

Series P77

Single pressure controls

For refrigeration, airconditioning and heatpump applications

APPLICATION

These pressure controls are designed for a variety of refrigeration pressure applications. Models are supplied in , all range' construction for use on R-12, R-22, R-500 and R-502 refrigerants. They may also be used for other pressure applications such as air, water etc. Models for ammonia service are available. Controls tested and approved by TÜV are included in the program.

NOTE

These controls are designed for operating or high/low cut-out applications. Where critical or high value products are to be maintained within a specific pressure differential, a single control should not be applied to function as both an operating and a high/low cut-out. In these applications a separate back-up control with alarm contacts should be wired to indicate when this control operates.

SPECIFICATIONS

APPLICATION	Industrial and commercial refrigeration, air-conditioning and heatpump applications.
PRESSURE CONNECTORS	Style 5, 15 (see drawings)
OPERATING RANGES AND DIFFERENTIALS	See type number selection
ADJUSTMENTS	See type number selection
MATERIAL CASE AND COVER	Weatherproof aluminium diecast
CONTACT UNIT	Large copper-backed silver cadmium contacts (AgCdO) on berillium copper conductor leaves
AMBIENT TEMP. LIMIT	-50 to +50 °C (+70 °C max. duration two hours)
ENCLOSURE	IP 54 (DIN 40050 and IEC 144)
ELECTRICAL RATINGS	380V \sim , 16(10) A 220V $\overline{\sim}$, 12W (pilot duty only)
PULSATION PLUG	Fitted into all HP bellows (range 3.5 – 21 bar and up)
OPTIONAL CONSTRUCTIONS	Contact factory or local representative
ACCESSOIRES	Mounting bracket Compression coupling 90 cm capillary with two flare nuts
LOCKING PLATE AND SCREW	To lock and seal range and/or differential screw Standard on types P77AAW, BEB and BES Optional on all other types (quantity orders only)
PACKING	Choice of bulk pack (35 pcs.) or, at additional cost, individual package.
SHIPPING WEIGHTS	IND. PACK 0.5 kg BULK PACK 18 kg

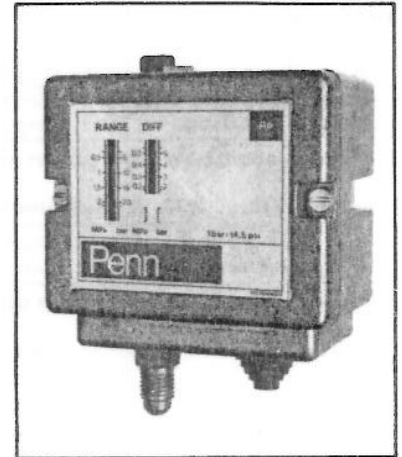
FEATURES

- Generous wiring space provided.
- All models have splash-proof enclosure (IP 54).
- On single pressure controls SPDT contacts are standard.
- Built according to CEE 24.

Note: To facilitate order handling special ordering codes have been added to some commonly used models.

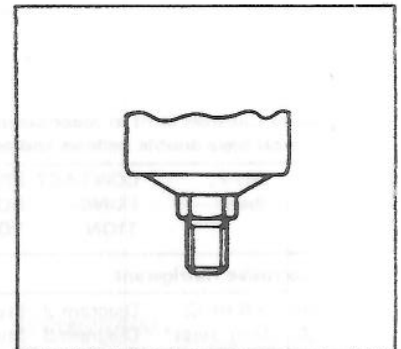
TYPE NUMBER MATRIX

P77AAA	automatic reset.
P77BCA	open low-manual reset.
P77BEA	open high-manual reset.
P77AAW	HP limit, automatic reset (TÜV).
P77BEB	HP limit, manual reset (TÜV).
P77BES	HP Safety limit, manual reset (TÜV).

