



Complete power supply solutions for medical locations with the regulation and control system *HospEC*®

Overview



The Company

ESA Elektroschaltanlagen Grimma GmbH is an expanding medium-sized company from the electrical industry in the heart of Saxony. Our own research and development department is a cornerstone for the manufacture of innovative products. Today, Grimma has around 300 employees at its location. Our human and technical base allows us to also process major projects in the shortest possible time.

- Own technical innovations,
- Continuous product development,
- Technical expertise and experience,
- Quality, reliability and
- Service

form the basis for future-oriented technical solutions and shape our corporate philosophy.

Our Products

- Low-voltage switchgear and control gear assemblies in type-tested versions according to DIN EN 61439-1/-2
- IT system distribution board with insulation fault detection system
- Regulation and control system in accordance with DIN VDE 0100, Part 710 and IEC 60364-7-710
- BSV - Battery supported power supply
- Annunciator and control panels in touch and slide technology
- Insulation, residual- and operating current monitoring systems
- Consumption data acquisition and evaluation of operational energy management

Approved hospital quality

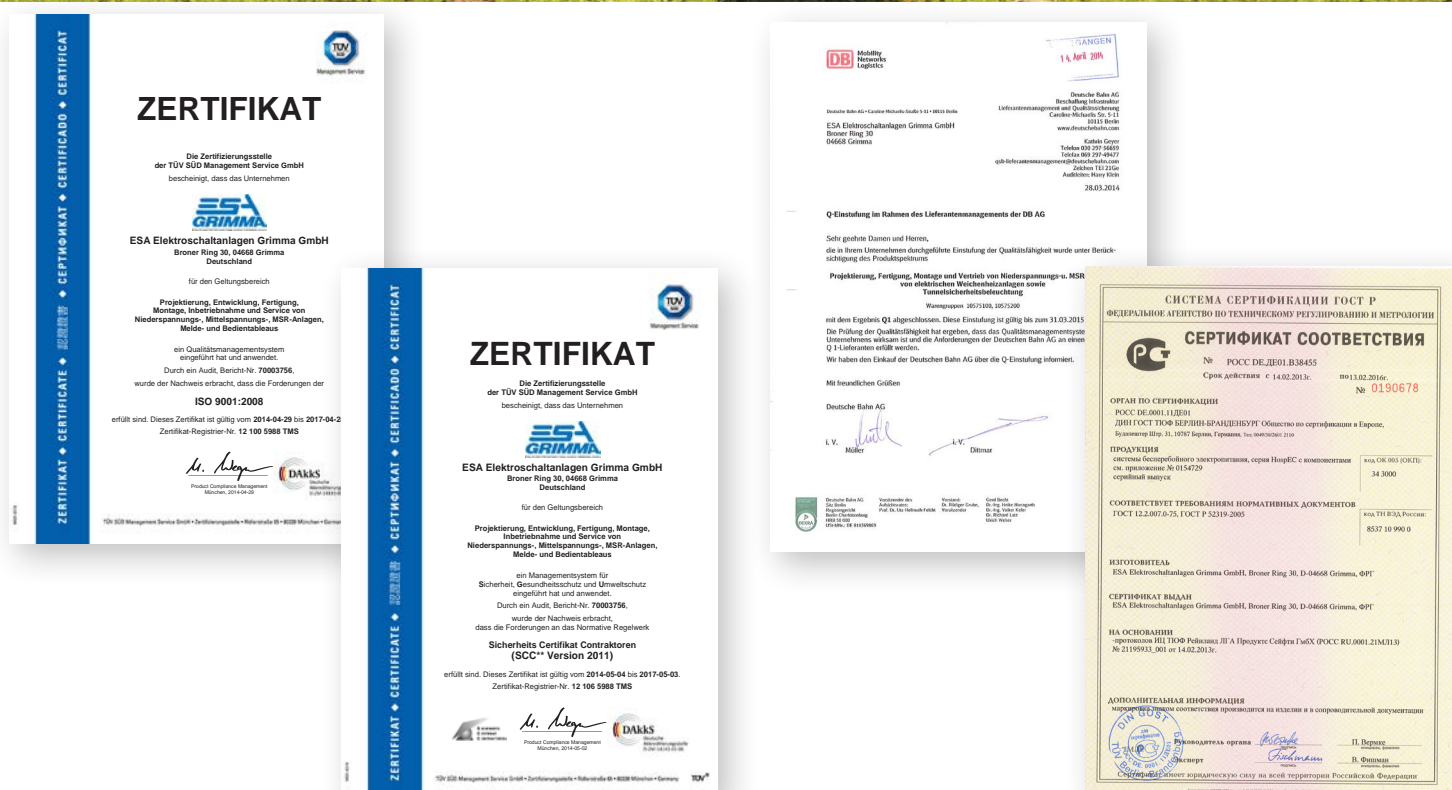
Our products and system solutions

- Comply with the latest standards and guidelines, especially the DIN VDE 0100, Part 710 and IEC 60364-7-710,
- And are tested and certified by independent test labs.

We work on the basis of a quality management system and are certified in accordance with DIN ISO 9001:2008. You can also take advantage of our many years of experience for the special requirements of the safe power supply of hospitals and medical institutions!

Services

- Consultation and creation of concepts
- Running of network analyses
- Planning, configuration and project management
- Staff training and instruction
- Hotline service
- Maintenance and repair service





Low-voltage main distribution and main building distribution boards

The basic network structure for the general power supply (GS) and the safety power supply (SS) within a hospital is established in these switchgears. The highest standards in terms of se-

curity of supply are made of the switchgears. The switchgears are therefore designed as type-tested low-voltage switchgear and controlgear assemblies according to DIN EN 61439-1/-2.

Our Products

- Low-voltage main distribution and main building distribution boards
