

# AS-INTERFACE MASTER NEWS

THE BIHL+WIEDEMANN MAGAZINE

## INTERVIEW

Save time, money and resources:  
child's play with AS-Interface

## SAFETY

Safety solutions from  
Bihl+Wiedemann:  
custom tailored for mobile  
and modern material handling

Sustainable automation with AS-Interface:

# LESS CONNECTORS MORE CONNECTION

## Sustainable automation with AS-Interface:

# LESS CONNECTORS MORE CONNECTION

A single unshielded, two-conductor profile cable for both standard and safety data plus power, piercing technology instead of connectors, and the highest degree of flexibility and economy: but the success story of AS-Interface is not only about the simplicity and performance of this globally standardized wiring and control technology and the resulting advantages – it also includes the promise of sustainability that ASi fulfills.



Responsibility for the environment, reduction of the ecological footprint by saving CO<sub>2</sub>, decarbonization of industrial and logistic processes, but also topics such as saving resources and the shortage of skilled workers – there are many facets to sustainability in industry. Products and processes are no longer viewed only through the lens of economics, but rather increasingly as an ecological issue as well. But one doesn't have to dive deep into this topic to see how AS-Interface lets you implement sustainable automation solutions.

### ASi: technology for standard automation, safety and security in automation

All generations of AS-Interface are based at their heart on the principle of simplicity: nodes in the ASi network are connected to an ASi profile cable using piercing technology – without any special tools and exactly where they are needed. But ASi is not (any longer) just a flexible and cost-effective wiring solution, but rather has become a technology that enables high-performance automation solutions and – since it carries both standard and safety signals on the same cable – also makes implementation of functional safety a simple matter. IO-Link devices – and soon also IO-Link Safety devices – can be connected very conveniently with ASi-5 and thus integrated into Industry 4.0 and corresponding IIoT structures.

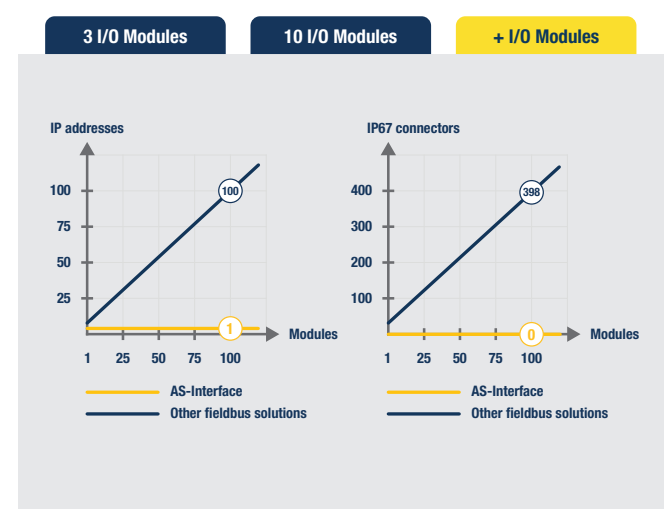
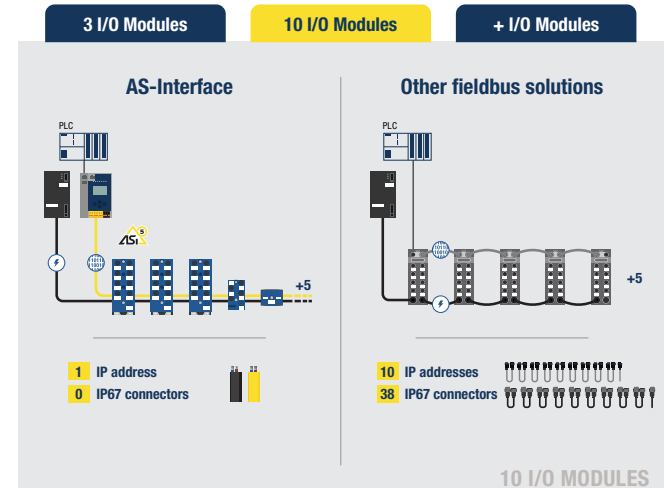
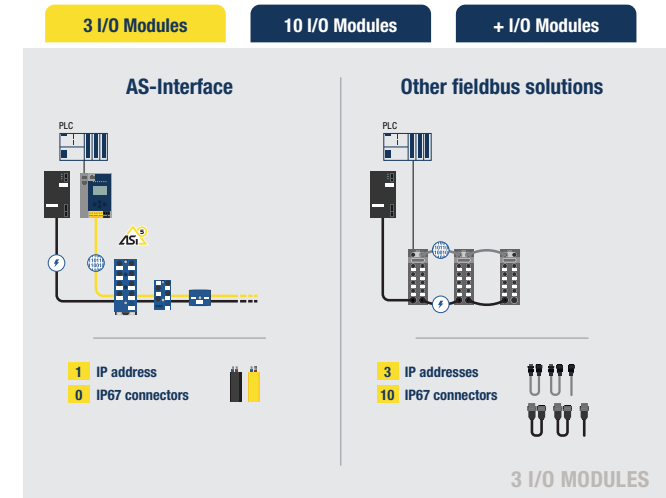
The software suites from Bihl+Wiedemann – ASIMON360 for safety and ASi Control Tools360 for standard applications – ensure an intuitive, errorless, and highly functional solution for individual processes and network topologies. Complex requirements, as found in drive technology, become child's play with ASi-5. And when it comes to safety aspects, the technology stands out by making a communicative break with TCP/IP at the field level. This shields the network devices from the outside world and, in contrast to field modules of other technologies with an integrated Ethernet interface, prevents potential safety gaps from arising in the first place.

And finally, all modern ASi devices from Bihl+Wiedemann can be updated via field updates, meaning that the hardware no longer has to be replaced if new safety requirements arise. The technological and application-related advantages are numerous – and they are all sustainable in a double sense, because AS-Interface not only stands for future-proofing, but also for environmental sustainability.

