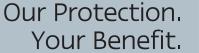
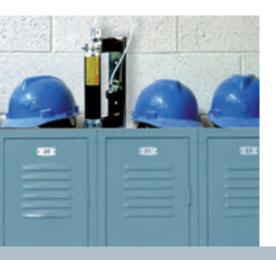
# Our fuses provide safety. For your values. Dependably.



So that you can focus on your core business with an easy mind.







### All we think about is fuses. And in doing so, we save your resources.

For over 60 years now, SIBA has specialised in fuses – from miniature devices for electrical components to high-voltage installations. And because we devote ourselves uncompromisingly to our specific core business, you can be sure that our fuses will work when needed. Through our products, we safeguard your products, your plant and machinery, and above all your personnel. So seen from that angle, what we really think about are your vital resources. As you can see, SIBA fuses are not C products, but functional A products. And therefore money well invested.



## Our fuses can reach you just as fast as you need them.

Many fuses are needed just in time for fitting in other products. We can deliver exactly on schedule to prevent any disruption to your production flow. Our computer-controlled stock management system enables us to dovetail our processes precisely with your own. When fuses are tripped in installations or machines, a replacement is often quickly needed. In cases like this, we are able to respond immediately: Thanks to our high stock capacity, we have tens of thousands of fuses available for immediate delivery.



## With our own laboratory, we keep a close eye on our quality. And so help build your future.

Our in-company research and development department with its team of engineers is closely meshed with production. This means, on the one hand, that we are able to constantly assure the high quality of our series products for which we are renowned. On the other, it enables us to regularly develop the new products that are needed to meet your requirements in future. For example with our UR fuses range which, thanks to extremely fast tripping times, are able to protect expensive power semiconductors.



High-voltage fuses: **We keep up the tension** 

Low-voltage fuses: **Optimum protection for mains and equipment** 

Miniature fuses: The rip cord for industrial electronics

Other fuses: **Special fuses are our trade** 

## We supply standard products off the shelf. But we can also make to measure.

We make fuses in conformity with all major national and international norms and standards, whether IEC, EN, VDE, DIN or UL. And whether for Britain's railways or the German shipbuilding industry – we are familiar with virtually all specifications anywhere in the world of fuses.

And if a particular product need by you is not included in our range, we can make it to your specifications. Already at the planning stage, you can make use of our know-how and so avoid unpleasant surprises in future.



## Service minded. Globally represented. Made in Germany.

Whether punctuality, dependability, or flexibility – we believe in the classical service values offered by small businesses. But because we also take nearness to our customers seriously, we have a presence throughout the world – like a global player: To ensure close contact with our customers, we maintain a network of subsidiary companies and sales partners in countries on all continents throughout the world. Going hand in hand with our worldwide presence, however, is the commitment to Germany as our main place of business.





## When every tenth of a second counts

Power semiconductors: Without the high-tech developments in the field of converters, thyristors or UPS, today's energy supply would be unthinkable. As important as these devices are, they are also highly sensitive to short-circuit currents. It is therefore reassuring to know that SIBA makes fuses that work so fast they are able to protect these semiconductors and so keep them working for very much longer. The name of this product range is "Ultra-rapid". They separate your investment from the power supply quickly and reliably. And we have designed them in such a way that even after a long time in service under constantly changing operating loads, they still maintain their condition. For we know that every tenth of a second counts if your semiconductor is to be kept safe from harm.

### Ultra-rapid fuses: Protection for power semiconductors

Super-fast tripping times on the one hand, but on the other, the ability to handle even large currents safely. Readily available standard products with many connection options on the one hand, but on the other, special designs that we can develop on request to meet your particular applications. Our Ultra-rapid products are designed for realworld needs – and to give you the peace of mind that your equipment is well protected.



### Ultra-rapid DC fuses: Not just frequency converters firmly under control

Frequency converters used in motor control allow variable speeds, constant torques and gentle starts. A high-quality solution, therefore. And so all the more important to ensure that such investments are properly protected. Our URDC fuses keep your frequency converters safe from harm. And not just them: UPS, power converters and special applications in the field of wind and solar energy are some of the other areas in which these fuses are used.



