	—		100
	LGW 10 A1	as per Spez.	1 - 10	≤ 0,5	X	—		100
	LGW 50 A1	as per Spez.	2,5 - 50	≤ 1	X	—		100
[AG PG V9]	LGW 3 A2	107 409	0,4 - 3	≤ 0,35	X	—		500
	LGW 10 A2	107 417	1 - 10	≤ 0,5	X	—		500
	LGW 50 A2	107 425	2,5 - 50	≤ 1	X	—		500
	LGW 150 A2	107 433	30 - 150	≤ 3	X	—		500
[AG PG V9]	LGW 3 A2P	120 204	0,4 - 3	≤ 0,35	X	—		500
	LGW 10 A2P	120 212	1 - 10	≤ 0,5	X	—		500
	LGW 50 A2P	120 220	2,5 - 50	≤ 1	X	—		500
	LGW150 A2P	120 238	30 - 150	≤ 3	X	—		500
[AG PG MS9 VS3 V0]	LGW 3 A4	221 590	0,4 - 3	≤ 0,3	X	X **		500
	LGW 10 A4	221 591	1 - 10	≤ 0,5	X	X **		500
	LGW 50 A4	221 592	2,5 - 50	≤ 1	X	X **		500
	LGW 150 A4	221 593	30 - 150	≤ 3	X	X **		500
[AG PG V3]	LGW 1,5 C2	212 200	0,2 - 1,5	≤ 0,2	X	—		50
	LGW 3 C2	212 571	0,4 - 3	≤ 0,3	X	—		50
	LGW 10 C2	212 572	1 - 10	≤ 0,5	X	—		50
	LGW 1,5 C3	as per Spez.	0,2 - 1,5	≤ 0,07-0,3	X	—		50
	LGW 3 C3	as per Spez.	0,4 - 3	≤ 0,12-0,4	X	—		50
	LGW 10 C3	as per Spez.	1 - 10	≤ 0,20-0,6	X	—		50
[AG M MS9 V0]	LGW 3 A4/2	232 041	0,4 - 3	≤ 0,3	X	X **		500
	LGW 10 A4/2	232 046	1 - 10	≤ 0,5	X	X**		500
	LGW 50 A4/2	232 048	2,5 - 50	≤ 1	X	X**		500
	LGW 150 A4/2	232 050	30 - 150	≤ 3	X	X**		500

* optionally IP 42 or IP 20. Pressure switch with IP 10 or IP 20 must be installed so that degree of protection IP 44 is ensured during operation.

** applies only to connection to G 1/4, lower pressure chamber

Pressure switch for ventilation and air-conditioning systems
Differential pressure switch for air
DUNGS Klima-Set with complete mounting kit

Product	Type	Order No.	Setting ranges [Pa]	Switching difference Δp [Pa]	Air	Gas	Degree of protection	Max. operating pressure [kPa]
Klima-Set	KS 150 C2	217 773	20 - 150	≤ 18	X	—	IP 54	5
	KS 300/1 C2	224 390	20 - 300	≤ 20	X	—	IP 54	5
	KS 300 C2	217 774	40 - 300	≤ 20	X	—	IP 54	5
	KS 500 C2	226 885	30 - 500	≤ 25	X	—	IP 54	5
	KS 600 C2	217 775	70 - 600	≤ 30	X	—	IP 54	5
	KS 1000 C2	217 776	100 - 1000	≤ 40	X	—	IP 54	5
	KS 3000 C2	217 777	250 - 3000	≤ 80	X	—	IP 54	5


Extension tube


Hose connection


Drilling template


Mounting screws

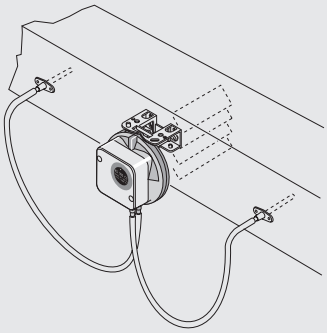

4 x 1.5 x 2000 mm dia. connection hose

Centrifugal switch
Air supply loss protection for forced-air burner and ventilator motors as per DIN 32 726
DIN-tested and registered to DIN-DVGW

Product	Type	Order No.	Degree of protection	Speeds	Electrical data
Centrifugal switch	FW 100/2	210 312	IP 44	Switch-on speed (as speed increases), DIN 32 726: **n ≤ 2565 rpm $^{-1}$** Switch-off speed (as speed decreases), DIN 32 726: **n ≥ 2160 rpm $^{-1}$** Special speeds on request Range: 800 - 4000 rpm	Voltage: 220 VAC Nominal current: 5 A (ohmic load)
	FW 100/2	211 523	IP 54		

FW 100/2


KS



Pressure switches for gas and air
Pressure sensors

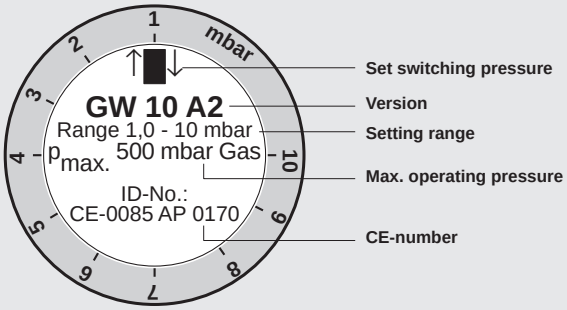
Typeplates

DUNGS®

Gas pressure typeplate

All the information is indicated on the pressure switch setting wheel.
The setting wheel for **gas pressure switches** is always **yellow**.

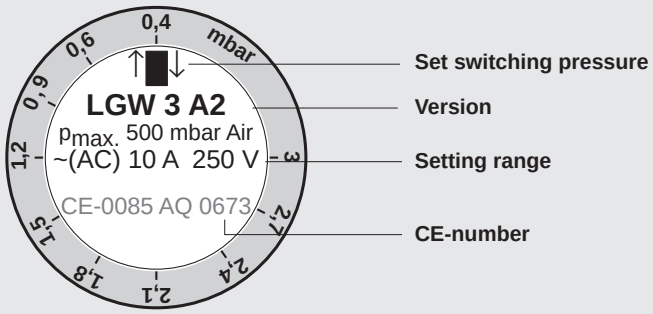
Types: GW...A2, GW...A4, GW...A5, GW…A6, ÜB…A2, ÜB…A4, NB…A2, NB…A4



Typeplate for differential pressure switches for gases and/or air

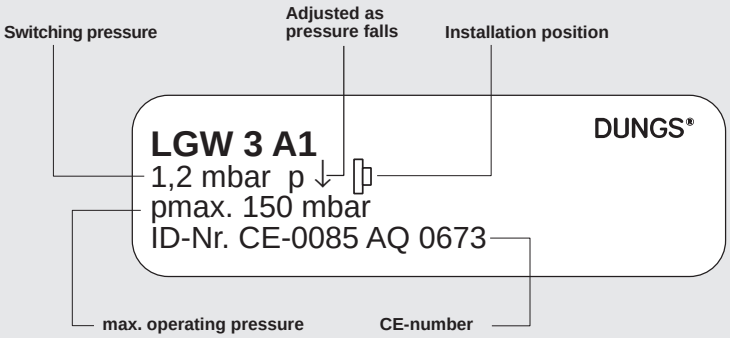
The setting wheel for **gas pressure switches** is **yellow**.
It is always **blue** for differential pressure switches for **air**.

