

U.S. Patent No. 5,446,252

### Installation and Operating Instructions

#### General

The Thinswitch Limit Switch verifies ejector plate return when tied into the machine control. Placed next to the rest buttons in a mold, the switch protects the mold from premature closure after part ejection.

The Thinswitch can also be used with a bolt or pin actuator with a minimum diameter of 3/8" (9.5mm). Care should be taken to avoid crushing the housing with the actuator.

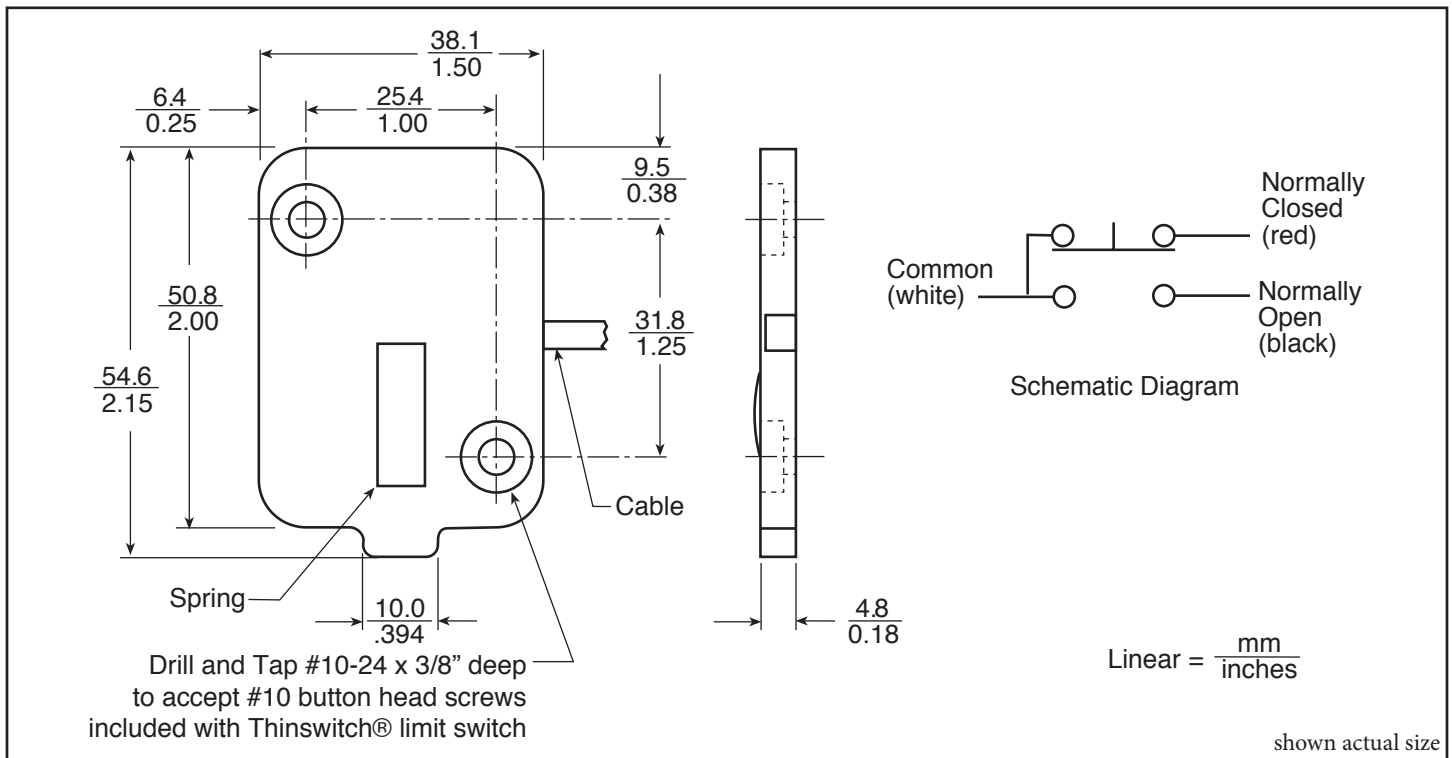
**This switch is not for use in wet locations.**

*The Thinswitch Limit Switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.*

#### Installation

Install the Thinswitch as follows:

1. Check height of rest buttons. If button height is less than .1875" (4.76mm), machine a pocket to accept the switch to match rest button height. The actuation spring should extend above the rest button.
2. If there is any risk of water spray, position the switch so the arrow on the switch body points up when the mold is in operation. The switch should be mounted with the decal against the ejector housing.
3. Verify that any rest buttons on the ejector plate will not interfere with the switch, wire clips or wire routing.
4. Drill and tap two mounting holes 10-24 x 3/8" (9.5mm) deep per drawing.
5. Verify the switch contact operation before placing mold in service.
6. Wire switch in accordance with prevailing electrical standards. Wire switch directly to the injection molding machine controls or to an approved locking male plug.



