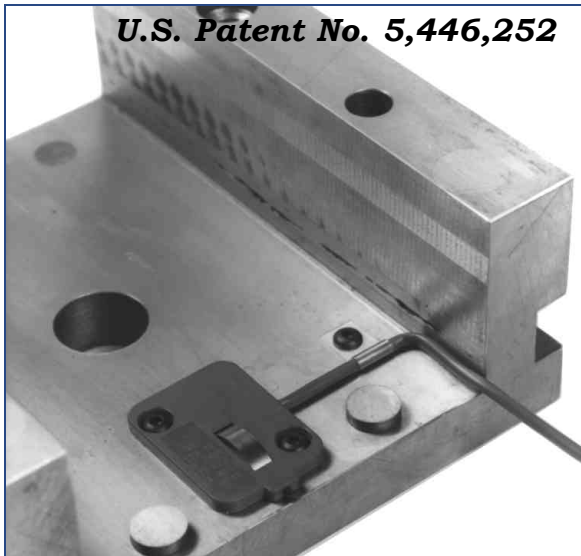




# THINSWITCH® LIMIT SWITCH



## General Description

Smartflow® Thinswitch® Limit Switch is specially designed to verify ejector plate return before permitting the mold to close in injection molding machines. This small switch is thin enough to fit inside the ejector housing. It can also be used for core slides, or anyplace space is limited.

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 to ensure the ejector plate return, preventing costly mold damage.

## Features and Benefits

- **Over 10 million cycle life** provides long dependable service.
- **175°F (79.4°C) standard temperature rating** allows installation into most molding applications.
- **250°F (121°C) high temperature unit** is available for higher temperature needs.
- **Adjustable operating point** allows actuation between .187" and .250" from the base.
- **In stock** to provide same-day delivery in most cases.
- **3/16" thick** design fits snugly behind the ejector plate in the space provided by the rest buttons.
- **Stripped and tinned 6 ft. wire leads** make the switch ready to install without modification.
- **Included mounting hardware** installs the Thinswitch® limit switch easily.

## 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

### Operating Temperature

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

Switching.....SPDT

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

*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.*

## Materials

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

## Parts Included

Qty	Description
1	Thinswitch® limit switch
1	Allen wrench (for height adjustment)
4	screws ( #10-24 button head)
2	wire clamps
1	instruction sheet

*Design and specifications are subject to change without notice.*

# SMARTFLOW® THINSWITCH® LIMIT SWITCH

## Model Number

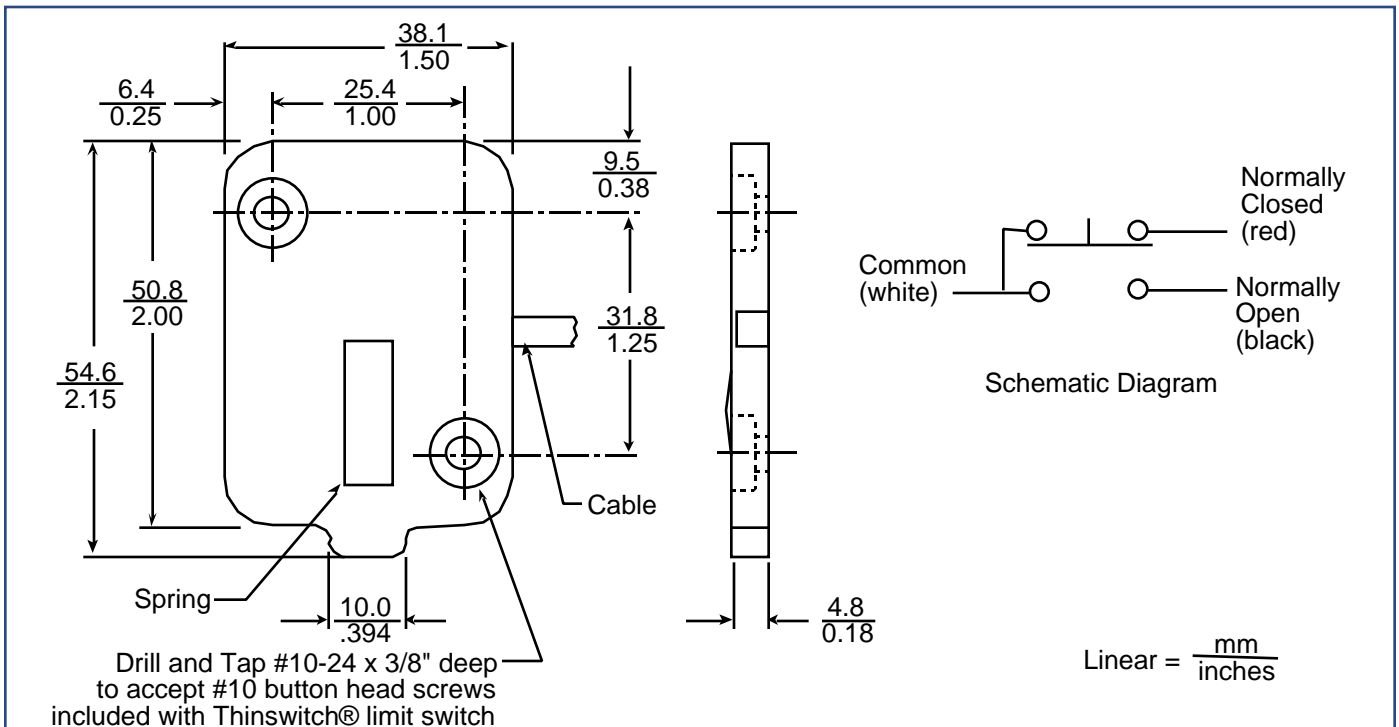
**T-222** Standard Thinswitch® Limit Switch  
(175°F / 79.4°C max.)

