



**COMPANY.
PRODUCTS.
SOLUTIONS.**



INDIVIDUAL.

We analyse your project and develop and provide exactly what you require to make it a success - whether branded product, customisation or special solution.

"They always manage to come up with a solution."

– Markus Retzlaff, Nuclear Physics Institute,
Forschungszentrum Jülich GmbH

When it comes to programmable power supplies, a standard solution is hardly ever sufficient to meet complex, specific requirements. As an experienced provider, that is the specific area we are targeting with our know-how: away from being a pure distributor toward becoming a solution provider and development partner with an industry-specific orientation.

On the basis of our culture of solutions, we leave no question unanswered – only one solution will do for our customers: the best.

WAYS IN WHICH YOU BENEFIT:

- Customized complete systems
- Individual modification of standard products
- Development of special solutions
- Comprehensive support including personal assistance on site



Call us and we'll be glad to help you –
Johannes Wolf, Segment Manager Laser.



You're looking for a solution? We will find it –
Heinz Meyer, Production Manager.



You want a quote? We will provide one –
Melanie Günther, Head of Internal Sales Team.



You want on-site service? We plan business trips –
Anne Freundenberger and Sarah Jülg, travel preparation.



You ask for an appointment and we will visit you –
Michael Neeb, Branch Manager Berlin.



You give us a job and we get moving –
Tina Wirth, Sales Assistant.



Do you have special requirements? We will create a
solution for them – Guy Barde, production.

"Whether for customized projects or standard products, Schulz-Electronic is our reliable partner."

– Dr. Detlev Mergenthaler, managing director
Dr. Mergenthaler GmbH & Co. KG, Neu-Ulm

Your specific requirements are in the capable hands of our highly skilled and experienced team that is always ready to listen to what you need.

That is why the solutions we find are always individual – because they are developed specifically for your project.

We have successfully implemented many special solutions for customers from a wide range of industries.

EXCERPT FROM OUR PORTFOLIO:

- ▶ 48 V vehicle electrical system simulation with mains regeneration
- ▶ High-voltage battery simulator
- ▶ Grid-tie source/sink systems
- ▶ Electronic loads
- ▶ AC sources
- ▶ Bench power supplies
- ▶ Hybrid drive tests
- ▶ Mobile source/sink systems
- ▶ Rack solutions according to customer specifications
- ▶ Intelligent laser diode supply



You need a special solution? We will create one –
Dennis Schwarz, production.



You demand quality and we will check modifications meticulously –
William Scheuermann, Quality Control.



You're looking forward to a solution and we will deliver on time –
Kay Christmann, logistics.



You trust us and we keep our promises –
Britta Seebacher carries out the final inspection.

"They always listen to me."







– Christian Plötz, technical sales & project management,
VX Instruments GmbH, Altdorf

Highly valuable to you – a standard service from us:
consultation and design with an eye towards the future.

First and foremost, as a Schulz-Electronic customer you will benefit from a team that will gladly advise you, demonstrate and develop different possible solutions, and will never let you down – we will support you in every face: before the projects starts (e.g. with test equipment), during the project (e.g. with on-site support) nor after it has been completed (e.g. with a maintenance service).



Certification in accordance with
ISO 9001:2015

- ▶  Purchase, rental or leasing
- ▶  Free support hotline
- ▶  Highly precise calibration service
- ▶  Test units
- ▶  Comprehensive portfolio
- ▶  Repair service

3+1

Locations (branches in
Germany and Switzerland,
authorised dealer in Shanghai)

40

Committed solutions
experts

5

Sales regions in Germany,
Austria, Liechtenstein and
Switzerland

> 40

Years of experience

DC power supplies

Highly precise. Programmable. Bidirectional.