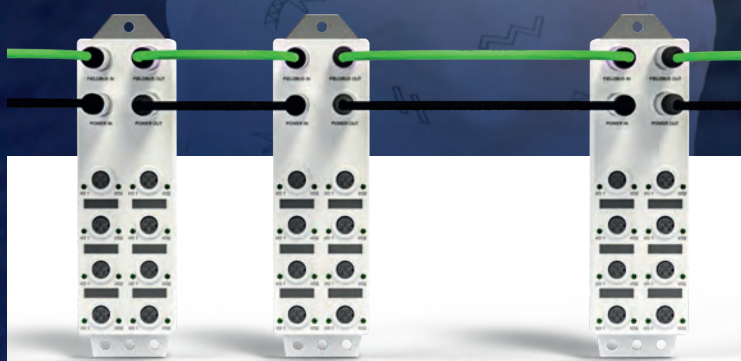
### AS-Interface – probably the most resource-saving automation technology

Less is more – this applies perfectly to AS-Interface. Whereas other fieldbus solutions require coded connectors for both the bus connection and power supply – with differing standards involved as well – ASi generally requires no connectors for connecting ASi network devices, since these components

### Comparison: required IP addresses and IP67 connectors for integrating I/O modules



AS-Interface



Other fieldbus solutions

ASi cable



Conventional parallel wiring



are simply pierced on the profile cable. Also, no longer needed are connection cables in pre-assembled lengths, as used for the connection and the power supply of Ethernet modules, since ASi components can be flexibly connected to an ASi or AUX profile cable cut to length from the reel as and where required. Even considering the need for connectors and cables alone, wiring with AS-Interface results in significant cost savings of approx. 100 to 150 Euros per module connection compared to Ethernet-based fieldbus solutions.

are many times lower compared to the production of the individual wires required as an alternative. And there is also the positive environmental effect of less waste when it comes to disposal. Less plastic, less copper – a plus for the environment: as a resource-saving technology, AS-Interface is now more future-proof than ever – especially in comparison to other automation systems on the field level.

**Time is money – AS-Interface saves both!**

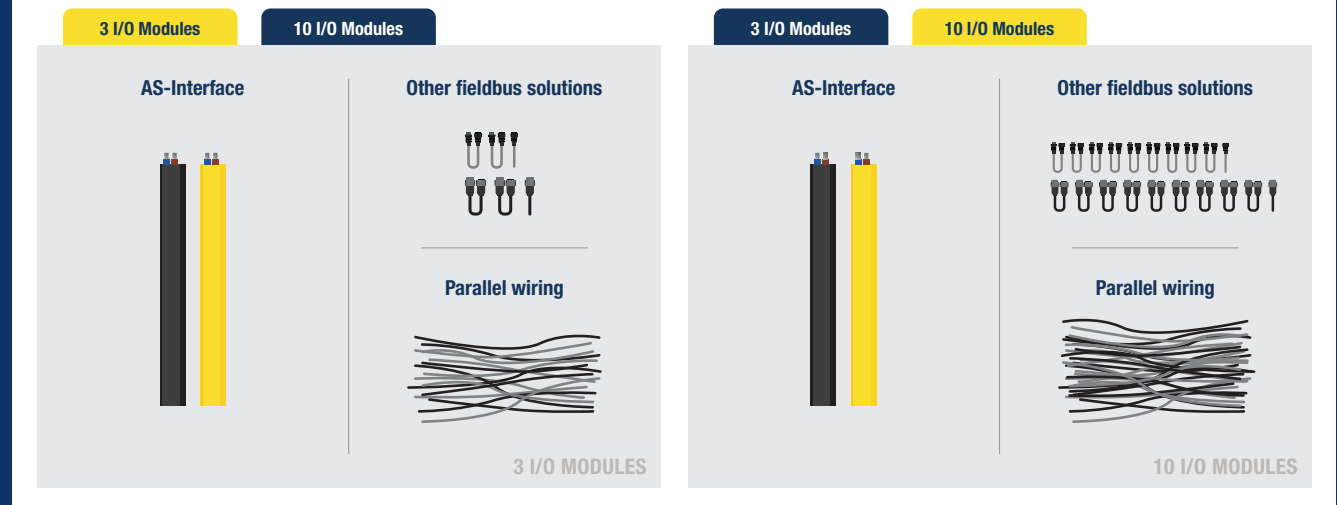
ASi offers savings not only in relation to other fieldbus solutions, but also in comparison to parallel wiring where each signal has to be wired individually to the control. Here, too, the raw material usage of copper and plastic for the ASi profile cable and the energy consumption required for its production

Working time is another valuable resource – especially in view of the shortage of skilled workers – of which the less is wasted, the more is available. Thanks to the reverse polarity protected profile cable and piercing technology, AS-Interface is probably the most efficient wiring system of its kind on

the market – because it not only saves material, but also time and therefore money. In contrast to other fieldbus solutions, sensors and modules can be connected in seconds using ASi – without any prior planning and commissioning time for and without having to wait for pre-assembled connection cables – which have to be kept in stock in various lengths, without searching for a suitable mounting point, without the risk of incorrect cable lengths or incompatible connector coding, and without having to deal with up to four cables per module.

In addition, an extremely large number of modules can be connected – using just two conductors to the gateway – under just one single IP address. This saves not only expensive installation time, even if additional ASi devices need to be integrated quickly at a later date, but also significantly reduces the

Comparison: resource requirement for various automation solutions when integrating I/O modules



prior planning effort required for mechanical and electrical engineering or for service and maintenance.

Compared to traditional parallel wiring, installation with ASi also offers high savings potential – in addition to the significantly reduced material requirements already mentioned. Whereas wiring a single motor starter with thirteen conductors can easily

require 60-90 minutes of installation time, ASi lets you accomplish the same task in just two minutes using an active distributor with M12 connection to the motor and a two-conductor profile cable already present in the system. In addition, simple diagnostic tools ensure that you don't have large numbers of individual wires to check with the risk of them being mixed up.

And finally, the ASi solutions from Bihl+Wiedemann are also characterized by economically attractive module

prices with the resulting low costs per gathered signal, since depending on the individual requirements a comprehensive portfolio of ASi modules with two to 16 I/Os and one to eight IO-Link Master ports is available. This explains why, depending on the machine or system layout, ASi can reduce wiring costs by almost 70 percent compared to other fieldbus systems.

AS-Interface therefore requires little to offer a lot at the same time. Your wallet and the environment are the beneficiaries. . .

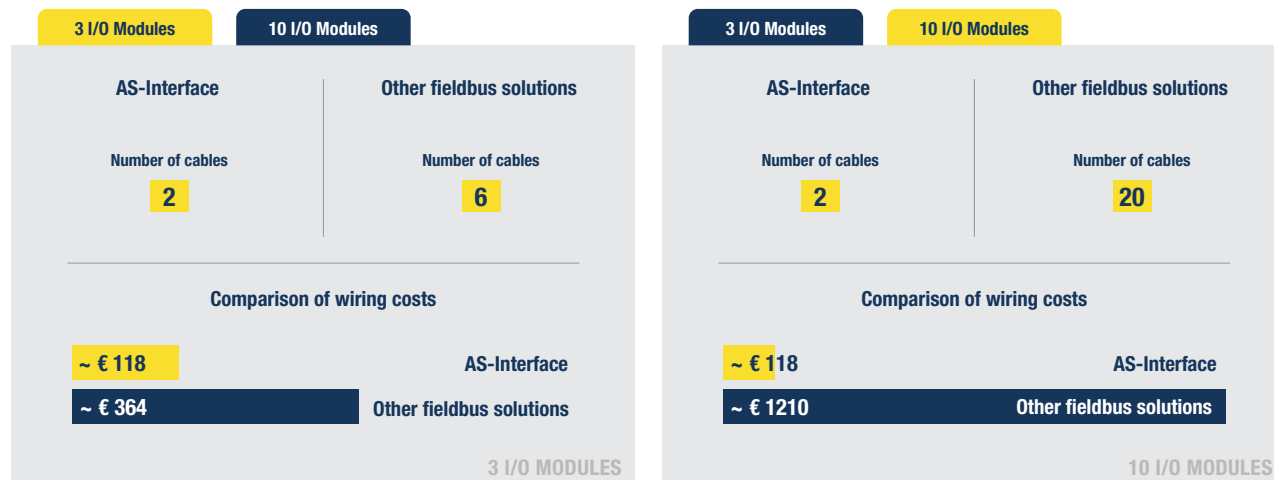
**Environmental responsibility and decarbonization at Bihl+Wiedemann**

