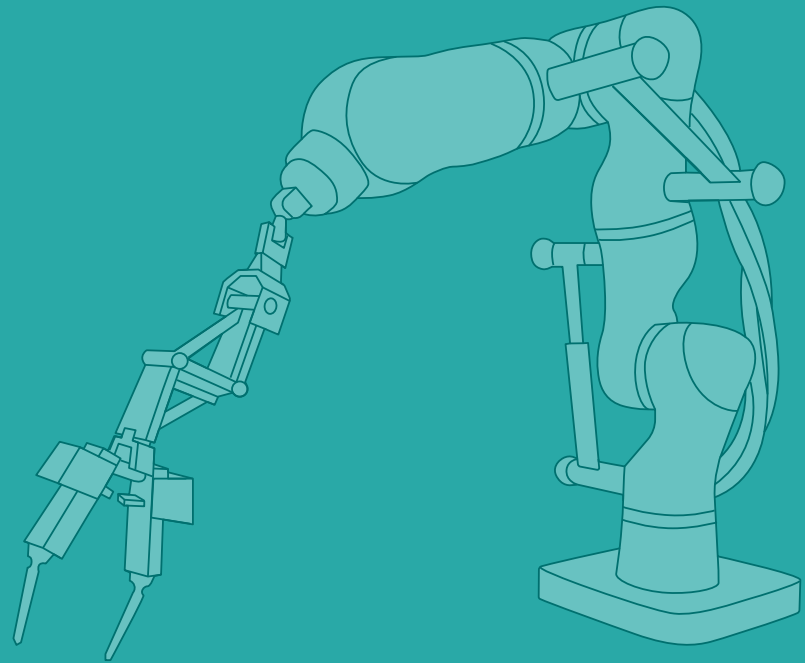


**Play it safe**

Connectors Switches Contactors



## Industrial Solutions

Safety for man and machine



# Solutions

for safety-related applications

Schaltbau industrial products such as connectors and switchgear are particularly suited to meet the more stringent requirements of the new EU machinery directive for industrial safety and health protection.



# Industrial Solutions

## Safety for man and machine

If you are looking for components for your safety-related application, a look into our product line would be worthwhile. You can also learn a lot from our many realized applications for your particular application situation. Or benefit from our consulting expertise in order to find out how to implement optimal safety with maximum cost-effectiveness.



### Snap-actions switches

Snap-actions switches from Schaltbau are used as position and limit switches in belt misalignment and pull-wire emergency stop switches, in sheet-fed offset presses and access control systems, but also in X-ray and operating tables where high positional accuracy is required. As safety switches they are an integral part of safety hinges of doors and gates or of interlocked barrier guards designed for the protection of operators and other individuals.



### Connectors

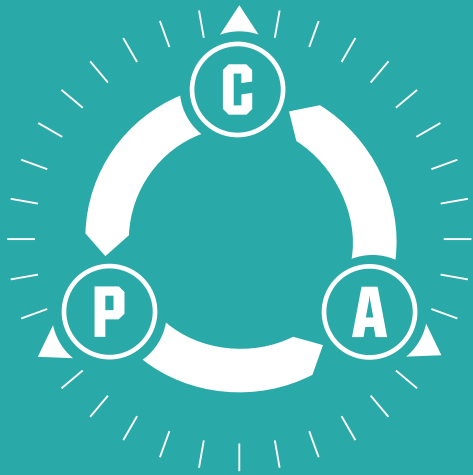
Our M Series connectors are widely used in lighting technology – for ballasts, lamps, lights and spot lights of photo studios, film locations and stages of theatres and opera houses as well as for daylight simulation lamps and tunnel lighting systems that require connectors which are especially suited for use in harsh environments.



### Contactors

Schaltbau industrial contactors are used for controlling motors of textile machinery, air conditioning and assembly lines. You will also find them in UPS systems of telecommunication networks and data centres as well as in battery test stands. Mounted as main contactors in cleaning and sweeping machines, they interrupt the connection to the battery and turn off the machine.





