Product-News

Figure 1: Ex UPS for Zone 1 application

Ex-UPS-Guard – the modular system with safety check

New R. STAHL Uninterruptible Power Supply (UPS) modular system offers advantageous customized UPS-solutions for hazardous areas. According to ATEX-directive 94/9/EC and also according to the relevant standards special requirements apply for charging of batteries in explosion hazardous areas. To ensure explosion protection additionally to the settings on the charger the parameters for operating batteries and chargers have to be monitored as well. The new Ex-UPS-Guard monitors the functions of the charger and of the batteries according to the ATEX-directive. This function, unique in the market, thus helps to ensure safety of the installation.

Customized Uninterruptible Power Supply for hazardous areas

R. STAHL has developed a modular design kit that facilitates devising customized Uninterruptible Power Supplies (USP) to fit user applications. Based on various component models suitable for different performance classes, these solutions are fully scalable, and can also be cascaded for larger units. Parallel stand-by operation (online), as well as, transfer stand-by operation (offline) can be implemented as required by application specifications.

Many applications call for UPS systems that comply with explosion protection standards. This is particularly the case in the oil and gas industry, but also for chemical and pharmaceutical process technology applications, food production plants and other areas. While standard UPS models are unsuitable for such tasks, R. STAHL's modular kit is designed and approved for use in hazardous areas. The kit's component range is comprised of chargers, various types of explosion-protected rechargeable batteries, charge monitoring technology including alarm annunciators and DC power distributors, and power inverters for various performance classes up to 3,000 VA. The flameproof CUBEx enclosure series, which features connection boxes type of protection increased safety ›e‹, are suitable for complete systems including the controller. Unlike conventional charging and UPS devices, R. STAHL's solutions also include an integrated battery monitoring unit according to IEC/EN 60079-7 for Zone 1. Beyond solutions based on standard kit components, R. STAHL also provides modules with user-specific types of protection as required.

Thanks to robust components and protective measures, the systems can be designed to withstand extreme environments, e.g. deserts or the polar sea. In case of mains failure, R.STAHL's UPS solutions ensure an autonomous supply to enable ongoing operation of connected systems for a

timespan ranging from 30 minutes to several hours. Backup energy units are not only for use in fixed installations, but also for mobile and portable equipment. If required, the performance and functional range of customer-specific UPS systems can be ad-justed at any time, even after installation. R. STAHL provides consultation services throughout all implementation and operation phases, including project planning, delivery and commissioning, as well as, maintenance. However, nominally high security of supply of critical plants and machines may still depend on a redundant energy supply. In addition, UPS systems can also prevent malfunctions and damages caused by power loss. Frequency and voltage fluctuations, overvoltage and harmonics in the power supply may also impair the operation of essential installation. Power quality problems of this kind can also be eliminated by UPS devices.

Economically designed enclosures for a wide range of applications

R. STAHL has developed a new series, 8150 of explosion protected sheet steel enclosures in type of protection increased safety ›e‹-creating a cost-efficient design for terminal and distribution boxes.

The enclosure layout has been optimized, thus creating a balance between cost and function for use in Zones 1 and 2. As of now, the enclosures are available with certification according to the ATEX directive 94/9/EG and the IECEx scheme for hazardous areas.

UL and CSA approvals will follow by the end of the year, thereby providing worldwide certification. The enclosures and all built-in components are certified. All suitable terminal equipment has been thoroughly specified in order to provide maximum safety for the user with regards to the documentation of the installation. In order to ensure compliance with increased safety requirements, R. STAHL carries out inhouse computer calculations and tests in climate chambers, which simulate longterm use in extreme environments. The enclosures not only fulfill all requirements concerning shock resistance, maintenance of specified degree of protection IP etc.; their mechanical layout and equipment configuration

Figure 2: Durable solution: the new sheet steel enclosure in type of protection increased safty ›e‹. Drainage edge keeps water away from sealing material

have been designed to ensure practical functionality.

The door, which is equipped with robust hinges, has a 130 degree opening angle and can be fitted with an optional camlock, thus ensuring degree of protection IP66. The sealing strip between cover and enclosure does not come in contact with rain or splashing water due to the special designed drainage edge. Thus, the sealing material is not in contact with standing water even during constant spray exposure. In addition to continuously welded edges, the enclosures also feature welded hinges, which rules out weak spots caused by screws. Cost-efficient models in a wide range of standard sizes are available direct from stock. If required, the enclosures can also be manufactured with customer-specific dimensions.

