



Machine Vision

Smart installation solutions

 **MURR**
ELEKTRONIK

stay connected



Future-proof solutions for efficient automation

Since 1975, Murrelektronik has focused on reducing assembly and installation costs. Integrated solutions for the digital future can reduce costs along the entire process chain by up to 30 percent. In contrast to conventional installations, where each signal is wired individually, Murrelektronik relies on decentralized installation technology. This means that the control technology is placed directly on the machine. The connection between the control cabinet and the machine is only made via two cables for power and data, which improves clarity and flexibility. Modifications or retrofits can be carried out easily without additional effort. Standardized components enable a fast and error-free system setup, reduce the planning and documentation effort and increase the reliability of the machine. This leads to the aforementioned cost savings of up to 30 percent.

Murrelektronik: Innovation and efficiency in automation technology

In the world of automation, networked systems are more than just combinations of individual processes: They form the cornerstone for innovation and efficiency. At Murrelektronik, an internationally active family business, we develop needs-based system solutions for automation technology. Our dedicated team of over 3000 experts in 50 countries works together with our customers on the automation technology of tomorrow. Our four production sites in China, the USA, the Czech Republic and Germany (Stollberg, Oppenweiler) are the hubs of a global network of precision and quality.

Our wide-ranging portfolio covers all areas from efficient power supply and data transmission to security solutions. But connections are not just our strength when it comes to hardware. We are also pioneers in digital networking in order to provide our customers with the best possible support. We enable smooth data exchange in networked production – whether for condition monitoring, predictive maintenance or smart data management.

As a family business, we think in terms of generations and value long-term relationships. We take responsibility for our planet and are committed to sustainability and energy efficiency in the industrial future.

	<p>Design</p> <p>A decentralized installation concept and standardized components increase cost-effectiveness.</p>		<p>Purchasing</p> <p>The complexity of the parts to be sourced is reduced.</p>
	<p>Installation</p> <p>Standardized plug connections save an enormous amount of time. They also reduce the error rate.</p>		<p>Software</p> <p>Pre-built software modules reduce the time required.</p>
	<p>Commissioning</p> <p>The decentralization of the I/O systems enables continuous partial commissioning.</p>		<p>Maintenance</p> <p>Highly visible LEDs minimize troubleshooting considerably and status messages can be read on the control unit.</p>

