

Series P735

Single Pressure Controls for Refrigeration, Air-conditioning and Heatpump Applications

Product Bulletin

These pressure controls are designed for use in a variety of applications involving refrigeration high or low pressure. Models supplied have a “whole range” design, enabling them to be used with all non-corrosive refrigerants which are within the operating range of the control. They may also be used for other high or low pressure applications such as air, water etc. Also models tested and approved according to PED 2014/68/EU Cat. IV are included in the program.

The P735 series pressure controls may be used for control functions or limit functions, depending on model number. All models are provided with alarm contacts. All standard models have phosphor bronze bellows and brass pressure connections.

Devices conforming PED 2014/68/EU (HP models) have a double bellows.



Features

- **Generous wiring space**
Easy wiring and maintenance
- **SPDT contacts are provided as standard on single pressure controls**
Can be wired for alarm functions
- **Trip-free manual reset**
Override is not possible in the control function

IMPORTANT: The controls are intended to control equipment under normal operating conditions. Where failure or malfunctioning of the controls could lead to an abnormal operating condition that could cause personal injury or damage to the equipment or other property, other devices (limit or safety controls) or systems (alarm or supervisory systems) intended to warn of or protect against failure or malfunctioning of the controls must be incorporated into and maintained as part of the control system.

Type Number Matrix

P735AAA	Automatic reset
P735BCA	Open low - manual reset
P735BEA	Open high - manual reset
P735AAW	HP or LP Limit (Auto reset) HP conforming PED 2014/68/EU
P735BEB	HP Limit (Man. Reset) Conforming PED 2014/68/EU
P735BES	HP Safety Limit (Man. Reset) Conforming PED 2014/68/EU
P735BCB	LP Limit (Man. Reset) Including lock plate assy

Mounting

Mounting can easily be done with mounting bracket 271-51L (order separately) or directly on a surface. Mounting holes M4 are provided.

Adjustment

Adjustment of range and differential can be done by turning the hexagonal range screw and differential screw. Manual reset models have a range screw only. The adjustment screw can also be locked by a lock plate accessory (KIT023N600). On all models the scale indicates the high switch point (Except type P735BCA, P735BCB, here the scale indicates the low (cut-out) switch point). The low switch point can be derived by deducting the differential value from the high switch point.

Contact Functions (see also “Type Number Selection” tables)

