SERIES

Pressure switches

price query on:
pneumatikshop.de

V60

- diaphragm pressure switches (electrical and pneumatical)
- pressure switches with scale mounting plate
- pressure and vacuum switches

Function

Pressure switches

in many cases kown as P/E-converter are used for the conversion of a certain, adjustable operating pressure in an electrical or pneumatical signal.

The applied operating pressure at the connection thread of the pressure switch presses against the bottom side of the internal diaphragm.

At the top side the force of an adjustable spring counteracts the pressure force. The diaphragm moves up not until the pressure of the medium is bigger than the counteracting spring resistance. By the moving of the diaphragm a small micro switch is activated which electrically opens or closes the electric circuit.

When the present operating pressure decreases about the value of the hysteresis (switch-back difference) the electrical or pneumatical switch turns back to the basic position.

Technical data

The specifications and the field of application are assigned to the respective article in the catalog.

General

With the different electrical switches a distinction is drawn between:

- Normally closed switch:

  When reaching the adjusted switching pressure the electric circuit is opened.

- Normally open switch:

  When reaching the adjusted switching pressure the electric circuit is closed.

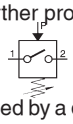
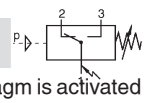
- Changer:

  With changing the terminal connections at the contacts of the electric switch an opening function as well as a closing function can be realized.

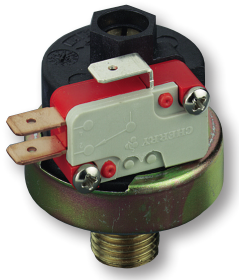
Diaphragm pressure switch

normally open switch
normally closed switch
changer

Application: Pressure switches are used in pipings with liquid or gaseous media. When a set pressure is reached the switch releases an electric signal for further processing.

Function: pneumatic - electric | NO switch  | NC switch  | changer 

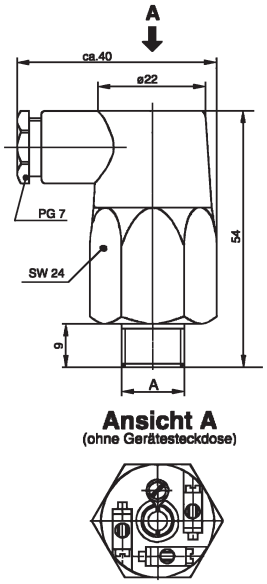
At the medium side the pressure switch is encapsulated by a diaphragm. As soon as the diaphragm is activated by the medium pressure the electric micro switch operates. If the pressure of the medium decreases below the set diaphragm operating pressure, the diaphragm moves back into the basic position and the electric signal releases.



Technical data		
Connection	:	G1/4-Withworthpipe thread
Adjustment range	:	see table
Temperature range	:	-20°C up to +85°C with rubber diaphragm/ -20°C up to +125°C with stainless steel diaphragm
Switch-back difference	:	approx. 10% of the set switching pressure
Reproducibility	:	+/- 0,15 bar
Operating pressure	:	see table

Housing	diaphragm	pressure spring	connection
PPS-plastic	rubber with vaccumstainless steel	hardened steel	brass

Electrical data		DS 801/802	DS 200
Protection class	:	IP 55	IP 00
Voltage	:	max. 250 V	max. 250 V
Current	:	max. 2 A	max. 16 A
El.- connection	:	flat plug 2,8 x 0,5	Fast-on 6,3 x 0,8
Function	:	normally closed / normally open	changer



Pressure switch - cap PG7

normally closed - 1/4"
2 A

Order-no.	type	thread	adjustment range in bar	VPE
25012235	V-DS801-1/0-1/4-PE-Ö-PG7	G1/4	Vakuum -0,1 bis -0,95	1
25015236	V-DS801-0/1-1/4-PE-Ö-PG7	G1/4	0,2 bis 1	1
25011237	V-DS801-1/10-1/4-PE-Ö-PG7	G1/4	1 - 10	1

