

HIGHLIGHTS OF THIS ISSUE

# THE NEW BLOB SERIES IN UNIVERSAL DESIGN



## INSIDE

01/2013





„YOU ARE  
PRESENTLY  
HOLDING THE  
FIRST EDITION  
IN YOUR HANDS.“

## EDITORIAL

As so often at OKW, it is time for something new! Allow me to present to you today the first edition of our new customer magazine INSIDE. This clearly laid out magazine will appear at regular intervals and give you comprehensive information about all aspects of enclosures, tuning knobs and services. Of course we shall not neglect in-house corporate news.


We wish you much pleasure reading our new magazine.

A handwritten signature in green ink, appearing to be 'CS', with a stylized arrow pointing upwards and to the right.

Dipl.-Ing. Christoph Schneider, Managing Director



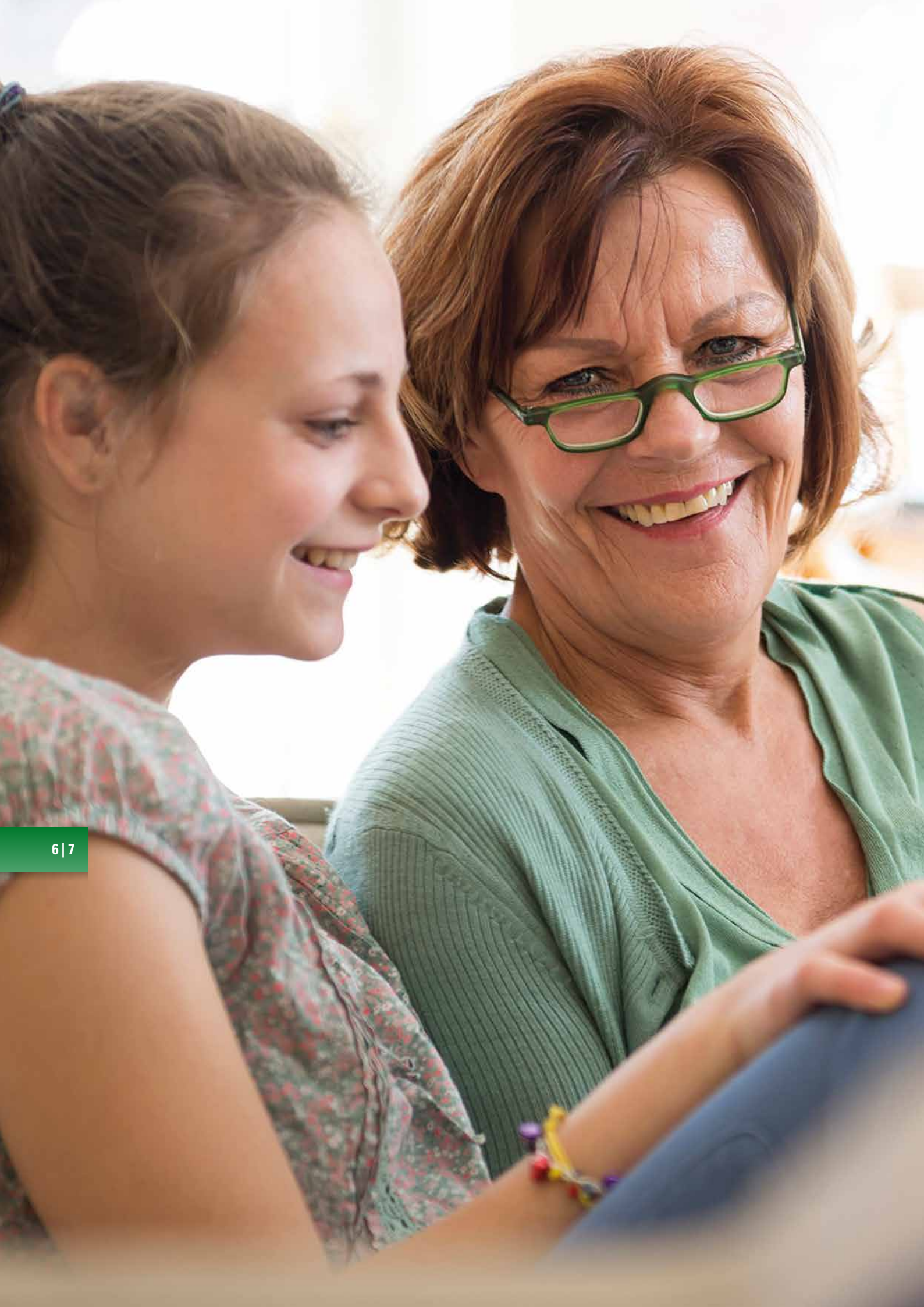




# „IT IS ALL ABOUT: ENCLOSURES, TUNING KNOBS AND THE SERVICE.“

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# „WHAT DOES UNIVERSAL DESIGN STAND FOR?“

