

Direct Opening Action Limit Switch

Bulletin Number 802T



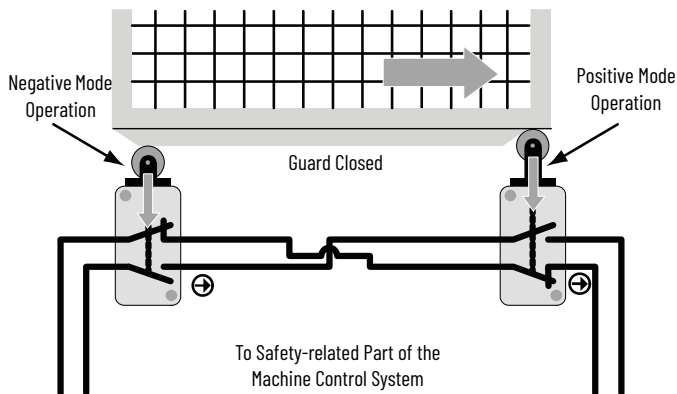
ATTENTION: To avoid electrical shock and unintended operation of equipment, disconnect all power to the limit switch and the controlled equipment before proceeding with any repair or adjustment of the limit switch.

Overview

Bulletin 802T Direct Opening Action limit switches are designed for use in applications requiring control-reliability performance per ANSI B11.19 and in safety applications as shown in ISO 14119.

Limit switches are used in electrical control systems to sense position. The predetermined motion of a cam, machine component, or piece part can actuate these limit switches. They are suitable for use in control systems requiring control-reliability performance or safety-related performance per ISO 13849-1.

Figure 1 - Typical Example of a Dual Channel Safety Application



Before installation in a safety application, you must perform a risk assessment to determine whether the specifications of this device are suitable for foreseeable operational and environmental characteristics of the machine that is to be controlled. Only the normally closed set of contacts are considered safety contacts. When applying these limit switches in a safety system application, you must follow all applicable standards for application. You must follow operation specifications and displace the actuator beyond the point where direct opening action occurs. These devices are not to be used to control a motor directly.



ATTENTION: Adjustable length lever actuators must not be used in a safety systems application.

Specifications

Attribute	Value
Safety contacts	1 normally closed
Auxiliary contacts	1 normally open
Enclosure rating	NEMA 4, 6P, 12, and 13 IP67
Operation rate and speed ⁽¹⁾	
Lever type	150/minute at 9 m (30 ft)/minute ⁽²⁾
Top push roller	150/minute at 9 m (30 ft)/minute ⁽³⁾
Side push roller	150/minute at 9 m (30 ft)/minute ⁽³⁾
Operating temperature (standard models)	18...110 °C (0...230 °F)
Short circuit protection	10 A slow or 15 A fast acting. Size the overload protection to load requirements.

(1) Based on operation temperatures of 20...30 °C (68...86 °F).

(2) Using 802T-W1A operating lever.

(3) Using 30° non-overtravel dog.

Mounting

You must securely mount the limit switches using the mounting holes provided. During installation, confirm that the actuator is displaced beyond the point where direct opening action takes place. Adjustable levers or rod actuators must not be used in safety systems applications.

Description	Tightening Torque
Terminal Screws	2.03 N•m (18 lb•in)
Front to Rear Base	1.81...2.26 N•m (16...20 lb•in)
Head Screws	1.35...2.03 N•m (12...18 lb•in)
Lever Arm	2.82...4.07 N•m (25...36 lb•in)

Wiring

IMPORTANT The contacts in each switching element must have the same polarity. The circuit diagram is shown on the nameplate.

The pressure type connector terminals in the base accept 4 mm² (12 AWG) and smaller solid or stranded wire. For proper tightening, it is suggested that you do not use wire any smaller than 0.75 mm² (18 AWG). Before inserting the wire under the pressure plates, strip the insulation approximately 9.23 mm (0.375 in.) Tighten all pressure plate terminals whether used or not, to avoid interference with the switch cover.

After wiring is complete, check that all wires are in the wiring cavity of the terminal block so they do not interfere with the switch when it is plugged into the terminal block.

Recheck all wiring terminal screws for tightness.

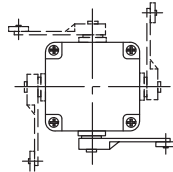
IMPORTANT For switches that have been wired at the factory, check wire colors and their positions in the terminal block for proper circuit hookup.

- Grounding of the switch must be achieved per National Electric Code (NFPA 70) requirements. The grounding terminal is in the terminal block housing.
- Arrange control wiring according to terminal markings.
- Tighten terminal screws according to specifications.
- Only use insulated connectors.

Actuator Head Positioning

The actuator head can be placed in any of four positions on the switch body.

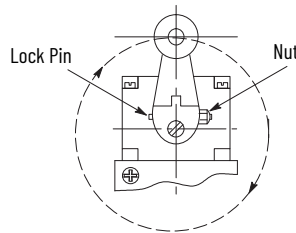
1. Loosen the four captive screws.
2. Place the head in the desired position.
3. Securely retighten the four screws.



Lever Positioning

The lever on rotary actuated devices is adjustable to any position through 360° around the shaft.

1. Loosen the nut.
2. Move the lever to the desired position.
3. Securely retighten the nut.



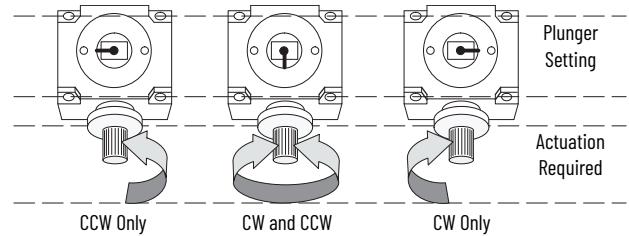
Changing the Direction of Actuation

The switch action of lever-operated limit switches can be adjusted to operate with the shaft moving in either a clockwise or counterclockwise direction, or in both directions.

To change the actuation direction, follow these steps:

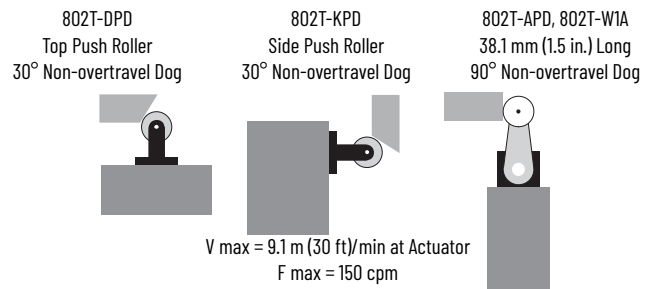
IMPORTANT You must perform this procedure in a clean environment to avoid the introduction of foreign material into the operating mechanism.

1. Loosen the four head mounting screws and remove the operating head from the switch body.
2. Locate the plunger on the underside of the operating head.
3. Pull the plunger outward and rotate it in steps of 90° to provide the operation mode desired.



4. Make sure that the plunger is pushed back inward and the O-ring is properly seated before reattaching the operating head to the switch body.
5. Securely retighten the operating head mounting screws.
6. Check for the desired actuation mode.

Methods of Actuation Examples



Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

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Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.

rockwellautomation.com

expanding human possibility®

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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