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Omron Z-15GW2-B7-K

Omron Z-15GW2-B7-K Industrial Snap Switch User Manual

Model: Z-15GW2-B7-K

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1. INTRODUCTION

This manual provides essential information for the safe and efficient use of the Omron Z-15GW2-B7-K Industrial Snap Switch. Please read these instructions thoroughly before installation, operation, or maintenance to ensure proper function and prevent potential hazards.

2. SAFETY INFORMATION

WARNING: Risk of Electric Shock and Injury.

- Always disconnect power before installing, wiring, or servicing the switch.
- Installation and wiring must be performed by qualified personnel in accordance with all local and national electrical codes.
- Do not exceed the specified current and voltage ratings.
- Ensure proper grounding to prevent electric shock.
- Avoid exposing the switch to environments outside its specified operating temperature and IP rating.

3. PRODUCT OVERVIEW

The Omron Z-15GW2-B7-K is an industrial snap switch designed for reliable operation in various control applications. It features a Single Pole Double Throw (SPDT) contact form and a hinge roller lever actuator, providing precise detection of mechanical movement.



Figure 1: Omron Z-15GW2-B7-K Industrial Snap Switch. This image shows the Omron Z-15GW2-B7-K Industrial Snap Switch, featuring a hinge roller lever actuator and screw terminals. The compact design is suitable for various industrial applications.

Key Features:

- **Actuator Type:** Hinge Roller Lever
- **Contact Form:** SPDT (Single Pole Double Throw)
- **Current Rating:** 15 Amps
- **Voltage Rating:** 480VAC
- **Terminal Type:** Screw
- **Housing Material:** Plastic
- **International Protection Rating:** IP65

4. SETUP AND INSTALLATION

Follow these steps for proper installation of the Omron Z-15GW2-B7-K snap switch:

1. **Power Disconnection:** Ensure all power to the circuit is disconnected before beginning installation. Verify with a voltage tester.
2. **Mounting:** The switch is designed for snap-in mounting. Secure the switch using the mounting dimensions of 1.03 inches centers. Ensure the mounting surface is stable and free from excessive

vibration.

3. Wiring:

- Identify the screw terminals. The SPDT contact form typically includes Common (C), Normally Open (NO), and Normally Closed (NC) terminals. Refer to the wiring diagram on the switch body if available.
- Connect the appropriate wires to the screw terminals. Ensure connections are tight and secure to prevent loose contacts and overheating.
- Use wire gauges suitable for the 15A current rating.

4. **Actuator Alignment:** Position the hinge roller lever actuator so that it can be reliably engaged by the target mechanism. Ensure the mechanism provides sufficient over travel (0.157 In.) and does not exceed the maximum pretravel (0.157 In.) for consistent operation.
5. **Environmental Considerations:** Install the switch in an environment within its specified operating temperature range (-25°C to 80°C) and where its IP65 rating is sufficient for protection against dust and water ingress.
6. **Testing:** After installation, carefully restore power and test the switch's operation to confirm correct functionality and wiring.

5. OPERATING INSTRUCTIONS

The Omron Z-15GW2-B7-K snap switch operates based on the physical displacement of its hinge roller lever actuator. When the actuator is depressed, the internal contacts switch state.

- **Actuation:** The switch requires an operating force of approximately 3.5 oz. to actuate. The hinge roller lever is designed to be engaged by a moving part of machinery or equipment.
- **Contact Function (SPDT):**
 - In its normal (unactuated) state, the Common (C) terminal is connected to the Normally Closed (NC) terminal.
 - When the hinge roller lever is depressed, the Common (C) terminal switches connection to the Normally Open (NO) terminal.
 - The switch maintains this state as long as the actuator is depressed. Upon release, the contacts return to their normal state.
- **Operation Mode:** The switch functions in an OFF-NONE-ON mode, meaning it has a stable OFF state, a transient ON state when actuated, and returns to OFF when released.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and reliable performance of your Omron snap switch.

- **Inspection:** Periodically inspect the switch for any signs of physical damage, wear on the hinge roller lever, or loose wiring connections.
- **Cleaning:** Keep the switch free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or abrasive materials.
- **Actuator Check:** Verify that the mechanism actuating the hinge roller lever is operating smoothly and consistently, without excessive force or misalignment.
- **Environmental Protection:** Ensure that the environmental conditions remain within the specified IP65 rating. If the housing is damaged, the protection level may be compromised.
- **Power Disconnection:** Always disconnect power before performing any maintenance or inspection.

7. TROUBLESHOOTING

If you encounter issues with your Omron Z-15GW2-B7-K snap switch, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Switch does not actuate when lever is pressed.	<ul style="list-style-type: none">Insufficient force applied to lever.Lever mechanism obstructed or damaged.Internal switch failure.	<ul style="list-style-type: none">Ensure adequate operating force (3.5 oz.) is applied.Inspect lever for obstructions or damage; clear or replace if necessary.If internal failure is suspected, replace the switch.
No electrical contact change when switch actuates.	<ul style="list-style-type: none">Incorrect wiring.Loose terminal connections.Damaged internal contacts.Overload or short circuit damage.	<ul style="list-style-type: none">Verify wiring against the circuit diagram.Tighten all screw terminal connections.Test continuity with a multimeter. If contacts are damaged, replace the switch.Check for signs of overheating or burning.
Switch operates intermittently.	<ul style="list-style-type: none">Loose wiring.Inconsistent actuator engagement.Wear on internal components.	<ul style="list-style-type: none">Check and tighten all wiring connections.Adjust the mechanism engaging the lever for consistent contact.Consider replacing the switch if wear is evident.

If problems persist after attempting these solutions, contact Omron technical support or a qualified electrician.

8. SPECIFICATIONS

Technical specifications for the Omron Z-15GW2-B7-K Industrial Snap Switch:

Parameter	Value
Model Number	Z-15GW2-B7-K
Series	Z
Actuator Type	Hinge Roller Lever
Contact Form	SPDT (Single Pole Double Throw)
Current Rating	15 Amps
Voltage Rating	480VAC
Operation Mode	OFF-NONE-ON

Parameter	Value
Terminal Type	Screw
Operating Force	3.5 oz.
Max. Pretravel	0.157 in.
Release Force	0.79 oz.
Differential Travel	0.040 in.
Over Travel	0.157 in.
Length	1.94 in. (Product Dimensions: 2.5 inches)
Height	1.16 in. (Product Dimensions: 1.8 inches)
Depth	0.69 in. (Product Dimensions: 0.6 inches)
Mounting Dimension	1.03 in. Centers
Operating Temperature Range	-25°C to 80°C
Housing Material	Plastic
Contact Material	Copper, Brass
International Protection Rating	IP65
Item Weight	0.01 ounces

9. WARRANTY AND SUPPORT

For warranty information and technical support regarding your Omron Z-15GW2-B7-K Industrial Snap Switch, please refer to the official Omron website or contact your authorized Omron distributor. Keep your purchase receipt for warranty claims.

Omron Website: www.omron.com

For specific product inquiries or troubleshooting assistance not covered in this manual, Omron's customer service team is available to help.