

Press Release

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Smart Sensor – now smarter! Digital Evolution in Thermal Management

Smart Sensor CSS 014 IO-Link provides digital temperature and humidity data

Digitization covers many areas of industrial production these days. So it was a natural for the Thermal Management experts of STEGO in Schwäbisch Hall to offer a digital version of their Smart Sensor CSS 014 to the market. The compact sensor measures the climatic parameters temperature and humidity, offers its users added value in handling and interconnection and now also converts the data in a standardized digital signal.

Condensate countermeasures

Efficient measurement of ambient temperature and humidity in a control cabinet is an important element in preventing the formation of condensation. Corrosion caused by condensate can cause the failure of key components. Not only in control cabinets or enclosures, but also areas and automated processes where temperature and humidity are of importance. The CSS 014 measures the ambient temperature within a range from -40 to +80 °C, and at the same time registers the relative humidity (RH) between 0 and 100 %. Based on this data users get an exact picture of the climate for evaluation of the peripheral environment in their application.

„Jump-Start“ into digitization: IO-Link

„We decided on the IO-Link protocol as we expect this standard to become well-established in digital machine communication. A big starting help for us to enter the digital world.“ This is how Peter Witsch, Head of Development at STEGO, comments on the reasons for choosing IO-Link as the communication protocol for their first digital product. IO-Link adds practical connectivity and user-friendliness to the CSS 014. The IO-Link parameterization software makes it easy to parameterize the Smart Sensor for use in the control cabinet or installation area. Besides the

simple switching parameters for temperature and humidity, the device offers additional configurable events, called “event bits”. “Value-added date” is the keyword – and allows the Smart Sensor to be individually adapted to its application. With help of the parameterization software, the settings can be applied to more CSS 014 sensors. Individualization and standardization go hand in hand. Cabling has also been simplified, standardized and is less expensive using unshielded standard cables with M12 connectors. Data generated by the smart sensors can now be read by the user and further processed for intelligent condition monitoring, whether in machine-level PLC's, proprietary systems or in the cloud.

Prepped for use in harsh environments

The sensor unit of the CSS 014 is thermally decoupled and encapsulated with a peripheral seal. Benefit: a high vibration resistance and compliance to protection type IP57 of the sensor unit itself. Additionally the board is coated with a certified protective lacquer to protect against corrosion and for improvement of the tracking resistance. The circuit board contains a microcontroller/interface driver and an EMC protection unit in an optimized setting in respect to dissipation heat, in order to prevent an impact of the dissipation heat on the measured data. The complete unit Smart Sensor CSS 014 is rated with protection type IP20. The operating voltage is DC 24 V (DC 12 – 30 V) at a maximum power consumption of 0.3 W. Approvals by the testing agencies VDE and UL document tested safety of the Smart Sensor CSS 014 according to IEC 61010-1/DIN EN 61010-1.

STEGO - Perfect Thermal Management

Since it was founded in 1980, STEGO Elektrotechnik in Schwaebisch Hall, Germany, has been developing, producing and selling an ever-growing range of products for the protection of electric and electronic components. All STEGO products for cabinets and enclosures – heaters, fan heaters, filter fans, LED-lamps, thermostats, hygrostats and accessories - are aimed at reaching optimum climatic conditions in the most varied environments, ensuring that all sensitive components work reliably at all times. STEGO is now represented at 12 locations and by more than 200 sales partners worldwide.

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