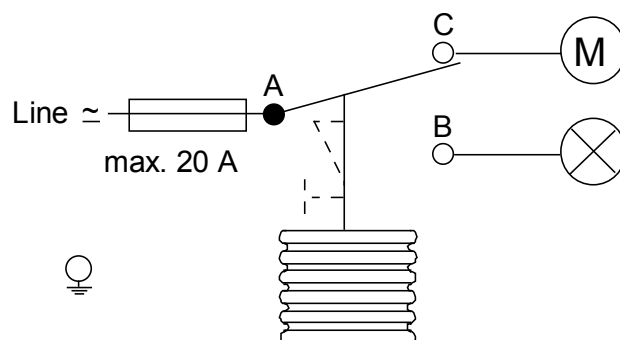


Figure 1: A - C open on pressure decrease

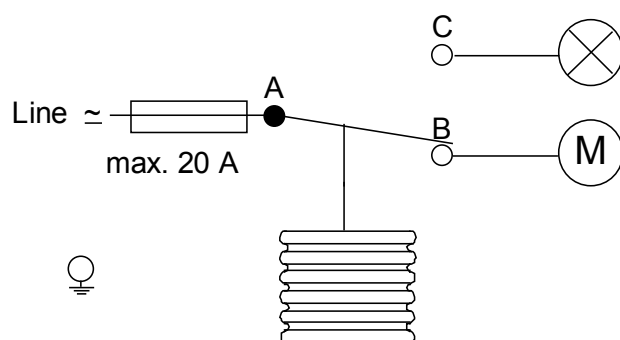


Figure 2: A - B open on pressure increase

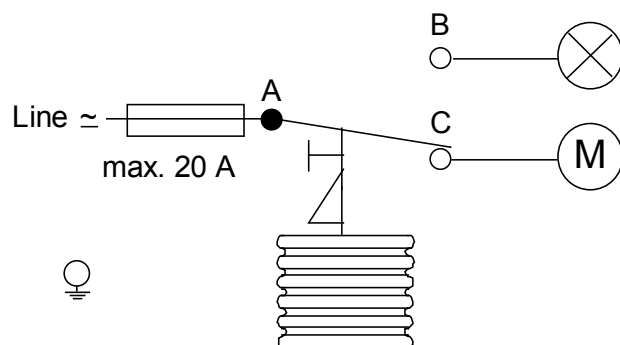


Figure 3: A - C open on pressure increase

Optional Construction Note

If your requirements are not in the type number selection table, then please contact your Johnson Controls representative.

Repair and Replacement

Repair is not possible. In case of an improperly functioning control, please check with your nearest supplier. When contacting the supplier for a replacement you should state the type/model number of the control. This number can be found on the data plate.

Type Number Selection Tables

Pressure controls for Non-corrosive refrigerants

Family Code	Style 5		Style 28	Style 30	Range (bar)	Diff. (bar)	Contact function (Figure)	Max. Bellows pressure
	Ind. Pack.	Bulkpack	Ind. Pack.	Ind. Pack.				
P735AAA	-9300	-9320	-9800	-9400	-0.5 to 7	0.6 to 3	1	22
	-9301	---	---	---	-0.2 to 10	1 to 4.5	1	15
	-9350	-9370	---	---	3 to 30	3 to 12	2	33
	-9351	---	---	---	3.5 to 21	2.1 to 5.5	2	30
P735BCA	-9300	---	---	---	-0.5 to 7	Man. res **	1	22
P735BEA	-9350	-9370	---	---	3 to 30	Man. res *	3	33

** Resetable at 0.5 bar above cut-out point

* Resetable at 3 bar below cut-out point

Pressure controls for Non-corrosive refrigerants (Pressure limiter, Pressure cut-out, including lockplate assy)

Family Code	Style 5		Style 28	Range (bar)	Diff. (bar)	Contact function (Figure)	Max. Bellows pressure	Approved according to PED 2014/68/EU Cat. IV
	Ind. Pack.	Bulkpack	Ind. Pack.					
P735AAW	-9300	-9320	-9800	-0.5 to 7	0.6 to 3	1	22	---
	-9350	-9370	-9850	3 to 30	3.5 to 12	2	33	Yes
P735BCB	-9300	---	---	-0.5 to 7	Man. res **	1	22	---
P735BEB	-9350	-9370	-9850	3 to 30	Man. res *	3	33	Yes

** Resetable at 0.5 bar above cut-out point

* Resetable at 3.5 bar below cut-out point

Pressure Connections

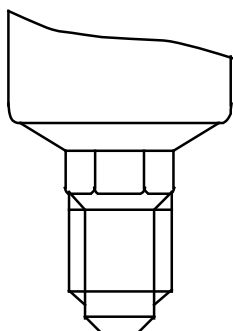


Figure 4
Style 5

Male connector
7/16"-20 UNF for 1/4"
6 mm flare nut.

