MACHINE SAFETY SERVICES
Extensive services for machine safety

SMARTER CUSTOMER SERVICE

www.leuze.com
OUR MOST IMPORTANT PRODUCT IS PROFESSIONAL CUSTOMER SERVICE

WE ARE YOUR SENSOR PEOPLE

It is for good reason that we are known in the industry as the sensor people. We have always known that a technically demanding business such as the sensor business, in particular, can only function if we are a reliable partner to our customers. It is a matter of much more than technical excellence in the products – it is a matter of a high level of knowledge about applications and technical relationships and the readiness to stand by our customers any time that they need us. Technically competent support is another element, such as the global presence of competent contacts and the 24/7 availability of our customer help desk.
### Our service offerings

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For many people, complex planning or engineering tasks or the management of functional safety make the set of issues related to safety at work a closed book. In the area of legal security in particular, information gaps often exist. With our extensive, qualified offer on safety at work, you are on the safe side legally and can fulfill all legal guidelines easily.

We support your service department and, in the event of limited resources, make available the appropriately qualified team. We work with our experts to ensure the safety of your machines and systems. Your production and service team is free to perform its actual tasks. Our offerings are accompanied by an extensive range of training courses tailored to your needs.

**ALWAYS THE RIGHT SERVICE FOR YOUR PROCESS**

Legal security and efficient safety at work are successfully combined quickly and easily with our range of services.

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**OUR SERVICE OFFERINGS INCLUDE**

- Status check Safety technology (MSSC)
- Status check CE (MCSC)
- Risk analysis / assessment (MRAS)
- Conformity assessment of machines (MCMS)
- Development support for machine safety (MSEN)
- Safety inspection (MSIN)
- Functionality of protective devices (MSPT)
- Validation and verification of safety functions (MSVV)
STAGES OF A MACHINE LIFE CYCLE

1. Development & design
2. Installation & commissioning
3. Operation & maintenance
4. Changes during operation
   4.1 Planning
   4.2 Development & design
   4.3 Installation & commissioning
4.4 Operation & maintenance
5. Disassembly & disposal

THE RIGHT SERVICES AT A GLANCE

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SAFETY IS A MATTER FOR PROFESSIONALS

Extensive professional consulting services for all aspects of machine safety.

Adherence to laws and regulations related to machine safety is a management task that often goes beyond the capacities within a company – both financially and with respect to personnel. The design and continuous updating of knowledge in the area of safety at work are complex and because of constant changes to the national and international legal environment, dealing with standards and regulations is not a straightforward matter.

Leuze electronic supports you in carrying out this management task with a professional team of work safety, application and product specialists with state of the art technology. In conjunction with your own resources, the safety of your machinery will be improved in an efficient way.
WELL ADVISED RIGHT FROM THE START

Whether a new system or modernization, we support you during the development of your machine safety solutions.

OUR KNOW-HOW FOR THE SAFETY OF YOUR PRODUCTION PROCESSES

Whether it be a new system or a modernization, for the designer the important thing is to integrate the safety technology into the machine in such a way that optimum safety, productivity, ergonomics and cost effectiveness are achieved while incorporating and considering the relevant standards and specifications. Make good use of the long-standing years of application experience of our engineers in hammering out the respectively most optimum safety concept.

“SAFETY KNOW-HOW” WHENEVER YOU NEED IT

A selection of European directives and important standards of machine safety can be found online in our “Safety Know-how” advice service at www.leuze.com/en/safety-at-work. Here, you can find detailed help with the selection and application of protective devices. Interactive calculation wizards support the person setting up, for example, with the standards-compliant dimensioning of hard guards or the calculation of required safety distances with electro-sensitive protective equipment.

SAVE TIME WITH COMPUTER-AIDED ENGINEERING

For the quick and easy integration into your design drawings and circuit diagrams, both 3D-CAD drawings (www.leuze.com/en) and EPLAN 8 product macros for many of our products are available as free downloads at the EPLAN data portal (www.eplan.de/produkte/eplan-data-portal).

THE RED BOX CONCEPT

Easy integration of safe sensor and actuator systems in existing and new machines is made possible by our RED BOX concept. Leuze electronic combines power supplies, reliable control and the necessary connecting elements and operational controls in an application-related way in a pre-wired switch cabinet and carries out the programming of the reliable control. Ease of installation is guaranteed by using conventional connectors; safety light barriers, safety laser scanners or safety gate switches are connected using M12 connectors, for example. Documentation of the programming and wiring and confirmation of conformity based on the relevant directives are also a constituent of the package.

