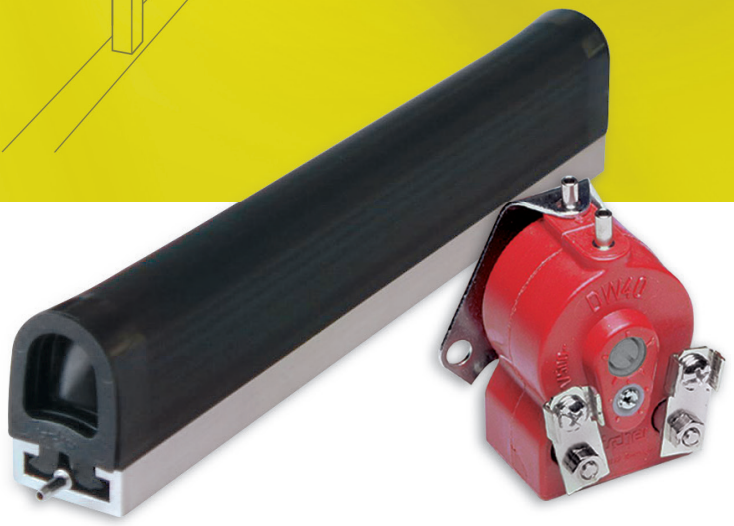
BBC BIRCHER

Smart Access





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

bircher.com

Pressure wave switches

For automatic doors, gates and barriers

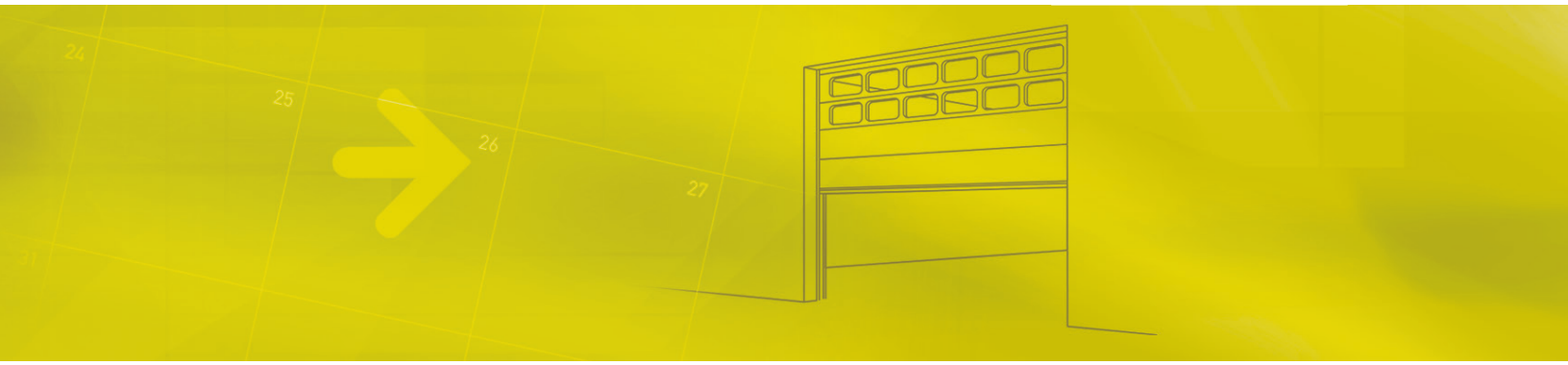
Can be used wherever a reliable switching pulse is required

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.

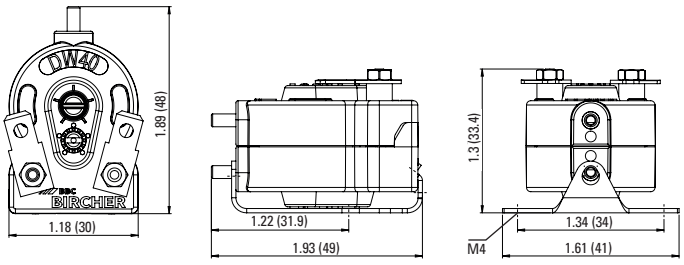


Types of the D1 and D3 series

Technical data see back page, measurements in inch (mm)

D1 series

Pressure wave switch with connection terminals and ¼" (6.3 mm) plug tab and clip-on mounting bracket



D1 Options

210018 DW40FIX100
Pressure closes contact

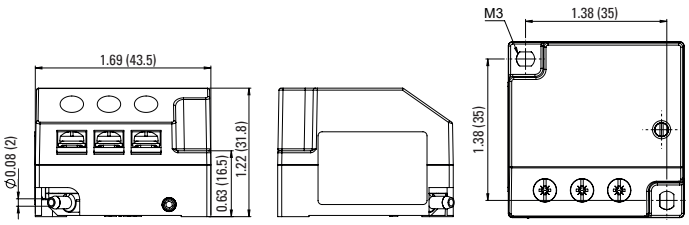
210025 DW40FIX100DOE
Pressure opens contact

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 (birotil)

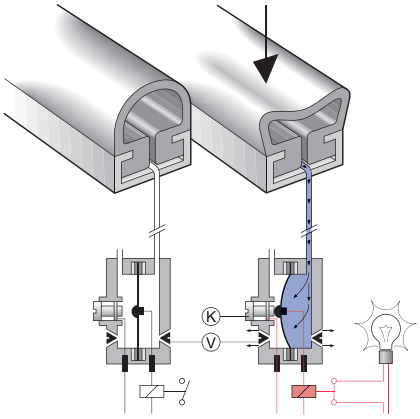




Functional principles

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.



