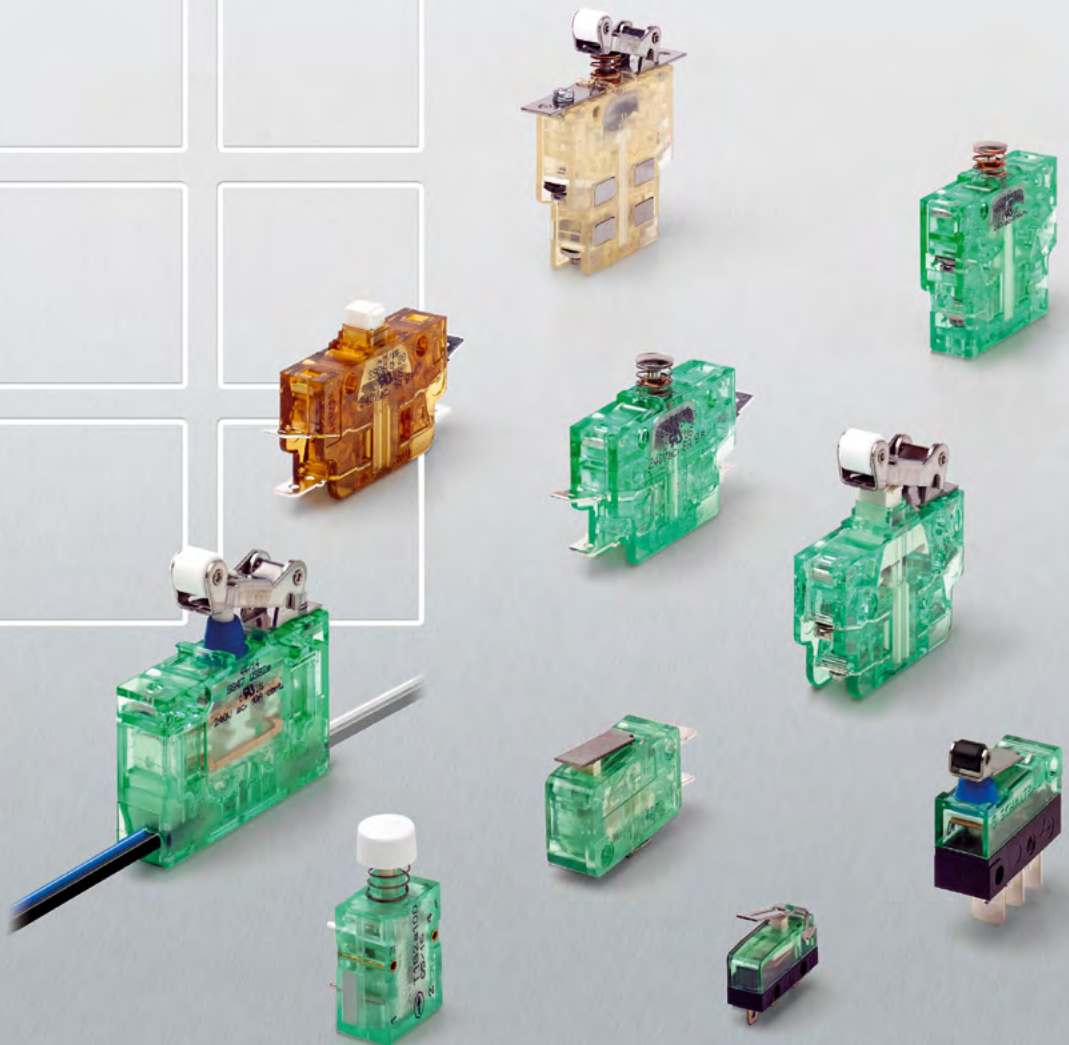
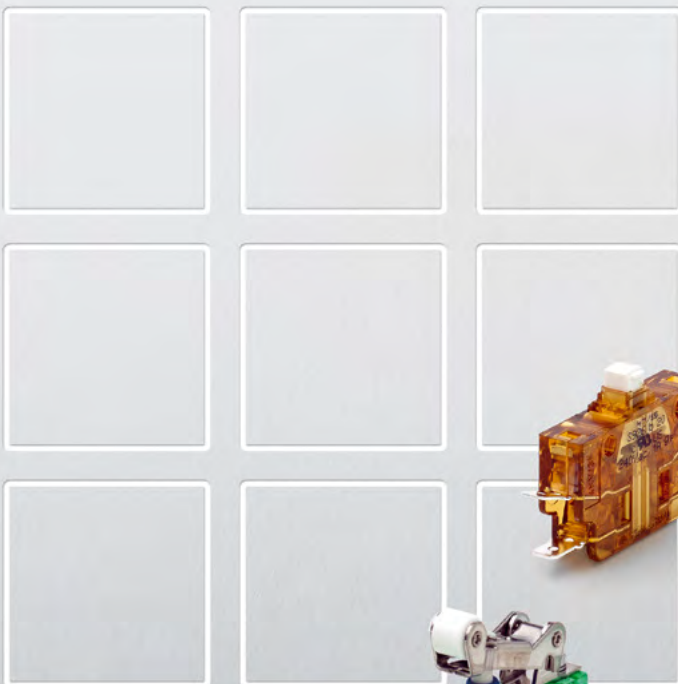


