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MODEL TA-TPS TRIPPER POSITION CONTROL

WARNING:

DEATH or SERIOUS INJURY may occur.

Before installing or adjusting, shut down and physically lock-out the conveyor system.

A. HOW IT WORKS

The model TA-TPS is a heavy duty limit switch commonly used to aid the positioning of the “tripper” on a conveyor with multiple discharge points or discharge chutes.

Each control consists of aluminum housing with a heavy duty acetal roller. The roller is adjustable up to 90° in both directions. The microswitch actuation points are adjustable from 0° to 45° by a simple change of the actuating cam(s). The model TA-TPS can be furnished with general purpose, dust-ignition proof or explosion proof construction. Epoxy coated housings are also available.

B. INSTALLATION INSTRUCTIONS

The quantity of model TA-TPS tripper position controls required will vary for each conveyor system. Either a single unit or a pair of units can be used depending on the arrangement of the shuttle conveyor.

The microswitch(es) can be wired to trigger a warning signal or be connected directly to the motor starter circuit to stop a conveyor.

The control unit should be mounted on supports so that the roller is positioned perpendicular to the tripper mechanism, and positioned to intercept the roller at its midpoint. The roller clamp may be loosened to pivot the roller into the proper position. The roller center is 5.94” (151 mm) high, and the point of interception should be at or above this point.

Field wiring must meet or exceed the requirements of the National Electrical Code and any other agency or authority having jurisdiction over the installation. Conduit fittings must meet applicable UL/CSA standards.

C. ROLLER POSITION AND MICROSWITCH ACTUATION SETUP

The Model TA-TPS is shipped with the switch cam(s) centered with the roller arm. During the installation, the switch cam and the roller arm should be re-positioned to ensure switch actuation at the desired roller position. Note: check set and reset points with a continuity tester. Microswitch hysteresis will affect the reset points when working with minimal or small, tight amounts of roller travel (deflection).

1. Roller Position

Loosen the roller clamp and pivot the roller so that it is in the preferred standby position. Tighten the roller clamp.

2. Switch Cam Adjustment

Lock out all power to the switch unit and remove the cover. Use the 3/32” hex wrench provided to loosen the #10-32 set screw on the switch cam.

- The cams may be set for non-directional indication, where both microswitches actuate in either roller direction. The two switch cams can be positioned independently as desired (See Fig. 1). Optionally, the cams may be set for bi-directional indication, where one microswitch actuates with roller movement in one direction and the second microswitch actuates in the opposite direction (See Fig. 2).

Fig.1: Cams set for non-directional indication.

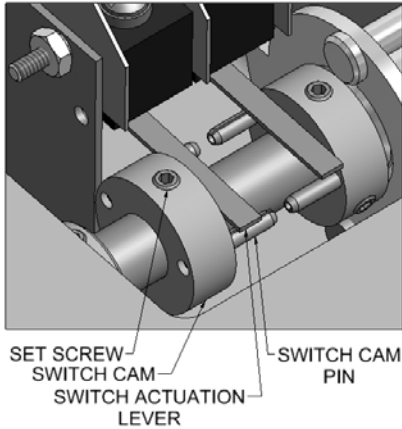
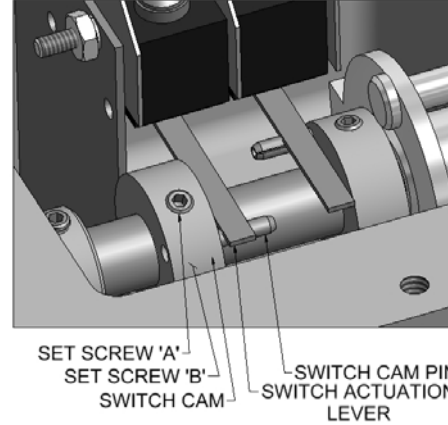


Fig. 2: Cams set for bi-directional indication.



- Pivot roller to the desired position for microswitch actuation.
- Adjust cam in same direction as the roller will move until the microswitch trips, then tighten the setscrew.
- Pivot the roller to the desired position for second trip point if needed. Adjust the second cam as in step 5.

D. TECHNICAL INFORMATON

1. Individual Switch Contact Ratings:

SP/DT switches:	DP/DT switches:
20 Amps, 125/250/480 VAC	15 Amps, 125/250 VAC
10 Amps, 125 VAC Inductive	N/A
1 hp, 125 VAC	3/4 hp, 125 VAC
2 hp, 250 VAC	1 1/2 hp, 250 VAC
1/2 Amp, 24 VDC	N/A
1/2 Amp, 125 VDC	N/A
1/4 Amp, 250 VDC	N/A

Note: Special units with gold plated microswitch contacts rated 0.1 Amps at 125 VAC are available upon request.

