

Residual current monitoring in German Red Cross Blood Donation Headquarters in Ulm with Bender RCM-technology

TECHNICAL APPLICATION

Fault location within a shorter space of time but longer maintenance intervals

The existing building of the Blood Donation Headquarters of the German Red Cross in Ulm launched its operation in 1971. Besides that, the building also houses the IKT (Institute for Clinical Transfusion Medicine and Immune Genetics Ulm GmbH) as well as the ZKRD (German National Bone Marrow Donor Registry) since 1991.



Sensitive products

The Institute for clinical transfusion medicine and immune genetics Ulm (IKT) provides blood products, stem cell compounds and cell therapy compounds for the University Clinic Ulm as well as for over 130 other facilities along with transfusion medical, immune hematology and transplant immune diagnostic. The DRK Blood Transfusion Service Baden-Württemberg Hessen nonprofit GmbH and the shared University of Ulm fulfills duties and responsibilities in the domains of research and teaching in the respective area. Altogether there are a total of 280 employees working at the institute.

Central responsibilities

The German National Bone Marrow Donor Registry (ZKRD) is the information hub for the search of compatible unrelated blood stem cell donors for Germany. This is where all donor data within Germany merges together. As a competence centre of expertise for this highly specialised area of medical care, the ZKRD arranges the complex process of donor search for patients at home and abroad as fast, efficient, transparent and economical as possible. It coordinates the search process and in this context also checks all orders and findings for completeness and plausibility.

 **Deutsches Rotes Kreuz**
Blutspendedienst
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 **Institut für Klinische
Transfusionsmedizin
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 **Zentrales
Knochenmarkspender-
Register Deutschland**





Continuous power supply is vital

Due to space constraints and an increased usage over the years, it was urgently necessary to expand space. In the fall of last year, the newly built house launched its operation on-site of the blood donation headquarters. The new space is predominantly for the production of blood preservation products. It was obvious that the building technology has to comply with the highest medical safety standards for such production. Starting from the laboratories where the blood donations are filtered to the point of the cooling units safekeeping, the power supply has to be absolutely reliable. Further processing of the blood donations require promptness and for personnel to rely on its technology. The blood donation has merely six hours to be processed otherwise the blood preservation contains only half of all important substances (based on the plasma coagulation factor). For example, outages in the cooling circuit irretrievably destroy the preservations.

Uninterruptible power supply

That is why planners decided in favour of Bender Electrical Safety Technology: well-proven and known for its reliability, power supply is warranted at the highest level of safety. The AC and pulsed DC sensitive residual current monitors of the RCM series are used for residual current monitoring in earthed systems (TN and TT systems). In case of a fault, an alarm is to be activated, but disconnection must be prevented.. The power supply of the new wing of the building is monitored on four levels with RCM technology so altogether there are 12 current transformers W35, W60

and W120 installed at the outgoing circuits of the level distribution cabinets. Several RCMS460D-2 in connection with Gateway FTC470XET not only allow monitoring of the power supply but also provide an interface of communication with higher-level systems of the building management system. In addition, an MK800-12 is installed in a control cabinet for local information.

Time and cost saving

The planning of the electrical installation took place with the support of the technical office in Stuttgart by the planning group M+M in Böblingen; responsible companies were EET in Reutlingen as well as RS-Technik in Neu-Ulm and Elektro Hofmann in Blaustein-Herrlingen. Due to the built-in residual current monitoring it is now possible to detect occurring errors in a prompt manner. Furthermore, the inspection intervals can be significantly prolonged according to the specifications of BGV A3 (German Accident Prevention Regulations). After implementation of the newly built house, parts of the existing building will be retrofitted one after the other with Bender RCM-technology. Many thanks for the support of generating this report to Mr. Harald Schlumpberger (Electrical master technician) from the Engineering Department in Ulm. ■

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