

AS-INTERFACE MASTER NEWS

THE BIHL+WIEDEMANN MAGAZINE

INTERVIEW

**“Small parts
with great value”**

NEW FSoE GATEWAY

Next, please



ASIMON360

ASIMON360

THE ALL-ROUND CAREFREE SOFTWARE



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THE ALL-ROUND CAREFREE SOFTWARE

When it comes to clearly organized structures and ease of handling in operation, the AS-i Safety solutions from Bihl+Wiedemann have for years set the standard in safety technology. Now the company located in Mannheim is also offering a configuration and commissioning which is as simple as one has come to expect from AS-i: an intuitive software package that shows the user everything he needs to know at the right moment.

Head-in-the-sand has never been the policy of the AS-Interface specialists at Bihl+Wiedemann. "We know in which areas our systems stand head and shoulders above the rest – but we also listen carefully when our customers bring up an aspect they are not so happy about," says Managing Director Bernhard Wiedemann. "It's never the case that such things get lost in the general hustle and bustle of the

success of our AS-i Safety solutions. We take criticism very seriously in general – and often use it as inspiration for improvements."

One aspect that came up repeatedly was the configuration and the commissioning of safe AS-i networks. According to the estimation of some users, the procedure using the previous software version ASIMON 3 G2

was too cumbersome. "We could completely relate to that," recalls Wiedemann. "In the recent past, further enhancing the efficiency, flexibility and functionality of our AS-i Safety solutions was what we focused on in development. But now it was time to turn our attention to the software – after all, it shouldn't be the case that the simplest safety bus in the world is not also the simplest to configure."

The hardware catalog stored in the software makes configuration child's play

This was exactly the approach that the developers at Bihl+Wiedemann took in meeting this challenge. The result is a program whose name alone tells you where its strength lies: ASIMON360 is the all-round carefree software that makes configuration and commissioning as easy for the user as it is to use AS-Interface Safety at Work.

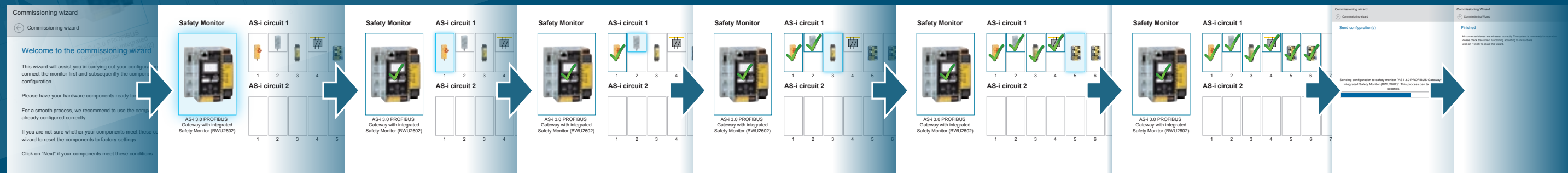
For this purpose the complete product range of Bihl+Wiedemann was incorporated into the program in terms of a hardware

catalog. Gone are the days when you had to select data sheets and then manually enter the features of the Safety Monitor as well as of the slaves – with ASIMON360, all it takes is a click on the corresponding device in order to automatically open the settings that are possible in this configuration. After this, the user is able to directly select within the drop-down menu the components he actually wishes to connect. Naturally, the new software also makes it possible to incorporate modules from other manufacturers of AS-i components even simpler than before – after all, interoperability has always been one of the key advantages of AS-i. For this, there are all-purpose modules

in the software. Furthermore, product-specific settings can also be stored within a user catalog.

After the hardware configuration is complete the system automatically creates a kind of basic setup which already contains all the logic devices resulting from the previously made hardware settings. If the user for example has specified that an E-STOP needs to be connected to a particular slave, the system offers him exactly this device. This means that in the future it will no longer be possible to assign incorrect devices. And errors while addressing a slave now become a thing of the past.

Simple addressing with the commissioning wizard of ASIMON360



Start the commissioning wizard.

You are connected with the Safety Monitor.

Connect Safety E-STOP Button Module BWU2529.