- Switchgear cabinet system GNS 5.1 (ESA-Grimma) or Sivacon (Siemens)
- Type-tested version compliant with DIN EN 61439-1/-2
- Regulation and control system *HospEC®*
- Change-over module *UEGL*
- Display panel generator infeed system *FolioTec*
- Operating and annunciator terminal from series *BMTI 5*
- Residual- and operating current monitoring device from series *RCM*
- Digital I/O-device from series *MPM*
- Current and consumption monitoring device from series *CPM*
- Data interface to the *HospEC®* regulation and control system via standard field bus (CAN)

Your benefits

- The highest standard of quality due to industrial production
- Type-tested version compliant with DIN EN 61439-1/-2
- Modular design of the distribution, of functional systems and devices
- Individual planning, configuration and execution for every application
- Arc resistant barriers between busbar, devices and terminal compartment
- High operating safety, personal safety and availability
- Optimization of maintenance and increase in operating and investment security by residual- and operating current monitoring
- Consumption data acquisition for energy management



Switchgear cabinet system GNS 5.1



Subdistribution boards for areas of groups 0 and 1 as well as for the supply of general facilities

We produce subdistribution boards used for the supply of medically-used areas of groups 0 and 1, as well as all common areas. This includes, e.g. the following rooms:

- Rooms for functional diagnostics (CT, MRT, EEC, etc.)
- Bed stations
- Corridors, management, laboratory and technical rooms
- Labs and server rooms (computer IT)

Especially in the hospital sector, a large number of special functional conditions must be met. This concerns e.g. central and decentralized lighting controls, monitoring of residual and operating currents for the early detection of errors and minimization of downtimes as well as the acquisition of signals from external systems and their connection to the field bus (CAN) for further evaluation, right up to building control technology.

Our Products

- Subdistribution boards with switchgear system GIV, equipped project-specific with:
- Regulation and control equipment system **HospEC®**
 - Residual- and operating current monitoring device from series **RCM**
 - Digital I/O-device from series **MPM**, also with dim function
 - Operating and annunciator terminal from series **BMTI S**
 - Current and consumption monitoring device from series **CPM**
- Data interface to the **HospEC®** regulation and control system via standard field bus (CAN)