**HT-291** High Temperature Thinswitch® Limit Switch  
(250°F / 121°C max.)

## Accessories

- P222** Twist lock electrical plug
- BCR-222** Electrical box, cover plate, and receptacle
- CT10-222** Set of 10 cable clips and screws

**Thinswitch® Limit Switches are stocked and ready for same-day shipment.**

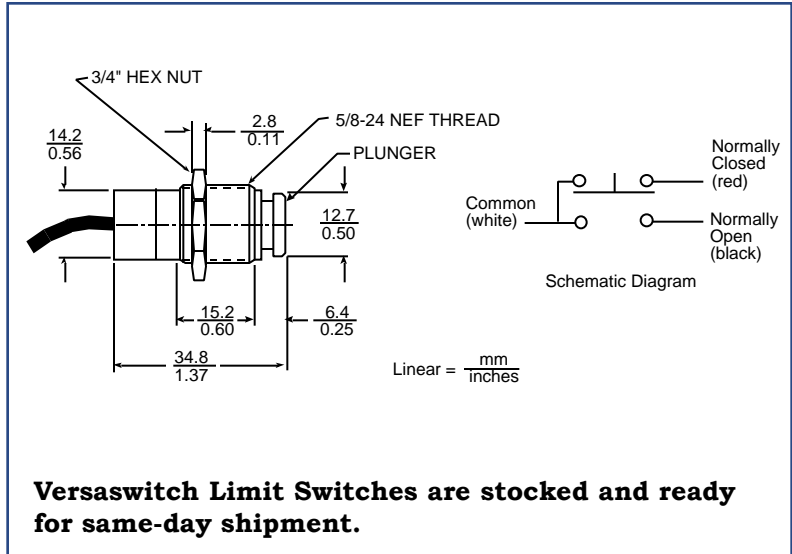


Part shown actual size

Two and Three-Dimensional part files are available for download from our web site at [www.smartflow-usa.com](http://www.smartflow-usa.com).



# VERSASWITCH™ LIMIT SWITCH



## General Description

Smartflow® Versaswitch™ Limit Switch installs into an injection mold to prevent premature movement of your machine components. By using the Versaswitch to indicate location of the core the switch prevents equipment damage. The Versaswitch limit switch also protects your profits by limiting downtime and loss of productivity.

The Versaswitch® Limit Switch 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 lockwasher and hex nut. SPDT snap action switch provides a simple, positive indication of the mold or core location.

## Features and Benefits

- **Over 1 million cycle life** provides long dependable service.
- **180°F (82°C) standard temperature rating** allows installation into most molding applications.
- **Adjustable operating point** provides custom installation.
- **In stock** to provide same-day delivery.
- **Stripped and tinned 6ft. wire leads** make the switch ready to install without modification.
- **Included mounting hardware** installs the Versaswitch limit switch easily.