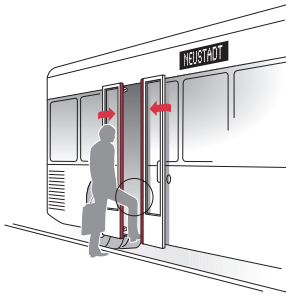


Reliable in every application

Situation
Bus door / Train door

Solution
- Safety: Pressure wave profile DWS

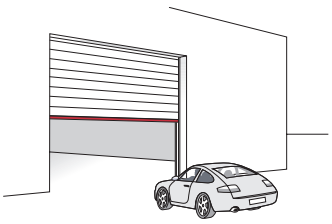
Advantages
- The pressure wave profile is very sensitive and switches quickly
- It protects against crushing and shearing, when the door is closing



Situation
Roller gate

Solution
- Safety: Pressure wave profile DWS

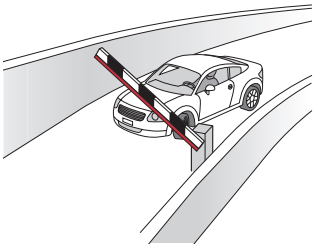
Advantages
- The pressure wave profile is very sensitive and switches quickly



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.

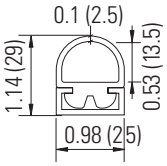
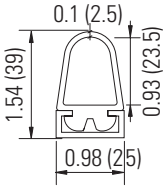
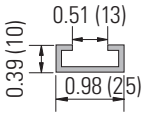
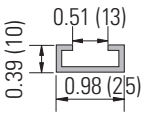
Order possibilities of the edges and rubber profiles

1. Fully assembled edge incl. of rubber and aluminium profile, e.g. DWS-C / 3.3 ft (1000 mm)
2. Only rubber profile with pneumatic connections, e.g. DWSGUMMI-C / 3.3 ft (1000 mm)
3. Made to measure rubber profile, e.g. DWSGO-C / 3.3 ft (1000 mm)
4. Made to measure aluminium profile, e.g. DWSALU-C / 3.3 ft (1000 mm)



Profile types

Technical data see back page

Dimensions Measurements in inch (mm)	 universal	 universal + high
Rubber profile	DWS-C	DWS-B
Article no.	210171	210167
Material	PVC black	PVC black
Air cross section	0.28 sq in (180 mm²)	0.62 sq in (400 mm²)
Weight* with rail without rail	0.44 lb/ft (0.66 kg/m) 0.22 lb/ft (0.33 kg/m)	0.50 lb/ft (0.75 kg/m) 0.28 lb/ft (0.42 kg/m)
Mounting Rail Dimensions in inch (mm)		
Aluminium profile	AP-2	AP-2
Article no.	209577	209577
Packaging unit	19.7' (6 m)	19.7' (6 m)
End pieces	DWSEC	DWSEB
Article no.	208995	208996

* lb/ft = lb per lineal foot (kg/m = kg per lineal meter)

Pressure wave switches and sensors

Connection elements



Simplicity of connection

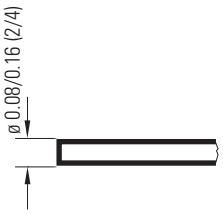
Pressure wave switches and sensors can be connected together easily and in a variety of ways. A wide range of connection pieces and hoses guarantees flexibility and reliable function appropriate to your application.

Connection elements

Measurements in inch (mm)

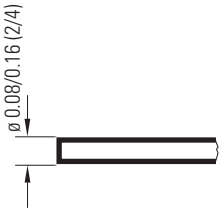
PVC 2/4

PVC air hose
with 0.08/0.16" (2/4 mm) diameter,
colour transparent



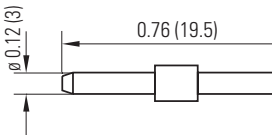
NEO 2/4

Neoprene air hose
with 0.08/0.16" (2/4 mm) diameter,
colour black,
flame retardant



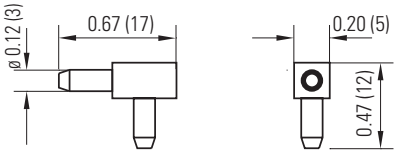
DWV

Straight air hose
connection piece



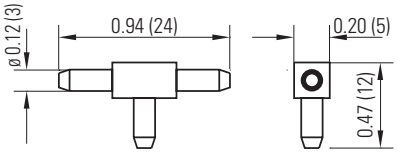
DWL

Air hose connection piece
with L-shape



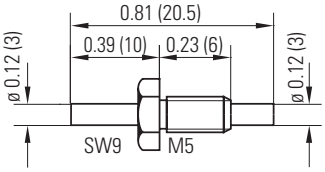
DWT

Air hose connection
piece with T-shape



A3M5

Connection piece with two 0.12" (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 NEMA 3 or NEMA 4 (IP54 or IP65).

