WilTec SK-2

WilTec SK-2 Pressure Switch User Manual

Model: SK-2 (50763)

1. Product Overview

The WilTec SK-2 mechanical pressure switch is designed for automatic pressure regulation in domestic water systems and garden pump applications. It functions as an AC pressure switch, ideal for use with pressure tanks or directly with garden pumps. This single-phase unit allows for continuous adjustment of both the switch-on and switch-off pressure thresholds.
The device automatically activates the pump when the water pressure drops below the set switch-on pressure and deactivates it once the desired switch-off pressure is reached. For pumps exceeding 1.1 kW, an external power connector or relay (commercially available) must be installed upstream. It can also control three-phase 380/400 V pumps when used with an appropriate 380 V power connector.

2. Safety Instructions

Please read and understand all safety instructions before installation and operation. Failure to do so may result in injury, electric shock, or damage to the equipment.

- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- Installation should be performed by a qualified electrician in accordance with local electrical codes.
- Ensure proper grounding of the device and connected pump.
- Do not operate the pressure switch in wet conditions or submerge it in water.
- Verify that the voltage and current ratings of your pump are compatible with the pressure switch.
- For pumps over 1.1 kW, an external power contactor/relay is mandatory to prevent damage to the pressure switch.

3. Package Contents

Upon opening the package, verify that all components are present and undamaged:

- WilTec SK-2 Pressure Switch (1 unit)
- User Manual (this document)

4. Product Components and Dimensions

Figure 4.1: Front view of the WilTec SK-2 Pressure Switch.

Figure 4.2: Bottom view showing the 1/4" NPT internal thread connection for water pressure input.

