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SHUTIQ D40A-1C2

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Comprehensive Guide for Installation, Operation, and Maintenance

1. PRODUCT OVERVIEW

The SHUTIQ D40A-1C2 is a small, non-contact safety door switch designed for industrial applications. It ensures the safe operation of machinery by monitoring the position of doors, gates, or covers. This switch system consists of two main components: the switch unit and the actuator. Its non-contact design minimizes wear and tear, providing a long-lasting and reliable safety solution. This manual provides essential information for the proper installation, operation, and maintenance of your D40A-1C2 safety door switch.



Figure 1: SHUTIQ D40A-1C2 Safety Door Switch and Actuator. This image displays the two main components of the safety switch system: the black rectangular switch unit with visible wiring and mounting holes, and the smaller black rectangular actuator. Both components are labeled "MADE IN JAPAN". The switch unit also shows "D40A-1C2 SWITCH", UL and CE certifications, an IP67 rating, and electrical specifications (Load: 24VDC 10mA, Max. Surrounding Air Temperature: 55°C).

2. SETUP AND INSTALLATION

Proper installation is crucial for the reliable operation and safety function of the D40A-1C2 switch. This device is designed for door mount applications.

2.1 Mounting

1. Identify a suitable mounting location on the door frame and the moving door/guard. Ensure the switch and actuator align correctly when the door is closed.
2. Mount the D40A-1C2 switch unit securely to the stationary part of the machine or door frame using appropriate fasteners through the designated mounting holes.
3. Mount the D40A-1C actuator to the moving part of the door or guard, ensuring it is within the specified sensing range

of the switch when the door is closed. The actuator should be positioned to align directly with the switch unit.

4. Verify that there is no physical obstruction or excessive force applied to the switch or actuator during door operation.

2.2 Wiring (Connectivity Protocol: X-10)

The D40A-1C2 switch utilizes an X-10 connectivity protocol. Refer to the wiring diagram provided with your specific machine or control system for detailed connection instructions. Ensure all connections are secure and comply with local electrical codes.

- Connect the switch's output wires to the safety input of your control system.
- Ensure the power supply (Load: 24VDC 10mA Aux. output) is correctly connected to the switch as per the wiring diagram.
- Verify proper grounding to prevent electrical hazards.

3. OPERATING INSTRUCTIONS

The SHUTIQ D40A-1C2 is a non-contact safety switch. Its operation relies on the proximity of the actuator to the switch unit.

- When the door or guard is closed, the actuator is in close proximity to the switch unit, allowing the safety circuit to be closed (or open, depending on the specific safety logic of your system).
- When the door or guard is opened, the actuator moves away from the switch unit, causing the safety circuit to open, thereby stopping or preventing machine operation.
- Always ensure that the safety function is tested after installation and periodically during operation to confirm proper functionality.

4. MAINTENANCE

The D40A-1C2 switch is designed for minimal maintenance due to its robust construction and IP67 International Protection Rating, which provides protection against dust ingress and temporary immersion in water. However, regular checks are recommended to ensure continued safe operation.

- **Visual Inspection:** Periodically inspect the switch and actuator for any signs of physical damage, wear, or misalignment. Ensure mounting screws are tight.
- **Cleaning:** If necessary, clean the switch and actuator surfaces with a soft, damp cloth. Avoid using abrasive cleaners or solvents that could damage the housing.
- **Functionality Test:** Regularly test the safety function by opening and closing the guarded door/cover to ensure the switch correctly interrupts the machine operation.
- **Environmental Conditions:** Ensure the operating environment remains within the specified maximum surrounding air temperature of 55°C.

5. TROUBLESHOOTING

If you encounter issues with your D40A-1C2 safety door switch, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Switch does not activate/deactivate	Misalignment between switch and actuator	Adjust the position of the switch or actuator to ensure proper alignment when the door is closed.
Switch does not activate/deactivate	Damaged wiring or loose connections	Inspect all wiring for damage and ensure all connections are secure. Re-wire if necessary.
Switch does not activate/deactivate	Faulty switch or actuator	If alignment and wiring are correct, the unit may be faulty. Contact customer support for replacement.
Intermittent operation	Vibrations or unstable mounting	Ensure the switch and actuator are securely mounted and free from excessive vibration.
Intermittent operation	Environmental interference	Check for strong electromagnetic fields or other sources of interference near the switch.

6. SPECIFICATIONS

Feature	Detail
Brand	SHUTIQ
Model	D40A-1C2
Mounting Type	Door Mount
International Protection Rating	IP67
Connectivity Protocol	X-10
Unit Count	1.0 Count
Load (Aux. output)	24VDC 10mA
Maximum Surrounding Air Temperature	55°C
Certifications	UL Listed (782Y IND. CONT. EQ), CE
Manufacturing Origin	Made in Japan
ASIN	B0CBBSGPWJ
Date First Available	July 5, 2023

7. WARRANTY AND SUPPORT

SHUTIQ products are manufactured to high-quality standards. For information regarding product warranty, please refer to the warranty documentation included with your purchase or visit the official SHUTIQ website.

If you require technical assistance, have questions about installation, or need to report a defect, please contact SHUTIQ customer support. Have your product model number (D40A-1C2) and ASIN (B0CBBSGPWJ) ready when contacting support for faster service.