Types: LGW, LGW...A2, LGW...A2P, LGW...A4, LGW...C2, KS…C2



Differential pressure switches for air, flue and exhaust gases

The LGW...A1 differential pressure switch is only manufactured to customer-specific switching values.
Each differential pressure switch therefore has an individual typeplate. The typeplate is affixed to the equipment.



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

CERTIFIED DIN ISO 9001 QUALITY SYSTEM REG.NO 14 313

ZERTIFIZIERTE DVGW PRODUKTE

Head Offices and Factory
Karl Dungs GmbH & Co.
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Telefax +49 (0)7181-804-166

Postal address
Karl Dungs GmbH & Co.
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com

Differential pressure switch for air, flue and exhaust gases

LGW...A1

factory-adjusted

5.12

Technical description

The LGW...A1 is a factory-adjusted differential pressure switch as per EN 1854.

- The LGW...A1 is suitable for switching a circuit on, off or over on changes in actual pressure value relative to the reference value set at the factory (reference value).
- Precise function by special switching system mounted in frictionless bearings.
- Electrical connection by means of a flat-type connector.
- Compact size.

Application

Differential pressure monitoring in firing, ventilation and air-conditioning systems. The LGW...A1 can be used as a pressure, vacuum or differential pressure switch for air and non-aggressive gases but not for industrial combustion gases.

Approvals

EC type test approval as per EU Gas Appliance Directive:

LGW…A1	CE-0085 AQ 0673

EC type test approval as per EU Pressure Equipment Directive:

LGW…A1	CE0036

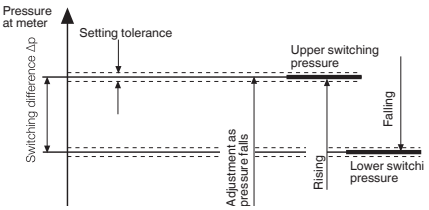
TÜV (German Technical Inspectorate) inspection for pressure switches of special construction as per TRD 604 and VdTÜV Technical Data Sheet, edition 100/1. Approvals in other important gas-consuming countries. Special designs for the North American market with UL, FM and CSA registrations.

Printed in Germany • Rösler Druck • Edition 02.08 • Nr. 214 748

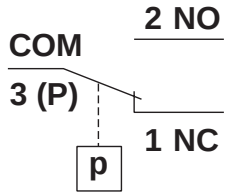
Functional description
Differential pressure switch in pressure and vacuum ranges.
The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without any auxiliary power.

LGW…A1 differential pressure switch
The control unit responds to differential pressure. If the set reference value is exceeded or undershot, the circuit is switched on, off or over.

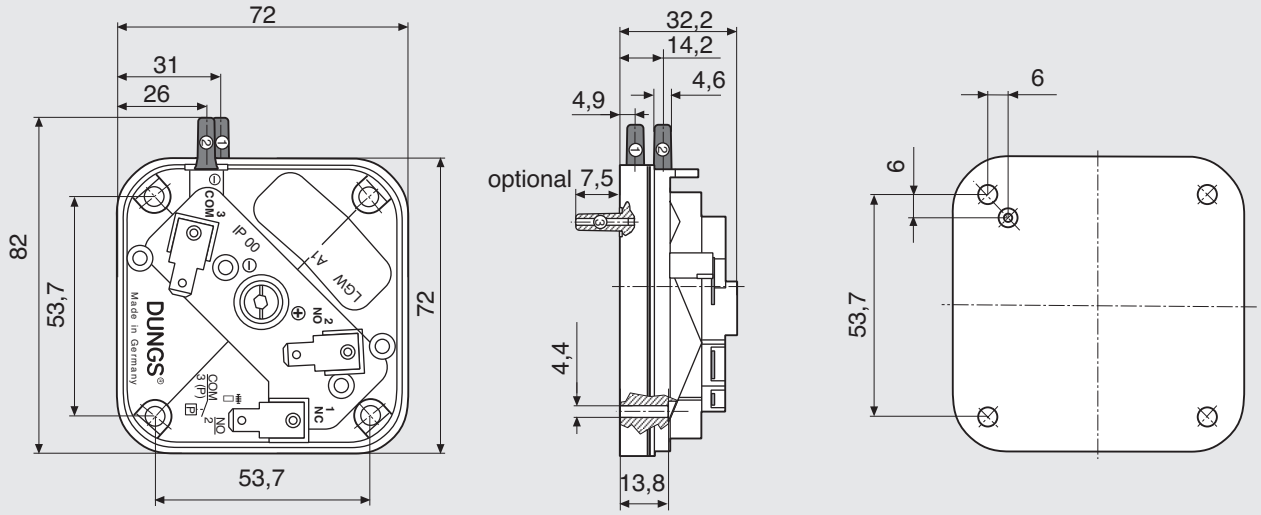
Definition of switching difference Δp
The switching difference Δp is the pressure difference between the upper and lower switching pressures.



LGW…A1 switching function
As pressure rises:
1 NC opens, 2 NO closes
As pressure falls:
1 NC closes, 2 NO opens

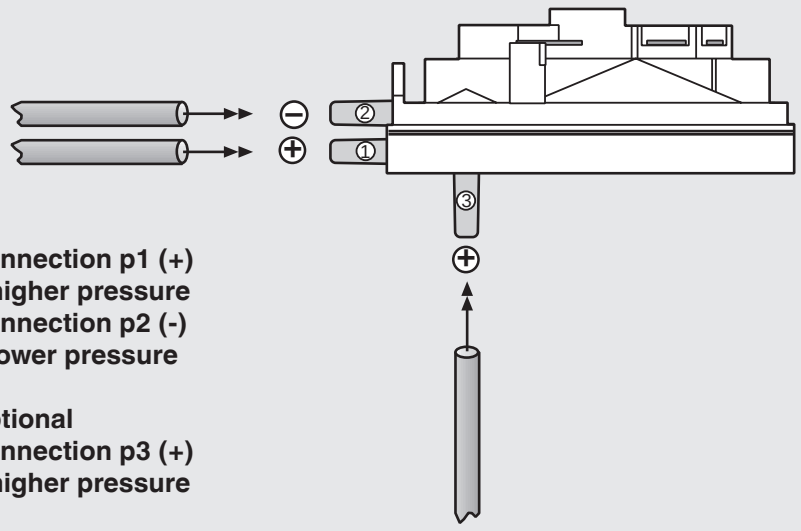


Dimensions [mm]



Height with cover IP 40: 35,6 mm
Height with cover IP 42: 45,6 mm

Pressure connection



Connection p1 (+)
= higher pressure
Connection p2 (-)
= lower pressure

Optional
Connection p3 (+)
= higher pressure

Specifications

Max. operating pressure	Standard: 100 mbar (10 kPa) option: LGW 3 A1 - 50 A1 : 400 mbar (40 kPa)			
Setting ranges	Refer to "Brief technical data"			
Pressure connection	4.6 mm dia hose gland			
Temperature range	Ambient temperature Medium temperature Storage temperature	-15 °C to +70 °C (option up to +85 °C) -15 °C to +70 °C (option up to +85 °C) -30 °C to +85 °C		
Materials	Housing: Switch: Diaphragms: Switching contact:	polycarbonate polycarbonate NBR standard: Ag optional: gold-plated silver (Au); suitable for DDC applications: 24 V DC; 0.02 A		
Switching voltage	Ag - Contact: Au - Contact:	AC eff. min. 24 V DC min. 24 V DC min. 5 V	max. 250 V max. 48 V max. 24 V	
Nominal current	Ag - Contact: Ag - Contact: Au - Contact:	AC eff. 2.5 A AC eff. 10 A DC 20 mA	LGW 1.5 A1 LGW 3 - 50 A1	
Switching current	Ag - Contact. LGW 1.5 A1: Ag - Contact LGW 3 - 50 A1: Ag - Contact	AC eff. 1.5 A AC eff. 0.8 A AC eff. 6 A AC eff. 3 A AC eff. min. 20 mA DC min. 20 mA	at cos φ 1 at cos φ 0.6 at cos φ 1 at cos φ 0.6 max. 1 A	
	Au - Contact:	DC min. 5 mA	max. 20 mA	
Electrical connection	A 6.3 x 0.8 flat-type connector as per DIN 46244			
Degree of protection	IP 00 as per IEC 529 (EN 60 529), IP 10 with BS 1, IP 20 with BS3, IP 42 with hood and PG* 11 cable gland (* = heavy-gauge conduit thread) IP 40 with hood			
Setting tolerance	tolerance as per specification			
Installation position	Any, as per specification			