Pressure switch - cap PG7

normally open - 1/4"
2 A

Order-no.	type	thread	adjustment range in bar	VPE
25011225	V-DS802-1/0-1/4-PE-S-PG7	G1/4	Vakuum -0,1 bis -0,95	1
25014226	V-DS802-0/1-1/4-PE-S-PG7	G1/4	0,2 bis 1	1
25010227	V-DS802-1/10-1/4-PE-S-PG7	G1/4	1 - 10	1

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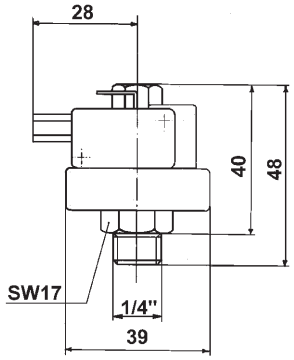


Pressure switch - without cap
with micro switch

changer - 1/4"
16 A

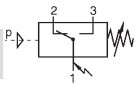
consisting of: 1 pressure switch with mounted micro switch (screwed)

Order-no.	type	thread	adjustment range in bar	VPE
25010360	V-DS200-1/0-1/4-PE-W	G1/4	Vakuum -0,15 bis -0,95	1
25010352	V-DS200-1/10-1/4-PE-W	G1/4	0,5 - 10	1

Pressure switch (electric) with scale changer

Application: Pressure switches are used in pipings with liquid or gaseous media.
When reaching an adjusted pressure the switch releases an electric signal for further processing.

Function: pneumatic - electric | changer



At the medium side the pressure switch is encapsulated by a closed corrugated pipe. As soon as the corrugated pipe is activated by the medium pressure the electric micro switch operates. If the pressure of the medium decreases below the before adjusted operating pressure of the corrugated pipe, the pipe moves back into the basic position and the electric signal releases. The adjustment of the switching pressure can be made with a slotted screw above the pressure switch. Before adjusting the plastic cap and the safety plate have to be removed.

The advantage of this pressure switch is the direct reading and the adjustment of the desired switching pressure and of the desired switch-back difference (hysteresis).

Technical data

Connection	:	G1/8-female thread
Adjustment range	:	-0,2 up to 7,5 bar
Temperature range	:	-40°C up to +65°C (+80°C max. 2 hours)
Hysteresis	:	0,7 bar up to 4 bar adjustable
Operating pressure	:	max. 20 bar

Housing	corrugated pipe	pressure spring	connection
plastic	copper	steel zinc-plated	brass

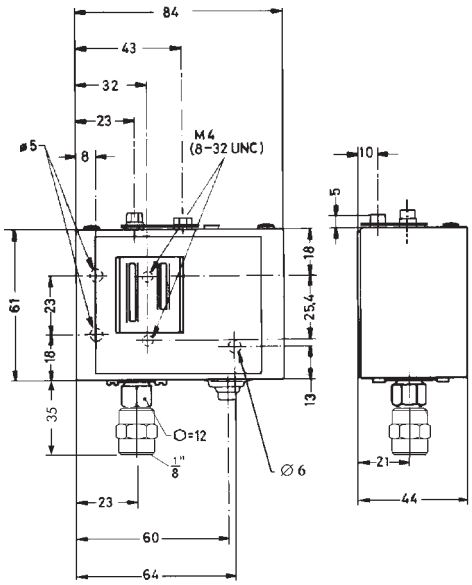
Electrical data

Protection class	:	IP 33
Voltage	:	max. 380 V
Current	:	max. 16 A
El.- connection	:	clamping screws, housing with cable bushing
Function	:	changer

Pressure switches - scale
with setting scales for pressure and hysteresis

changer - 1/8"
16 A

Order-no.	type	thread	adjustment range in bar	VPE
25015200	V-DS-PE-KP1-1/8-W	G1/8	-0,2 bis +7,5	1



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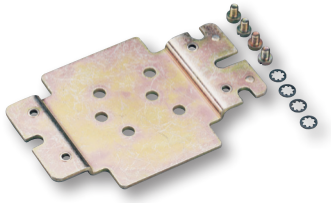
Pressure switch bracket



Application: For wall mounting of the pressure switches V-DS-PE-KP1 and V-DS-PP-KP1.
consisting of: 1 bracket, 4 screws M 4, 4 washers.