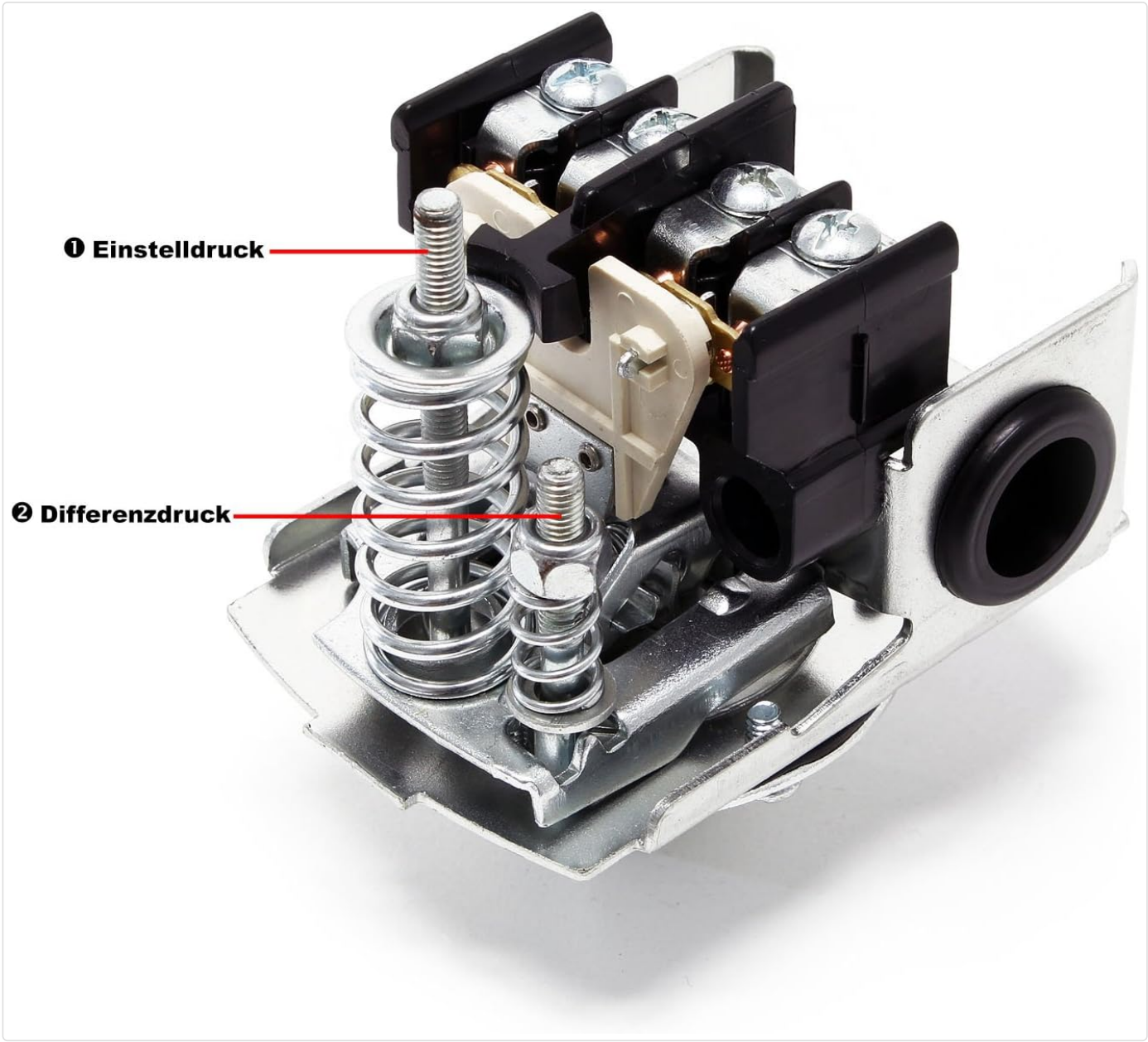

Figure 4.3: Internal view of the pressure switch. The large screw (1) adjusts the switch-on pressure, and the smaller screw (2) adjusts the differential pressure (difference between switch-on and switch-off pressure).

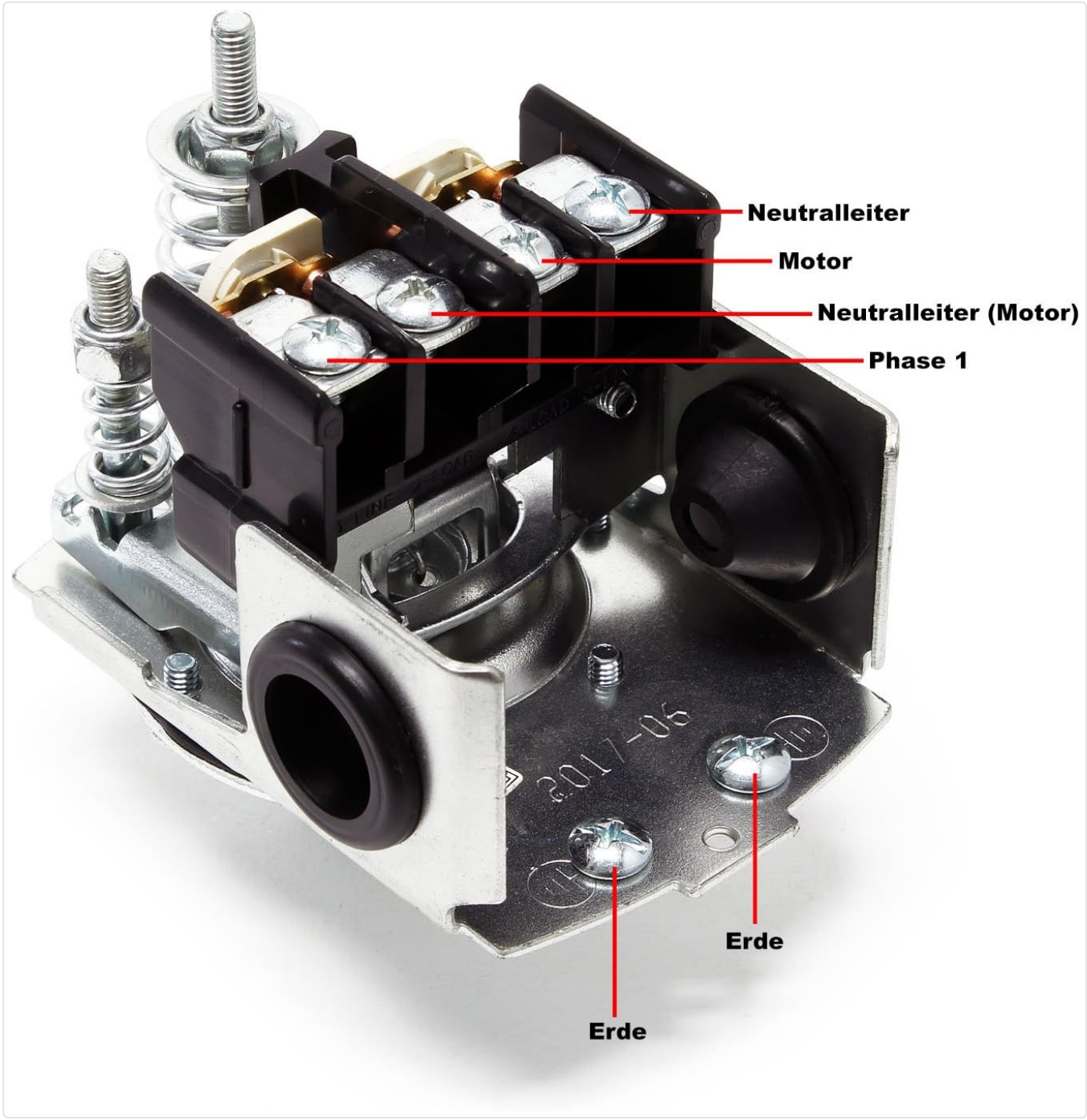

Figure 4.4: Internal wiring terminals. Connections include Neutral Conductor, Motor, Phase 1, and Ground points.