Differential pressure switch
for air, flue and exhaust gases

LGW ... A1

factory-adjusted

DUNGS®
Combustion Controls

Technical data

1mbar = 100 kPa = 0.1 Pa ≈ 10 mmWS 1 Pa = 0.01 mbar ≈ 0.1 mWS

Type	Version	Order No.	Setting range [mbar]	Switching differ-ence [mbar]	Max.operating pressure [mbar]
LGW…A1	**LGW 1.5 A1**	**as per specification**	0.3 - 1.5	≤ 0.2	**100**
	LGW 3 A1	**as per specification**	0.4 - 3	≤ 0.35	**100**
	LGW 10 A1	**as per specification**	1 - 10	≤ 0.5	**100**
	LGW 50 A1	**as per specification**	2.5 - 50	≤ 1	**100**

Accessories for pressure switch	
BS1 / IP 10 contact protection	**230 216**
BS3 / IP 20 contact protection	**230 280**
Complete hood (IP 40)	**230 282**
Complete hood (IP 42)	**230 281**
Attachment plate	**230 301**
Additional test button, complete PT 4	**224 940**

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

Head Offices and Factory
Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Telefax +49 (0)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

Differential pressure switch for air, flue and exhaust gases

LGW…A2, LGW…A2P

DUNGS®

5.13

Technical description

The differential pressure switches LGW…A2, LGW…A2P are adjustable differential pressure switches for automatic burner controls.
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. On LGW…A2P: test button integrated in lower part as standard.

Application

Differential pressure monitoring in firing, ventilation and air-conditioning systems.
Suitable for air, flue and exhaust gases and other non-aggressive gases
as differential pressure switches; not suitable for industrial combustion gases.

Approvals

EC type test approval as per EC Gas Appliance Directive:

LGW A2, A2P CE-0085 AQ 0673

EC type test approval as per EC Pressure Equipment Directive:

LGW A2, A2P CE0036

TÜV (German Technical Inspectorate) test as pressure switch; special construction type as per TRD 604 and VdTÜV leaflet, Edition 100/1, as well as Class "S" as per EN 1854.
Special designs for the North American market with U_L, FM and CSA registrations.
Approvals in other important gas-consuming countries.

Printed in Germany • Rösler Druck • Edition 06.04 • Nr. 214 749

Functional description

Differential pressure switch in pressure and vacuum range. The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without auxiliary power.

LGW…A2 differential pressure switch

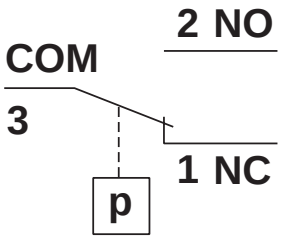
The control unit responds to differential pressure. If the set reference value (mbar) is exceeded or undershot, the circuit is switched on, off or over.

LGW…A2P test button

The LGW...A2P differential pressure switch is equipped with a test button. The test button permits a service-friendly check of the safety function. If the test key is pressed while the pressure exists, the connection to the pressure connection **G 1/4** is interrupted and the pressure under the diaphragm is released. The microswitch of the pressure switch changes the contact position from NO to NC. If the test button is released, the pressure below the diaphragms is built up again and the microswitch changes to its original position.

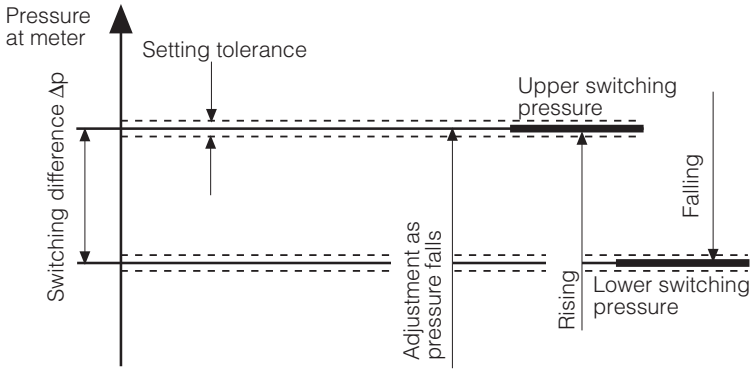
LGW...A2, LGW...A2P switching function

As pressure rises:
1 NC opens, 2 NO closes
As pressure falls:
1 NC closes, 2 NO opens



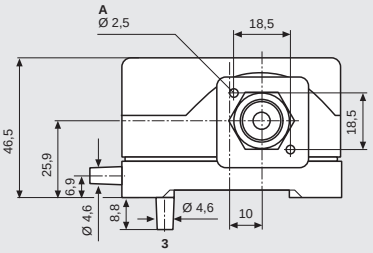
Definition of switching difference Δp

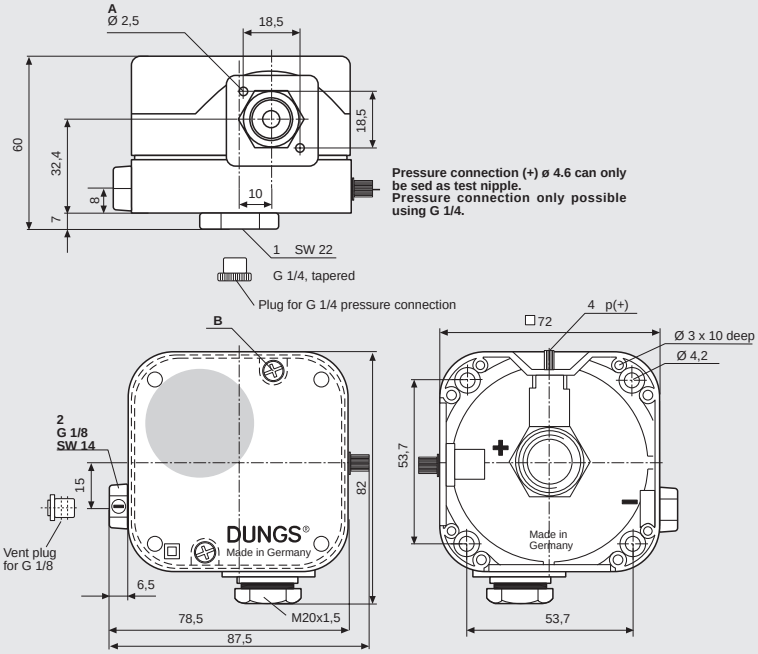
The switching difference Δp is the pressure difference between the upper and lower switching pressures.