Your benefits

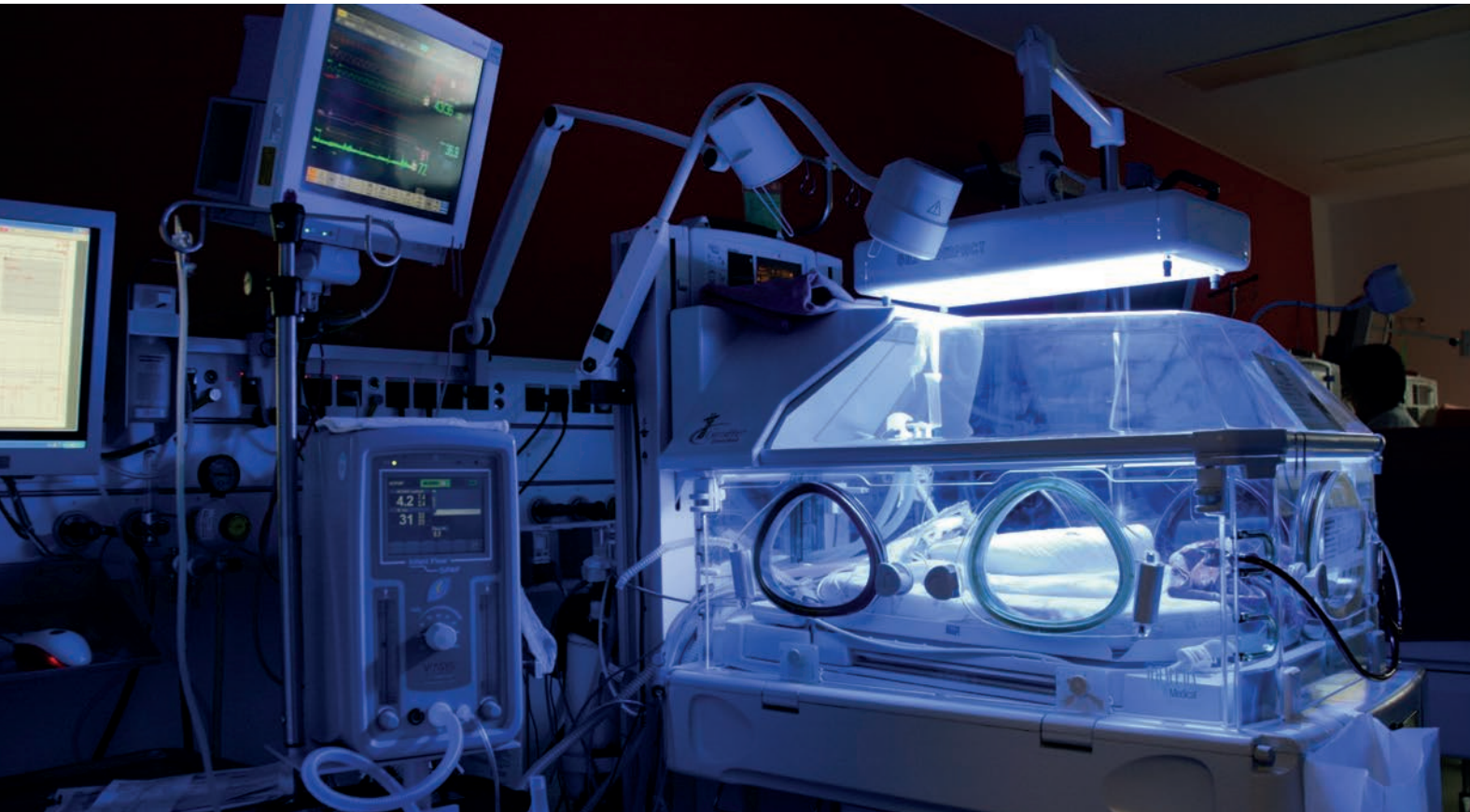
- Stable, secure and high-quality GIV switchgear system
- Low space requirement in the LV switch room with heights up to 2300 mm
- Fully equipped with all functions typical for the hospital and area
- Comprehensive control and monitoring functions
- Customizable to requirements, easy to retrofit and convert
- High operating safety, personal safety and availability



Switchgear cabinet system GIV



Switchgear cabinet system GIV with 4 panels



IT system distribution boards for areas of group 2

IT system distribution boards supply the most sensitive areas such as operating theatre rooms and intensive care units – areas of group 2. These areas must have protective isolation with insulation monitoring. Our IT system distribution boards allow

for installation of an insulation fault detection system for automatic fault detection. They also have a number of application-typical features that makes them both particularly safe as well as comfortable in operation.

