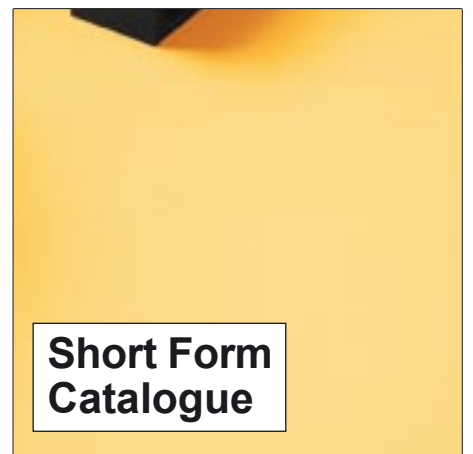
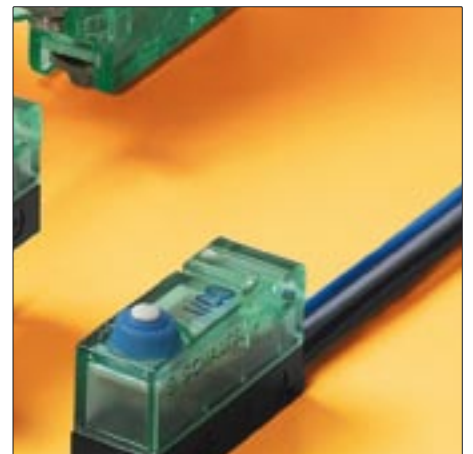
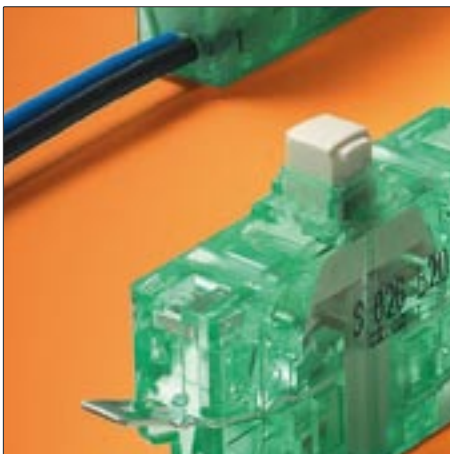
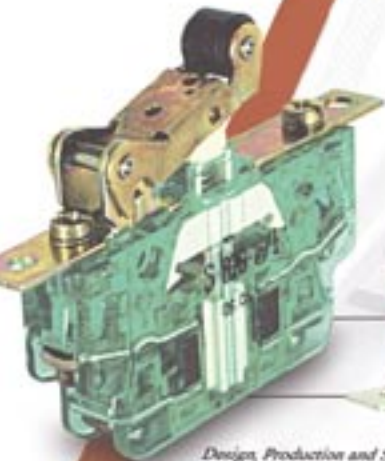


Snap-action Switches



**Short Form
Catalogue**



Certification

Awarded to

Schaltbau GmbH

Klausenburger Straße 6, D-81677 München
Industriestraße 12, D-84149 Velden
Diemar-von-Ayst-Straße 10, D-94501 Aldersbach

BVQI certifies
organization

of the entire
in accordance
and below

Design, Production and Sales of Switchgear, Switching elements
Systems and Subassemblies for Railway Equipment

Original approval date: 14.08.1994

Subject to the continual satisfactory operation of the organization's Management System, the certificate is valid from:

Date of certification: 24.11.2003

Valid until: 23.11.2008

To check this certificate validity you may contact BVQI.
Further clarifications regarding the scope of this certificate and the applicability of the Management System requirements may be
obtained by consulting the organization.