2

Brochure | Snap-Action Switches



More information here:
schaltbau-gmbh.com

A full-page background image showing two divers underwater. The divers are silhouetted against a bright blue background with sunlight rays filtering through the water. Bubbles are visible around the divers. The diver in the foreground is lower and more horizontal, while the second diver is above and more vertical.

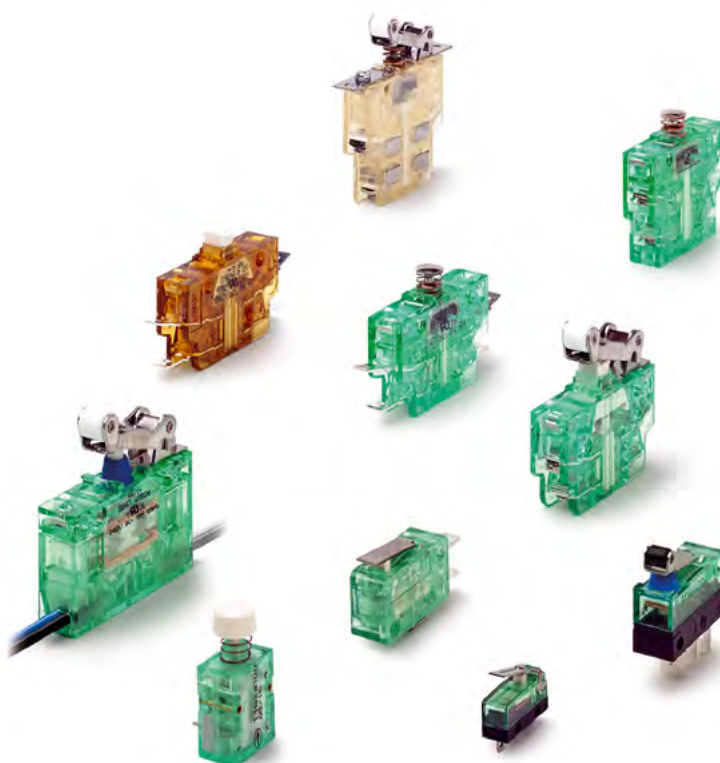
WE GUARANTEE DOUBLE SAFETY

According to the internationally accepted rules of scuba diving it is not allowed for safety reasons to dive without a buddy (second diver). Likewise, Schaltbau has developed such a buddy for the micro switch since 1975: a snap-action switch with double-break contacts and positive opening operation, which guarantees that the contacts will open, even when they have become welded together or the spring of the snap mechanism has broken.

So there is a reliable alternative to the micro switch – the switch with double safety from Schaltbau.

SNAP-ACTION SWITCHES

Featuring double-break contacts and positive opening operation, snap-action switches from Schaltbau have proven for 40 years to be the ideal components for fail-safe systems. Both a high breaking capacity and up to 10 million operating cycles provide solid reasons to make Schaltbau switches the components of choice for realising the functional safety of machines and systems.



Glossary :: Snap-action switches

Snap-action switch a switch with snap-action mechanism which is directly operated by a defined force through a defined travel. The resulting indirect contacting action may be such that the speed of the contacting is independent of the speed of the actuation. [IEV 581-10-03]

Contact elements are classified as follows:

Form A SPST-NO

Single gap contact element with 2 terminals.

Form B SPST-NC

Single gap contact element with 2 terminals.

Form X SPST-DB-NO

Double gap contact element with 2 terminals.

Form Y SPST-DB-NC

Double gap contact element with 2 terminals.

Form C SPDT

Single gap changeover contact element with 3 terminals.

Form Za SPDT-DB

Double gap changeover contact element with 4 terminals. The contacts have the same polarity.

Form Zb SPDT-DB

Double gap changeover contact element with 4 terminals. The two moving contacts are electrically separated.