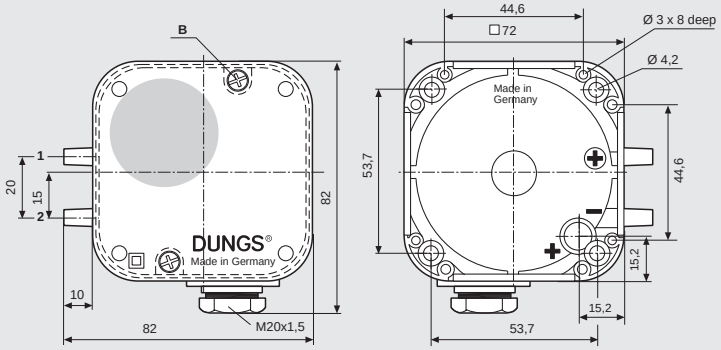


Dimensions [mm] LGW…A2

A 2.5 dia for equipment plug as per DIN EN 175 301-803
B Oblong slot: 0.8 and cross-head as per DIN 7962-Z 2
1 Pressure connection (+)
2 Pressure connection (-)
3 Only LGW... A2 optional pressure connection (+)
4 Test button p (+)







Specifications

Max. operating pressure	LGW 3 A2 - LGW 150 A2			500 mbar (50 kPa)
	LGW 3 A2P - LGW 150 A2P			500 mbar (50 kPa)
Ranges	0.4 - 3 mbar 1 - 10 mbar 2.5 - 50 mbar 30 - 150 mbar			
Pressure connection	LGW A2:	4.6 mm dia. hose gland		
	LGW A2P:	G 1/4 tapered female thread for higher pressure on centre of housing underside, including test button and on the side 4.6 dia. test point; G 1/8 female thread for lower pressure		
Temperature range	Ambient temperature	-15 °C to +70 °C		
	Medium temperature	-15 °C to +70 °C		
	Storage temperature	-30 °C to +85 °C		
Materials	Housing:	polycarbonate		
	Switch:	polycarbonate		
	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 φ 1
		AC eff. max.	3 A	at cos φ 0.6
		AC eff.	min. 20 mA	
		DC	min. 20 mA	
		DC	max. 1 A	
	Au contact:	DC min. 5 mA	max. 20 mA	
Electrical connection	Standard:	At screw terminals via M20x1.5 cable entry		
	Special design:	Plug connection for line sockets as per DIN EN 175 301-803, 3-pin		
Degree of protection	IP 54 as per IEC 529 (EN 60529), protection insulated			
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			

Installation position
Standard installation position with **vertically** upright diaphragm. 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.

Differential pressure switch for air, flue and exhaust gases

LGW…A2, LGW…A2P

DUNGS®

Technical data 1mbar = 100 Pa = 0.1 kPa ≈ 10 mm WS 1 Pa = 0.01 mbar ≈ 0.1 mm WS

Type	Version [Ag-M-V9]	Order No.	Setting range [mbar]	Switching difference Δp [mbar]
LGW A2 Differential pressure switch	LGW 3 A2	107 409	0.4 - 3	≤ 0.3
	LGW 10 A2	107 417	1 - 10	≤ 0.5
	LGW 50 A2	107 425	2.5 - 50	≤ 1
	LGW 150 A2	107 433	30 - 150	≤ 3
	LGW 3 A2P	120 204	0.4 - 3	≤ 0.3
	LGW 10 A2P	120 212	1 - 10	≤ 0.5
	LGW 50 A2P	221 207	2.5 - 50	≤ 1
	LGW 150 A2P	120 238	30 - 150	≤ 3

Accessories for LGW...A2, LGW...A2P pressure switches	
Kit: G3 equipment plug, 3-pin without ground	231 770
Line socket, 3-pin + E, grey GDMW	210 318
KlimaSet accessories KS A2	214 828
G 1/8 screw-in gland	230 278
G 1/4 screw-in gland	230 279
Additional test button, complete PT 4	224 940
Attachment plate	230 301
Glow lamp mounting kit 230 V	231 773
Glow lamp mounting kit 120 V	231 772
Pilot lamp mounting kit 24 V	231 774

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

Head Offices and Factory
Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Telefax +49 (0)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

Differenzdruckwächter für Luft, Rauch- und Abgase

Überdruckwächter für Gas

LGW...A4
LGW...A4/2

DUNGS®

5.08

Technik

Der Differenzdruckwächter LGW…A4 ist ein einstellbarer Differenzdruckwächter für Feuerungsanlagen.
Er ist geeignet zum Ein-, Aus- oder Umschalten eines Stromkreises bei sich änderndem Druck-Istwert zum eingestellten Sollwert.
Der Sollwert (Schaltpunkt) wird an einem Einstellrad mit Skala eingestellt. Serienmäßig im Metallgehäuse integrierter Meßstutzen.

Anwendung

Differenzdrucküberwachung in der Feuerungs-, Lüftungs- und Klimatechnik.
Differenzdruckwächter: Geeignet für Luft, Rauch- und Abgase.
Überdruckwächter:Geeignet für Gase der Gasfamilien 1,2,3 und sonstige neutrale gasförmige Medien.

Zulassungen

EG-Baumusterprüfbescheinigung nach EG-Gasgeräterichtlinie:

LGW…A4	CE-0085 AQ 0673
LGW…A4/2	CE-0085 AQ 0673

EG-Baumusterprüfbescheinigung nach EG-Druckgeräterichtlinie:

LGW…	CE0036

Zulassungen in weiteren wichtigen Gasverbrauchsländern.

TÜV-Prüfung als Druckwächter besonderer Bauart nach TRD 604 und VdTÜV-Merkblatt Druck 100/1, sowie Klasse "S" nach EN 1854.

Printed in Germany • Rösler Druck • Edition 02.06 • Nr. 219 589

Funktion
Differenzdruckwächter im Über- und Unterdruckbereich. Der Differenzdruck wirkt über die Membrane gegen die Kraft der Einstellfeder auf den Mikroschalter. Der Druckwächter arbeitet ohne Hilfsenergie.

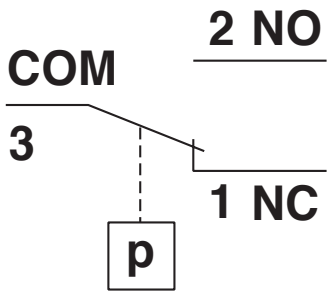
Differenzdruckwächter LGW...A4
Das Schaltwerk spricht auf Differenzdruck an, der zwischen den beiden Druckkammern herrscht und schaltet beim Über- bzw. Unterschreiten des eingestellten Sollwertes einen Stromkreis ein bzw. aus oder um.

Überdruckwächter LGW...A4 Druckanschluß G 1/4
Das Schaltwerk spricht auf Überdruck an, der beim Über- bzw. Unterschreiten des eingestellten Sollwertes einen Stromkreis ein- bzw. aus- oder umschaltet.
Einfach wirkender Druckwächter im Überdruckbereich. Der Druckanschluss G 1/8 darf nicht verschlossen werden.

