

Murrelektronik simplifies industrial image processing

With its installation concept, the German specialist for decentralized automation technology offers solutions for the quick and efficient creation of a machine vision infrastructure.

Keeping an eye on process chains is a daily challenge in industrial production and modern-day logistics. Demand for industrial image processing and machine vision systems is therefore growing. These systems help to network, digitalize and, ultimately, optimize processes in the material flow and in production. They call for efficient end-to-end signal and data management between the control system and the relevant machinery and equipment.

Plug & play for machine vision systems

Murrelektronik has the perfect solution – an installation concept based on the plug & play principle. The company's decentralized assemblies are pluggable and mountable in the immediate machine environment. They include switches, distributors, power supplies and the associated high-performance, pre-assembled cable and connector technology. This has the advantage of minimizing the amount of installation work required and maximizing the performance of both new and existing machines and systems.

An installation concept aims to combine the sensor and actuator technology efficiently and cost-effectively in a single system, also ensuring reliable data communication and a dependable power supply. The machine vision installation solutions from Murrelektronik benefit from a modular design and can also be incorporated into an existing system architecture. The concept centers around the Xelity Hybrid Switch, which handles the data communication and power supply requirements of up to four cameras. In combination with three switches and L-coded M12 plug-in connectors, the machine vision application is quick and easy to set up for as many as twelve cameras. IP67 protection offers maximum flexibility – the system can be retrofitted without disassembling the unit and can be used immediately. If the equipment needs to be transported, it can be moved module by module thanks to defined mating points.

Saving time and improving safety

All components are fitted using pre-assembled plug-in connectors in the immediate machine environment. All the sensor and actuator systems are also connected in this way. “That significantly reduces the installation time,” says Simon Knapp, Solution Manager Machine Vision Systems at Murrelektronik. Quick and easy installation frees up valuable capacity. “Even planning an upgrade or expansion – from procurement to commissioning – is extremely time-consuming,” explains Knapp. Another advantage is that Murrelektronik modules and switches supply diagnostic data in addition to process data. Anomalies can thus be detected at an early stage, which increases machine availability and reduces costly downtime.

“Ultimately, though, it’s not a specific product that is decisive when it comes to creating an efficient machine vision infrastructure, but rather the fundamental idea on which decentralized automation concepts are based – simplifying, modularizing, transferring to the field and combining technologies,” continues Knapp. At Murrelektronik, a data transmission rate of 1 gigabit/second (Gbit/s) via X-coded data cables leading to the switch makes for problem-free high-resolution image processing. Network communication takes place at up to 2.5 Gbit/s.

Easily scalable and extremely flexible

Murrelektronik’s decentralized, modular installation concept is easily scalable and extremely flexible. It also relieves the pressure on control cabinets. In many scenarios, efficient industrial image processing is only possible in the first place as a result of these benefits. As Knapp sums up: “Whenever companies are looking for ways of optimizing their processes, cutting their operating costs and boosting their overall performance, our machine vision installation concept offers concrete solutions.”



Caption: Machine vision installation solutions from Murrelektronik – Xelity switches, including NEC Class 2 power supply, ensure smooth, error-free data communication.
Image: Murrelektronik GmbH

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