- Conduit opening: 3/4" NPT, quantity: 1.
- Actuating Arm:
Roller is acetal with stainless steel roller shaft on a zinc-plated steel arm.
Roller arm travel is 90° in both directions from vertical.
- External Hardware: stainless steel (shaft holder arm zinc-plated steel).
- Operating Temperature Range (ordinary location models): -50°C to 65°C; -58°F to 150°F

6. Ambient Temperature Range (hazardous location models): -50°C to 40°C; -58°F to 104°F

7. Enclosure Types; Standard models c-UL-us Listed:

MODELS TA-1-TPS, TA-2-TPS, TA-4-TPS, TA-5-TPS: Types 3S, 4, 4X & 5

MODELS TA-1X-TPS, TA-2X-TPS, TA-4X-TPS, TA-5X-TPS:
Class I, Groups C & D; Class II, Groups E, F & G; Class III Hazardous Locations

MODELS TA-1D-TPS, TA-2D-TPS, TA-4D-TPS, TA-5D-TPS:
Types 3S, 4, 4X & 5; Class II, Groups E, F & G; Class III Hazardous Locations

E. WIRING

To properly wire to the microswitches on the model TA-TPS, avoid contact with the microswitch levers and other moving parts inside enclosure.

Note: TWIST WIRE TOGETHER BEFORE INSERTING UNDER SCREW TERMINAL. (ENROULEZ LES FILS ENSEMBLE AVANT LES INTRODUIRE DANS LA BORNE.)

Figure 2: SP/DT 2-Switch Schematic

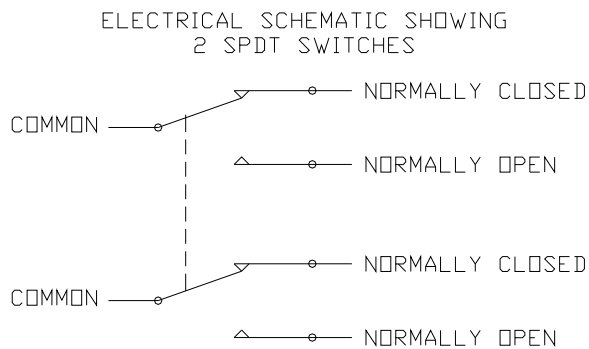


Figure 3: DP/DT 2-Switch Schematic

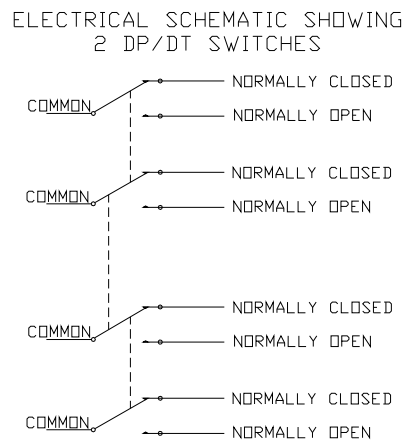


Figure 4: Terminal Identification (SP/DT)

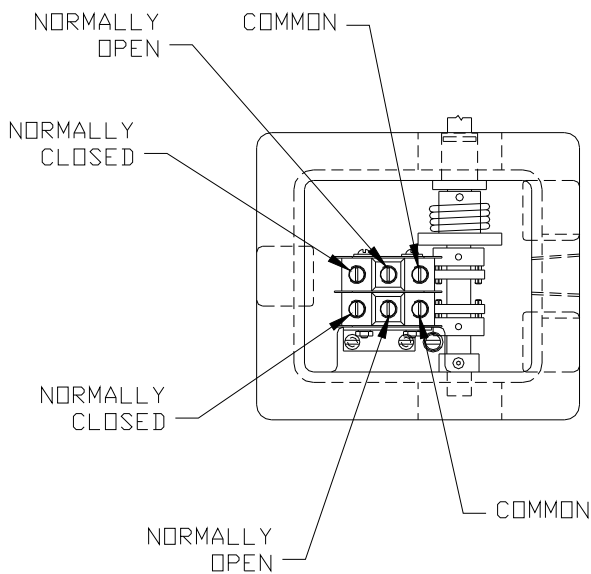


Figure 5: Terminal Identification (DP/DT)

