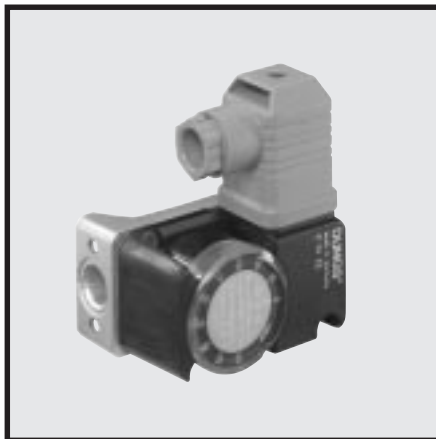
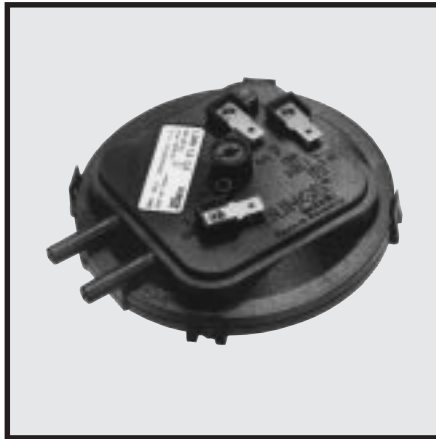


# Pressure switches for gas and air Pressure sensors

## Product line overview

# DUNGS®

### 5.0



## **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.

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Brief technical data	Pressure switch for gas and air	Differential pressure switch for air
<b>Max. operating pressures</b>	Refer to individual tables	Refer to individual tables
<b>Temperature ranges</b>	Ambient temperature: -15 °C to +60 °C Medium temperature: -15 °C to +80 °C  <b>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.</b>	Ambient temperature: -15 °C to +85 °C Medium temperature: -15 °C to +85 °C
<b>Materials</b>	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
<b>Electrical connection</b>	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.
<b>Degree of protection</b>	Refer to individual tables	Refer to individual tables

#### Conversion table for pressure units

Unit	Name	Pa	bar	mbar	μbar	N/mm <sup>2</sup>	lbf/in <sup>2</sup>
1Pa = 1 N/m <sup>2</sup>	Pascal	1	10 <sup>-5</sup>	0.01	10	10 <sup>-6</sup>	0.00014
1 bar	Bar	10 <sup>5</sup>	1	1000	10 <sup>6</sup>	0.1	14.5037
1 mbar	Millibar	100	10 <sup>-3</sup>	1	1000	10 <sup>-4</sup>	0.0145
1μbar	Microbar	0.1	10 <sup>-6</sup>	10 <sup>-3</sup>	1	10 <sup>-7</sup>	0.000014
1 N/mm <sup>2</sup>	Newton per mm <sup>2</sup>	10 <sup>6</sup>	10	10 <sup>4</sup>	10 <sup>7</sup>	1	145.03
1lbf/in <sup>2</sup> (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

<b>LGW...A4/2</b>	Square shape • IP 65 • Die-cast hood • Epoxy coating • G 1/4 threaded connection • Switching pressure adjustable by hand wheel
<b>GW...A2</b>	Square shape • Gas pressure switch for DUNGS multiple actuators • O ring flange connection
<b>GW...A3</b>	Square shape • Gas pressure switch for multiple actuators • O ring flange connection
<b>GW...A4</b>	Square shape • Gas pressure switch • G 1/4 threaded connection • Switching pressure adjustable by hand wheel
<b>GW...A5</b>	Rectangular shape • Compact pressure switch for DUNGS multiple actuators • O ring flange connection
<b>GW...A6</b>	Rectangular shape • Compact pressure switch • G 1/4 threaded connection • Switching pressure adjustable by hand wheel

### Double pressure switches for gases and air (Überdruckbereich)

<b>GW...A6/...A6</b>	Rectangular shape • Flanged single housings • Switching pressures adjustable by hand wheel
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### Pressure switches for gases and air, $p_{\max} \geq 2,0$ bar, Metallmembrane

<b>GW 500/2000/6000 A4</b>	Round shape • G 1/4 threaded connection • Switching pressure adjustable by hand wheel
<b>GW 500 A4/2, GW 2000 A4/2, GW 6000 A4/2</b>	

