
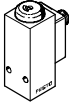
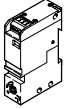


- Mechanical vacuum switch with adjustable switching point
- Variants with adjustable hysteresis

# Vacuum switch VPEV, mechanical

Product range overview

Function	Design	Type	Pneumatic connection	Operating voltage
Mechanical vacuum switches	<b>Assembly via mounting screws</b>			
		VPEV-1/8	G1/8	0 ... 250 V AC/DC
		VPEV-1/8-M12	G1/8	0 ... 250 V AC/DC
	<b>H-rail mounting</b>			
		VPEV-W-S-LED-GH	M5	10 ... 30 V DC
VPEV-W-KL-LED-GH		M5	10 ... 30 V DC	

1) Plug socket included in scope of delivery

# Vacuum switch VPEV, mechanical

Product range overview

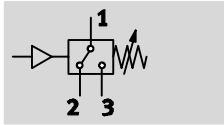
Type	Electrical connection		Adjustable hysteresis	Switching status display with LED	→ Page
	Plug	Terminals			
<b>Assembly via mounting screws</b>					
VPEV-1/8-B	■ <sup>1)</sup>	-	■	-	6 / 5.1-4
VPEV-1/8-B-M12	■ M12x1	-	■	-	6 / 5.1-4
<b>H-rail mounting</b>					
VPEV-W-S-LED-GH	■ M8x1	-	-	■	6 / 5.1-10
VPEV-W-KL-LED-GH	-	■	-	■	

# Vacuum switch VPEV, mechanical

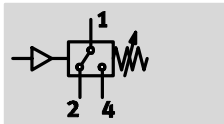
Technical data



Function  
VPEV-1/8



VPEV-1/8-M12



- - Voltage  
0 ... 250 V AC  
0 ... 125 V DC

- - Operating pressure  
-1 ... +1.6 bar

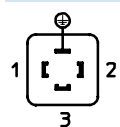
- - Temperature range  
-20 ... +80 °C



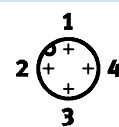
General technical data			
Type	VPEV-1/8		VPEV-1/8-M12
<b>Mechanical</b>			
Pneumatic connection	G1/8		
Method of measurement	Pneumatic/electrical pressure transducers		
Measured variable	Relative pressure		
Pressure measuring range	[bar]	-1 ... +1.6	
Threshold value setting range	[bar]	-0.95 ... -0.2	
Threshold value setting range after conversion	[bar]	0.16 ... 1.6	
Electrical connection	Plug, square design to EN 43 650, type A		Plug, round design to EN 60 947-5-2, M12x1, 4-pin
Type of mounting	Via through-holes		
Mounting position	Any		
Weight	[g]	240	-
<b>Electrical</b>			
Rated operating voltage	[V AC]	250	48
	[V DC]	125	48
Switching element function	Changeover switch		
Switching status display	Yellow LED		-
Protection class to EN 60 529	IP65		
CE symbol	73/23/EEC (low voltage)		

Operating and environmental conditions			
Type	VPEV-1/8		VPEV-1/8-M12
Operating medium	Filtered compressed air, lubricated or unlubricated		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm
	Vacuum, lubricated or unlubricated		Vacuum, lubricated or unlubricated
Operating pressure	[bar]	-1 ... +1.6	
Ambient temperature	[°C]	-20 ... +80	
Temperature of medium	[°C]	-20 ... +80	

Terminal allocation			
VPEV-1/8	VPEV-1/8-M12		



1 + (-)  
2 Normally closed contact  
3 Normally open contact



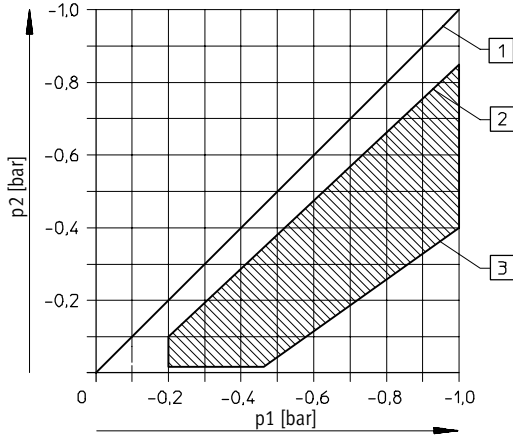
1 + (-)  
2 Normally closed contact  
3 Unused  
4 Normally open contact

