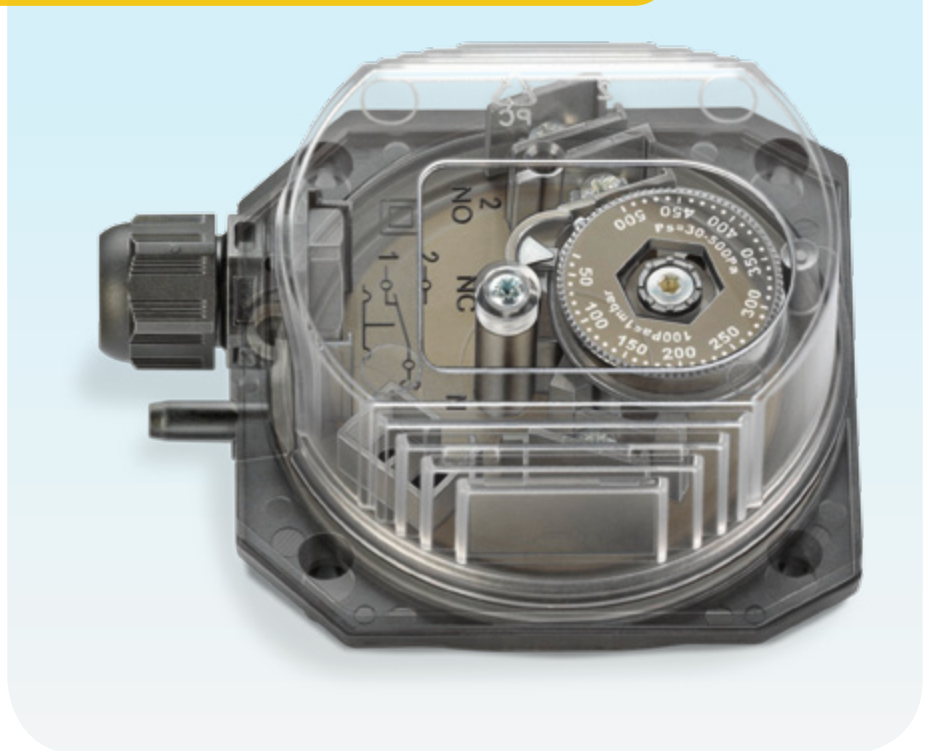


# Pressure switch for air DL

Product brochure · GB  
4 Edition 03.15



**krom  
schroder**



- Precision differential pressure switch
- Monitoring of air, flue gas and other non-aggressive gases
- DL..EH: up to +110°C ambient temperature
- High switching point stability
- Switching point selection via hand wheel or adjusting screw
- Screw terminals or AMP plugs for electrical connections
- Flexible mounting options
- All connections accessible from one side
- EU certified (DIN EN 1854)
- DL..ET, DL..KT: FM approved and UR recognized
- DL..AT, DL..KT: FM approved and UL listed
- RoHS 2002/95/EC and follow-up directive 2011/65/EC

## Application

Pressure switches for air DL can be used as positive pressure switches, vacuum sensors or differential pressure switches for air, flue gas and other non-aggressive gases. They are not suitable for fuel gases. They monitor extremely low pressure differentials.

They trigger switch-on, switch-off or switch-over operations if a set switching point is reached. This switching point can be adjusted using a hand wheel or, if required, it can be fixed using an adjusting screw.

The diaphragm pressure switch with micro switch features particularly high contact reliability as low gas release components are used.

## Examples of application



DL..K is used in air-conditioning systems and kitchens due to its low adjusting range (from 20 Pa).

The pneumatic and electrical connections on DL 3,3-40K are accessible from the same side in order to ensure space-saving and easy-to-fit installation.

The switching point can be infinitely adjusted using the hand wheel.



*Filter monitoring in kitchens*



DL 1,5-3A, DL 3K

DL 5-150A, DL 5-150K

DL..A, DL..K are used for controlling butterfly valves for air and fire dampers in firing systems, and for fan monitoring.

