

# Klima-Set Differential pressure switch for air

KS...C2

5.20

**DUNGS**<sup>®</sup>  
Combustion Controls

neuvità  
nouveau new

• RoHS 2002/95/EG



## Technical description

Two separate pressure chambers with pressure-side connection to hose nipples.

Each pressure chamber has a stepped connection of 6 mm dia. to 4 mm dia.

Reference value (pressure difference) can be set directly. Reference value can be read off externally through the transparent hood.

Precise function through special switching system in a frictionless bearing. Contact switchover is performed when the set reference value is exceeded or undershot. Complete mounting kit enclosed.

## Application

The equipment is used in ventilation and air-conditioning systems, DDC.

It is specially designed for monitoring air ducts, filters, drive units and blowers.

## Approvals

EC type test approval as per EC Gas Appliance Directive:

LGW C2

CE-0085 AQ 0693

Approvals in other important gas-consuming countries.

## 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.

If the set reference value is exceeded or undershot, the circuit is switched on, off or over.

The differential pressure switch of the Klima-Set works without an auxiliary power.

## DDC application

The switching contacts of the Klima-Set are made of gold-plated silver, for 24 V DC; 0.02 A.

When using the Klima-Set in conventional systems at 250 V AC, 5 A ohmic load, 3 A inductive load,  $\cos \varphi$  0.6, the gold-plated coating on the switching contacts burns off.

**This makes a subsequent DDC application impossible.**



Make sure that no condensate can enter into the pressure switch. Icing may occur at temperatures below zero which may lead to a malfunction or failure of the equipment.

## Specifications

Max. operating pressure	50 mbar (5 kPa)			
Pressure connection	Hose connecting piece suitable for hose $\varnothing$ 4 / $\varnothing$ 6			
Temperature range	Ambient temperature	-15 °C to +85 °C		
	Medium temperature	-15 °C to +85 °C		
	Storage temperature	-30 °C to +85 °C		
Materials	Housing	Polycarbonate		
	Switching part	Polycarbonate		
	Diaphragms	NBR		
	Switching contact	gold-plated silver (Au), suitable for DDC applications: 24 V DC; 0.02 A		
Switching voltage	Au contact	DC	min. 5 V	max. 24 V
Nominal current	Au contact	DC	20 mA	
Switching current	Au contact	DC	min. 5 mA	max. 20 mA
Electrical connection	On terminal screws via cable duct PG* 11 (* = heavy-gauge conduit thread)			
Protection type	IP 54 as specified in IEC 529 (EN 60529), optional IP 65			
Setting tolerance	$\pm$ 15% switching point deviation referred to reference value, adjusted as pressure rises, vertical diaphragm position, KS 150 C2 and KS 300/1 C2 adjusted as pressure falls.			

## Klima-Set scope of supply

1. LGW...C2 differential pressure switch
2. Fixing bracket
3. Connection hose 4 x 1.5, 2 m
4. fixing screw
5. Drilling template for fixing bracket and hose connections
6. hose connection
7. Extension tube
8. Operating and assembly instructions

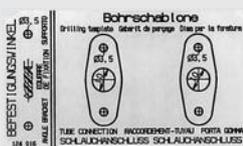
## Accessories/Spare parts

- see table on right
- Order No. 230 273
- Order No. 230 303 (10 x)
- Order No. 230 304 (50 x)
- Order No. 230 305 (50 x)
- Order No. 230 306 (50 x)
- Order No. 230 307 (50 x)
- www.dungs.com

## Spare pressure switch for Klima-Set

- |                 |                   |
|-----------------|-------------------|
| For KS 150 C2   | Order No. 217 778 |
| For KS 300 C2   | Order No. 217 779 |
| For KS 300/1 C2 | Order No. 224 389 |
| For KS 500 C2   | Order no. 226 327 |
| For KS 600 C2   | Order No. 217 780 |
| For KS 1000 C2  | Order No. 217 781 |
| For KS 3000 C2  | Order No. 217 782 |

## Drilling template



## Hose connection



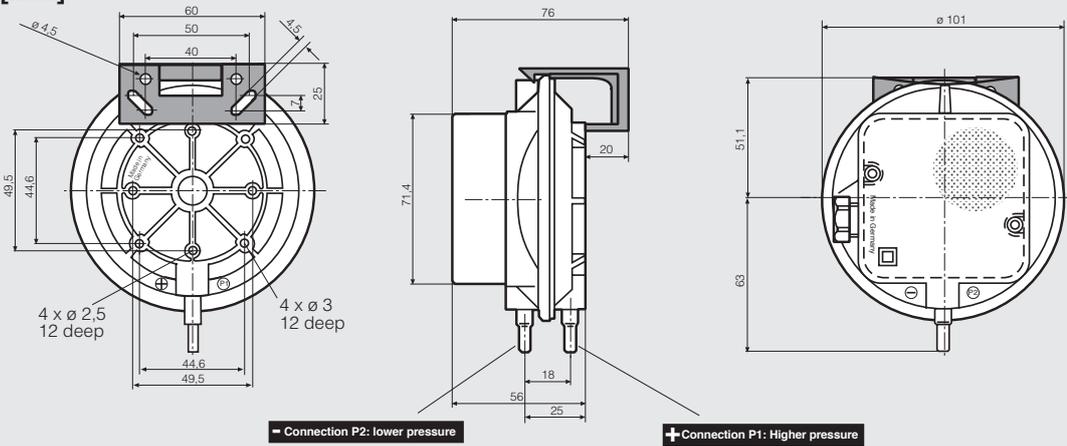
## Fixing screws

## Connection hose dia. 4 x 1.5 x 2000



## Extension tube

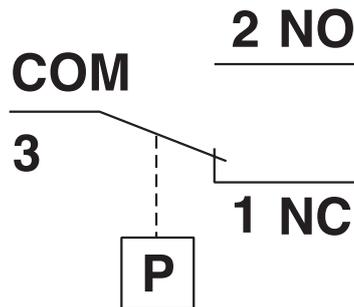
## Dimensions [mm]