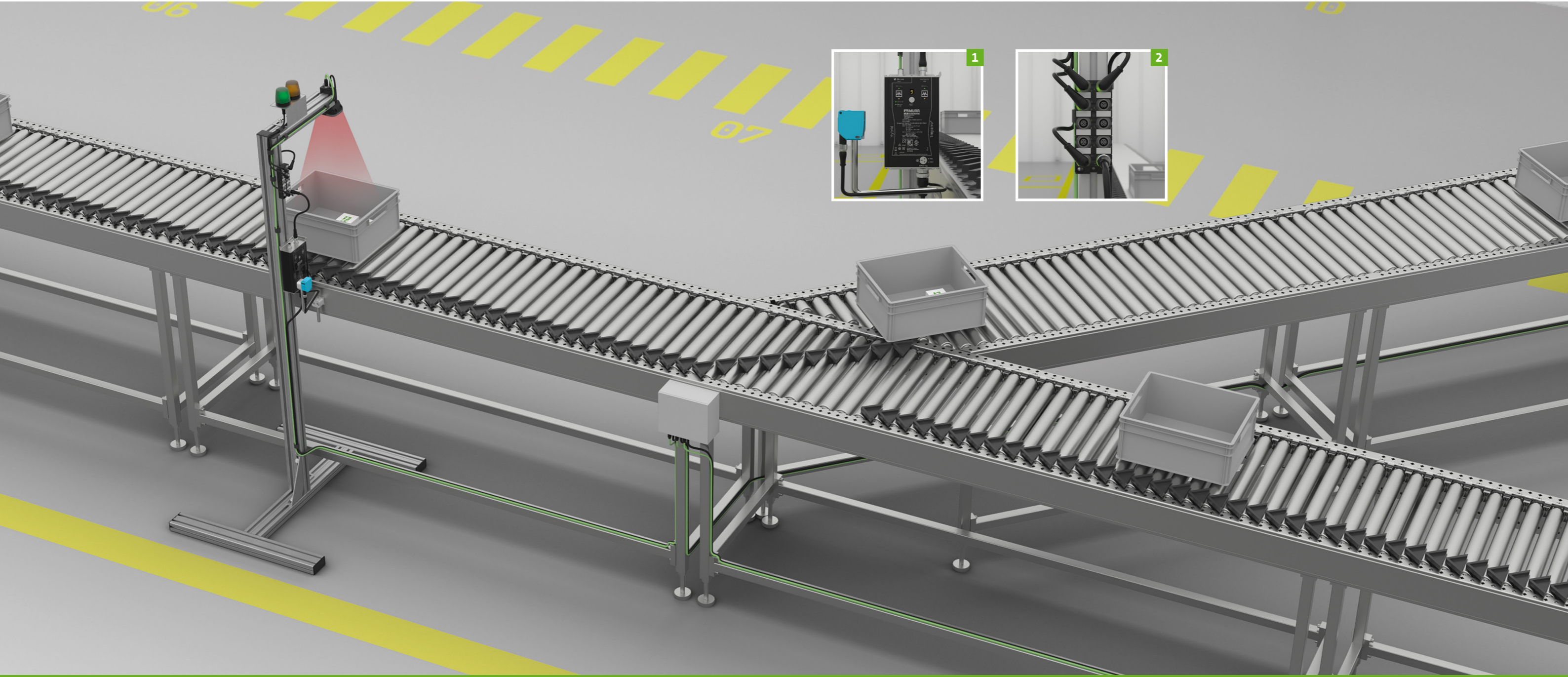
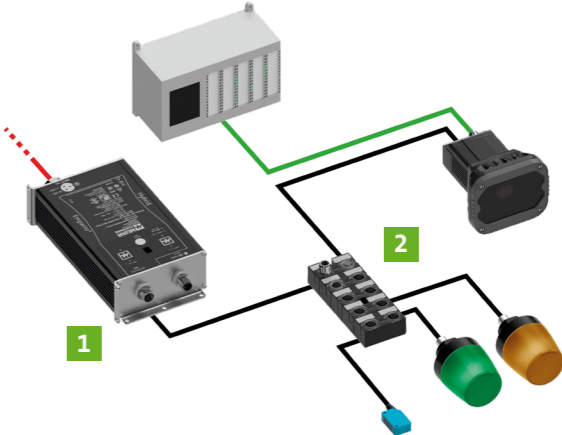


Inspect

The simplest solution for a single camera: the camera I/O distributor

Container inspection stations are simple visual stations for sorting out defective or contaminated containers. The result is indicated by signal lights on the reading station. Installation in the field is made easier with the I/O distributor. All elements are connected to the camera I/O distributor and supplied with power. This ensures a simple and standardized installation solution, regardless of the camera. Only one M12 connector is required and the time-consuming individual wiring of a 12-pin cable is no longer necessary.