- Voltages of up to 1,500 VDC
- Currents of up to 3,000 A
- Output of up to 500 kW
- For laboratories, DIN rail and as high-voltage supply
- Controlled via simulation software



▶ DC high power supply
Regatron



▶ Bench power supply
TDK



▶ DIN rail power supply
Camtec



▶ Highly precise bench
power supply (bidirectional)
Delta Elektronika



▶ 4Q amplifier
Sibo Electronic



▶ Grid source-sink system
Regatron



▶ High-voltage power supply
Technix



▶ DC/DC converter
Polyamp

- High voltages of up to 350 kV, 500 kW
- Bidirectional grid source/sink systems of up to 384 kW (higher output possible upon request)
- 4Q voltage and current amplifiers
- DC/DC converters of up to 2 kW

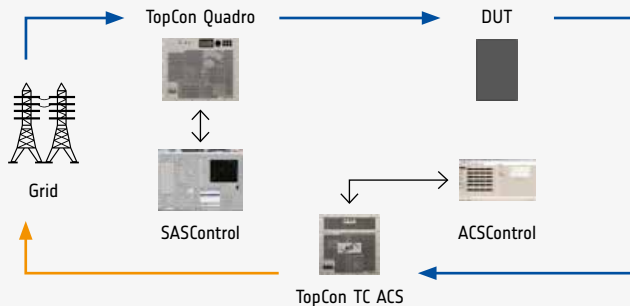
APPLICATIONS

- Simulation of solar panels
- 48 V vehicle electrical system simulation with mains regeneration
- Mobile source/sink systems
- High-voltage grid simulation of up to 350 kV
- LV123 norm (test of high-voltage components for electric and hybrid vehicles)

AC sources

Programmable. Flexible. Regenerative.

- Voltages of up to 700 VAC P-N
- Currents of up to 1,100 A
- Output of up to 50 kVA per module
- 1 or 3-phase models



APPLICATIONS

- Vehicle electrical system simulations
- "White goods" tests
- AC grid simulation and simulation of complex power systems



▶ AC source 1-phase
Schulz-Electronic



▶ AC network simulator
Regatron



▶ AC source 1-phase or 3-phase
Schulz-Electronic



▶ **Energy recycling load**

Höcherl & Hackl



▶ **Laboratory load**

Höcherl & Hackl



▶ **Multi-channel load**

Höcherl & Hackl

Electronic loads

Highly precise. Programmable. Regenerative.

- Voltages of up to 1,200 VDC
- Currents of up to 600 A
- Output of up to 128 kW
- Grid-tie source/sink systems
- Controlled via simulation software
- Source/sink systems

APPLICATIONS

- Life-cycle tests of solar modules
incl. MPP tracking
- Inverter tests
- Tests of hybrid drives and their components
- Test systems incl. software and data logging

Pulse & delay generators

Custom. Multi-functional. Reliable.

- Rise times from 50 ps
- Pulse current of up to 500 A
- Repetition rate of up to 250 MHz
- Multi-channel with up to 8 outlets



▶ Function generator
Avtech



▶ OEM pulse generator
Quantum Composers



▶ Laboratory pulse generator
Quantum Composers



▶ Ultra-short pulse driver
Head Electronic

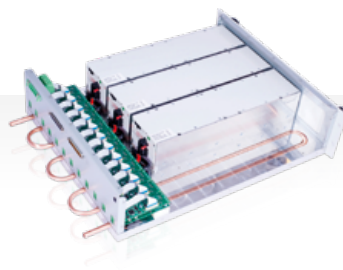
APPLICATIONS

- TOF mass spectroscopy
- Ion traps
- PIV (particle image velocimetry)
- Laser system synchronisation



▶ Laser diode drivers

Lumina Power



▶ Multi-channel laser system

PBF



▶ Baseplate-cooled laser driver

Dr. Heller Elektronik



▶ 12 kW laser supply system

Water cooling

Laser diode drivers and supply systems

Future-proof. Dependable. Flexible.

- Voltages of up to 200 V
- Currents of up to 1,000 A
- Output of up to > 10 kW
- Base-plate cooled board-level drivers or encased modules
- Ultra-short pulse laser diode driver: dI/dt of up to more than 30 A/ns
- Customer-specific devices upon request

APPLICATIONS

- Diode and flash lamp-pumped medical lasers
- CW and QCW fiber laser pumping
- Seed pulse generation for fiber lasers
- Intelligent laser controller

Schulz-Electronic customer projects and modifications

Tailor-made special solutions

MODIFICATION EXAMPLES

- Special front with customer logo
- Capacitor bank with safety circuit
- Connections and switches according to customer specifications
- AC and DC distribution boxes
- Internal resistance simulation 0-500 m Ω
- Fast-speed option for very fast curve sequences
- Power-sink option for the absorption of regenerated energy



▶ Customized front design



▶ AC distribution box



▶ Simulation of internal resistance

Internal resistance simulation 0 – 500 m Ω
and customer-specific bushes



▶ Capacitor bank

(1.100 V / 14 mF) for buffering power peaks with safety shutdown and discharging device. Also possible in various other sizes.