Order-no.	type	VPE
25018220	V-DS-Konsole KP1	1

Pressure switch pneumatic
with scale for reading the switching pressure

3/2-way NC - NO

Application: Pressure switches are used in pipings with liquid or gaseous media. When the adjusted pressure is reached the switch releases an pneumatic signal for further processing.

Function: pneumatic - pneumatic

At the medium side the pressure switch is encapsulated by a closed corrugated pipe. As soon as the corrugated pipe is activated by the medium pressure the pneumatic micro switch operates. If the pressure of the medium decreases below the set operating pressure of the corrugated pipe, the pipe moves back into its basic position and the pneumatic signal releases. The adjustment of the switching pressure can be made with a slotted screw above the pressure switch. Before the setting is started the plastic cap and the safety plate have to be removed. The advantage of this pressure switch is the direct reading and the adjustment of the desired switching pressure and of the desired switch-back difference (hysteresis).

Technical data Pressure switch

Connection	:	G1/8-Withworth-female thread
Adjustment range	:	-0,2 up to +7,5 bar
Temperature range	:	-40°C up to +65°C (+80°C max. 2 hours)
Contact system	:	pneumatices 3/2-way valve NG or NO
Operating pressure	:	max. 20 bar
Hysteresis	:	0,7 bar up to 4,0 bar adjustable

Technical data 3/2-way valve

Connection	:	hose inner diameter 3 mm
Function	:	pneumatices 3/2-way valve
Pressure range	:	2 up to 8 bar
Flow rate at 4 bar	:	> 70 Nl/min
Media	:	air, gas and neutral liquids
Media temperature	:	-10°C up to +50°C
Switching time	:	< 15 ms

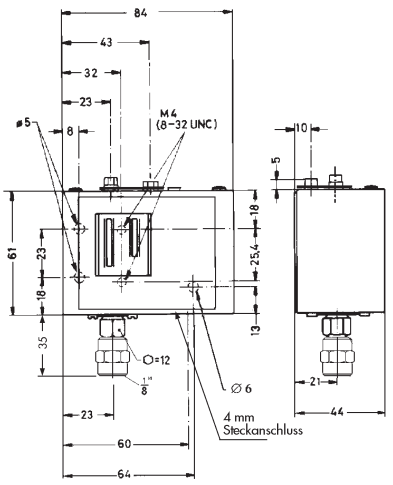
Housing	diaphragm	pressure spring	connection
plastic	copper corrugated pipe	steel zinc-plated	brass

Pressure switch pneumatic - scale
with setting scales for pressure and hysteresis

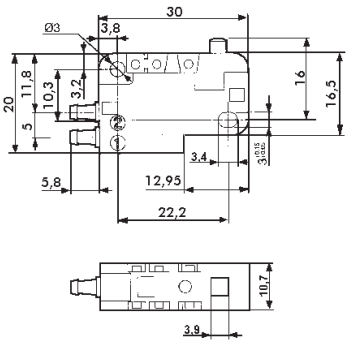
3/2-way - 1/8"

Order-no.	type	thread	adjustment range in bar	function	VPE
25014210	V-DS-PP-KP1-1/8-NG	G1/8	-0,2 bis +7,5	NG	1
25013211	V-DS-PP-KP1-1/8-NO	G1/8	-0,2 bis +7,5	NO	1

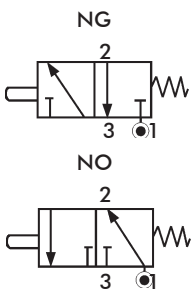
Dimensions: Pressure switch



3/2-way valve - NC - NO



wiring diagrams



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Electric type V-VS560-0,85-1-1/4-W changer

incl. 4-pole device plug DIN 43650 FORM A

This pressure switch is mainly used in the rough vacuum area. It converts pneumatic signals into electric signals whereas the switching point is continuously adjustable with an adjusting knob. The V-VS560 also has an integrated micro switch and thus depending on the connection it can be used as opener, closer or changer. The device is free of lacquer wetting disturbing substances. Optionally the socket outlets are available with or without LED as accessories.