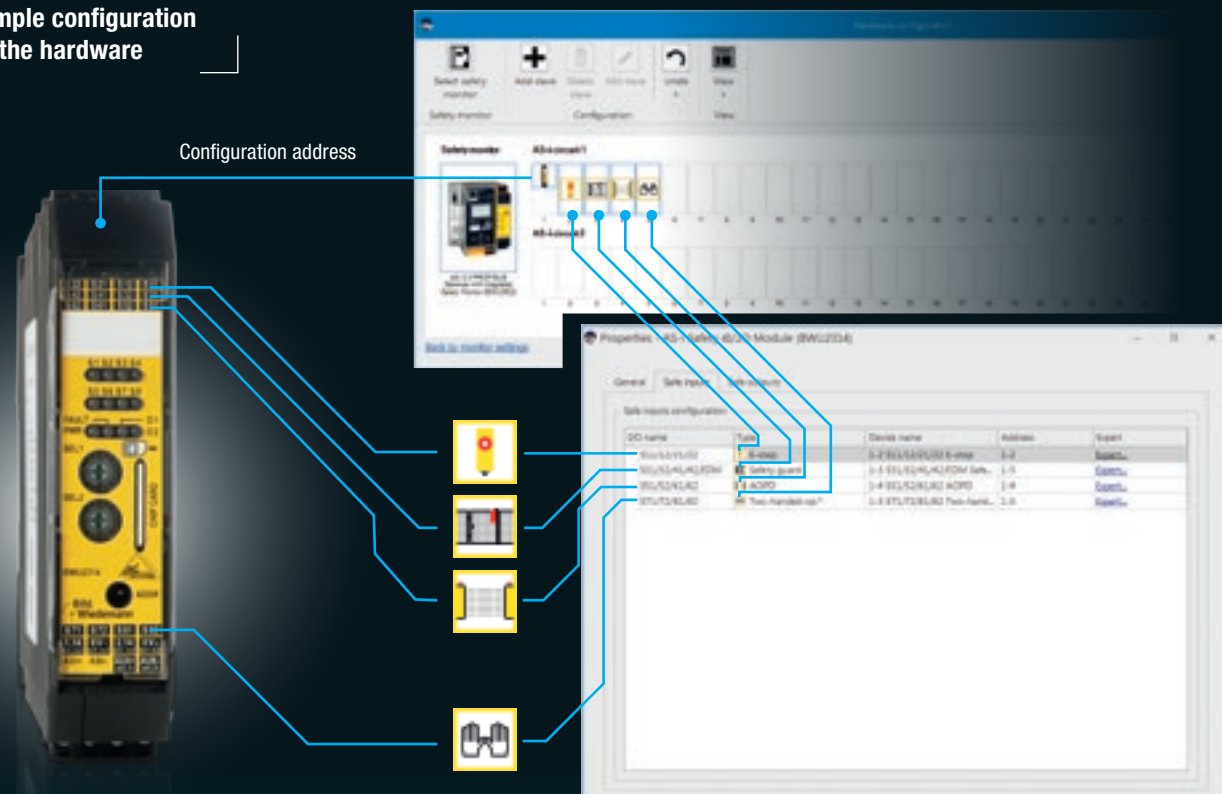
Connect Push Button Module BWU2528.

Connect Safety Output Module BWU2045.

Connect Safety Input Module BWU2631.

All slaves are addressed.

That's it!

Simple configuration
of the hardwareCommissioning wizard guides
the user step by step through
the addressing process

Once the configuration is accomplished, a commissioning wizard takes over. It guides the user step by step through addressing and configuration of the connected modules. In the first step the wizard prompts the user to connect the Safety Monitor. This is repeated for each device planned for the system. Should problems arise at any point, the software provides easily understandable explanations and offers concrete assistance.

And if additional actions are needed for more complex slaves, such as positioning of a dip switch, the wizard again steps in. The user is not left hanging at any point during configuration and commissioning.

By the end of the process all addresses are set and loaded into the devices. ASIMON360 makes AS-i Safety good to go in just a few minutes.

The switch from conventional
to automated safety technology
gets even easier

The global success of the AS-Interface safety concept is – as is well-known – in part thanks to the fact that it assumes almost no prior knowledge of AS-Interface on the part of the user. Enjoying the numerous efficiency benefits of AS-i Safety requires neither safety expertise nor wading through manuals as thick as a telephone book. This saves time and nerves, while providing the greatest possible freedom with respect to personnel time devoted to the respective equipment or machine.

The declared goal of Bihl+Wiedemann was to develop an intuitive software that allows even beginners to easily perform configuration and commissioning – with the pleasant side-effect that the number of instances, in which the company needs to send its own specialists out in order to assist users in setting up more complex installations, should be drastically reduced.

This intuitive software doesn't only make life easier for already active AS-i Safety users, it benefits everyone who wants to become one. When it comes to safety technology of the system many users are still working with outdated parallel wiring and losing out on the efficiency gains from modern bus technology. ASIMON360 now further lowers the hurdle to switch from conventional to automated safety technology – and is thereby helping customers to save money: because the use of AS-i Safety – as is well-known – pays for itself even on the smallest scales.

Safe drive control / New FSoE Gateway

Next, please

Safe motion control is playing an increasingly important role in modern plant and process automation. There are good reasons for this – and a permanently growing range of flexible technological solutions from Bihl+Wiedemann. The newest family member is the AS-i 3.0 EtherCAT Gateway, Safety over EtherCAT (FSoE), which can safely control and monitor drives directly without an additional safety PLC.

