

## Danfoss KP 35

# Danfoss KP 35 Low Current Pressure Switch Instruction Manual

Model: KP 35

## 1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Danfoss KP 35 Low Current Pressure Switch. The KP 35 is designed for use in various applications including refrigeration, air conditioning, and general industrial systems, monitoring and controlling pressure within a specified range.

## 2. SAFETY INFORMATION

**WARNING:** Improper installation, operation, or maintenance can result in serious injury or equipment damage. Always follow these safety guidelines:

- Ensure power supply is disconnected before installation or servicing.
- Installation and servicing must be performed by qualified personnel only.
- Verify that the pressure switch specifications match the system requirements.
- Do not exceed the maximum rated pressure or temperature.
- Protect the switch from physical damage and environmental extremes.

## 3. PRODUCT OVERVIEW

The Danfoss KP 35 pressure switch is a compact, robust control device featuring a single-pole double-throw (SPDT) contact system. It is designed for regulating, monitoring, and alarm systems in industrial applications. The switch is equipped with a pressure connection and electrical terminals for easy integration into control circuits.



Figure 3.1: Front view of the Danfoss KP 35 pressure switch, displaying the adjustable range and differential scales, along with the Danfoss logo and "INSTRUKART" branding.



Figure 3.2: Side view of the Danfoss KP 35 pressure switch, highlighting the pressure connection port at the bottom and the electrical conduit entry on the side.

## 4. SPECIFICATIONS

Feature	Detail
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Brand	Danfoss
Model	KP 35
Operation Mode	Electrical
Terminal Type	SPDT (Single-Pole Double-Throw)
International Protection Rating	IP54
Specification Met	CCC, CE, RoHS
Connectivity Protocol	X-10
Pressure Range	-0.2 to 7.5 Bar
Temperature Range	-40 °F to 149 °F (-40 °C to 65 °C)
Connection Size	1/2 inch



Figure 4.1: Danfoss KP 35 pressure switch shown alongside a ruler, providing a visual reference for its physical dimensions. Mounting screws and washers are also visible.

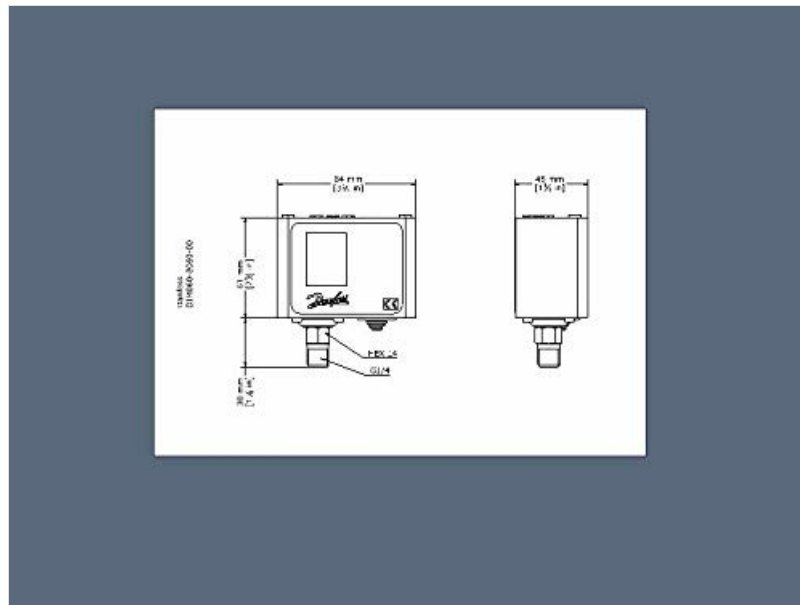


Figure 4.2: Technical drawing illustrating the dimensions of the Danfoss KP 35 pressure switch, including height, width, and depth, along with connection details.

## 5. INSTALLATION

### 5.1 Mounting

1. Select a suitable location free from excessive vibration, moisture, and extreme temperatures.
2. Mount the switch using the provided mounting holes. Ensure it is securely fastened.
3. The switch can be mounted in any position, but vertical mounting with the pressure connection downwards is generally recommended to prevent accumulation of liquids in the pressure connection.

### 5.2 Pressure Connection

1. Connect the pressure switch to the system's pressure line using the 1/2 inch connection.
2. Use appropriate sealing material (e.g., PTFE tape) to ensure a leak-free connection.
3. Avoid overtightening the connection to prevent damage to the switch or piping.

### 5.3 Electrical Wiring

**CAUTION:** Disconnect all power before performing electrical wiring.

1. Remove the cover of the switch to access the electrical terminals.
2. Connect the electrical wires according to the system's wiring diagram and local electrical codes. The KP 35 features SPDT contacts.
3. Ensure all connections are secure and properly insulated.
4. Replace the cover securely after wiring.