Ethernet-compliant new generation explosion protected Remote HMIs

The present R. STAHL HMI Systems program is completed by the new generation of robust Remote HMI stations for installation in rough industrial environments, as well as hazardous areas Zones 1, 2, 21, and 22. The new ET/MT-5x6 series with 15" or 19" touch screens enables users to operate PCs in safe areas from field stations in many different ways. For example, the HMIs can be used as Thin Clients to communicate with host computers directly via the Ethernet using the RDP or VNC protocol. Alternatively, the HMIs can be coupled via a Keyboard Video Mouse (KVM) box, which is the usual route. In this case, where the box transfers data to and from the computer's visual and input interfaces (keyboard, video, mouse), the system supports the current digital standards (DVI, USB), as well as the older types of interfaces (VGA, PS/2).

With the KVM box, the Remote HMIs are also connected via TP or optical fibre Ethernet cables, making communication very flexible. While simple one-to-one allocation of explosion protected stations and PCs in the safe area remain possible, many other options are also available. For example, an automation or condition monitoring system

Figure 3: High flexibility due to the Ethernet latest generation of Remote HMI-work stations with a 15"- or with a 19"-touchscreen

can be operated via up to four different stations. Similarly, a single Remote HMI can access alternating servers. It is furthermore also possible to implement a multi-monitor field station connected to several graphic cards on the same PC. The configuration of the firmware is equally user-friendly. No parameterising is necessary for coupling a station to a PC using digital interfaces via the KVM box. Otherwise settings are entered via a screen dialog – instead of the cumbersome procedure of having to look for a DIP switch array at or inside the device and manually configure it, which is still necessary with other Remote stations. Without any driver on the host PC, the Remote HMI provides full touch screen functionality including all input options right from the log-in stage. This includes ➔

complete mouse emulation, as well as, a soft keyboard that can be parameterized for 25 languages. The systems feature IP66 front protection and can withstand extreme ambient temperatures ranging from -20 °C to +55 °C. Through the addition of a heater and front protection plate, this increases to -40 °C to +55 °C. The stations also do not require special housing for use within hazardous areas. Their modular internal design means they are easy to service. All accessories from R. STAHL's existing Open HMI and Operator Interface series can also be used for the ET/MT-5x6 series. The accessories range from network installation tools for hazardous areas, to various input devices, to special hygienic field housings.

New user-friendly switch disconnectors for 40, 63 and 80 A
Improved layout, increased safety, high flexibility

R. STAHL introduces the new 8544 series of flameproof switch disconnectors for 40 A, 63 A and 80 A rated working currents. Thanks to a new modular design, a modern contact system, and practical features, the switches set a new standard within their class. The load and motor switches and disconnectors, which provide isolator functions according to IEC/EN 60 947-4, can be used in circuits in Zones 1 and 2, and in safe areas. They have an AC-3 or DC-23 and DC-1 switching capacity according to IEC/EN 60947-3 and -4. Featuring an especially user-friendly design, the compact units can easily be installed. The easily accessible terminals have been arranged on the same level, and a clear separation of inputs and outputs facilitates installation. A 20 kA short circuit strength at 160 A ensures robust, reliable operation. The switches are available as 3-pole, 3-pole+N and 6-pole version.

The main terminals can be connected to unprepared one-wire or multiple wire cables or cables with a cable lug that have a maximum diameter of 50 mm² (AWG 1/0). Additionally, two slots allow users to equip separately certified auxiliary contacts. Lagging (ON), advanced (OFF) or simultaneously switching configurations are possible. Additionally the connection of intrinsically safe circuits is approved. Featuring explosion protection certifications for various world regions (ATEX 94/9/EG / IECEx, NEC), the 8544 series is suitable for international use in hazardous areas. Furthermore, the switches are designed to tolerate very rugged environments in extreme climates, allowing e.g. for operation at ambient temperatures between -50 and +80 °C. The upper temperature limit varies depending on the application's rated current and the temperature class of the gas atmosphere. An attachment to operate the switch can be chosen from the series' modular accessories and can be connected to the basic unit via an actuating shaft. Other basic equipment and retrofitting modules include tap terminals, N and PE terminals, as well as, adapter plates for cable lug connections.

Figure 4: The robust new 8544-series switch disconnectors for hazardous areas provide functional flexibility. Their user-friendly design ensures safe operation.