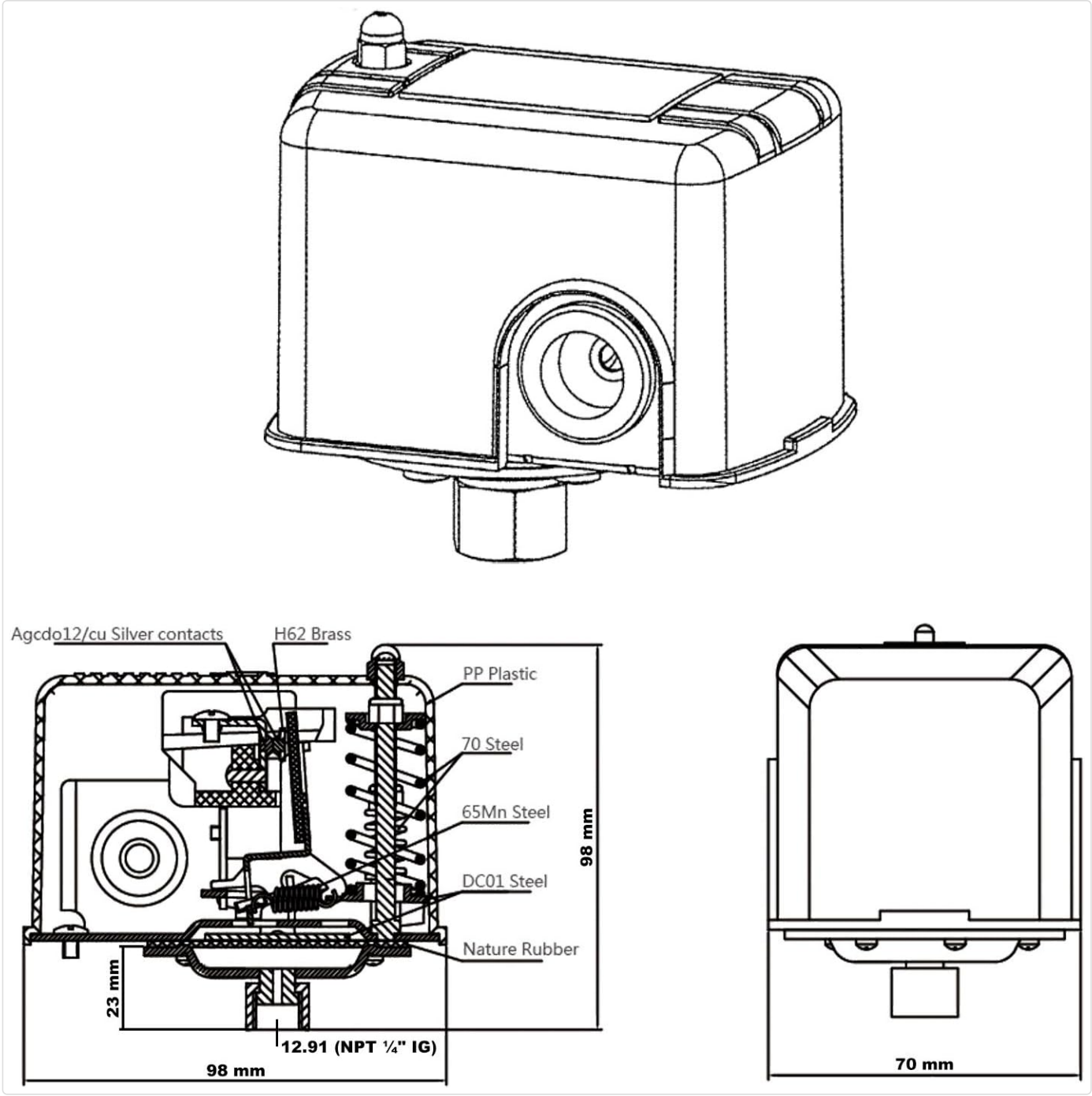

Figure 4.5: Detailed technical drawing showing overall dimensions (98mm x 70mm x 98mm) and internal material components such as PP Plastic, Steel, Brass, and Nature Rubber.

