

Proxi-Boxes - General Information

The PB-box (Proxi-box) with ease of service screwable cover and very compact design is available in numerous different specifications. For the sensing of end positions or intermediate positions of pneumatic actuators or valves, double sensors of different designs, e.g. square proximity switch or microswitch can be utilized. Each end position is adjustable in the range from 0° - 360°. The preset position is secured by serrated cams against unintentional releases caused by vibrations. Specified sensors can be implemented with damped or undamped end position thanks to the design of the cam. The shock-resistant Vestamid housing protects the installed signal devices against dirt and mechanical wear. The housing cover of the PB-box is available in transparent Macrolon or black Vestamid.

We have created a high vision beacon cover, a position indicator, optionally available with different combination of colors which is highly visible from a great distance.



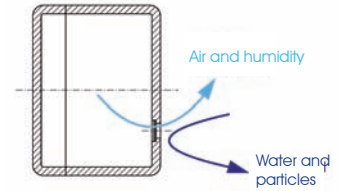
Benefits

- Very compact design
- Very competitive price and ease of service thanks to the persuasive technical construction
- Switching points individually adjustable in the range from 0° to 360°
- Highly visible position indicator

The better the sealing of a box is the bigger the problem with condensed water when the temperature fluctuation is extreme. By integrating a waterproof, but air permeable membrane, the air inside is able to interchange with the air outside. As a result, condensed water can be avoided. The two way breathable membrane is standard in all our Proxi-boxes.

Benefits

- No condensed water by integrating a steam permeable membrane, which ensures a durable and reliable „breathing“ of the housing.
- High protection class, because the microporous structure of the membrane prevents the ingress of microparticles and salt crystals. It also mechanically protects thanks to the lattice structure.
- Cost saving, because a dry cable terminal compartment does not cause corrosion, as a result, there is no maintenance service required.



two way breathable membrane

options

Model with transparent
Macrolon cover.



Model with solid Vestamid cover.

Instead of flat Macrolon or Vestamid cover the Proxi-boxes are also available with a high vision beacon cover.



Microswitches

The PB-box with microswitches is a very cost-saving choice to detect end- or intermediate-positions of pneumatic positioning-actuator and valves. The microswitch is preferred in cases when the operating voltage is not specified by special requirements. When used as a potential free contact, there are no limits of controlling possibilities.

Though the construction is simple, the microswitch box allows a separate adjustment of the switching points. The adjusted setting of the end position is secured against unintentional releases caused by vibrations thanks to the serrated cams.



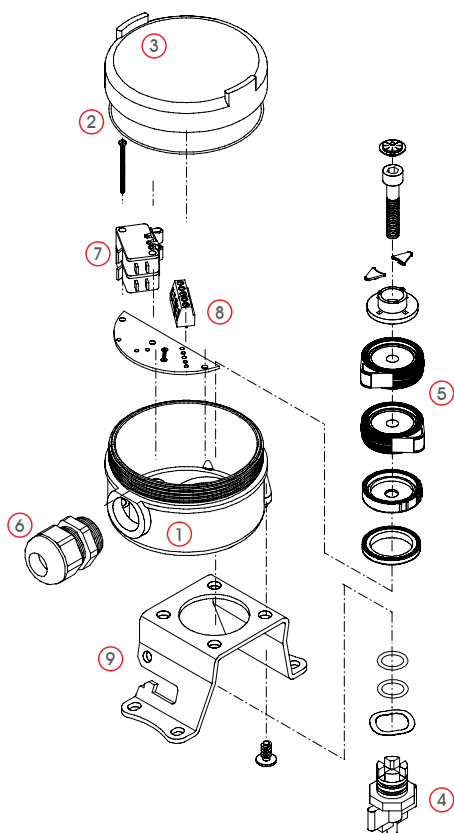
Benefits

- Very compact design
- As a potential-free change-over contact universally applicable
- Switching points individually adjustable in the range from 0° - 360°

