SPS ELECTRONIC
OUR PORTFOLIO

SERIAL DEVICES & ACCESSORIES, CUSTOMISED TEST SYSTEMS, SERVICE

YOUR PARTNER FOR
ELECTRICAL SAFETY TEST TECHNOLOGY

www.spselectronic.com
Welcome to SPS electronic

We are the technology-loving experts for electric testing equipment from the heart of Germany. We develop our products from the conviction to only offer the best quality. In doing so, we have always been oriented towards typical German values, such as reliability, accuracy and perfection — in every area. From product development via customer advice to individual support. In short, with SPS electronic you are always on the safe side.
Our work – safety testing 360°

At SPS electronic you will find an all-in-all offer of safety test technology and everything that goes with it.

For 40 years, SPS electronic has designed and produced test technology in the field of electric safety, selling it worldwide. In doing so, our main focus is on providing safety and function testers as well as a wide selection of suitable accessories. Always at the latest state of the art and, of course, in best quality.

But apart from the continuous extension and further development of our product range, we are specialised in developing test and checking systems that are individually tailored to customer requirements. Thus, we also look after implementation apart from planning.

And it goes without saying that this takes place with highest claims. Because no matter what test problem you face – we will always find a solution.

We round off our product range with a reliable full service. This includes, for example, our comprehensive advice prior and after the purchase, the installation as well as the repair of appliances, if necessary. And this even applies when it is a third-party product. Furthermore, we offer worldwide training courses and seminars as well as comprehensive online support, covering all topics – from mere product use to safe handling of the test technology.

Good things can be so close at hand – Our distribution and service center:
Our field of application – cross-industry

SPS electronic always offers the right test solution – no matter if it’s for luminaires, motors or medical equipment.

Electric motors  Lighting industry  Power tools

Household appliances  Powertrains  Automotive industry

You need to test – we have the right solution.

With our products, we generally offer a suitable solution for all tasks in electric safety testing. However, it can happen that very special requirements apply to a particular test task. Be it in the terms of sequence of the parameters to be tested, the conditions under which it shall be tested, or also the kind in which the approval of the test finally takes place. Here we are once again happy to assist you – with special solutions that are fully tailored to your individual needs and desired requirements. The industry is secondary in that regard – whether it involves motors, lighting fixtures, tools or even medical equipment: Decisive is always the type and procedure of the testing.
Our strengths – your advantages

Characteristics, that our customers worldwide appreciate.

We are competent…

...because we are capable of what we do! For 40 years, we have been developing and producing test technology in the area of electrical safety and have been selling them worldwide. From individual planning, development through to support – with our help, you can always be sure to have an experienced partner at your side.

We are innovative…

...because only those that improve, move forward! Our test systems as well as our serial devices and matching accessories are continuously further developed and thus, we are always one step ahead.

We are obsessed with technology…

...because only those who give their best can convince! We are specialised in creating test and inspection systems that are individually tailored to customer requirements. In doing so, we grow with each challenge and always find the perfect solution – regardless of what testing task you are faced with.

We attach great importance to SERVICE...

...because the satisfaction of our customers is what matters most to us. Our service does not come to an end with the delivery of a test system: we are also there to help you with the commissioning of the system.

Find yourself in good company
Anything but standard: Serial devices for the highest demands.

Rely on safety and function test technology that you can trust in every respect.

You can’t make a better decision than that: With our wide range of products, we offer the right device for each of your testing tasks. Do you need a single hipot tester? Or do you need a safety tester with which several test types can be covered at the same time? Matching accessories? You will find what you are looking for at SPS electronic.

And if you do not know exactly which of our devices is required for your application, you have come to the right address. We will be happy to provide you with comprehensive advice, help you make the right choice and, whenever possible, ensure that your work runs smoothly and successfully. Just give us a call.

