

# Pressure Wave Switches

Profiles and switches for automatic doors and gates

**Maintenance free, robust, tried-and-tested**

- Very fast closing
- Pressure wave technology for a high standard of switching reliability
- Straightforward and robust structure
- Millions of units successfully in service

# Pressure wave switches

## For automatic doors, gates and barriers

### Can be used wherever a reliable switching pulse is required

The highly sensitive response of the pressure wave system means that it protects people and vehicles from almost all directions. The robustness and durability of the pressure wave switch make it an impressive opening sensor as well.

### Quick and reliable

Even low pressure of 3 to 4 mbar is enough to guarantee the electric contact will switch. Pressure wave switch systems are well proven and maintenance free, as well as offering a particularly good cost-performance ratio.

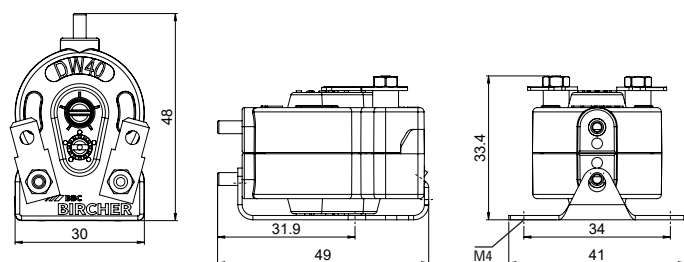


## Types of the D1 and D3 series

Technical data see back page, measurements in mm

### D1 series

Pressure wave switch with connection terminals and 6.3 mm plug tab with clip-on mounting bracket



### D1 Options

**210018 DW40FIX100**

Pressure closes contact

**210025 DW40FIX100DOE**

Pressure opens contact

**210020 DW40D**

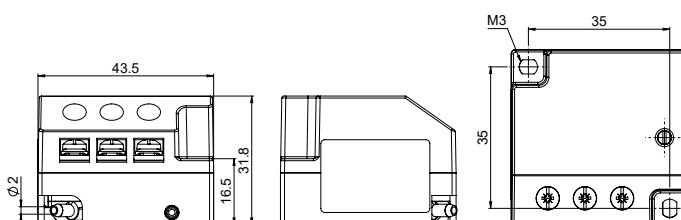
Pressure closes contact,  
sealed pressure equalisation  
valve

### Other options

On request

### D3 series

Pressure wave switch with two-hole baseplate and adjustable set pressure



### D3 Options

**209853 D3-P**

Pressure activates the binary switch

**209854 D3-PB**

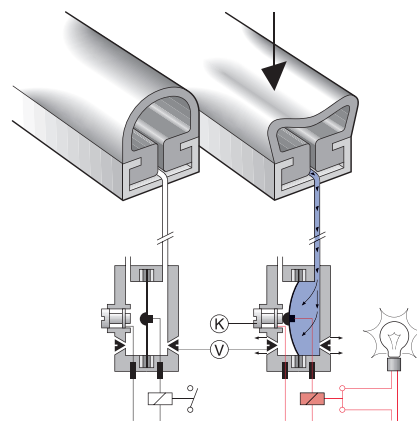
Pressure activates the binary switch, pressure equalisation valve is  
sealed (birottil)



## Functional principles

A pressure wave generated by the sensor reaches the pressure wave switch. The membrane deflects and the electric contact switches.

The electric contact remains switched for as long as the input pressure is above the response pressure. With the contact (K) and valve screw (V) the switch's sensitivity can be set individually.



## Reliable in every application

### Situation

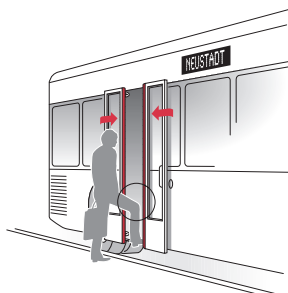
Bus door / Train door

### Solution

- Safety: Pressure wave profile DWS

### Advantages

- The pressure wave profile is very sensitive and switches quickly
- It protects against crushing and shearing, when the door is closing



### Situation

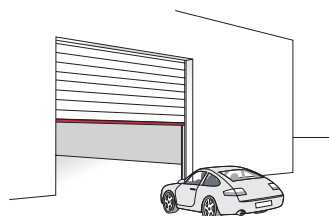
Roller gate

### Solution

- Safety: Pressure wave profile DWS

### Advantages

- The pressure wave profile is very sensitive and switches quickly



### Situation

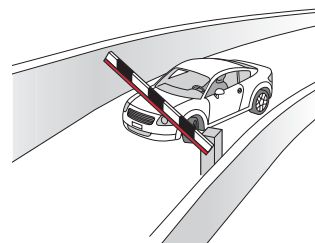
Barrier

### Solution

- Safety: Pressure wave profile DWS

### Advantages

- The pressure wave profile is very sensitive and switches quickly



# Pressure wave sensor

## Pneumatic pressure wave profiles

### Safety with profile

When a rubber profile gets an impact, the inside air volume is compressed pulsed and thereby generates a pressure wave. It passes through the connecting hose to the pressure wave switch, where it triggers a contact.

