

SMARTFLOW®

MOLD PROTECTIVE SWITCHES

Smartflow® Mold Protective Limit Switches are designed and built by engineers with expert mold-building experience. Thinswitch®, SmartLock® and Versaswitch™ are the benchmark switches in the injection molding industry. Molders rely on them to provide dependable position indication and protection for valuable injection molds.

Thinswitch for ejector plate return

- ◆ Standard Temperature
- ◆ High Temperature
- ◆ Liquid-Resistant
- ◆ Global (3mm, 4mm or 3/16" height) for use with European or US Standard Molds

SmartLock Slide Retainer and Limit Switch for slide retention and position verification

- ◆ Standard Temperature
- ◆ High Temperature
- ◆ Locking Plunger

Versaswitch for core pull applications

- ◆ Optional Mounting Bracket



SMARTLOCK®
U.S. Patent No. 6,126,429



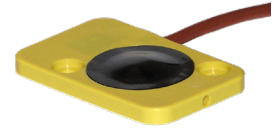
THINSWITCH®
U.S. Patent No. 5,446,252



VERSASWITCH™



GLOBAL THINSWITCH®
U.S. Patent No. 7,569,783



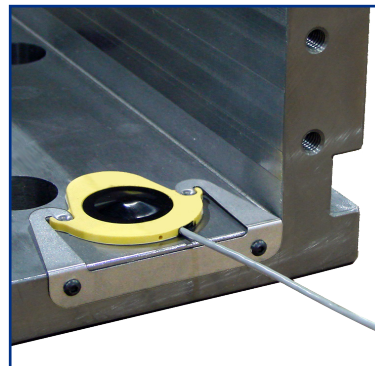
LIQUID-RESISTANT THINSWITCH®
U.S. Patent No. 6,982,392

Design and specifications are subject to change without notice.

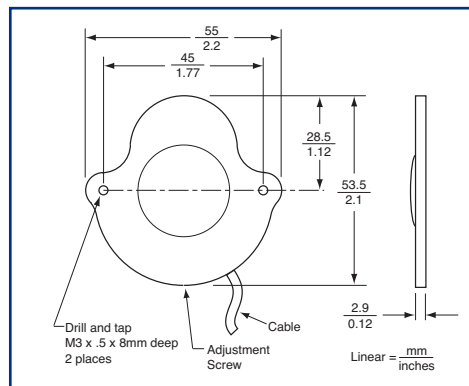
GLOBAL THINSWITCH® Liquid-Resistant 3mm, 4mm, 3/16" Height

General Description

Smartflow Global Thinswitch Limit Switch helps prevent accidental closure in injection molds by verifying ejector plate return in injection molds with 3mm, 4mm or 3/16" rest buttons, and where occasional water or oil spray is present. A polyurethane dome covers the actuator spring, protecting internal gold switch contacts from environmental contamination.



A special mounting bracket aids installation from the edge of the mold. The bracket allows molders to slide the Thinswitch into place without disassembling the mold or using screws to hold the switch in place. Spacers placed under the switch accommodate different rest button heights.



Part Number

TW-222-LR



Specifications

Operating Temperature 80°C (176°F) max.
Switching SPST (normally open)
Contacts BeCu with Hard Gold Plating

| Rated Current (Resistive) at 24VDC vs. Operating Temperature | | |
|--|------|-----|
| mAmps | °C | °F |
| 100 | 29.4 | 85 |
| 90 | 49.0 | 120 |
| 80 | 68.3 | 155 |
| 70 | 79.4 | 175 |

Materials

BodyFiberglass-Reinforced Nylon
DomePolyurethane
Back CoverPolyester film
Mounting Bracket..... Stainless Steel
Wire Leads28ga stranded
2-conductor, shielded cable
2m long, ends stripped and tinned



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SMARTFLOW Limit Switches are designed for use in very low power mold protection control circuits. They are not intended to switch heavy loads in power applications.



THINSWITCH® LIMIT SWITCH

General Description

Smartflow Thinswitch Limit Switch verifies ejector plate return in plastics injection molds. This small switch is thin enough to fit inside the ejector housing. It can also be used for core slides, or places where space is limited. Choose from the original design or the liquid-resistant housing for areas where water or oil spray is present.

The Thinswitch Limit Switch has been tested for reliability over 10 million cycles without failure. Two switches can be used in series for larger molds.



Part Numbers

Original Thinswitch

- T-222 175°F (79.4°C) max.
- HT-291 250°F (121°C) max.

Liquid-Resistant Thinswitch (IP41)

- T-222-LR 175°F (79.4°C) max.
- HT-291-LR 250°F (121°C) max.

Specifications

| | |
|-------------------|--------------------------------------|
| Electrical | |
| 250VAC | 5 Amps Resistive 4 Amps Inductive |
| 28VDC (sea level) | 5 Amps Resistive 4 Amps Inductive |

See chart below for temperature effects on maximum current rating

| Rated Current vs. Steel 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 |