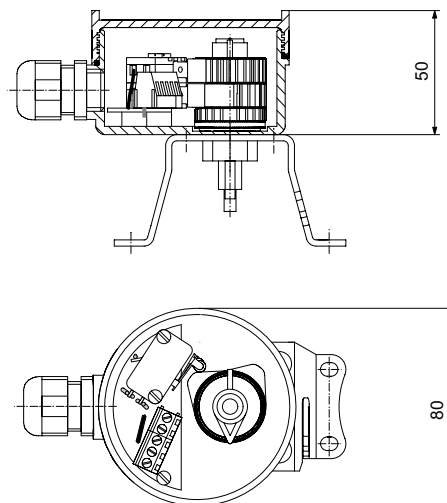


technical data

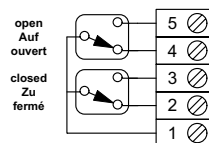
Manufacturer	Crouzet	Crouzet
Type	83.161.301	83.161.801
Operation switching element	Single Pole Double Throw	Single Pole Double Throw
Switching capacity	4 A, 230 V ~	0,1 A, 230 V ~
Contacts	silver-nickel	gold-alloy
Mechanical life	2 x 10 ⁷ switching cycle	5 x 10 ⁷ switching cycle
Temperature range	-25 ... +85 °C	-25 ... +85 °C
Switching precision	1,5°	1,5°
Protection class (according to DIN EN 60529)	IP 65	IP 65
Housing base	Vestamid, black	Vestamid, black
Housing cover	Makrolon (transparent), Vestamid (black), position indicator	Makrolon (transparent), Vestamid (black), position indicator
Sealing	NBR	NBR
Connection	Cable gland M20x1,5	Cable gland M20x1,5
Solenoid connection (optional)	Cable gland M12x1,5	Cable gland M12x1,5



dimensions



wiring diagram



basic schedule

Pos.	Pcs.	Description	Material
1	1	Housing base	Vestamid
2	1	O-ring seal	NBR
3	1	Housing cover	page 15
4	1	TCR-shaft	POM
5	1	Switching cams adjustable	POM, A2
6	1	Cable gland	-
7	2	Microswitch	-
8	1	Terminal block, 5-pole	-
9	1	Bracket, size 1-4	A2 or PA

product key

P	Design	P = Proxi-Box
CR	Make	CR = Crouzet
3	Type	3 = 83.161.301 8 = 83.161.801
M	Housing cover	M = Makrolon V = Vestamid
V	Housing base	V = Vestamid
AZ	Display	A = Open Z = Closed

3-Wire Double Sensor

To use double sensors with integrated cable clamp in the PB-box is the best way to couple compact design with the greatest ease of use. The covers of this model are flexible to combine: flat Macrolon or Vestamid cover or high vision beacon with position indicator. As in the other boxes, the adjusted position of the PB-box is secured by the serrated switching cams against unintentional releases caused by vibrations.



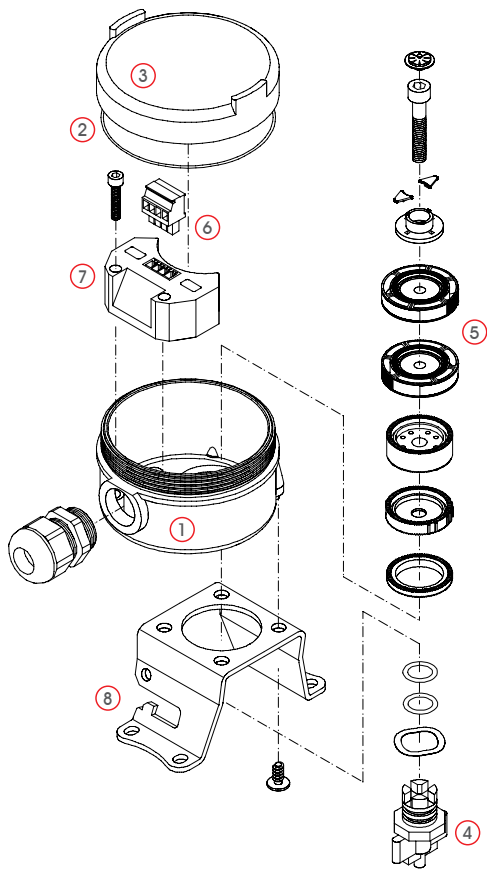
Benefits

- Very compact design
- Very cost-saving and ease of use thanks to the simple mechanical construction
- Available with highly visible position indicator