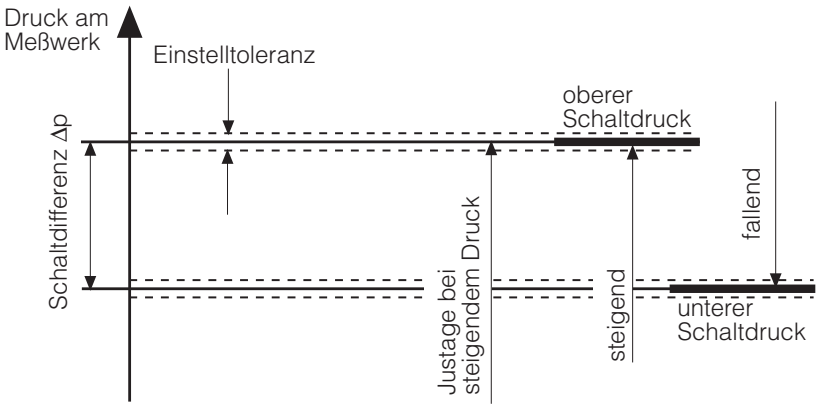
Unterdruckwächter LGW...A4 Druckanschluß G 1/8
Das Schaltwerk spricht auf Unterdruck an, der beim Über- bzw. Unterschreiten des eingestellten Sollwertes einen Stromkreis ein- bzw. aus- oder umschaltet.
Einfach wirkender Druckwächter im Unterdruckbereich. Der Druckanschluss G 1/4 darf nicht verschlossen werden.

Schaltfunktion LGW...A4

Bei steigendem Druck:
1 NC öffnet, 2 NO schließt.
Bei fallendem Druck:
1 NC schließt, 2 NO öffnet.



Definition der Schaltdifferenz Δp
Die Schaltdifferenz Δp ist die Druckdifferenz zwischen dem oberen und unteren Schaltdruck.



LGW...A4, Ausführung Haube klar
Schutzart IP 54

IP 54

5 Schutz gegen Eindringen von festen Fremdkörpern ø ≥ 1 mm
Schutz gegen den Zugang zu gefährlichen Teilen mit einem Draht, ø ≥ 1 mm
Vollständiger Berührschutz.

4 Schutz gegen Spritzwasser
Es darf keine schädliche Wirkung haben.

LGW...A4/2, Ausführung mit Metallgehäuse
Schutzart IP 65

IP 65

6 Schutz gegen Eindringen von Staub (staubdicht).
Schutz gegen den Zugang zu gefährlichen Teilen mit einem Draht, ø ≥ 1 mm
Vollständiger Berührschutz.

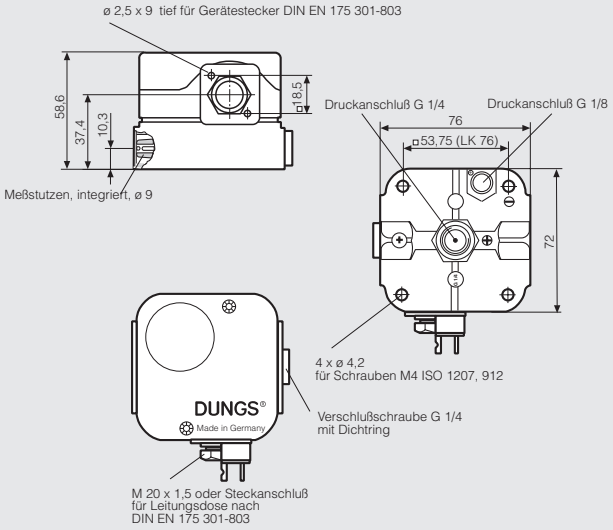
5 Schutz gegen einen Wasserstrahl aus einer Düse, der aus allen Richtungen gegen das Betriebsmittel (Gehäuse) gerichtet wird.
Es darf keine schädliche Wirkung haben (Strahlwasser).

Technische Daten

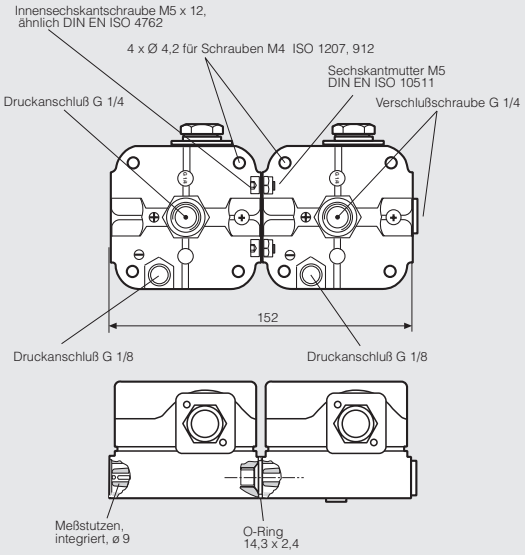
Max. Betriebsdruck	LGW 3 A4 - LGW 150 A4	500 mbar (50 kPa)		
	LGW 3 A4/2 - LGW 150 A4/2	500 mbar (50 kPa)		
Druckanschluß	P+: mittig Gehäuseunterseite G 1/4-Innengewinde nach ISO 228: **Gas oder Luft**			
	P+: seitlich an Gehäuse mit Verschlußschraube G 1/4: **Gas oder Luft**			
	P-: seitlich Gehäuseunterseite G 1/8-Innengewinde nach ISO 228: **nur Luft**			
Meßanschluß	im Metallgehäuse integrierter Meßstutzen, ø 9			
Temperaturbereich	Umgebungstemperatur	-15 °C bis +70 °C		
	Mediumstemperatur	-15 °C bis +70 °C		
	Lagertemperatur	-30 °C bis +80 °C		
Werkstoffe	**LGW...A4**			
	Gehäuse-Unterteil	Aluminiumdruckguß		
	Haube	Polycarbonat		
	Schalterteil	Polycarbonat		
	Membrane	NBR		
	Schaltkontakt	Standard: Ag		
		Optional: Ag vergoldet (Au), geeignet für DDC-Anwendungen: DC 24 V; 0,02 A		
	LGW...A4/2			
	Gehäuse-Unterteil	Aluminiumdruckguß		
	Haube	Zinkdruckguß, pulverbeschichtet		
	Schalterteil	Polycarbonat		
	Membrane	NBR		
	Schaltkontakt	Standard: Ag)		
		Optional: Ag vergoldet (Au), geeignet für DDC-Anwendungen: DC 24 V; 0,02 A		
Schaltspannung	Ag-Kontakt	AC eff.	min. 24 V	max. 250 V
		DC	min. 24 V	max. 48 V
	Au-Kontakt	DC	min. 5 V	max. 24 V
Nennstrom	Ag-Kontakt	AC eff.	10 A	
	Au-Kontakt	DC	20 mA	
Schaltstrom	Ag-Kontakt	AC eff.	min. 20 mA	max. 6 A bei cos φ 1
		AC eff.	min. 20 mA	max. 3 A bei cos φ 0,6
		DC	min. 20 mA	max. 1 A
	Au-Kontakt	DC	min. 5 mA	max. 20 mA
Elektrischer Anschluß	Standard	an Schraubenklemmen über Kabeleinführung M20x1,5		
	Sonderausführung	Steckanschluß für Leitungsdosen nach DIN EN 175 301-803, 3-polig mit Schutzkontakt		
Schutzart	LGW…A4	IP 54 nach IEC 529 (EN 60529), (Haube klar),		
	LGW…A4/2	IP 65 nach IEC 529 (EN 60529), (Metallgehäuse),		
Justage	Bei steigendem Druck in senkrechter Einbaulage. Wahlweise steigend oder fallende Einstellung vor Ort möglich. Bei Abweichung der Einbaulage Schaltpunktänderung beachten.			
Einstelltoleranz	± 15% Schaltpunktabweichung bezogen auf den Sollwert und Montage in senkrechter Einbaulage			
Sollwerteinsteller	Standard: blau			
	Ausführung "Y": gelb			

Einbaumaße [mm]