Reducing CO<sub>2</sub> emissions is more important today than ever. Bihl+Wiedemann – equipped with a certified environmental management system in accordance with DIN EN ISO 14001 and an energy management system, certified in accordance with DIN EN ISO 50001 – is therefore consistently pursuing the goal of sustainable decarbonization in its commercial activities. To achieve a reduction in greenhouse gas emissions, the company is focusing on switching to renewable energies, using climate-friendly technologies, and a sustainability-oriented supplier network. For instance, the company has been covering an increasing proportion of its energy requirements at its headquarters in Mannheim with self-produced solar power since 2010. Thanks to two expansions of their solar power system in recent years, Bihl+Wiedemann generated around 260,000 kWh of energy in 2023. The company itself consumes the greater part of the energy generated, returning around 50,000 kWh into the public grid.

When selecting suppliers, the lowest possible CO<sub>2</sub> emissions are an essential criterion. Here, Bihl+Wiedemann relies on certified partners who have an appropriate sustainability profile, who use renewable energies for production and transport, who use ecological packaging and bundle purchase quantities in such way that transport costs are minimized, and who, if possible, are located nearby in order to avoid unnecessarily long transport routes.

Bihl+Wiedemann and AS-Interface: the more sustainable the focus, the better the prospects.

Comparison: cable requirement and wiring costs for integrating I/O modules



Interview with Fabricio Granados, Director of International Sales at Bihl+Wiedemann

# Save time, money and resources: child's play with AS-Interface



Fabricio Granados,  
Director of International Sales  
at Bihl+Wiedemann

## In a conversation, Fabricio Granados, Director of International Sales at Bihl+Wiedemann, explains how machine builders, integrators and operators can make life easier with AS-Interface

**ASi MASTER NEWS:** What is the main distinguishing feature of AS-Interface compared with other fieldbuses?

**Fabricio Granados:** AS-Interface lets you integrate sensors, actuators and modules into automation solutions more easily, flexibly and economically than with any other fieldbus. This is because they are all easily connected to the reverse polarity protected ASi profile cable – no need for pre-assembled cables and coded connectors, right where you need them, within seconds, without special tools and with a flexible choice of topology. Child's play – it couldn't be simpler.

**ASi MASTER NEWS:** Why does ASi not need any connectors and just a single cable?

**Fabricio Granados:** This is due to the electromechanically elegant contacting of the ASi cable using piercing technology. There, the nodes in the ASi network are simply pierced onto the yellow profile cable – without the need of a connector for the connection. This is much more complicated with typical fieldbus solutions using round cables. To connect just two modules in the field, you need two pre-assembled cables each for data and power and therefore four specially coded connectors, which cost corresponding money. For larger systems using Ethernet fieldbuses, several hundred cables, often in different lengths,

and twice as many connectors quickly add up. And there's another advantage: You can connect ASi modules to the profile cable at any point and they can also be easily replaced, moved or added. This is not possible with other fieldbus solutions.

**ASi MASTER NEWS:** What makes ASi so cost-effective as a wiring system and fieldbus technology – bearing in mind that users can save up to two thirds of the usual wiring costs.

**Fabricio Granados:** What is as easy as piercing modules is also quick. And time is money. This also applies to planning. With AS-Interface, you can decide flexibly on-site exactly where the module needs to be connected. The lengths of the connection cables do not need to be considered, nor does the correct coding of the connectors. There is no wrong design with ASi – and therefore no searching, modifying or waiting for the right connection technology, which also costs time and money. In addition, AS-Interface can be used to connect an extremely large number of modules to the control system, and thus realize further savings, especially in large system configurations. With AS-Interface, you literally pull the plug on wiring costs. And digitally too – because with ASi-5, only one IP address is ever required, even for the integration of more than 100 modules with which IO-Link devices are connected or frequency inverters are controlled. This also saves time and money – and nerves –

when setting up the ASi network. When all is said and done, AS-Interface solutions from Bihl+Wiedemann save you up to 68 percent of wiring costs compared to other fieldbus systems.

**ASi MASTER NEWS:** What makes ASi so resource-efficient and sustainable?

**Fabricio Granados:** The more resource-efficient the solution, the better its prospects. And compared to other fieldbus technologies, ASi is more future-proof due to its very nature. While conventional parallel wiring requires a lot of cable and therefore a lot of copper and plastic, the consumption of these resources is minimal with AS-Interface. This applies to both the raw materials themselves and the energy consumption in cable production. And ASi also produces significantly less waste when it comes to disposal. All this also applies to plugs and sockets, which other fieldbus networks are full of, whereas AS-Interface does away with them completely.