Ulrich Lind
Date: 24.11.2003



Certificate number: 138165

BVQI Deutschland GmbH
Veritanka 1, D-21079 Hamburg

Components for electrical engineering

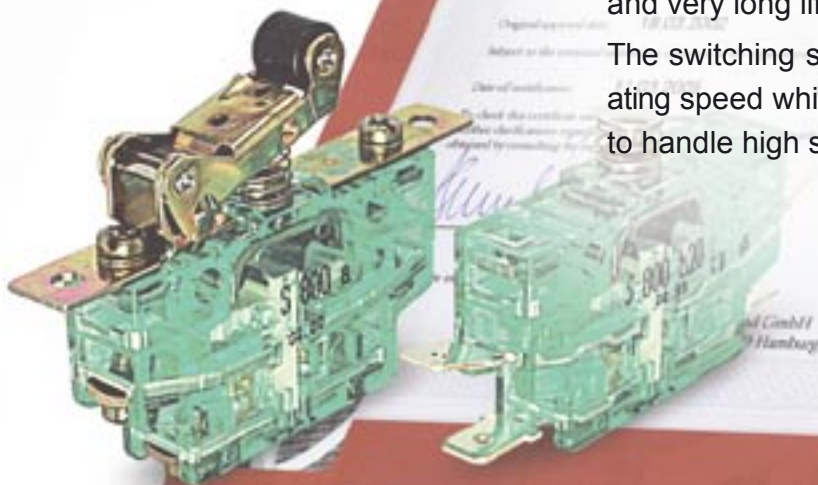
Schaltbau snap-action switches are being used in a great variety of traffic engineering applications. Due to the positive opening mechanism developed by Schaltbau they fully meet the high reliability requirements for safety circuits.

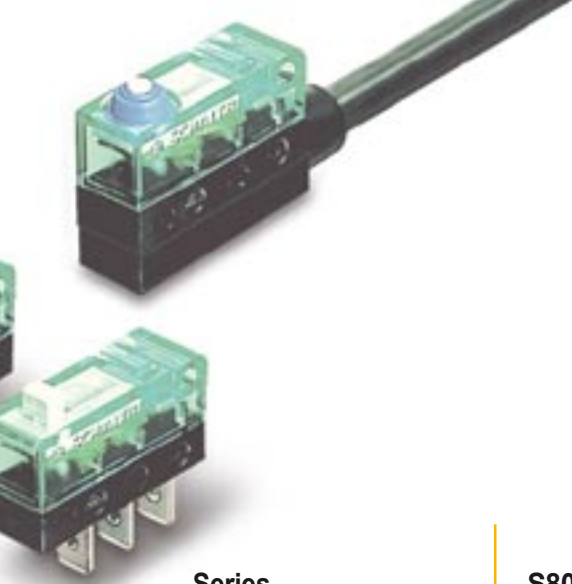
Among other applications, our snap-action switches are being used in door controls of public transport world-wide.

You will also find our snap-action switches in a great number of industrial applications, e.g. spindle over-travel switches, control switches, auxiliary switches in medium voltage installations, printing machines, materials handling vehicles and in many other fields.

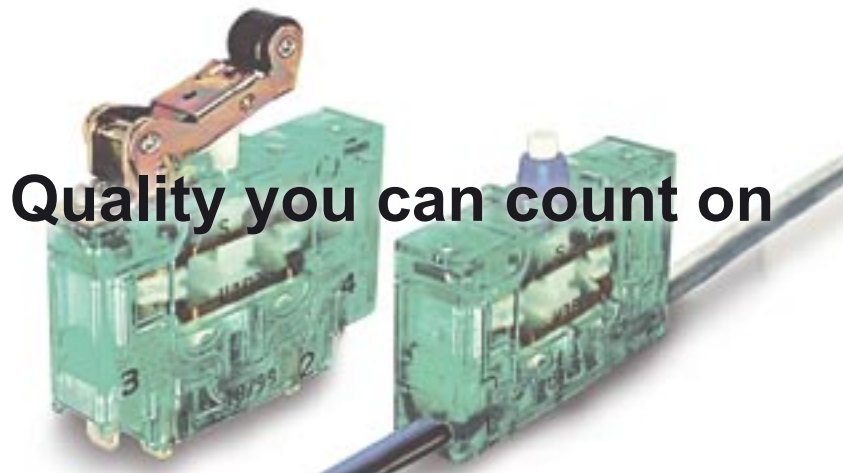
Our snap action switches are particularly suitable for safety switching functions due to their reliability and very long life.

The switching speed is independent from the actuating speed which allows us to use small switches to handle high switching loads.





Series		S800	S820	S826	S834	S840	S847	S870	S880
Conv. term. current I _{th}		10 A (16 A)	20 A	10 A	2,5 A	6 A (10 A)	10 A	10 A	6 A
Degree of protection		IP40	IP40	IP40	IP50	IP40	IP40/60/67	IP40/60/67	IP40/60/67
Mechanical life (operations)		10 million	1 million	10 million	0.3 million	10 million	10 million	10 million	5 million
Contact systems	NC	•				•		•	•
	NO	•				•		•	•
	NC / NO	•	•	•		•	•	•	•
	DPDT		•	•	•		•		
Contacts	Contact material	Ag / Au	Ag	Ag / Au	Ag	Ag / Au	Ag / Au	Ag / Au	Ag
	Positive opening operation	•	•	•	•	•	•	•	•
	Self-cleaning			•	•	•	•	•	•
Terminals	Flat tabs	•		•		•	•	•	•
	Screws	•	•	•		•	•	•	•
	Leads						•	•	•
	Solder pins / lugs				•	•		•	•
Actuators	Plunger	•	•	•	•	•	•	•	•
	Roller lever	•	•	•		•	•	•	•
	Flat lever					•		•	•
	Cam lever					•		•	•
Blowout device		•	•	•			•		
Page		4	4	5	7	7	5	6	6