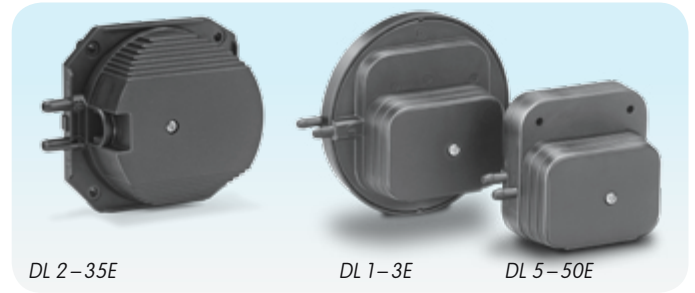
DL 1,5 A (-0.5 to +1.5 mbar) is used in laboratories and special applications in particular.

On DL..A, the positive pressure can be connected via a threaded connection (Rp 1/4) in the lower housing section.

DL..A-3Z with tube connection for negative pressure also has a threaded connection Rp 1/8 for negative pressure. To use the threaded connection, the tube connection must be unscrewed (minus).



Fan monitoring in laboratories



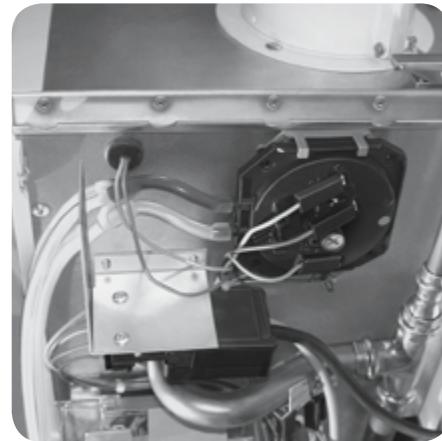
DL 2-35E

DL 1-3E

DL 5-50E

Thanks to its slim design and low adjusting range (20 to 5000 Pa/0.08 to 20 "WC), the fields of application of DL..E include fan monitoring on calorific value boiler units or on atmospheric wall-mounted units with flue gas fan.

On request, the air pressure switch DL..E can be supplied with only one NO contact, e.g. for a non-interchangeable connection to boiler control systems.



Pressure switch DL mounted on heating boiler using a D clip



Heating boilers connected in cascade

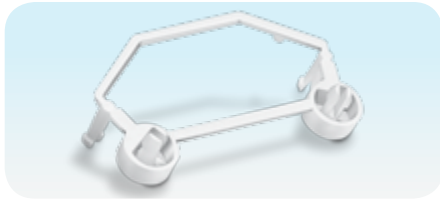
Mounting examples

Simple mounting



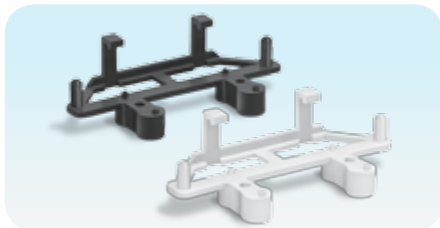
Simple front mounting. Mounting using two screws on the same side is usually sufficient and prevents the pressure switch being subjected to mechanical stress.

Mounting without the need for tools or screws



The securing clip S allows the pressure switch to be easily installed and removed. Only two holes in the mounting plate or air duct are required for secure mounting.

Pressure-resistant mounting on mounting plate



Attach the D clip to the mounting plate with the two screws supplied. Simply push the pressure switch onto the clip. The pressure switch can now be detached again at any time without the need for tools.

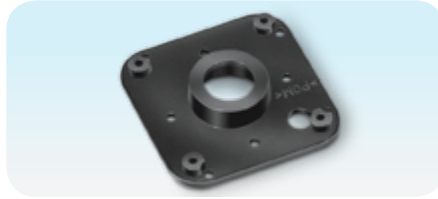
To reduce the amount of assembly work required, the pressure switch may, on request, be supplied with the clip already fitted.

Rugged, locked mounting



The L-shaped or Z-shaped angle bracket offers diverse mounting options, even with only one screw, and fast installation and removal. The angle bracket increases the distance between the pressure switch and warm boiler walls.

Mounting directly on the fan motor



The pressure switch can be installed in a space-saving manner using the motor flange adapter. It is not necessary to drill holes for mounting.

Protection against pressure surges



The damping nozzle attenuates pressure fluctuations and pressure surges. A brief pressure surge occurs in the air supply line when igniting a burner, for example.