## **C** Consulting

**Experts are the best consultants.**

Schaltbau is a specialist in electromechanical components and customer specific solutions with decades of experience in development and manufacture.

## **A** Application

**No need to reinvent the wheel.**

Schaltbau sales engineers have access to a treasure trove of knowledge and experience including a host of realized applications. Thus you will benefit from analogies and empirical data that may be of some value for your application.

## **P** Product

**The right solution** may eventually be an item from our product line, a special variant with little need for adaptation, or a completely new design – because customizing is standard with us!

# The Schaltbau 360° Competence!



# Consulting

Expert at the customer's side

When planning switching circuits for machinery and electrical installations – the rule is: The sooner you obtain our expertise, the more cost-effective will be the solution. Our know-how acquired over decades of developing and manufacturing electromechanical components makes us an expert in finding the right solution for our customer.

Our sales engineers are experienced professionals who closely cooperate with our R&D and design engineers and are perfectly acquainted with all relevant branches of industry. They are bridging the gap between what the customer wants and the engineer designs. Thus we provide our customers with competent expert advice and help them find the right solution to their particular application.

## Safety is good advice

- Record and documentation of all product specifications
- Identification of possible problems of the application
- Project management of new product development
- Presentation of the proposed solution



### ▶ Expertise

Benefit from the Schaltbau know-how

### ▶ Consulting

Experienced sales engineers work on-site with you

### ▶ Solution

Cooperation spells success



# Application

## Safety for your application

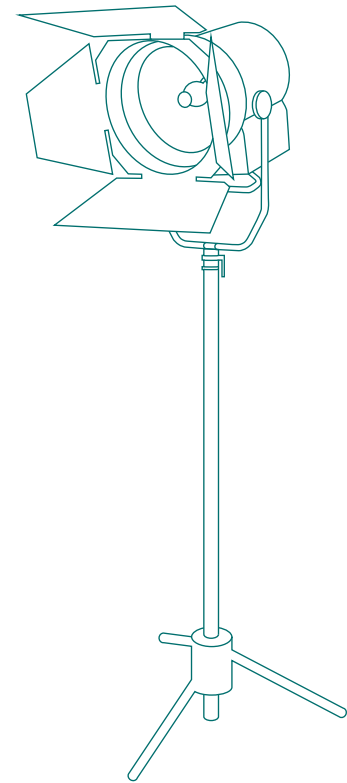
Electromechanical components from Schaltbau are particularly suited for industrial applications, where optimal safety at the man-machine interface is paramount. For this reason Schaltbau snap-action switches, contactors and connectors are much in demand as reliable safety components.

Schaltbau is the first choice for finding a solution that meets the requirements of your safety-related application. Safety components manufactured by Schaltbau are of approved quality, easy to install, require virtually no maintenance and have a long design life. With them you will be able to implement optimal safety with maximum cost-effectiveness.

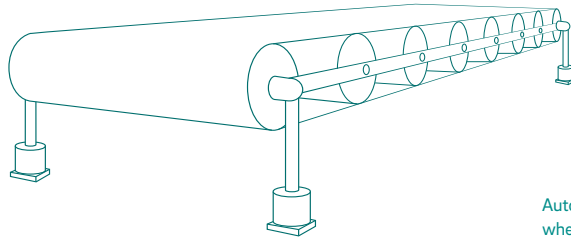
Application in medical radiography and operating tables where the utmost positioning precision is vital



Protective systems for operating personnel: Safety switches in the safety hinges of doorways and gates







Automation and Industry 4.0 place specific demands  
when it comes to safety and efficiency