Multifunction safety testers – our independent all-rounders

Whatever electrical safety test you have to carry out, with our multifunctional safety testers you will always make the right choice. The multifunctional safety testers from SPS electronic combine up to 18 test types in one compact device — from high voltage testing, insulation testing, ground bond testing to functional testing — so you always have your DUT under control. Last but not least, the devices convince with a multitude of technical features. Our multifunction testers are available as pure plug-in units for integration into a system cabinet, in a classic housing or as ergonomic desktop units. The latest generation of multifunctional safety testers is equipped with a 10” touch colour display and has 18 different test types. The devices are equipped with 8 high voltage relays, which ensure that all tests can be carried out automatically with one contact.

More information at www.spselectronic.com

Sit back and relax — using our Hipot testers

Using the hipot testers from SPS electronic, you can carry out all high voltage tests conforming to standards. This allows the units to test all electric insulation properties and the dielectric strength of electrical appliances of the protection class I and II. We offer you hipot testers for voltages within the range of up to 5,500 V AC or 6,000 V DC at a maximum of up to 100 mA / 200 mA.

Our hipot testers are available as pure plug-in units for integration into a system cabinet, in a classic housing or as ergonomic desktop units. Our range is supplemented by a mobile compact device — the best introduction to high voltage testing!

More information at www.spselectronic.com
Don’t get wound up in production with our Surge testers

Only with a surge test it is possible to detect winding shorts and insulation faults in windings. Preliminary damages and thus a failure of winding materials, electric motors and coils of any kind can be prevented. This avoids breakdowns electric motors and any related costly call-backs. All surge tester of SPS electronic feature a computer which evaluates both the vibration curve and the partial discharge. Several different methods of analysis are available. In addition, we also have separate devices for partial discharge during surge testing or during the conventional examination with a hipot tester in our delivery program.

More information at www.spselectronic.com

Your guarantee for a reliable Ground bond testing

Be it intermediate tests or those at the end of line — using the ground bond testers from SPS electronic, you can carry out ground bond tests and continuity tests conforming to standards on units of protection class I. So you can check reliably and flexibly if the permissible limits of ground bond resistance given in standards are not exceeded.

More information at www.spselectronic.com

Partial discharge testers – for those who are energised

With our partial discharge tester completely new possibilities for evaluation of winding insulation in coils arise. For the first time it is not only possible to test the insulation between core and winding, but also insulation between the single turns. Thus, it is possible to uncover quality defects in windings that are not recognisable with a conventional surge tester alone.

The compact and manageable device is equipped with a large 10.1” touch display for comfortable operation. The measurement values and the settings can be easily transmitted via the interfaces (RS 232, LAN).

More information at www.spselectronic.com

Insulation testers – If you want it to be really safe

Whenever the insulation of an electric appliance shall be tested safely and conforming to standards, the Insulation testers from SPS electronic are the first choice. From the possibility of a mobile test application to a stationary use to an integrated operation into a network, they have been ideally designed for all applications. All units are also easy and convenient to operate. We offer insulation testers for all applications in the manufacturing of electrotechnical and electronic products. The safety-current limited (<12 mA DC in accordance with EN 50191) devices can be used as insulation tester and as hipot tester. The various interfaces allow the use in testfields as well as in automatic systems.

More information at www.spselectronic.com
Everything you need for a relaxed working environment.

In the case of an electrical safety test, the details can be decisive. With the accessories from SPS electronic you are always on the safe side.

High voltage relays
Various high voltage relays which can switch voltages up to 5,000 V AC or 10,000 V AC in combination with high currents.

Kelvin terminals
The exchangeable clamping jaws allow connection of free cable ends as well as threaded bolts. Available with various opening widths.

Calibrators
For checking individual readings of safety tests. All calibrators are supplied with a factory calibration or DAkkS document.

High voltage cables
Up to 10,000 V AC approved high voltage cables. Available in various versions and cable lengths.

Universal test sockets
Universal test socket adjusted to various plugs and country standards. Especially durable and robust.