Clearer handling in complex installations



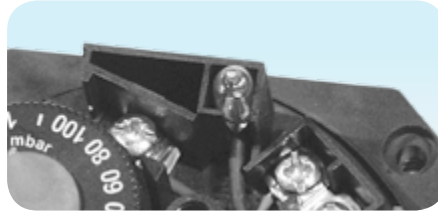
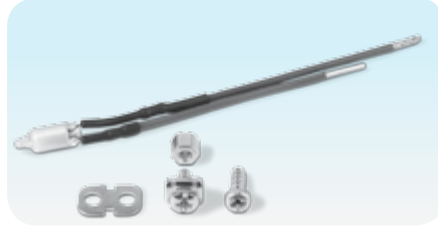
In order to facilitate reading for pressure switches with the same switching point setting, for example, a scale mark can be used. The scale mark can simply be clipped on and is available in different colours as a colour coordination set.

Tube set with diverse possible applications

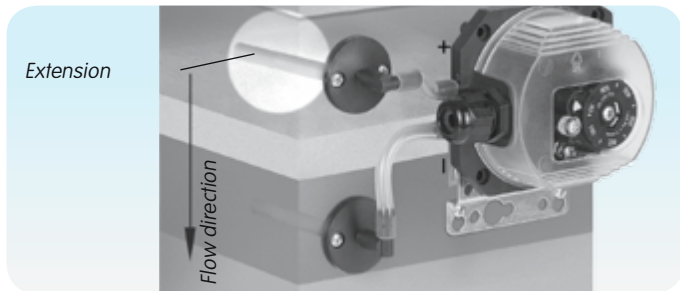
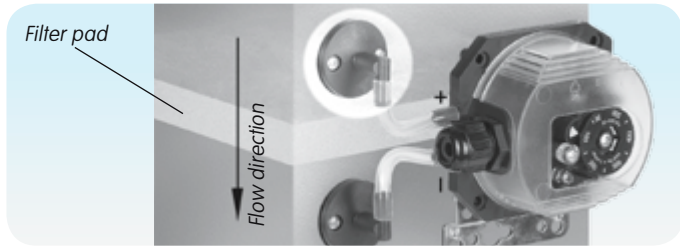


Duct connection flanges and angle connectors connect the pressure switch and pressure test point.

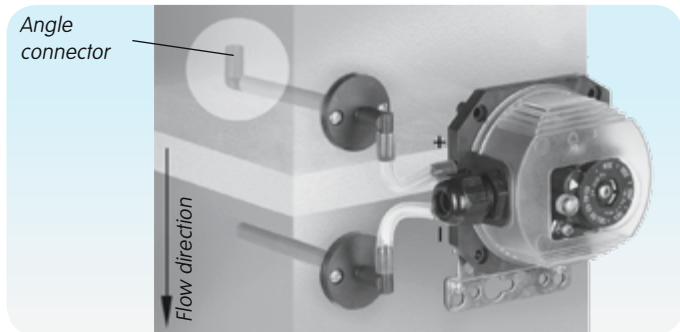
Easier diagnosis and maintenance



Either a red or a blue pilot lamp, or a red-green LED (24 V/230 V) indicates the switching status of the pressure switch.



Using the extension, the pressure switch can be used on insulated and lagged ducts.



The angle connector reinforces the  $\Delta p$  signal if it is too low for the pressure switch adjusting range.

## Type code

### DL 3,3–40K

Code	Description
DL	Pressure switch for air
	Adjusting range
3,3	20–330 Pa
3,5	30–350 Pa
4,5	30–500 Pa
5,1	100–510 Pa
8	50–800 Pa
11	100–1100 Pa
16	400–1600 Pa
24	200–2400 Pa
40	500–4000 Pa
K	Tube connection and hand wheel for adjustment
T	T-product
G	Gold contacts
-1	AMP plug connection
-3	Electrical connection via screw terminals
K2	Red/green pilot LED 24 V DC/AC
N	Blue pilot lamp 120 V AC
T	Blue pilot lamp 230 V AC
T2	Red/green pilot LED 230 V AC
W	Z-angle bracket

### DL 2–35E

Code	Description
DL	Pressure switch for air
	Adjusting range
2 <sup>1)</sup>	20–200 Pa
4 <sup>1)</sup>	50–400 Pa
14	300–1400 Pa
35	1200–3500 Pa
	With flat plugs, tube connection, adjusting screw,
EH	-40 to +110°C
E	-20 to +85°C
T	T-product
G	Gold contacts
-1	AMP plug connection
W	Z-angle bracket

<sup>1)</sup> Adjusting range: DL..2EH: 45–200 Pa, DL..4EH: 70–400 Pa.