Universal Design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

(Ronald L. Mace, 1988)

## DESIGN ACCESSIBLE TO EVERYONE

**The term Universal Design** was introduced by the American architect Ronald L. Mace who for the first time used it in the mid 1980s. Universal Design neither stands for standardisation nor for uniformity. Rather its concept is oriented towards people. Universal Design aims at making our environment accessible and usable for as many people as possible via design. Regardless of peoples' individual skills or peoples' age, sex or their cultural background the concept aims at offering everyone equal participation in our society. Discrimination of people via design that isolates them from accessing certain services, spaces and products is to be avoided.

Especially because of the demographic change the subject Universal Design nowadays experiences a growing importance in the international contexts of research, design and economy. The growing ageing of the population calls for new requirements in term of design of our environment in all spheres: design of buildings and infrastructures, as well as design of products, information and communication systems, and conceptual

design of services. According to some estimates the number of people at the age of 60 is going to double by the year 2030. Elderly people are no longer considered as a marginal social group with special needs. Rather they are, from a entrepreneurial perspective, an important customer group. Some marketing surveys use terms like Generation Gold, Silver Age, Generation Plus or rather 50 Plus, Woopies (well off older people) instead of devaluating terms like the old or seniors to grade up the status of the elderly people on the consumer market.

Considering the needs of older consumers and to reflect them in the design of products became an important concern. Furthermore, surveys like the one from the London Research Institute Ricability, show that products that are designed in consideration of the needs of people from older generation seem to be attractive to everyone because of its user-friendliness and improved use.

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Quelle: IDZ - Internationales Design Zentrum Berlin, [www.idz.de](http://www.idz.de)





Easy to handle,  
pleasant to hold, exact  
to guide and to operate.



# „MODELLED FOR YOUR HAND. THE NEW BLOB.“

JOSEF BOTH, RESEARCH & DEVELOPMENT

An enclosure that makes it especially pleasant for its users, regardless of their individual abilities or age, may very often sound like pie in the sky.



## THE BLOB SERIES

**The older generation** is active and keeps fit – mentally as well as physically. Nevertheless, there are still some constraints that generally have to be taken into account as people get older. One's eyesight begins to fail, perceptions, reactions and motor skills deteriorate. And this is where the problem lies. Many products are intended for use by the older generation, but often do not meet their requirements. In many cases the operating elements, labelling and displays are simply too small, and one wonders why many manufacturers do not take this into account. A medical device can assume vital functions and support reliable operation. However, there are also successful examples, as shown by mobile phones and remote control units for the older generation, and so-called AAL products (Ambient Assisted Living – self-determined living through innovative technology). Until recently, however, there was no sign of any standard enclosure that was flexible enough to meet the requirements of a large number of people, independent of generation or gender, with different hand sizes and grasping volumes. The rules for this are laid down in the principles of „Universal Design“

and are identified by key words such as: wide usability, flexibility in use, simple and intuitive operation, fault tolerance, little physical effort required, as well as size and room for access and utilisation.

**OKW Gehäusesysteme took up the challenge of creating a barrier-free enclosure design**, and developed the new BLOB range of mobile enclosures. Inspired by touch and feel, the BLOB was designed in such a way that any user can quickly grasp the function of the device. In this way, everyone can find his own individual way of holding the product naturally, guiding it exactly and operating it with a minimum amount of effort. This means that the possible areas of application are highly varied, for example mobile applications in diagnostics, therapy, laboratories, industry, home office or recreation, among other possible uses. Depending on requirements, there is a choice of 3 different types of enclosure: In upright use, the BLOB UNIT with the dimensions of 130 x 60 x 30 mm is a typical enclosure for single-handed operation – no matter whether with the right



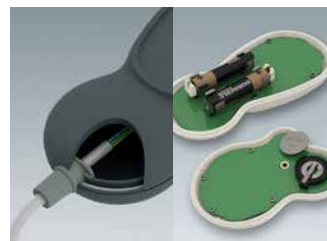
**BLOB PANEL** – an enclosure that can be held and operated with two hands.