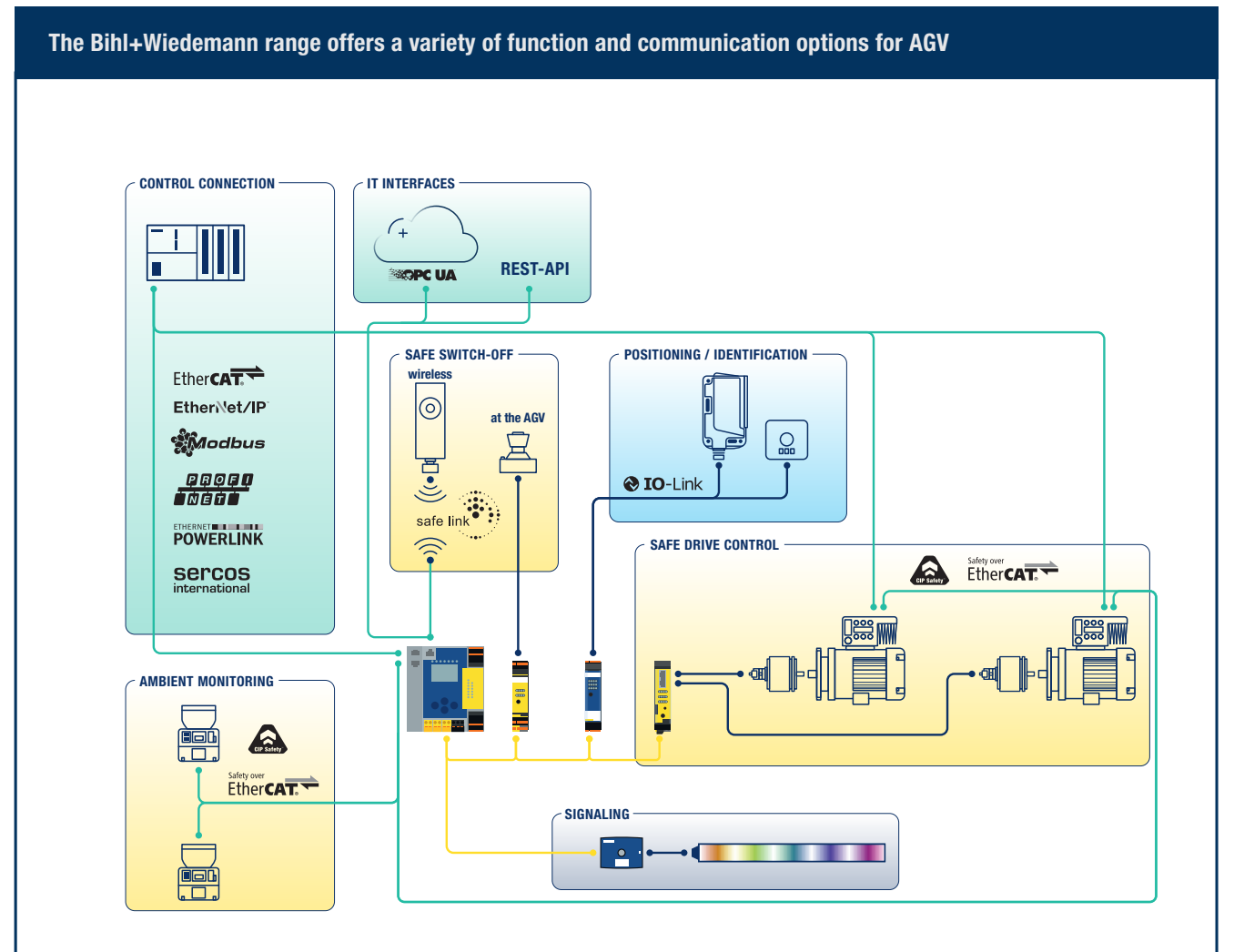
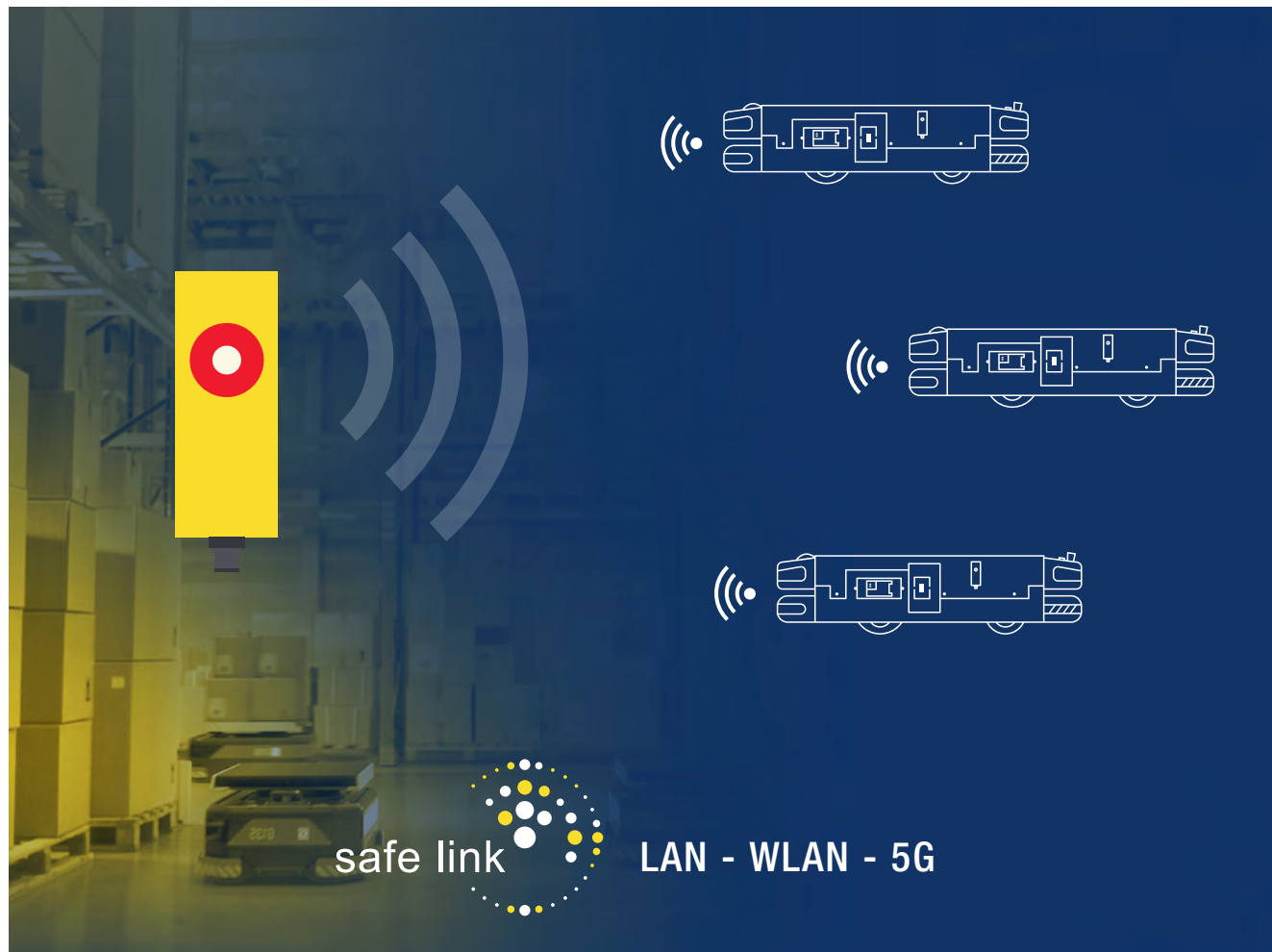
**ASi MASTER NEWS:** Even if there are already a lot of them – why haven't all automation specialists long since converted to AS-Interface?

**Fabricio Granados:** That's a good question, which I can't completely answer. But rest assured, we are working towards 100%. Speaking of which: what is your current situation, dear readers?