### Pressure limiters for gas and air

<b>NB...A2</b>	Square shape • Interlocked as pressure falls • Pressure switch for DUNGS multiple actuators
<b>NB...A4</b>	Square shape • Interlocked as pressure falls • Switching pressure adjustable by hand wheel • Compact pressure switch
<b>ÜB...A2</b>	Square shape • Interlocked as pressure rises • Pressure switch for DUNGS multiple actuators
<b>ÜB...A4</b>	Square shape • Interlocked as pressure rises • Switching pressure adjustable using hand wheel • Compact pressure switch

### Differential pressure switches for gases and air

<b>GGW...A4</b>	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
<b>GGW...A4/U</b>	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
<b>LGW...A4</b>	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

<b>LGW...A1</b>	Square shape • Fixed adjustment at factory • Connection for 4 mm dia. hose
<b>LGW...A2</b>	Square shape • Switching pressure adjustable by hand wheel • Connection for 4 mm dia. hose
<b>LGW...A2P</b>	Square shape • Test button • Switching pressure adjustable by hand wheel • G 1/4 (tapered) and G 1/8 threaded connections
<b>LGW...C2</b>	Round shape • Large diaphragm diameter • Switching pressure adjustable by hand wheel • Connection for 4 mm dia. and 6 mm dia. hoses
<b>LGW...C3</b>	Round shape • Fixed adjustment at factory • Connection for 6 mm dia. hose
<b>LGW...A4/2</b>	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)

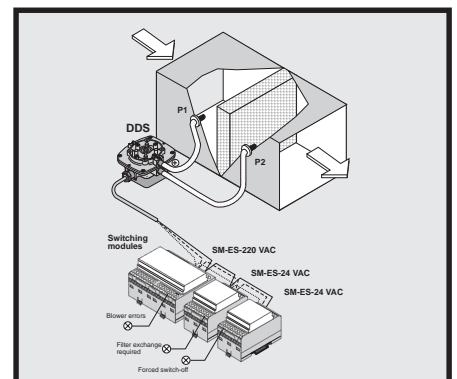
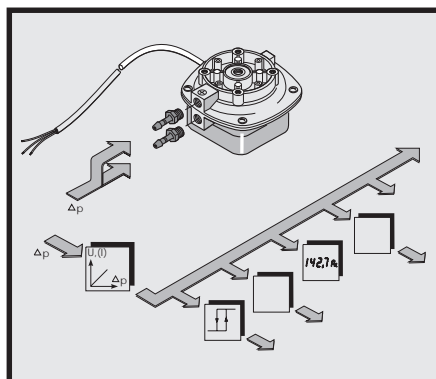
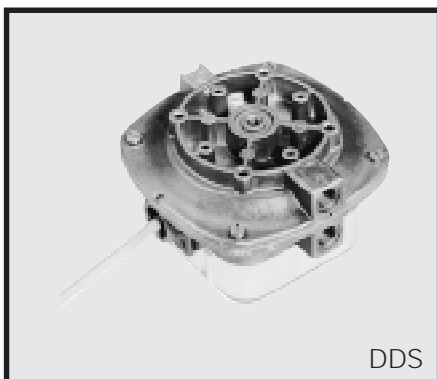
<b>KS...C2</b>	Round shape • Switching pressure adjustable by hand wheel • Suitable for DDC applications
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### Electronic differential pressure sensor for gases and air

<b>DDS</b>	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
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**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.**