▶ Customer specific

Added value and maximum  
benefit for your application

▶ Safe

Safety components of approved  
quality

▶ Cost-effective

Easy to mount, no maintenance,  
long life



**C** Consulting

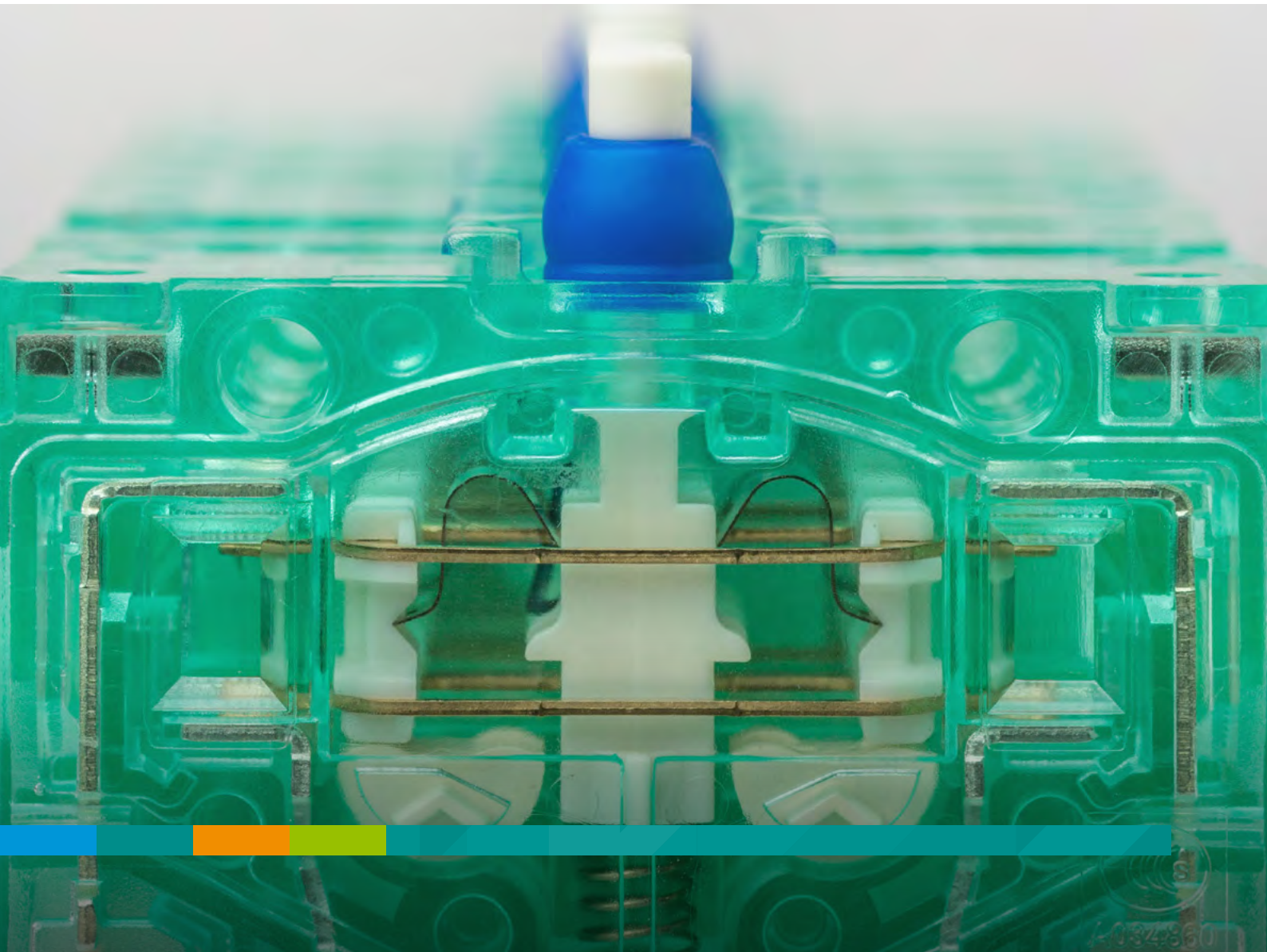
**A** Application

**P** Product

### Schaltbau Snap-action Switches

Switching with precision when it really matters.