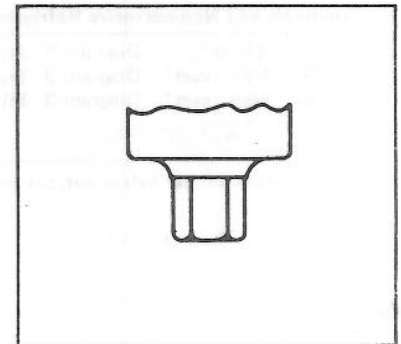


P77 SINGLE PRESSURE CONTROLS

PRESSURE CONNECTORS



STYLE 5: Male connector $\frac{7}{16}$ - 20 UNF for $\frac{1}{4}$ " / 6 mm flare nut.



STYLE 15: Female connector $\frac{1}{4}$ - 18 NPT.

ADJUSTMENT

On most models* the scale indicates the high switch point to obtain low switch point deduct differential value from high switch point.

*Except type P77BCA, here the scale indicates the low (cut-out) switch point.

TYPE NUMBER SELECTION

RANGE (bar)	DIFFERENTIAL (bar)	CONTACT FUNCTION	PRESSURE CONNEC- TOR	MAX. BELLOWS PRESS.	ORDER NUMBER		
					IND. PACK	BULK PACK	CODE

Low Pressure Controls for Non-corrosive Refrigerants

-0.3 to 2	0.3 to 1.5	Diagram 1	Style 5	4 bar	P77AAA-9302	P77AAA-9322	P77L**
-0.5 to 7	0.5 to 3	Diagram 1	Style 5	22 bar	P77AAA-9300	P77AAA-9320	
-0.5 to 7	Manual reset*	Diagram 1	Style 5	22 bar	P77BCA-9300	P77BCA-9320	
1.0 to 10	1.0 to 3	Diagram 1	Style 5	15 bar	P77AAA-9301	P77AAA-9321	

*Note: Resettable 0.5 bar above cut-out point.

Low Pressure Controls for Ammonia and Non-corrosive Refrigerants

-0.5 to 7	0.5 to 3	Diagram 1	Style 15	14 bar	P77AAA-9700	P77AAA-9720	
-0.5 to 7	Manual reset*	Diagram 1	Style 15	14 bar	P77BCA-9700	P77BCA-9720	

*Note Resettable 0.5 bar above cut-out point.

High Pressure Controls for Non-corrosive Refrigerants

3 to 30	3 to 12	Diagram 2	Style 5	33 bar	P77AAA-9350	P77AAA-9370	P77H**
3 to 30	Manual reset*	Diagram 3	Style 5	33 bar	P77BEA-9350	P77BEA-9370	P77HR**
3.5 to 21	1.8 to 5.5	Diagram 2	Style 5	30 bar	P77AAA-9351	P77AAA-9371	

*Note: Resettable 3 bar below cut-out point.

High Pressure Controls for Ammonia and Non-corrosive Refrigerants

3 to 30	3 to 12	Diagram 2	Style 15	33 bar	P77AAA-9750	P77AAA-9770	
3 to 30	Manual reset*	Diagram 3	Style 15	33 bar	P77BEA-9750	P77BEA-9770	

*Note Resettable 3 bar below cut-out point.

**Ind. pack only.

High Pressure Controls built in accordance with German specification Druck 100
These Controls have double bellows and are approved by TÜV in West-Germany

RANGE (bar)	DIFF. (bar)	CONTACT FUNC- TION	PRESS. CONNEC- TOR	MAX. BELLOWS PRESS.	FUNCTION	ORDER NUMBER		
						IND. PACK	BULK PACK	CODE

For Non-corrosive Refrigerant

3 to 30	3.5 to 12	Diagram 2	Style 5	33 bar	'Wächter' ①	P77AAW-9350	P77AAW-9370	P77W**
3 to 30	Man. reset*	Diagram 3	Style 5	33 bar	'Begrenzer' ②	P77BEB-9350	P77BEB-9370	P77B**
3 to 30	Man. reset*	Diagram 3	Style 5	33 bar	'Sicherheits- druckbegren- zer' ③	P77BES-9350	P77BES-9370	P77S**

For Ammonia and Non-corrosive Refrigerants

3 to 30	3.5 to 12	Diagram 2	Style 15	33 bar	'Wächter' ①	P77AAW-9750	Ind. pack only	
3 to 30	Man. reset*	Diagram 3	Style 15	33 bar	'Begrenzer' ②	P77BEB-9750	Ind. pack only	
3 to 30	Man. reset*	Diagram 3	Style 15	33 bar	'Sicherheits- druckbegren- zer' ③	P77BES-9750	Ind. pack only	

*Note: Resettable 3.5 bar below cut-out point.