Actuator positions

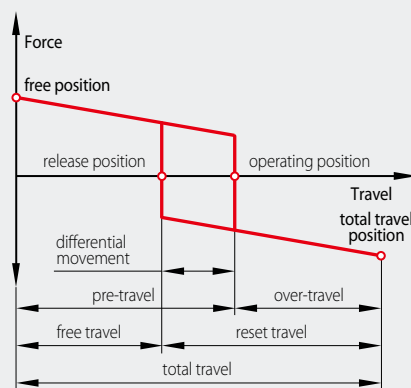
Free position here the actuator is free from any external application of force

Operating position the point of travel at which the snap action is triggered by the actuator

Total travel position the position where the actuator has reached the end of its travel

Release position the point of travel at which the returning actuator releases the snap mechanism in order to revert to its normal position

Contact force travel diagram of a snap-action switch



Pre-travel maximum actuator travel between free position and operating position during which there is no movement of the contact elements

Over-travel path of the actuator between the operating position and total travel position after all contact elements have reached their ON/OFF position. To ensure failsafe switching, at least 50% of the distance should be covered by the actuator

Reset travel path of the returning actuator between total travel position and release position during which the snap mechanism has not yet snapped back to its original position

Free travel path of the returning actuator between release position and free position after the snap mechanism has reverted to its original position

Total travel the total of either pre-travel and over-travel, or reset travel and free travel

Differential movement the difference between operating position and release position

Positive opening operation an opening operation which, in accordance with specified requirements, ensures that all the main contacts are in the open position when the actuator is in the position corresponding to the open position of the device [IEV 441-16-11].











To ensure the proper working of the positive opening operation it is necessary to depress the plunger to the point of total positive opening travel. However, it must not be pressed beyond total travel position.

Utilization categories The utilization categories listed in the below table relate to the most frequent applications by which the contact elements can also be classified:

Current	Utilization category for silver contacts*	Typical applications
AC	AC-12	Control of resistive and semiconductor loads in input circuits of optocouplers
	AC-13	Control of semiconductor loads with transformer disconnection
	AC-14	Control of low electromagnetic loads (≤ 72 VA)
	AC-15	Control of electromagnetic loads (> 72 VA)
DC	DC-12	Control of resistive and semiconductor loads in input circuits of optocouplers
	DC-13	Control of electromagnetic loads
	DC-14	ditto with economy resistors in the circuit

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SPECIFICATIONS :: SNAP-ACTION SWITCHES

Series ▶	S800	S804 / S814	S820	S826 / NEW S926	S834	S840	S847	S850	S870 / NEW S970	S880
Contact material	Silver / Gold	Silver / Gold	Silver	Silver / Gold	Silver	Silver / Gold	Silver / Gold	Silver / Gold	Silver / Gold	Silver / Gold
Positive opening operation *1	→	→ S804	→	→	→	→	→	→	→	→
Wiping contacts	---	✓ S804	---	✓	✓	✓	✓	✓	✓	✓
Circuit diagram										
Contact configuration	Form Za	Form Za	Form Zb *2	Form Zb *2	Enabling switch	Form C	Form Zb *2	Double NC contacts	Form C	Form C
Actuator										
Push button	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plain lever	---	---	---	---	---	✓	---	---	✓	✓
Roller lever	✓	---	✓	✓	---	✓	✓	✓	✓	✓
Sim. roller	---	---	---	---	---	---	---	---	---	---
Terminals										
Flat tabs	✓	✓	✓	✓	---	✓	✓	✓	✓	---
Screws	✓	✓	✓	✓	---	---	---	---	---	---
Leads	---	---	---	---	---	---	---	---	---	---
Cable	---	---	---	---	---	---	---	---	---	---
Solder pins	---	---	---	✓	✓	✓	---	---	✓	✓
Lugs	---	---	---	---	---	---	---	---	---	---
Magnetic blowout	✓	---	✓	✓	---	---	✓	✓	---	---
Flammability rating	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0	UL 94V-0
Description	Page 6	Page 6	Page 8	Page 7	Page 8	Page 9	Page 9	Page 11	Page 10	Page 11

*1 Positive opening operation according to IEC 60947-5-1, Annex K

*2 Form Z circuitry SPDT-DB, galvanically isolated



Schaltbau GmbH manufactures in compliance with RoHS.



The production facilities of Schaltbau GmbH have been IRIS certified since 2008.



Certified to DIN EN ISO 14001 since 2002. For the most recent certificate visit our website.

