



# Perfection in Connection Schunk Ultraschalltechnik STAPLA Ultraschalltechnik

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## The Complete Spectrum of Ultrasonic Metal Welding

Automotive Industry · Solar Energy  
Air-Conditioning & Refrigeration  
Electronics Industry

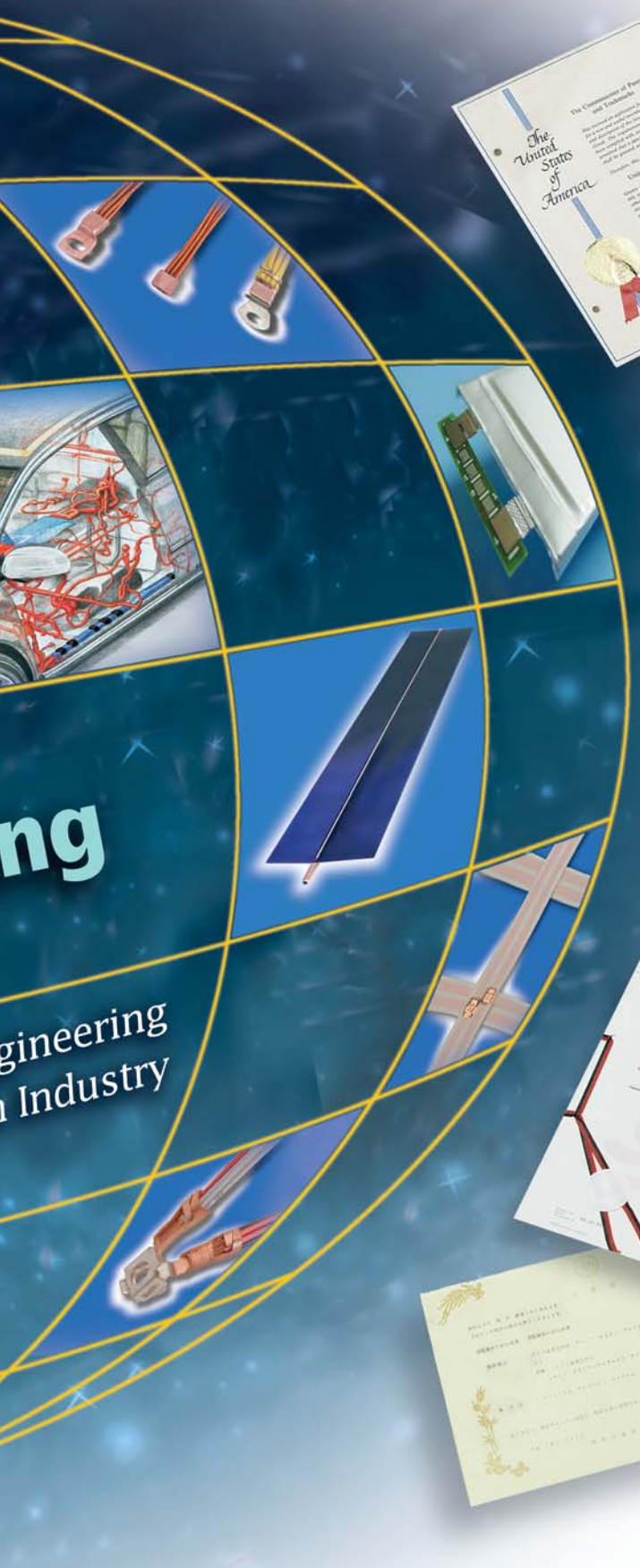
## Schunk Sonosystems – The Fusion of Schunk Ultraschalltechnik and STAPLA Ultraschalltechnik

Schunk Sonosystems GmbH was created through the merger of these two pioneers and market leaders in the field of ultrasonic metal welding. By the late 1970s, these two companies had already developed this new technology into the industrial standard.

Our competitive edge in technology is continuously expanded through dialogue with users and cooperation with universities and research institutes. Numerous international patents and certificates attest to our innovative ability and the success of this strategy.

As a manufacturer of ultrasonic welding systems for all branches of industry, Schunk offers products for applications in the wire-processing industry, solar technology, the air-conditioning and refrigeration industry as well as the electrical and electronics industry, among others.

In addition to technological competence, a closely-knit support network is a decisive element for our excellent and comprehensive customer service on today's global markets. Hence, as an integral member of the Schunk Group, Schunk Sonosystems has immediate access to the resources of a high-performance multinational corporate group with locations in more than 25 countries.



