







# **Environmental protection in series**

### We are thinking of tomorrow

For Steca, there are many aspects to environmental and climate protection and the resultant reduction in CO<sub>2</sub> and environmental poisons.

In addition to the obvious need to apply environmentally-friendly processes, electronic products from Steca contribute both to reducing energy consumption and environmental pollution around the world, as well as to spreading the use of regenerative energy sources by means solar technology.

Not without reason is Steca listed as an authority for energy generation in the German federal government's environmental technology atlas "Green Tech made in Germany". Products in the area of solar electronics facilitate environmentally-friendly use of clean and free solar energy. Today, in the photovoltaic and solar thermal energy sectors, over 1.5 million controllers manage and control solar energy systems around the world.

The company contributes to energy saving with the millions of electronic components it produces for devices classified in energy efficiency class A++, such as motion detectors or network circuit breakers. Devices for water and weather measuring technology facilitate further research into our environment. Electronics utilised in the fields of medicine and industry regulate analysis and production processes and thereby save energy and materials. Further examples include photovoltaic controllers for improving the energy balance in automobile appliances. All battery-operated devices are developed for minimum electricity consumption with maximum output.

With Steca charging technology, the devices of the battery charging systems use the maximum energy storage potential and treat damaged or totally discharged batteries. Complete management systems for bus maintenance facilities help prevent environmental pollution by reducing cold-run phases. Steca environmental policy is based on sustainability and environmental compatibility, with a view to providing services and producing products for an ecological future. The company takes account of the whole value-added chain and involves suppliers and customers. Steca is certified in accordance with ISO 14001:2004 and organised in accordance with the EU Environmental Management and Audit Scheme.



# Steca – the electronics service provider

## Electronic Manufacturing Services

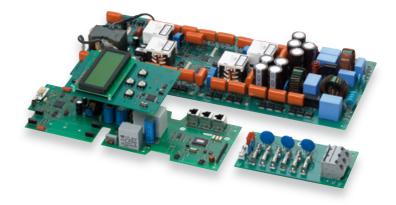
Electronics are part of your daily routine, improving and securing almost all areas of your life. Technological developments in electronics are making more and more applications possible – whether at home or in the car, in medical or information technology, in industry and research or in environmental and solar energy technology.



Over the past years Steca has grown with this market and has positioned itself as a significant Electronic Manufacturing Services (EMS) provider. A high level of expertise in the development of electronic component groups, quality assurance, materials management and logistics, as well as experience in the production of electronics for all areas of life: these are all factors that have helped the company achieve worldwide market success.

Today, electronic component groups and devices are produced in many variations and in virtually every country around the world. It's a big challenge to compete in this environment, even for a modern and leading company like Steca. Our response is to look to our strengths: exceptionally well-trained and highly motivated staff, many years of experience, well-structured and innovative procedures, sophisticated manufacturing processes and, last but not least, cutting-edge production methods.

We also count consistent quality and a high level of functional reliability at an excellent price-performance ratio among our strengths. All this sets Steca apart and makes a crucial contribution to your success.





### **Solutions for** your applications

#### You are not the agenda you set the agenda

The more diverse your requirements, the more versatile Steca's solutions. Whether large production runs of a single model or small production runs of many models, stock building or just-intime delivery, short-term implementation or longterm planning – Steca can react with flexibility to your requirements.