Our snap-action switches comply with high standards for safety circuits.





# Product

## Safety components of approved quality

Experience over many decades paired with high expertise in manufacturing connectors, contactors and snap-action switches enables us to respond flexibly to customer needs.

Dependent on your requirements, you can choose between three possible solutions: a finished item from our product line, a tried and tested special variant with little need of adaptation, or a completely new product developed by us in close cooperation with you.

### Connectors

Connecting reliably under extreme conditions.  
High-quality connectors for industry, transportation and telecommunications.



### Contactors

Reliably extinguishing the electric arc.  
Users in industry and the rail sector benefit from our know-how in switching high currents.



## 3 Possibilities 1 Solution



Finished item from our product line



Tried and tested special variant with little need of adaptation



Completely new development to customer requirements





# Snap-action switches

## Snap-action switches for extreme conditions

Schaltbau snap-action switches with positive opening operation are VDE approved and have proven their worth especially in safety-related applications. Their positive opening mechanism guarantees reliable separation of contacts even if they have become welded together due to a short circuit.

### ■ Series S800, S804, S814, S820, S826, S847, S870 and S880

- Positive opening operation to IEC 60947-5-1 Annex K
- Performance according to IEC 60947-5-1
- High resistance to shock and vibration
- Wiping contacts

### ■ Series S926 and S970, versions featuring:

- Higher resistance to temperature (-55 °C ...+150 °C)
- 50% higher impact resistance compared to PC
- Increased resistance to chemicals

## Double NC contact switch S850, Enabling switch S834

The S850 Series can be used for the redundant design of safety-related parts of control systems in compliance with the new EU machinery directive - without the need to invest in additional hardware, installation and programming of equipment.

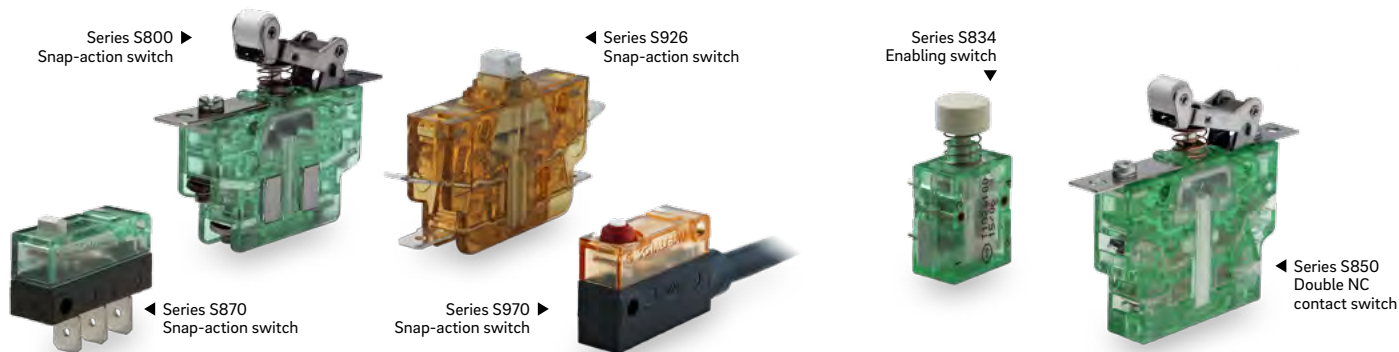
The S834 is a three-position enabling switch. It makes contact with the pushbutton held in mid position. In case of emergency the machine stops immediately when the button is either released or pressed all the way down.

### ■ Double NC contact switch S850 Series

Safety switch with two galvanically isolated circuits in one housing. To be used for applications according to ISO 13849-1, performance according to IEC 60947-5-1

### ■ Enabling switch S834 Series

The switch is typically used for pendants of industrial robots and as safety switch in door controls, off-track and pull cord switches, cranes and lifts.





# Connectors

## Circular audio miniature connectors NF07 and NF10 Series

The proven 7 and 10 pole NF07 and NF10 connectors are especially designed for use in communications engineering.