Our Products

- IT system distribution board **IPS-OP-710** with:
 - Change-over and monitoring unit **UEI-710** with power unit and IT system transformer
- IT system distribution board **IPS-ICU-710** with:
 - Change-over and monitoring unit **UEI-710** with power unit and IT system transformer
 - Insulation fault detection system **IFS**
- Additional components from the system **HospEC®**
 - Operating and annunciator terminal from series **BMTI S**
 - Annunciator and control panel from series **FolioTec**

Your benefits

- Compact design of the IT-system distribution boards with isolation transformer, switch-over and IT system monitoring
- Optimized maintenance from insulation fault detection system
- Separate transformer room for optimal thermal conditions
- Low space requirement in the LV switch room with heights up to 2300 mm
- Individual planning, configuration and execution for every application
- High operating safety, personal safety and availability



IT system distribution board **IPS-ICU-710**



Complete battery based IPS System

Today more and more frequently, medical interventions are not just carried out in hospitals, but also in ambulatory health care centres or outpatient clinics. This results in increased demands on the design of electrical systems in these areas - especially with regard to the aspects of failure safety and personal protection. The dependence of electro-medical devices presents an

increased risk, which has to be taken into account in terms of a fail-safe power supply. In hospitals, this is standard. But also in ambulatory health care centres and medical practices, a safe power supply is absolutely necessary and vital, because the safety of the patient as a top priority!

Our Products

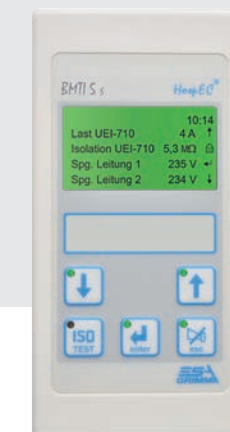
- IT system distribution board from *AP-BSV-IPS-Serie 710* with battery-powered equivalent power supply
- Optionally with insulation fault detection system *IFS*
- Operating and annunciator terminal from series *BMTI 5*
- Equivalent power supply systems with higher performance for hospitals
 - 1-phase equivalent power supply installations up to 80 kVA
 - 3-phase equivalent power supply systems up to 150 kVA
- Equivalent power supply OPL systems for the direct supply of operating theatre lights (24 V DC)

Your benefits

- Absolute conformity to standards
- Configuration of an IT system with standardized IPS complete distribution boards
- Minimal housing dimensions
- Autonomy times of 1 to 3 hours
- Sealed lead-acid battery (Eurobat duration > 12 years)
- Performance: 1.8 kVA - 4.5 kVA
- Optional connection of operating theatre lights (24 V DC)
- Optional insulation fault detection system *IFS*
- Fully compatible with devices from the *HospEC®* system



IT system distribution board from series
AP-BSV-IPS-Serie 710



Operating and annunciator terminal
BMTI 5



Residual and operational current monitoring with monitoring system WeVeEC®

Using our residual and operational current monitoring system, faults in the power supply can be avoided through early warning. Furthermore, equipment and fire protection is increased. The monitoring devices in the distribution boards, connected with a fail-safe bus system, capture all the relevant current flows of system and consumers. All currents can be displayed

regardless of location. Before there is an equipment failures, the maintenance staff is informed exactly at a PC or via email. The system is used in fail-safe systems – such as in hospitals. Additional personnel, special knowledge or extra software are not required! The requirements according to § 5 accident prevention regulation BGV A3 are met.