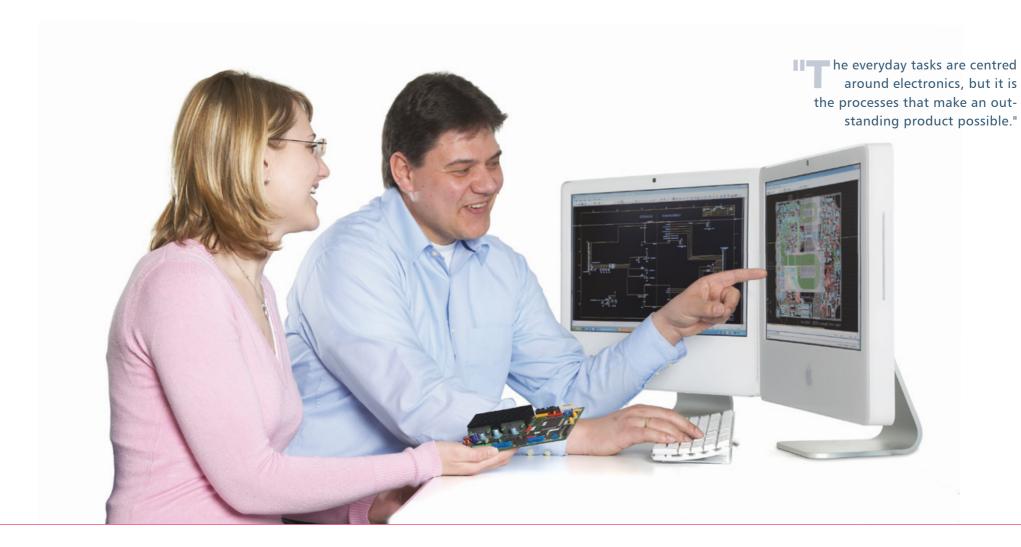
#### You need – we provide

Fast and flexible implementation, defined risks, quick decisions and solutions, full cooperation, national and international logistics, the advantages of a medium-sized company, reproducible and convincing quality, smooth-running operations, integration in your products and processes, service provision, direct contacts, friendly and motivated staff, clear communication, openness, flexibility, functionality, far-sightedness, reliable technical support, tradition, reliability, innovative and well-structured procedures, joint success, teamwork, fair partnership, responsibility, simple business processes.





success."



# Services that get to the point

## The sum of well thought out steps

The development of a product starts with the product idea. Numerous steps and processes have to be worked through to get to the finished product; these are influenced by the factors of time, quality and price. The success of a project is determined by well thought out and coordinated processes, combined with the expertise, flexibility and experience of a modern service company.

Steca has mastered these different steps and processes and guarantees completion to deadlines, consistent high quality and an excellent price-performance ratio.

#### Development

Concept, hardware and software, CAD, certification, documentation, evaluation of components

#### Trials

Type testing, field test, fatigue test, test laboratory

#### **Material logistics**

Materials management, merchandise planning, stock receipt, inventory management

#### Production

Automatic fitting (SMD, axial, radial), manual assembly, mechatronics, cable technology, final installation, varnishing, casting

#### Testing

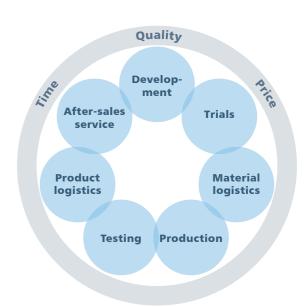
In-circuit test, function test, run-in / burn-in, safety test

#### **Product logistics**

Just-in-time, warehouse delivery, vehicle fleet, dispatch

#### After-sales service

Allocation management, product management, analysis and documentation





## Performance, success and ideas

## Steca electronics are energy-saving

Even before energy efficiency was the topic, Steca was developing the first electronics in energy efficiency class A and setting standards for energy-saving household appliances. Today A<sup>+++</sup> is the standard at Steca.

#### Transparent and non-transparent glass

Steca is the first manufacturer in the world to deliver electronic systems that transform panes of glass from transparent to translucent in high-end automobiles. A resonance-conveyed high-voltage alternating current makes this possible.

#### **Three-dimensional electronics**

When mechanical and electronic elements have to be connected in tight spaces, Steca can develop and produce in the third dimension.

### DC energy-saving light with microcontroller

The first compact lamp on the DC market with verifiable 20 W. An even greater level of efficiency of 85 per cent could be achieved with a microcontrolleroperated compact lamp.

#### Display and operation

Steca has thrown outdated operating and display concepts overboard and fits customer products with full graphics and animated display for simple equipment operation. The result is a future-oriented product and competitive advantage for you – at comparable costs.

### Microcontrollers in a "contaminated" environment

The first microcontroller for an electric fence system. Legislation specifies clear maximum voltage and energy values that are to be attained in the system. Control and calibration of the maximum values are carried out by a protected microcontroller that operates despite flashovers and discharges of 10,000 volts.

#### LED lighting instead of light bulbs

Steca is a leading light in lighting technology and offers interior lighting for household appliances produced in series. The yellowish central light of a light bulb is replaced by two light bars with decentral white LED technology. The whole room is evenly illuminated and the clear light does not strain the eyes.

#### Keeping cool in the car

The first car with solar parked-car ventilation. The sliding or panorama roof contains solar cells that are electronically controlled to operate the car's interior fan at the optimal working point, thereby ventilating the parked vehicle.

#### Intelligent battery charging

The first battery charging system with equalisation charging. This system from Steca increases the service life of batteries connected in series. And only one charger is needed!

#### Non-contact measurement of lengths

Steca has developed a leading range of electronics for an inductive, non-contact length-measuring system to regulate hydraulic flows. The digital signal processor calculates the analogue signal and compensates linearity errors and temperature drifts by means of control algorithms.

### Temperature controllers with a view to the future

An electric welding mirror is monitored and heated by means of a temperature sensor. The measurable actual value is mathematically precalculated by the controlled system in its time response. The control is carried out by an actual value that is as yet unknown and that is self-learning.

#### Perfect metal welding

Steca develops welding control systems that regulate the wire feed with the electric arc voltage independent of the set values. Here, too, reliable operation of the microcontroller in a "contaminated" environment is guaranteed. One enthusiastic customer said: "With your electronics welding is a piece of cake."

### Solarthermal controller with integratedweb server

Steca offers web-based software for visualising operational data and parameterisation. The browser displays the user interface of the controller where the current settings can be checked and changed as with the original – anywhere in the world!

