

# Series P736

## Dual Pressure Controls for Refrigeration, Air-conditioning and Heatpump Applications

### Product Bulletin

*These dual 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 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 P736 series pressure controls may be used for control functions or limit functions, depending on model number. All models are provided with alarm contacts (except P736ALA). All standard models have phosphor bronze bellows and brass pressure connections. Devices conforming PED 2014/68/EU have a double bellows on the high pressure versions (HP side).*



### Features

- **Generous wiring space**  
Easy wiring and maintenance
- **Trip-free manual reset**  
Override is not possible in the control function
- **Separate alarm contacts for both low pressure and high pressure cut-out (except P736ALA)**  
Easy monitoring of the fault location

**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

<b>P736LCA</b>	Automatic reset both sides
<b>P736MCA</b>	Automatic reset low side manual reset high side
<b>P736PGA</b>	Manual reset both side
<b>P736LCW</b>	Automatic reset both sides Conforming PED 2014/68/EU
<b>P736MCB</b>	Aut. res. LP side, Man. res. HP limit Conforming PED 2014/68/EU
<b>P736MCS</b>	Aut. res. LP side, Man. res. HP safety limit Conforming PED 2014/68/EU
<b>P736PGB</b>	Manual reset both sides Conforming PED 2014/68/EU
<b>P736ALA</b>	Dual fan cycling control (2 x SPST close high)
<b>P736PLM</b>	2 x manual reset HP Conforming PED 2014/68/EU

## Adjustment

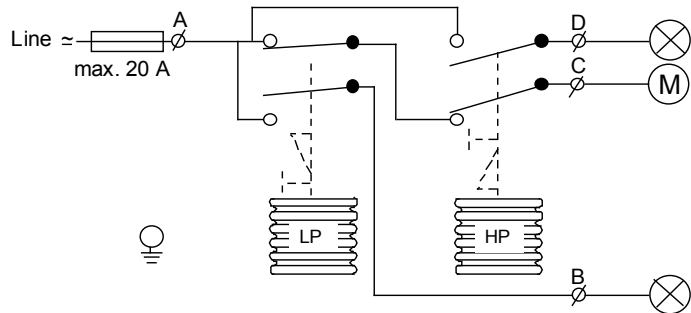
On most models the range scale indicates the high switch point (exception: LP side of P736PGA, P736PGB, here the range scale indicates the low switching point). To obtain low switch point deduct differential value from the high switch point.

## 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.

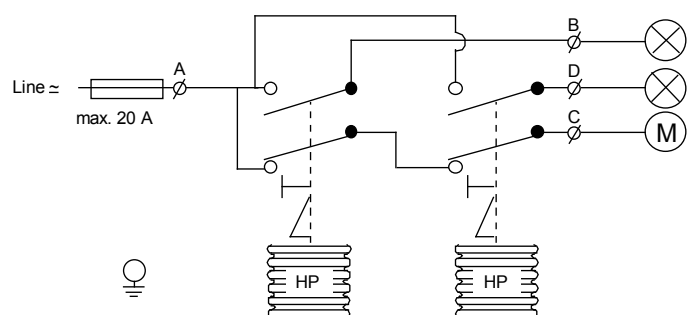
## Contact Functions

(see also "Type Number Selection" tables)



<b>LP</b>	A - C opens on pressure decrease A - B closes simultaneously
<b>HP</b>	A - C opens on pressure increase A - D closes simultaneously

Figure 1



<b>Left side HP</b>	A - C opens on pressure increase A - B closes simultaneously
<b>Right side HP</b>	A - C opens on pressure increase A - D closes simultaneously