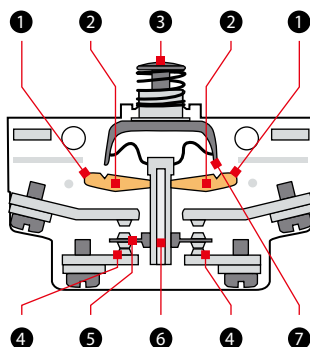


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Positive opening operation

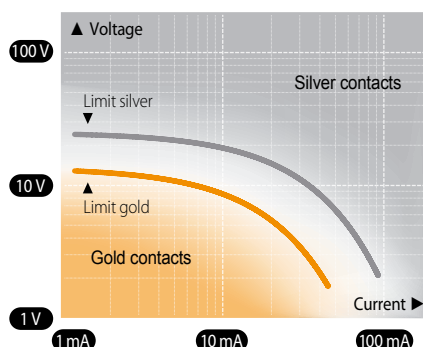
The movement of the positive opening levers 1 at pivot point 2 causes plunger 6 to move upwards, resulting in the forced disconnection of contact bridge 5 from the NC contacts 4. The actuating force is thereby handed down in the following way:

1. via the tips 7 of actuator (pushbutton) 3 onto the positive opening levers 1 and
2. the actuating force is then being transferred to the plunger 6 via pivot point 2 to contact bridge 5, which is supported by the plunger 6.
3. Interruption of the circuit by the positive transmission of force from the actuator 3 onto the contact bridge 5.



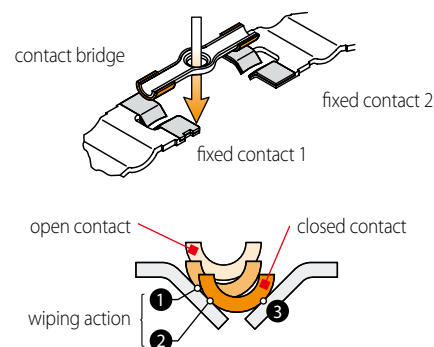
Silver or gold contacts

Silver contacts feature high electrical conductivity. That is why they are to be found in most snap-action switches used for standard applications with normal switching capacity. Whereas gold contacts are especially suited for use in the low-voltage range up to 12 V and current ratings up to 50 mA max. Unlike silver contacts, gold contacts are extremely resistant to ageing and corrosion. Consequently, they have a consistently low contact resistance which makes them the first choice for applications with long periods of machine downtime or where sulphurous gases emerge.



Wiping double-break contacts

The contact bridge is loosely supported by the plunger inside the switch and initially meets the V-shaped fixed contacts at one point only (position 1) before it is straightened between them by the coaxial pressure of the snap spring. The contact bridge thereby slides from position 1 to position 2 and creates a defined friction. During each operation this wiping action results in self-cleaning of the contacts on one side. In the total travel position the contact is closed on either side of the V-shaped fixed contact (at 2 and 3).



NEW Better

Resistance to

- ▶ temperature
- ▶ chemicals
- ▶ impact



Variants for extreme conditions

For applications characterized by harsh environmental conditions Schaltbau GmbH has developed some special variants.

The S926 and S970 Series switches have a ruggedised housing made from polyetherimide (PEI). The high-performance thermoplastic used as housing material stands for better resistance to:

- temperature (from -55 °C to +150 °C, dependent on version)
- chemicals (e.g. acids and alkalis)
- impact (PEI more resistant than PC)

The amber, transparent switches are ideally suited for applications where impact forces are high and/or frequent as well as for use in products that are exposed to strong chemicals and the extremes of temperature.

The 9xx Series switches have the same design, dimensions and technical features as the switches of the standard S8xx series, allowing for the easy replacement of a standard switch without additional implementation effort. So upgrading will be no problem.

SNAP-ACTION SWITCHES :: SPECIFICATIONS

Schaltbau snap-action switches

Snap-action switches are designed with a snap mechanism that allows extremely fast switching, practically regardless of the duration of actuation. This makes the operating position precisely reproducible and controls the arc more efficiently. Snap-action switches from Schaltbau are designed for industrial applications that place high demands on the reliability of both components and systems. They can switch both control currents and loads reliably and precisely. They are capable of doing so up to 10 million times, depending on the series.

- Double-break contacts
- High electrical switching capacity
- High changeover speed
- Short bounce times
- Snap system and contact system decoupled
- Wiping, self-cleaning contacts
- Long life
- Pos. opening operation, IEC 60947-5-1 Annex K
- Versions with ingress protection rating IP67
- High resistance to shock and vibration



Series S800

Snap-action switches with positive opening operation

Schaltbau S800 Series snap-action switches have been in use for decades and proved their reliability in innumerable applications.

They feature double-break contacts, snap-action mechanism and positive opening operation which ensures a forced breaking of the normally closed contacts in case of spring failure or contact welding due to a short-circuit. This makes them ideally suited for use in safety related applications.