Quality you can count on

S800, S804, S814 Series



S800 Series snap-action switches Catalogue D20e

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Positive opening operation (except for S814)
- ▶ Type F in accordance with DIN 41636 (except for S804, S814)
- ▶ Degree of protection IP40
- ▶ High electrical load capacity due to large contact bridge
- ▶ Contact material: hard silver

Technical Data

Series	S800	S804	S814
Conv. therm. current I_{th}	10 A		
Utilization category	AC 15 230 V AC / 3.0 A DC 13 110 V DC / 1.0 A	... 230 V AC / 1.0 A ... 60 V DC / 0.5 A	
Impulse withst. voltage U_{imp}	4 kV	4 kV	2.5 kV
Pollution degree	3	3	3
Degree of protection	IP40	IP40	IP40
Actuator force	3.3 N	3.3 N	3.2 N
Actuator travel	3.2 mm	3.2 mm	2.0 mm
Contact type	NO + NC		
Mechanical life	10 million operations		
Temperature range	-40°C ... +85°C		
Dimensions	50x28x12 mm	36x30x22 mm	36x31x22 mm
Weight	20 ... 40 g		

S820 Series



S820 Series snap-action switches Catalogue D20e

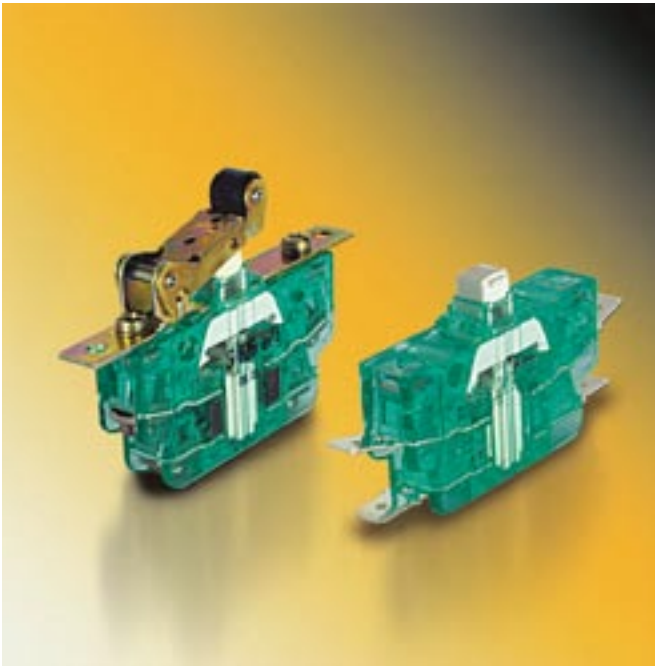
Features

- ▶ Performance following standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ High vibration and shock resistance
- ▶ Positive opening operation
- ▶ Type F in accordance with DIN 41636
- ▶ High electrical load capacity due to large contact bridges
- ▶ Contact material: hard silver
- ▶ Form Z circuitry DPDT, galvanically isolated

Technical Data

Series	S820
Conv. therm. current I_{th}	20 A
Utilization category	AC 15 230 V AC / 3.0 A DC 13 110 V DC / 1.0 A
Impulse withst. voltage U_{imp}	4 kV
Pollution degree	3
Degree of protection	IP40
Actuator force	13 N max.
Actuator travel	4 mm (without roller lever)
Contact type	NO + NC
Mechanical life	1.0 million operations
Temperature range	-40°C ... +85°C
Dimensions	50 x 45 x 12 mm
Weight	40 ... 50 g

S826 Series



S826 Series snap-action switches Catalogue D26e

S847 Series



S847 Series snap-action switches Catalogue D47e

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Positive opening operation
- ▶ Type F in accordance with DIN 41636
- ▶ Degree of protection IP40
- ▶ Self-cleaning contacts, double contact points
- ▶ Form Z circuitry DPDT, galvanically isolated