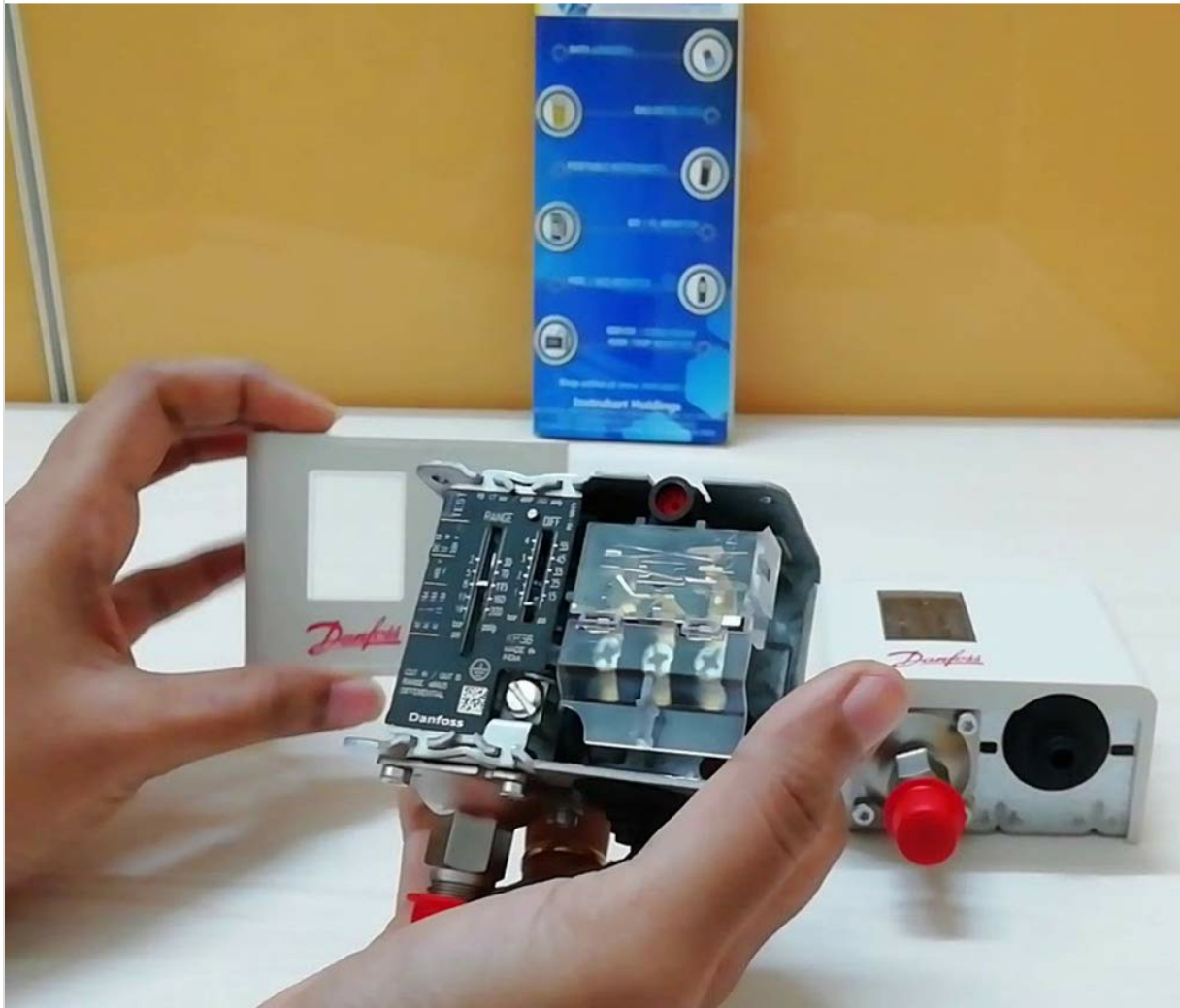


Figure 5.1: Internal view of the Danfoss KP 35 pressure switch with the cover removed, revealing the electrical terminals and contact mechanism. This view is crucial for wiring connections.

## 6. SETUP AND ADJUSTMENT

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The KP 35 pressure switch allows for independent adjustment of the cut-in pressure (range) and the differential pressure.

1. **Adjusting the Range (Cut-in Pressure):** Use the larger adjustment screw or knob (typically marked "RANGE") to set the desired cut-in pressure. This is the pressure at which the switch will activate or deactivate.
2. **Adjusting the Differential:** Use the smaller adjustment screw or knob (typically marked "DIFF") to set the differential pressure. This is the difference between the cut-in and cut-out pressures. For example, if the range is set to 5 bar and the differential to 1 bar, the switch will cut in at 5 bar and cut out at 4 bar (for a decreasing pressure application).
3. Refer to the scales on the front of the switch for precise settings.
4. After adjustment, verify the settings by observing the system's pressure and the switch's operation.

## 7. OPERATING INSTRUCTIONS

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Once installed and adjusted, the Danfoss KP 35 pressure switch operates automatically based on the system pressure. When the pressure reaches the set cut-in point, the SPDT contacts will switch position. When the pressure changes by the set differential, the contacts will switch back.