Order-no.	type	thread	setting range (bar)	weight [g]
25014242	V-VS560-0,85-1-1/4-W	G1/4 IG Flansch	-0,85 bis +1	295
25014240	V-DS550-0,5-8-1/4-W	G1/4 innen	0,5 bis 8	295

V-VS560-0,85-1-1/4-W

General specifications

Operating cycles [max]	vibration resistance	shock resistance	Protection class	Repeatability	operating temperature [°C]
200 / min	10 g (10 up to 2000Hz)	30 g	IP65	+-2%*	-10 up to +80

*relating to range end value

Material

Housing : special diecasting
Adjusting flap : Aluminium (powder-coated)
Sealings / diaphragm : Perbunan

Operating current, -spannung

AC12 accord. VDE0660 (EN60947): 4A at 250 VAC

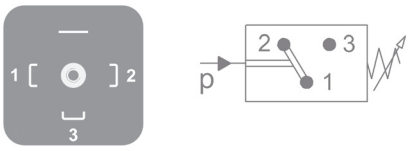
at usage category

AC14 accord. VDE0660 (EN60947): 1A at 250 VAC

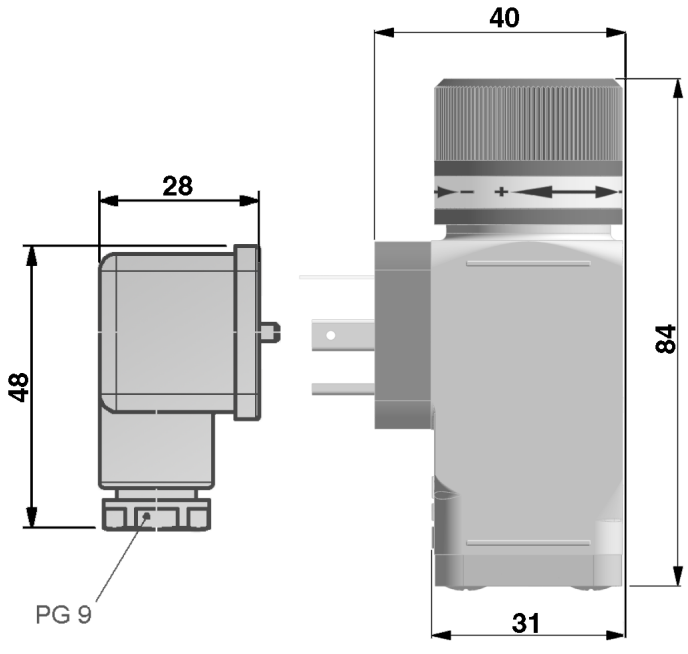
DC12 accord. VDE0660 (EN60947): 3A at 28 VDC

DC14 accord. VDE0660 (EN60947): 1A at 28 VDC

contact arrangement / switching symbol



Dimensions



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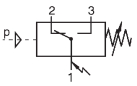
Compressor - pressure switch
with cylinder ventilation

changer - 1/4"
max. 500V, 50/60 HZ, 20A

Application: In compressor control systems for adjusting a regulated starting and turning-off when the pressure point is reached. This pressure switch is very robust and does not need any maintenance.

Function: changer



The pressure switch can be adjusted between 4 and 12 bar. Furthermore the hysteresis (difference between switching-on and switching-off) can be adjusted.
Attention: The adjustments have to be effected pressurized. Attention should be paid that the pressure switch is cut-off from the mains supply.

Order-no.	type	thread	adjustment range in bar	weight [g]	VPE
25018221	V-DS-PE-5/12	G1/4 innen	5 - 12	ca, 580	1

General specifications

Voltage	current	electr. connection	max. pressure [bar]	operating temperature [°C]
max. 500V 50/60 Hz, 3 phases	max. 20A	cable gland	20 bar	-10 up to +50

Dimensions

length approx. 90 mm, width approx. 58 mm, height approx. 130 mm

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Pressure- / vacuum switch

Vacuum switches are used in line systems with gaseous media. When a set pressure is reached, the switch releases an electrical signal for further processing.