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Positive opening operation
- ▶ Long overtravel after positive opening operation
- ▶ Type F in accordance with DIN 41636
- ▶ Degree of protection IP40, IP60, IP67
- ▶ Self-cleaning contacts, double contact points
- ▶ Form Z circuitry DPDT, galvanically isolated

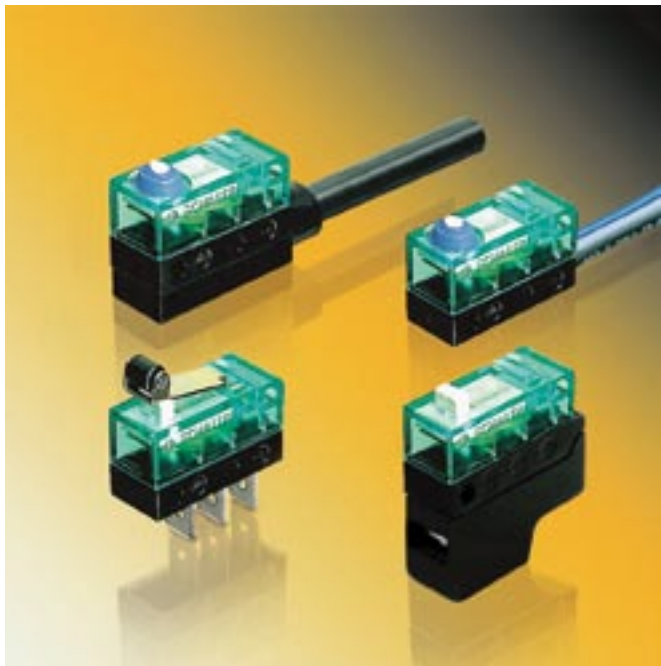
Technical Data

Series	S826
Conv. therm. current I_{th}	10 A
Utilization category	AC 15 230 V AC / 1.0 A DC 13 110 V DC / 0.5 A
Impulse withst. voltage U_{imp}	4 kV
Pollution degree	3
Degree of protection	IP40
Actuator force	3.6 N
Actuator travel	3.2 mm
Contact type	NO + NC
Mechanical life	10 million operations
Temperature range	-40°C ... +85°C
Dimensions	50 x 28 x 12 mm
Weight	20 ... 40 g

Technical Data

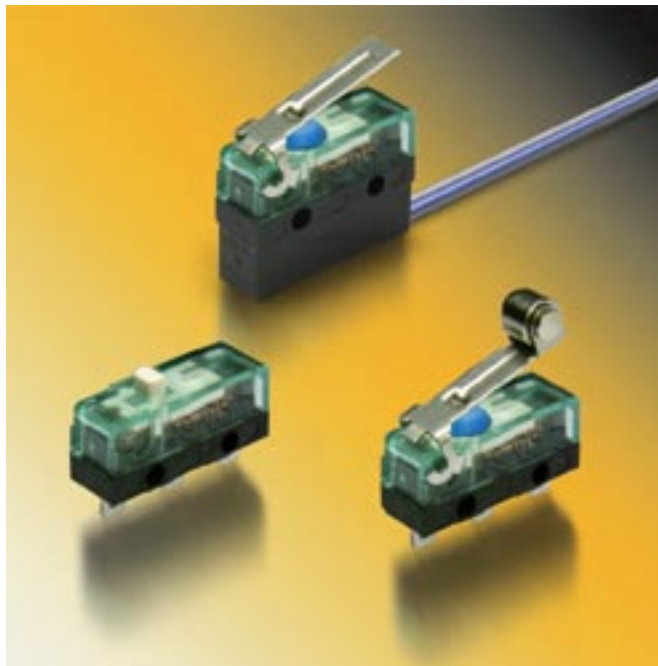
Series	S847		
Conv. therm. current I_{th}	10 A		
Utilization category	AC 15 230 V AC / 1.5 A DC 13 110 V DC / 1.0 A		
Impulse withst. voltage U_{imp}	4 kV	4 kV	4 kV
Pollution degree	3	3	3
Degree of protection	IP40	IP60	IP67
Actuator force	2.6 N	3 N	3 N
Actuator travel	4.9 mm	4.9 mm	4.9 mm
Contact type	NO + NC		
Mechanical life	10 million op.	5 million op.	5 million op.
Temperature range	-40°C ... +85°C	-40°C ... +85°C	-20°C ... +85°C
Dimensions	50 x 36 x 12 mm		
Weight	20 ... 40 g		