## 10 | 11 THE BLOB SERIES

or the left hand. In the upper area there is a recessed operating area for membrane keyboards, operating elements and/or displays. The lower, round volume nestles cosily into the palm of the hand for a perfect, secure grip. The BLOB CONTROL has similar dimensions (114 x 76 x 31 mm) to those of the UNIT. However, this is more an enclosure for taking and holding with one hand and operating with the other. Two volumes are more or less docked around the round area with a recessed operating area; a convex surface which stabilises the unit towards the inside of the hand, and a further surface with a separate finger recess. On/Off switches or standby functions, for example, can be installed there as required. The CONTROL has no predefined standard orientation for use. The customer defines the grasping and holding position himself; whether upright, horizontal or rotated – everything is conceivable.

**If you need plenty of space** for installed elements and plan more comprehensive actions with the product, the largest

PANEL version is just the right one for you. As a rule, this enclosure, which has dimensions of 200 x 165 x 36 mm, is held and operated with both hands. In the panel, everything moves around a circular centre with a diameter of 120 mm and a recessed operating area. Larger displays and modern touch screens can also be used here. Thanks to the two holding surfaces on the underside, the user has an optimum grasp of the product. They also provide unequivocal orientation for usage. As in the CONTROL version, the PANEL also has a separate



**Internal power supply or external power supply with cable connection.**



**BLOB UNIT** – a genuine hand held enclosure that can be held and operated with one hand.

**BLOB CONTROL** – an enclosure that can be held with one hand and operated with the second hand.



compartment in the top right-hand area with a separate recess for special functions. The BLOB range of enclosures is available from stock in the two colours off-white (RAL 9002) and lava, made of ABS (UL 94 HB).

**Protection class IP 54 is possible** with the help of a seal available in the range of accessories. Cables are routed into and out of the enclosure with the help of cable glands specially adapted to the design of the BLOB. The cable glands are available from stock for 3 cable diameters: Ø 5.0-5.9 mm, Ø 4.2 to 5.0 mm and Ø 3.4-4.2 mm. The entire circumference on the shadow groove of the enclosure is available for the configuration required. The cable glands specially developed for this range of enclosures serve as kink protection and provide an attractive finish; only a cylindrical hole needs to be drilled for installation. OKW has taken a new approach for cordless products with battery operation. In order to maintain the universality of the enclosure family, the BLOB does not have a preformed battery

compartment. Customers define the position in the interior themselves. The appropriate battery clips from the range of accessories are simply mounted on the rear side of the PCB. The power is then located exactly where it is needed, that is, at the electronics. At the same time, the battery clips are holders for round cells and contacts. This makes sure that the batteries are held securely in position. Special caps which are simply pushed over the contacts ensure that the batteries cannot be inserted incorrectly. The direction of the flow of current is thus automatically defined, and batteries that are inserted incorrectly cannot establish any contact.



#### CONTACT

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We stock more than 3.000 standard articles. This means that the enclosures/tuning knobs you require are available from stock at very short notice.



SOFT-CASE is the first standard enclosure available from stock that is made from bio-plastic.





# „ENCLOSURES MADE OF BIO-MATERIAL ARE IN LINE FOR AN AWARD.“

## PRICE-GIVING

(from left to right)

Egon Weinlein (OKW, Head of R&D)

Kay Hirmer (OKW, Marketing)

Alfred Goldbacher (Editor Magazine „Elektronik“)



## THE FUTURE OF THE MATERIAL

**This is the fifteenth time** now that readers of the magazine „Elektronik“ have chosen the „Product of the Year“. Since the large number of product presentations from 26 magazines and numerous special editions would exceed the scope of a choice by the readers, the technical editors in question first looked out the most innovative and exciting products that the magazine had reported on in the course of the year. After this process, an average of more than 90.000 readers chose their favourites. In the category Electromechanical Technology, the SOFT-CASE series of enclosures made of bio-plastic by OKW was awarded an outstanding second place.