No question: there has been a lot of movement in past years in the area of safe motion control. This is due in part to the

stricter safety requirements of the EN ISO 14119, the binding standard for interlocking devices introduced in May 2015,

and in part to the increasing cost pressures in production plants, which also causes time pressures to continually increase.

Safety over
EtherCAT®AS-i 3.0 EtherCAT Gateway, Safety over
EtherCAT (FSoE), with Safe Link (BWU3418)

- Safety over EtherCAT (FSoE), Safe Link and AS-i Safety in one unit
- EtherCAT Gateway with two AS-i Masters, 3 two-channel safe inputs and 6 independent safe outputs built-in, expandable to nearly 2000 safe in- and outputs using Safe Link
- Safe monitoring and control of drives that communicate over FSoE without an additional safety PLC

Fully shutting down a machine for maintenance is something hardly anyone can or wants to afford. An ideal way out of this dilemma between safety and efficiency is safe motion control. On one hand it permits manual intervention while the system is running in order to optimize production processes by minimizing downtime. On the other hand, it ensures the greatest possible protection of man and machine.

Reasons enough for a trend that – in the estimation of the AS-Interface specialists at Bihl+Wiedemann – has not even come close to reaching its high point. “This is why we began years ago to develop high-performance and flexible solutions for this topic,” says Managing Director Jochen Bihl.

“In the meantime our range of products for safe motion control has become just as multi-faceted as the various requirements for the respective systems.”

It's true: The company from Mannheim offers the safe function not only for sensors, actuators and encoders, they have also integrated this innovative feature in their AS-i Gateways for virtually any common fieldbus system: from PROFIBUS and PROFINET to EtherNet/IP, Modbus and CC-Link to CANopen, Sercos and EtherCAT. And that was just the beginning.

Almost exactly one year ago Bihl+Wiedemann even opened doors to areas new for AS-Interface: with the AS-i Safety Gateway

for CIP Safety over Sercos drives can be safely controlled and monitored – directly and without an additional safety PLC. Just in time for the Hanover Fair 2016 the AS-Interface specialists from Mannheim presented yet another highlight: the AS-i Safety PROFIsafe Gateway with integrated Safe Link.

And now the innovation offensive in the field of safe drive control continues. “The question as to which system we take on next was not difficult to answer,” reveals Jochen Bihl. “With our new AS-i 3.0 EtherCAT Gateway, Safety over EtherCAT, we are filling a real gap: there are many drive manufacturers who favor this exact system but who lack their own safe controller for it.

For better or worse these companies had to refer their customers to safe controllers offered by their competitors. We however are in that sense a completely benign partner, since we ourselves don't offer drives.”

The fact that Safety over EtherCAT is so widespread in drive technology has much to do with speed. For one thing EtherCAT is considered to be the fastest Industrial Ethernet standard, for another the short cycle times of maximum 100 microseconds and the negligible jitter of one microsecond at most ensure precise synchronization. FSoE meets SIL3 requirements and is suitable for both centralized and decentralized safety controllers. The AS-i

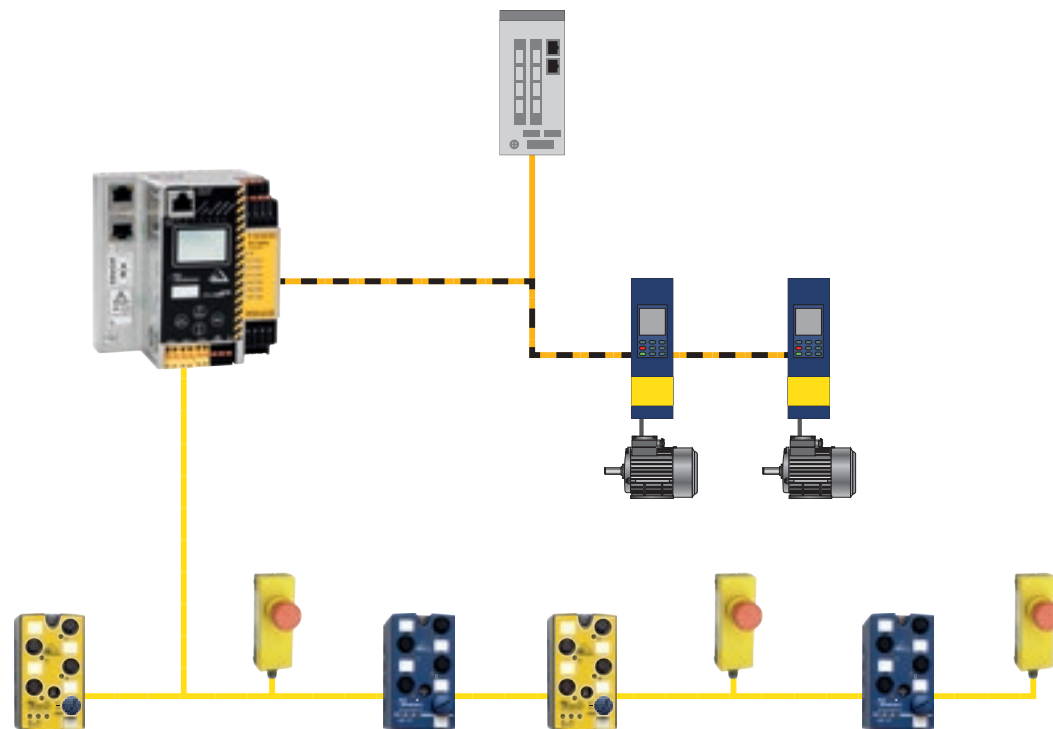
FSoE Gateway acts as a safety master in the network and can take over all the safety-relevant functions without an additional safety PLC. These include safe control of the drives, which communicate with the Gateway over FSoE. The usual PLC can still be used for standard control of the drives.