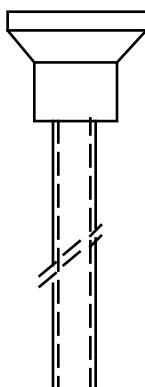


Figure 5
Style 28

Braze connection
6 mm ODM

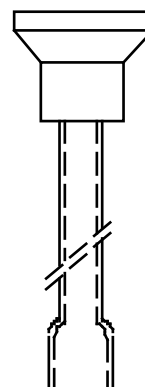


Figure 6
Style 30

Braze connection
1/4" ODF

Accessories (optional)

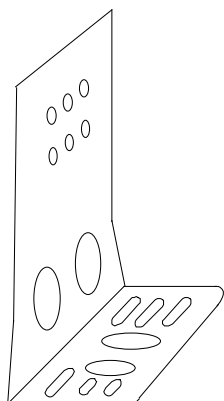


Figure 7

Mounting bracket
Ordering Code **271-51L**

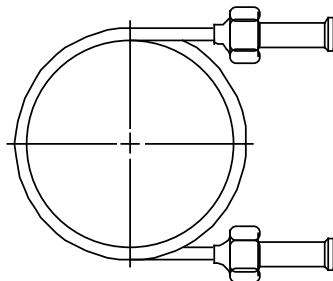


Figure 8

90 cm Capillary with (2) flare
nuts (1/4" SAE)
Ordering Code **SEC002N600**

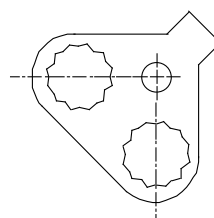


Figure 9

Locking kit
Ordering Code **KIT023N600**

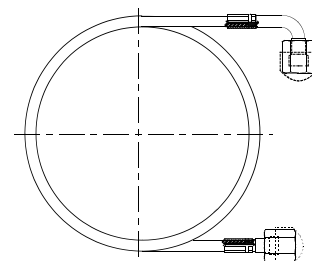
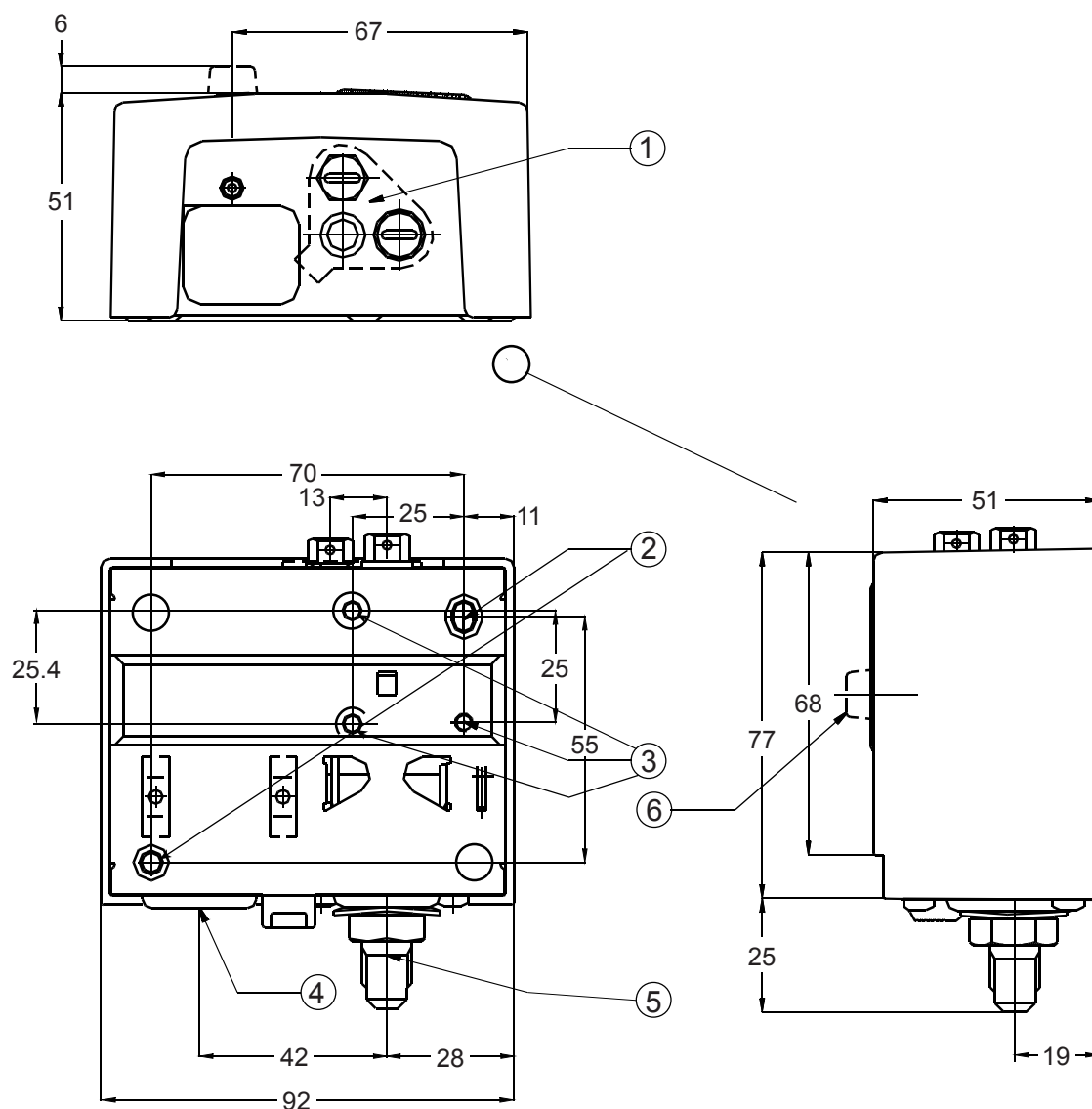