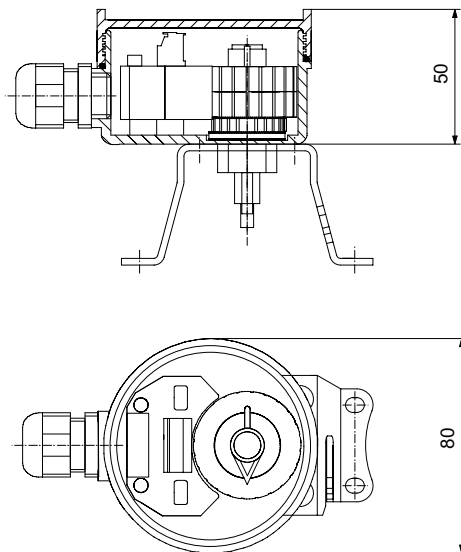


technical data

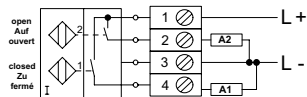
Manufacturer	Pepperl + Fuchs
Type	NBN3-F25F-E8-P
Operation switching element	3-wire, PNP Dual NOC
Operating distance	3 mm
Operating voltage	10 ... 30 V DC
Operating current	0 ... 200 mA
Residual current	0 ... 0,5 mA
No load current	≤ 25 mA
Output	Short-circuit proof, Protected against reverse polarity
Temperature range	-25 ... +70 °C
Protection class (according to DIN EN 60529)	IP 65 (housing) IP 60 (sensor)
Switching precision	≤0,5°
Housing base	Vestamid (black)
Housing cover	Makrolon (transparent), Vestamid (black), position indicator
Sealing	NBR
Connection	Cable gland M20x1,5 with pluggable cable clamp



dimensions



wiring diagram



basic schedule

Pos.	Pcs.	Description	Material
1	1	Housing base	Vestamid
2	1	O-ring seal	NBR
3	1	Housing cover	page 15
4	1	TCR-shaft	POM
5	1	Switching cams adjustable	POM, A2
6	1	Terminal block, 4-pole	-
7	1	Double sensor inductive	-
8	1	Bracket, size 1-4	A2 or PA

product key

P	Design	P = Proxi-Box
PF	Make	PF = Pepperl + Fuchs
F25E	Type	F25E = NBN3-F25F-E8-P
P	Connection	Cable clamp (pluggable)
M	Housing cover	M = Makrolon V = Vestamid S = High vision beacon
V	Housing base	V = Vestamid
AZ	Display	A = Open Z = Closed

Ex ia -Double Sensor with Cable Clamp

In this PB-box a 2-wire double sensor is installed. This technology is commonly used in the chemical industry and in general Ex-proof areas. The double sensor is intrinsically safe because of the low potential and therefore require no additional explosion protection measures. A plug-in cable clam is integrated in the sensors. This cable clam offers very comfortable and fast wiring when installing the box.



Benefits

- Very compact design
- Ease of service thanks to the simple mechanical construction at affordable cost
- Available with highly visible position indicator