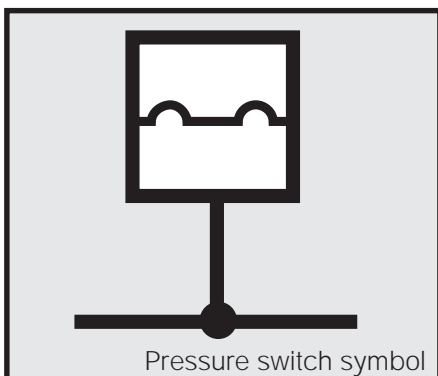
Product	Type	Order No.	Setting ranges [Pa]	Air	Gas	Degree of protection	Max. operating pressure [kPa]
<b>Differential pressure sensor</b>	DDS 100-M2	215 052	0 - 100	X	X	IP 54	5
	DDS 150-M2	216 538	0 - 150	X	X	IP 54	5
	DDS 500-M2	215 055	0 - 500	X	X	IP 54	5
	DDS 1000-M2	215 056	0 - 1000	X	X	IP 54	5
	DDS 1500-M2	215 057	0 - 1500	X	X	IP 54	5
	DDS 3000-M2	231 313	0 - 3000	X	X	IP 54	5
<b>Differential pressure sensor with mounting kit</b>	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
<b>Mounting kit, complete</b>		216 992		X	—		
<b>Mounting bracket</b>		230 288		X	—		
<b>Connection hose <math>\varnothing</math> 4 (10 x)</b>		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 $\Delta p$ [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]	
Pressure switch for gas and air	GW 3 A2	215 230	0,4 - 3	$\leq 0,3$	X	X	IP 54	500	
	GW 10 A2	215 231	1 - 10	$\leq 0,5$	X	X	IP 54	500	
	GW 50 A2	215 232	2,5 - 50	$\leq 1$	X	X	IP 54	500	
	[AG G3 V12] ↑ □	GW 50 A2	215 233	5 - 50	$\leq 1$	X	X	IP 54	500
	GW 150 A2	215 234	5 - 150	$\leq 3$	X	X	IP 54	500	
	GW 150 A2	215 235	30 - 150	$\leq 3$	X	X	IP 54	500	
	GW 500 A2	215 236	100 - 500	$\leq 10$	X	X	IP 54	600	
	GW 10 A3	as per Spez.	1 - 10	$\leq 1,0$	X	X	IP 00-54	150	
	GW 50 A3	as per Spez.	2,5 - 50	$\leq 2,5$	X	X	IP 00-54	150	
	GW 100 A3	as per Spez.	20 - 100	$\leq 8,0$	X	X	IP 00-54	150	
[AG G3 V12] ↓ □	GW 3 A5	229 250	0,7 - 3	$\leq 0,7$	X	X	IP 54	500	
	GW 10 A5	225 938	2 - 10	$\leq 1$	X	X	IP 54	500	
	GW 50 A5	225 939	5 - 50	$\leq 2,5$	X	X	IP 54	500	
	GW 150 A5	225 940	10 - 150	$\leq 5$	X	X	IP 54	500	
	GW 500 A5	227 639	100 - 500	$\leq 15$	X	X	IP 54	600	
[AG M MS9 V0 VS3] ↑ □	GW 500 A4/2	237 804	100 - 500	$\leq 10$	X	X	IP 65	600	



### 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 $\Delta p$ [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	$\leq 0,7$	X	X	IP 54	500		
	GW 10 A6	228 724	2 - 10	$\leq 1,0$	X	X	IP 54	500		
	GW 50 A6	228 725	5 - 50	$\leq 2,5$	X	X	IP 54	500		
	GW 150 A6	228 726	10 - 150	$\leq 5$	X	X	IP 54	500		
	GW 500 A6	228 727	100 - 500	$\leq 15$	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	$\leq 0,7$	$\leq 0,7$	X	X	IP 54	500
	GW3A6/10A6	229 236	0,7 - 3	2 - 10	$\leq 0,7$	$\leq 1,0$	X	X	IP 54	500
	GW10A6/10A6	229 237	2 - 10	2 - 10	$\leq 1,0$	$\leq 1,0$	X	X	IP 54	500
	GW10A6/50A6	229 238	2 - 10	5 - 50	$\leq 1,0$	$\leq 2,5$	X	X	IP 54	500
	GW10A6/150A6	229 239	2 - 10	10 -150	$\leq 1,0$	$\leq 5$	X	X	IP 54	500
	GW50A6/50A6	229 240	5 - 50	5 - 50	$\leq 2,5$	$\leq 2,5$	X	X	IP 54	500
	GW50A6/150A6	229 241	5 - 50	10 -150	$\leq 2,5$	$\leq 5,0$	X	X	IP 54	500
	GW150A6/150A6	229 242	10 - 150	10 -150	$\leq 5$	$\leq 5$	X	X	IP 54	500
GW500A6/500A6	229 243	100 - 500	100-500	$\leq 15$	$\leq 15$	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 $\Delta p$ [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure switch [AG G3 MS9 V0]	GW 500 A4	232 034	100 - 500	$\leq 15$	X	X	IP 54	2000
	GW 500 A4/2	232 105	100 - 500	$\leq 15$	X	X	IP 65	2000
	GW 2000 A4	232 037	300 - 2000	$\leq 30$	X	X	IP 54	4000
	GW 2000 A4/2	232 106	300 - 2000	$\leq 30$	X	X	IP 65	4000
	GW 6000 A4	232 039	1000 - 6000	$\leq 300$	X	X	IP 54	7200
	GW 6000 A4/2	232 107	1000 - 6000	$\leq 300$	X	X	IP 65	7200