When selecting the switch, the maximum permissible system pressure must be observed in addition to the desired setting range. Devices for special ambient conditions and higher system pressures as well as for other adjustment ranges or NPN switching outputs are available on request.

General specifications

- small, compact design
- fast response time: 5 ms
- switching point indication via LED
- ysteresis adjustable 1-10 % of measured value

Order-no.	type	signal range [bar]	pressure connection	operating temperature	weight [g]
25014271	V-VS-KP11-1/0-1/8-PNP	-1 bis 0	G1/8“	0°C bis +50°C	50
25014273	V-DS-KP12-0/10-1/8-PNP	0 bis 10	G1/8“	0°C bis +50°C	50

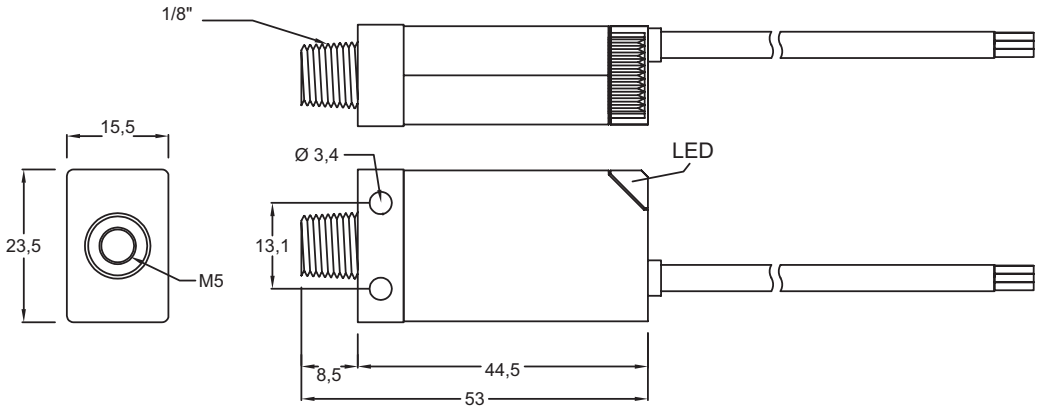
General specifications

Repeatability	media	reaction time	electrical connection	operating voltage	protection class
±1%	air, non-flammable gas	5 ms	3-pole cable (1 m)	12-24V DC ± 10% ripple	IP 40

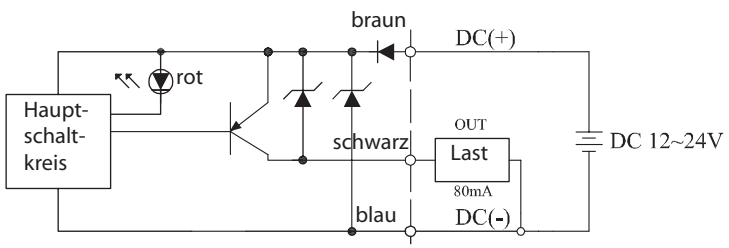
Pressure- and hysteresis adjustment

The pressure switch is adjusted via the trimmer with a screwdriver.
The pressure setting point is increased by turning it clockwise.
For vacuum settings, turn counterclockwise.
The hysteresis setting point is also adjusted with a screwdriver.
The rotation angle of the trimmer is 220°.
A stop on both sides ensures that the trimmer cannot be turned beyond its limit value. Turning beyond the limit can damage the adjuster.

Dimensions



Wiring diagram



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Pressure- and vacuum switch

electric / digital

Digital precision pressure- / vakuum switch

With the digital pressure switch, pressure or vacuum signals are passed on transmitted via an analog output or 2 x PNP outputs. All parameters of the switch are set via the front membrane keyboard. The large display makes it easy to read.

When selecting the switch, the maximum permissible system pressure must be observed in addition to the desired setting range. Devices for special ambient conditions and higher system pressures as well as for other adjustment ranges or NPN switching outputs are available on request.