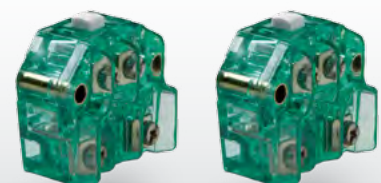


Series S804

Snap-action switches with positive opening operation

S804 Series switches add to the product line featuring the same snap-action mechanism and positive opening operation as the S800 Series switches.

They differ, however, in form, dimensions and position of the screw-type terminals. For these reasons, unlike S800 Series snap-action switches, S804 Series switches are not suited for use with a blowout device.



Series S814

Snap-action switch with plunger running full-length through the switch

Unlike series S800 and S804, Schaltbau's S814 Series snap-action switches do not feature positive opening operation.

They normally come with silver-plated contacts, but are also available with gold contacts. Due to an actuator running straight through the switch, it is possible to connect two snap-action switches in series - one on top of the other. Thus two switching operations can be triggered by just one actuation.

FEATURES

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-6, type F
- Degree of protection IP40, IEC 60529
- High electrical rating due to solid contact bridge
- Contact material: silver or gold-plated silver
- High resistance to shock and vibration
- Magnetic blowout, optional

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Degree of protection IP40 according to IEC 60529
- High electrical rating due to solid contact bridge
- High resistance to shock and vibration

- Performance according to IEC 60947-5-1
- Degree of protection IP40 according to IEC 60529
- High electrical rating due to solid contact bridge
- Contact material: hard silver or gold alloy
- High resistance to shock and vibration
- Wiping, self-cleaning contacts

SPECIFICATIONS

Series ▶	S800	S804	S814
Conventional thermal current I_{th}	10 A	10 A	10 A
Utilization category for silver contacts*	AC-15 230 V / 3 A DC-13 110 V / 1 A	AC-15 230 V / 3 A DC-13 110 V / 1 A	AC-15 230 V / 1 A DC-13 60 V / 0.5 A
Rated impulse withstand voltage U_{imp}	4 kV / PD3	4 kV / PD3	2.5 kV / PD3
Degree of protection	IP40	IP40	IP40
Actuating force	3.3 N	3.3 N	3.2 N
Actuator travel	3.2 mm	3.2 mm	2.0 mm
Mechanical endurance	10 million cycles	10 million cycles	10 million cycles
Ambient temperature	-40° C ... +85° C	-40° C ... +85° C	-40° C ... +85° C
Dimensions (L x H x D) in mm	50 x 28 x 12	36 x 30 x 22	36 x 31 x 22
Weight without leads	20 g	25 g	26 g

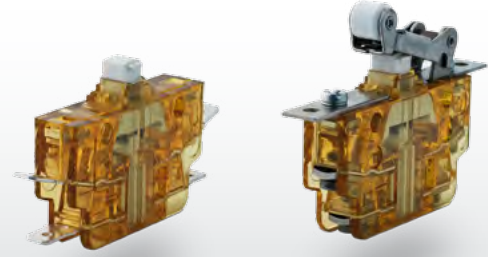


Series S826

Switches with positive opening operation and wiping double-break contacts

S826 Series switches feature galvanically isolated contact bridges that make it possible to control two separate load circuits with independent voltage levels at the same time. This makes them ideally suited for automation tasks with separate electric loads.

The wiping, double-break contacts ensure high reliability even at low electrical loads. Switches with gold contacts are particularly suitable for low currents and voltages.



NEW Series S926

Variant with ruggedised housing made from polyetherimide (PEI)

Thanks to the high-performance thermoplastic used as housing material, S926 Series snap-action switches feature both a better resistance to temperature and chemicals as well as a higher impact resistance compared to polycarbonate (PC).

They are ideally suited for applications characterized by harsh environmental conditions. Sharing the same design as the S826 switches, they can easily replace a standard switch without additional implementation effort.

FEATURES

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-6, type F
- Degree of protection IP40, IEC 60529
- Wiping, double-break contacts
- Form Z SPDT-DB, galvanically isolated
- Contact material: hard silver or gold alloy
- Magnetic blowout, optional

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-6, type F
- Degree of protection IP40, IEC 60529
- Wiping, double-break contacts
- Form Z SPDT-DB, galvanically isolated
- Contact material: hard silver or gold alloy
- Magnetic blowout, optional

SPECIFICATIONS

S826	I	S926
10 A		10 A
AC-15 230 V / 1 A DC-13 110 V / 0.5 A		AC-15 230 V / 1 A DC-13 110 V / 0.5 A
4 kV / PD3		4 kV / PD3
IP40		IP40
3.6 N		3.6 N
3.2 mm		3.2 mm
10 million cycles		10 million cycles
-40° C ... +85° C		-55° C ... +85° C**
50 x 28.5 x 12		50 x 28.5 x 12
20 ... 40 g		20 ... 40 g