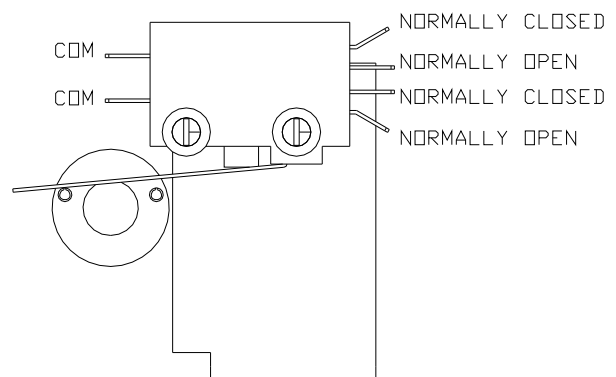
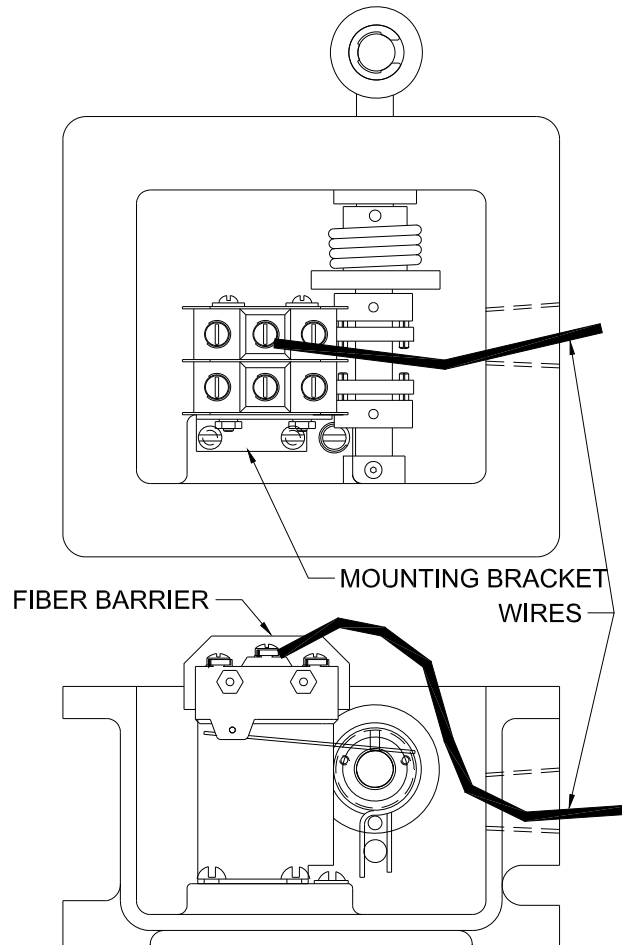


Figure 6: Wire Routing

To properly wire to the micro-switches on the model TA-TPS, route incoming wires over the shaft and micro-switches. Avoid contact with the micro-switch levers and other moving parts inside enclosure. For DPDT switches, use hand crimp tool 0640014100 or crimp head 0640054100 for AT-200 pneumatic hand tool to attach insulated, flag quick-disconnects to wires.



F. DIMENSIONS

Figure 7: Dimensions and Mounting, Model TA-2-TPS Shown

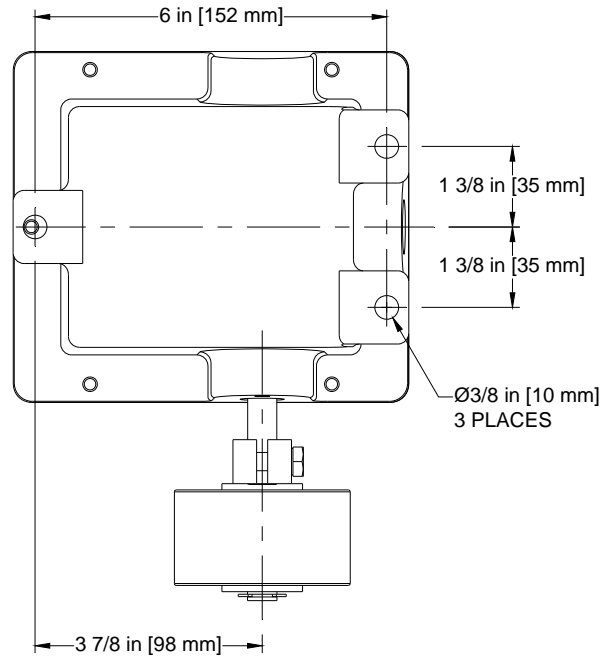


Figure 8: Dimensions and Roller Travel