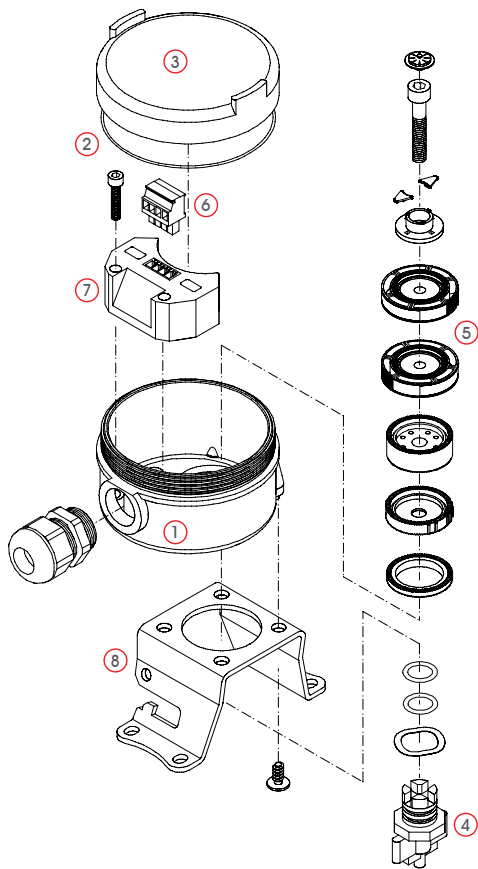


II 2G Ex ia IIC T6

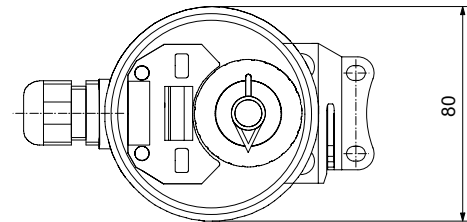
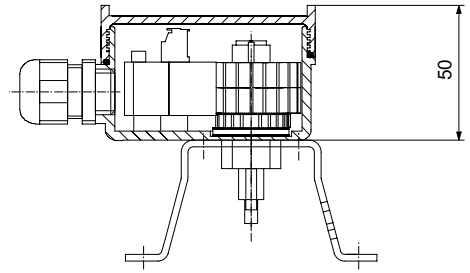
other protection classes available

technical data

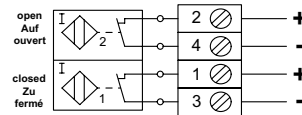
Manufacturer	Pepperl + Fuchs
Type	NCN3-F25F-N4-P
Operation switching element	Dual NCC NAMUR
Type of protection	Ex ia II 2G IIC T6 PTB 02 ATEX 1150
Operating distance	3 mm
Rated voltage	8 V DC
current draw	≥ 3 mA (not detected) ≤ 1 mA (detected)
No load current	≤ 3 mA
Output	Short-circuit proof, Protected against reverse polarity
Temperature range	-25 ... +70 °C
Protection class (according to DIN EN 60529)	IP 65 (Housing) IP 60 (Sensor)
Switching precision	≤ 0,5°
Housing base	Vestamid (black)
Housing cover	Vestamid (black)
Sealing	NBR
Connection	Cable gland M20x1,5 with pluggable cable clamp



dimensions



wiring diagram



basic schedule

Pos.	Pcs.	Description	Material
1	1	Housing base	Vestamid
2	1	O-ring seal	NBR
3	1	Housing cover	Vestamid
4	1	TCR-shaft	POM
5	1	Switching cams	POM, A2
6	1	Terminal block, 4-pole	-
7	1	Double sensor inductive	-
8	1	Bracket, size 1-4	A2 oder PA

product key

P	Design	P = Proxi-Box
PF	Make	PF = Pepperl + Fuchs
F25N	Type	F25N = NCN3-F25F-N4-P
P	Connection	Cable clamp (pluggable)
V	Housing cover	V = Vestamid
V	Housing base	V = Vestamid
AZ	Display	A = Open Z = Closed

3-Wire Double Sensor

The PB-box with double proximity sensor and M12-plug-in connector or cable is greatly easy to install and to maintain. It is not even necessary to open the box for the connection to a control system. But it is simply to connect by a plug-in connector or by cables into a terminal compartment. The shock-resistant Vestamid housing protects the sensor against dirt and mechanical wear. The cover of the housing is available in black Vestamid with flat design or transparent Makrolon, flat design or with high vision beacon position indicator. The adjusted end position is secured by the serrated switching cams against unintentional releases caused by vibrations.