Grid-tie source/sink system

4 x 400 V, can be switched to 2 x 800 V, 128 kW



800 W laser supply rack with air-water-coolers



48 V test system with 64 kW

Components that are to be tested can be fastened onto variable heat sinks via quick-release fasteners and then connected.



3.3 kW 100 V DC supply


with an option of reversing the polarity installed in the outdoor suitcase.

RACK EXAMPLES

- Voltages of up to 300 kV
- Currents of up to 4,000 A
- Rack mounting according to customer specifications
- Installation of safety and monitoring systems
- Integration of discharge circuits of up to 40 kW (even without system supply)
- Rack mounting up to IP54 and wall housings up to IP64 are possible
- Installation in special housings

APPLICATIONS

- 48 V vehicle electrical system simulation with mains regeneration
- 1,000 V high-voltage battery simulation
- Testing of hybrid drives and vehicle components
- Supply of HIL simulation

A wireframe illustration of a car and a building, rendered in blue and white lines, set against a dark blue background. The car is in the foreground, and the building is in the background, creating a sense of depth and architectural structure.

48 V test system for DC/DC converter & battery management system

Convincing rack setup and controller options.

THE CHALLENGE

For the development test stand of a DC/DC converter (48 V – 12 V), the customer was looking for a solution with three source/sink systems that could simulate a 48 V battery, a 48 V-RSG as well as a 12 V battery (output of the individual components: approx. 10 kW).

THE SOLUTION

Schulz-Electronic developed a custom, highly complex rack setup. A heat sink with special connection option was installed. The DC/DC converter that is to be tested can very easily be fastened to it with quick-release fasteners. As a result, setup times and complexity are reduced to a minimum.



1,000 V test system for HV batteries & battery management system

Customisation reduces lorry manufacturer's costs.

THE CHALLENGE

The batteries and battery management systems that are to be tested require different voltage levels. For that purpose, the customer was looking for a complex rack setup with 6 different power supplies, that could be operated via a software interface and featured many connection options. Furthermore, a sophisticated security concept had to be implemented.

THE SOLUTION

In this case, Schulz-Electronic installed two 32 kW source/sink systems, 4 highly precise laboratory power supplies and many monitoring and safety devices. Working closely with the customer, the different connection and switching options were defined and implemented.



Pipeline inspection in accordance with SLOFEC testing method

Modification offers compactness and 100% stability.

THE CHALLENGE

Innospection generates pipeline scan reports using magnetic field testing and commissioned Schulz-Electronic with the development of a compact magnet power supply with 30 V / 20 A for the operation of multiple magnets. Of particular importance, in addition to the compact design, were the current stability, the operability and a display of voltage and current as well as an RSD contact for switching the power on and off.

THE SOLUTION

Our team was able to implement all desired magnet power supply specifications: the preferred SM70-AR-24 was modified with a detached control panel, which allowed it to be integrated in the corresponding case sizes. The power supply is placed horizontally in the suitcase and, thanks to the use of flexible cables, the control panel can be rotated by 90°.



High-voltage DC sources with intelligent modular concept

Convincing precision hardware.

THE CHALLENGE

A well-known solar industry research institute commissioned Schulz-Electronic with the development of variably adjustable, controlled DC power sources with galvanic separation that were to be used for testing medium-voltage inverters. The power sources are used for the operation of DC/DC and DC/AC converters.

THE SOLUTION

Variability according to customer specifications: Floating standard devices were used. But the key features were the switch box that automatically recognised the output configuration and the automatic adjustment of the scaling in the control software (Labview). The total output of the system, which consists of two 3 x 192 kW double cabinet systems, is 576 kW, a max. current of 14.4 A and a max. voltage of 40 kV (+/-20 kV). In addition, all individual systems can be connected with three additional 192 kW systems for a total output of 1,152 MW if needed.