The modular design provides many combinations to suit your particular application. The connectors have a high IP rating and are watertight even when not mated.

- Audio connectors to VG95351 and VG96934
- Optional customized filters
- Plugs and receptacles sealed to IP68 even when not mated
- Spring-loaded butt contacts
- Bayonet coupling
- Shielding  $\geq 70$  dB (10 kHz ... 10 MHz)



## Circular modular connectors M1 and M3 Series

M1 and M3 Series universal industrial connectors are designed for safety and reliability in harsh environments.

M1 and M3 Series connectors are dustproof, pressure proof and watertight when mated.

- Modular design
- Rugged shell made of impact resistant plastic
- Protection against accidental contact according to IEC 60664-1
- Electrical and mechanical properties of connectors to IEC 61984
- Germanic Lloyd, UL listed **UL** (M1 and M3)



# Contactors

## Single and double pole NO contactors C193 and C294 Series

Notwithstanding the small size, the single pole C193 and the double pole C294 Series contactors feature an extraordinary switching capacity for DC applications up to 1,000 V.

Best suited for use in the harsh industrial environment, these compact contactors have proven to be highly reliable switching devices with an electrical life that is above average.

- Suitable for years of continuous duty
- Intended for high ambient temperatures
- Double-break contacts
- Versions for AC and DC operation
- DC versions with magnetic blowout
- DIN rail mount option

Series C193  
Single pole  
NO contactor  
 $U_N = 1,000\text{ V}$



Series C294  
Double pole  
NO contactor  
 $U_N = 1,000\text{ V}$



## Single pole battery contactor C110B Series

C110B Series contactors are the easy and economical solution for switching DC currents of 60 A up to 320 A as well as battery voltages up to 80 V.

The contactors are equipped with DC coils featuring coil tolerances as required for traction batteries of industrial trucks and other battery-powered vehicles.

- Compact, rugged design
- 4 different sizes
- Double-break cadmium-free contacts
- Extra wide coil tolerance
- Standards: IEC 60947, EN 1175-1

Series C110B-80  
Single pole  
battery contactor  
 $I_{th} = 60\text{ A}$



Series C110B-300  
Single pole  
battery contactor  
 $I_{th} = 300\text{ A}$



# Markets and Applications

We develop our connectors, snap-action switches and contactors in line with the safety standards of railway engineering. Electromechanical components from Schaltbau are used in all branches of industry in which electrical systems have to be connected, contacted and controlled reliably under the harshest conditions.

## ▶ Transportation Technology

Safely on track. Switching and controlling features which meet the highest requirements.  
For goods and passengers.  
[www.rail.schaltbau.com](http://www.rail.schaltbau.com)

## ▶ Industrial Solutions

Reliable in production. Certified variations on safety-relevant solutions.  
For man and machine.  
[www.industry.schaltbau.com](http://www.industry.schaltbau.com)

## ▶ Material Handling

Sustainable storage. Improved performance with faster warehouse loading processes.  
For efficient intralogistics.  
[www.materialhandling.schaltbau.com](http://www.materialhandling.schaltbau.com)

## ▶ New Energy

More power for electricity. Speed and safety in the high-voltage field.  
For renewable energies.  
[www.energy.schaltbau.com](http://www.energy.schaltbau.com)



# Certified safety

Safety and reliability are our greatest assets. We've been producing snap-action switches with positive opening operation for four decades and also offer the greatest variety. Every series is built, tested and certified according to VDE, UL and when necessary even CCC.



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.



Certified to  
DIN EN ISO 9001  
since 1994. For the most  
recent certificate visit  
our website.



[www.schaltbau-gmbh.com](http://www.schaltbau-gmbh.com)



## Schaltbau – Contactors, snap-action switches and connectors for automation

For detailed information on our products and services visit  
[www.schaltbau-gmbh.com](http://www.schaltbau-gmbh.com) – or give us a call!



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