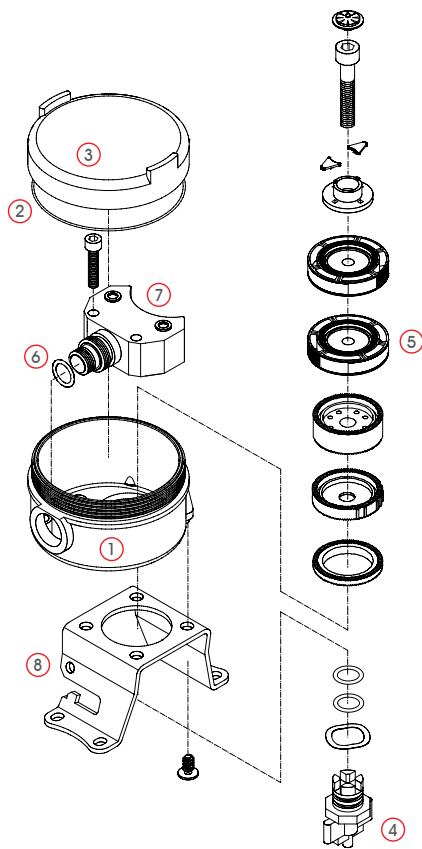
Benefits

- Very compact design
- Available with different connection possibilities
- Available with highly visible position indicator

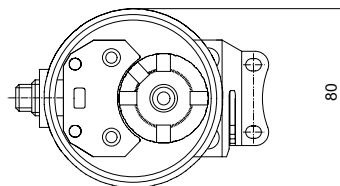
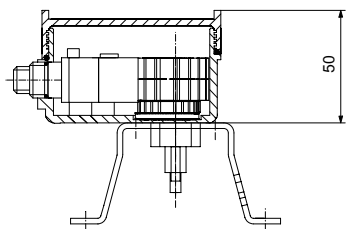


technical data

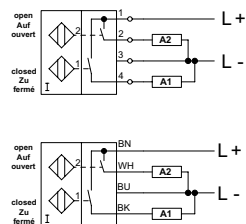
Manufacturer	Pepperl + Fuchs	Pepperl + Fuchs
Type	NBN3-F25F-E8	NBN3-F25F-E8-V1
Operation switching element	3-Wire, PNP Dual NOC	3-Wire, PNP Dual NOC
Connection	Cable 5m	M12-plug-connection
Operating distance	3 mm	3 mm
Operating voltage	10 .. 30 V DC	10 .. 30 V DC
Operating current	0 ... 200 mA	0 ... 200 mA
Residual current	0 ... 0,5 mA	0 ... 0,5 mA
No load current	≤ 25 mA	≤ 25 mA
Output	Short-circuit proof, Protected against reverse polarity	Short-circuit proof, Protected against reverse polarity
Temperature range	-25 ... +70 °C	-25 ... +70 °C
Protection class (according to DIN EN 60529)	IP 65 (Housing) IP 67 (Sensor)	IP 65 (Housing) IP 67 (Sensor)
Switching precision	≤0,5°	≤0,5°
Housing base	Vestamid, black	Vestamid, black
Housing cover	Makrolon (transparent), Vestamid (black)	Makrolon (transparent), Vestamid (black)
Sealing	NBR	NBR
Connection	Cable gland M20x1,5 with pluggable cable clamp	Cable gland M20x1,5 with pluggable cable clamp



dimensions



wiring diagram



basic schedule

Pos.	Pcs.	Description	Material
1	1	Housing base	Vestamid
2	1	O-ring seal	NBR
3	1	Housing cover	page 15
4	1	TCR-shaft	POM
5	1	Switching cams	POM, A2
6	1	O-ring seal	-
7	1	Double sensor inductive	-
8	1	bracket, size 1-4	A2 or PA

product key

P	Design	P = Proxi-Box
PF	Make	PF = Pepperl + Fuchs
F25E	Type	F25E = NBN3-F25F-E8
S	Connection	K = Cable 5m S = M12-plug-connector
M	Housing cover	M = Makrolon V = Vestamid S = high vision beacon
V	Housing base	V = Vestamid
AZ	Display	A = Open Z = Closed

Ex ia - Double Sensor

The PB-box offers intrinsic safety, in addition, highest grade of protection against environmental influences and mechanical wear. The electrical connection is possible without opening the box thanks to the M12-plug-in connector or integrated cable. There is no better protection against environmental influences. 2-wire technology sensors are commonly used in the chemical industry and in hazardous areas. The double sensor is intrinsically safe thanks to its low potential and requires therefore no additional explosion protection measures. The pre-adjusted position of the end positions is secured by the serrated cams against uncontrolled releases caused by vibrations.