Your Sales Contacts



NORTH/EAST



MICHAEL NEEB

Branch Manager Berlin

Phone +49.30.31167881.1

michael.neeb@schulz-electronic.de



JULIANE WEICKERT

Sales Assistant

Phone +49.30.31167881.2

juliane.weickert@schulz-electronic.de

SWITZERLAND / AUSTRIA / LIECHTENSTEIN



KURT HAGMANN

Branch Manager Switzerland

Phone +41.61.712.26.00

kurt.hagmann@schulz-electronic.ch



ASSUNTA D'ANGELO

Sales Assistant

Phone +41.61.712.26.00

assunta.dangelo@schulz-electronic.ch

CENTRAL



STEPHAN WILDE

Area Sales Manager

Phone +49.7223.9636.42
stephan.wilde@schulz-electronic.de



BETTINA LOHSE

Sales Assistant

Phone +49.7223.9636.36
bettina.lohse@schulz-electronic.de

SOUTH



DANIEL ULRICH

Area Sales Manager

Phone +49.7223.9636.35
daniel.ulrich@schulz-electronic.de



MELANIE GÜNTHER

Head of Internal Sales Team

Phone +49.7223.9636.33
melanie.guenther@schulz-electronic.de

WEST



JÜRGEN NELKNER

Area Sales Manager

Phone +49.7223.9636.34
juergen.nelkner@schulz-electronic.de



TINA WIRTH

Sales Assistant

Phone +49.7223.9636.20
tina.wirth@schulz-electronic.de



CHRISTIAN KLOOS

Sales Assistant

Phone +49.7223.9636.61
christian.kloos@schulz-electronic.de



Your contact persons for laser applications, service and support



SERVICE EMPLOYEES



WILLIAM SCHEUERMANN

Head of Service Team

william.scheuermann@schulz-electronic.de



MICHAEL LAWECKI

Technical Contact

michael.lawecki@schulz-electronic.de

LASER TEAM



JOHANNES WOLF

Segment Manager Laser

Phone +49.7223.9636.39

johannes.wolf@schulz-electronic.de



HEIKO SEEL

Product Manager Laser

Phone +49.7223.9636.38

heiko.seel@schulz-electronic.de



MARTIN MILDENBERGER

Technical Contact

martin.mildenerger@schulz-electronic.de



MARION BÄUERLE

Administration

Phone +49.7223.9636.46
marion.baeuerle@schulz-electronic.de

SUPPORT EMPLOYEES



BRITTA SEEBACHER

Head of Support Team

Phone +49.7223.9636.56
britta.seebacher@schulz-electronic.de



MARCO HUBER

Technical Support, Quality Management

Phone +49.7223.9636.48
marco.huber@schulz-electronic.de



WOLFGANG VOGT

Technical Sales & Support

Phone +49.030.31167881.3
wolfgang.vogt@schulz-electronic.de



MANFRED ZINK

Technical Support

Phone +49.7223.9636.55
manfred.zink@schulz-electronic.de

Schulz-Electronic GmbH
Headquarters Baden-Baden

Dr.-Rudolf-Eberle-Straße 2
D-76534 Baden-Baden
Phone +49.7223.9636.0
Fax +49.7223.9636.90
vertrieb@schulz-electronic.de
www.schulz-electronic.de

Schulz-Electronic GmbH
Branch office Berlin

Albert-Einstein-Straße 14
D-12489 Berlin
Phone +49.30.31167881.1
Fax +49.30.31167881.9
berlin@schulz-electronic.de
www.schulz-electronic.de

Schulz-Electronic GmbH
Branch office Reinach

Christoph Merian-Ring 11
CH-4153 Reinach
Phone +41.61.712.26.00
Fax +41.61.712.26.01
vertrieb@schulz-electronic.ch
www.schulz-electronic.ch

Shanghai GCS Co., Ltd.

Room 1406B No.215 YaZhi Rd
Xinzhuang Town, Shanghai
China 201199
Phone +86.21.54131016
Fax +86.21.54131020
anthony_yang@sh-gcs.com