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## Automobile Industry

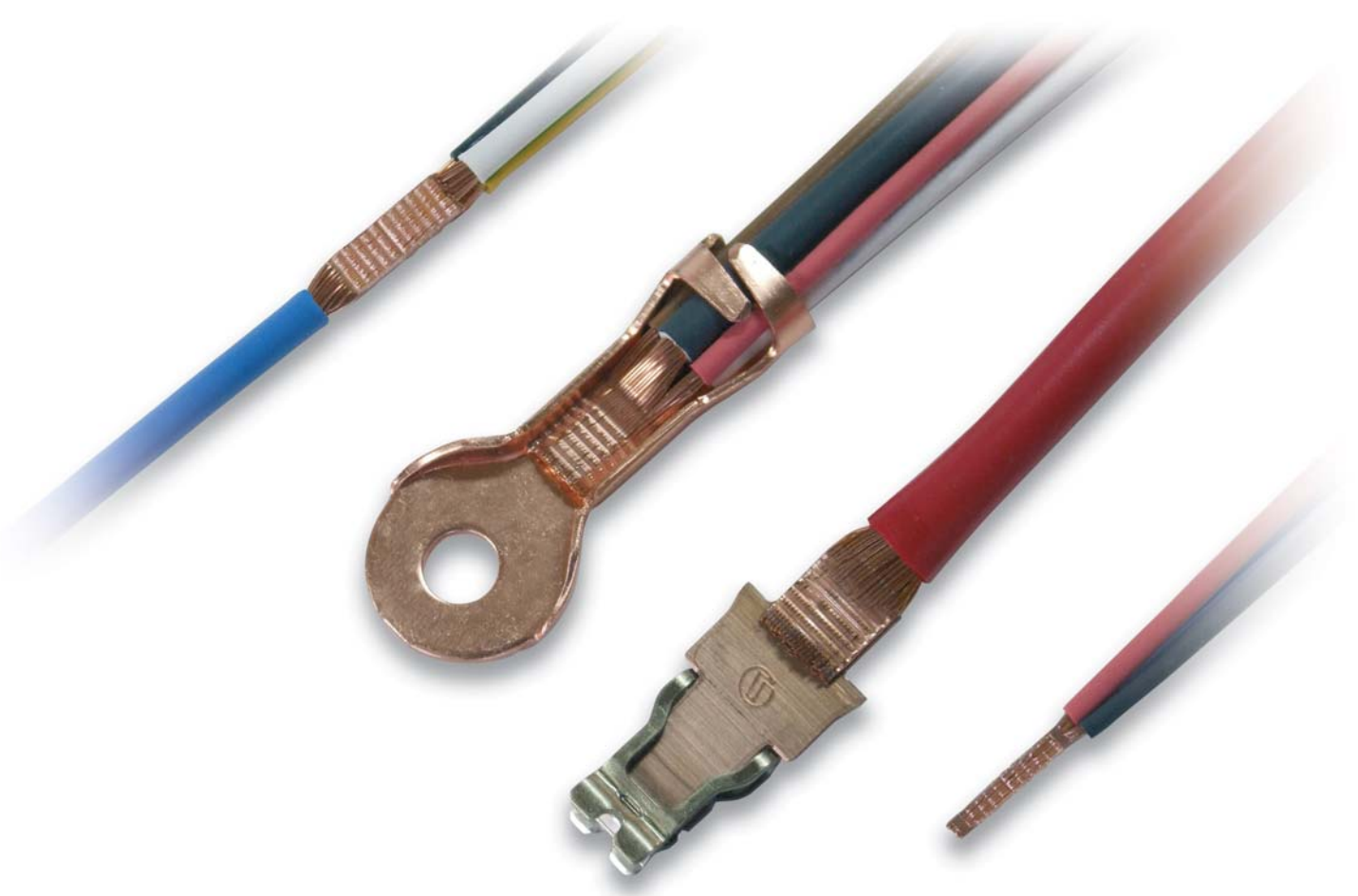
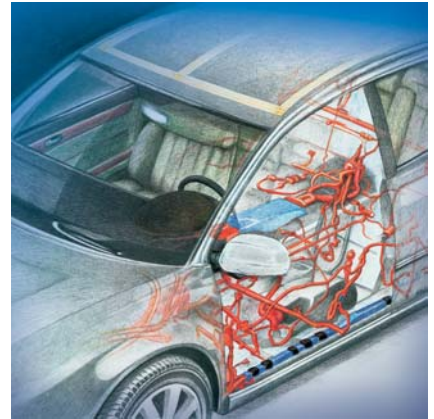
As a manufacturer of ultrasonic welding systems for the production of wire-harnesses in the automobile industry, Schunk Sonosystems is the technology and world-market leader. All renowned wire-harness manufacturers around the world employ ultrasonic welding systems from Schunk for their production.

