

# Here are ALL the Facts

## You Need to Know About Precision Snap-Action Switches



### Thumb Size

The Micro Switch is  $1 \frac{15}{16}$ " long,  $27/32$ " high,  $11/16$ " wide

### Feather Light:

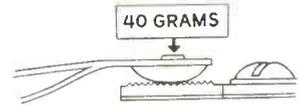


The Micro Switch gives you longer switch life than you will ever need — millions of operations

The Micro Switch assures you precise and accurate repeat operation



The Micro Switch gives you a normally closed contact pressure of 40 grams



### Lightning-fast contact action —

Contacts move from one position to the other in  $3/1000$  to  $5/1000$  of a second

The housing of the Micro Switch is Bakelite, moulded to high precision. The deep, box-like construction insures the rigidity necessary to accurate repeat performance for millions of operations over wide ranges of temperature. The electrical resistance of this housing (between the nearest live parts) has a minimum value of 10,000 megohms. The covers are made of vividly colored Plaskon and must meet the same precision requirements.

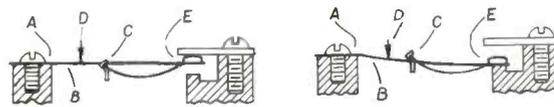


### SEND FOR THESE CATALOGS

Your up-to-the-minute engineers will thank you for keeping them informed about the Micro Switch. Send for as many of the Handbook-Catalogs illustrated here as you think necessary. No. 60 covers Micro Switches in general; and No. 70 deals with specific Micro Switches for use in aircraft.



### Here's the Operating Principle



The operating principle, as illustrated here, is simple and fundamentally correct. The long member of the one piece spring "B" is supported in a cantilever at "A". The two short members of the spring and the exact shape of the V's (patented) produces a bearing of such low friction that when the plunger at "D" deforms the long tension member, the cantilever force overcomes the vertical force supplied by the two compression members and the free or contact end of the spring "E" snaps from one stop to the other with lightning-fast speed. Reverse action occurs when the deformation of the tension members of the spring by plunger "D" is removed. The cantilever force then becomes less than the vertical force supplied by the compression members.

The Micro Switch spring is made in one piece of beryllium-copper. It is held to an accurately gauged thickness of .0085" and is heat treated to provide high resistance to fatigue. Every lot is under laboratory control to insure maximum flexure life—5,000,000 operations to full overtravel for

the minimum. The ends of the two compression members of the spring are especially finished to provide an extremely low friction bearing.

The short compression members of the spring pivot in the patented V-grooves of the sturdy brass anchor illustrated here. Note the special shape of these grooves. This shape, plus the specially finished edge of the compression members of the spring, reduce friction to a minimum.



The contact end of the spring is fitted with a riveted radius type contact of 99.95% fine silver. As the plunger is actuated, this contact moves from one position to the other in  $3/1000$  to  $5/1000$  of a second with a rolling action which minimizes the effects of welding. The stationary contact is a flat inlay of 99.95% fine silver. Its large area provides maximum heat dissipation.



The operating plunger consists of a highly polished, stainless steel pin set into an accurately moulded star-shaped Bakelite head. Its size and form provide a long over-surface path to live parts, thus insuring freedom from electrical leakage. The star-shaped plunger head cannot rotate within the housing, insuring against any large variation in point of operation. The Bakelite head comes to rest against the anchor within .020" after actuation occurs, thus preventing excessive overtravel, and insuring maximum spring life.

Micro Switch is a trade name indicating manufacture by Micro Switch Corporation

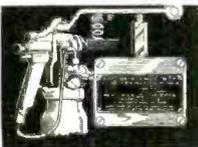
# MICRO SWITCH

Manufactured in FREEPORT, Illinois by Micro Switch Corporation

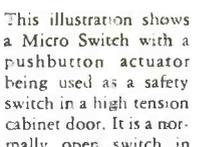
Branches: 43 East Ohio St., Chicago • 11 Park Place, New York City • Sales and Engineering Offices: Boston, Hartford, Los Angeles

Claims of better performance are meaningless unless they are verified by actual data regarding what actually happens. The Micro Switch is accurately built to exact standards from precisely made parts. Details regarding this precision and accuracy are set forth on this page. Study the operating principle of the Micro Switch and you will understand why it will give you longer life than you will ever need... why it will operate precisely at the same point time after time... how it gives you greater contact pressure and faster contact action. The Micro Switch is listed by Underwriters' Laboratories with ratings of 1200 V.A. loads, from 125 to 600 Volts A.C.

### How and For What Micro Switches Are Used



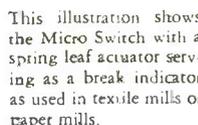
This shows an explosion proof Micro Switch used with a spray gun which automatically cuts out the entire operation of the spraying booth when the gun is shut off



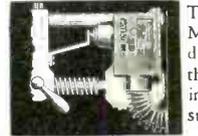
This illustration shows a Micro Switch with a pushbutton actuator being used as a safety switch in a high tension cabinet door. It is a normally open switch in which the circuit is opened as the door is opened



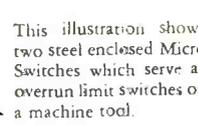
This illustration shows the use of two Micro Switches with spring type plungers to insure safe positioning of material in a punch press or a similar tool.



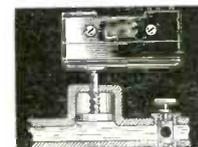
This illustration shows the Micro Switch with a spring leaf actuator serving as a break indicator as used in textile mills or paper mills.



This illustration shows a Micro Switch enclosed in a die cast housing with a synthetic rubber seal, and is being used as a lathe carriage stop.



This illustration shows two steel enclosed Micro Switches which serve as overrun limit switches on a machine tool.



This illustration shows use of a Micro Switch with a spring plunger which is actuated by the pressure of a liquid in a line as the actuating medium.