General specifications

- extensive accessories
- large display for easy reading
- simple, menu-driven setting
- 2 colour display (green LED: OUT1 / red LED: OUT2)
- hysteresis adjustable
- optional display of units: MPa, psi, kgf/cm², bar, mmHg, InHg
- switching output adjustable: normally open (NO) or normally closed (NC)

V-VS-KP20...

Scope of delivery:

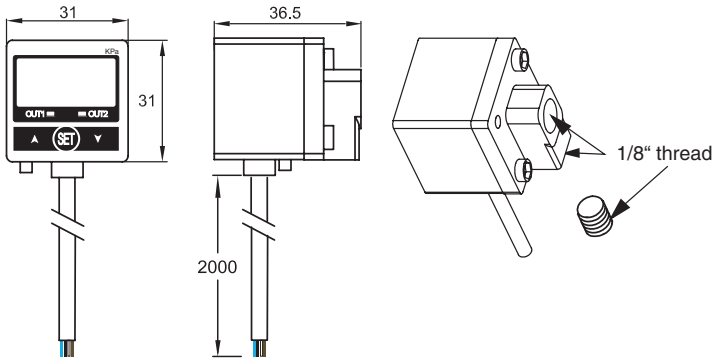
Switch and fastening A

Order-no.	type	signal range [bar]	hysteresis [%]	pressure connection	weight [g]
25014261	V-VS-KP20V-1/0-1/8-PNP	-1 bis 0	einstellbar	G1/8“	135
25014263	V-DS-KP25P-0/10-1/8-PNP	0 bis 10	einstellbar	G1/8“	135

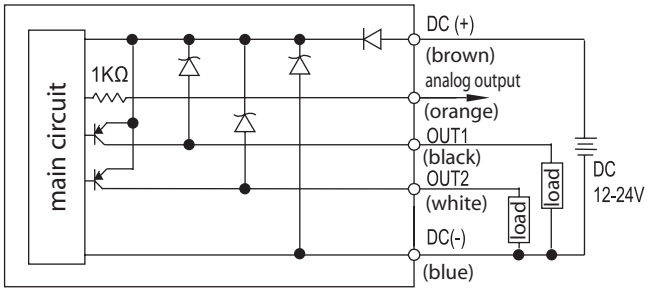
General specifications

repeatability	media	protection class	electrical connection	operating voltage	operating temperature
± 0,2%	air, non-flammable gas	IP 40	5-pole cable (2 m)	12-24V DC ± 10% ripple	0°C up to +50°C
display LED accuracy	**current consumption**	**reaction time**	**switching outputs**	**switching output**	**analog output**
± 2%	<55 mA	<±2,5 ms	short-circuit proof	2 x PNP	1 up to 5 V <±5%

Dimensions



Wiring diagramm PNP



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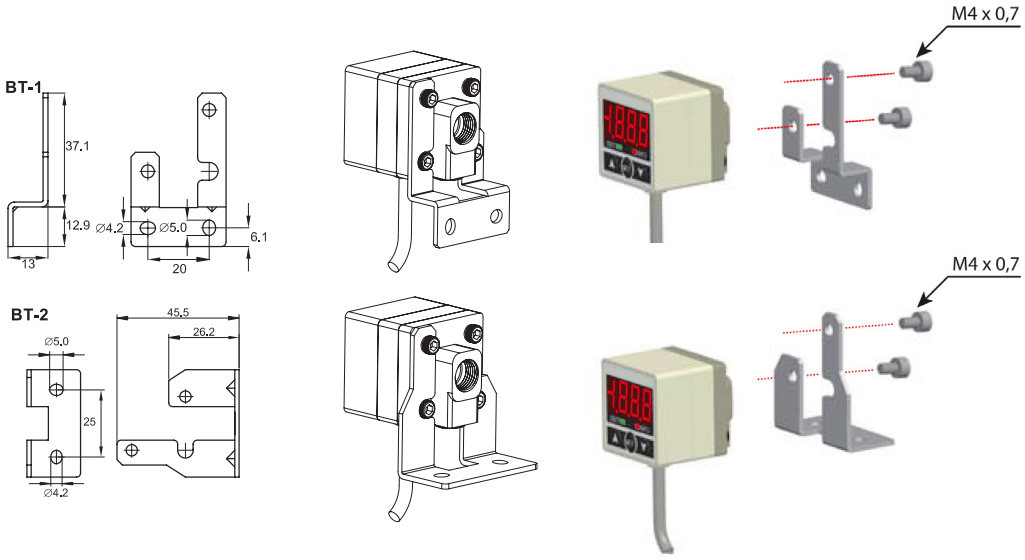
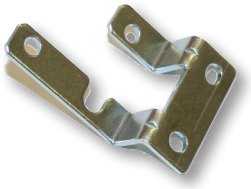
Fastenings