# Vacuum switch VPEV, mechanical

Technical data



## Adjustable hysteresis



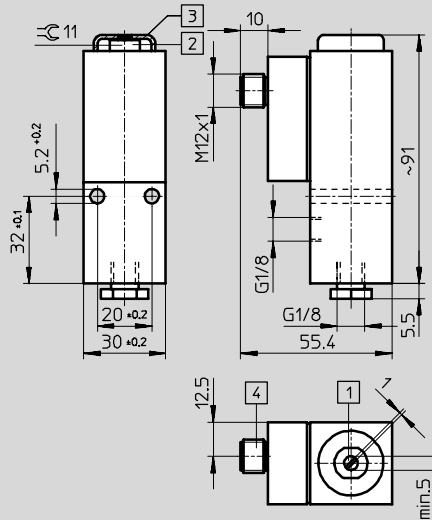
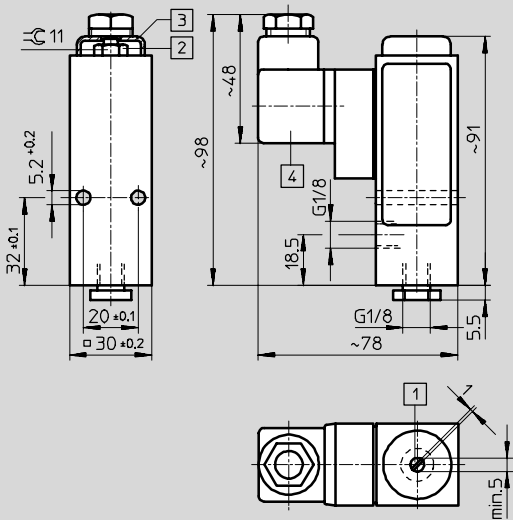
p1 = Switch-on pressure  
p2 = Switch-off pressure

- 1 Upper switching point
- 2 Lower switching point when setting the hysteresis to a minimum
- 3 Lower switching point when setting the hysteresis to a maximum

## Dimensions

VPEV-1/8

VPEV-1/8-M12



- 1 Switching point adjustment screw
- 2 Spindle for hysteresis setting (under protective cover)
- 3 Protective cover
- 4 Push-in connector  
DIN EN 175 301-803-A  
M16x1,5 Choice of cable outlet by turning socket inset 4x90°

- 1 Switching point adjustment screw
- 2 Spindle for hysteresis setting (under protective cover)
- 3 Protective cover
- 4 Connector pattern for plug to EN 60 947-5-2, M12x1

## Ordering data

Electrical connection	Part No.	Type
Plug, square design to EN 43 650, type A	150 261	VPEV-1/8
Plug, round design to EN 60 947-5-2, M12x1, 4-pin	192 489	VPEV-1/8-M12