For years now, OKW Gehäusesysteme has been pursuing the strategy of developing bio-materials and putting them to use. After in-depth sampling and experimenting, OKW decided in favour of BIOGRADE®. SOFT-CASE is the first standard enclosure available from stock that is made from such a material. Bioplastics are produced from renewable raw materials –

the initial products of our BIOGRADE® are cotton or wood. After use, materials obtained from plants only release the amount of CO<sub>2</sub> that they removed from the atmosphere during the growth phase. Through the use of pure initial products (cotton, wood) and subsequent esterification, the material has a very good surface finish, offers properties similar to those of high-quality plastic and can be processed using the normal injection moulding method. For this reason, this bio-material is predestined for long-term use. This means that the fossil plastics used in many applications can be replaced.

## CONTACT

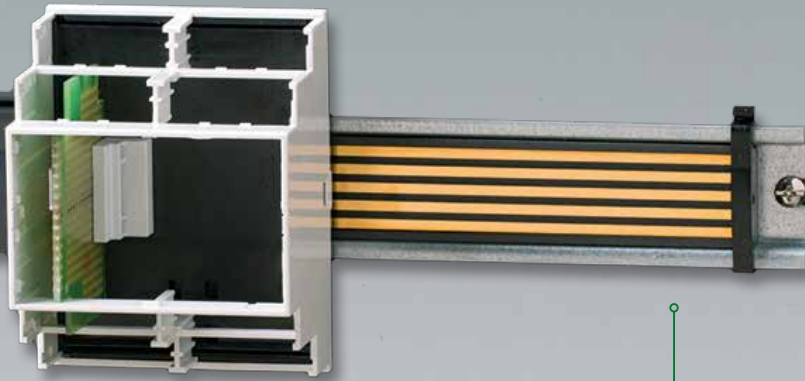
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### RAILTEC-BUS-SYSTEM

The two DIN rail enclosures RAILTEC B and RAILTEC C by OKW Gehäusesysteme GmbH have recently become even more versatile thanks to a special BUS-SYSTEM.

These are separate and individual combinations of components that guarantee fast and secure energy and data transmission via standardised top-hat rails.

### CARRYTEC L

New enclosure size with the dimensions 348 x 303 x 117 mm, for greater installation volume.

- variety of applications: mobile, desktop, wall mounted, rail-mounted, round tube, tripod, support arm.
- especially large surface area that is ideal for user interfaces (13.4"/34 cm).
- rear installation on tripod or support arm systems; fast positioning/ alignment of the visible and operating panels, orderly cable routing.
- Protection class IP 65.

Do you need any more information about new products?

We shall be pleased to help you:

Tel.: +49 (0) 62 81 404-00

E-Mail: [Info@okw.com](mailto:Info@okw.com)



### MINITEC EDGE SIZE M

For greater installation volume there is now a high intermediate ring with/without recess for USB Type A connectors in accordance with DIN IEC 61076-3-107. In an instant, this makes a size M MINITEC E (68 x 42 x 24 mm) into a mobile USB tool for many different application areas. If required, we can also supply the intermediate ring with individual openings, e.g. for LEDs. Both versions have a practical eyelet for use on a lanyard or wrist strap.



### CARRYTEC S CARRYING CASE

Specially designed for CARRYTEC S. Protects enclosure, cables and sensors. Consists of a moulded plastic part and hard-wearing textile fabric, with a practical zip fastener for fast access. Integrated recesses in the sides of the enclosure for connecting instruments, which are then ready for immediate use. Easy to attach to the screwed connection in the enclosure. Eyelet on the top for carrying with the shoulder strap (separate article).

# „OUR DEVELOPMENT NEVER COMES TO A STANDSTILL.“

## NET-BOX

The flat, elegant enclosure offers sufficient scope for installing and covering your electronics, small displays and large-volume connectors.

More information in the next issue of this customer magazine.



## NEW PRODUCTS/PRODUCT ENHANCEMENTS

WE ARE LOOKING FORWARD TO YOUR VISIT.

### 24th September 2013

College Landshut  
[www.elektromechanik-kongress.de](http://www.elektromechanik-kongress.de)

The two technical media Elektronik and Computer&Automation, in cooperation with the ZVEI, are organising the „ELEKTROMECHANIK KONGRESS 2013“ with an accompanying technical exhibition.

**Elektromechanik**  
KONGRESS



### 9th-10th October 2013

Hotel Holiday Inn, Munich  
[www.electronics-goes-medical.de](http://www.electronics-goes-medical.de)

The developer forum „ELECTRONICS GOES MEDICAL“ brings the developers of bio-medical equipment together with the suppliers of hardware and software in order to provide technical information on all aspects of the development of electronic systems for use in medical technology.

