

Schmersal AZ-16-03-zvrk

Schmersal AZ-16-03-zvrk Security Interlock Switch User Manual

Model: AZ-16-03-zvrk

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Schmersal AZ-16-03-zvrk Security Interlock Switch. This device is designed to monitor the position of guards and covers on machinery, ensuring safety by preventing operation when a guard is open. Please read this manual thoroughly before attempting any procedures with the switch.

2. SAFETY INFORMATION

WARNING: Improper installation, operation, or maintenance of this device can result in serious injury or death. Always adhere to local and national safety regulations, including electrical codes.

- Ensure power is disconnected before installation, wiring, or maintenance.
- Only qualified personnel should install and service this equipment.
- Do not bypass or tamper with the safety functions of the interlock switch.
- Regularly inspect the switch for damage or wear.
- Protect the device from excessive moisture, dust, and extreme temperatures beyond its specified IP rating.

3. PRODUCT DESCRIPTION

The Schmersal AZ-16-03-zvrk is a robust security interlock switch designed for industrial applications. It operates in an ON-OFF mode and is rated for 4 Amps at 230 Volts. The switch features a screw-type connector for secure wiring and boasts an International Protection Rating of IP15 and IP45, indicating protection against solid objects and water ingress. Its compact design allows for versatile mounting, typically wall-mounted, and it is constructed from durable copper material.



Figure 1: Overview of the Schmersal AZ-16-03-zvrk Security Interlock Switch. The image shows the black housing of the switch, a cable gland with grey wires exiting the top, and a mounting bracket on the side. Visible markings include "SCHMERSAL", "AZ 10-03 zvrk", "IP67", "IEC 947-5-1 VDE0660", "230V 4A".

4. SETUP AND INSTALLATION

Installation of the AZ-16-03-zvrk switch should only be performed by trained and qualified personnel in accordance with all applicable electrical and safety standards.

1. **Mounting:** Securely mount the switch to a stable surface using appropriate fasteners. The mounting type is typically wall mount. Ensure the switch is positioned correctly relative to the moving guard or door it is intended to monitor.

- 2. **Wiring:** Disconnect all power to the machine before wiring. Connect the electrical cables to the screw terminals inside the switch housing. Refer to the wiring diagram provided with the product packaging for correct connections. Ensure all connections are tight and secure. The switch is rated for 230 Volts and 4 Amps.
- 3. **Actuator Alignment:** If an actuator is used, ensure it is correctly aligned with the switch to allow for proper engagement and disengagement. The interlock mechanism must function smoothly without excessive force.
- 4. **Testing:** After installation, perform thorough functional tests to verify that the safety circuit operates as intended. Ensure the machine cannot start or continues to operate when the guard is open or not properly interlocked.

5. OPERATING INSTRUCTIONS

The Schmersal AZ-16-03-zvrk operates as a safety interlock switch, primarily in an ON-OFF mode. Its function is to ensure that machinery guards or doors are closed and locked before operation can commence or continue.

- **Normal Operation:** When the machine guard or door is closed and the actuator is fully engaged with the switch, the safety circuit is completed, allowing the machine to operate.
- **Safety Interlock:** If the machine guard or door is opened, the actuator disengages from the switch, interrupting the safety circuit. This action prevents the machine from starting or immediately stops its operation, thereby protecting personnel.
- **Reset:** To resume operation after an interlock event, ensure the guard is securely closed and the actuator is fully engaged. The machine may require a manual reset depending on its control system.

6. MAINTENANCE

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

- **Inspection:** Periodically inspect the switch for any signs of physical damage, corrosion, or excessive wear. Check the integrity of the cable gland and wiring connections.
- **Cleaning:** Keep the switch free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Avoid using harsh chemicals or abrasive materials that could damage the housing or internal components.
- **Functional Check:** Regularly test the interlock function by opening and closing the associated guard to ensure the machine responds correctly (e.g., stops or prevents startup).
- **Lubrication:** The switch mechanism typically does not require lubrication. Refer to manufacturer guidelines if specific lubrication is recommended for the actuator or associated parts.

7. TROUBLESHOOTING

If you encounter issues with the Schmersal AZ-16-03-zvrk switch, consider the following common problems and solutions:

Problem	Possible Cause	Solution
Machine does not start when guard is closed.	<ul style="list-style-type: none">• Actuator not fully engaged.• Wiring error or loose connection.• Faulty switch.• Power supply issue.	<ul style="list-style-type: none">• Check alignment and engagement of actuator.• Inspect wiring for correct connections and tightness.• Test switch continuity with a multimeter (power off). Replace if faulty.• Verify power supply to the control circuit.

Problem	Possible Cause	Solution
Machine stops unexpectedly.	<ul style="list-style-type: none">• Guard opened during operation.• Vibration causing actuator disengagement.• Intermittent wiring fault.	<ul style="list-style-type: none">• Ensure guard remains securely closed during operation.• Check mounting for stability; tighten fasteners.• Inspect wiring for damage or loose connections.
Switch appears physically damaged.	<ul style="list-style-type: none">• Impact or environmental stress.	<ul style="list-style-type: none">• Replace the damaged switch immediately to maintain safety integrity.

If problems persist after attempting these solutions, contact a qualified technician or Schmersal technical support.

8. SPECIFICATIONS

Feature	Detail
Brand	Schmersal
Model Number	101154220 (AZ-16-03-zvrk)
Operation Mode	ON-OFF
Current Rating	4 Amps
Operating Voltage	230 Volts
Connector Type	Screw
Material	Copper
Mounting Type	Wall Mount
International Protection Rating	IP15, IP45
Connectivity Protocol	X-10
Item Dimensions (L x W x H)	10.63 x 6.69 x 7.87 inches
Item Weight	2 pounds
Unit Count	1.0 Count
Number of Items	1
Manufacturer	Schmersal

9. WARRANTY AND SUPPORT

For specific warranty information regarding your Schmersal AZ-16-03-zvrk Security Interlock Switch, please refer to the documentation provided with your purchase or contact the manufacturer directly. Technical support can be obtained through the official Schmersal website or by contacting your authorized distributor.