## Safety technology

# SAFETY SOLUTIONS FROM BIHL+WIEDEMANN: CUSTOM TAILORED FOR MOBILE AND MODERN MATERIAL HANDLING

In times of E-commerce and digitalization, resource efficiency and sustainability orientation – to name just a few influencing considerations – the demands on logistics as a whole are becoming ever more specific and complex. This also affects intralogistics system solutions in companies – and for Bihl+Wiedemann, as a specialist in efficient wiring systems, this is reflected, among other things, in the individualization of safety-related concepts and solutions. Especially in demand today are flexible, economical and future-proof safety solutions for mobile material handling - such as Safe Link for safe networking and wireless communication as well as compact control units that can be adapted to the respective customer requirements, for example in Automated Guided Vehicles (AGV), Autonomous Mobile Robots (AMR) and the like.



The requirements of users and therefore also of machine builders are constantly changing, their wishes are in flux – and so is the material handling itself. Not least the extreme increase in online trade in recent years has meant that intralogistics solutions (must) become ever more flexible. Because when for example a small package needs to be transported from A to B, then a large one from B to C and finally a long roll from C to A, then such systems must also be able to handle this. Flexibility is required in many areas: when connecting to ERP systems and IT for rapid implementation of the requirements, as well as when selecting the appropriate control system and safety technology. A simple E-Stop to shut down the material handling is no longer sufficient; here, programmable solutions and wireless safety technologies are increasingly important.

ASI-5 and ASI-3 are today standards in intralogistics – not least thanks to Bihl+Wiedemann. Based on the wiring technology AS-Interface, the company has for many years been offering a wide range of products and solutions for standard and safety technologies in intralogistics. The above-mentioned shift in material handling becomes especially notable in the field of mobile material handling technology – i.e. Automated Guided Vehicles (AGV), Autonomous Mobile Robots (AMR) or other autonomously navigating mobile shuttles and transport systems. Two topics are currently the focus of market interest here:

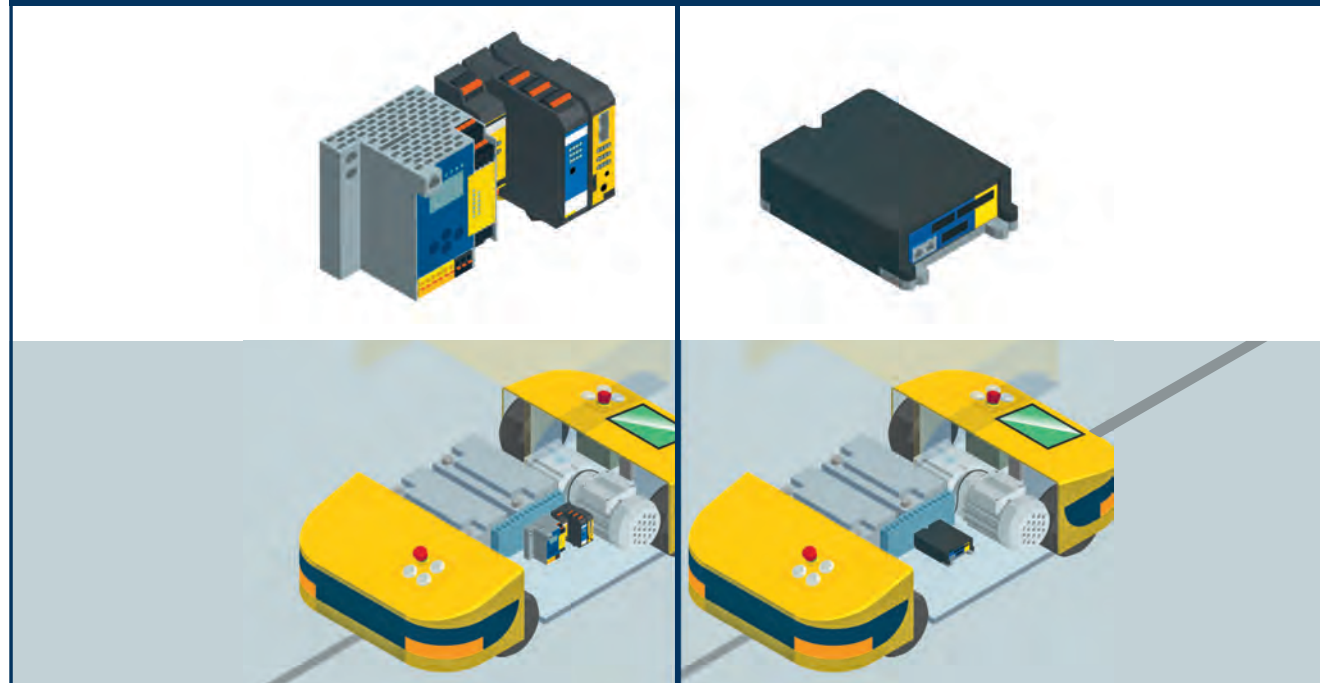
**1.** How can multiple vehicles in an AGV system or even stationary machine modules that are simultaneously in a sudden, hazardous area be brought to a

standstill together as quickly as possible and in a safety-compliant manner in the event of an emergency stop of a vehicle – keyword “global e-stop”?

**2.** What functionality and flexibility can safety-related control systems that have been specially developed for AGV and the like offer in terms of IT and OT integration or design?

Bihl+Wiedemann's portfolio offers answers to these questions – with the communication technology Safe Link, which also offers wireless transmission of safe signals, as well as with solutions for the control and safety monitoring of driverless transport systems that can be individually adapted to specific communications and assembly requirements.