## Specifications

Electrical.....	240VAC
	5 Amps Resistive
	3 Amps Inductive
Operating Temperature.....	180°F max. (82°C max.)
Switching.....	SPDT
Operating Force .....	3.5 lbs (1.605 kg)
Pre-travel to operating point.....	0.06" (1.5mm)
Overtravel.....	0.01" (.25mm)
Enclosure.....	Watertight per IP68S

## Materials

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

## Parts Included

Qty	Description
1	Versaswitch limit switch
1	Lockwasher
1	Nut

*The Versaswitch™ 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.*

*Design and specifications are subject to change without notice.*

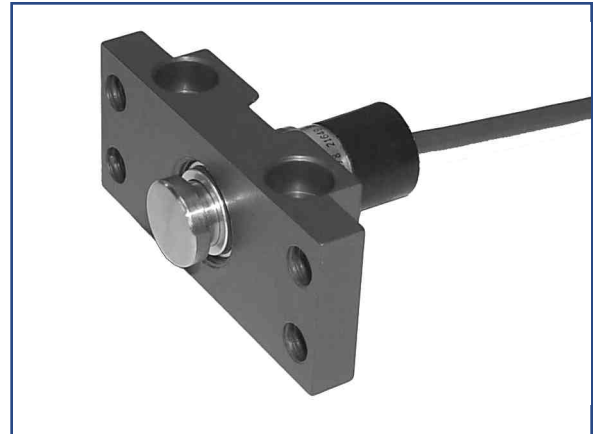
# SMARTFLOW<sup>®</sup> VERSASWITCH<sup>™</sup> LIMIT SWITCH

## Model Number

**V-222** Versaswitch Limit Switch  
(176°F / 80°C max.)

### Accessories

- P222** Twist lock electrical plug
- BCR-222** Electrical box, cover plate, and receptacle
- TAP-222** 5/8-24 NEF tap



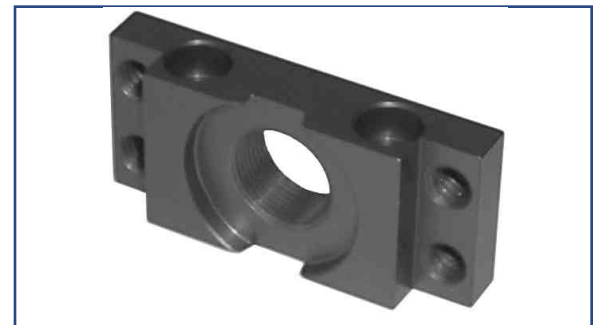
## VERSASWITCH<sup>™</sup> MOUNTING BRACKET

### General Description

The Versaswitch<sup>™</sup> mounting bracket attaches to a mold with conveniently-located, threaded holes. The red anodized finish provides effective corrosion-protection. The bracket is an essential accessory to the utilitarian Versaswitch limit switch.

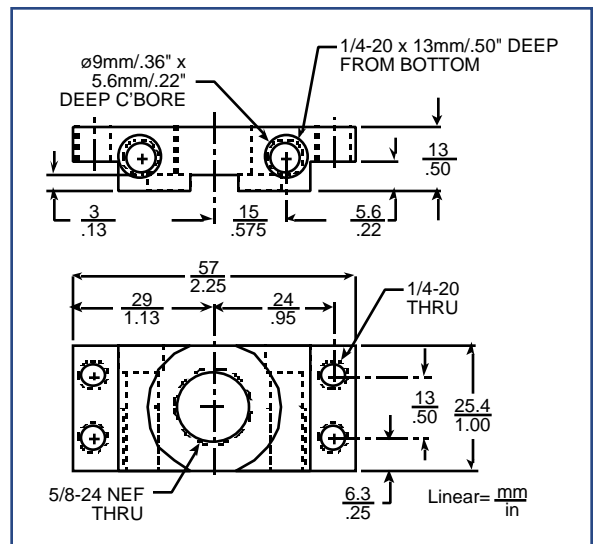
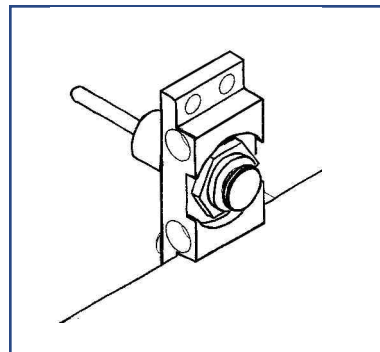
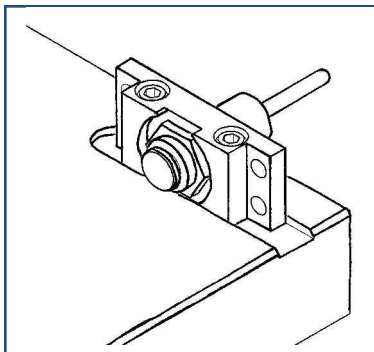
### Specifications