**DESIGN &  
ELEKTRONIK**  
ENTWICKLER FORUM

### 20th-22th November 2013

Fair Duesseldorf, Hall 08b, Booth 8bJ08  
[www.compamed.de](http://www.compamed.de)

This year we will also be present with a stand of our own at the COMPAMED (trade fair for suppliers of medical technology). The COMPAMED takes place annually parallel to the largest medical technology exhibition in the world, the MEDICA.

**COMPAMED**







Individuality has many facets and faces. This is why we offer you a comprehensive, all-round service.

# „INDIVIDUALITY OFF THE PEG.“

FRANK WAHLANDT, HEAD OF SALES & PROJECT-PRODUCT-MANAGEMENT

Standard enclosures offer many advantages. They are always available quickly, they are tried and tested and offer a high level of cost-effectiveness and functionality. But how can you modify stock parts in such a way that your individual customer requirements are also covered? And what can a manufacturer do if the required standards exceed those of the standard portfolio?



3D PRINTING



MECHANICAL  
MACHINING



EMC



SCREEN / TAMPO  
PRINTING



WATER TRANSFER  
PRINTING



LACQUER

**All ranges of enclosures** produced by our company are always characterised by high practicality, aesthetic design, high quality and user orientation. This is why OKW enclosures, and of course also tuning knobs, are frequently used for many different devices and applications, not only in Germany but also worldwide. In many cases, however, the customer does not simply need an empty, „naked“ enclosure, but the scope of our services goes far beyond the actual enclosure. There are many different processes and technologies to adapt the enclosure to the customer's requirements in order to generate an individual, recognisable product.

## DIFFERENT FINISHES

On account of the properties that an enclosure must have to protect and pack the electronic assembly, there is a wide range of different product lines. The characteristics proceed from the definition of the application, for example use as a desktop, instrument or wall-mounted enclosure, for mobile use or as an enclosure for DIN rails or as a flush-mounted enclosure. The required IP protection class, material properties, power supply, size/room for the

components and the range of accessories offered must not be forgotten either, of course. Special thought should also go on the sequence of assembly, so to say the „marriage“ between the electronic components and the enclosure, in order to achieve an optimum and cost-effective sequence of operations. When you have found the enclosure you need in the standard range, there still remains the question of individualisation.

As already mentioned, OKW Gehäusesysteme itself offers many different suitable finishing technologies in-house. Whether EMC protection, product lettering, special colours or special plastic materials for the application area in question, the main focus is always on the fulfilment of customer requirements as a whole: through subsequent mechanical processing, for example, a product can be given the required cutouts for interfaces, quickly and at reasonable cost. For this purpose we have 10 of our own 5-axis vertical milling machines. If the parts have special properties, such as better chemical resistance or flame resistance, the enclosures can also be produced in other materials and colours.





DIGITAL  
PRINTING



DECORATIVE  
FOILS



MEMBRANE  
KEYBOARD



ASSEMBLY



DISPLAY  
WINDOWS



ADHESIVE  
FILMS

For almost all OKW product groups, special versions are now also possible for batches starting with 1 unit. As far as the material is required, electromagnetic compatibility in particular plays an important part. The non-conductive materials used in plastic enclosures, for example ABS, offer advantages over metal versions in terms of protection against electricity and contact, since they behave like insulators. For equipment that causes electromagnetic interference or whose operation is susceptible to such interference, plastic enclosures without special measures offer only moderate protection. The shielding effect of the enclosure can be increased by means of an aluminium coating (ALVACOAT® 250). The aluminium coating, which is applied to the inside in a high vacuum, has a thickness of approx. 2.5 µm and achieves good adhesion and a good shielding effect. The control of the thickness of the coating through our own vapour-plating system makes it possible to meet individual requirements. Product lettering for company logos, operating symbols and/or equipment designations is effected with screen or tampo printing. Speaking of colour: special lacquering with the customer's CI or surface finishes are of course

also possible, for example soft touch, UV protective coating, metallic/chrome effects, water transfer printing, ESD lacquer. The range of services is rounded off by digital and décor foils, which can also be embossed to make it possible to detect key functions. If the customer would also like a complete operating unit, for example a membrane keyboard, mounted on his product, OKW can obtain this for him and fit it, irrespective of the manufacturer.