- 1 Power supply
- 2 Camera I/O distribution





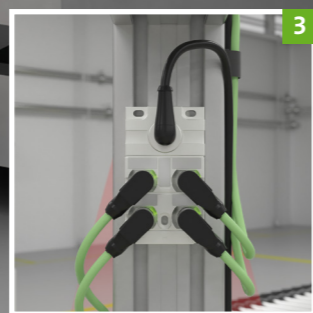
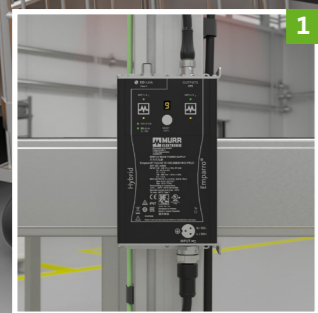
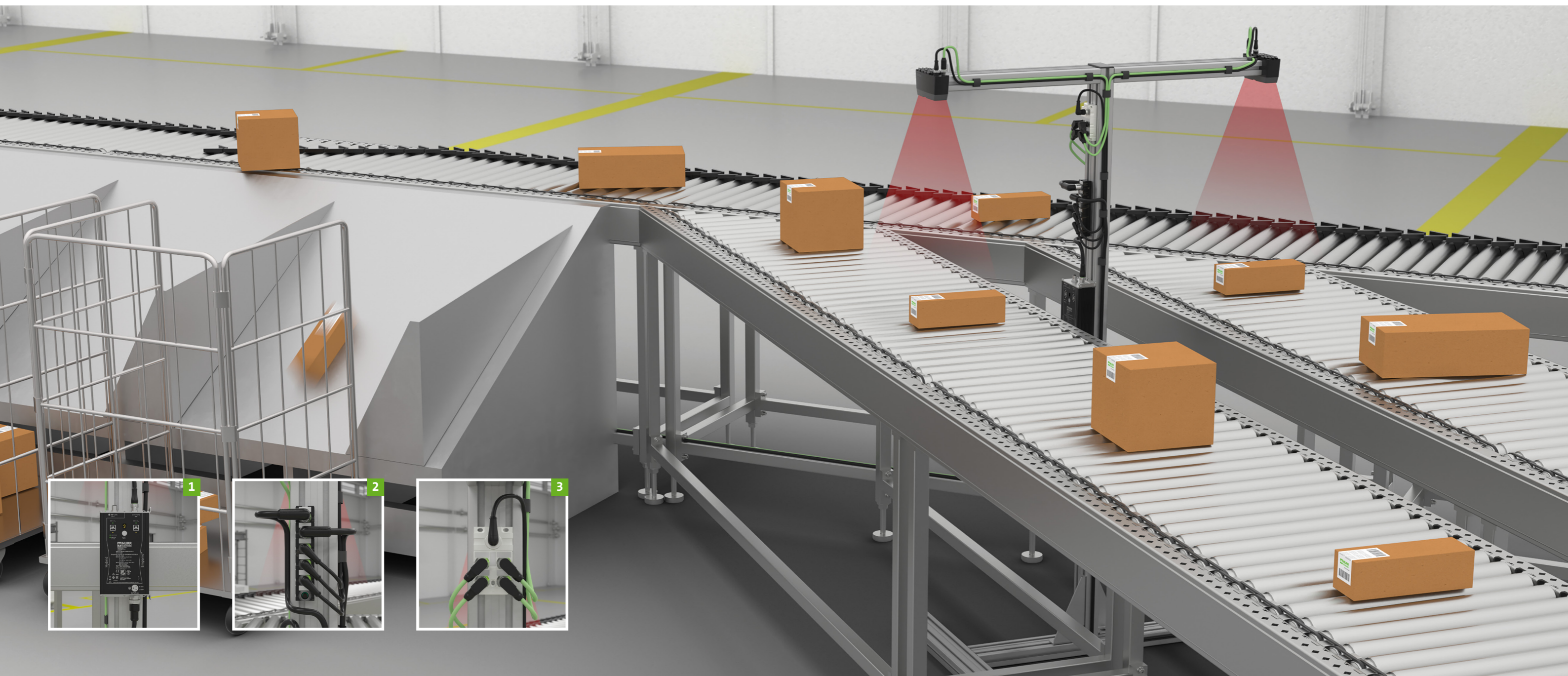
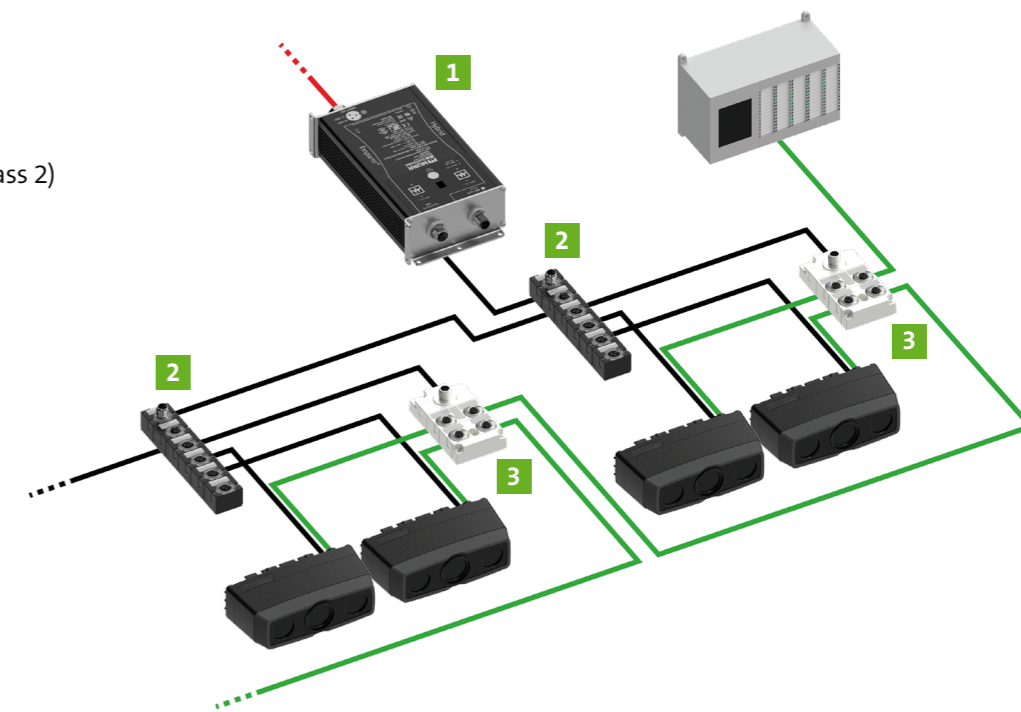
Measure