Figure 10

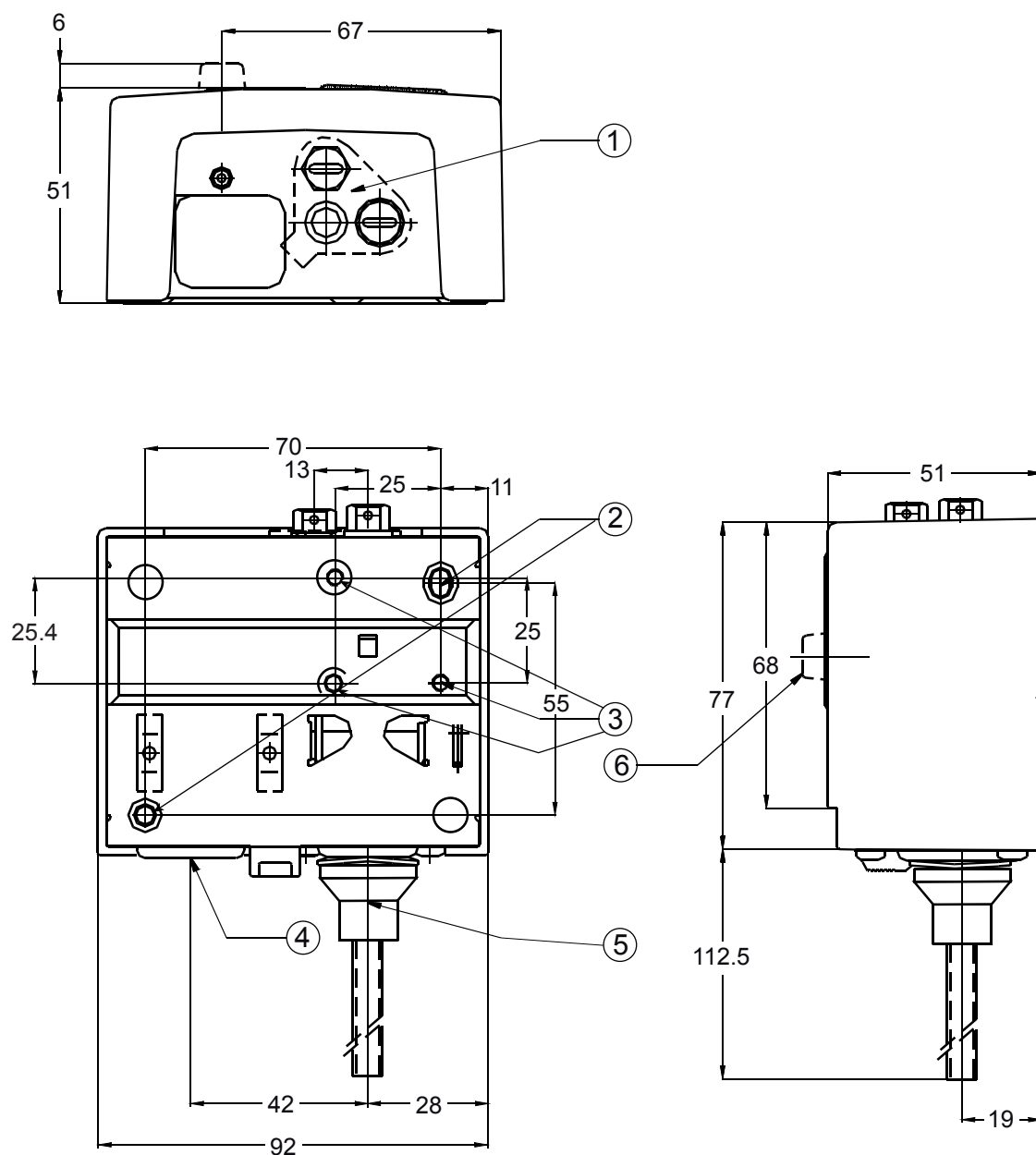
90 cm Flexible synthetic
refrigeration hose with (2) flare
nuts (1/4" SAE)
Ordering Code **H735AA-90D**