Test verification boxes
To test all serial devices and test systems with regard to their functional capability.

High voltage connectors
Multi-pin connectors for voltages up to 10,000 V AC.

High voltage test probes
To carry out a safe high voltage test. Available in various versions and cable lengths with start signal.

Ground bond test probes
Available with integrated start button and with different cable lengths.

PC Software
You need a software to control your customised test system? Just contact us, we will jointly find a solution.

DUT enclosures and cages
We stock test cages in which safety features such as a light curtain are integrated ex factory. This offers highest safety and a convenient access to the DUT.

High voltage kelvin pins
For connecting high voltage test points with back measurement (Kelvin technique). Available in different lengths.

Pneumatic line terminals
For the fast contacting of free cable ends and automatic release after testing.

High voltage connectors
Multi-pin connectors for voltages up to 10,000 V AC.

PC Software
You need a software to control your customised test system? Just contact us, we will jointly find a solution.

...and much more
even more accessories can be found at www.spselectronic.com
TEST SYSTEMS

With our products we normally offer a suitable solution for all tasks in electrical safety testing. However, it can happen that very special requirements apply to a particular test task. Be it in terms of the sequence of parameters to be tested, the conditions under which it shall be tested or also the kind in which the approval of the test finally takes place. Here we are also glad to help you — with special solutions which are fully coordinated with your individual needs and the desired requirements. You can learn more about this on the next pages.
When there is a testing task, there is always a solution.

And, at best, it comes from the experts for electric safety test technology: SPS electronic.

We would not be experts if we did not know everything about electric safety tests. Therefore we have the possibility to respond quickly and coherently even to new questions: in the form of customer-specific test systems, supporting you in your work and making it easier. Just put us to the test – what can we do for you?

A TEST SYSTEM — WHAT DOES THAT MEAN?

In a test system, different components from the field of electric test technology are combined with each other and thus summarised to an independent test system. That can mean that a whole production line comes into being on which various electric safety tests are carried out on several stations. Even automated, if it is desired. But it can also mean to develop first-time a safety test for a special, completely new product, where appropriate. The opportunities for that are almost unlimited.

FOR WHOM AND IN WHICH CASE DO TEST SYSTEMS COME INTO CONSIDERATION?

Test systems come into consideration for everyone who is not satisfied with the standardised procedures for electric safety testing. This might have different reasons. For example, if safety testing has not been applied in the required manner yet. This is often the case with new or very exotic products. Or particular test parameters are required, for example whenever a product must also function underwater or in other extreme situations. No matter how unusual a customer wish is – we will find a solution.

FOR WHICH INDUSTRIES, APPLICATIONS AND APPLIANCES CAN TEST SYSTEMS BE REALISED?

Our individual test systems are used in almost all industries dealing with electric technology. Because once current is flowing within an appliance, it must be ensured that safety is guaranteed for the user at any time. In the process, it is rather unimportant whether it is about household appliances, lightings, tools, motors or even medical equipment. What is essential is always the type of carrying out the test.

THE KEY TEST PARAMETERS ARE YOUR WISHES.

The advantages of an individual test system are clearly obvious. Because it is especially designed to solve your day-to-day problems at the best. You would like to know whether a test system is also possible for you? Then please contact us. We will jointly analyse your task and develop a set of specifications. Then we will look after the development, realisation and commissioning of the system. On request, you and your employees will then get a comprehensive training and introduction, and we will, of course, continue to provide you with technical support. It almost sounds too simple, doesn’t it?

OUR TEST SYSTEMS CERTAINLY OFFER YOU MANY ADVANTAGES:

+ Individual problem solutions
+ Controllable via software
+ Complete integration into existing systems, on request
+ Comprehensive after-sales support
Customised test systems – and everything related

We inspire our customers with the almost unlimited combination possibilities of functions, test methods and components.