### TAILOR-MADE

If your „dream enclosure“ cannot be realised despite all of these different modification options, OKW can create a completely new enclosure solution together with the customer. In this individual implementation, we can offer you support with professional and transparent project management right down to serial production. On the basis of the job specification, we can work out a comprehensive solution tailor-made to the specification and your requirements. This comprises the material specification, tool design and of course top surface quality. All of the finishing options described above are included in this concept. The advantage is that for





Bernd Eckl

Ramona Eid

Andrea Dietrich





Frank Wahlandt  
Head of SALES &  
PROJECT-PRODUCT-MANAGEMENT

Gerald Henn

# „THAT'S US.“

Eva Weber

Sabine Segieth

## SALES DEPARTMENT

**You as the customer** receive the figures, data and facts about the products of OKW Gehäusesysteme in quotations, concepts and drafts.

Behind all of these tasks are people who visualise all the requirements expressed by you, our customer, on the basis of our range of products and technologies, in the form of quotations and descriptions.

### WE ARE SALES...

The main focus of the SALES department is on developing and implementing the ideal solution for you as our customer to meet your requirements, in cooperation with you and your team of field workers. We are always in close contact with the relevant field partner in your territory.

As a team with experience, qualifications in technology and project management as well as youthful vigour and the most important factor, our focus on you as our customer, we can help you to create your individual product.

SALES ... that means a group of motivated, competent staff members with the ability to take the wider view, people who are always at your disposal and who are pleased to help.

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**TAKE US AT OUR WORD!**



Only if you feel good at your workplace will you stay healthy and motivated. To achieve this, the working environment must be examined for many different factors.

### MEASURING RANGES BAPPU-evo



AIR TEMPERATURE



GLOBE TEMPERATURE



RELATIVE HUMIDITY



AIR VELOCITY



CO<sub>2</sub> (CARBON DIOXIDE)



NOISE LEVEL (CLASS 2)



ILLUMINANCE LEVEL (CLASS C)



SCREEN BRIGHTNESS (LUMINANCE)



LUMINANCE CONTRASTS



FLICKER FREQUENCY



CALCULATION OF THE PMV/PPD INDICES (CLIMATE INDICES) AND THE AVERAGE RADIATION TEMPERATURE

# „FEELING GOOD IN THE OFFICE.“

UDO LIESER, MANAGING DIRECTOR,  
ZBIGNIEW SZENDERA, PROJECT MANAGEMENT MECHANICAL DEVELOPMENT

ELK GMBH, ENGINEERING OFFICE FOR ELECTRONICS  
GLADBACHER STR. 232, 47805 KREFELD, GERMANY

**BAPPU**  
evo

BAPPU-evo is a comfortable multimeter for orientation measurements of health-relevant environmental characteristics at the workplace in the areas of commercial administration and industry. The device is characterised by a high level of user-friendliness and many functions to make work easier.



## CUSTOMER APPLICATION

### THE EVOLUTION OF A SUCCESS MODEL

As far as handling and ease of use is concerned, BAPPU-evo follows the successful conceptual design of its predecessor in all respects, but also offers state-of-the-art features. These include a USB interface, a colour display, the option of integrated continuous recording, additional CO<sub>2</sub> measurement, classification in the measuring ranges of noise (Class 2) and illuminance (Class C) as well as the calculation of the thermal comfort indices (climate indices) PMV and PPD. This is all packed into a new, ergonomic enclosure which takes up and further develops the form of BAPPU. As previously, all values measured at the workplace, including their evaluation, are saved to a named storage location in the device. From here, they can be transferred to a PC and evaluated using the BAPPU software. The preparation of workplace analyses and long-term recording are also part of the concept. To cut a long story short: BAPPU-evo meets all of the requirements for a modern, efficient and cost-effective all-in-one device for industrial safety.

### PROJECT SEQUENCE (FROM THE BEGINNING TO SERIAL PRODUCTION)

We (ELK) were faced with the task of designing and constructing a modern successor to our successful Bappu-classic multimeter.

The purely external aspect, that is, the enclosure, is of course not unimportant. A predefined requirement, on the one hand, was to take account of clear recognition elements in the design, for example the typical „blue acrylic BAPPU nose“, and on the other hand to use state-of-the-art technology in order to achieve high classifications, for example. Since the enclosure shape had to be optimised for all sensors, it was a continuous development process which had to be constantly examined in theoretical calculations and in the ELK laboratory. Particularly in the field of acoustics measurement, the enclosure represents a crucial influencing factor. It was thus also a great challenge for our acoustics laboratory to harmonise the technically ideal enclosure shape with visual standards in order to achieve at least the acoustic measuring class 2.