### DL 1–50E

Code	Description
DL	Pressure switch for air
	Adjusting range
1	0.2–1 mbar
3	0.3–3 mbar
5 <sup>1)</sup>	0.4–5 mbar
10	1.0–10 mbar
50	2.5–50 mbar
E	With flat plugs, tube connection, adjusting screw
T	T-product
G	Gold contacts
-1	AMP plug connection
P	With test tapping point
W	Z-angle bracket

<sup>1)</sup> DL..5ET: adjusting range 0.5–5 mbar.

### DL 1,5–150A, DL3–150K

Code	Description
DL	Pressure switch for air
	Adjusting range
1,5	-0.5–1.5 mbar
3 <sup>1)</sup>	0.2–3 mbar
5 <sup>1)</sup>	0.4–5 mbar
10	1–10 mbar
30	2.5–30 mbar
50	2.5–50 mbar
150	30–150 mbar
K	With tube connection and hand wheel
A	Additionally with Rp 1/4 connection (optional: Rp 1/8)
T	T-product
G	Gold contacts
	Electrical connection
-3	via screw terminals
-4	via screw terminals, IP 65
-5	with 4-pin plug, without socket
-6	with 4-pin plug, with socket
-9	with 4-pin plug, with socket, IP 65
K2	Red/green pilot LED 24 V DC/AC
T	Blue pilot lamp 230 V AC
T2	Red/green pilot LED 230 V AC
N	Blue pilot lamp 120 V AC
P	With test tapping point
1	With 1 test key (lower chamber +)
2	With 2 test keys (upper chamber -, lower chamber +)
A	External adjustment
W	Z-angle bracket

<sup>1)</sup> Adjusting range: DL..3AT: 0.3–3 mbar, DL 5AT and DL 5KT: 0.5–5 mbar

## Technical data

Gas types: air or flue gas, no flammable gases, no aggressive gases.

Micro switch to EN 61058-1, switching capacity:

DL..: 24 V (min. 0.05 A) to 250 V AC (max. 5 A, with  $\cos \varphi = 0.6 = 1$  A),

DL..G: 5 V (min. 0.01 A) to 250 V AC (max. 5 A, with  $\cos \varphi = 0.6 = 1$  A),

5 V (min. 0.01 A) to 48 V DC (max. 1 A),

DL..T: 30–240 V AC, 50/60 Hz, 5 A resistive or 0.5 A inductive ( $\cos \varphi = 0.6$ ),

DL..TG: < 30 V AC/DC, 0.1 A resistive or 0.05 A inductive ( $\cos \varphi = 0.6$ ).

If the DL..G (DL..TG) has switched a voltage > 24 V (> 30 V) and a current > 0.1 A at  $\cos \varphi = 1$  or > 0.05 A at  $\cos \varphi = 0.6$  once, the gold plating on the contacts will have been burnt through. It can then only be operated at this power rating or higher power rating.

Contact gap < 3 mm ( $\mu$ ).

Safety class II to VDE 0106-1.

### DL..K

Enclosure to IEC 60529: IP 54.

Diaphragm pressure switch, tempered LSR diaphragm system. Housing: glass fibre reinforced PBT plastic with low gas release.

Max. inlet pressure  $p_{\max}$  = withstand pressure: 5 kPa, differential pressure: 5 kPa.

Permitted ambient temperature in operation:

DL..K: -20 to +85°C (-4 to +185°F),

DL..KT: -40 to +60°C (-40 to +140°F).

Storage and transport temperature:  
-20 to +40 °C (-4 to +104 °F).  
Line diameter: 0.5 to 1.8 mm (AWG 24 to  
AWG 13).  
Line entrance: M16 x 1.5, clamping range:  
diameters of 4 to 10 mm.  
Electrical connection type:  
screw terminals, max. torque: 250 Ncm.  
Weight: 125 g (4.4 oz).



## Detailed information on this product



## Contact

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