Safety and function tests
- Ground bond tests
- High voltage tests
- Insulation tests
- Leakage current tests
- Surge test
- Partial discharge test
- Resistance measurement
- Current power measurement
- Leakage test
- ...and many more!

Software
- Creation of test plans
- Tests
- Browsing of test protocols
- Network connection
- Data exchange with IT-systems

Interfaces / DUT connection
- SAP
- SQL
- CRM

Workplace design
Individual test solutions – according to your needs

Our test systems can be flexibly adapted to your requirements and thus be optimally integrated into your production. Three areas of application can generally be distinguished:

**MANUAL TEST STATIONS**

At a manual test station, testing begins when your employee has entered the DUT into the test system and contacted the test connection. The start of the test may take place in various ways:

- **Test with inevitable contact protection:** Testing begins once the protective housing has been closed.
- **Test without inevitable contact protection:** Testing begins at activation of a two-hand start.
- **Test without inevitable contact protection – light curtain:** Testing begins at activation of a start button. The light curtain must not be interrupted during the process.

A red warning lamp signals that the DUT carries live voltage and must not be touched. The test system visualizes the result after the fully automatic continuous testing sequence.

**SEMI-AUTOMATIC TEST STATIONS**

Semi-automatic operation combines a fully automatic process with manual interventions. For example, an employee can insert the DUT into a test cluster and start the test procedure. The test system or an additional control then checks all necessary cylinder movements for contacting the DUT and starts the testing sequence.

If the test system is integrated into a fully automatic production line or production facility, testing takes place automatically, without manual intervention. The test system will generally work in one of the two listed modes:

**Mode 1:**
The test system is fully remote controlled by a system control. The superordinate control specifies all test parameters or chooses the testing sequence set in the test system. Contacting and all mechanical processes are carried out by the system control. As soon as the system control has prepared testing, it starts the test system. At the end of testing, it transfers the test results back to the system control.

**Mode 2:**
The test system controls all mechanical processes in the test cell via a bus system. The test system additionally communicates with a system control and an ERP system.

**FULLY-AUTOMATIC TEST STATIONS**

From small quantities... ...up to... ...high volumes!
Customised workplace design

On this page you can find an overview of workplaces that complement your test system. Of course, we also provide individually tailored workplaces – from tandem DUT enclosures, test cages with a trapdoor up to accessible testing rooms.

**TEST STATION WITH CONNECTION PANEL**

The most simple connection option for small and medium numbers is the use of connection- and control panels. One joint panel can be used in principle for connection and operation, but separate panels for DUT connection and operation of the system are also widely applied solutions. If one of these two concepts is used, the operator can be protected with a two-hand safety operation. Additional persons must not have access to the test area. This ensures conformity with EN 50191.

**TEST STATION WITH DUT ENCLOSURE**

In an industrial environment it is often necessary to protect the user by means of a DUT enclosure. In this case, workstation design is significantly simplified with regard to third persons. With the DUT enclosure and integrated safety switches, workstation design in conformity with EN 50191 is guaranteed without additional equipment. The enclosure is available in various standard sizes, individual production to suit customer requirements are often requested.

**TEST STATION WITH LIGHT CURTAIN**

The use of a light curtain to protect against dangerous voltage permits workplace design in conformity with EN 50191, as well as smooth handling. As opposed to a conventional DUT enclosure the light curtain does not always protect against mechanical hazards, because the test area is not closed. The safety light curtain is certified for this application and ensures that all voltages are switched off when the light curtain is interrupted. A particular advantage of this concept lies in easy mounting and dismounting.

Contacting your DUT

Even though “electronic” is part of our company name, one of our major strengths lies in mechanical adaption of DUT and their specific contacting.

Testing equipment and mechanics are manufactured to precisely meet your test task’s requirements. Pneumatically controlled, very small Kelvin pins or spring-loaded contacting modular construction kits are often used in this regard. Construction takes place directly on 3D-CAD workstations in-house. The latest facilities in our mechanics department ensure production of professional and affordable components.