**Controlling AGV with components from Bihl+Wiedemann / custom specific solutions**



**Global E-Stop: wireless and effective using Safe Link**

To avoid imminent or actual hazards, power-driven work equipment – including

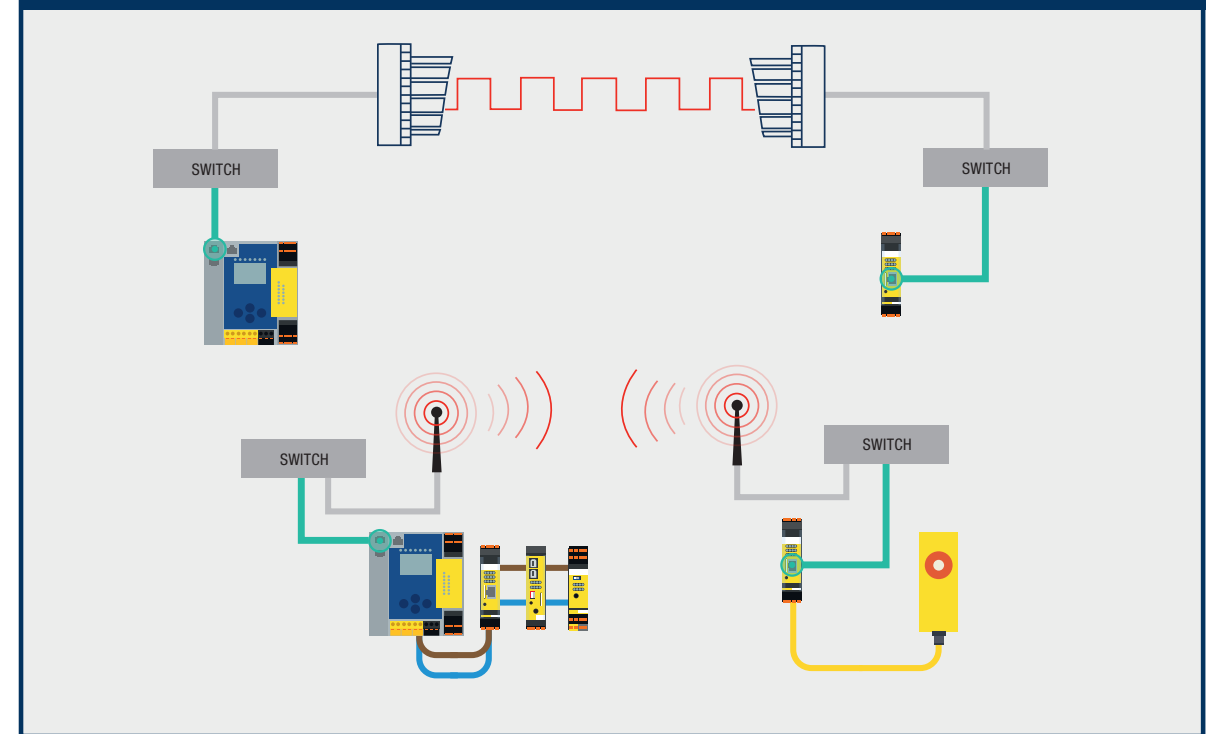
not only stationary but also mobile machines such as AGV and AMR – must be equipped with one or more quickly accessible and conspicuously marked emergency command devices for safely stopping the entire

work equipment. This can be done using an emergency-off, whereby all electrical power is immediately switched off to stop a dangerous movement. However, the safety actuating element can also “only” trigger an

**Safe communication with / between AGV via Safe Link**



**Wireless safe communication via data light barrier / WLAN**



emergency-stop – i.e. an immediate stop of the power-driven work equipment, whereby the power supply is still used for the targeted stopping of the dangerous movement and is only switched off after the machine has come to a standstill. But if the emergency-stop – of an AGV, for example – is not a local safety function, but a comprehensive – i.e. “global” – safety function that also applies to other Automated Guided Vehicles or machine modules, the question immediately arises as to which other vehicles and machines are affected. And, above all, how the mobile units can be “quickly reached” in a safety-compliant manner in accordance with the Machinery Directive or the forthcoming Machinery Ordinance. The same applies if several vehicles are to be stopped by emergency-stop from a central operating station. The answer is provided by the communication technology Safe Link from Bihl+Wiedemann. This also enables wireless Ethernet-based coupling via WLAN, 5G or other standards and therefore safe networking of mobile units with each other and with stationary machine modules – even if different control systems

and fieldbus protocols are used. This is how Safe Link ensures that a global emergency-stop function is established, with which safe signals can be transmitted promptly in the overall system network and affected units can be reached quickly. If an emergency-stop control element is actuated anywhere, both system components and wirelessly integrated AGV can be switched off.

This communication technology is now standard in all current gateways and Safety Basic Monitors from Bihl+Wiedemann, making networking with Safe Link child’s play.

**Controlling AGV with versatile function and communication options**

Another new area of application that can now be realized with the large safety modular system from Bihl+Wiedemann is the control of Automated Guided Vehicles (AGV), Autonomous Mobile Robots (AMR) or other autonomously navigating mobile shuttles and transport systems. Adaptable to individual customer requirements, these

solutions enable the integration of a wide range of safety functions such as the integration of safety laser scanners and emergency-stop control elements or safe speed monitoring without any additional safety control. They can also be used to support the actual vehicle control system, AGV drive technology and sensor-based navigation and localization systems. On the communication side, important relevant connectivity requirements such as analog I/Os and safe digital outputs, ASI-5/ASI-3, Ethernet/IP, CANopen, ASi Safety, CIP Safety over Ethernet/IP and, of course, Safe Link are also met. Since a range of other fieldbus options for standard and safety communication are available within the Bihl+Wiedemann safety portfolio, and many vehicle manufacturers have special requirements for the OT and IT connection, connection types or the size of control units, safety solutions for AGV with ASI-5 and ASI-3 from Bihl+Wiedemann can also be optimized or redesigned in individual configurations, dimensions and other technical details. It is also possible to implement standard

functions, such as integrating intelligent sensors like RFID solutions or controlling LED strips for indicator and brake lights on the vehicle.

This last point in particular shows another advantage of AS-Interface: the ability to pre-process, which helps to reduce the workload of the AGV control. Complex details, such as the indicator behavior of a RGB module, can be set in advance in the software suite ASIMON360 and then easily called up as required. The overall process is controlled by the decentralized logic of the corresponding module.

### Drive solutions for material handling

Ideal areas of application for AS-Interface are not limited to mobile units, but also include stationary drive and conveyor systems for material handling machines and plants. Because the advantages of the simple wiring system ASi, such as

- Connection of sensors, actuators and ASi modules thanks to piercing technology without the need of connectors and pre-assembled connection cables,
- Power supply and communication usually

- both on the same reverse polarity protected profile cable,
- Transmission of safe and standard signals on the same cable, as well as
- Free choice between line, ring or star topology for system layout

are also evident in the areas of warehousing and material handling, conveying and sorting equipment, shuttle pallet warehouses, order picking systems, packaging equipment as well as storage and retrieval machines.