**Ind. pack only.

① HP Limit Aut. Reset (TÜV).

② HP Limit Man. Reset (TÜV).

③ HP Safety Limit (TÜV).

CONTACT FUNCTIONS

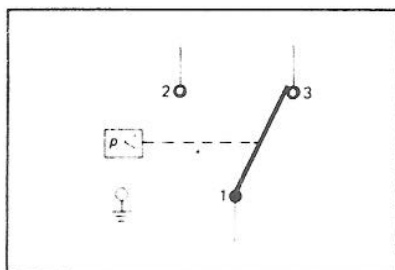


DIAGRAM 1

1-3 open on pressure decrease

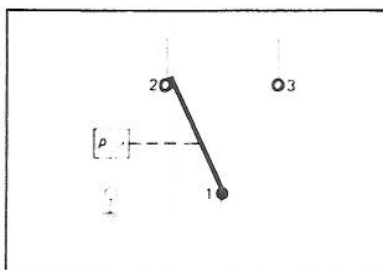


DIAGRAM 2

1-2 open on pressure increase

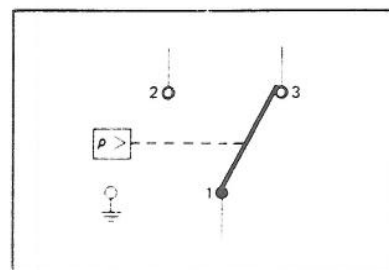
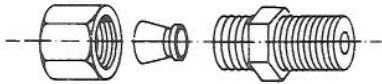