* Data for gold contacts upon request

** Up to +105° C, dependent on version

◀ Series
Conventional thermal current I_{th}
Utilization category for silver contacts*
Rated impulse withstand voltage U_{imp}
Degree of protection
Actuating force
Actuator travel
Mechanical endurance
Ambient temperature
Dimensions (L x H x D) in mm
Weight without leads



Series S820

Snap-action switches with enhanced current-carrying capacity

S820 switches add a more ruggedised design to the well proven standard snap-action switches with positive opening operation, featuring a current-carrying capacity which is twice as high ($I_{th} = 20 \text{ A}$). Consequently, the switch should only be used for higher loads.

The S820 Series switch is a Form Z circuitry SPDT-DB. Its two mechanically linked rigid contact bridges are electrically separated, making it especially suited for use in automation applications where the simultaneous handling of two separate load circuits is required.



Series S834

Enabling switches for manual control units of industrial robots

The S834 enabling switch is typically used in automatic handling machines and robotics. When installed in such devices, the S834 greatly increases safety to the operator in the working area.

During operation of the machine the enabling switch must be held in the working position to maintain closure of the circuit. In case of emergency, the operator merely has to release the pressure on the button for the machine to stop immediately. The same is true for panic reaction, where the increased application of pressure will stop the machine.

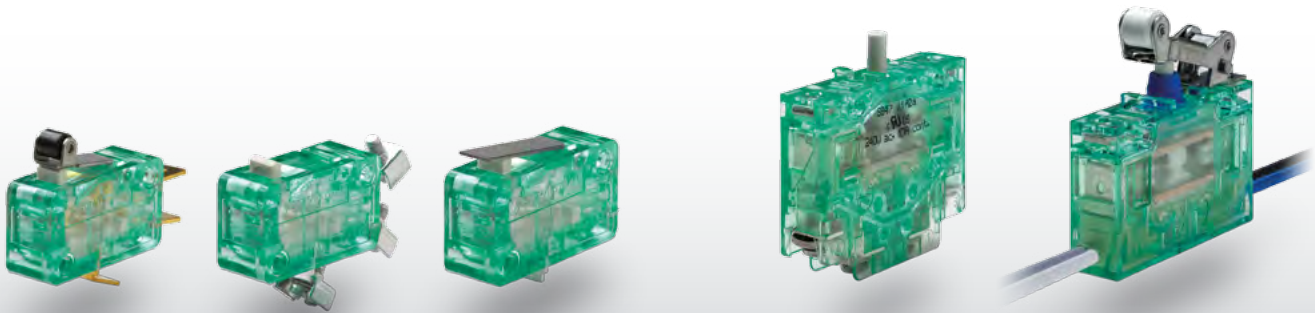
FEATURES

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K,
- Dimensions according to DIN 41636-6, type F
- Degree of protection IP40 according to IEC 60529
- High electrical rating due to rigid contact bridge
- Form Z circuitry SPDT-DB, galvanically isolated
- Contact material: hard silver
- High resistance to shock and vibration
- Long overtravel

- Performance following IEC 60947-5-1
- 3 position switch OFF - ON - OFF
- Positive opening operation following IEC 60947-5-1 Annex K
- Return to rest position guaranteed even after spring failure
- Long overtravel after positive opening operation
- Degree of protection IP50, IEC 60529
- Wiping, self-cleaning contacts
- Contact material: hard silver

SPECIFICATIONS

Series ▶	S820	S834
Conventional thermal current I_{th}	20 A	2.5 A
Utilization category for silver contacts	AC-15 230 V / 5 A DC-13 110 V / 1 A	DC-12 48 V / 1 A DC-13 48 V / 0.3 A
Rated impulse withstand voltage U_{imp}	4 kV / PD3	1.5 kV / PD1
Degree of protection	IP40	IP50
Actuating force	8.0 N	3 ... 5 N
Actuator travel	4.0 mm	6 mm
Mechanical endurance	2 million cycles	300,000 cycles
Ambient temperature	-40° C ... +85° C	0° C ... +55° C
Dimensions (L x H x D) in mm	50 x 45 x 12	16.5 x 22.5 x 10.4
Weight without leads	47 g	4.1 g



Series S840

Single-break snap-action switches with positive opening operation and self-cleaning contacts

S840 Series snap-action switches feature VDE-approved positive opening operation, which guarantees a reliable opening of the NC contact even when welded due to a short-circuit or overload current. Self-cleaning, wiping contacts ensure high reliability even at low electric loads. The snap mechanism allows for fast and precise switching at a speed essentially independent of the actuator speed.