**KELVIN TERMINALS**

**INDIVIDUAL CLAMPING MODULES**

**MAGNETIC CONTACT**

**CONTACTING VIA ADAPTER CABLE**

**PNEUMATIC CONTACTING**

**CUSTOMISED SOLUTIONS**

If you need something bigger

**WALK-IN TESTING CABIN**

For larger DUT we also manufacture walk-in testing cabins upon customer request.

In the picture: a walk-in testing cabin with a split door, as well as a connection panel placed on the left of the test cage and a double side wall in which high voltage relays can be accommodated. The two-wing door is equipped with a lock so that the operator cannot open the door during a high voltage test until the DUT is safely discharged. After closing the door the operator can control the test process from outside via operating controls.
The **know-how of SPS electronic** has been used in these solutions

Further examples of our expertise.

- Test system for sensors
- Test system for medical surgical instruments
- Test system for power tools
- Compact test bench for explosion-proof lightings
- Test system for household appliances
- Test system for power distributors
- Test system for electric motors
- Test system for water pumps
- Test system for solar inverters
- Mobile test trolley for universal applications
SERVICE
Our Service – Everything from a single source!

When it comes to service we do it thoroughly. The products we offer come with the appropriate advice and support – before and after purchasing. Do you have a question? Need a replacement part or support? Call one of our experienced team members: +49 791 20 212 327

Regular firmware updates

All testers from SPS electronic always come with up-to-date software. We provide you with regular firmware updates to stay on the cutting edge of technology also in the course of operation of the device. You can download the latest version on our website: www.spselectronic.com

Service for unit on loan

No loss of time – even if your equipment and systems are under repair or maintenance. Numerous loaners are available from the product range of SPS electronic for the duration of the repair of your equipment. Whether they are hipot testers, insulation testers, ground bond testers, leakage current testers or multifunctional units. We also provide a trial unit if you are unsure about the new unit you want to buy. Just let us know about it!

OEM spare parts service

Using our OEM spare parts ensures optimum performance and maximum service life of your equipment. We at SPS electronic supply you with the spare parts for all device types and generations worldwide. Common spare parts are immediately available from stock. Should we not have something in stock, we will produce or procure it as quickly as possible.

After-sales support

We start exactly there, where others give up! And that is why our service does not end with the purchase of one of our units. We want you to have long-term satisfaction with us and our products. Especially for this purpose, we have a large service team that is always on-hand with technical advice and support.

On-site service

We are at your service wherever you need us! The optimum support provided by our service technicians restores the operation of your devices and customised systems. Our customer-focused field service is tailored to your needs, so as to consistently meet your technical requirements. We will work out the repair and maintenance plan jointly with you, so as to keep the downtime of your systems and equipment at a minimum.

Seminars and training programs

Get the best from your testers! The effectiveness of your equipment and customised systems not only depends on the technology but also its proper handling. We offer training programs that focus on the issues, needs and testing tasks of our customers. We first analyse the training needs together with you and then specifically design the contents according to your requirements. Thus, you get to know your safety tester in a practical and application-oriented way.

Remote service

Our service is also remotely available as an alternative to our on-site support. This saves considerable time and significantly reduces the cost especially when it comes to sites that are far away.

Calibration and maintenance

The annual calibration of the testers is an essential prerequisite for the assured quality and is a requirement to be met by any company as part of the control of inspection, measuring and test equipment. We calibrate your safety testers – either directly at your location or in our premises. Thanks to our large service network, our numerous subsidiaries and our partners, we are represented worldwide and always close to you.
IF A "SIMPLE" CALIBRATION IS NOT SUFFICIENT: DAKKS CALIBRATION ACCORDING TO DIN EN ISO / IEC 17025

We are very pleased to have recently received the official accreditation certificate and the certificate for our calibration laboratory in Twist from the DAkkS (Deutsche Akkreditierungsstelle / national accreditation body for the Federal Republic of Germany). This means that we are retroactively authorized to offer accredited calibrations according to DIN EN ISO / IEC 17025 since November 2019 (a competence that only very few laboratories can provide). The final accreditation was preceded by about 5 years of preparation and a lengthy accreditation process – a period of time which, last but not least, makes clear the great importance of this success.