Our Products

- Universal current-sensitive and multi-channel residual current monitoring device **RCM-W8-AB**
- Multi-channel residual current monitoring device **RCM-W6** with integrated transformers
- Multi-channel residual and operational current monitoring devices **RCM-W8**, **RCM-W24**
- Operating and annunciator terminal from series **BMTI 5**
- Data nodes from series MPG-ETH for establishment of the monitoring system **WeVeEC®**

Your benefits

- Locate errors without shutting off
- System errors are displayed by means of early warning and signals
- Avoidance of hazardous equipment failures – the availability of the equipment is increased
- Lower overhead for fault finding and repair by locating individual faulty outputs or consumers
- Comfortable monitoring and configuration solution using standard web browser – easy handling – monitoring system
- No additional staff required



Residual current monitoring device **RCM-W6**



Residual current monitoring device **RCM-W8-AB** (universal current sensitive)



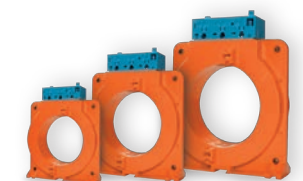
Monitoring system **WeVeEC®**



Residual- and operating current monitoring device **RCM-W8**



Residual- and operating current monitoring device **RCM-W24**



Example for current transformers of the DW Series



Consumption data acquisition and evaluation of operational energy management

The Law on Energy Services and Other Energy Efficiency Measures (German EDL-G) describes the introduction of an energy management system according to § 8 paragraph 3 item 1 of the German EDL-G for auditing companies. ESA Grima offers you a certified energy management system as a complete system. The core of this is our current and consumption monitoring devices of type *CPM-W20*. These 20-channel devices determine the consumption and measure the voltage. Connectable hinged current transformers allow the measurement of up to 600 amps without having to open the circuits for looping of the transformer. The system is therefore

suitable for retrofitting. For larger currents, the proven measurement equipment of Janitza is used. It is also used for the head station (implementation of Modbus®-TCP/IP) as well as the associated software. Consumption acquisition should cover all relevant consumers. Any size of system can be monitored with the system presented here. A special feature is the possibility of also using the current monitoring channels of the *CPM-W20* for residual current measurement (RCM).

Our Products

- Certified Energy Management System as a complete system
- Cost-effective consumption data acquisition using current and consumption monitoring devices of type *CPM-W20*

Your benefits

- The know-how of ESA's system and plant expertise
- Hinged current transformers up to 600 Amps - also for easy and fast retrofitting
- 20 current measuring channels with just one *CPM-W20* device
- Free choice of channels for differential current measurement (RCM) or consumption data acquisition
- Certified Energy Management System from a single source



Current and consumption monitoring device *CPM-W20*



Hinged current transformer



Central monitoring and evaluation



Display and operating systems

We provide you with information of the overall system - from the medical-technical to the house-equipment side, both central and distributed, and assigned to individual areas. Operator actions are likewise also possible at these points. Especially in hospitals, the staff constantly has to cope with a flood of information. Our display and operating systems there-

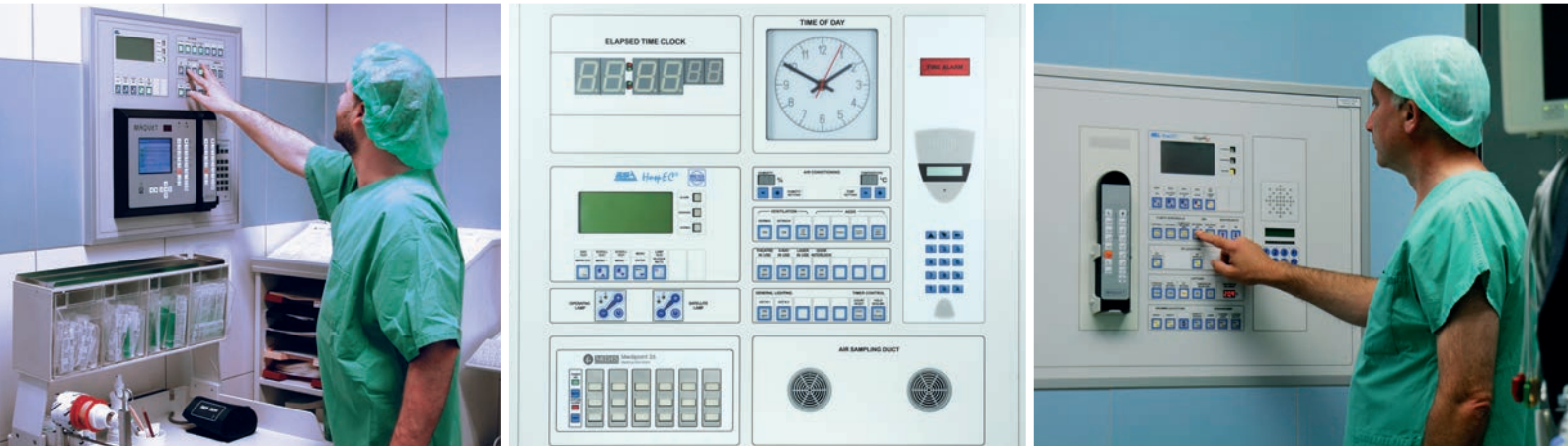
fore reduce the display of operating states to the absolute minimum required. Operator actions are possible quickly, intuitively and at a glance. With our display and operating systems, we provide you with a system that integrates all the necessary monitoring and control functions and that also meets the typical needs of the hospital.

