

Square D FSG2J21CP

Square D Pumptrol Water Pressure Switch User Manual

Model: FSG2J21CP | Brand: Square D

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your Square D Pumptrol Water Pressure Switch, Model FSG2J21CP. This device is designed to control electrically driven water pumps and air compressors, suitable for jet pumps, submersible pumps, and reciprocating pump applications.

Please read this manual thoroughly before attempting any installation or operation to ensure proper function and safety.

2. IMPORTANT SAFETY INFORMATION

Failure to follow these instructions can result in serious injury or death.

- HAZARDOUS VOLTAGE:** Always disconnect power to the pump and pressure switch at the circuit breaker or fuse box before attempting any installation, maintenance, or troubleshooting. Do not remove the cover or touch any internal components while power is connected.
- EXCESSIVE PRESSURE:** This device operates with a maximum pressure rating of 220 psi (1517 kPa). Ensure your system's pressure does not exceed this limit. Regularly check the system's operation after any adjustments and verify that the supply line is free from blockages.
- All electrical work must be performed by a qualified electrician and comply with all local and national electrical codes.
- Ensure the product is installed in a dry, protected location, away from direct moisture or extreme temperatures, unless specifically rated for such conditions.

3. PRODUCT OVERVIEW

The Square D Pumptrol Water Pressure Switch is a robust device designed for reliable control of water pumps. It features a durable housing and precise internal mechanisms to monitor and respond to water pressure changes.



Figure 1: Front view of the Square D Pumptrol Water Pressure Switch. The image displays the compact grey housing, the prominent 'Square D' and 'Pumptrol' embossed logos, and a warning label indicating hazardous voltage and excessive pressure risks, along with multilingual safety instructions.

Key Features:

- IP54 rated for protection against dust and splashing water.

- Suitable for various pump types: jet, submersible, and reciprocating.
- 1/4" NPT connection for easy integration into plumbing systems.
- Contacts open on rising pressure, ensuring pump shutdown at desired pressure.

4. SPECIFICATIONS

Specification	Value
Model Number	FSG2J21CP
Operation Mode	Electrical
Current Rating	30 Amps
Operating Voltage	240 Volts
Contact Type	Normally Open
Connector Type	Clamp
Terminal	Quick-connect
Dimensions (L x W x H)	4 x 4 x 3 inches
Circuit Type	1-way
Actuator Type	Diaphragm
Contact Material	Brass
International Protection Rating	IP54
Item Weight	0.01 ounces
Color	Black

5. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your pressure switch. Always ensure power is disconnected before beginning.

5.1 Pre-Installation Checklist:

- Verify that the pressure switch specifications match your pump and system requirements.
- Ensure you have the necessary tools (wrenches, wire strippers, screwdriver, thread sealant).
- Confirm the power supply is OFF at the main breaker.

5.2 Installation Steps:

1. **Mounting:** Securely mount the pressure switch in an upright position near the pump or pressure tank. Ensure it is easily accessible for future adjustments and maintenance.
2. **Plumbing Connection:** Apply thread sealant to the 1/4" NPT male threads of the pressure switch. Carefully thread the switch into the appropriate female NPT port on your pump or pressure tank. Tighten securely but do not overtighten.
3. **Electrical Wiring:**

- Remove the cover of the pressure switch.
 - Connect the incoming power supply wires to the designated terminals inside the switch. Refer to the wiring diagram provided on the switch's internal label or in your pump's manual for correct connections (typically Line 1, Line 2, and Ground).
 - Connect the pump motor wires to the appropriate load terminals.
 - Ensure all connections are tight and secure. Use quick-connect terminals where applicable.
 - Replace the cover securely.
4. **System Priming (if applicable):** If installing with a new pump or after draining the system, ensure the pump is properly primed according to its manufacturer's instructions before restoring power.

