



## Main Features

Ongoing development of new technology and new features is at the very heart of Danfoss. We want our switches to be among the very best on the market – living up to your expectations.

- **Low differential switching**  
Danfoss pressure controls and thermostats have either fixed or adjustable differential settings, good readability, and high accuracy of range setting with use of the scale
- **Designed for various applications**  
Danfoss offers a very broad range of purpose-specific enclosures and connections
- **High reliability**  
All switches feature high accuracy, repeatability and stability over time
- **Snap action contacts**  
All contacts are snap-action, maintaining the contact force until the moment the contact breaks.
- **Wide range of approvals**  
Danfoss offers a wide range of approvals suited for specific applications and geographical markets
- **High vibration stability**  
Outstanding vibration stability in switches ensures flawless operation even in heavy-duty applications
- **Wide pressure ranges**  
The programme covers working ranges from -0.9 bar up to 46.5 bar
- **Different sensing elements**  
As experts in charging technologies, Danfoss offers temperature switches that operate in a wide temperature range
- **Bellows technology**  
The lifetime of the pressure control and thermostat is determined by the quality of the bellows. Using advanced technology and manufacturing processes, and being a world leader backed up by more than 70 years of experience in the industry, Danfoss' bellows are manufactured without any welding points, which make them stress free and completely tight

## A world leader in climate and energy technology

The Danfoss Group operates globally with the primary aims of making modern living possible for our stakeholders and being a leader in refrigeration, heating, power electronics, and mobile hydraulics.

We employ 24,000 people and produce approximately 250,000 components each day at our 76 factories in 25 countries.

We promise leadership in our businesses through reliability, excellence, and innovation – driving true customer satisfaction and solutions within climate and energy.

### Extensive experience in all key HVAC/R segments

Danfoss plays a leading role in research, development and production in a wide spectrum of industries, and has been a key player in the HVAC/R field for more than 75 years. Our Refrigeration & Air Conditioning Division designs, produces and markets a comprehensive range of automated solutions and compressors for a wide variety of HVAC/R segments, including

- Heat Pumps
- Commercial Air Conditioning
- Residential Air Conditioning
- Commercial Refrigeration
- Household, Light Commercial and Mobile Refrigeration
- Wholesalers & Installers
- Industrial Refrigeration
- Food Retail



Learn more at [www.danfoss.com](http://www.danfoss.com)

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

Your system will **never be more reliable**, with a control designed for **flawless performance**

Wide range of Danfoss Pressure switches and Thermostats



**2 kW**

Reliable robust contact system operates electrical motor up to 2 kW directly, without use of contactors



# Pressure switches and Thermostats

Danfoss Pressure switches and Thermostats cover many applications within Refrigeration and Air Conditioning and can be used with all low and high pressure fluorinated refrigerants as well as ammonia and hydrocarbons.

The Danfoss Pressure switches and Thermostats feature either fixed or adjustable differential settings, good readability and high accuracy of range setting with use of the scale. Using advanced technology, and being a world leader, Danfoss controls are manufactured with bellows without any welding points, which make them stress free, completely tight and assure a long lifetime.

Ongoing development of new technology is at the very heart of Danfoss. Our Pressure switches and Thermostats are among the very best on the market – living up to your expectations.

Danfoss components are constructed to perform under the most difficult operating conditions, to monitor your processes and to protect your equipment. Our production utilises state of the art processes and every product is designed on the basis of decades of global experience in Refrigeration and Air Conditioning applications.



Reliable function • High accuracy • Prevents refrigerant loss • Fail-safe function