The lean solution for multiple cameras: the 4-port unmanaged switch

At a reading station, two cameras sort the parcels according to size and space requirements using barcodes and measurements. An unmanaged switch with four ports only transmits read results, not images. The switch and the cameras are powered from a power splitter with 4 NEC Class 2 channels.

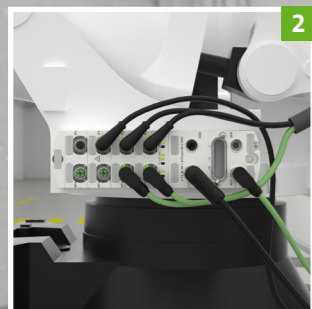
Thanks to the daisy chain option, additional identical reading stations can be connected quickly and seamlessly to both devices. The direct mounting of the modules on the machine as well as standardized and pre-assembled connectors enable quick installation and expansion.

- 1 Power supply
- 2 Power splitter (NEC Class 2)
- 3 Unmanaged switch

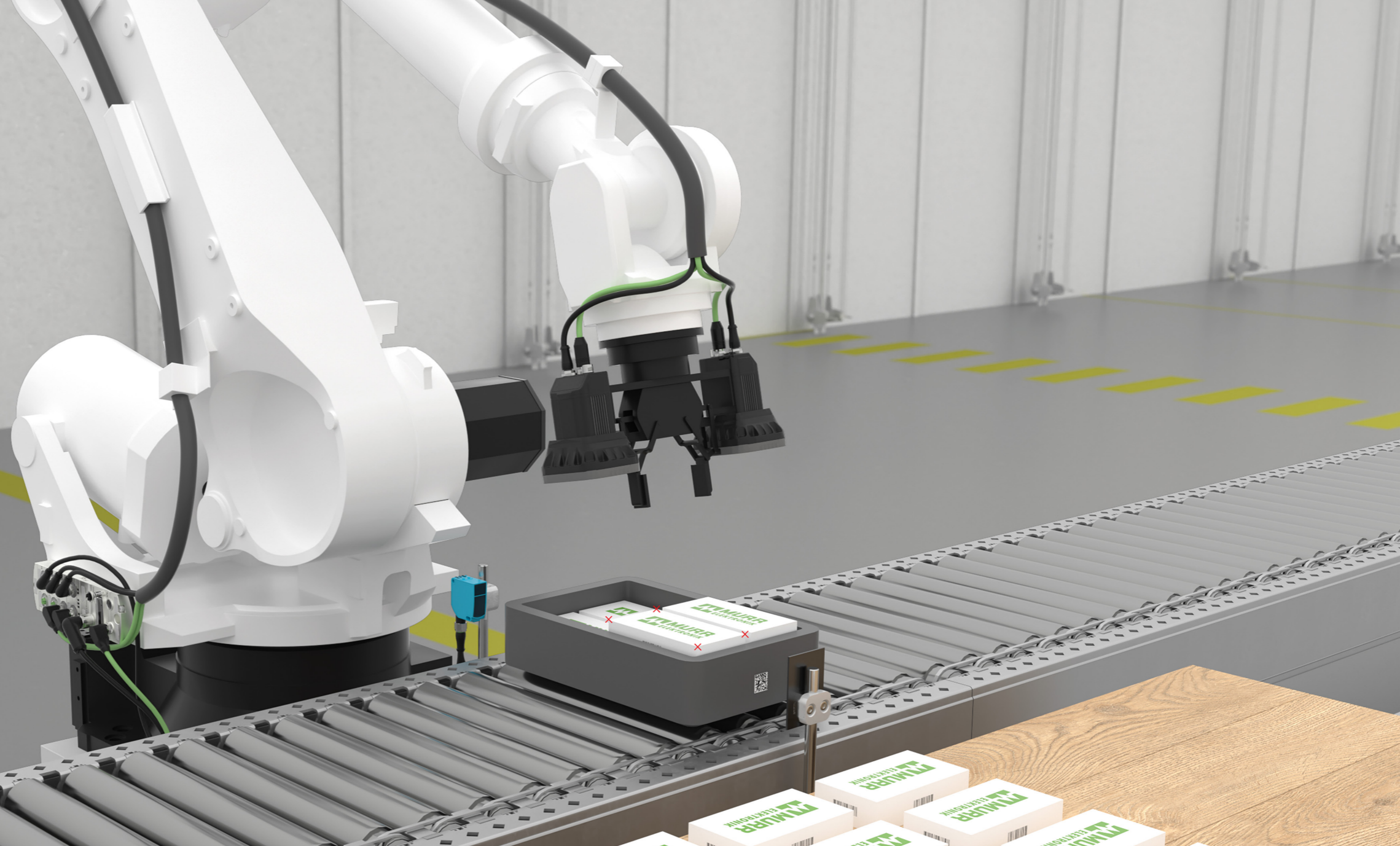




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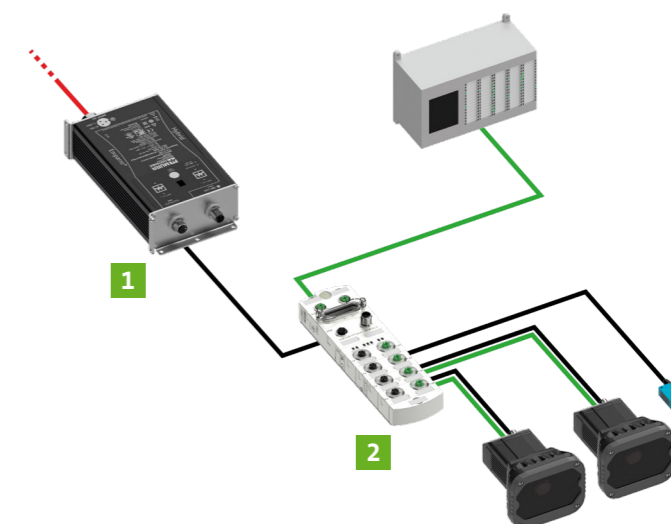