Benefits

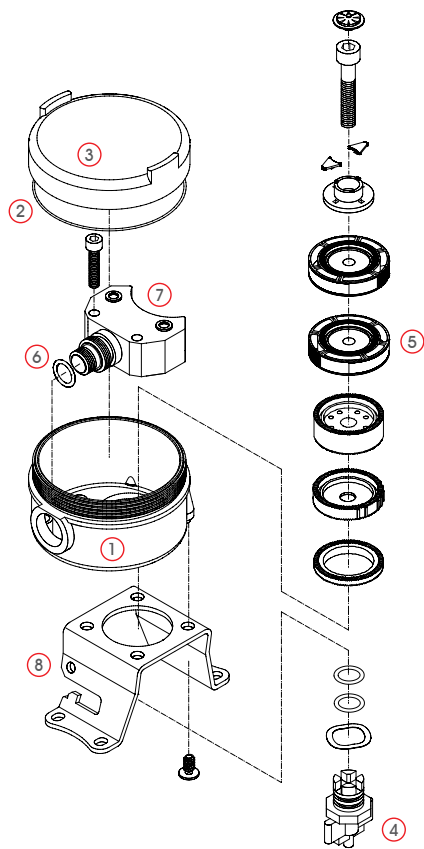
- Very compact design
- Available with different connection possibilities
- Fully adjustable switching points in the range from 0° - 360°



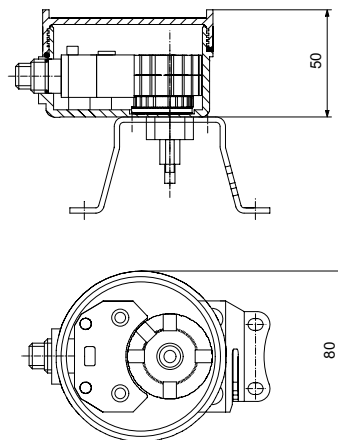
 II 2G Ex ia IIC T6
other protection classes available

technical data

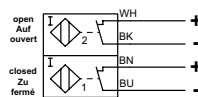
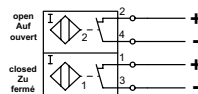
Manufacturer	Pepperl + Fuchs	Pepperl + Fuchs
Type	NCN3-F25F-N4	NCN3-F25F-N4-V1
Operation switching element	Dual NC NAMUR	Dual NC NAMUR
Type of protection	Ex ia II 2G IIC T6 PTB 02 ATEX 1150	Ex ia II 2G IIC T6 PTB 02 ATEX 1150
Connection	Cable 5m	M12-plug
Switching distance	3 mm	3 mm
Nominal voltage	8 V DC	8 V DC
Current draw	≥3 mA (not detected) ≤1 mA (detected)	≥3 mA (not detected) ≤1 mA (detected)
Off-load voltage	≤ 3 mA	≤ 3 mA
Output	Short-circuit proof, Protected against reverse polarity	Short-circuit proof, Protected against reverse polarity
Temperature range	-25 ... +70 °C	-25 ... +70 °C
Protection class (according to DIN EN 60529)	IP 65 (Housing) IP 65 (Sensor)	IP 65 (Housing) IP 65 (Sensor)
Switching precision	≤0,5°	≤0,5°
Housing base	Vestamid (black)	Vestamid (black)
Housing cover	Vestamid (black)	Vestamid (black)
Sealing	NBR	NBR
Connection	Cable gland M20x1,5, pluggable cable clamp	Cable gland M20x1,5, pluggable cable clamp



dimensions



wiring diagram



basic schedule

Pos.	Pcs.	Description	Material
1	1	Housing base	Vestamid
2	1	O-ring seal	NBR
3	1	Housing cover	Vestamid
4	1	TCR-shaft	POM
5	1	Switching cams	POM, A2
6	1	O-ring seal	-
7	1	Double sensor inductive	-
8	1	Bracket, size 1-4	A2 or PA

product key

P	Design	P = Proxi-Box
PF	Make	PF = Pepperl + Fuchs
F25N	Type	F25N = NCN3-F25F-N4
S	Connection	K = Cable 5m S = M12-plug
V	Housing cover	V = Vestamid
V	Housing base	V = Vestamid
AZ	Display	A = Open Z = Closed