S845 and S846 Series switches are SPST versions with NC and NO contacts respectively.

Series S847

Snap-action switches with positive opening operation and self-cleaning double-break contacts

S847 Series snap-action switches in modular design are available with three degrees of protection according to IEC 60529: IP40 (protected against solid particles), IP60 (dustproof), and IP67 (waterproof).

Due to their self-cleaning double-break contacts as well as protection against dust, moisture and pollutants, S847 series switches are highly reliable even at low contact ratings. The switches are therefore also often used for handling low currents and voltages.

FEATURES

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-2, type A
- Degree of protection IP40 according to IEC 60529
- Wiping, self-cleaning contacts
- Contact material: hard silver or gold alloy

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-6, type F
- Degree of protection: contacts IP40, IP60, IP67, terminals IP00 according to IEC 60529
- Self-cleaning, double-break contacts
- Form Z circuitry SPDT-DB, galvanically isolated
- Contact material: Hard silver or gold alloy
- Long overtravel after positive opening operation
- Magnetic blowout, optional

SPECIFICATIONS

S840	I			S847
6 A				10 A
AC-15 230 V / 1.5 A				AC-15 230 V / 1.5 A
---				DC-13 110 V / 1 A
2.5 kV / PD3	4 kV / PD3	4 kV / PD3	4 kV / PD3	4 kV / PD3
IP40	IP40	IP60	IP67	IP67
2.4 N	3 N	3 N	3 N	3 N
2.5 mm	4.9 mm	4.9 mm	4.9 mm	4.9 mm
10 million cycles	10 million	5 million	5 million	5 million
-40°C ... +85°C	-40°C ... +85°C	-40°C ... +85°C	-20°C ... +85°C	-20°C ... +85°C
30 x 16.5 x 10.3				50 x 36 x 12
9 ... 15 g				20 ... 40 g

Series
Conventional thermal current I_{th}
Utilization category for silver contacts*
Rated impulse withstand voltage U_{imp}
Degree of protection
Actuating force
Actuator travel
Mechanical endurance
Ambient temperature
Dimensions (L x H x D) in mm
Weight without leads

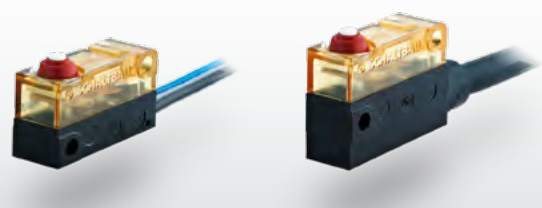
* Data for gold contacts upon request



Series S870

Snap-action switches with positive opening operation and self-cleaning contacts

Self-cleaning contacts and protection against dust, humidity and polluting agents allow high reliability even at low contact load. In telecommunications and automation the S870 is used for switching low voltages and currents. Its compact dimensions, protection class up to IP67 and special variants, e.g. with pre-assembled cable, make this switch suitable for a wide range of applications.



NEW Series S970

Variant with ruggedised housing made from polyetherimide (PEI)

Thanks to the high-performance thermoplastic used as housing material, S970 Series snap-action switches feature both a higher resistance to temperature and chemicals as well as a higher impact resistance compared to polycarbonate (PC).

They are ideally suited for applications characterized by harsh environmental conditions. Sharing the same design as the S870 Series switches, they can easily replace a standard switch without additional implementation effort.

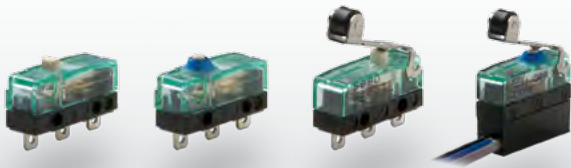
FEATURES

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-2, type A
- Degree of protection: contacts IP40, IP60, IP67, terminals IP00, IP20B, IP67 according to IEC 60529
- Wiping, self-cleaning contacts
- Contact material: hard silver or gold alloy
- High resistance to shock and vibration

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Dimensions according to DIN 41636-2, type A
- Degree of protection: contacts IP40, IP60, IP67, terminals IP00, IP20B, IP67 according to IEC 60529
- Wiping, self-cleaning contacts
- Contact material: hard silver or gold alloy
- High resistance to shock and vibration