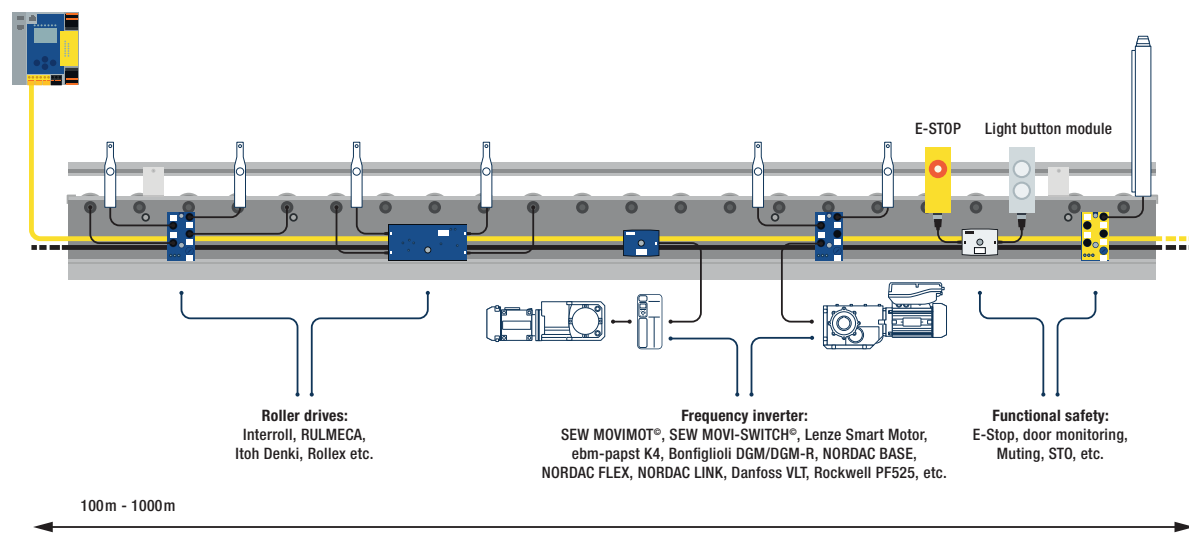
ASi-5 and ASi-3 as well as the corresponding safety protocols ASi-5 Safety and ASi Safety at Work can be easily combined in one application in order to perfectly meet the respective requirements. For example, ASi-3 Modules from Bihl+Wiedemann are ideal for the especially cost-effective integration of drives into an ASi application as well for the transmission of individual binary signals, e.g. from light barriers. The newer and more powerful ASi-5 technology makes it possible to transfer serial protocols between motor modules and drives in addition to digital or analog controls. Since IO-Link and soon IO-Link Safety are perfectly integrated into ASi-5 and ASi-5 Safety, you can also easily integrate drives and identification

systems such as barcode or RFID readers with an IO-Link interface.

Using their intimate familiarity with the advantages and possibilities of AS-Interface, Bihl+Wiedemann is always able to implement special solutions. These include programmable software for the Zero Pressure Accumulation conveying of unit loads as well as ASi-5 Cable Duct Modules for cost-effective control of two or four motorized rollers. Bihl+Wiedemann also offers special ASi-5/ASi-3 all-in-one solutions in its range for drives from leading manufacturers, including motorized rollers from Interroll, Itoh Denki and RULMECA, DC motors from ebm-papst and frequency inverters from SEW-EURODRIVE, NORD DRIVESYSTEMS, Danfoss, Rockwell, Lenze and Bonfiglioli, among others, which take both technology standards into account.

Fast, flexible, safe and economically efficient material flow processes will continue to be in demand in a constantly changing intralogistics sector. With an ASi-5/ASi-3 portfolio and expertise in automation and safety technology as well as conveyor and drive technology, Bihl+Wiedemann is ideally equipped to meet these challenges.

### Bihl+Wiedemann offers a wide range of products for drive technology



# ASi-5 AND ASi HIGHLIGHTS FROM BIHL+WIEDEMANN

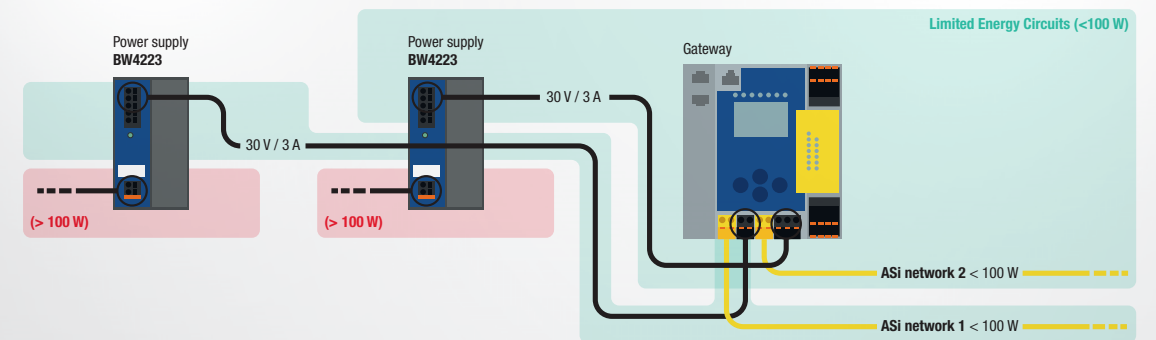
## ASi-5 Counter Module now also available as active distributor



The range of ASi-5 Counter Modules from Bihl+Wiedemann currently consists of different variants in protection class IP20 and IP67, each with four digital counter inputs that can be individually configured and parameterized. The ASi-5 Counter Module BWU4996 is a new addition to the range. As an active distributor, its flat design (35 mm deep) makes it perfect for installation in the cable duct. The module is equipped with two digital counter inputs that can be individually configured and parameterized as two two-channel or two single-channel inputs.

All ASi-5 Counter Modules in the range work with counter frequencies up to a maximum of 250 kHz and also enable the connection of pulse counters and encoders (24 V). In addition to the flexibility in

the use of the modules thanks to the individual parameterization and the drastically reduced wiring effort in the field typical of ASi, additional functions ensure that many different applications can be solved cost-effectively with the ASi-5 Counter Modules. The user can now choose between a 32-bit value range and fast transmission of two or four independent 16-bit counter values in just 1.27 ms. And in addition to various counter functions, frequency and period duration measurements with and without filtering can now also be performed, enabling simple piece goods counting, positioning tasks or speed measurements.



## UL solutions from Bihl+Wiedemann

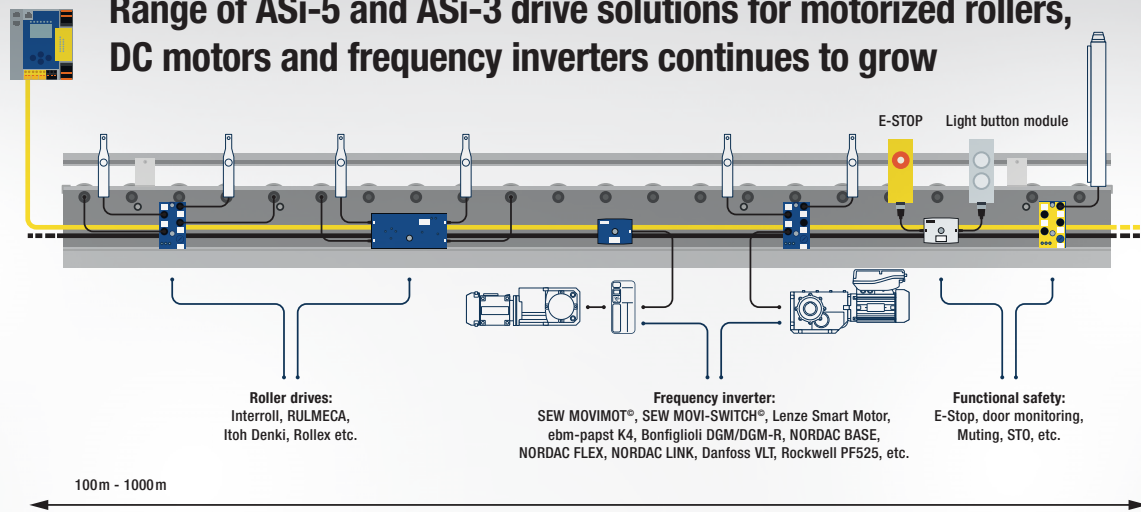
Manufacturers from other countries exporting systems to the North American market must comply with local regulations that differ fundamentally from the European IEC standards. In practice, UL certification of the system on-site is essential. Ideally, all components used should already have UL certification. It is often necessary to ensure compliance with the power restrictions associated with NEC Class 2/Limited Energy Circuit in accordance with the standard.