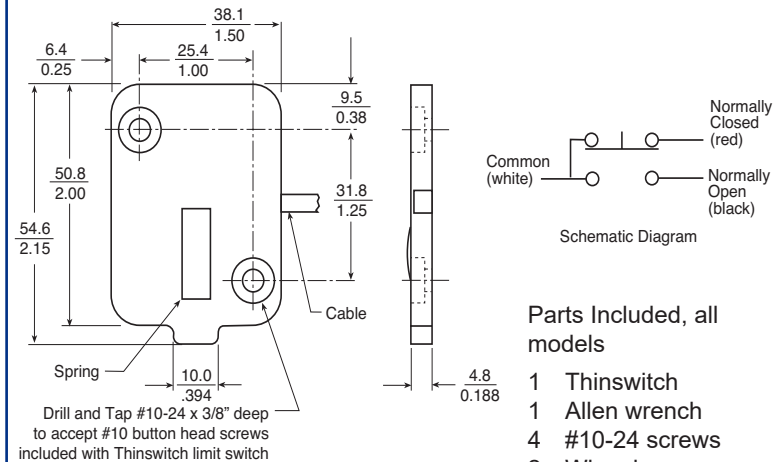
Switching SPDT

Materials

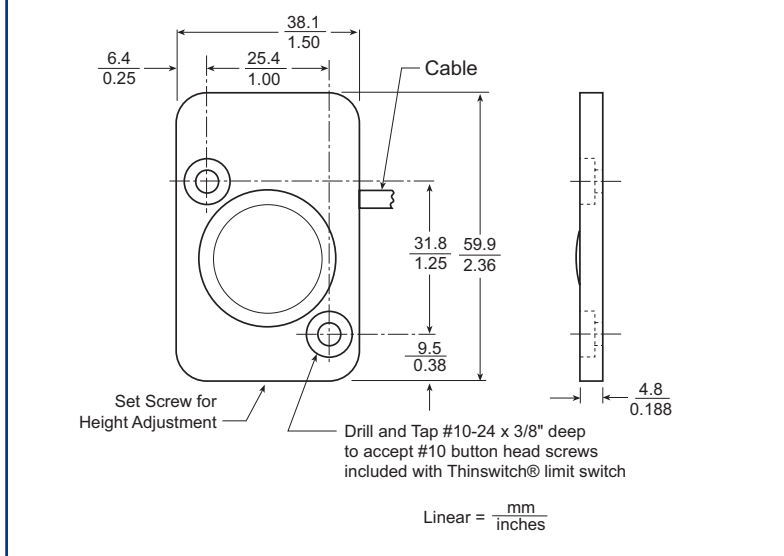
| | |
|------------|--|
| Body | Fiberglass-Reinforced Nylon |
| Spring | Stainless Steel |
| Back Cover | Polyester Film |
| Wire Leads | 22ga stranded 3-conductor, shielded cable 6ft. (1.8m) long ends stripped and tinned |



T-222 & HT-291 Dimensions



T-222-LR & HT-291-LR Dimensions





VERSASWITCH™ LIMIT SWITCH

General Description

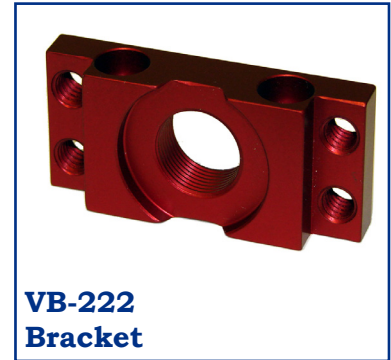
Smartflow Versaswitch Limit Switch installs into an injection mold to indicate location of the core, preventing tool damage.

Versaswitch is easily installed into a 5/8"-24 female thread. The switch actuates when 3.5 lbs of force is applied to the plunger. Actuation height is adjusted by threading the switch to the correct position in the installation. The switch is held in place via a lock-washer and hex nut. SPDT snap action switch provides a simple, positive indication of the mold or core location.

Optional mounting bracket is available to aid installation. Threaded fastener holes facilitate mounting the switch in many positions. The bracket is made from corrosion-resistant anodized aluminum.



**V-222
Versaswitch**



**VB-222
Bracket**

Part Numbers

- V-222** Versaswitch includes lock-washer and nut
- VB-222** Mounting Bracket red anodized aluminum

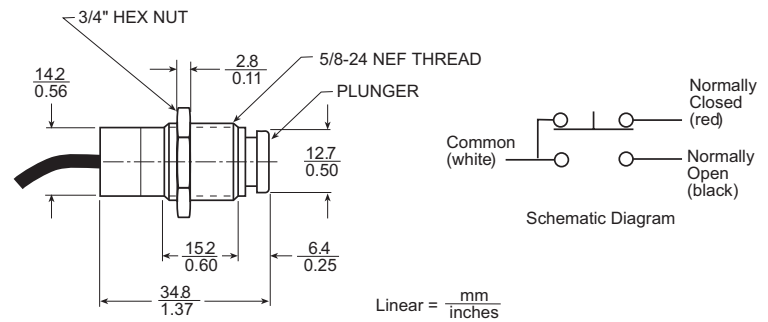
Switch Specifications

- Electrical 240VAC
5 Amps Resistive
3 Amps Inductive
- Operating Temperature 180°F max.
(82°C max.)
- Switching SPDT
- Operating Force 3.5 lbs (1.6 kg)
- Pre-travel to operating point 0.06" (1.5mm)
- Over-travel 0.01" (.25mm)
- Enclosure Watertight per IP68S

Switch Materials

- Body Anodized Aluminum/Epoxy
- Plunger Stainless Steel
- Nut Anodized Aluminum
- Lock-washer Zinc-Plated Steel
- Wire Leads 22ga stranded
3-conductor, shielded cable
6ft. (1.8m) long
ends stripped and tinned

V-222 Switch Dimensions



VB-222 Bracket Dimensions