## BAPPU-evo

The BAPPU-evo multimeter allows the comprehensive and efficient analysis of workplaces. Health-relevant parameters are recorded, compared „on site“ with defined target values and evaluated. PC software for preparing analyses, processing the data, long-term recording as well as optional sensors round off the system.

- 11 measuring ranges.
- Easy operation, immediate evaluation.
- Colour display with touchscreen, USB interface.
- Classification of noise and illuminance measurements.
- Software for preparation, evaluation, documentation.
- Integrated data logger for long-term recording.
- Sturdy case for all components and accessories.

**BAPPU-Globe** – Bulb thermometer to measure and provisions of the „thermal comfort“ with multi-port unit (OKW enclosure series ERGO-CASE).



**From an ergonomic point of view** a further requirement to be met by the enclosure was that the shape, feel and colour had to contribute to user-friendly operation. It soon became clear that a finished, off-the-peg enclosure already on the market would mean too many compromises. We therefore tackled the project of having our own, individual BAPPU enclosure built. Our first sketches transformed visions into possible enclosure shapes. Prototypes „carved“ out of polystyrene turned these ideas into concrete forms. Different manufacturing processes by diverse companies had to be checked to see if they satisfied our wishes. At the end of this consultation process, OKW Gehäusesysteme GmbH with their planned implementation concept convinced us that they were the right partners for the „BAPPU-evo enclosure project“.

Besides the expected costs, which unfortunately are very important for successful implementation, a good atmosphere for constructive cooperation was very important for us. Our ideas and wishes had to be implemented in „tangible“ forms. At the

same time, we have to speak the same language and have the feeling that what we say is understood. After initial talks, we had the impression that OKW fulfilled this precondition.

We had come a long way before our ideas were implemented in the form of an enclosure which we could hold in our hands. Compromises had to be made in some details, since the manufacturing process naturally entailed limitations which we did not know. It thus became a „design journey“ together with OKW, characterised by creativity, understanding production technology



**From the idea to prototype to finished part series.**





**BAPPU-evo CO<sub>2</sub>** – Sensor for measuring carbon dioxide concentrations (CO<sub>2</sub>) in the room air (OKW enclosure series SOFT-CASE).

and revision of our design plans. Minor setbacks and „teething troubles“ had to be dealt with, and one or other idea also had to be rejected.

To be able to deal with such a process largely free of stress and on schedule, the help offered by OKW for the designers at ELK was very encouraging and constructive. A high point in this development was surely the first 3-D drawing, with the help of which ELK was able to assess and examine the enclosure from all sides, at least on the screen. For example the finished drawings of the ELK printed circuit boards were virtually inserted into the enclosure. The prototype, which was created by OKW using a 3-D printer, was then the reward for the efforts of all parties involved.

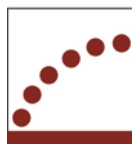
**The summary of this cooperation** – Thanks to the good communication between OKW and ELK, we never had the feeling that we were going down the wrong road. Mutual stimulation acted like a game of „ping-pong“, but with the intention of

reaching a common goal. The cooperation was characterised by all-pervasive quality awareness, competence in technology and consultation, and transparent, binding time scheduling. The cost risks were kept to a minimum through the 3-D print prototypes.

**And the most important thing:** Evaluation in practice has shown that in serial production, the BAPPU-evo enclosure is fully functional and satisfies not only our expectations but also those of our customers.

#### CONTACT

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„SolarWorld GT“  
(predecessor model)  
on its round-the-world trip,  
Lake Pukaki, New Zealand





# „WE ARE ACTIVE IN MANY DIFFERENT FIELDS.“

Social commitment has a long tradition in our company. Most of the clubs and institutions we support enjoy a partnership with OKW Gehäusesysteme that has lasted for many years. In addition, we are active in varying individual projects. The fields are manifold: sport, social commitment, school/education, art and culture.

ROBUST-BOX



## SPONSORING AND EVENTS

### OKW SUPPORTS THE TEAM OF SOLARCAR AT BOCHUM UNIVERSITY OF APPLIED SCIENCES

For more than 10 years now they have been building solar cars in the SolarCar workshop at Bochum University of Applied Sciences. Although the cars that were initially built were racing cars, the latest developments are increasingly going in the direction of everyday use - with indicators, windscreen wipers, reversing lights, headlights etc. This is also the case with the 5th generation of the SolarCar, which is currently being designed and built.