Ultrasonic welding is the future-oriented method for wire and terminal applications. Among other things, the process is used for wire-to-wire as well as for wire-to-terminal connections.

Compared with crimping or resistance welding, the process offers numerous advantages.

Besides the excellent electrical properties of the splices created, this method is characterized, above all, by extremely low energy consumption.

All of our welding systems are equipped with an advanced process control function. This forms the basis for high-volume production and sets new standards for reliability and product quality.



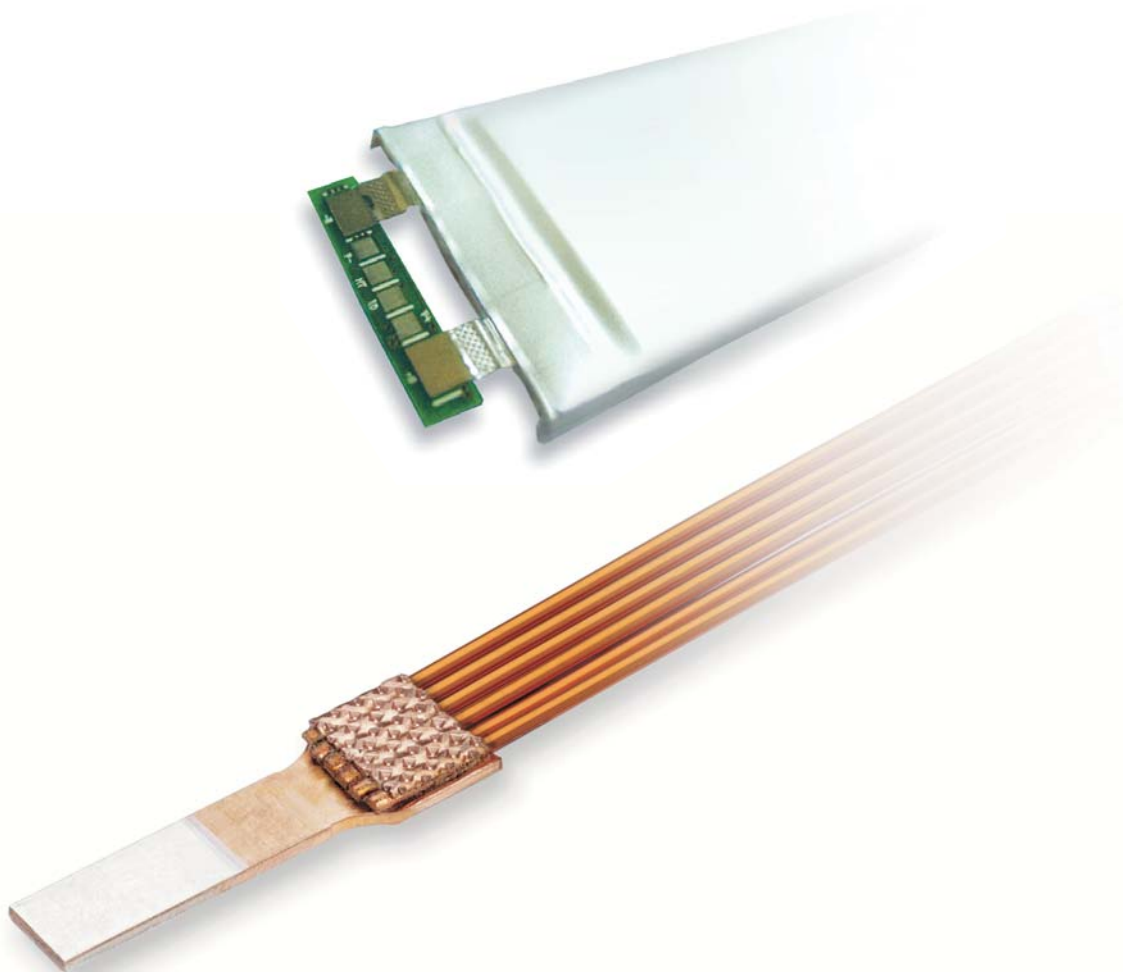
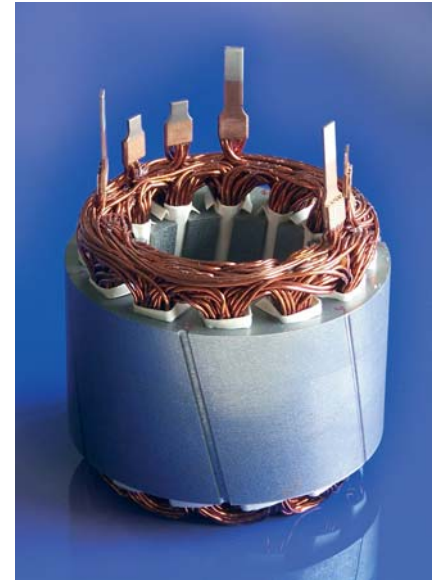
## Electrical and Electronics Industry