Our Products

- Operating and annunciator terminal *BMTI 1*
- Operating and annunciator terminal *BMTI 2*
- Operating and annunciator terminal *BMTI S* and *BMTI S+*
- Annunciator and control panel from series *FolioTec* (large panels)
- Annunciator and control panel *Tocuh Control*
- Annunciator and control panel *Kombi*

Your benefits

- Specially designed for use in medical areas
- Designed for quick acquisition of all necessary messages
- Simple, clear and intuitive operation
- Closed, multi-layered and permanently stable foil surface that is resistant to cleaning agents and disinfectants, UV-resistant
- Problem-free integration into the building control technology
- Connection possibilities of control and monitoring functions such as the entire building technology



Annunciator and control panel *Kombi*



LCD panel *FolioTec* with charging station for operating theatre table remote control



Lighting control and connection of external systems

The HospEC® system allows comfortable installation of lighting controls for all areas. Thereby, „normal“ light switches and pushbuttons can be used. Our multi-channel digital input/output devices of the MPM series are used for the control functions – also with dimming function. The technology allows links between central and local operator control functions, natural light, time and presence-dependent functions. The special requirements, characterized by the light-circuit power supply from the general and the safety power supply, are met.

Furthermore, the devices are used for the connection of external systems. In this way, building technology signals must be evaluated, linked to each other and displayed, and made available at different points for further process control.

With their functionalities and compliance with the required safety requirement ("single fault safety"), the devices of the MPM Series replace conventional and lavish equipment, especially when used in medical areas.

Our Products

- Devices from the MPM series
- Devices from the MPQ series (protocol converters)
- Operating and annunciator terminal BMTI S and BMTI S+
- Annunciator and control panel from series FolioTec

Your benefits

- Integration of signals from the entire building technology in the existing bus system
- Control functions for security and general lighting (SS and GS circuits) with common dimming (1-10 V - interface) with MPM 12-2
- Simple and comfortable control for operating theatre environment lighting
- Cost-effective implementation of multifunctional light controls, also with dimming function
- Memory function with definable output states after reset
- High degree of flexibility in the planning and subsequent functional changes by simply reprogramming of the logic functions – no wiring and installation changes
- Lower installation costs – shorter assembly times



Digital I/O device MPM 12-2



Digital I/O device MPM 16-8



Digital I/O device MPM 32-Vario





Our services for you

For questions, or if you require personal consultation, please contact us. We will help you quickly and easily!

- Hotline service
- Subject-specific information and advice
- Short-term and individual help

Our service team

General Questions
Service

Monday-Friday 7:00 – 16:00
Telephone: +49 3437 9211-594
Telefax: +49 3437 9211-26
E-Mail: service@esa-grimma.de

Specific questions
Product Management

Monday-Friday 7:00 – 16:00
Telephone: +49 3437 9211-0
Telefax: +49 3437 9211-26
E-Mail: info@esa-grimma.de

Our service spectrum

- Consultation and creation of concepts
- Planning, configuration and project management
- Implementation of line and load analysis
- Maintenance and repair service
- Commissioning
- System acceptance test with experts
- Training of your operating personnel
- On-site training
- Fault service
- Short-circuit current calculations and selectivity
- Plant modernization
- Repeat tests
- Insulation fault detection
- Spare part deliveries
- Maintenance, maintenance contracts
- Documentation and the upgrade of existing installations

Your benefits

- Take advantage of our many years of experience from numerous projects around the theme of hospital and medically used areas.