### aR, gR, gRL (gS): At home in many operating classes

Our UR fuses cover the whole range of uses for power semiconductors, starting from classical short-circuit fuses mounted directly on the semiconductor with the back-up operating class, aR, and extending to the full-range operating class gR, which is also able to protect against overload currents, and also to operating class gS, originally introduced by SIBA as operating class gRL. This product protects not only the semiconductor itself, but also the leads. And in doing so, it preserves your investment from harm.





## We keep up the tension

Power stations, substations, overhead power lines: Of the many energy utility installations that ensure our vital electricity supply, most people only take notice of the big, visible features. As far as many consumers are concerned, electricity still simply comes out of the wall. But that things are far from that simple is a story the energy utilities could tell every day.

But to prevent matters from reaching a pitch where people notice that something is wrong because the power has failed, the operators take precautions by investing in good time, and not just in the visible infrastructure. This extends from the transformer via cable and wire to the consumer. SIBA products protect this infrastructure – and thus make their own contribution to the reliability of our energy supply.

### Transformers under observation

Power transformers are highly sophisticated, motionless electric machines. The start-up process is also a highly sophisticated matter, involving high currents, but without causing the fuse to trip. On the other hand, though, the power circuit must be reliably interrupted if excessively high currents flow for an excessively long time. In this particular area, standards can provide general recommendations only – but thanks to our many years of experience, we know exactly what fuse is needed to take care of what situation.



### Fuses that go a long way to protect your motors

In high-voltage motor circuits, conditions are tough: Load changes, high start-up currents and high levels of vibration mean stress for both the motor and the peripherals. Our fuses have been specifically designed with these conditions in mind and with the ability to meet German, international and, in particular, also British standards. They combine low power losses with excellent current limitation. As a result, they ensure that also where short circuits are concerned, your motors and equipment are reliably protected.



### Keeping capacitor banks safe

Among the key components in the energy supply chain are switchable capacitor banks. These help to keep the mains output constant by controlling the flow of reactive power if and when needed. If capacitors arranged in banks of this kind are switched on, they generate equalising currents which are similar to short circuits. SIBA fuses for high-voltage capacitors are optimally designed for their purpose. They protect important equipment from failure.

Like the world's biggest capacitor bank at the FZD research centre in Dresden.





## Optimum protection for mains and equipment

A switchgear without proper fuse protection may well be put out of service for a considerable time. And that can be expensive. And even if the actual damage is covered by the insurance, the outage may cause an order to be lost, and nobody except you will pay for all the trouble and work involved. So seen from this angle, optimum fuse protection is a very worthwhile investment. If the worst comes to the worst, the fuse operates in a sufficient time, is quickly replaced, and work can then carry on as before.

But also at home and in other locations, SIBA NH fuses provide sound protection against faults in the electrical system or poor workmanship during installation of the wiring. And as always, preventing material damage is one thing. Protecting human life and health another. We are committed to doing both.

### Low voltage (NH): Protection à la carte

Whether as a pre-fuse in the house connection box or as protection for machine tools in the factory – our NH products cover a wide variety of applications. They are available for a large number of different characteristics, for all normal sizes and for many different voltages. We are constantly adding new innovations to our broad product range – such as the combination indicator. This shows both at the top and in the centre whether the fuse has been tripped. Optimum protection and optimised handling add up to maximum utility.

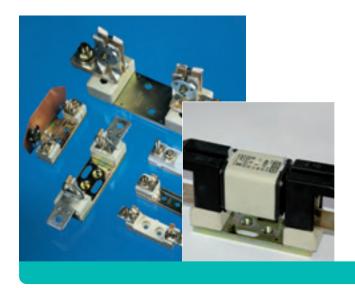


In the case of fuses installed in fuse switch rails, the reliable top indicators can often not be clearly seen. Therefore, a lot of time can be wasted looking for fuse-links that have switched off. Classical centre indicators, on the other hand, often give a false indication. That also costs time during fuse change. Time that you can now save. Because our combination indicators provide a doubly clear message – thanks to the special design at the centre and the top. And both with highest dependability.



### Fuse-holders: A sound base

Also in the low-voltage range, the loads and stresses should not be underestimated. And that applies not only to the fuse links themselves. If high currents (are allowed to) flow for a prolonged period of time, not only the fuse links as such must be appropriately designed, also the holder has to be able to withstand similar stresses and strains. Our fuse-bases are therefore designed to match the fuses. We also offer special types such as ceramic holders, which you will otherwise only rarely find.