**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 $\Delta p$ [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
<b>Pressure limiter</b> [AG G3 V12] ↓	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
	NB 500 A2	215 241	100 - 500	—	X	X	IP 54	600
<b>[AG PG MS9 V0] ↓</b>	NB 50 A4	210 534	2,5 - 50	—	X	X	IP 54	500
	NB 150 A4	210 931	30 - 150	—	X	X	IP 54	500
	NB 500 A4	210 971	100 - 500	—	X	X	IP 54	600
<b>Pressure limiter</b> [AG G3 V12] ↑	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
	ÜB 500 A2	215 246	100 - 500	—	X	X	IP 54	600
<b>[AG PG MS9 V0] ↑</b>	ÜB 50 A4	210 537	2,5 - 50	—	X	X	IP 54	500
	ÜB 150 A4	138 630	30 - 150	—	X	X	IP 54	500
	ÜB 500 A4	210 970	100 - 500	—	X	X	IP 54	600












**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 $\Delta p$ [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
Pressure [AG M MS9 V0 VS3 NH <sub>3</sub> ,best.]	GGW 3 A4	232 108	0,4 - 3	$\leq 0,3$	X	X	IP 54	500
	GGW 10 A4	232 109	1 - 10	$\leq 0,5$	X	X	IP 54	500
	GGW 50 A4	232 110	2,5 - 50	$\leq 1$	X	X	IP 54	500
	GGW 150 A4	232 111	30 - 150	$\leq 3$	X	X	IP 54	500
Vacuum [AG M MS9 V0 VS3 NH <sub>3</sub> ,best.]	GGW 3 A4-U	232 991	-0,4 - -3	$\leq 0,3$	X	X	IP 54	-500
	GGW 10 A4-U	232 992	-1 - -10	$\leq 0,5$	X	X	IP 54	-500
	GGW 50 A4-U	232 993	-2,5 - -50	$\leq 1$	X	X	IP 54	-500
	GGW 150 A4-U	232 994	-30 - -150	$\leq 3$	X	X	IP 54	-500



**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 $\Delta p$ [mbar]	Air	Gas	Degree of protection	Max. operating pressure [mbar]
<b>Differential pressure switch for air</b>	LGW 3 A1	as per Spez.	0,4 - 3	$\leq 0,35$	X	—		100
	LGW 10 A1	as per Spez.	1 - 10	$\leq 0,5$	X	—		100
	LGW 50 A1	as per Spez.	2,5 - 50	$\leq 1$	X	—		100
<b>[AG PG V9]</b> 	LGW 3 A2	107 409	0,4 - 3	$\leq 0,35$	X	—		500
	LGW 10 A2	107 417	1 - 10	$\leq 0,5$	X	—		500
	LGW 50 A2	107 425	2,5 - 50	$\leq 1$	X	—		500
	LGW 150 A2	107 433	30 - 150	$\leq 3$	X	—		500
<b>[AG PG V9]</b> 	LGW 3 A2P	120 204	0,4 - 3	$\leq 0,35$	X	—		500
	LGW 10 A2P	120 212	1 - 10	$\leq 0,5$	X	—		500
	LGW 50 A2P	120 220	2,5 - 50	$\leq 1$	X	—		500
	LGW150 A2P	120 238	30 - 150	$\leq 3$	X	—		500
<b>[AG PG MS9 VS3 V0]</b> 	LGW 3 A4	221 590	0,4 - 3	$\leq 0,3$	X	X **		500
	LGW 10 A4	221 591	1 - 10	$\leq 0,5$	X	X **		500
	LGW 50 A4	221 592	2,5 - 50	$\leq 1$	X	X **		500
	LGW 150 A4	221 593	30 - 150	$\leq 3$	X	X **		500
<b>[AG PG V3]</b>   	LGW 1,5 C2	212 200	0,2 - 1,5	$\leq 0,2$	X	—		50
	LGW 3 C2	212 571	0,4 - 3	$\leq 0,3$	X	—		50
	LGW 10 C2	212 572	1 - 10	$\leq 0,5$	X	—		50
	LGW 1,5 C3	as per Spez.	0,2 - 1,5	$\leq 0,07-0,3$	X	—		50
	LGW 3 C3	as per Spez.	0,4 - 3	$\leq 0,12-0,4$	X	—		50
	LGW 10 C3	as per Spez.	1 - 10	$\leq 0,20-0,6$	X	—		50
<b>[AG M MS9 V0]</b> 	LGW 3 A4/2	232 041	0,4 - 3	$\leq 0,3$	X	X **		500
	LGW 10 A4/2	232 046	1 - 10	$\leq 0,5$	X	X**		500
	LGW 50 A4/2	232 048	2,5 - 50	$\leq 1$	X	X**		500
	LGW 150 A4/2	232 050	30 - 150	$\leq 3$	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**