## Exceptionaluse of low-output combinational switching powersupplies

Steca applied for a patent for a process that distributes the output of the switching power supply multiplexed and controlled by a microcontroller onto various DC loads. This allows different DC loads to be operated with either regulated, adjustable voltage or regulated current.

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TRAFFIC-CONTROL SYSTEMS | RAILWAY TECHNOLOGY | SOLAR TECHNOLOGY | BATTERY CHARGING SYSTEMS | CABLE TECHNOLOGY

### **Experience the diversity**

#### Only at Steca

Steca wants to enthuse you with its services and product programme. The wide diversity for virtually every area and purpose is typical of Steca. The 3,000 products on the market, which the company offers as an electronics service provider and manufacturer, are testimony to the diversity of the Steca brand.

The comprehensive offer from Steca ensures that your demands are met. This is what the people at Steca are working so hard for. Steca customers appreciate the wide diversity and vertical range of manufacture in all areas. And that's why our customers are not just customers, but business partners of many years standing.

#### Full power for you

Steca guarantees top quality, safety and reliability, and places considerable emphasis on environmental compatibility during the development, construction, manufacture and distribution of its

#### Certification

#### Steca is certified according to:

- DIN EN ISO 9001:2000
- DIN EN ISO 14001:2004

#### audited according to:

- TS 16949
- VDA 6.3
- DIN EN ISO 13485:2003





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### The Steca brand: **Solar electronics and** battery charging systems

#### Its good to know what you're talking about

To understand your wishes and requirements we need a common language. Steca speaks this language: As a developer and manufacturer of products and solutions, Steca is aware of the demands on product development and manufacture, as well as the demands of the global market that go beyond the manufacturing process alone.

Whether it is a case of developing ideas for new products, finding solutions for an existing production process or preparing a product for series manufacture, Steca gives you a decisive advan-

You benefit from our expertise and from the experience gained in our diversified specialist areas. It is this expertise that made Steca market leader in solar charge controllers and battery chargers a long time ago.

#### Steca brand products ...

... have significant status within our company. Be it under their own name or as an OEM: Steca products are growing in popularity around the world. And in the field of solar electronics, Steca is the only company worldwide that develops and supplies a complete product programme of its own for the regulation and control of solar energy systems.

#### An example of innovative power and efficiency

The solar thermal controller Steca TR 0603 is a clear indicator of the innovative power and efficiency of the company in terms of product development. Starting from the housing design, created by a renowned design company specifically for this product range, the exceptional nature of this controller is underlined by its costeffective, compact design and compliance with

global standards. The most innovative aspect of this product is, however, its ease of operation. To achieve this, the controller is equipped with a full graphics display, making it the first of its kind. The clearly arranged display, consistent use of pictograms and intuitive menu navigation make for simple and speedy operation. What's more, its 15 pre-programmed systems and numerous additional functions mean this product can be used universally.

he consistent development of new technologies make Steca one of the leading companies in the field of solar and energy technology."





Solar thermal controller Steca TR 0603

















# Regional and international

#### For you on-site

Three factories in Memmingen and a factory in Bulgaria ensure the success of the company.

Enthusiastic and motivated staff on-site, an experienced international and multilingual sales team as well as many sales partners and authorised wholesalers worldwide, make Steca a significant company on both a national and international scale.

Headquarters and Factory I in Memmingen



The production site in Bulgaria







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Management board Michael, Dietmar and Peter Voigtsberger



# A road full of ideas

## History and development

1976 The company has been on a constant road to success since it was founded in 1976.

1980 What started as a battery systems assembly company, has already developed into a significant professional electronics supplier by 1980.

1990 In 1990, the company starts its own product lines in cable technology and solar electronics. The company continues gradually expanding into a full-service electronics service provider.

In 2000 Steca extends its development and production site up to 10,000 square metres. Beside the development and production of electronic components, the focus is on the complete assembly of devices. With the expansion of the solar division to include the grid-feed inverter product line, Steca offers a complete product range for solar energy systems.

2005 The construction of Factory II in 2005 increases the production area in Memmingen by 3,500 square metres; in 2006 the production site in Bulgaria is opened with an area of 5,000 square

With the commissioning of Factory III in Memmingen, the area of the production site for the complete assembly of devices is expanded by a further 3,500 square metres.

**2011** With the construction of new factory in Memmingen, Steca is paving the way for a successful future.

### Steca in figures

teca in figures	
Number of component groups produced per year:	3.8 millions
Number of component groups supplied daily:	18,000
Number of component group type produced per year:	es 3,000
Number of production orders continuously being processed:	600
Number of components fitted ont printed circuit boards per hour:	50,000
Number of components fitted per year on average:	230 millions
Number of employees in 1976:	3
Number of employees in 2011:	650

The production data refers to average order and production capacities from the year 20







"Steca Electronics – Services and products for an ecological future"

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