## The rip cord for industrial electronics

Measuring equipment, sensor technology, machine controls – industrial electronics are the nervous system of manufacturing industry and constitute a continuous sequence of high-flying developments. Complicated, sometimes extremely miniaturised devices and fittings working in close communication with one another ensure that everything works as it is supposed to. Complex programming ensures that the many cogs in the production machinery all work smoothly together. Equipment with such an important role also needs special protection: SI-BA miniature fuses ensure that if the worst should come to the worst, the components have a soft landing. To protect your electronics from harm.

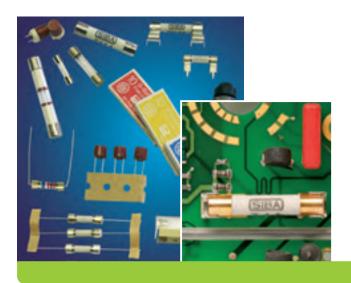
### Extensive portfolio, own production

The very smallest of our miniaturised fuses covers an area of less than two square millimetres, though our range of electronic component fuses also includes veritable "giants", with a length of 150 mm. So whether self-resetting PTC, classical constructions or SMD types for soldering onto printed circuit boards or tiny fuses for slotting into them: our warehouse holds a fuse in store that is just right for you. And what we don't already have available, we can make. In accordance with your specifications. We take the protection of your equipment seriously.



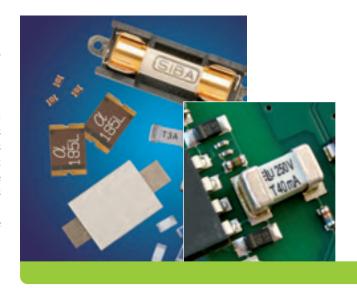
### Classical miniature fuses: A broad range

5 x 20 mm, 6.3 x 32 mm – with the classical glass tube fuse, we can cover many applications. These range from super-fast semiconductor protection to super-slow fuses for small motors, so the starting current does not result in switch-off. The product range is also supplemented by a correspondingly wide choice of holders, from clips on the circuit board to externally accessible front panel mounting. After all, the safety of your circuit board should not fail because of the quality of the holder.



### SMD to the limit: Variety also for special applications

Surface mounted devices: fuses, too, have long been available in this form. More than anything, SMD means small dimensions. This can soon bring conventional fuses up against physical barriers. One of our goals is to break through these barriers. For instance with an SMD fuse that despite its small outer dimensions can nevertheless still switch relatively large currents. Or with self-resetting fuses in SMD form. So even if there should so far be no fuse available for your needs: We are working on one.





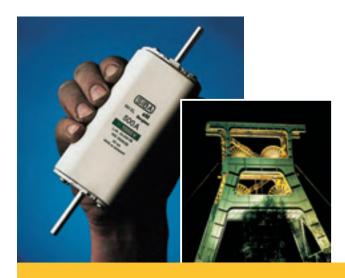
## Special fuses are our trade

SIBA holds over 10,000 different fuse technology products. But even with that variety, we can still not cover every application, and for constantly changing needs we have to develop ever new variants. And even if one fuse fits perfectly, it may still not be able to be used because – to give just one example – a specific operating sequence may be required in the case of fuses installed in series.

Nevertheless, we also have a wide variety of pre-made products available for special applications – from mining to the railways.

## The cradle for our development: Fuses for the mining industry

Our company had its cradle in the mining industry, and it was fuses for use in mining, where the requirements in terms of safety and equipment protection are exceptionally high, that made us great. And even if we now offer an abundance of products for all kinds of applications – SIBA still supplies fuses for the mining industry. In time-tested quality. For time-tested safety.



### Shock-proof: Fuses for shipping and the railways

In the field of shipping and on the railways around the world, the specific requirements in the field of fuse technology are especially exacting. Also in this area – as in the case of classical fuses, too – we are in close contact with the standardisation bodies, and we are familiar with the areas of use and the special technical requirements associated with them. We are therefore able to supply a large part of the fuses needed for these applications from stock.



### Standards at a glance: Fuses made to foreign standards

SIBA fuses are in use throughout the world; they comply with international standards. But despite all efforts towards harmonisation, there are still many specific national requirements that have to be complied with. We therefore also produce according to the most important foreign standards. For example, we have special product series that are specifically made for the British, French and North American markets.



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