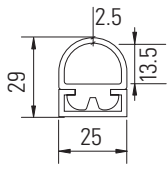
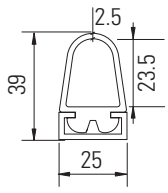
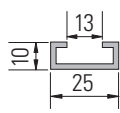
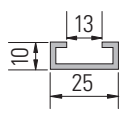
### Order possibilities of the edges and rubber profiles

1. Fully assembled edge incl. of rubber and aluminium profile, e.g. DWS-C/1000 mm
2. Only rubber profile with pneumatic connections, e.g. DWSGUMMI-C/1000 mm
3. Made to measure rubber profile, e.g. DWSGO-C/1000 mm
4. Made to measure aluminium profile, e.g. DWSALU-C/1000 mm



## Profile types

Technical data see back page, measurements in mm

Dimensions		
	universal	universal + high
<b>Rubber profile</b>	DWS-C	DWS-B
<b>Article no.</b>	210171	210167
<b>Material</b>	PVC black	PVC black
<b>Air cross section</b>	180 mm <sup>2</sup>	400 mm <sup>2</sup>
<b>Weight*</b> with/without rail	0.66 kg/lfm / 0.33 kg/lfm	0.75 kg/lfm / 0.42 kg/lfm
<b>Mounting Rail</b> (Dimensions in mm)		
<b>Aluminium profile</b>	AP-2	AP-2
<b>Article no.</b>	209577	209577
<b>Packaging unit</b>	6 m	6 m
<b>End pieces</b>	DWSEC	DWSEB
<b>Article no.</b>	208995	208996

# Pressure wave switches and sensors

## Connection elements

### Simplicity of connection

Pressure wave switches and sensors can be connected together easily and in a variety of ways. A wide range of connection pieces and hoses guarantees flexibility and reliable function appropriate to your application.

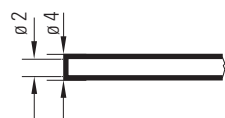


## Connection elements

Measurements in mm

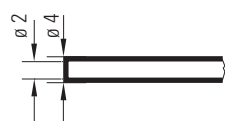
### PVC 2/4

PVC air hose  
with 2/4 mm diameter,  
colour transparent



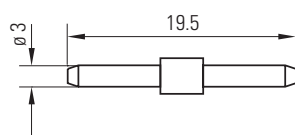
### NEO 2/4

Neoprene air hose  
with 2/4 mm diameter,  
colour black,  
flame retardant



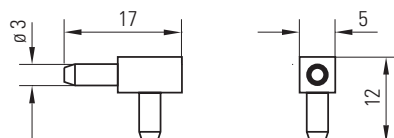
### DWV

Straight air hose  
connection piece



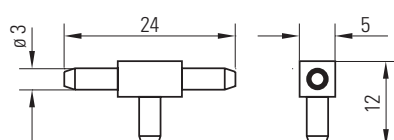
### DWL

Air hose connection piece  
with L-shape



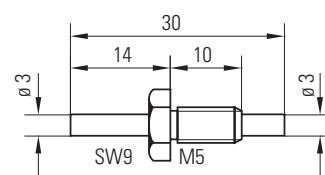
### DWT

Air hose connection  
piece with T-shape



### A3M5

Connection piece with two 3 mm  
diameter connections, thread M5





# Pressure wave switches

## Accessories

### Maximum flexibility for installation

Install your pressure wave switches efficiently and compactly with a plug-in base. The practical housing made from impact-resistant plastic ensures protection against environmental influences according to IP54 or IP65.

### Order possibilities

1. Separate housing, e.g. 212865 GEHDWVGK1
  2. Housing incl. of pressure wave switch, e.g. 210095 DWVGK1
- Further information on the housing variants can be found under Ordering information / Accessories on page 7.