5. Installation

1. **Power Disconnection:** Ensure the main power supply to the pump system is completely disconnected before beginning installation.
2. **Mounting:** Mount the pressure switch in a dry, protected location, close to the pump or pressure tank. Ensure it is securely fastened to prevent vibration.
3. **Water Connection:** Connect the pressure switch to the water system using the 1/4" NPT internal thread connection. Use appropriate sealing tape or compound to ensure a watertight seal.
4. **Electrical Wiring:**
    - Open the cover of the pressure switch.
    - Connect the incoming power supply (Phase and Neutral) to the designated terminals as shown in Figure 4.4.
    - Connect the pump's power cables (Phase and Neutral) to the "Motor" terminals.

- Connect the ground wire from both the power supply and the pump to the ground terminals within the switch.
- Ensure all connections are tight and secure.

5. **External Contactor (for pumps > 1.1 kW):** If your pump's power exceeds 1.1 kW, install a suitable external power contactor or relay between the pressure switch and the pump. The pressure switch will then control the contactor, which in turn controls the high-power pump.
6. **Close Cover:** Once wiring is complete and verified, securely close the pressure switch cover.

6. Operation

The WilTec SK-2 pressure switch operates automatically based on the water pressure in your system.

- When the water pressure in the system drops below the set switch-on pressure, the pressure switch will automatically activate the connected pump.
- Once the pump has raised the system pressure to the set switch-off pressure, the pressure switch will automatically deactivate the pump.
- This cycle ensures a consistent water pressure supply and protects the pump from dry running or excessive pressure.

7. Adjustment

The switch-on and switch-off pressures are continuously adjustable within the specified range (1.4 to 4.1 bar).

1. **Disconnect Power:** Always disconnect the power supply to the pressure switch before making any adjustments.
2. **Remove Cover:** Carefully remove the cover of the pressure switch.
3. **Adjust Switch-On Pressure:** Locate the large adjustment screw (labeled "1" in Figure 4.3).
    - Turning the screw clockwise increases the switch-on pressure.
    - Turning the screw counter-clockwise decreases the switch-on pressure.
4. **Adjust Differential Pressure:** Locate the smaller adjustment screw (labeled "2" in Figure 4.3). This screw adjusts the difference between the switch-on and switch-off pressures.
    - Turning this screw clockwise increases the differential pressure (making the switch-off pressure higher relative to the switch-on pressure).
    - Turning it counter-clockwise decreases the differential pressure.
5. **Test and Fine-Tune:** After making adjustments, replace the cover, restore power, and observe the pump's behavior and system pressure. Repeat the adjustment process if necessary until the desired pressure range is achieved.

Note: The switch-off pressure is determined by the switch-on pressure plus the differential pressure. Ensure the adjusted pressures remain within the operational limits of your pump and system.

8. Maintenance

Regular maintenance ensures optimal performance and longevity of your pressure switch.

- **Periodic Inspection:** Regularly inspect the pressure switch for any signs of physical damage, corrosion, or loose connections.
- **Cleanliness:** Keep the exterior of the pressure switch clean and free from dust and debris. Do not use abrasive cleaners or solvents.
- **Electrical Connections:** Periodically check all electrical connections for tightness. Ensure no wires are frayed or exposed.
- **Pressure Settings:** Verify that the pressure settings are still appropriate for your system's needs. Readjust if necessary.

9. Troubleshooting

Problem	Possible Cause	Solution
Pump does not start.	No power supply. Pressure above switch-on setting. Faulty wiring connection. Pressure switch malfunction. Pump issue.	Check power supply and circuit breaker. Verify system pressure. Inspect and secure all wiring connections (power off). Test pressure switch continuity (power off). Replace if faulty. Check pump for blockages or motor issues.
Pump does not stop.	Pressure not reaching switch-off setting. Leaking system. Pressure switch malfunction.	Adjust switch-off pressure. Check for leaks in the plumbing system. Test pressure switch. Replace if faulty.
Frequent pump cycling (short cycling).	Too small differential pressure. Pressure tank issue (e.g., waterlogged). Small leak in system.	Increase differential pressure setting. Check pressure tank air charge and bladder. Inspect plumbing for minor leaks.

If the problem persists after attempting these solutions, please contact WilTec customer support.

10. Specifications

Model	SK-2 (50763)
Manufacturer	WilTec
Voltage	230 V (Single-phase)
Max. Current	10 A
Adjustable Pressure Range	1.4 - 4.1 bar
Max. Operating Pressure	6 bar
Connection Thread	1/4" NPT Internal Thread
Dimensions (L x W x H)	9.8 x 7 x 9.8 cm
Weight	350 grams
Material	Stainless Steel (housing), PP Plastic, Brass, Steel, Nature Rubber (internal components)
Power Source	Electric Cable

11. Warranty and Support

For warranty information, technical support, or spare parts availability, please contact WilTec customer service directly. Refer to your purchase documentation for specific warranty terms and contact details.
You can visit the official WilTec store for more information: WilTec Store

Documents - WilTec – SK-2

no relevant documents