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Rittal's Solutions for Centralised or De-centralised Automation

We live in a world of rapid change, driven by the growth of 'smart technology'. Automation components are becoming more compact, both for centralised and decentralised applications, while still delivering considerable computing power. Sensors and actuators are also getting more 'intelligent'.

Packing components into an enclosure is a science and an art. The engineer must plan the interior configuration to reduce wasted space and optimise the size of the enclosure, yet avoid issues such as over-heating or problems of future access to any of the components.

Rittal offers customers a range of solutions for the safe packing of sophisticated electronics systems, both centralised and decentralised.

As well as a huge range of enclosures in different sizes, materials and paint specs, employing the company's sophisticated Eplan software allows engineers to populate the panel in a CAD format, optimising the use of space while enabling changes to be made quickly and easily before applying them in a workshop.

Rittal "Therm" Speeds-up Climate Calculations

Component size is typically determined by the space needed for terminals, connectors, and clamps, as well as their accessibility for commissioning, servicing, and maintenance. As components get smaller, enclosure packing density is increasing. Furthermore, new functionality such as power management, networking etc, means that additional components are being put in all the time.

Paul Metcalfe, Rittal's Industrial & Outdoor Enclosures Product Manager comments:
"Reducing the size of individual components has not had a noticeable effect on the available space within enclosures, mainly because this is largely determined by the arrangement of

the DIN rails, cable ducts and other components. Components are frequently installed in groups and space can only be marginally optimised by individual components.

“We would caution that where space is taken up by smaller components, users should review climate control because higher packing densities increases the overall risk of hotspots. The good news is this doesn’t have to be a laborious task because Rittal’s “Therm” application performs the calculation of climate control in its entirety, providing users with appropriate and correctly dimensioned solutions.”

Components in Distributed Systems

Major distributed systems are commonly found in the petro-chemical industry and conveyor systems. They employ less technically advanced enclosures to house control equipment in a separate room, however, the cost of cabling to connect to the machinery can be high.

Rittal’s range of enclosures includes models with high IP ratings in sheet steel, stainless steel or plastic, designed to protect the equipment housed in it. This means that, rather than putting the control gear in a separate room, all the control gear can be next to the machine itself.

This offers cost savings around the amount of cabling needed and this type of locally-employed enclosure distribution is often more efficient because of the specialist protection it provides the equipment against dust and oil.

In other, highly-sensitised environments such as the food industry where hygiene standards must be met, users now have a choice of both the materials used and the enclosure design, in order to prevent contaminants being deposited and simplify cleaning.

Compact Machines and Decentralisation

In decentralisation, the focus is around making machines as compact and centralised as possible to make it easy to commission them. Machines can be assembled as complete transportable units, however, the control technology for the machines needs to be in the right place. This can be done either by machine-integrated standard enclosures or through appropriate integration in the body of the machine.

Paul advises: “We have products, accessories and expert advisors who can advise around protection category, heat dissipation, EMC (electro-magnetic compatibility) and the corresponding installation regulations/requirements, which all have to be taken into account.”

Further information at www.rittal.co.uk and www.friedhelm-loh-group.com or on twitter @rittal_ltd.

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Image

Picture shows: fri110281200-Rittal-Centralised-or-Decentralised-Automation

Notes

Rittal, headquartered in Herborn, Hessen, Germany, is a leading global provider of solutions for industrial enclosures, power distribution, climate control and IT infrastructure, as well as software and services. Systems made by Rittal are deployed across a variety of industrial and IT applications, including vertical sectors such as the transport industry, power generation, mechanical and plant engineering, IT and telecommunications. Rittal is active worldwide with 10,000 employees and 58 subsidiaries.

Its broad product range includes infrastructure solutions for modular and energy-efficient data centres with innovative concepts for the security of physical data and systems. Leading software providers Eplan and Cideon complement the value chain, providing interdisciplinary engineering solutions, while Rittal Automation Systems offers automation systems for switchgear construction.

Founded in Herborn in 1961 and still run by its owner, Rittal is the largest company in the Friedhelm Loh Group. The Friedhelm Loh Group operates worldwide with 18 production sites and 78 international subsidiaries. The entire group employs more than 11,500 people and generated revenues of around €2.2 billion in 2014. For the seventh time in succession, the family business has won the accolade "Top German Employer" in 2015.

Further information can be found at www.rittal.com and www.friedhelm-loh-group.com.