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Sick: Soluzioni applicative in qualsiasi ambiente operativo

I sensori dotati di fibre ottiche sono spesso la soluzione ideale sia come sensore optoelettronico a sbarramento, sia come sensore di prossimità, quando devono essere rilevati oggetti di piccole dimensioni o in spazi molto ristretti.

Partendo dal sensore amplificatore, i cavi in fibra ottica sono sviluppati con specifici requisiti quali la dimensione compatta del terminale di rilevamento, la resistenza della guaina in determinate condizioni ambientali ed operative e l'elevata flessibilità del cavo grazie ai raggi di curvatura sempre più ridotti.

L'ampio portfolio di fibre ottiche SICK garantisce soluzioni idonee per moltissime applicazioni. Le fibre ottiche ad Array, ad esempio, sono in grado di individuare oggetti in caduta libera o di diverse dimensioni nell'area ottica, garantendo affidabili rilevamenti anche di oggetti con dimensioni estremamente ridotte.

I cavi in fibra ottica, rivestiti interamente in teflon, sono progettati per resistere a condizioni applicative estreme come in presenza di oli, grassi, detergenti e disinfettanti, rappresentando la soluzione ideale per macchine utensili, impianti farmaceutici, chimici oppure alimentari.

Le fibre ottiche equipaggiate con terminali speciali consentono invece il riconoscimento, particolarmente critico, di wafer, piastre di vetro o LCD nelle industrie dell'elettronica e del solare.

Il rilevamento dei livelli di liquidi all'interno di serbatoi o all'esterno di tubi trasparenti costituisce un'altra applicazione ottimale per le fibre ottiche.

Sono disponibili anche versioni per alte temperature con campo termico da -55 ° a +315 ° C

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Desigo V5: Innovations from Siemens increase building efficiency

The Siemens Building Technologies Division has introduced version 5 of its Desigo building automation system. Its innovative products such as Total Room Automation as well as efficiency features, like RoomOptiControl and Eco Monitoring, give building operators and users an active role in energy management, leading to permanent reductions in energy and maintenance costs. A state-of-the-art building automation system is always optimized for energy-efficient operation. However, these optimized settings may start to drift over time. One of the underlying causes is often a lack of transparency for users who simply don't know how the setpoint changes they make can impact energy consumption. This is particularly true for air-conditioned rooms which are also equipped with lighting and sun protection controls. The new version of Desigo keeps room users and building operators apprised of the building's efficiency status. Feedback to users is given using the innovative Green Leaf display, adapted to the expertise and control options of each user group. The system makes it possible to change settings if needed to

restore optimal energy efficiency. A study by Technische Universität München (TUM) indicates that by actively involving operators and users in the energy management of a building, energy consumption can be reduced by up to 25% without affecting comfort.

Total Room Automation offers energy savings without reducing comfort

The open, programmable room automation range Desigo Total Room Automation (TRA) is a holistic solution encompassing the HVAC, lighting and shading disciplines. Desigo TRA uses an innovative efficiency feature called RoomOptiControl. It automatically detects unnecessary energy consumption in the room and notifies users by changing the color of the Green Leaf icon on the QMX3 room control unit: If room operations are energy efficient, this icon is green. If settings made by a room user lead to unnecessary energy consumption, the icon turns red. To reset room control to energy efficient operation, the user simply presses the display and the Green Leaf icon returns to green.

Using BACnet/IP, PXC3 room automation stations—also part of the TRA package—are integrated seamlessly into the PX automation level with its primary systems (heating generators, HVAC main units and cooling generators). The primary systems are controlled directly through the demand signals from the rooms. This means that the primary systems are only turned on if needed and their operation is adjusted so it meets the room requirements without exceeding them. One room automation station can cover multiple rooms. TRA offers complete integration of KNX, DALI and EnOcean devices; existing or new sensors and actuators from Siemens can be incorporated as well.

Eco Monitoring to reduce energy consumption and wear

Eco Monitoring is another innovative efficiency feature of Desigo. It monitors ongoing operations of HVAC systems based on energy-related quality condition indicators such as readings from temperature, humidity and pressure sensors, runtime, switching behavior and operational performance of the systems. Should deviations from the target state, inefficient operations or increased energy consumption occur, the building operator is notified via the Green Leaf display on the Desigo Insight management station. Current and future international standards (such as EN 15323:2007) require such a feature in order to optimize building operations over the long term.

Desigo Eco Monitoring not only helps optimize energy consumption, it also reduces wear.

Thanks to its dynamic behavior and timely reporting, the Eco Monitoring feature recognizes unfavorable system operations early on, allowing operators to intervene immediately before any negative impact occurs. If desired, operators can choose to be notified of unusual events via text messaging (SMS), fax or e-mail.

Expanded networking of the automation level

Starting with version 5, Desigo also offers expanded end-to-end networking of the automation level. Enhanced support for communications standards ensures efficient system integration.

The PXC series of compact automation stations has a higher number of universal inputs/outputs, which makes them much more flexible. To protect existing investments, different device generations, such as PTM and TX I/O modules and RXC room controllers, can be used in parallel on the same PX automation station.