LGW...A4

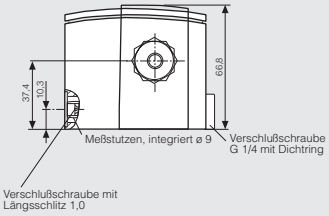


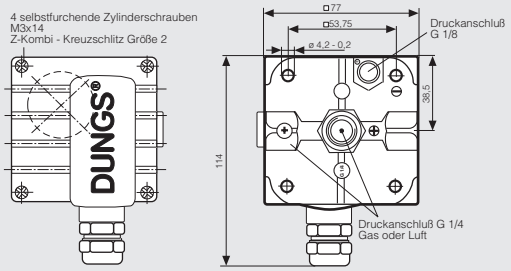
LGW... / ...A4



LGW...A4/2

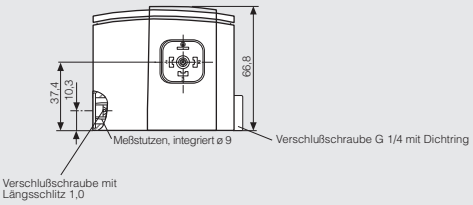
mit Metallgehäuse,
Kabeleinführung M 20 x 1,5

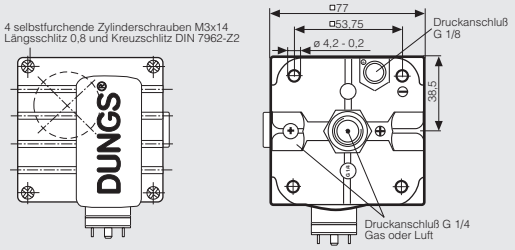




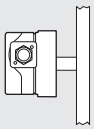
LGW...A4/2

mit Metallgehäuse, Steckeranschluß für
Leitungsdose nach DIN EN 175 301-803

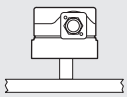




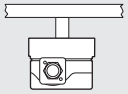
Einbaulage



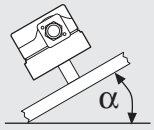
Standardeinbaulage



Bei waagerechtem Einbau schaltet der Druckwächter bei einem um ca. 0,5 mbar höheren Druck.

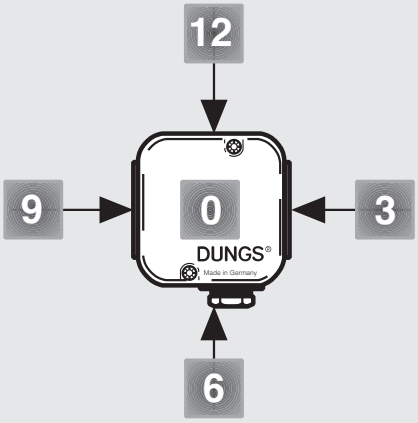


Bei Einbau waagerecht über Kopf schaltet der Druckwächter bei einem um ca. 0,5 mbar niedrigeren Druck.



Bei Einbau in einer Zwischeneinbaulage schaltet der Druckwächter bei einem vom eingestellten Sollwert maximal ± 0,5 mbar abweichenden Druck.

Bezeichnung



LGW 3 A4 [Y-Ag-M-MS9-V0-VS3]

Druckanschluß
V0 Druckanschluß G 1/4 Position 0
V3 Druckanschluß G 1/4 Position 3

Verschlußschraube
VS0 Verschlußschraube an Position 0
VS3 Verschlußschraube an Position 3

Meßstutzen
MS3 Meßstutzen an Position 3
MS9 Meßstutzen an Position 9
M9 Meßstutzen, offen. Position 9

Elektrischer Anschluß
M Kabeleinführung M20 x 1,5
G3 Gerätestecker

Kontaktwerkstoff
Ag
Au

Ausführung
Y Gas-Ausführung (gelber Sollwerteinsteller)

Einstellbereiche [mbar]
0,4 - 3
1 - 10
2,5 - 50
30 - 150

Druckwächterausführung
LGW…A4 Haube klar, PC, (IP 54) Differenzdruckwächter schaltet bei Über- bzw. Unterschreiten des eingestellten Sollwertes.

LGW…A4/2 Metallgehäuse, pulverbeschichtet, (IP 65) Differenzdruckwächter schaltet bei Über- bzw. Unterschreiten des eingestellten Sollwertes.

Bestellbeispiel

Druckwächterausführung
Differenzdruckwächter LGW…A4
Einstellbereich
30 - 150 mbar
Kontaktwerkstoff
Ag
Elektrischer Anschluß
Kabeleinführung M20 x 1,5
Meßstutzen
MS 9
Druckanschluß G 1/4:
V0 -VS3: an Position 0 und Position 3 mit Verschlußschraube

LGW 150 A4 [Ag-M-MS9-V0-VS3]

Zubehör für Druckwächter LGW...A4	Bestell-Nr.
Set: Gerätestecker G3, 3-pol + E	219 659
Leitungsdosen 3-pol + E, grau GDMW	210 318
Meßstutzen G 1/4 mit Dichtring (5 x)	230 398
Verschlußschraube G 1/4 mit Dichtring (5 x)	230 396
Montage-Set Doppeldruckwächter (nicht für /2-Version)	213 910
Befestigungswinkel, Metall	230 288
Winkel-Einschraubstutzen G1/4, nur für Luft	230 279
Winkel-Einschraubstutzen G1/8, nur für Luft	230 278
Montage-Set Glimmlampe 230 V gelb	231 773
Montage-Set Glimmlampe 120 V gelb	231 772
Montage-Set Anzeige-LED 24 V gelb	231 774
Montage-Set Glimmlampe 230 V grün	248 239
Montage-Set Anzeige-LED 24 V grün	248 240

Differenzdruckwächter für Luft, Rauch- und Abgase
Überdruckwächter für Gas

LGW...A4
LGW...A4/2

DUNGS®

Technische Kurzübersicht 1 mbar = 100 Pa = 0,1 kPa ≈ 10 mm WS 1 Pa = 0,01 mbar ≈ 0,1 mm WS

Typ	Ausführung [Ag-M-MS9-V0-VS3]	Bestell-Nummer	Einstellbereich [mbar]		Schutzart	Schaltdifferenz Δp [mbar]
LGW...A4 Differenz-druck-wächter	LGW 3 A4	221 590	0,4 - 3		IP 54	≤ 0,3
	LGW 10 A4	221 591	1 - 10		IP 54	≤ 0,5
	LGW 50 A4	221 592	2,5 - 50		IP 54	≤ 1
	LGW 150 A4	221 593	30 - 150		IP 54	≤ 3
Lieferung in Sammelverpackung						

Typ	Ausführung [Ag-M-MS9-V0-VS3]	Bestell-Nummer	Einstellbereich [mbar]		Schutzart	Schaltdifferenz Δp [mbar]
LGW...A4/2 Differenz-druck-wächter	LGW 3 A4/2	232 041	0,4 - 3		IP 65	≤ 0,3
	LGW 10 A4/2	232 046	1 - 10		IP 65	≤ 0,5
	LGW 50 A4/2	232 048	2,5 - 50		IP 65	≤ 1
	LGW 150 A4/2	232 050	30 - 150		IP 65	≤ 3
Lieferung in Einzelverpackung						

Typ	Ausführung [Ag-G3-MS9-V0-VS3]	Bestell-Nummer	Einstellbereich [mbar]		Schutzart	Schaltdifferenz Δp [mbar]
LGW...A4/2 Differenz-druck-wächter	LGW 3 A4/2	232 716	0,4 - 3		IP 65	≤ 0,3
	LGW 10 A4/2	232 717	1 - 10		IP 65	≤ 0,5
	LGW 50 A4/2	232 718	2,5 - 50		IP 65	≤ 1
	LGW 150 A4/2	232 719	30 - 150		IP 65	≤ 3
Lieferung in Einzelverpackung, inklusive Leitungsdose						

Typ	Ausführung [Y-Ag-M-MS9-V0-VS3]	Bestell-Nummer	Einstellbereich [mbar]		Schutzart	Schaltdifferenz Δp [mbar]
LGW...A4 Differenz-druck-wächter	LGW 3 A4 Y	242 864	0,4 - 3		IP 54	≤ 0,3
	LGW 10 A4 Y	242 865	1 - 10		IP 54	≤ 0,5
	LGW 50 A4 Y	242 866	2,5 - 50		IP 54	≤ 1
	LGW 150 A4 Y	242 867	30 - 150		IP 54	≤ 3
Lieferung in Sammelverpackung						

Änderungen, die dem technischen Fortschritt dienen, vorbehalten.