- Monitor system pressure to ensure it remains within the safe operating limits of both the switch and the overall system.
- Observe the electrical load connected to the switch to ensure it does not exceed the switch's rated capacity.

## 8. MAINTENANCE

The Danfoss KP 35 pressure switch is designed for long-term, reliable operation with minimal maintenance. However, periodic checks are recommended:

- **Visual Inspection:** Regularly inspect the switch for any signs of physical damage, corrosion, or loose connections.
- **Leak Checks:** Periodically check the pressure connection for any leaks.
- **Functional Test:** If possible and safe, periodically test the switch's operation by simulating pressure changes to ensure it activates and deactivates at the set points.
- **Cleaning:** Keep the exterior of the switch clean and free from dust and debris. Do not use harsh chemicals.

## 9. TROUBLESHOOTING

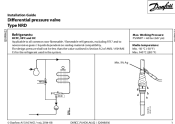
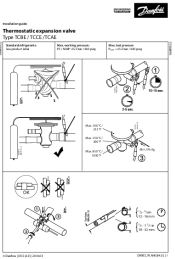
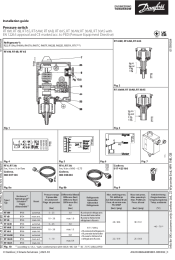
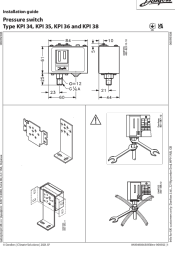
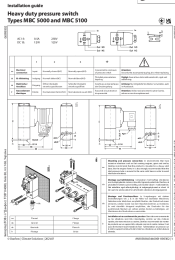
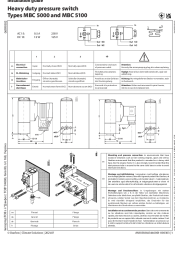
If the pressure switch is not functioning as expected, consider the following common issues:

Problem	Possible Cause	Solution
Switch does not activate/deactivate	Incorrect pressure settings; No power; Faulty wiring; Clogged pressure line; Internal switch failure.	Verify range and differential settings; Check power supply; Inspect wiring for loose connections or breaks; Clear pressure line; Replace switch if internal failure is suspected.
Inconsistent operation	Pressure fluctuations in the system; Vibration; Loose mounting.	Stabilize system pressure; Isolate switch from vibration; Securely fasten mounting.
Leak at pressure connection	Improper sealing; Damaged threads.	Re-apply sealing material (e.g., PTFE tape); Inspect threads for damage and repair or replace if necessary.

## 10. WARRANTY AND SUPPORT

For specific warranty information and technical support, please refer to the official Danfoss website or contact your authorized Danfoss distributor. Keep your purchase receipt for warranty claims.  
Official Danfoss Website: [www.danfoss.com](http://www.danfoss.com)

Related Documents - KP 35

	<p><a href="#">Danfoss NRD Differential Pressure Valve Installation Guide</a></p> <p>Installation guide for the Danfoss NRD differential pressure valve, detailing refrigerant compatibility, working pressure, media temperature, and installation notes. Includes technical specifications and system schematics.</p>
	<p><a href="#">Danfoss TCBE/TCCE/TCAE Thermostatic Expansion Valve Installation Guide</a></p> <p>This installation guide provides detailed instructions for Danfoss TCBE, TCCE, and TCAE series thermostatic expansion valves. It covers general specifications like maximum working and test pressures, temperature limits, connection sizes, and essential installation steps including pressure testing and superheat adjustment. The guide also includes a table for superheat settings based on different refrigerants (R22/R407C, R134a, R404A/R507, R410A) and operating temperature ranges (N, NM, B).</p>
	<p><a href="#">Danfoss RT Series Pressure Switch Installation Guide</a></p> <p>This guide provides installation instructions for Danfoss RT series pressure switches, including models RT 6W, RT 6B, RT 6S, RT 6AW, RT 6AB, RT 6AS, RT 30AW, RT 30AB, and RT 30AS. It covers product features, technical specifications, fitting procedures, electrical connections, and setting adjustments, with approvals from EN 12263 and CE marking.</p>
	<p><a href="#">Danfoss Pressure Switch KPI 34, 35, 36, 38 Installation Guide</a></p> <p>Installation guide for Danfoss KPI series pressure switches (KPI 34, 35, 36, 38), detailing specifications, temperature limits, pressure ranges, differential settings, electrical ratings, and wiring instructions.</p>
	<p><a href="#">Danfoss Heavy Duty Pressure Switch MBC 5000 &amp; MBC 5100 Installation Guide</a></p> <p>Installation guide for Danfoss Heavy Duty Pressure Switches, types MBC 5000 and MBC 5100. Covers electrical connections, mounting, pressure connections, and technical specifications.</p>
	<p><a href="#">Danfoss MBC 5000 and MBC 5100 Heavy Duty Pressure Switch Installation Guide</a></p> <p>Installation guide for Danfoss heavy-duty pressure switches, types MBC 5000 and MBC 5100. Covers electrical connections, mounting, pressure connections, and technical specifications.</p>