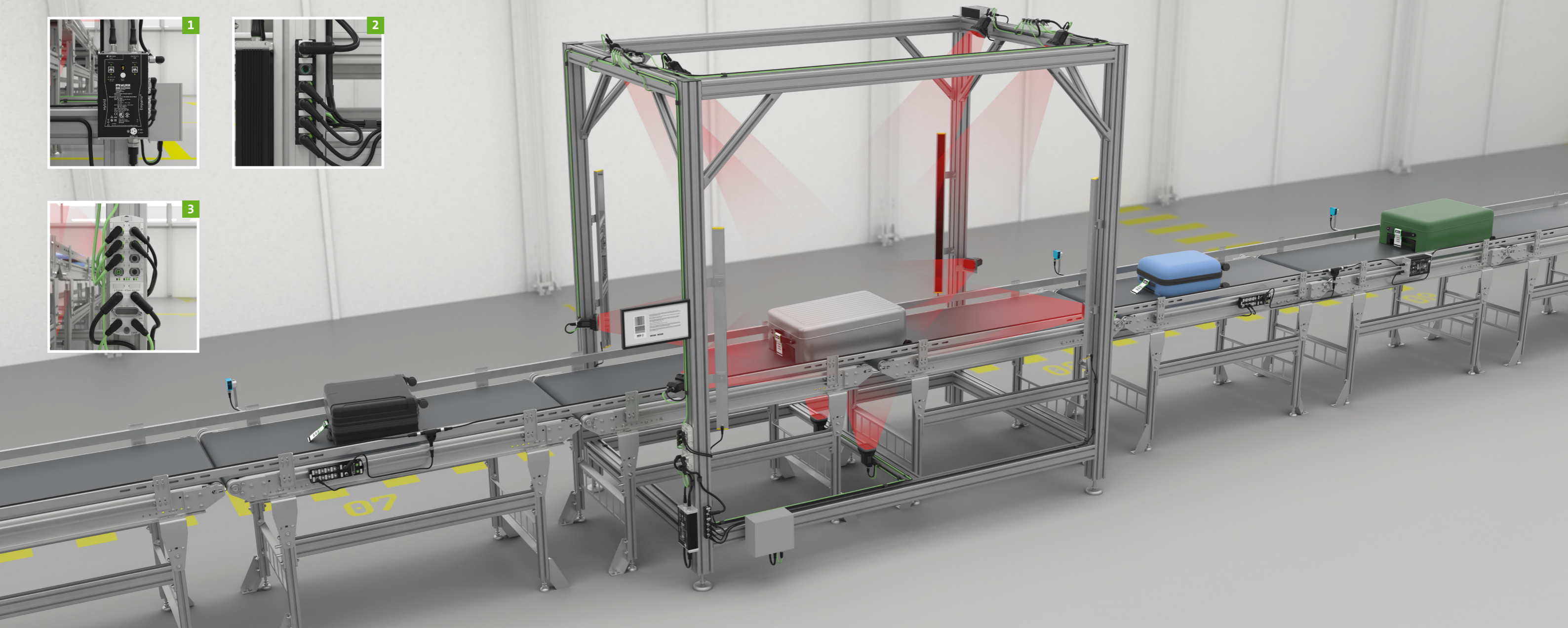
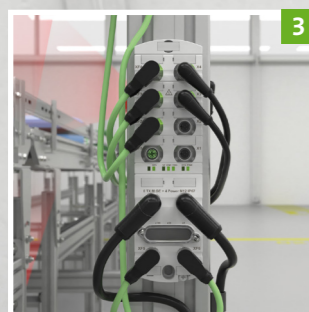
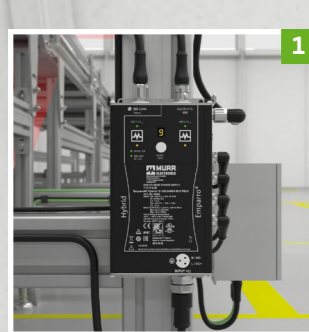
Guide

The powerful all-in-one solution: the hybrid managed switch

When controlling a robot, space and weight on the robot arm are limited. The special requirements for torsional strength and bending radii must also be taken into account during planning. The hybrid managed switch offers an efficient and economical complete solution for camera communication and power supply. Several cameras can be connected to one module. The use of standardized connectors per camera facilitates fast and uncomplicated connection.