Hausadresse
Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telefon +49 (0)7181-804-0
Telefax +49 (0)7181-804-166

Briefadresse
Karl Dungs GmbH & Co. KG
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com

Pressure switch for gas and air

GAO-A4…
GMH-A4…
GML-A4…

DUNGS®

UL Listed
- **UL 353**
- **File # MH 16628**

CSA Certified
- **CSA C22.2 No. LR 53222**
- **Certification # 201527**

FM Approved
- **Class 3510, 3530**
- **File # J.I. 1T7A8.AF**

European models tested to EN1854 per Gas Appliance Directive 90/396/EEC and per Pressure Equipment Directive 97/23/EC.

DUNGS is an ISO 9001 manufacturing facility.

Description
The DUNGS GAO-, GMH- and GML-A4… pressure switches are adjustable pressure switches for automatic burner controls.

A4 pressure switches are suitable for making and/or breaking a circuit relative to changes in medium pressure relative to the set point. The set point can be set in the field by an adjustable dial with an integrated scale. Test nipple integrated in metal housing to verify setpoint.

Application
The DUNGS GAO-, GMH-, and GML-A4… pressure switch is recommended for industrial and commercial heating, ventilation and air-conditioning systems.

The GAO-, GMH-, and GML-A4… pressure switch is suitable for natural gas, propane, butane, air and other inert gases.

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GAO-A4... SPDT pressure switch requires no auxiliary power. The GAO-A4… is suitable for making and/or breaking a circuit when the set point is exceeded or undershot. A tripped switch is indicated by a neon light after set point is exceeded or undershot. **Automatic reset** when pressure returns below or above set point.

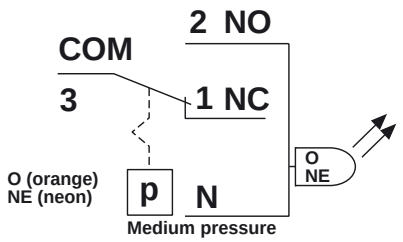
GMH-A4... SPDT pressure switch requires no auxiliary power. The GMH-A4… is suitable for making and/or breaking a circuit when the set point is exceeded. A tripped switch is indicated by a neon light after set point is exceeded. **Manual reset** is required to reset the switch.

GML-A4... SPDT pressure switch requires no auxiliary power. The GML-A4… is suitable for making and/or breaking a circuit when the set point is undershot. A tripped switch is indicated by a neon light after set point is undershot. **Manual reset** is required to reset the switch.

Specifications

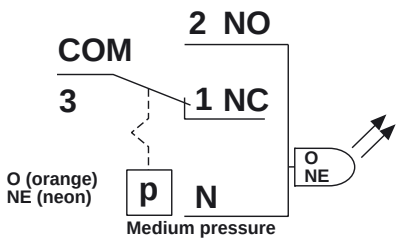
Max. operating pressure	GAO-A4-4-2,3,5,6 GMH-, GML-A4-4-4,6 GAO-, GMH- and GML-A4-4-8	7 PSI (500mbar) 7 PSI (500mbar) 14 PSI (1000 mbar)
Max. body pressure	15 PSI (1033 mbar)	
Pressure connection	Standard: 1/4" NPT female thread centered underside of housing.	
Temperature range GAO-, GMH- and GML-A4-4 GAO-, GMH- and GML-A4-4-8	Ambient temperature Medium temperature Ambient temperature Medium temperature	-40 °F to +140 °F (-40 °C to +60 °C) -40 °F to +140 °F (-40 °C to +60 °C) -22 °F to +140 °F (-30 °C to +60 °C) -22 °F to +140 °F (-30 °C to +60 °C)
Materials	Housing Switch Diaphragm Switching contact	Aluminium Polycarbonate NBR-based rubber Silver or Gold
Electrical ratings	AC eff. DC	min. 24 V max. 240 V min. 24 V max. 48 V
Current ratings	Silver (Ag) contact ratings AC 10A resistive @ 120 VAC AC 8A inductive @ 120 VAC DC min. 20 mA @ 24 VDC DC max. 1 A @ 48 VDC	Gold (Au) contact ratings DC min. 5 mA @ 5 VDC DC max. 20 mA @ 24 VDC
Electrical connection	Screw terminals via 1/2" NPT conduit connection	
Enclosure rating	NEMA Type 4	
Setting tolerance	± 15% switching point deviation referred to set point, adjusted as pressure rises, vertical diaphragm position	

GAO switching function (upper)
As pressure rises:
1 NC opens, 2 NO closes
As pressure falls:
1 NC closes, 2 NO opens

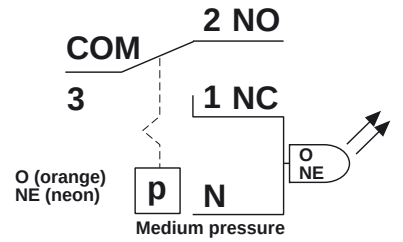


GMH switching function

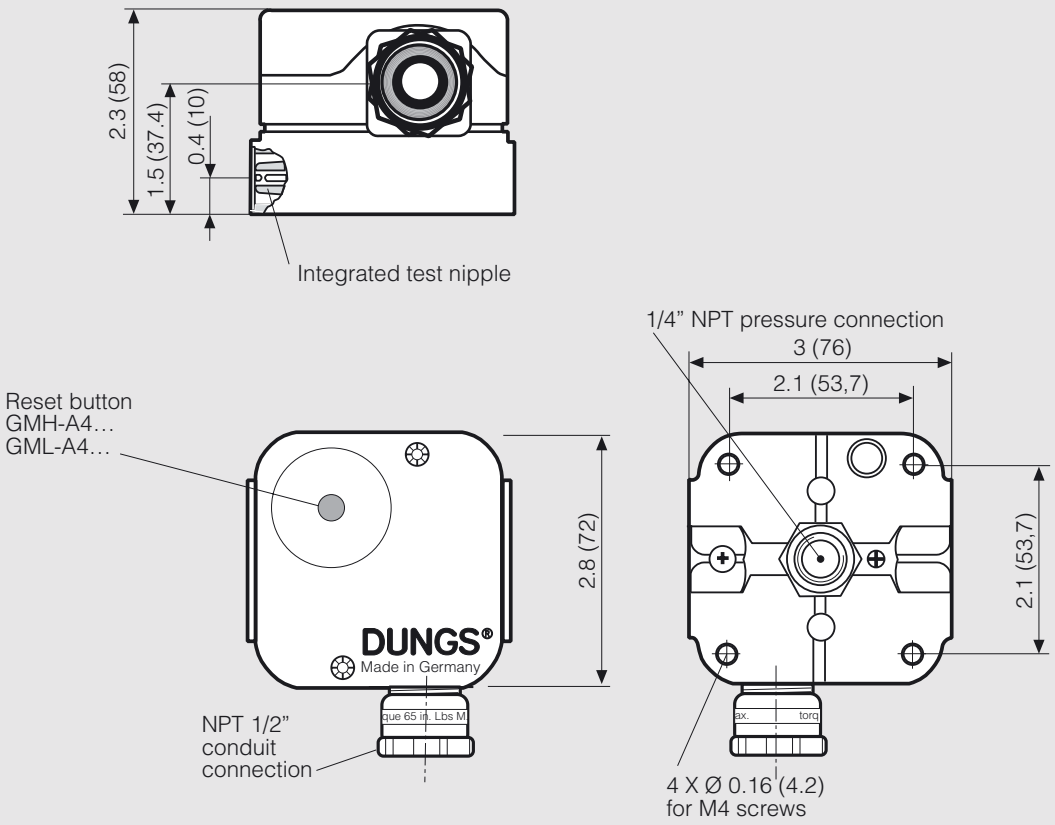
As pressure rises
2 NO closes, 1 NC opens
Neon light ON, tripped.