# Vacuum switch VPEV, mechanical

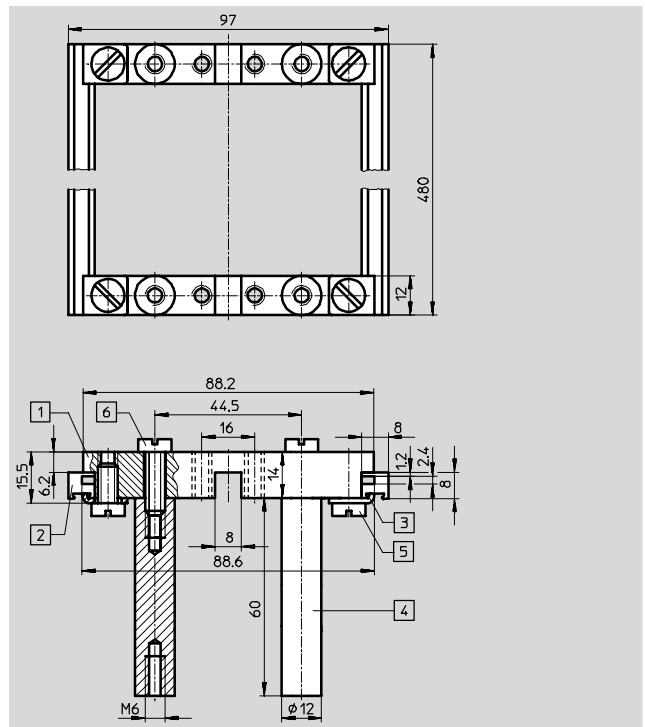
Accessories



## Mounting frame NRRQ-2N

Scope of delivery

- 2 x connecting piece NRV-2N
- 2 x mounting rail NRQ-8-480
- 4 x mounting bracket NRW-12/3,
- 4 x threaded spacer NRB-12/60
- 4 x slotted head screw  
DIN 84-M6X18-4.8
- 4 x slotted head screw  
DIN 84-M6X12-4.8
- 4 x mounting bracket NRW-9/1,5-B
- 4 x slotted head screw  
DIN 84-M4X10-4.8



- 1 Connecting piece NRV-2N
- 2 Mounting rail NRQ-8-480
- 3 Mounting bracket NRW-12/3
- 4 Threaded spacer NRB-12/60
- 5 Slotted head screw  
DIN 84-M6X18-4.8
- 6 Slotted head screw  
DIN 84-M6X12-4.8

Vacuum switches

5.1

Mounting frame	Part No.	Type
Mounting frame 2N complete for 16 components	9 365	NRRQ-2N
<b>Accessories</b>		
Mounting bracket for mounting sub-bases on the frame	11 571	NRW-9/1,5-B
Slotted head screw (scope of delivery includes 2 pieces)	204 021	DIN 84-M4X12-4.8

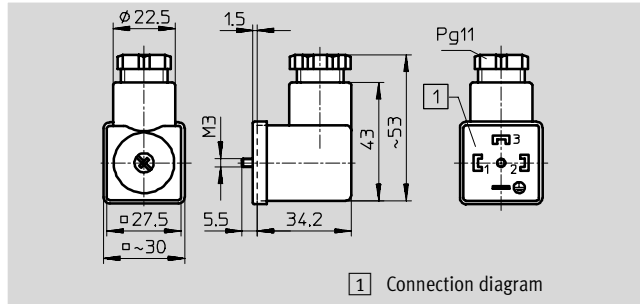
# Vacuum switch VPEV, mechanical

Accessories



**Plug socket with integrated LED, angled**  
**PEV-1/4-WD**

Housing material:  
 Polyamide, fibreglass reinforced plastic



Ordering data						
for vacuum switch	Operating voltage range		Ready status display	Switching status display	Weight [g]	Part No. Type
	[V DC]	[V AC]				
VPEV-1/8	15 ... 30	–	Green LED	Yellow LED	34	<b>164 274 PEV-1/4-WD-LED-24</b>
	≤180	≤230	Green LED	Yellow LED	34	<b>164 275 PEV-1/4-WD-LED-230</b>

Ordering data – Plug socket for vacuum switch VPEV-1/8						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Angled plug socket							
	Central screw	4-pin	■	■	–	<b>171 157 MSSD-C-4P</b>	


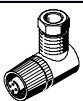

Ordering data – Plug socket with cable M12x1 for vacuum switch VPEV-1/8-M12						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Straight socket							
	Locknut M12x1	4-pin	■	■	5	<b>164 259 SIM-M12-4GD-5-PU</b>	
Angled plug socket							
	Locknut M12x1	4-pin	■	■	5	<b>164 258 SIM-M12-4WD-5-PU</b>	








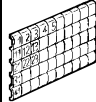
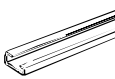
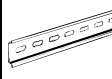
# Vacuum switch VPEV, mechanical

Accessories

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Ordering data – Sensor sockets M12x1 for vacuum switch VPEV-1/8-M12						Technical data → Volume 4	
	Mounting	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
<b>Straight socket</b>							
	Locknut M12x1	4-pin	■	■	–	<b>18 494</b>	<b>SIE-GD</b>
<b>Angled plug socket</b>							
	Locknut M12x1	4-pin	■	■	–	<b>12 956</b>	<b>SIE-WD-TR</b>
<b>Operating status indicator for angled socket SIE-WD-TR</b>							
	–	–	■	■	–	<b>12 957</b>	<b>SIE-LP-LED-GR</b>