Your benefits at a glance

- Simple integration of the safety technology during machine conversions
- Retrofitting of safety technology in machines and systems
- Uniform safety concept for machine combinations
- Complete documentation is included
SAFETY IS ALSO A QUESTION OF SPEED

Stopping time measurements and determining safety distances.

STOPPING TIME MEASUREMENTS ARE AN IMPORTANT BASIS FOR THE CORRECT POSITIONING OF PROTECTIVE DEVICES

Only with a sufficiently dimensioned safety distance that corresponds with the stopping time of the machine can it be guaranteed that the dangerous movement will stop before the person reaches the point of operation. Wear and tear can, however, extend the stopping times of machines. The causes for this can, for example, be a defective brake cylinder or a faulty spark absorber. Stopping the dangerous movement in good time and therefore reliable protection by the protective device is no longer guaranteed. Stopping time measurements are therefore, in our opinion, an extremely important part of a properly carried out safety inspection.

Your benefits at a glance

- Measurements performed by experts with calibrated measurement devices provide a safe and sound basis for positioning the protective device
- Comprehensible and well-documented test results in accordance with DIN ISO 9001:2015 and optional graphic analysis of the braking motion
- Early detection of wear and tear in brake components with periodical inspections
Safety at work is the employer’s responsibility and, therefore, the “boss’s business”. In Germany the Ordinance on Industrial Safety and Health legally requires that machinery be tested before being put into operation (initial operation), after long idle periods, after changes and modifications and at regular intervals. Regular safety inspections guarantee compliance with safety and quality standards, serve as precautionary maintenance measures and consequently help to reduce undesirable machine downtimes to a minimum.

Performing these kinds of tests with your own personnel often has its limits because the Betriebssicherheitsverordnung (Ordinance on Industrial Safety and Health) and the technical regulations for operational safety have an extremely narrow framework as far as personnel qualification requirements are concerned. All service technicians at Leuze electronic have these qualifications, since they are persons who are capable of accepting contactless protective equipment and their skills are always at the latest state of technology due to regular training.

Your benefits at a glance

- EU conformity and legal certainty with proof of safety and quality standards
- Solution proposals for the rapid removal of safety deficiencies
- Comprehensible and well-documented test results in accordance with DIN ISO 9001:2008
- Standards-specific test protocol
- Accident risk and machine downtime minimization
- High availability of the machine due to regular inspections

SCOPE OF SAFETY INSPECTIONS

- Recording the identification of machine and protective device
- Testing the technically-compliant installation of the protective device (reaching under, reaching over, etc.)
- Stopping time measurement (optional) and testing the safety distance between the protective device and the point of operation
- Testing the circuit diagrams for safe switching-related integration of the protective device into the machine control system
- Testing all functions of the protective device and the safe interaction with the machine control system
- Proven-in-practice assistance with problem analysis and presentation of solutions
- Documentation of all test results in a test log and attaching the inspection sticker
- Log in pdf format
- Safety inspections of other manufacturers’ products on request
**SAFETY IS A SERIOUS TOPIC**

Validation and verification of safety functions.

VALIDATION AND VERIFICATION MEASURES (V&V)
HELP TO AVOID MALFUNCTIONS DURING THE PLANNING AND REALIZATION OF SAFETY-RELATED CONTROL COMPONENTS (SRP/CS)

Validation and verification are two important elements in the safety life cycle, and help reveal mistakes in the specification or the implementation of safety functions.

**VERIFICATION**

In each phase of the safety life cycle, it must be shown that the results that are achieved also correspond to the previously formulated goals and requirements.

Leuze electronic provides support in this case with the analysis, the required testing and the final documentation. One example is determining the performance level (PL) that is achieved for a safety function.

**VALIDATION**

Safety at a machine always depends on the effectiveness of the installed protective devices. This phase is known as validation in the safety life cycle. Leuze electronic provides support in producing the validation plans, carrying them out on the machine and subsequently with documentation based on the safety requirement specification (SRS) defined in the previous phases.

We support you during this validation and verification process with:

- Competent examination of circuit diagrams for errors
- Comprehensible and well-documented test results
- Checking of safety components for correct installation and functionality in accordance with the specification
- A check of the function of control-dependent protective measures in all operating modes
- Manufacturer-independent check of the achieved PL, e.g. by using the IFA tool SISTEMA
- Verification of the safety configuration in the control
We provide other comprehensive support in the form of services over the life cycle of a machine.

The range of services is supplemented by:

- An extensive range of training courses tailored to your needs
- Telephone support via a technical hotline
- Extensive repairs and device replacement service

**ADDITIONAL SERVICES**

**Qualified product training and seminars**

Well-trained employees ensure that your machines and systems are reliably constructed and that fault-free production is guaranteed. The scope of our training includes training on our products, about optimized application solutions and, of course, basic and expert knowledge in the field of safety technology.