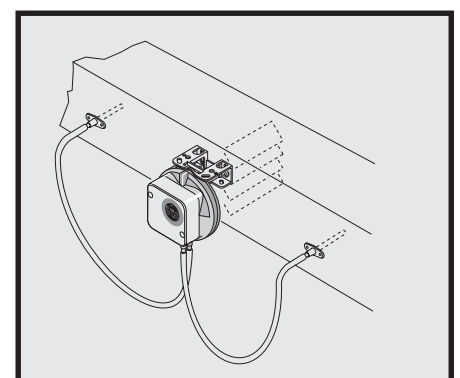
Product	Type	Order No.	Setting ranges [Pa]	Switching difference $\Delta p$ [Pa]	Air	Gas	Degree of protection	Max. operating pressure [kPa]
<b>Klima-Set</b>	KS 150 C2	217 773	↓ □ 20 - 150	≤ 18	X	—	IP 54	5
	KS 300/1 C2	224 390	↓ □ 20 - 300	≤ 20	X	—	IP 54	5
	KS 300 C2	217 774	↑ □ 40 - 300	≤ 20	X	—	IP 54	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



**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
<b>Centrifugal switch</b>	FW 100/2	210 312	IP 44	Switch-on speed (as speed increases), DIN 32 726: $n \leq 2565 \text{ rpm}^{-1}$ Switch-off speed (as speed decreases), DIN 32 726: $n \geq 2160 \text{ rpm}^{-1}$ Special speeds on request Range: 800 - 4000 rpm	Voltage: 220 VAC Nominal current: 5 A (ohmic load)
	FW 100/2	211 523	IP 54		



Pressure switches for  
gas and air  
Pressure sensors

Typeplates

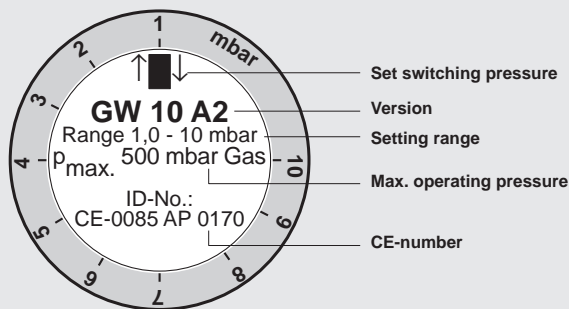
DUNGS®

**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

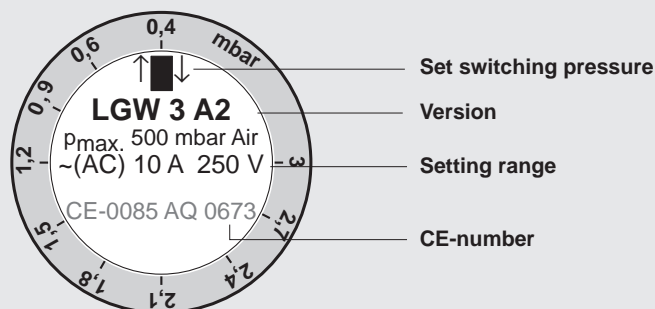


**Typeplate for differential pressure switches for gases and/or air**

The setting wheel for **gas pressure switches** is **yellow**.

It is always **blue** for differential pressure switches for **air**.

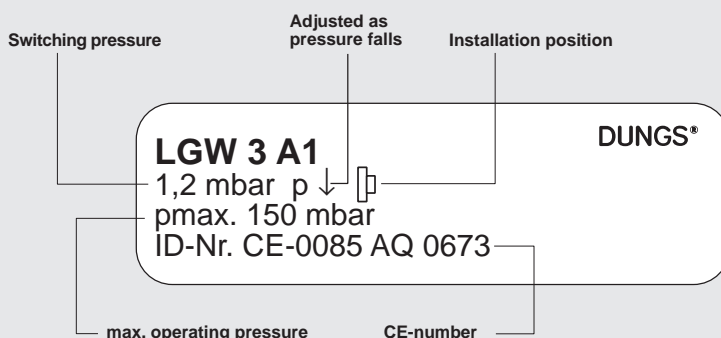
Types: LGW, LGW...A2, LGW...A2P, LGW...A4, LGW...C2, KS...C2



**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.



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