



## A convincing new communication technology at plant 56 **ASi-5 makes picking system unique**

SAFELOG

The development of modern and intuitive picking systems has been a segment of SAFELOG GmbH since the company was founded. A particular focus is on pick-by-light and put-to-light technology. This technology ensures the highest picking performance while actively avoiding picking errors. This is partly possible through ASi-5 communication technology, connecting the control unit with a touchscreen to up to 96 compartments via a unique two-conductor cable. This solution is used in Mercedes-Benz AG's so-called Factory 56 in Sindelfingen.

One of SAFELOG GmbH's core competencies is the development of efficient and failsafe solutions for picking systems. A particular focus is on pick-by-light and put-to-light technology. This technology is perfect for picking small and medium-sized parts. The system uses optical signals for the operator to indicate the correct pick and put position. The system immediately detects and communicates an operating error. To continue the picking process, the operator must correct the error. Consequently, the workflow can continuously be improved according to the poka-yoke principle for error prevention. For visualization, SAFELOG uses ASi-5 compartment displays and ASi-5 eTag display modules as signal lamps and confirmation buttons.

## Picking system based on building blocks

SAFELOG's individual picking system components can be flexibly combined. This enables customized solutions. Moreover, using these components, even existing systems can be modified or expanded at any time. The key is the ASi-5 communication technology, connecting the control unit with an integrated touchscreen to up to 96 receiver devices via a unique two-conductor profile cable.

As part of the control unit, the AS-Interface master manages the data traffic on the AS-Interface network. An ASi-5 module is used as an interface on the individual compartment displays or display modules. This way, each



SAFELOG relies on the powerful ASi-5 technology for its picking systems.





Using a unique two-conductor profile cable, ASi-5 connects the control unit with an integrated touchscreen to up to 96 receiver devices.

device can easily be connected to the system. A wide variety of topologies can be implemented, such as tree, ring, star, or line/bus structures. Each connected device receives its individual frequency channel to communicate with the master.

## ASi-5 – a cable makes the difference

ASi-5 is a so-called fieldbus – a bus system connecting sensors and actuators to the AS-Interface master to exchange information – with or without an integrated fieldbus interface. Here, the distinct feature is a unique two-conductor profile cable. The cable transmits information to connected devices and simultaneously provides power to the individual components. In particular, the cable reduces wiring efforts and provides a free choice of topology. Compared to version ASi-3, the new generation ASi-5 can transmit significantly

larger data widths in a considerably shorter time and with a substantially larger number of connected devices. Furthermore, ASi-5 communicates on a different frequency range than ASi-3. Therefore, the new standard can be integrated into an existing AS-Interface bus topology without complications.

## Mercedes-Benz benefits from new standards at SAFELOG

ASi-5 technology is now standard in every SAFELOG product. The technology was first used in a Mercedes-Benz greenfield project – Factory 56. In addition to an AGV system, the company from Markt Schwaben provided a pick-by-light system. The ASi-5 components were installed and commissioned in cooperation with the experts from Bihl+Wiedemann GmbH. “This major project for Mercedes-Benz started shortly after the introduction of ASi-5.



The Mercedes-AMG EQS 53 4MATIC+ electric sedan is now rolling off the production line in Factory 56 at the Mercedes-Benz Sindelfingen plant.

Here, the technology was first and concurrently very successfully used,” Frank Lelonek, branch manager at SAFELOG, explains. “This project’s distinct challenge for us was to provide the first high-quality devices for industrial usage right after the introduction of ASi-5 technology at the SPS 2019 trade show,” Sven Meister, key account manager of automotive at Bihl+Wiedemann, adds. “This was partly possible because, as an ASi-5 development group participant, we naturally knew which applications were now possible with the new ASi-5 ASIC.”

### Increased data width and a more flexible storage system

Due to ASi-5’s significantly increased data width compared to ASi-3, where it is limited to 4 bits per module, employing the pick-by-light system enabled the implementation of two applications. For one, a display with four RGB

lighting segments and a pushbutton for the individual compartments was implemented. To individually control display lights, 12 bits of data are required. In addition, so-called eTag display modules are used. Equipped with two pushbuttons and two RGB lighting elements, the modules replace the standard paper labels on storage locations with displays that can be reprogrammed as needed, making the entire storage system significantly more flexible. The control and the transmission of the display signals are also done through ASi-5.

Please refer to <https://www.safelog.de/pick-systeme/> for additional information on using AS-Interface communication technology in SAFELOG’s picking systems.

More information: [www.safelog.de](http://www.safelog.de)

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### **About SAFELOG**

SAFELOG GmbH, based in Markt Schwaben near Munich, was founded in 1996 as a company for maintaining testing facilities for the automotive industry. SAFELOG was granted the first patent in the intralogistics sector for extraction monitoring for picking systems, a monitoring system that was successfully marketed. As a result, SAFELOG started focusing on developing and intelligent linking of innovative logistics systems. These efficient technologies always emphasize the optimal customer process. SAFELOG systems are used by reputable companies in the automotive, mechanical engineering, or retail industries, in

production environments as well as in the distribution sector. Furthermore, SAFELOG solutions have a solid reputation for order commissioning and fulfillment across numerous industries. The systems are custom designed and implemented based on modular hardware and software components. In addition to its headquarters and production site in Markt Schwaben, SAFELOG has subsidiaries in the Stuttgart area, in Bremen, Dusseldorf, Budapest (Hungary), and several project sites in the USA. Currently, the company has 190 employees and recorded sales of approximately 33 million euros in 2021.