6. OPERATING INSTRUCTIONS

The Square D Pumptrol pressure switch automatically controls your pump based on system pressure. It is typically factory-set to common pressure ranges (e.g., 30-50 PSI).

6.1 Initial Start-up:

1. After installation and ensuring all connections are secure and safe, restore power to the pump system at the main breaker.
2. The pump should start and begin to build pressure. Observe the pressure gauge on your system.
3. The pump will run until the system pressure reaches the switch's cut-off pressure, at which point the switch will open its contacts and turn off the pump.
4. As water is used and system pressure drops to the cut-in pressure, the switch will close its contacts, turning the pump back on.

6.2 Adjusting Pressure Settings:

WARNING: Disconnect power before making any adjustments.

- The pressure switch has adjustment screws, usually located under the cover. One screw adjusts the cut-in pressure (the point at which the pump turns on), and another adjusts the differential (the difference between cut-in and cut-off pressure).
- Turning the main spring adjustment screw (larger spring) clockwise increases both cut-in and cut-off pressures. Turning it counter-clockwise decreases both.
- Turning the differential adjustment screw (smaller spring) clockwise increases the differential (widens the gap between cut-in and cut-off). Turning it counter-clockwise decreases the differential.
- Make small adjustments, then replace the cover, restore power, and observe the system's operation and pressure gauge readings. Repeat until desired settings are achieved.

7. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your pressure switch.

- **Annual Inspection:** At least once a year, with power disconnected, inspect the switch for any signs of wear, corrosion, or damage to the housing or wiring.
- **Cleanliness:** Keep the exterior of the switch clean and free from dust, dirt, and moisture.
- **Connection Check:** Periodically check electrical and plumbing connections for tightness. Loose connections can lead to poor performance or safety hazards.

- **Diaphragm Check:** While power is off, inspect the diaphragm for cracks or hardening. A faulty diaphragm can lead to inaccurate pressure readings.

8. TROUBLESHOOTING

Before attempting any troubleshooting, ensure power is disconnected at the main breaker.

Problem	Possible Cause	Solution
Pump does not turn on.	No power to switch; faulty wiring; clogged pressure sensing port; worn contacts.	Check circuit breaker; verify wiring connections; clean sensing port; inspect/replace switch if contacts are burnt.
Pump runs continuously.	Pressure switch contacts stuck closed; system leak; pump unable to build pressure.	Inspect switch contacts; check for leaks in plumbing; troubleshoot pump (e.g., low water level, faulty check valve).
Pump cycles too frequently.	Waterlogged pressure tank; small system leak; pressure switch differential too narrow.	Check and recharge pressure tank air pre-charge; find and repair leaks; adjust pressure switch differential.
Inaccurate pressure readings.	Clogged sensing port; faulty pressure gauge; worn diaphragm in switch.	Clean sensing port; verify gauge accuracy; replace switch if diaphragm is faulty.

If problems persist after troubleshooting, contact a qualified professional or Square D customer support.

9. WARRANTY INFORMATION

Square D products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Schneider Electric website. Keep your proof of purchase for warranty claims.





10. SUPPORT AND CONTACT

For technical assistance, replacement parts, or further inquiries, please contact Square D / Schneider Electric customer support:

- **Website:** www.se.com/us/en/ (Schneider Electric official website)
- Refer to the product packaging or the Schneider Electric website for specific phone numbers or email contacts for your region.