The modern ASi solutions from Bihl+Wiedemann – consisting of ASi-5/ASi-3 Gateways and 30 V power supply units – are all UL-certified. NEC Class 2 power supply units or UL-certified power limitation modules are also available to meet the power limitation requirements.

Small applications with only one ASi network and a maximum of 4 A can be easily implemented in compliance with UL by using a 30 V power supply

unit BW4223 (UL-certified, NEC Class 2) limited to 100W – in addition to the ASi-5/ASi-3 Fieldbus Gateway – for the power supply. If more than one ASi network is required, we recommend using an ASi-5/ASi-3 Gateway with two ASi networks and integrated decoupling, optimized for 2x Limited Energy Circuit – e.g. BWU3830 for PROFINET or BWU3947 for EtherNet/IP – as well as two 30 V power supply units BW4223. The use of a power limitation module is not required.

## Range of ASi-5 and ASi-3 drive solutions for motorized rollers, DC motors and frequency inverters continues to grow



Bihl+Wiedemann already offers an extensive range of motor modules for a variety of drive solutions with ASi-5 for the control of motorized rollers, DC motors and frequency inverters. And the range continues to grow. A SEW MOVIMOT drive

can be controlled with the ASi-5 Motor Module BWU4416 in IP67. The module is equipped with four M12 sockets each plus six digital inputs for connecting sensors. The inputs and the motor are supplied out of AUX, which results in higher input

performance. For applications where less complex functions need to be implemented cost-effectively, Bihl+Wiedemann also offers a variety of ASi-3 Motor Modules for many drives in different versions.

## ASi-5 Safety Muting Module BWU4411



The ASi-5 Safety Muting Module BWU4411 in IP67 from Bihl+Wiedemann enables different Muting solutions up to SIL3/PLe to be implemented simply, efficiently and significantly more cost-effectively than with comparable Ethernet-based solutions. Whether cross Muting or sequential Muting, all required

sensors and safety components can be flexibly connected to the ASi-5 Safety Muting Module BWU4411. This means that all signals required for Muting are available in one module under a single ASi-5 address. Unused in- and outputs can be used, for example, to control Muting lights or integrate push-button modules. As an alternative to processing in the ASi Safety Monitor, all relevant signals can also be forwarded via safe fieldbuses – PROFIsafe, CIP Safety, FSoE or openSAFETY. The software suite ASIMON360

contains ready-certified Muting blocks for convenient parameterization for many applications. Complex programming in the control system is not required. The ASi-5 Muting solution from Bihl+Wiedemann is also impressive from a cost perspective. The ASi-5 Muting Module BWU4411 is not only a good 60% cheaper than comparable Ethernet-based fieldbus solutions on the market, the user also saves installation and material costs thanks to the simple, fast and fail-safe installation using piercing technology.

## ASi-5 Safety Modules in IP20 and IP67



In addition to the ASi-5 Safety Muting Module BWU4411, 12 variants of ASi-5 Safety Input Modules can cover almost all industry-relevant integration and application scenarios thanks to the combination of safe signals and standard signals in one module. To complement the currently available ASi-5 Safety Input Modules in IP67 and IP20, each with 12 standard signals and two safe inputs for

floating contacts, for OSSDs or for the combination of floating contact/OSSD, Bihl+Wiedemann is working on comparable solutions for space-saving installation as circuit board modules, for example in a machine control panel, and on slightly more compact field modules with four standard signals in IP67. Further ASi-5 Safety Modules are also in preparation.

## ASi-5 Safety Gateways with ASi-5/ASi-3 Safety Monitor



ASi-5 Safety is the perfect complement to ASi Safety at Work whenever safe and standard signals need to be collected in the field, safe high-end sensors need to be connected, more complex safety applications need to be solved, a large number of

safe bits need to be transmitted from different nodes or diagnostic and additional information needs to be used. With the ASi-5/ASi-3 Safety Gateways, Bihl+Wiedemann offers the perfect solution for integrating the new safety generation of AS-Interface, which is compatible with all previous ASi devices and components, runs in parallel on the same infrastructure and can therefore be easily integrated into existing applications. The ASi-5/ASi-3 Fieldbus Gateways with integrated ASi-5/ASi-3 Safety Monitor are already available in different versions for PROFINET and EtherNet/IP, some with safe fieldbus and local

I/Os. At the Hanover Fair, the existing range will be expanded to include ASi-5/ASi-3 Gateways with integrated ASi-5/ASi-3 Safety Monitor, Safe Link, OPC UA and webserver for Safety over EtherCAT (FSoE) for two ASi networks (BWU3962) and for EtherNet/IP+Modbus TCP, CIP Safety over EtherNet/IP, for one network (BWU4006) and for two networks (BWU4007).

Even aside from ASi-5 safety applications, users benefit directly from the new gateways, which have the same price level as comparable models with ASi-3 safety monitor: in addition to the functional improvements, in particular the modern 16 gigabyte chip card, which can hold the data for an entire project – including safety and hardware configuration, parameter data of connected devices and user comments from ASIMON360.

## Simple, flexible, needs-based, cost-effective: IO-Link integration with ASi-5



Connecting IO-Link devices to the control level or cloud offers a range of advantages when using ASi-5 and the ASi-5 Modules with integrated IO-Link Master from Bihl+Wiedemann. With this fieldbus-independent solution, users benefit not only from the perfect embedding of IO-Link into ASi-5 and the user-friendly configuration tools ASIMON360 and ASi Control Tools360, but also from freedom in the choice of topology, reduced wiring effort without pre-assembled plugs and switches, low IP management effort and a smart power supply concept. And perhaps most importantly: they save costs. This is because ASi-5 Modules with an integrated IO-Link Master are

generally not only significantly less costly than Ethernet fieldbus modules or IO-Link hubs, they are also available in just the configuration needed. A finely graduated range of variants with one, two and four Class A and Class B IO-Link ports as well as eight Class A IO-Link ports are available for use in the field. These are supplemented by an OEM module and control cabinet modules with configurable connections for four IO-Link ports, with the ASi-5 control cabinet module BWU4775 also providing four analog inputs (4 ... 20 mA). This means that the user always gets and pays for exactly the connection module with the equipment that they really need.

## IMPRINT

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