- 1 Power supply
- 2 Hybrid managed switch



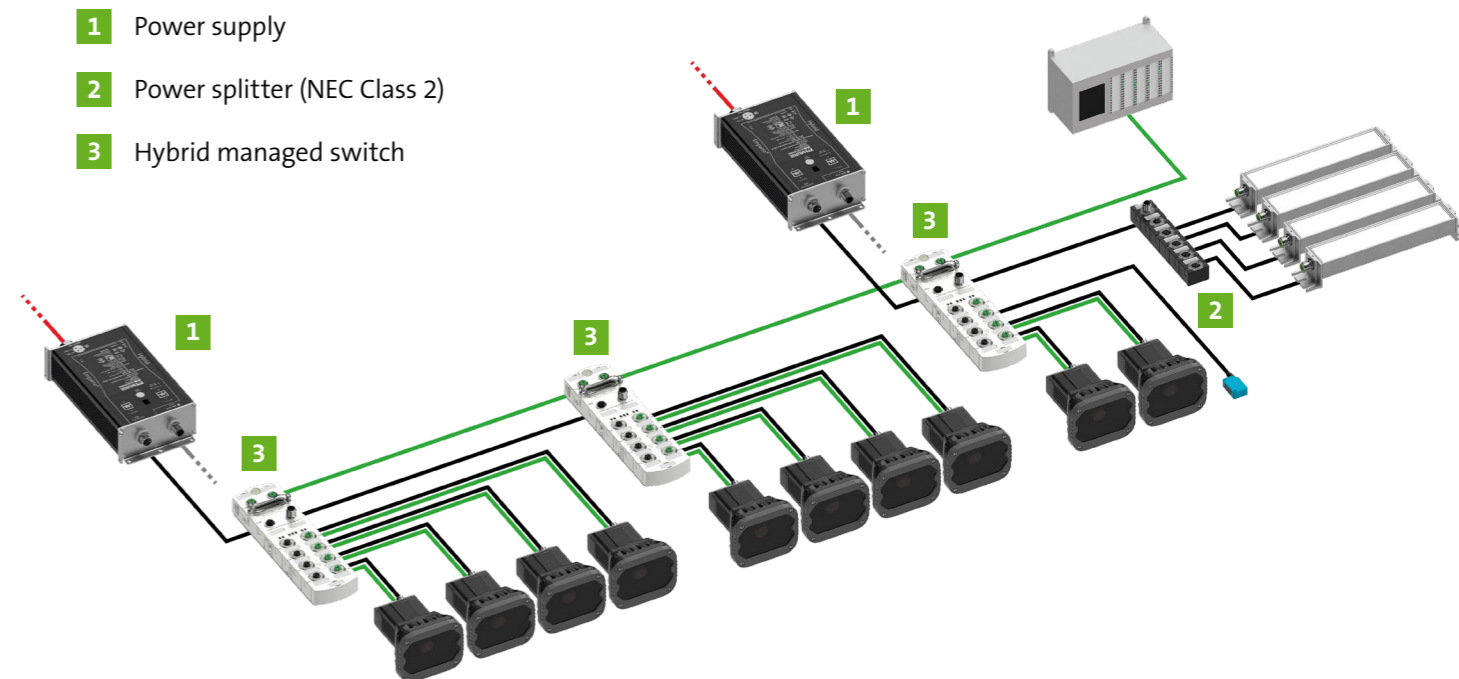


Identify

Easy to scale: Daisy-chain with the all-in-one solution

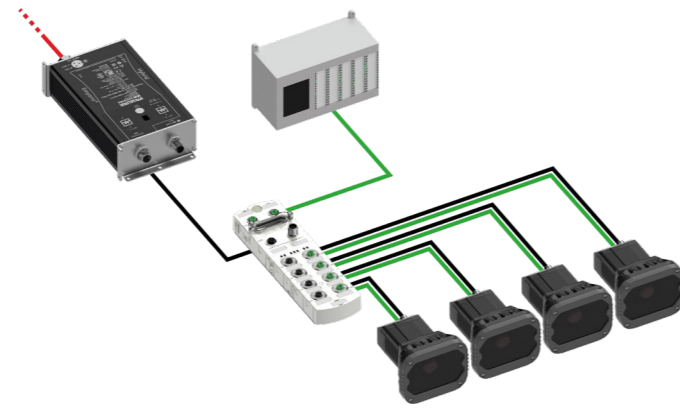
The 360° scan of baggage requires an efficient connection of many cameras. The hybrid managed switch enables the installation of up to four cameras per switch, directly on the scan tunnel. The switch supplies the cameras with power, transmits the trigger and encoder signal, for example, and ensures communication. Thanks to the daisy chain option, additional cameras can be connected. Industrial I/O modules enable process visualization from the field to the cloud thanks to their interfaces. This solution reduces the wiring effort, saves space in the control cabinet and demonstrably lowers costs.

- 1 Power supply
- 2 Power splitter (NEC Class 2)
- 3 Hybrid managed switch



Up to 30% cost reduction

See an example of how you can save money throughout the process chain. In our example, we use four cameras, a hybrid managed switch, and a power supply right at the machine. Each camera is connected with only two cables (power and communication). Thanks to the decentralized installation solution, significant savings can be achieved at each stage of the process.



Design

Less planning is required to create the circuit diagrams. A circuit diagram for 48 individual wires (12 per camera) for camera power and I/O is no longer required. Instead, design with one pre-assembled connector per camera. There is also no need to plan for 32 wires for Gigabit communication. Again, one standard connector per camera is sufficient. Existing systems can be retrofitted with little planning effort.



Purchasing