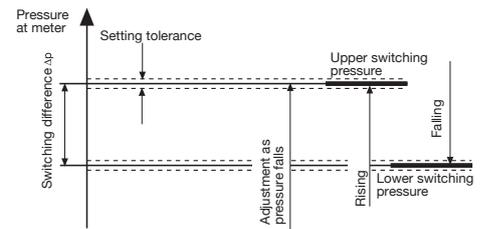
## Switching functions

As differential pressure rises:  
1 NC opens  
2 NO closes

As differential pressure falls:  
1 NC closes  
2 NO opens



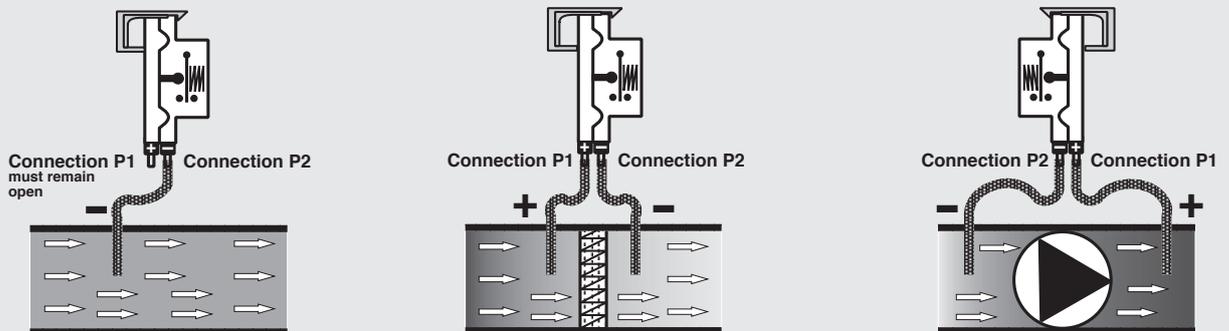
## Switching difference $\Delta p$



The switching difference  $\Delta p$  is the pressure difference between the upper and lower switching pressures.

## Schematic diagram

### Application and connection examples



### Monitoring system vacuum

To monitor the pressure in vacuum systems.

Connect Klima-Set to the air duct via connection p2 (-).

Do not connect connection p1 (+) to the air duct.

Do not close the hose connection sleeve of connection p1 (+), a connection to atmosphere must exist.

Important: No dirt must enter into the equipment through connection p1 (+).

### Filter monitoring

To monitor filter fouling, Klima-Set can be connected as shown above. Connection p1 (+) is connected upstream of the filter and connection p2 (-) downstream of the filter with the air channel in flow direction of volumetric flow.

### Blower monitoring

In the blower monitoring system, connection p1 (+) is connected on the pressure side downstream of the blower and connection p2 (-) is connected to the air duct upstream of the blower.

**Always connect higher pressure to connection p1 (+).**  
**Always connect higher vacuum to connection p2 (-).**

### Example - System pressure

Higher pressure:  
e.g. 240 Pa: Connection p1 (+)  
Lower pressure:  
e.g. 180 Pa: Connection p2 (-)

### Example - System vacuum

Lower vacuum:  
e.g. -130 Pa: Connection p1 (+)  
Higher vacuum:  
e.g. -210 Pa: Connection p2 (-)

**Klima-Set**  
Differential pressure switch for air

**KS...C2**



**Brief technical data**

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

Type	Order No.	Measuring range, adjustable [Pa]	Switching difference $\Delta p$ [Pa]	Max. operating pressure [kPa]
KS 150 C2	217 773	20 - 150 	≤ 18	5
KS 300/1 C2	224 390	20 - 300 	≤ 20	5
KS 300 C2	217 774	40 - 300 	≤ 20	5
KS 500 C2	226 885	30 - 500 	≤ 25	5
KS 600 C2	217 775	70 - 600 	≤ 30	5
KS 1000 C2	217 776	100 - 1000 	≤ 40	5
KS 3000 C2	217 777	300 - 3000 	≤ 80	5

**Accessories Klima-Set**

Mounting kit display-LED 24 V yellow    **231 774**

Mounting kit display-LED 24 V green    **248 240**

Replacement set hood IP 54                **230 270**

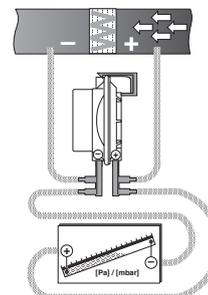
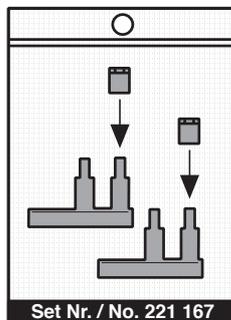
Replacement set hood IP 65                **230 271**

**Double adapter accessory kit**

The double adapter permits the connection of additional service equipment, e.g. inclined tube pressure gauge.

**Scope of supply of double adapter kit**

- 2 double adapter
  - 2 locking caps
- Order No. 221 167**



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

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