Ordering data – Plug socket with cable M8x1 for vacuum switch VPEV-W-S...						Technical data → Volume 4	
	Mounting	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
<b>Straight socket</b>							
	Locknut M8x1	4-pin	■	■	2.5	<b>158 960</b>	<b>SIM-M8-4GD-2,5-PU</b>
					5	<b>158 961</b>	<b>SIM-M8-4GD-5-PU</b>
	Clip on	4-pin	■	■	2.5	<b>164 250</b>	<b>SIM-K-4-GD-2,5-PU</b>
					5	<b>164 251</b>	<b>SIM-K-4-GD-5-PU</b>
<b>Angled plug socket</b>							
	Locknut M8x1	4-pin	■	■	2.5	<b>158 962</b>	<b>SIM-M8-4WD-2,5-PU</b>
					5	<b>158 963</b>	<b>SIM-M8-4WD-5-PU</b>
	Clip on	4-pin	■	■	2.5	<b>164 252</b>	<b>SIM-K-4-WD-2,5-PU</b>
					5	<b>164 253</b>	<b>SIM-K-4-WD-5-PU</b>

Ordering data – Accessories									
	For vacuum switches	Length	Part No.	Type		For vacuum switches	Length	Part No.	Type
<b>Mounting latch for mounting on G/H rail</b>					<b>Inscription label</b> <span style="float: right;">Technical data → Volume 2</span>				
	VPEV-W-...	–	<b>164 597</b>	<b>PENV-BGH</b>		VPEV-W-...	–	<b>6 888</b>	<b>BZ-N1-50</b>
								<b>6 889</b>	<b>BZ-N51-100</b>
<b>Mounting rail to DIN EN 50 035</b>					<b>Mounting rail to DIN EN 50 022</b>				
	VPEV-W-...	2 m	<b>6 756</b>	<b>NRC-32-200</b>		VPEV-W-...	2 m	<b>35 430</b>	<b>NRH-35-2000</b>

Vacuum switches

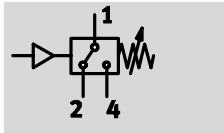
5.1

# Vacuum switch VPEV-W, mechanical

Technical data

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Function



Voltage  
10 ... 30 V DC

Temperature range  
0 ... +60 °C

Operating pressure  
-1 ... 0 bar



General technical data			
Type	VPEV-W-KL-LED-GH		VPEV-W-S-LED-GH
<b>Mechanical</b>			
Pneumatic connection	M5		
Method of measurement	Pneumatic/electrical pressure transducers		
Measured variable	Relative pressure		
Hysteresis	0.08 ... 0.2 bar, non-adjustable		
Pressure measuring range [bar]	-0.8 ... -0.2		
Threshold value setting range [bar]	-0.8 ... -0.2		
Hysteresis setting range [bar]	0.08 ... 0.2		
Electrical connection	Screw terminal, 4-pin		Plug M8x1, 4-pin
Type of mounting	Via through-holes With H-rail		
Mounting position	Any <sup>1)</sup>		
Weight [g]	56		56
<b>Electrical</b>			
Operating voltage [V DC]	10 ... 30		
Max. output current [mA]	2,500		
Switching element function	Changeover switch		
Switching status display	Yellow LED		
Protection class to EN 60 529	IP20		IP65
CE symbol	89/336/EEC (EMC)		

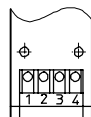
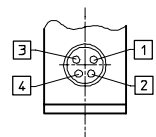
1) The collection of condensate in the sensor should be prevented.

Operating and environmental conditions			
Type	VPEV-W-KL-LED-GH		VPEV-W-S-LED-GH
Operating medium	Vacuum, lubricated or unlubricated		
Operating pressure [bar]	-1 ... 0		
Ambient temperature [°C]	0 ... 60		
Temperature of medium [°C]	0 ... 60		

## Terminal allocation

VPEV-W-S-LED-GH

VPEV-W-KL-LED-GH



- 1** + (-) Brown
- 2** Normally closed contact  
(switch output 2) white
- 3** - (+) Blue
- 4** Normally open contact  
(switch output 1) black