Material.....Aluminum (T606)  
Finish .....Red Anodize



### Model Number

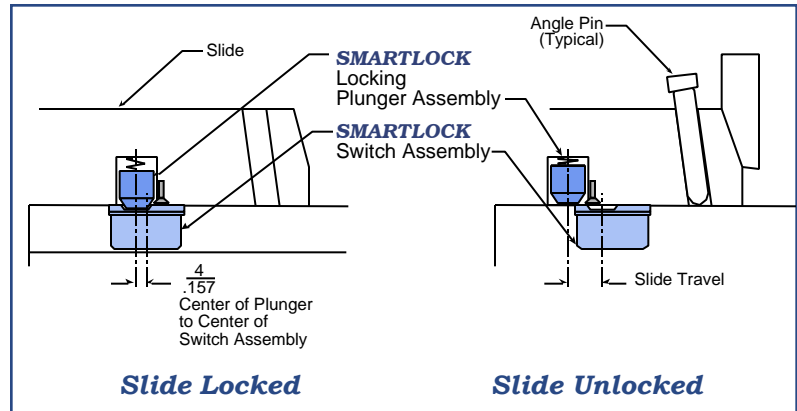
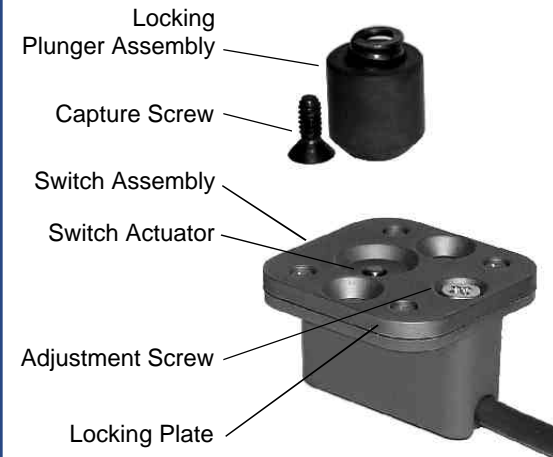
**VB-222**





# SMARTLOCK® SLIDE RETAINER AND LIMIT SWITCH

**U.S. Patent No. 6,126,429**



## General Description

Smartflow **SMARTLOCK** slide retainer and limit switch is designed for injection molders to provide switching and a slide detent in one unique package. The **SMARTLOCK** locking function prevents premature slide movement during molded part ejection while the SPDT switch is simultaneously actuated.

The **SMARTLOCK** slide retainer and limit switch has been tested for reliability over 10 million cycles without failure. Two or more switches may be used for larger molds, or molds with multiple slides. Increased safety and prevention of mold damage result when the **SMARTLOCK** slide retainer and limit switch is installed in a mold. A capture screw holds the plunger in the slide to prevent loss.

## Features and Benefits

- **Over 10 million cycle life** provides long dependable service.
- **17 - 27 pounds holding force**, adjustable
- **Capture screw** holds plunger in place to prevent loss.
- **175°F (79.4°C) standard temperature rating** allows installation into most molding applications.
- **250°F (121°C) high temperature unit** provides additional application flexibility.
- **Superior flush mount switch** is protected by mounting inside a milled pocket.
- **Stripped and tinned 6 ft. wire leads** make the switch ready to install without modification.