OKW Gehäusesysteme supports the team of developers with the necessary enclosure technology and services. The requirements that the enclosure had to meet were: low weight, EMC protection, installation of a 100 x 160 mm Euro board, enclosure height 60-80 mm, robust and protected up to IP 65, pressure compensation option in the event of changing weather conditions, attachment to DIN rails, cutouts for display elements and interfaces etc. The project team decided in favour of the OKW ROBUST-BOX made of

polycarbonate, ideal for tough conditions. The electronics installed in it monitor, among other things, the voltage, temperature and telemetry of the car. The SolarCar is energy self-sufficient, that is, it is driven only by the energy of the sun, which is collected by the solar cells on the roof of the car. It is also exceedingly efficient – the electronics of the car guarantee optimum energy output and the bodywork, which is made of ultralight carbon fibre, weighs practically nothing. Yet this project is unique nation-wide, for apart from this solar car, there is no other solar car that is „engineered and made in Germany“!

The team of the SolarCar project currently involves about 30 students, from the faculties of mechanical engineering, mechatronics, electrical engineering, computer science, geoinformatics and economics. The objective of the project is successful participation in the World Solar Challenge 2013, which will take place in Australia from 6 to 13 October. We wish the SolarCar team lots of success.

[www.hochschule-bochum.de/solarcar/das-projekt/sponsoren.html](http://www.hochschule-bochum.de/solarcar/das-projekt/sponsoren.html)





**GIFT OF NEW JERSEYS** – Jasmin Weber (OKW), school director Walter Scheuermann and teacher Ms. Reimold-Fischer together with the pupils of the fifth class.



**SUCCESSFUL EDUCATION** – Alexandra Otto, Simon Steininger and Nabila Jaegle (left to right).

### NEW KIT FOR A SCHOOL ATHLETICS TEAM

On 24 June 2013, Ms Jasmin Weber (responsible for commercial training at OKW) handed over a complete set of new athletics shirts to the Karl Trunzer School in Buchen. The pupils of the fifth class, sports teacher Ms. Reimold-Fischer and school director Walter Scheuermann were delighted to receive this gift.

In the past, the athletics team of the KTS day secondary school always competed very successfully in the world's largest schools sports competition „Youth trains for Olympia“. This year too, the hopes of reaching the national spring finals in Berlin are high.

OKW Gehäusesysteme and the Karl Trunzer School in Buchen entered into a long-term training partnership as early as mid-2011. The aim is to show the pupils the variety of the working

world, to reinforce scientific and technical education and training, to provide orientation in finding the right job and to facilitate the transition into vocational training or higher education.

**Talking of training:** OKW can once more be proud of its trainees, who have successfully completed their training as industrial business management assistants and toolmakers, and who can now look forward to permanent positions: Alexandra Otto will look after customers in future in the „Customer Care“ department, Nabila Jaegle will provide support in marketing, and Simon Steiniger has joined the OKW production department.





**JAZZ-CONCERT** – with the Aschaffenburg Jazz Big Band, feat. Martin Scales, in the forecourt of the new OKW logistics centre.



## OPEN-AIR CONCERT IN THE OKW COMPANY GROUNDS

The „Jazz in der Fabrik“ (Jazz in the Factory) initiative invited the public to another highlight on Sunday, 16 June 2013, this time with the orchestral jazz of the Aschaffenburg Jazz Big Band, led by the saxophonist Peter Linhart.

In beautiful weather, Latin compositions as well as pieces by Pat Metheny were energetically performed in a three-hour concert in the OKW company grounds. For this event, the formation was reinforced by the guitarist Martin Scales.

„Jazz in der Fabrik“ arose because of the need to create a cultural highlight in the rural region of Bauland, Untermain

and Odenwald and – with outstanding musicians – to provide a stage for modern jazz. This was achieved by a group of regional companies – as well OKW Gehäusesysteme – which identify with this unusual concept and are prepared take turns in staging these concerts on their premises. An organisational challenge for the organisers: staging concerts in halls which are otherwise used for production.

[www.jazzinderfabrik.de](http://www.jazzinderfabrik.de)



THE NEXT  
ISSUE WILL BE  
PUBLISHED IN  
FEBRUARY 2014

## IMPRESSUM

### Publisher

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74834 Elztal-Dallau, Germany

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