Related Documents

	<p>Square D Class 9013 Commercial Pressure Switches Types F and G</p> <p>This document provides detailed information on Square D Class 9013 commercial and light industrial pressure switches, covering Types F and G. It includes product descriptions, technical specifications, operating principles, dimensions, electrical ratings, and comprehensive selection and modification guides for various models such as FHG, FSG, FYG, FRG, and G series, along with ordering information.</p>
	<p>Square D Sepam Digital Relays: Product Line Overview</p> <p>An overview of the Square D Sepam series of digital protective relays from Schneider Electric, detailing their features, applications, and selection criteria for various power system needs.</p>
	<p>Square D SDSA 3-Phase Surge Protective Devices (SPDs)</p> <p>Comprehensive information on Square D Surgellogic SDSA 3-Phase Surge Protective Devices (SPDs), covering Type 1 protection for Wye and Delta configurations, features, performance specifications, installation guidelines, warranty details, and model selection.</p>
	<p>Square D 2008 Pocket Digest: Electrical Product Information</p> <p>Explore the 2008 Square D Pocket Digest for comprehensive information on Schneider Electric's best-selling electrical products. This guide includes catalog numbers, product specifications, and selection guidance for load centers, circuit breakers, and more.</p>

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[\[pdf\]](#) Datasheet Documentation

OsiSense XM FSG2J21CP ECAT Square D Lighting Facts 30 50 PSI Plastic Exterior Pressure Switch

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Product data sheet Characteristics **FSG2J21CP** Pressure sensors XM, pressure switch 575 VAC, 1 hp with options The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not ...

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Schneider Electric Pumptrol Pressure Switches for Water and Air Control

Explore Schneider Electric's Pumptrol® pressure switches, designed for reliable water and air control in residential and commercial applications. Features include adjustable settings, NEMA Type 1 enclosures, and various models like FSG and FHG series.

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**THE INDUSTRY'S
GOLD STANDARD OF
PRESSURE SWITCHES.**

As the leader in pressure switches for the water and well industry for over 75 years, Square D by Schneider Electric continues to provide the best in product quality, availability, and service. Manufactured to strict quality standards, you can be confident all Square D pressure switches will perform reliably year after year.

Rural customers usually rely on wells to supply their water. Pumps are used to bring up the water from the well and to pressurize the water pipes in the home. Water is pumped into a storage tank to compress an air bladder that exerts pressure on the water in the home. When the desired pressure is reached, the pump must be stopped. This is where the pressure switch opens a set of electrical contacts to stop the pump.



[\[pdf\]](#) Borchure Catalog

Pumptrol 30 50 psi Well Pump Water Pressure Switch with Low Cut Off Clear Packaging Product

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THE INDUSTRY S GOLD STANDARD OF PRESSURE SWITCHES. As the leader in pressure switches for the water ... FSG2J20M1BP FSG2J20M1CP FSG2J20M4BP FSG2J20M4CP FSG2J20PBP FSG2J20PCP FSG3J20BP FSG3J20CP FSG2J21BP **FSG2J21CP** FSG2J21M1BP FSG2J21M1CP FSG2J21M4BP FSG2J21M4CP FSG2J24BP FSG2J24CP FSG2J24M4BP FSG2J24M4C...

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Catalog #	UPC Code	Type	Description
9000FG	Special Order		Universal rail which includes switch, plastic center hole, rod, nut and blocking hardware
9000G00	Special Order	Switch only	Combos close on liquid line 2 pole NEMA 1
900G00	Special Order	Post	Plastic center hole Post
900G01	Special Order	Fitting	3/16" x 1/2" aluminum rod, 2 Rod clip assemblies and 3/16" nuts

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- **Pumpout Flood Switches Class 8000**
 - **(Recessed) Style Type FG30**
 - Designed for liquid level started with electric remote operated pump; electrically direct or through a magnetic starter
 - On/Off can be used to activate alarms in liquid level control systems
 - On/Off or submerged switch can be used in the lower 90° of class 8000; Type FG30T switch controls the On/Off pump position corresponding to the water level changes required to turn the pump off, alarm on, and off
 - **Stang or Open Tank: Type DGL 600**
 - On/Off pump rated
 - 270° in 1/8" line and 1/2" in 1/4" line
 - Designed for automatic control of liquid level in open storage or for flow measurement; float switch leads directly to flow alarm in a starter
 - **IG245 Type**
 - Indirect float switch
 - Type IG300 - hazardous for gas connections

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Switches - Float Sump

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