Order-no.	type	fastening	
25014265	V-BEF-KP20-BT1-BT2	A	Befestigungswinkel
25014267	V-BEF-KP20-PA1-PA2-FPC1	C	Schalttafeleinbau

Dimensions fastening A

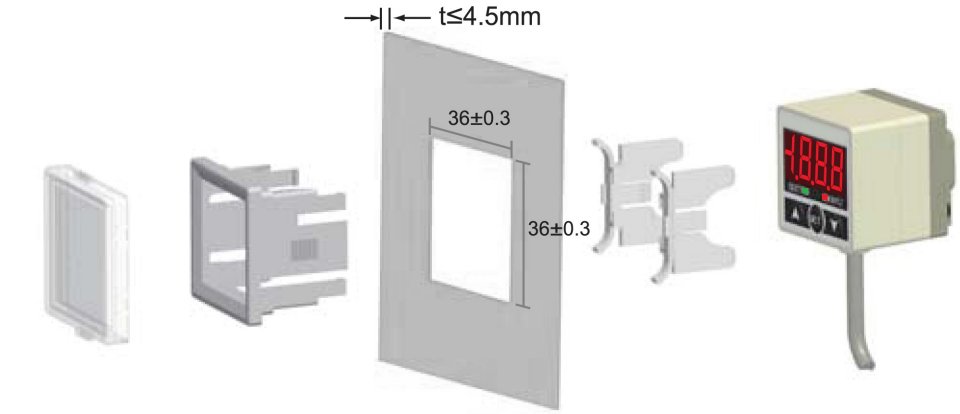


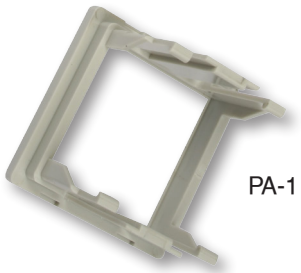


V-BEF-KP20-BT1-...

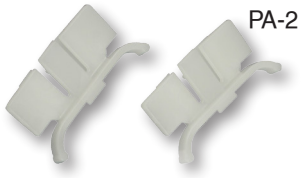
V-BEF-KP20-BT1-BT2

Dimensions fastening C

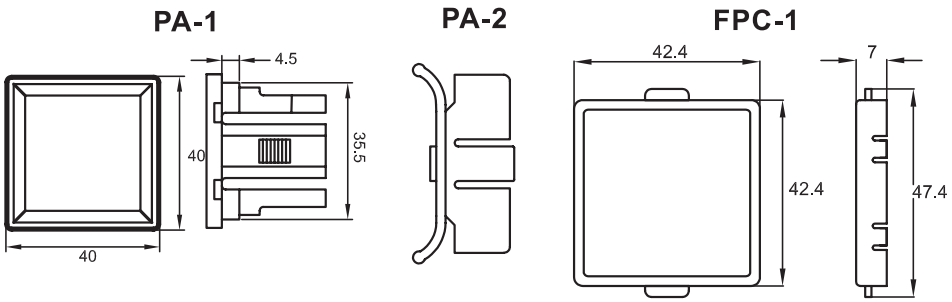




PA-1



PA-2



FPC-1

V-BEF-KP20-PA1-PA2-FPC1

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Notes