## Choose the optimal solution

|                          |  | PRESSURE SWITCHES   |   |                             |   |  | DIFFERENTIAL PRESSURE SWITCHES  |  | THERMOSTATS   |   |   |   |   |  |
|--------------------------|--|---|---|-----------------------------|---|--|---|--|---|---|---|---|---|--|
|                          |  |   |   |                             |   |  |   |  |   |   |   |   |   |  |
|                          |  | KP SINGLE   | KP DUAL   | KPU SINGLE <sup>1)</sup>    | KPU DUAL <sup>1)</sup>                            | RT   | MP  | RT   | KP  | KPU <sup>1)</sup>   | UT  | RT  |   |  |
|                          |  | <ul style="list-style-type: none"> <li>Ideal for starting and stopping refrigeration compressors and fans on air-cooled condensers</li> <li>Offer protection against excessively low suction pressure or excessively high discharge pressure</li> </ul> |   |                             |   |  | <ul style="list-style-type: none"> <li>Used as safety switches to protect refrigeration compressors against low lubricating oil pressure</li> </ul> |  | <ul style="list-style-type: none"> <li>Used as protection against differential pressure that is too low or as protection against low lubricating oil pressure in refrigeration compressor.</li> </ul> |   | <ul style="list-style-type: none"> <li>Used for regulation and safety monitoring systems</li> <li>Available with vapour charge or with adsorption charge</li> <li>Typical applications are frost protection, defrost control, case and room control.</li> </ul> |   | <ul style="list-style-type: none"> <li>Can be used for wide range of applications including cold rooms, beverage coolers, ice cream makers, milk coolers, refrigerated counters, air-conditioning plant and heat recovery systems.</li> </ul> | <ul style="list-style-type: none"> <li>Used for regulation and safety monitoring systems in general industrial and marine sectors</li> </ul> |
| Applications             | Marine Applications                                  |   |   |                             |   |  |   |  |   |   |   |   |   |  |
|                          | Industrial Applications                              |   |   |                             |   |  |   |  |   |   |   |   |   |  |
|                          | Air Conditioning Systems                             |   |   |                             |   |  |   |  |   |   |   |   |   |  |
|                          | Commercial Refrigeration                             |   |   |                             |   |  |   |  |   |   |   |   |   |  |
|                          | Food Retail  |   |   |                             |   |  |   |  |   |   |   |   |   |  |
| Technocal Specifications | Refrigerants   | HCFC  | •   | •                           | •   | •  | •   | •  | -   | -   | -   | -   |   |  |
|                          | HFC (Flammable / non-flammable)                      | •   | • <sup>2)</sup>                                       | •                           | •   | • <sup>2)</sup>  | •   | •  | -   | -   | -   | -   |   |  |
|                          | HC   | •   |   |                             |   | •  | •   | •  | -   | -   | -   | -   |   |  |
|                          | R717 (NH <sub>3</sub> )                              | •   | •   |                             |   | •  | •   | •  | -   | -   | -   | -   |   |  |
|                          | Setting  | -0.9 – 42 bar   | -0.9 – 32 bar   | -0.2 – 42 bar               | -0.2 – 42 bar                                     | -0.8 – 30 bar  | 0.3 – 4.5 bar   | 0.1 – 11 bar                                   | -50 – 180 °C  | -50 – 60 °C   | -30 – 40 °C   | -60 – 150 °C  |   |  |
|                          | Maximum working pressure (PS) / Maximum sensor temp. | 46.5 bar  | 17 bar / 35 bar                                       | 46.5 bar                    | 17 bar / 46.5 bar                                 | 42 bar   | 17 bar  | 42 bar   | 200 °C  | 130 °C  | 90 °C   | 300 °C  |   |  |
|                          | Main pressure connectors / sensor types              | Flare · Solder · M10<br>Capillary tube · Cutting ring   | Flare · Solder · M10<br>Capillary tube · Cutting ring | Flare · Capillary tube      | Flare · Capillary tube                            | Flare · G 1/2<br>G 3/8 with weld nipple · Cutting ring | Flare · Solder · M10<br>Capillary tube · Cutting ring   | Cutting ring · G 1/2<br>G 3/8 with weld nipple | Remote bulb · Room sensor · Capillary tube · Remote air / duct coil   | Remote bulb · Room sensor · Capillary tube · Remote air / duct coil | Remote bulb   | Remote bulb · Room sensor · Capillary tube · Remote air / duct coil |   |  |
|                          | Electrical rating AC-3                               | 16 A / 400 V  | 16 A / 400 V  | 16 A / 400 V                | 16 A / 400 V                                      | 4 A / 400 V  | -   | 4 A / 400 V                                    | 16 A / 400 V  | 16 A / 400 V  | -   | 4 A / 400 V   |   |  |
|                          | Electrical rating AC-15                              | 10 A / 400 V  | 10 A / 400 V  | 10 A / 400 V                | 10 A / 400 V                                      | 3 A / 400 V  | 2 A / 250 V   | 3 A / 400 V                                    | 10 A / 400 V  | 10 A / 400 V  | 2.5 A / 250 V   | 3 A / 400 V   |   |  |
|                          | Contact material                                     | Silver or Gold  | Silver or Gold  | Silver                      | Silver  | Silver or Gold   | Silver  | Silver or Gold                                 | Silver or Gold  | Silver  | Silver  | Silver or Gold  |   |  |
| Degree of enclosure      | IP30 · IP44 · P55                                    | IP30 · IP44 · IP55  | IP30  | IP30                        | IP54 · IP66                                       | IP20   | IP66  | IP30 · IP44                                    | IP30  | IP20  | IP66  |   |   |  |
| Reset                    | Automatic  | •   | •   | •                           | •   | •  | •   | •  | •   | •   | •   |   |   |  |
|                          | Manual   | •   | •   | •                           | •   | •  | •   | •  | •   | •   | •   |   |   |  |
|                          | Convertible  |   | •   |                             | •   |  |   |  |   |   |   |   |   |  |
| Special approvals        | PED · UL · CCC · Marine                              | PED · UL · CCC · Marine   | PED · UL  | PED · UL                    | PED · ATEX · CCC · Marine                         | UL · CCC · Marine                                      | ATEX · CCC · Marine   | UL · CCC · Marine                              | UL  | -   | ATEX · CCC · Marine   |   |   |  |
| Accessories              | Capillary tubes<br>Brackets<br>IP55 Enclosure        | Capillary tubes<br>Brackets<br>IP55 Enclosure   | Capillary tubes<br>Brackets                           | Capillary tubes<br>Brackets | Contact system<br>Capillary tubes<br>Setting knob | Capillary tubes<br>Brackets                            | Capillary tubes<br>Contact system   | Brackets<br>Sensor pockets<br>Sensor clamp     | Brackets<br>Sensor pockets<br>Sensor clamp  | Setting knob<br>Sensor clamp  | Setting knob<br>Sensor pockets<br>Sensor clamp<br>Contact system  |   |   |  |

<sup>1)</sup> Dedicated for US market • <sup>2)</sup> Excluding R410A