GML switching function shown in operating state.
As pressure falls
2 NO opens, 1 NC closes
Neon light ON, tripped.

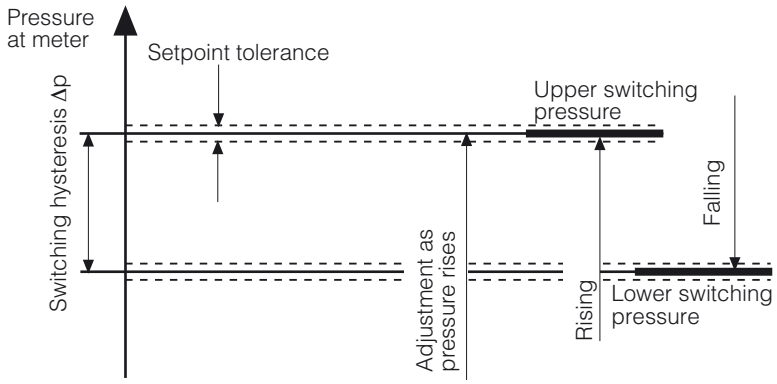


Dimensions inch (mm)
GAO-, GMH-, GML-A4…

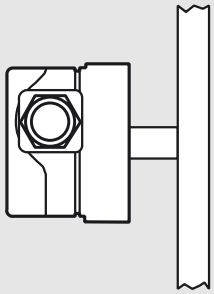


Replacement parts / Accessories	Order No.	For equipment	Notes
Replacement conduit adapter	46000-14	GAO, GMH, GML	1/2“ NPT
Replacement cover	D228 732	GAO	
Replacement cover	D233 113	GMH, GML	
Replacement light	D244 156	GAO, GMH, GML	120 VAC, Red bulb
Replacement light	D244 157	GAO, GMH, GML Gold contact versions	24 V, Red bulb
Electrical plug for A4 (For use with D210 318)	D219 659	GAO	N/A
Electrical plug for A4 (For use with D210 318)	D227 644	GMH, GML	N/A
DIN connector for A4 (For use with D219 659 & D227 644)	D210 318	GAO, GMH, GML	N/A
Double pressure switch mounting kit	D239 812	GAO, GMH, GML	N/A

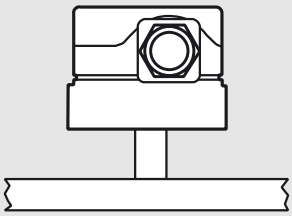
Definition of switching hysteresis Δp
The pressure difference between the upper and lower switching pressures



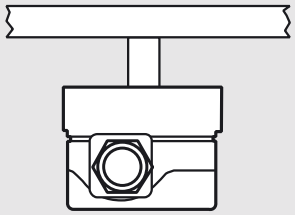
Installation position



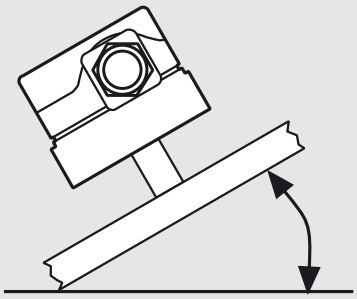
Standard installation position



When installed horizontally, the pressure switch switches at a pressure higher by approximately 0.2 in wc (0.5 mbar).



When installed upside down, the pressure switch switches at a pressure lower by approximately 0.2 in wc (0.5 mbar).



When installed in other position the pressure switch switches at pressure deviating from the set reference value by max. ±0.2 in wc (0.5 mbar).

NOTE: Always calibrate the switch in the desired mounting position

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Technical data

Type	Version	Order No.	Setting range In. W.C.	Switching hysteresis In. W.C. (calibrated at)	
GAO-A4... pressure switch	GAO-A4-4-2	46014-2	0.16 - 1.20“	≤ 0.12“	
	GAO-A4-4-3	46014-3	0.40 - 4.00“	≤ 0.20“	
	GAO-A4-4-5	46014-5	2.00 - 20.00“	≤ 0.40“	
	GAO-A4-4-6	46014-6	12.00 - 60.00“	≤ 1.20“	
	GAO-A4-4-8	46014-8	40.00 - 200.00“	≤ 4.00“	
	GAO-A4-4-2 Gold	46014-12	0.16 - 1.20“	≤ 0.12“	
	GAO-A4-4-3 Gold	46014-13	0.40 - 4.00“	≤ 0.20“	
	GAO-A4-4-5 Gold	46014-15	2.00 - 20.00“	≤ 0.40“	
	GAO-A4-4-6 Gold	46014-16	12.00 - 60.00“	≤ 1.20“	
	GAO-A4-4-8 Gold	46014-18	40.00 - 200.00“	≤ 4.00“	
GMH-A4... pressure switch	GMH-A4-4-4	46015-4	1.00 - 20.00“	--	
	GMH-A4-4-6	46015-6	12.00 - 60.00“	--	
	GMH-A4-4-8	46015-8	40.00 - 200.00“	--	
	GMH-A4-4-4 Gold	46015-14	1.00 - 20.00“	--	
	GMH-A4-4-6 Gold	46015-16	12.00 - 60.00“	--	
GML-A4... pressure switch	GML-A4-4-4	46016-4	1.00 - 20.00“	--	
	GML-A4-4-6	46016-6	12.00 - 60.00“	--	
	GML-A4-4-8	46016-8	40.00 - 200.00“	--	
	GML-A4-4-4 Gold	46016-14	1.00 - 20.00“	--	

All switches with Silver contacts have 120 VAC neon lights factory installed
All switches with Gold contacts have 24 V lights factory installed

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

Karl Dungs Inc.
524 Apollo Drive Suite 10
Lino Lakes, MN 55014, U.S.A.
Phone 651 792-8912
Fax 651 792-8919
e-mail info@karldungsusa.com
Internet http://www.dungs.com/usa/

Karl Dungs GmbH & Co.
P.O. Box 12 29
D-73602 Schorndorf, Germany
Phone +49 (0)7181-804-0
Fax +49 (0)7181-804-166
e-mail info@dungs.com
Internet http://www.dungs.com