**Start-up support, hotline**

Our quick and competent support with start-up helps you to save time and money. This is achieved by means of a global technical hotline which provides comprehensive help by telephone and e-mail for selecting a new product or provides support regarding any matter during the commissioning of a product.

**On-site service, repairs and device replacement service**

We offer fast help in the event of a fault with the quick exchange of devices from our standard range and if necessary by our competent service technicians on-site.
WE MAKE YOU FIT IN THE AREA OF SAFETY

Qualified product training and seminars make the use of protective devices simpler and more efficient.

A customized training program helps you keep your knowledge of safety technology current. We offer seminars on the basics of the Machinery Directive, on CE certification and practical safety technology as well as on software-supported CE certification and risk assessment. We will also gladly provide instruction on-site at your facilities or in English.

You will find our training program on our website at www.leuze.com/en/seminars. Should this not cover your training requirements, with the appropriate number of participants, we will be happy to combine the relevant training content according to your individual wishes.

We’re looking forward to getting to know you!

Your benefits at a glance

- Efficient and specialist use of protective devices by qualified employees
- High level of system availability by preventing faulty operation and application errors
- Small cause – big consequences: Optimum product knowledge helps to detect application problems quickly and prevent production downtimes
- Direct dialog between our specialists and your employees for experience exchanges, application tips and problem-solving
- A certificate attests that your employees have participated in the training course
AN OVERVIEW OF SELECTED TRAINING COURSES

You can find current information and dates on our website.

Product training courses
- Safety PLCs and safety relays
- Safety laser scanners
- Protective sensors and safety light curtains

Safety seminars
- Manufacturing safe machines
- Safe operation and safe modification of machines

Standards workshops
- Calculating safety functions in accordance with EN ISO 13849-1 with SISTEMA
WE KEEP YOU SUPPLIED WORLDWIDE

On-site service, repairs and device replacement service.

Deadline pressure means: there’s often not enough time to commission a protective device. Our competent service hotline staff can answer many questions over the phone.

On our website at www.leuze.de we support you around the clock with a free of charge download option for operating instructions, technical descriptions, parametering/configuration software, data sheets, parameter files and FAQs for fast troubleshooting.

+49 7021 573-123
service.protect@leuze.de

FAST ASSISTANCE DURING START-UP

In the event of a functional fault, speedy help is the order of the day. Our device exchange service allows for quick device swap-out. As part of our guarantee, you receive a free of charge replacement device after the serial number has been provided. Within Germany, the delivery of a replacement device from our standard range generally takes two to three working days. Overseas, the corresponding transport times are added to these. In the event a device fails after the warranty period has ended, for selected devices, we can provide you with replacement devices quickly and at a low price upon consultation. In this way, we make sure your machines exhibit the safety and availability required of them.

+49 7021 573-0

IN THE EVENT OF AN EMERGENCY, WE ARE AVAILABLE AROUND THE CLOCK

For emergencies, the Leuze electronic On-Call Service is available to you around the clock at +49 7021 573-0.
With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. To this end, simple mounting and alignment are taken into account – just as the uncomplicated integrability of the sensors in existing field bus systems and easy configuration, e.g. via a web browser, are.

Whoever can do it all, can do nothing right. Which is why we concentrate on selected target sectors and applications. There, we are specialists and know all aspects inside out. For this purpose, we optimize our solutions and offer a comprehensive product range that makes it possible for our customers to obtain the absolute best solutions from a single source.

The technical and personal proximity to our customers, and a skilled, straightforward handling of queries and problems, are among our strengths – and will remain so. Consequently, we will continue to expand our service offerings and, indeed, also forge ahead in new directions to persistently redefine the utmost in customer service. Whether on the phone, on the Internet or on-site with our customers – regardless of when and where the expertise of the sensor people is needed at any time.

Info at: www.leuze.com

Martina Weil, Employee in the Customer Care Center
Switching Sensors
Optical Sensors
Ultrasonic Sensors
Fiber Optic Sensors
Inductive Switches
Forked Sensors
Light Curtains
Special Sensors

Measuring Sensors
Distance Sensors
Sensors for Positioning
3D Sensors
Light Curtains
Forked Sensors

Products for Safety at Work
Optoelectronic Safety Sensors
Safe Locking Devices, Switches and Proximity Sensors
Safe Control Components
Machine Safety Services

Identification
Bar Code Identification
2D-Code Identification
RF Identification

Data Transmission / Control Components
MA Modular Connection Units
Data Transmission
Safe Control Components
Signaling Devices
Connection Technology and Passive Distribution Boxes

Industrial Image Processing
Light Section Sensors
Smart Camera

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