Our standardized connectors are compatible with almost any camera from any manufacturer. The decentralized installation solution eliminates the need for components such as DIN rails, terminal blocks, and control cabinet feedthroughs. This reduces the number of parts and suppliers.



Commissioning

Defined plug-in interfaces facilitate transportation and commissioning at the customer's premises. Even inexperienced personnel can commission the system. The reduced fault rate increases output and accelerates the ROI.



Maintenance

Clear LED indicators allow quick troubleshooting. If a cable breaks, the switch indicates the fault. The cable is replaced and the camera is up and running again. This minimizes system downtime.



Installation

The four cameras are connected using only eight pre-assembled connectors. Thanks to the standards, even inexperienced personnel can install the cameras. The standardized components make it easy to add cameras to an existing system.



Software

Software modules can be used depending on the controller and camera.

up to **30%**

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“The Murr IO Blocks provide significant benefits for our customers. Setup is fast and easy – no electrician required – and the built-in status LEDs on every port help users troubleshoot quickly and efficiently.”

*Bart Stroo,
Senior Manager, Product Marketing, Cognex*

Our product range

Industrial PC



Power Supplies



UPS-systems/
Buffer modules



Electronic circuit protection



Industrial Switches



Industrial I/O-Systems



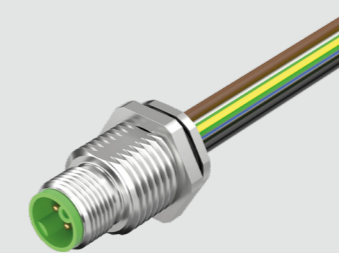
IO-Link Devices



Cordsets



Receptacles/
PCB Connectors



Field-wireable connectors



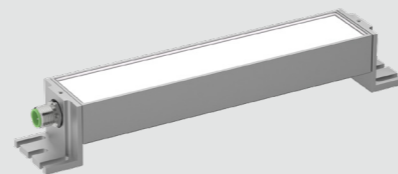
Distributor/Adapter



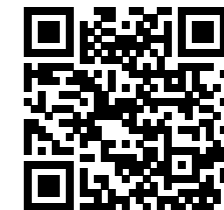
Service interfaces/
Cable entry systems



Machine lights



Command and signaling devices



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