SPECIFICATIONS

Series ▶	S870			S970		
Conventional thermal current I_{th}	10 A			10 A		
Utilization category for silver contacts*	AC-15 230 V / 1.5 A DC-13 60 V / 0.5 A			AC-15 230 V / 1.5 A DC-13 60 V / 0.5 A		
Rated impulse withstand voltage U_{imp}	4 kV / PD3			4 kV / PD3		
Degree of protection	IP40	IP60	IP67	IP40	IP60	IP67
Actuating force	2.4 N	3 N	3 N	2.4 N	3 N	3 N
Actuator travel	3 mm	3 mm	3 mm	3 mm	3 mm	3 mm
Mechanical endurance	10 million	5 million	5 million	10 million	5 million	5 million
Ambient temperature	-40°C ... +85°C	-40°C ... +85°C	-20°C ... +85°C	-55°C ... +150°C	-55°C ... +150°C**	-40°C ... +120°C***
Dimensions (L x H x D) in mm	30 x 16 x 10.5			30 x 16 x 10.5		
Weight without leads	10 g			10 g		



Series S880

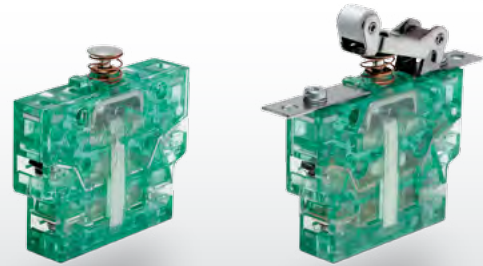
The world's smallest snap switch with positive opening operation

Schaltbau subminiature S880 snap-action switches feature both wiping, self-cleaning contacts as well as a positive opening function.

Minimum size in combination with maximum reliability make this V4 snap-action switch ideally suited for a host of applications such as a safety limit switch in medical engineering or limit switch for machine, door and system control projects or in the driver's consoles of locomotives.

Self-cleaning contacts and IP60/IP67 protection against dust, humidity and pollutants all contribute to the high reliability of the switch, even at low currents.

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K,
- Dimensions to DIN 41636-3, type B (V4 subminiature switch)
- Degree of protection: contacts IP40, IP60, IP67, terminals IP00, IP67 according to IEC 60529
- Wiping, self-cleaning contacts
- Contact material: hard silver or gold alloy
- Snap mechanism highly resistant to shock and vibration



Series S850

Snap-action switches with double NC contacts Two safety switches in one housing

To meet the safety requirements of the Machinery Directive ISO 13849-1:2006, it is necessary that the safety-related parts of control systems for machines and plants are designed to be fully redundant.

With the S850 switch Schaltbau offers a favourably priced solution for designers of control systems who want to step up the safety level without the need to invest in additional hardware, installation and programming of equipment.

Typical applications for the S850 are components and systems that require maximum reliability and safety such as door controls in trains, off-track and pull cord switches, cranes and lifts.

- Performance according to IEC 60947-5-1
- Positive opening operation, IEC 60947-5-1 Annex K
- Double NC contacts: safety switch featuring two galvanically isolated circuits in one housing. Used for applications complying with ISO 13849-1.
- Dimensions according to DIN 41636-6, type F
- Degree of protection: contacts IP40, terminals IP20 according to IEC 60529
- Self-cleaning, double-break contacts
- Contact material: hard silver or gold alloy
- Magnetic blowout, optional

FEATURES

SPECIFICATIONS

S880			I	S850
6 A				10 A
AC-15 230 V / 1 A DC-13 60 V / 0.5 A				AC-15 230 V / 1.5 A DC-13 24 V / 1.5 A
2.5 kV / PD3				4 kV / PD3
IP40	IP60	IP67		IP40
2 N	2 N	2 N		1,2 N
1.95 mm	1.95 mm	1.95 mm		3,2 mm
1.5 million cycles				1.5 million cycles
-40°C ... +85°C	-40°C ... +85°C	-20°C ... +85°C		-55°C ... +85°C
19.95 x 9.3 x 6.55	19.95 x 9.3 x 6.55	19.95 x 14.9 x 6.55		50.2 x 38 x 12
1.5 g				30 g

Series
Conventional thermal current I_{th}
Utilization category for silver contacts*
Rated impulse withstand voltage U_{imp}
Degree of protection
Actuating force
Actuator travel
Mechanical endurance
Ambient temperature
Dimensions (L x H x D) in mm
Weight without leads

* Data for gold contacts upon request

Schaltbau GmbH

For detailed information on our products and services visit our website – or give us a call!

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with compliments:

Electrical Components and Systems for Railway Engineering and Industrial Applications



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- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements



Snap-action switches

- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements



Contactors

- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency disconnect switches
- Special contactors to suit customer requirements



Electrics for rolling stock

- Equipment for driver's cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements

We reserve the right to make technical alterations without prior notice!

For updated product information visit www.schaltbau-gmbh.com.
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