# Vacuum switch VPEV-W, mechanical

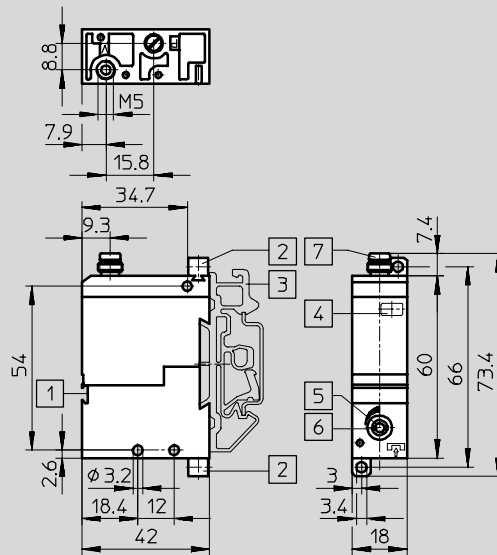
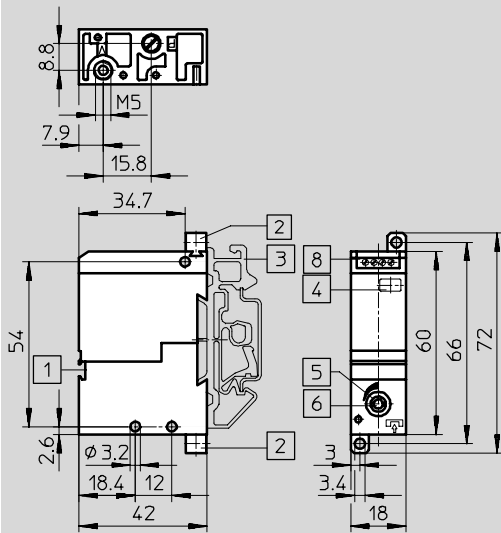
Technical data



## Dimensions

for control cabinet assembly

with screw-in, push-in fitting



- |  |  |   |  |
|--|--|---|--|
| <p>1 Slot for inscription label</p> <p>2 Foot mounting (included in scope of delivery)</p> | <p>3 Clamping foot for G/H rail (available as accessory)</p> <p>4 Switching status display, yellow</p> | <p>5 Switching point adjustment screw</p> <p>6 Manual override facility</p> | <p>7 Integral plug fits plug sockets to DIN EN 60 947-5-2, M8, 4-pin SIM-K-4-.../SIM-M8-...</p> <p>8 Cable terminals</p> |
|--|--|---|--|

## Ordering data

Electrical connection	Part No.	Type
Screw terminal, 4-pin	152 619	VPEV-W-KL-LED-GH
Plug M8x1, 4-pin	152 617	VPEV-W-S-LED-GH




- 1 - Type discontinued  
Available up until 2005

## Vacuum switch VPENV, electronic

**FESTO**



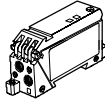
- Adjustable switching point
- Adjustable hysteresis





 Type discontinued  
Available up until 2005


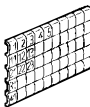
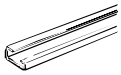
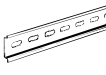
FESTO

## Vacuum switch VPENV, electronic

Overview and ordering data

Vacuum switch, electronic								
Function	Design	Pneumatic connection	Pressure range	Switch output		Switching status display with LED	Part No.	Type
				PNP	NPN			
Electronic vacuum switches		M5	-1 ... 0	■	-	■	152 706	VPENV-PS/O-S-L-GH
				-	■	■	152 707	VPENV-NS/O-S-L-GH

Ordering data – Plug socket with cable M8x1						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Straight socket							
	Locknut M8x1	4-pin	■	■	2.5	158 960	SIM-M8-4GD-2,5-PU
			■	■	5	158 961	SIM-M8-4GD-5-PU
	Clip on	4-pin	■	■	2.5	164 250	SIM-K-4-GD-2,5-PU
			■	■	5	164 251	SIM-K-4-GD-5-PU
Angled plug socket							
	Locknut M8x1	4-pin	■	■	2.5	158 962	SIM-M8-4WD-2,5-PU
			■	■	5	158 963	SIM-M8-4WD-5-PU
	Clip on	4-pin	■	■	2.5	164 252	SIM-K-4-WD-2,5-PU
			■	■	5	164 253	SIM-K-4-WD-5-PU

Ordering data – Accessories				Technical data → Volume 2			
Length	Part No.	Type	Length	Part No.	Type		
Mounting latch for mounting on G/H rail			Inscription label				
	-	164 597 PENV-BGH		-	6 888 BZ-N1-50		
					6 889 BZ-N51-100		
Mounting rail to DIN EN 50 035			Mounting rail to DIN EN 50 022				
	2 m	6 756 NRC-32-200		2 m	35 430 NRH-35-2000		