Figure 2

## Switching action P736ALA

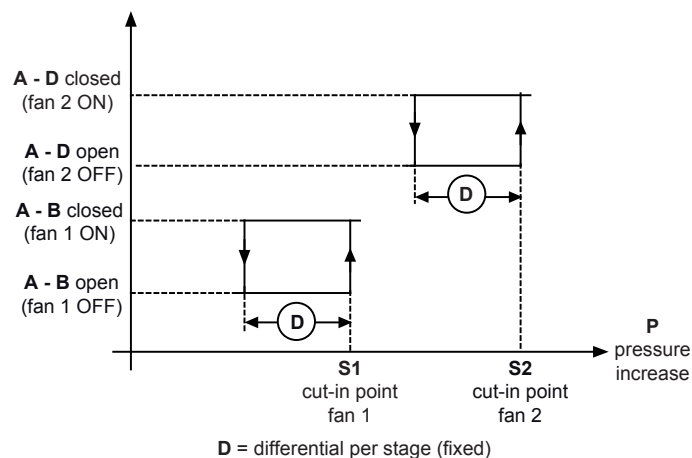


Figure 3a

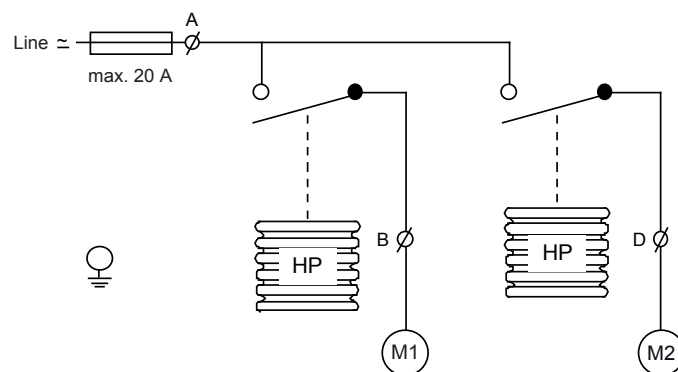


Figure 3b

## Type Number Selection tables

Dual pressure controls for Non-corrosive refrigerants.

LP Pmax.: 22 bar HP Pmax.: 33 bar

Family Code	Pressure Connection			Left Side		Right Side		Contact function (Figure)	Construction
	Style 5		Style 30	Range (bar)	Diff. (bar)	Range (bar)	Diff. (bar)		
	Ind. Pack.	Bulkpack	Ind. Pack.						
P736LCA	-9300	-9320	-9400	-0.5 to 7	0.6 to 3	3 to 30	3 (fixed)	1	LP/HP
P736MCA	-9300	-9320	---	-0.5 to 7	0.6 to 3	3 to 30	Man. res **	1	
P736PGA	-9300	---	---	-0.5 to 7	Man. res *	3 to 30	Man. res **	1	

Dual pressure Fan cycling controls for Air-cooled condensers (Non-corrosive refrigerants)

HP Pmax.: 30 bar

Family Code	Pressure Connection			Left Side		Right Side		Contact function (Figure)	Construction
	Style 5		Style 30	Range (bar)	Diff. (bar)	Range (bar)	Diff. (bar)		
	Ind. Pack.	Bulkpack	Ind. Pack.						
P736ALA	-9351	****	---	3.5 to 21	1.8 (fixed)	3.5 to 21	1.8 (fixed)	3	HP/HP

Dual pressure controls for Non-corrosive refrigerants,

(Pressure limiter, Pressure cut-out, Safety pressure cut-out, including lockplate assy)

LP Pmax.: 22 bar HP Pmax.: 33 bar

Family Code	Pressure Connection			Left Side		Right Side		Contact function (Figure)	Approved according to PED 2014/68/EU Cat. IV
	Style 5		Style 28	Range (bar)	Diff. (bar)	Range (bar)	Diff. (bar)		
	Ind. Pack.	Bulkpack	Ind. Pack.						
P736LCW	-9300	-9320	-9800	-0.5 to 7	0.6 to 3	3 to 30	3 (fixed)	1	Yes
P736MCB	-9300	****	-9800	-0.5 to 7	0.6 to 3	3 to 30	Man. res **	1	Yes
P736MCS	-9300	****	---	-0.5 to 7	0.6 to 3	3 to 30	Man. res **	1	Yes
P736PGB	---	****	---	-0.5 to 7	Man. res *	3 to 30	Man. res **	1	Yes
P736PLM	---	-9370	---	3 to 30	Man. res **	3 to 30	Man. res **	2	Yes