Our sales offices in Germany

Headquarters

ESA Elektroschaltanlagen Grimma GmbH
Broner Ring 30
04668 Grimma

Telephone: +49 3437 9211 0
Telefax: +49 3437 9211 26
Email: esa-vertrieb@esa-grimma.com
Internet: www.esa-grimma.com

Sales office Osnabrück

ESA Elektroschaltanlagen Grimma GmbH
Blumenhaller Weg 115
49080 Osnabrück

Telephone: +49 541 20 069 780
Telefax: +49 3437 9211 20310
Email: esa-vertrieb@esa-grimma.com

Sales office Rauenberg

ESA Elektroschaltanlagen Grimma GmbH
Römerstr. 2a
69231 Rauenberg

Telephone: +49 7253 934 942
Telefax: +49 3437 9211 20302
Email: esa-vertrieb@esa-grimma.com



Our service partners worldwide

Egypt

German Engineering & Management Solutions

Building 465 El Showaifat, 5 th Avenue
New Cairo, Egypt.
Telephone: +2 0114 106 9991-8881
Telefax: +2 02 261 838 57
Internet: www.gems-projects.com

China

Guangzhou Clima Air Purity Equipment Co.,LTD

Room 401, 137 Gexin Road,
GongYe Avenue, Guangzhou
510250 P.R. China
Telephone: +86 20 84371600
Telefax: +86 20 84349466
Email: dowellgroups688@vip.sina.com

SBS ENGINEERING & TECHNOLOGY (BEIJING) CO.LTD

ADD:UNIT 601, DIYANG TOWER,
H2 DONGSANHUAN BEILU,
CHAOYANG DISTRICT, BEIJING, PRC
ZIP: 100027
Telephone: +86 10 84536385 EXT. 870
Fax: +86 10 84537920
Email: xiaoana@126.com

Germany

Integromed GmbH Integrated Medical Solutions

Zimmerstr. 1
04109 Leipzig
Telephone: +49 341 2222 98-0
Telefax: +49 341 2222 98-70
Internet: www.gems-projects.com

Dubai / United Arab Emirates

NATRONIC International Inc.
Jebel Ali Free Zone Dubai - UAE
P.O. Box 61 295
Telephone: +971 4 341 62 67
Telefax: +971 4 341 62 68
E-Mail: natronic@emirates.net.ae
Internet: www.natronic.com

Great Britain

Brandon Medical Company Ltd
Holme Well Road
UK - Leeds LS10 4TQ
Telephone: +44 113 277 7393
Telefax: +44 113 272 8844
Email: enquiries@brandon-medical.com
Internet: www.brandon-medical.com

Poland

L&P Sp. z o.o. Sp. k.

Serby
ul. Odrzańska 7
PL - 67-200 Głogów
Telephone: +48 76 833 38 79
Telefax: +48 76 833 38 79
Email: l-and-p@post.pl
Internet: www.l-and-p.pl

Slider Technologies Sp z o.o.

ul. Przedpole 1
PL - 02-241 Warszawa
Telephone: +48 22 8867631
Telefax: +48 22 4652321
Email: kontakt@slidertechnologies.pl
Internet: www.slidertechnologies.pl

Turkey

inform Elektronik San. ve Tic. A. S.

Emek Mah. Ordu Cad. No.: 49-51-53
TR-34785 Sarigazi Istanbul
Telephone: +90 216 622 58 00
Telefax: +90 216 621 93 61
Email: inform@inform.com.tr
Internet: www.inform.com.tr

Hungary

Mediversum

Limited liability company
HU-1024 Budapest
Lövház u.24
Telephone: +36 212 55 08
Telefax: +36 272 10 13
Email: kortex@kortex.hu
Internet: www.kortex.hu



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Changes in the scope of technical advances are reserved.
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ESA Elektroschaltanlagen Grimma GmbH
Broner Ring 30
04668 Grimma

Telephone: +49 3437 9211-0
Telefax: +49 3437 9211-26
Email: info@esa-grimma.com
Internet: www.esa-grimma.com