Order possibilities

1. Separate housing, e.g. 212865 GEHDWGK1
2. Housing incl. of pressure wave switch, e.g. 210095 DWGK1

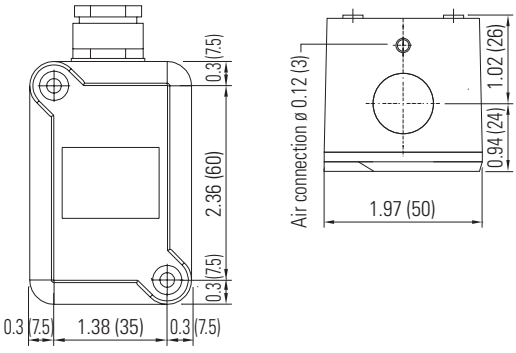
Further information on the housing variants can be found under Ordering information / Accessories on page 7.

Cover hood and housing

Measurements in inch (mm)

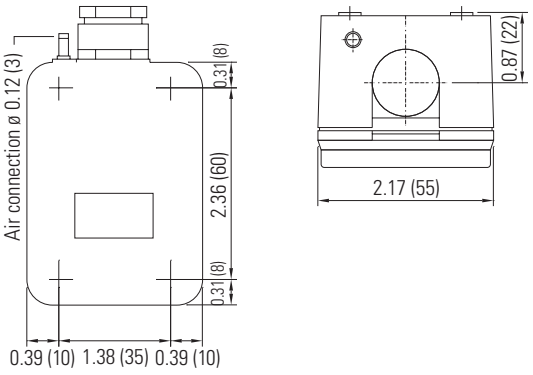
GEHDWGK 1

- Impact-resistant screw-on housing for pressure wave switch serie D1
- Proctection class NEMA 4 (IP65)

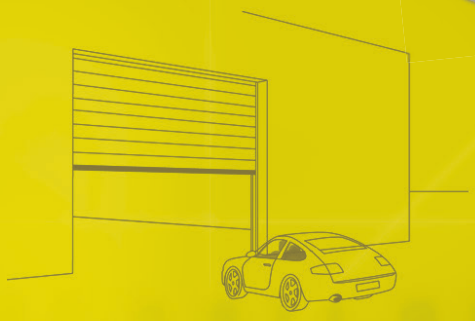


GEHDWGK 11 / GEHD3K1

- Impact-resistant snap-in housing for pressure wave switch serie D1 and D3
- Proctection class NEMA 3 (IP54)







Ordering information

Connection elements

207495	PVC 2/4	PVC air hose, transparent, 328 ft (100 m)	
207499	NEO 2/4	Neoprene air hose, black, 32,8 ft (10 m)	
207502	NEO 2/4	Neoprene air hose, black, 328 ft (100 m)	
208930	DWV	Straight air hose connection piece	
208929	DWL	Air hose connection piece with L-shape	
208928	DWT	Air hose connection piece with T-shape	
208968	A3M5	Connection piece with two ø 0.12" (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

212865	GEHDWGK1	Impact-resistant screw-on housing for pressure wave switch serie D1	
210095	DWGK1	Impact-resistant screw-on housing incl. DW40FIX100	
212866	GEHDWGK11	Impact-resistant snap-in housing for pressure wave switch serie D1, grey housing bottom	
210096	DWGK11	Impact-resistant snap-in housing incl. DW40FIX100 (Pressure closes contact)	
210097	DWGK11DOE	Impact-resistant snap-in housing incl. DW40FIX100DOE (Pressure opens contact)	
212864	GEHD3K1	Impact-resistant snap-in housing for pressure wave switch serie D3, black housing bottom	
209869	D3-PK1	Impact-resistant snap-in housing incl. D3-P	
209364	D1CLIP	Mounting bracket for DW40	
213967	SPK-APD	Connection box, surface mount, 2.05 x 1.97 x 1.57" (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	–22°F to +158°F (–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	–22°F to +176°F (–30°C to +80°C)

Pneumatic pressure wave profiles	
Material	PVC
Profile length	max. 20' (6 m)
Connection hose	max. 33' (10 m), ø 0.08/0.16" (2/4 mm)
Manufacturing tolerances	at 68°F (20°C)
Width/height	± 0.08" (2 mm)
Length up to 3'3" (1000 mm)	± 0.12" (3 mm)
Length up to 6'6" (2000 mm)	± 0.20" (5 mm)
Length up to 13' (4000 mm)	± 0.35" (9 mm)
Length up to 20' (6000 mm)	± 0.59" (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 0.12" (3 mm)
Protection class	NEMA 3 (IP54) or NEMA 4 (IP65)

BBC Bircher Smart Access
870 Pratt Avenue N,
Schaumburg, IL 60193, USA
Phone +1 847 952 3730
salesUSA@bircher.com
bircher.com

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