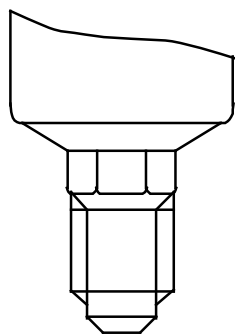
\*\*\*\* Can be set-up for quantity orders

\*\* Resetable at 3 bar below cut-out point

\* Resetable at 0.5 bar above cut-out point

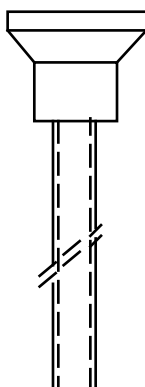
Note: 100 kPa = 1 bar ≈ 14.5 psi

## Pressure Connections



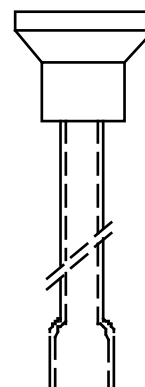
**Figure 4**  
**Style 5**

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



**Figure 5**  
**Style 28**

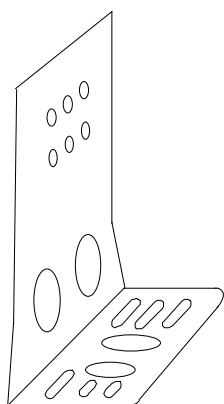
Braze connection  
6 mm ODM



**Figure 6**  
**Style 30**

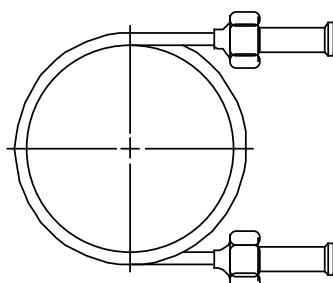
Braze connection  
1/4" ODF

## Accessories (optional)



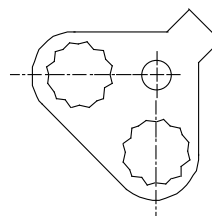
**Figure 7**

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



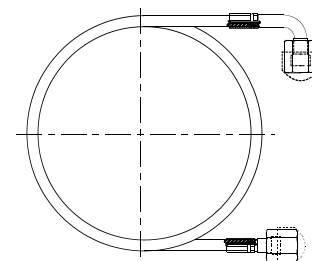
**Figure 8**

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



**Figure 9**

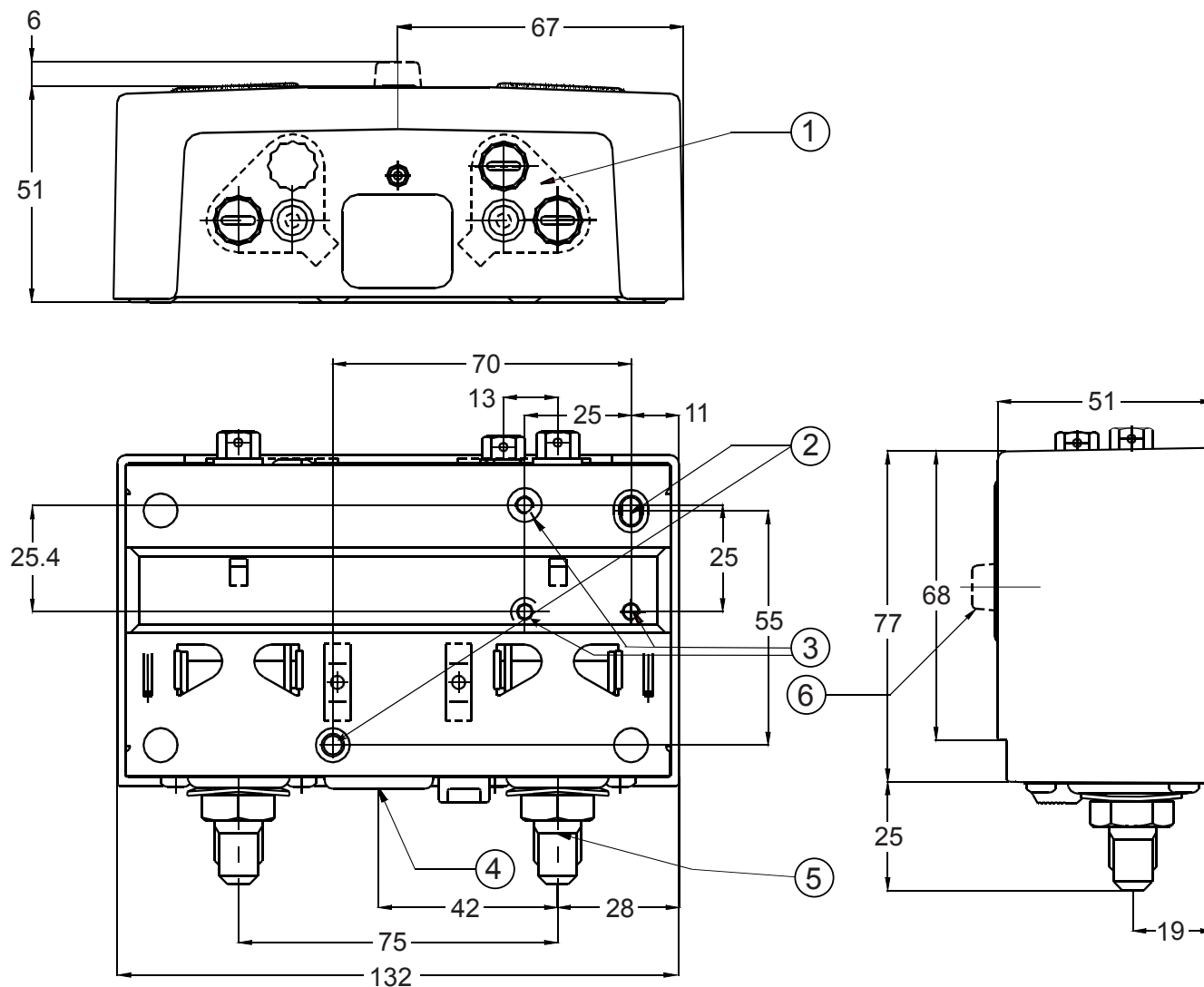
Locking kit  
Ordering Code **KIT023N600**



**Figure 10**

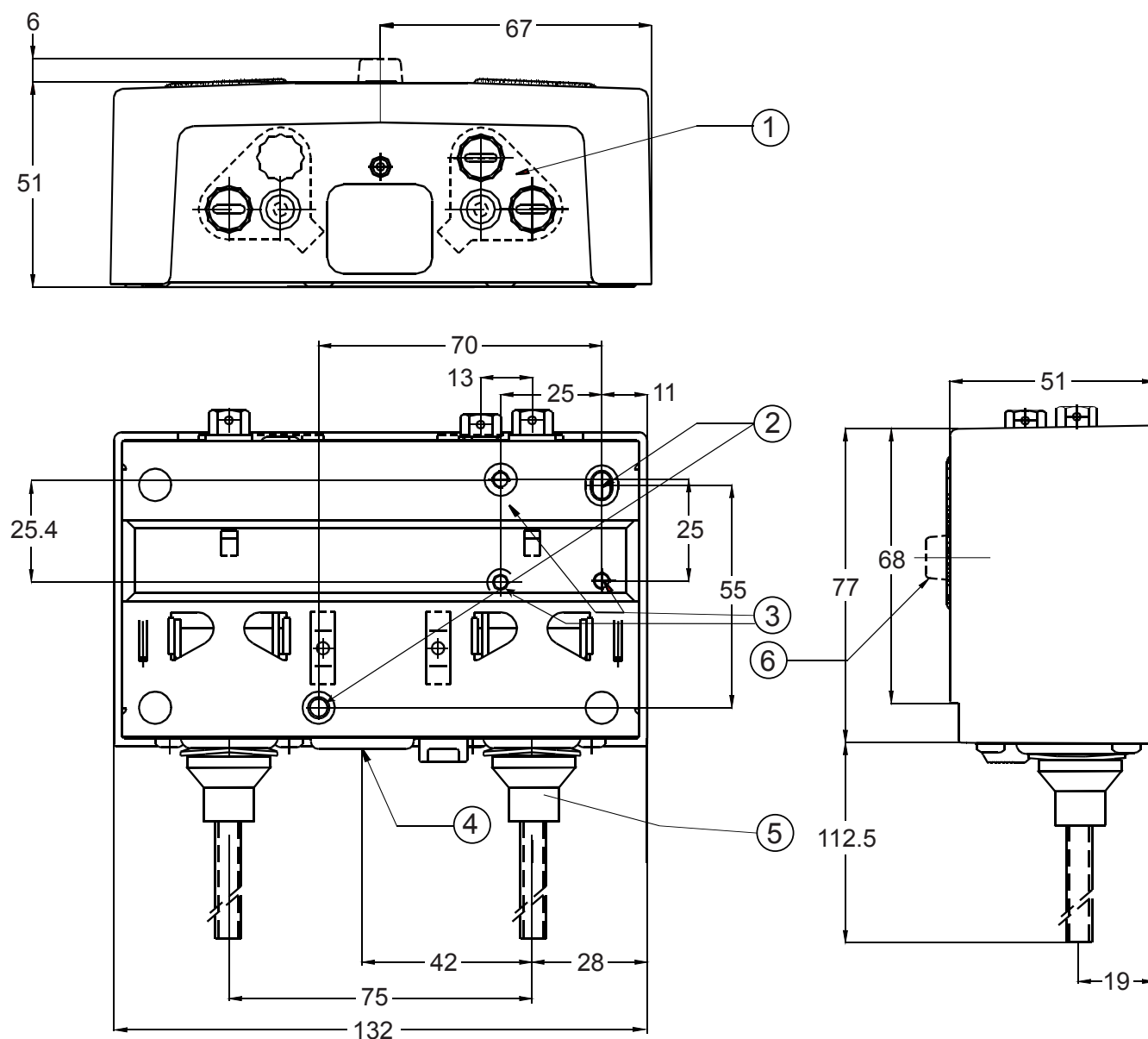
90 cm Flexible synthetic  
refrigeration hose with (2) flare  
nuts (1/4" SAE)  
Ordering Code **H735AA-90D**

## Dimensions (mm)



1	Lock plate (if applied)
2	Two mounting holes $\varnothing$ 4.5 mm
3	Three mounting holes $\varnothing$ M4 (back side)
4	Cable inlet grommet (cable range to $\varnothing$ 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 $\varnothing$ 4.5 mm
3	Three mounting holes $\varnothing$ M4 (back side)
4	Cable inlet grommet (cable range to $\varnothing$ 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

<b>Pressure Connections</b>	Style 5, 28, 30 (see drawings)		
<b>Operating Ranges and Diff.</b>	See "Type Number Selection" tables		
<b>Adjustments</b>	See "Type Number Selection" tables		
<b>Ambient Temperature Limit</b>	-50 to 55°C (70°C max. duration two hours) -20 to 55°C for PED approved models		
<b>Electrical Ratings</b>	400 Vac	contact A-C	16(10) A
		contact A-B	8(5) A
		contact A-D	8(5) A
	220 Vdc	12 W (pilot duty only)	
<b>Pulsation Plug</b>	Fitted into all HP bellows		
<b>Locking Plate and Screw</b>	To lock and seal range and/or differential screw. Standard included on types P736LCW, MCB, MCS and PGB. Optional on all other types (quantity orders only)		
<b>Protection Class</b>	IP30		
<b>Material</b>	<b>Case</b>	1,5 cold-rolled zinc plated steel	
	<b>Cover</b>	2 mm ABS plastic blue (RAL 5007)	
	<b>Contact Unit</b>	Large silver nickel contact surface	
<b>Accessories (see pag. 5)</b>	Mounting bracket 90 cm capillary with two flare nuts 90 cm flexible synthetic hose with two flare nuts		
<b>Shipping Weight</b>	<b>ind. pack</b>	0.74 kg	
	<b>-93xx</b>	Ind. overpack	24 pcs. (18 kg)
		Bulk pack	24 pcs. (16 kg)
	<b>-94xx</b>	Ind. overpack	16 pcs. (12 kg)
	<b>-98xx</b>		
<b>CE Compliance</b>	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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