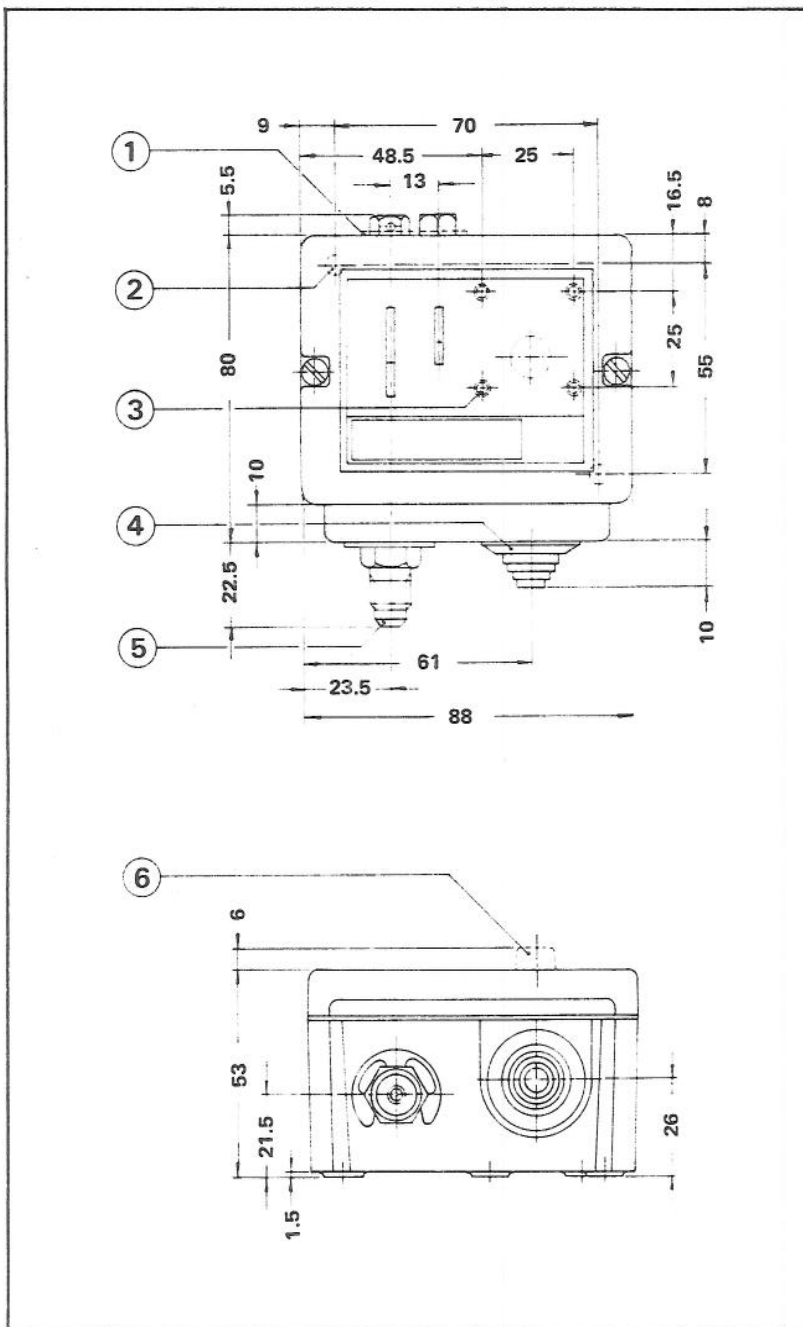
DIAGRAM 3

1-3 open on pressure increase

**ACCESSORIES
COMPRESSION COUPLING**

PART	DESCRIPTION	APPLICATION	CODE NUMBER
	Fits into style 15 pressure connector	For 6 mm copper or steel tubing	CNR003N001
		For 8 mm copper or steel tubing	CNR003N002

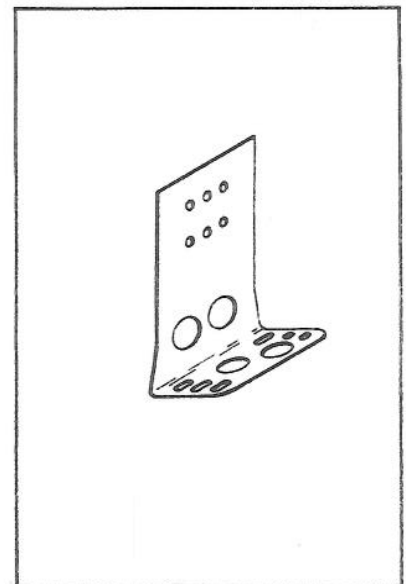
DIMENSIONS (mm)



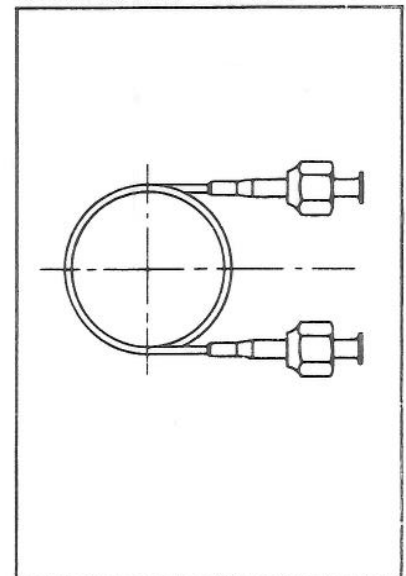
- ① Lock plate (if applied).
- ② Two mounting holes $\phi 4.5$.
- ③ Four mounting holes M4.

- ④ Cable inlet grommet (cable range $\phi 5 - \phi 13$), dimensions of hole permit the use of PG13.5 or PG16 conduit connectors

MOUNTING BRACKET 271-51



**SEC002N600
90 cm Capillary with (2) Flare Nuts**



- ⑤ Power element:
Style 5: $7/16 - 20$ UNF male (shown).
Style 15: $1/4 - 18$ NPT female.
- ⑥ Reset button.