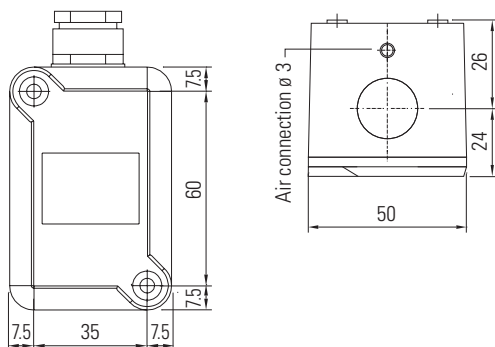


## Cover hood and housing

Measurements in mm

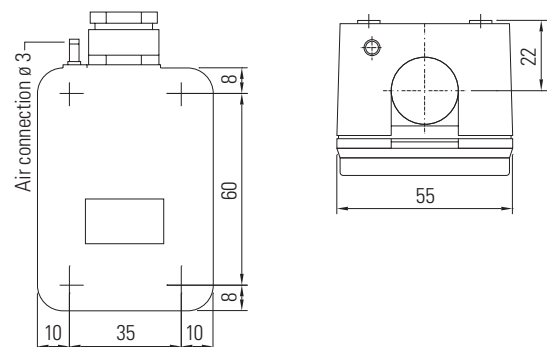
### GEHDWVGK 1

- Impact-resistant screw-on housing for pressure wave switch serie D1
- Protection class IP65 (EN 60529)



### GEHDWVGK 11/GEHD3K1






- Impact-resistant snap-in housing for pressure wave switch serie D1 and D3
- Protection class IP54 (EN 60529)










## Ordering information

### Connection elements

<b>207495</b>	<b>PVC 2/4</b>	PVC air hose, transparent, 100 m	
<b>207499</b>	<b>NEO 2/4</b>	Neoprene air hose, black, 10 m	
<b>207502</b>	<b>NEO 2/4</b>	Neoprene air hose, black, 100 m	
<b>208930</b>	<b>DWV</b>	Straight air hose connection piece	
<b>208929</b>	<b>DWL</b>	Air hose connection piece with L-shape	
<b>208928</b>	<b>DWT</b>	Air hose connection piece with T-shape	
<b>208968</b>	<b>A3M5</b>	Connection piece with two ø 3 mm connections, thread M5	

The rubber profiles can be joined to the end pieces by using Tetrahydrofuran that can be bought at your local chemical store.

### Accessoires

<b>212865</b>	<b>GEHDWGK1</b>	Impact-resistant screw-on housing for pressure wave switch series D1	
<b>210095</b>	<b>DWGK1</b>	Impact-resistant screw-on housing incl. DW40FIX100	
<b>212866</b>	<b>GEHDWGK11</b>	Impact-resistant snap-in housing for pressure wave switch series D1, grey housing bottom	
<b>210096</b>	<b>DWGK11</b>	Impact-resistant snap-in housing incl. DW40FIX100 (Pressure closes contact)	
<b>210097</b>	<b>DWGK11DOE</b>	Impact-resistant snap-in housing incl. DW40FIX100DOE (Pressure opens contact)	
<b>212864</b>	<b>GEHD3K1</b>	Impact-resistant snap-in housing for pressure wave switch series D3, black housing bottom	
<b>209869</b>	<b>D3-PK1</b>	Impact-resistant snap-in housing incl. D3-P	
<b>209364</b>	<b>D1CLIP</b>	Mounting bracket for DW40	
<b>213967</b>	<b>SPK-APD</b>	Connection box, surface mount, 52 x 50 x 40 mm, material ABS	

## Technical data

### D1 series – DW40

Response pressure	2 mbar
Max. pressure	150 mbar
Pressure equalisation	100 ml/min. at 2 mbar
Min./max. current	20 mA/500 mA (ACDC ohmic)
Min./max. operating voltage	24–250 V AC, 24–50 V DC
Output	NC or NO
Mechanical service life	50 million switchings
Ambient temperature	–30°C to +70°C

### D3 series – D3P/D3PB

Response pressure	2 mbar
Max. pressure	500 mbar
Pressure equalisation	65 ml/min. at 2 mbar
Min./max. current	1 mA/1000 mA (ACDC ohmic)
Min./max. operating voltage	6–250 V AC, 6–50 V DC
Output	Changeover switch
Mechanical service life	10 million switchings
Ambient temperature	–30°C to +80°C

### Pneumatic pressure wave profiles

Material	PVC
Profile length	max. 6 m
Connection cable to PW	max. 10 m (ø 2/4 mm)
Manufacturing tolerances	at 20°C
Width/height	± 2 mm
Length up to 1000 mm	± 3 mm
Length up to 2000 mm	± 5 mm
Length up to 4000 mm	± 9 mm
Length up to 6000 mm	± 15 mm

### Housing GEHDWGK-1 / GEHDWGK-11

Material	Impact-resistant plastic, Luran 786R, grey or black
Fastening	2 x M4 screw
Electrical connection	PG-cable gland PG11
Air connection	Connection nipple ø 3 mm
Protection class	IP54 or IP65 (EN 60529)

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