S870 Series



S870 Series snap-action switches Catalogue D70e

S880 Series



S880 Series snap-action switches Catalogue D80e

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Positive opening operation
- ▶ Type A in accordance with DIN 41636
- ▶ Degree of protection IP40, IP60, **IP67**
- ▶ Self-cleaning contacts
- ▶ High vibration and shock resistance

Features

- ▶ V4 package snap-action switch with positive opening operation
- ▶ Many auxiliary actuator options
- ▶ Self-cleaning contacts
- ▶ High vibration and shock resistance

Technical Data

Series	S870		
Conv. therm. current I_{th}	10 A		
Utilization category	AC 15 230 V AC / 1.5 A DC 13 110 V DC / 0.5 A		
Impulse withst. voltage U_{imp}	4 kV	4 kV	4 kV
Pollution degree	3	3	3
Degree of protection	IP40	IP60	IP67
Actuator force	2.4 N	3 N	3 N
Actuator travel	3.0 mm	3.0 mm	3.0 mm
Contact type	NO + NC		
Mechanical life	10 million op.	5 million op.	5 million op.
Temperature range	-40°C... +85°C	-40°C... +85°C	-20°C... +85°C
Dimensions	30 x 16 x 10.5 mm		
Weight	10 g		

Technical Data

Series	S880		
Conv. therm. current I_{th}	6 A		
Utilization category	AC 15 230 V AC / 1.5 A ---		
Impulse withst. voltage U_{imp}	2.5 kV		
Pollution degree	3		
Degree of protection	IP40 / IP60 / IP67		
Actuator force	2.0 N		
Actuator travel	1.9 mm		
Contact type	NO + NC		
Mechanical life	5 million operations		
Temperature range	-40°C ... +85°C		
Dimensions	20 x 6.6 x 9.4 mm		
Weight	1.5 g		

S834 Series



S834 Series enabling switches Catalogue D34e

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Triple position switch OFF - ON - OFF
- ▶ Positive opening operation
- ▶ Long overtravel after positive opening operation
- ▶ Degree of protection IP50
- ▶ Self-cleaning contacts
- ▶ Contact material: hard silver

Technical Data

Series	S834
Conv. therm. current I_{th}	2.5 A
Utilization category	AC 15 230 V AC / 1.0 A DC 13 110 V DC / 0.3 A
Impulse withst. voltage U_{imp}	1.5 kV
Pollution degree	1
Degree of protection	IP50
Actuator force	3 ... 5 N
Actuator travel	6.0 mm
Contact type	NO
Mechanical life	300,000 operations
Temperature range	0°C ... +55°C
Dimensions	16.5 x 22.5 x 10.4 mm
Weight	5 g

S840 ... S846 Series



S840 Series snap-action switches

Features

- ▶ Performance in accordance with standard VDE 0660 part 200 (IEC 60947-5-1)
- ▶ Positive opening operation
- ▶ Type A in accordance with DIN 41636
- ▶ Degree of protection IP40
- ▶ Self-cleaning contacts

Technical Data

Series	S840	S845	S846
Conv. therm. current I_{th}	6 A (10 A max.)		
Utilization category	AC 15 230 V AC / 1.5 A ---		
Impulse withst. voltage U_{imp}	2.5 kV	2.5 kV	2.5 kV
Pollution degree	3	3	3
Degree of protection	IP40	IP40	IP40
Actuator force	2.4 N	2.4 N	2.4 N
Actuator travel	2.5 mm	2.5 mm	2.5 mm
Contact type	NC	NO	NO + NC
Mechanical life	10 million operations		
Temperature range	-40°C ... +85°C		
Dimensions	30 x 16.5 x 10.3 mm		
Weight	9 ... 15 g		

Electrical Components and Systems for Railway Engineering and Industrial Applications

Connectors



- 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 stop switches
- Special contactors to suit customer requirements

Control devices



- Master controllers and reversers for railway applications
- Toggle switch devices
- Handles and foot switches for railway applications (dead-man equipment)
- Switching elements with high breaking capacity
- Emergency brake handles
- Signal devices

Transportation system equipment



- Power supplies for passenger coaches (electric equipment)
- Battery chargers for locomotives and passenger coaches
- High-voltage equipment for single and multi-phase operation
- Heating devices and heating controls
- Design and engineering services for high-voltage equipment
- Special equipment to suit customer requirements

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with compliments: