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## Series P74

# Differential Pressure Controls, without time delay

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These controls are designed to sense pressure differences between two points and may be used as operating or limit controls.

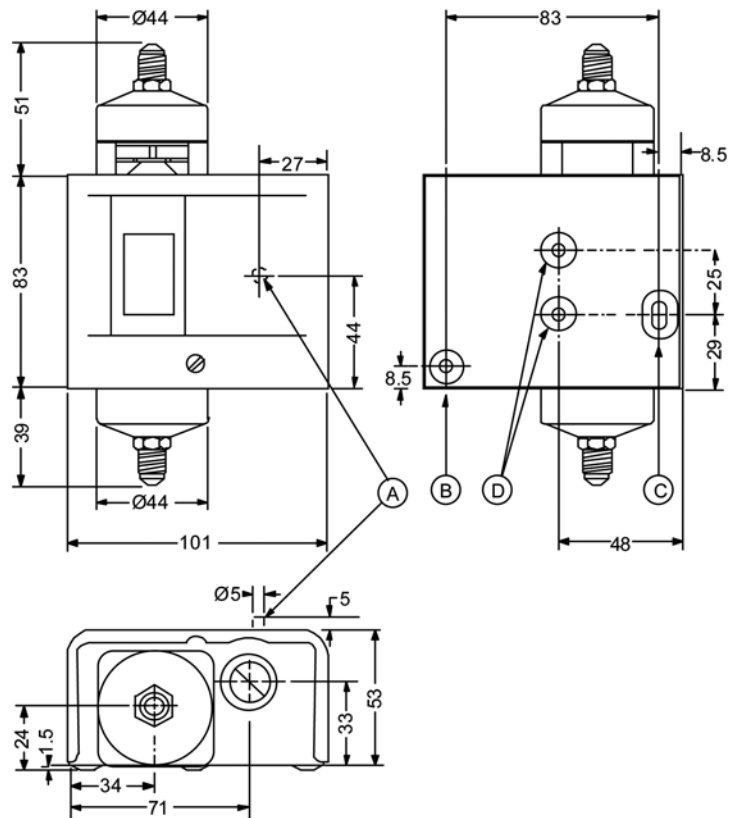
Typical applications are to detect flow across a chiller or water cooled condenser, to detect flow in a heating system and sensing lube oil pressure differential on refrigeration compressors.



P74 Differential Pressure Control

- **Heavy duty pressure elements**  
Withstand high overrun pressure
- **These controls may be used in combination with series P28 lube oil protection control on two compressor, single motor units.**  
Reduces the lube oil system cost.

## Dimensions in mm



- A. Reset button
- B. Mounting hole, 5 mm dia.
- C. Mounting slot
- D. 10-32 UNF2B

## Description

The P74 series of differential pressure switches incorporate two opposing pressure elements and an adjustable range setpoint spring with a calibrated scale. The control switches at the indicated setpoint on an increase in differential pressure and switches back to the normal position when the different pressure decreases to the setpoint less the mechanical switching differential.



These controls are designed for use only as operating controls. Where an operating control failure would result in personal injury or loss of property it is the responsibility of the installer to add devices or systems that protect against, or warn of, control failure.

## Adjustment

The setpoint can be adjusted by the notched cam A located on the top of the control. The switching differential can be adjusted by turning a hexagonal nut on the differential adjusting screw located inside the control cover (adjustable differential models only).



P74, Cover removed  
(P) Setpoint adjusting cam

## Contact function

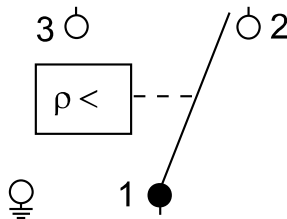


Fig. 1a.  
Type P74EA and P74FA

1-2 closes on increase of differential pressure  
1-3 opens simultaneously

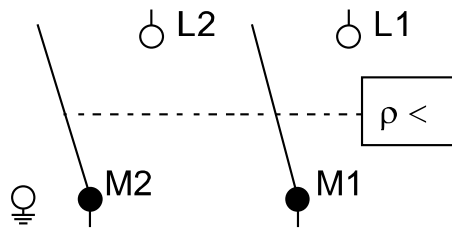


Fig. 1b.  
Type P74DA

Contacts close on increase of differential pressure

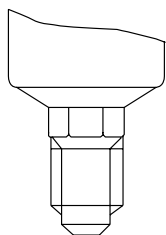
## Repair and replacement

Power elements may be replaced in the field. Other repairs are 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 or cover label.

## Type number selection table

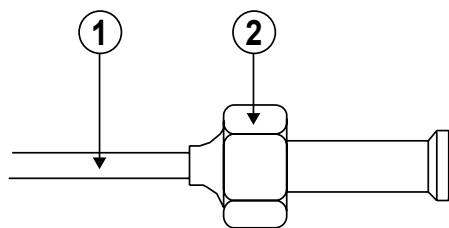
Order number	P74DA-9300	P74DA-9600	P74EA-9300	P74EA-9600	P74EA-9700	P74FA-9700	P74FA-9701
Range $\Delta P$ (bar)	0.6/4.8	0.6/4.8	0.6/4.8	0.6/4.8	0.6/4.8	0/1	2.0/8.0
Switching differential (bar)	0.7/2 adj.	0.7/2 adj.	0.3 fix.	0.3 fix.	0.3 fix.	0.1 fix.	0.7 fix.
Medium	Non-corrosive Refrigerant	Non-corrosive Refrigerant	Non-corrosive Refrigerant	Non-corrosive Refrigerant	Ammonia or Non-corrosive Refrigerant	Water	Ammonia or Non-corrosive Refrigerant
Pressure connector (style)	5	13	5	13	15	15	15
Electrical rating	15(10) A 230 V AC	15(10) A 230 V AC	15(8) A 230 V AC	15(8) A 230 V AC	15(8) A 230 V AC	15(3) A 230 V AC	15(3) A 230 V AC
Contact function	fig. 1b	fig. 1b	fig. 1a	fig. 1a	fig. 1a	fig. 1a	fig. 1a
Maximum bellows pressure absolute (bar)	23	23	23	23	23	10	23
Maximum allowable diff. in pressure between the bellows (bar)	14	14	14	14	14	7	14
Pressure element material	stainless steel/copper	stainless steel/copper	stainless steel/copper	stainless steel/copper	stainless steel	tombac/brass	stainless steel

## Pressure connections



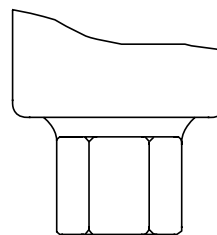
**Style 5 Male connection**

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



**Style 13**

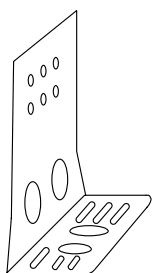
1. 90 cm capillary
2. 7/16"-20 UNF nut for 1/4" SAE flare tube



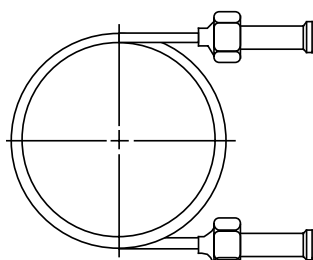
**Style 15**

1/4"-18 NPT (female)

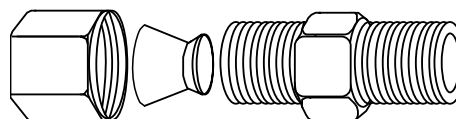
## Accessories



**Mounting Bracket**



**90 cm Capillary  
with (2) flare nuts**



**Compression Coupling**

## Accessories Ordering Codes

Code number	Description	Application
CNR003N001R	Compression coupling fits into Style 15 pressure connection	For 6 mm copper or steel tubing
CNR003N002R		For 8 mm copper or steel tubing
271-51L	Mounting Bracket	
SEC002N600	90 cm capillary with two flare nuts	

## Technical Specifications

<b>Types, ranges differentials</b>	See type number selection table
<b>Media</b>	Ammonia (for special models), non-corrosive refrigerant or water
<b>Pressure connections</b>	See type number selection table
<b>Maximum overrun pressure</b>	See type number selection table
<b>Ambient temperature limits</b>	-30/+55 °C
<b>Material</b>	<ul style="list-style-type: none"> <li>- <b>Case</b> Cold-rolled steel, zinc plated</li> <li>- <b>Cover</b> Cold-rolled steel, grey enamel finish</li> <li>- <b>Pressure element</b> See type number selection table</li> </ul>
<b>Protection</b>	IP30
<b>Electrical ratings</b>	See type number selection table
<b>Shipping weight</b>	<ul style="list-style-type: none"> <li><b>Ind. pack</b> 1.2 Kg</li> <li><b>Overpack</b> 12 Kg (10 pcs)</li> </ul>
<b>CE Compliance</b>	<p><b>Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC</b></p>

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



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