## Operation

- The operating point of the switch is adjusted by turning the set screw shown below.
- Minimum actuation height is .188" (4.7mm), Maximum recommended actuation height is .250" (6.4mm).
- Each 1/4 turn of the adjusting screw changes actuation height .012" (0.3mm).
- Adjust the actuation height to .010" - .015" (.25mm - .38mm) above minimum actuation height.

**Before shipment, all switches are calibrated to optimum actuation position.**

**Premature spring and switch failure may result by adjusting the operating point more than .020" (.5mm) above minimum actuation height.**



## Specifications

Rated current is dependent upon operating temperature. A lower operating temperature allows more current safely through the Thinswitch cable. See the table below for details.

Rated Current (Resistive) vs. Operating Temperature					
T-222			HT-291		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

Above rated current is resistive. Maximum inductive current is 4A.

Switching Element Contacts .... Form C - SPDT

Utilization Categories ..... AC-12, DC-12

Insulation Voltage .....  $U_i = 250V$

Impulse Withstand Voltage .....  $U_{imp} = 2.5kV$

Pollution Degree ..... 3

Relative Humidity should not exceed 50% at max. temp +40°C. Higher relative humidity is acceptable at lower temperature e.g. 90% at +20°C

Maximum Rated Altitude..... 3,000m

Operating and storage/transport

T-222 ..... -53.9°C to +79.4°C

HT-291 ..... -53.9°C to +121°C

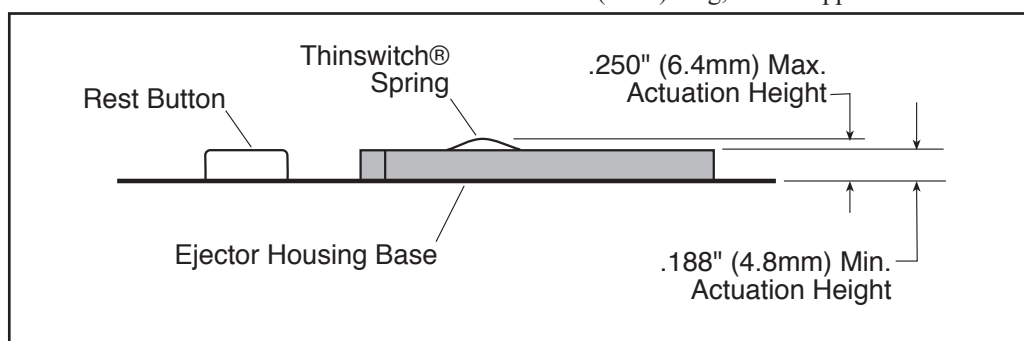
## Component Materials

Body ..... Fiberglass-Reinforced Nylon

Spring ..... Stainless Steel

Back Cover..... Polyester Film

Wire Leads..... 22 ga. stranded 3 conductor, shielded cable, 6ft. (1.8m) long, ends stripped and tinned



## Limited Warranty

Seller warrants that this product supplied will conform to the description herein stated and that the product will be of standard quality. This is the sole warranty made by Seller with respect to this product. Seller expressly disclaims any other express or implied warranties, including, but not limited to, the implied warranty of merchantability and the implied warranty of fitness for a particular purpose.

Seller shall not be liable for any cost or damages, whether direct, incidental or consequential, including, but not limited to, any injury, loss or damage resulting from the use of this product, regardless of whether any claim for such cost or damages is based on warranty, contract, negligence, tort or strict liability. The sole liability of Seller is limited to repairing or replacing this product.

This warranty shall not apply to any products that have been repaired or altered by anyone other than Seller. The warranty shall not apply to any products subject to misuse due to common negligence or accident, nor to any products manufactured by Seller which are not installed or operated in accordance with the printed instructions of Seller or which have been operated beyond the rated capacity of the goods.