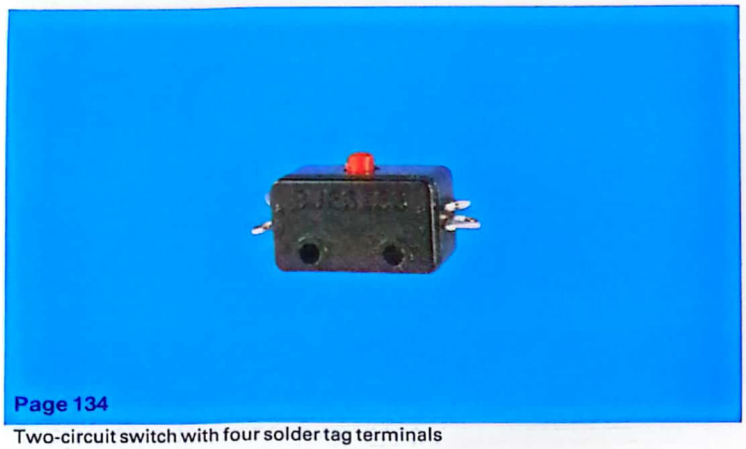
Burgess

Miniature Double-Break Switches

Moulded-cased, two- and four-circuit, changeover switches which open or close the conductors at two points. True bi-stability and positive snap-action are important features. The switches have plunger actuators which may be used alone or with auxiliary lever actuators.



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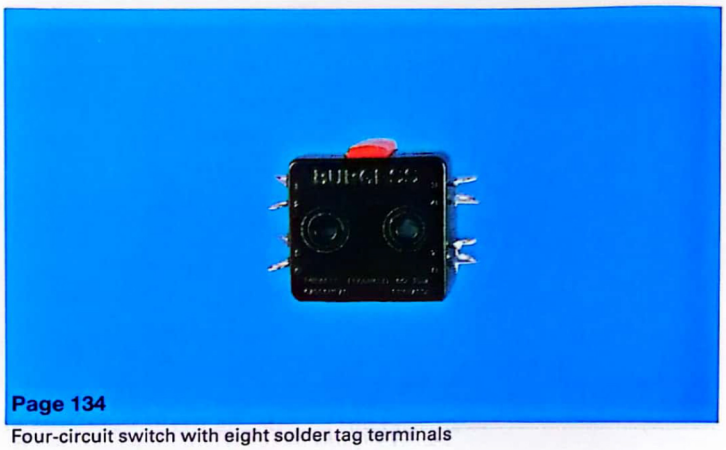
Two-circuit switch with four solder tag terminals



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Four-circuit switch with eight solder tag terminals

The above switches are described individually on the page indicated.
Suitable Auxiliary Actuators are listed on the same page.

Construction

Mechanism
The two-circuit switch derives its efficiency from the use of two pivoted contact carrying arms controlled by a coil spring. Four-circuit units have two such mechanisms linked by a glass rod. Reliable bi-stability and rapid changeover are features which last through the long mechanical life of the switches. Contacts are silver. All models may be used for normally open only or normally closed only working by selecting the appropriate terminals.

Enclosure
Both types of switch are encased in strong plastic mouldings.

Actuators
Integral plungers are in plastic. The optional auxiliary actuators are in stainless steel, one of them having a plastic roller.

Terminals
Suitable for solder connections. They are arranged in groups at each end of the switch, and are staggered to provide maximum working space.

Electrical Ratings

Ratings are in amperes and in all cases are recommended maxima. Current values have been assessed on the basis that each mechanism is used to switch only one load, either on its normally open or normally closed contacts. When two-circuits per mechanism are switched the same current values on AC may be used but on resistive and inductive DC loads the smaller values shown in brackets should be used.

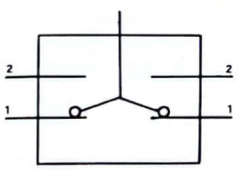
Voltage	Resistive Load	Tungsten Lamp Load	Inductive Load
AC			
125	10	1	15
250	5	0.5	5
DC			
Up to 15	10	3	10
30	5	3	5(3)
50	5(1)	3	2(1)
75	2(0.75)	2	1(0.25)
125	1.5(0.5)	1.5	0.5(0.03)
250	0.5(0.25)	0.4	0.25(0.02)

Installation and Service

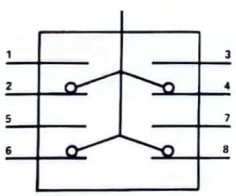
Mounting
Two holes are provided for side-mounting the switch to a flat, smooth surface. Suitable screws are M2 or #2.

Diagram of Connections

Two-Circuit Switch



Four-Circuit Switch



Both diagrams indicate the 'at rest' position of the switch.

Environmental Data
Terminals are exposed and require protection if they are accessible to the operator. Use Burgess warning labels to draw attention to the danger of live metal. The mechanism is enclosed to IEC Code IP40. Recommended continuous working temperature limits are −10° and +85°C.

Service
The switches are not user maintainable but a common-sense surveillance routine will ensure satisfaction throughout their lives. Check regularly for cleanliness, mounting security and wear on the actuating medium.

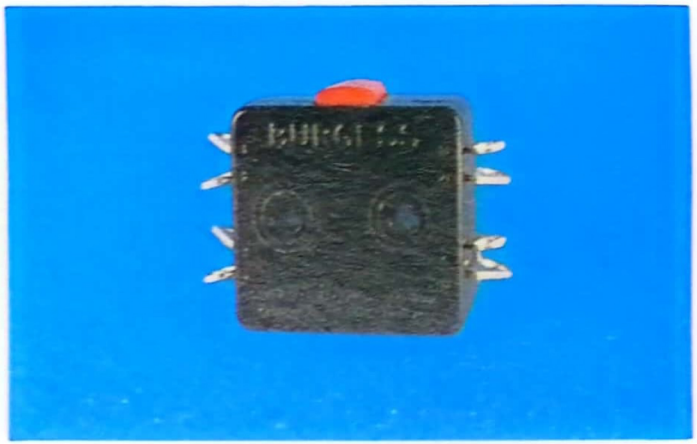
Approvals

The four-circuit switch is approved by CSA and UL.

Cross References

FK series sub-miniature double-break switches – pages 33 and 91-93.
Standard size double-break switches – pages 55 and 157-158.
Push button switching units using double-break switches – pages 177-183.

M1



Actuator Plain plunger. Suitable lever auxiliary actuators are available – see below

Mechanism Four-circuit, double-break. Changeover on both pairs of circuits occurs virtually simultaneously

Terminals	Eight solder tags	
Electrical Rating	Recommended maxima 10A on 125, 5A on 250 Vac. Full ratings on page 44	
Free Position (max)	10.4 mm	0.41 in
Operating Position	9.32 ±0.25 mm	0.37 in
Movement Differential (max)	0.76 mm	0.03 in
Available Overtravel	Depress to case	
Actuating Force (max)	5.6 N	20 ozf
Release Force (min)	0.6 N	2 ozf
Mechanical Life	1 million operations minimum	
Enclosure	Mechanism only: IP40 Exposed terminals	
Temperature	−10° to +85°C	
Weight	6 g max	
Approvals*	CSA and UL	

This model and similar double-break miniature switches are described in detail on page 44