Ultrasonic metal welding is a technically mature and well-established method for connecting non-ferrous metals. Besides being used in the automotive industry, it is also employed in a host of other industries for diverse applications.

Particularly for products which place high demands on the joining process, for example the welding of enameled or magnetic wires, manufacturers are increasingly switching to ultrasonic welding from more conventional joining techniques like resistance welding and crimping.

As a path-breaking pioneer in this process, Schunk offers not only standard solutions, but also a modular concept of systems which can be adapted to individual welding applications.

This broad technology basis, built upon diverse applications, calls for and promotes the development of new sets of solutions, accelerates the innovation process and makes Schunk Sonosystems the leading expert in the field of ultrasonic metal welding.



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## Air-Conditioning and Refrigeration Industry

In the air-conditioning and refrigeration industry, ultrasonic joining technology is used for the pressure-tight welding of copper and aluminum pipes of the heat-exchanger system. A high degree of efficiency, simple operation and reliable leak-free welds form the basis for the success of this method.

With the machines of the well-established STAPLA product line, Schunk Sonosystems is the leader among manufacturers of ultrasonic welding systems in this industry.

In addition to being used in the air-conditioning and refrigeration industry, ultrasonic welding is employed in various other branches of industry for the most diverse applications, such as thermostat technology for the seal welding of copper and aluminum capillary tubes.



## Solar Thermal Power and Photovoltaics

For the solar-thermal-power industry, Schunk Sonosystems develops and markets roll-seam welding systems for the production of solar thermal absorbers. The novelty here is that the customer receives automation and ultrasonic welding technology from a single source. Hence, the synergies of more than 25 years of experience in automation and ultrasonic welding for this industry can completely unfold here.

Under the STAPLA label, Schunk Sonosystems offers the entire range of joining technology for manufacturing solar thermal power modules. Whether low or high volume production with a comprehensive process control, an individual welding system is available to the customer for any production scheme.

In the photovoltaic industry, ultrasonic welding systems are used, for example, for connecting aluminum conductor strips with metal-coated glasses. Especially in these highly-sensitive applications, ultrasonic welding stands for the highest quality and for optimal connection properties.



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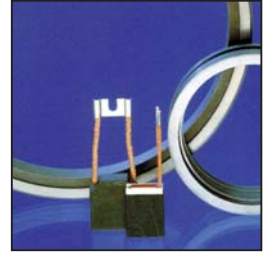
## The Schunk-Group Shaping the Future Together

The Schunk Group is a diversified multinational technology group organized into the divisions of Carbon Engineering and Ceramics, Climate and Clean-Room Technology, Sintering Technology and Sonosystems.

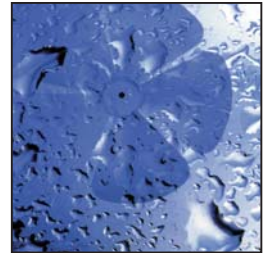
The Schunk Group employs over 7,300 committed people in more than 25 countries, who develop, manufacture and market top quality products in the fields of materials and systems technology

The individual companies of the Schunk Group operate independently on their respective markets, which guarantees a high degree of flexibility and customer orientation. At the same time, however, they are part of a worldwide support network such as can only be provided by a multinational group of this magnitude.

### Carbon Engineering and Ceramics



### Climate and Clean-Room Technology



### Sintering Technology



### Sonosystems



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