Dimensions (mm)



1	Lock plate (if applied)
2	Two mounting holes Ø 4.5 mm (knock out)
3	Three mounting holes Ø M4 (back side)
4	Cable inlet grommet (cable range to Ø 16 mm)
5	Power element: Style 5: 7/16" -20 UNF male (shown)
6	Reset button (on manual reset models only)

Dimensions (mm)



1	Lock plate (if applied)
2	Two mounting holes Ø 4.5 mm
3	Three mounting holes Ø M4 (back side)
4	Cable inlet grommet (cable range to Ø 16 mm)
5	Power element: Style 28: Braze connection 6 mm ODM (shown) Style 30: Braze connection 1/4" ODF
6	Reset button (on manual reset models only)

Technical Specifications

Pressure Connections	Style 5, 28, 30 (see drawings)		
Operating Ranges and Diff.	See "Type Number Selection Tables"		
Adjustments	See "Type Number Selection Tables"		
Ambient Temperature Limit	-50 to 55°C (70°C max. duration two hours) -20 to 55°C for PED approved models		
Electrical Ratings	400 Vac 16(10) A 220 Vdc 12 W (pilot duty only)		
Pulsation Plug	Fitted into all HP bellows on models with range 3.5 to 21 bar and up		
Locking Plate and Screw	To lock and seal range and/or differential screw. Standard included on types P735AAW, BEB, BES and BCB. Optional on all other types (quantity orders only)		
Protection Class	IP30		
Material			
	Case and	Weatherproof aluminium (die-cast)	
	Cover	2 mm ABS plastic blue (RAL 5007)	
	Contact Unit	Large silver nickel contact surface	
Accessories (see pag. 4)	Mounting bracket 90 cm capillary with two flare nuts 90 cm flexible synthetic hose with two flare nuts		
Shipping Weight			
	ind. pack	0.42 kg	
	-93xx	Ind. overpack	36 pcs. (16 kg)
		Bulk pack	35 pcs. (15 kg)
	-94xx	Ind. overpack	16 pcs. (7.5 kg)
	-98xx		
CE Compliance	Johnson Controls declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive and Low Voltage Directive. Pressure Equipment Directive 2014/68/EU Cat IV.		

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.



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