WHAT ARE THE CHARACTERISTICS OF A DAKKS CALIBRATION?

DAkkS calibration certificates are valid at any time, internationally and without further valid proof of traceable measurement results. They are issued with standards whose traceability is guaranteed by DAkkS certificates or calibration certificates issued by PTB laboratories. DAkkS calibration certificates can only be issued by the accredited calibration laboratories within the scope of the accredited measured quantities. This ensures that high quality calibration is guaranteed by regular external assessment and re-accreditation, traceable standards, precisely defined environmental conditions and specially trained personnel.

WHAT IS THE DIFFERENCE BETWEEN A DAKKS AND A TRACEABLE FACTORY CALIBRATION?

The main difference lies in the evaluation of the measurement results: A factory calibration includes the evaluation of the results without consideration of the measurement uncertainty on the basis of the specifications published in standards, guidelines or by the manufacturer. The DAkkS, on the other hand, provides for an evaluation of results exclusively on the basis of the actual values determined and the associated measurement uncertainties, i.e. all influencing variables occurring during calibration, such as the accuracy of measuring equipment, temperature, type of connection, device-specific parameters, resolution, tolerance limits etc., are taken into account. The results are evaluated by the customer and the usability for the required measuring process is determined.

WHICH IS THE RIGHT CALIBRATION FOR ME?

The DAkkS calibration according to DIN EN ISO / IEC 17025 becomes necessary if special requirements demand it. This procedure has no influence on the traceability of the measured variables. Both the measured variables of the factory calibration and those of the DAkkS calibration can be represented equally.

Factory calibration certificates are issued with standards that are subject to regular test equipment monitoring, the traceability of the standards used is ensured by regular test equipment monitoring.

When recalibrating test equipment, which in turn serve as standards for monitoring other measuring and test equipment, a DAkkS calibration should always be used because of the assured traceability to national standards.

You are not sure which calibration you need?

Contact us – our experts will be happy to provide you with detailed and competent advice: +49 791 20 212 327

The special extra – the calibration service of SPS electronic

Because a calibration is not just a calibration, customers worldwide rely on our expertise.
Energy-efficient vehicles with electric drives are on the advance and pose new challenges for automobile manufacturers and suppliers alike.

The new electrical components with extremely high currents and voltages pose a considerable danger not only for the user, but also for the safety forces in the event of an accident. This makes it all the more important to subject the individual components of an electric vehicle to a thorough electrical safety test before they leave production.

In the past, cars were uninteresting for SPS electronic because there was no dangerous voltage. Electric cars, on the other hand, require testing – not only the car itself, but also accessories such as the charging station, batteries, wiring harnesses etc. Due to the increased voltages in the electric car (from 12 volts to up to 800 volts), the requirements for electrical safety and functional testing have increased considerably. What is completely new for the automotive industry is already widely used technology for SPS electronic. Thanks to its long-term expertise, SPS electronic is able to competently advise its customers all the way from project planning to acceptance.

The comprehensive, worldwide service is controlled from the branch Teist (Northern Germany), while the development and production mainly takes place in the main factory Schwäbisch Hall. Due to the high capacity utilization, parts of the production could also be outsourced to the Czech subsidiary Chomutov in the past years. In fact, sales growth in this business segment is already in the mid-double-digit range and is continuing to rise.

This development requires not only internal preparation of professional profiles for new tasks, but also the creation of numerous new jobs.

For more specific information on this topic visit: emobility.spselectronic.com