## Specifications

Break Away Force\*...17 to 27 lbs. (adjustable)  
 Electrical.....250VAC / 28VDC  
 .....4 Amps Inductive  
 .....5 Amps Resistive

See chart below for temperature effects on maximum current rating

### Operating Temperature

SL-222-CP.....175°F (79.4°C) max.  
 SL-291-CP.....250°F (121°C) max.  
 Switching.....SPDT

Rated Currents vs. Steel Temperature					
SL-222-CP			SL-291-CP		
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

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

## Materials

Switch Body .....Glass-reinforced nylon  
 Locking Plate.....Hardened Steel  
 Locking Plunger.....Hardened Steel  
 Wire Leads.....22ga stranded,  
 3-conductor, shielded cable,  
 6 ft. (1.8m) long,  
 ends stripped and tinned



# SMARTLOCK® SLIDE RETAINER AND LIMIT SWITCH

## Model Number

**SL-222-CP** SmartLock slide retainer and limit switch with captive plunger (175°F / 79.4°C max.)

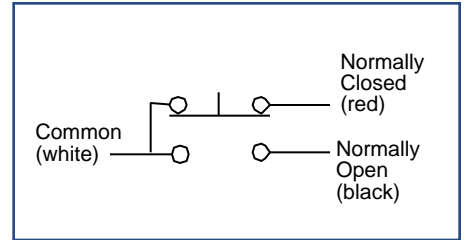
**SL-291-CP** High Temperature SmartLock slide retainer and limit switch with captive plunger (250°F / 121°C max.)

**Replacement switches with small plunger**  
(.44"/11mm dia)

**SL-222** SmartLock slide retainer and limit switch (175°F / 79.4°C max.)

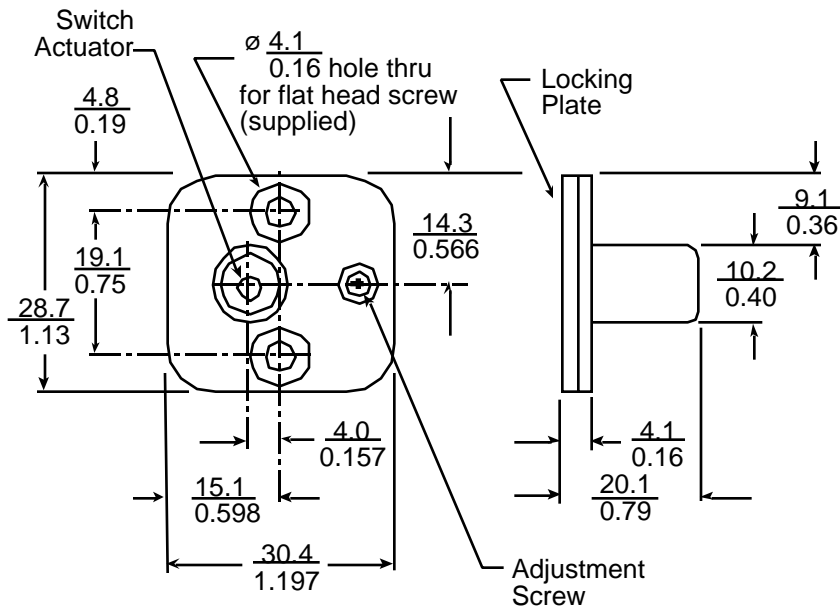
**SL-291** High Temperature SmartLock slide retainer and limit switch (250°F / 121°C max.)

## Schematic Diagram

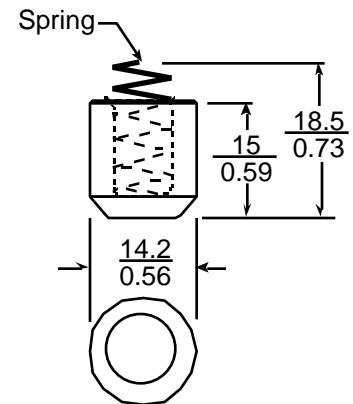


**SmartLock Slide Retainer and Limit Switch is stocked and ready for same-day shipment.**

## Dimensions: SL-222-CP and SL-291-CP



**Switch Assembly**



Linear =  $\frac{\text{mm}}{\text{inches}}$

**Locking Plunger Assembly**  
(capture screw not shown)

Parts shown actual size *Two and Three-Dimensional part files are available for download from our web site at [www.smartflow-usa.com](http://www.smartflow-usa.com).*