As with the Gateway for CIP Safety over Sercos the features of the new AS-i 3.0 EtherCAT Gateway, Safety over EtherCAT (FSoE), with Safe Link (BWU3418) leave nothing to be desired. The device combines two AS-i Masters for two AS-i networks and so offers up to 62 two-channel safe inputs, with three additional ones already integrated. With its six fast elec-

tronic safe outputs the Gateway has no problem keeping up with the pace set by modern drive technology. But there's even more: using Safe Link, the safe coupling from Bihl+Wiedemann, the Gateway can be expanded to nearly 2000 safe in- and outputs at no extra cost, by the way

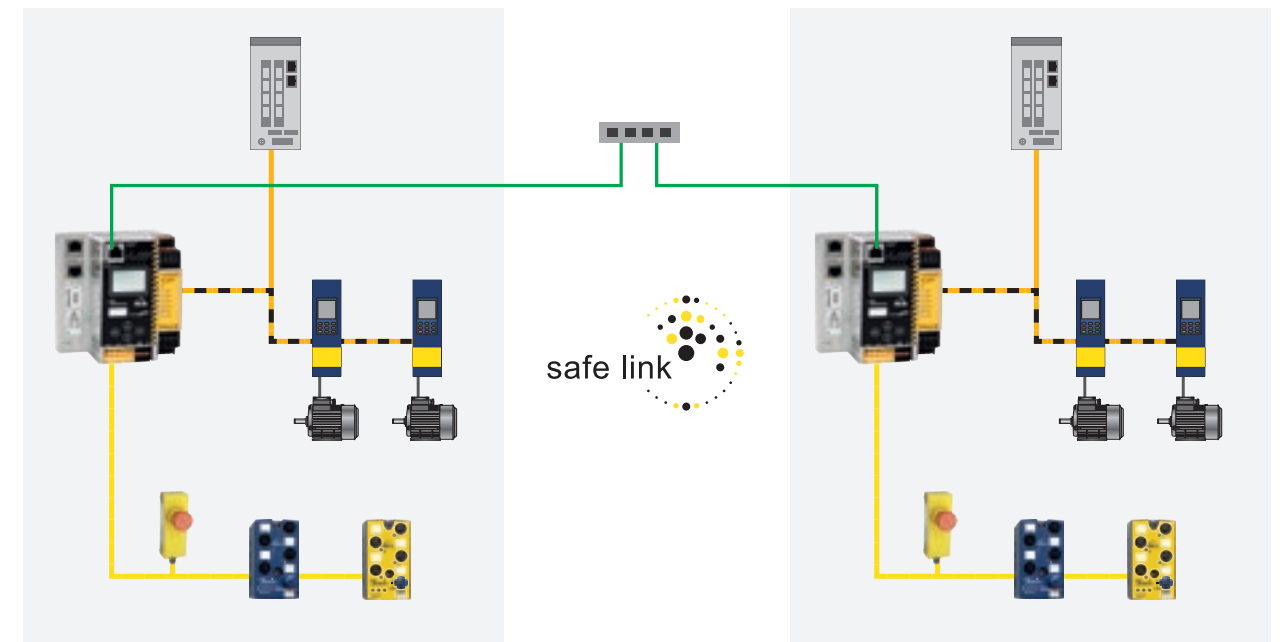
“For us the AS-i FSoE Gateway with Safe Link is the logical extension of our innovation offensive in the field of safe motion control,” as Jochen Bihl sums it up. “And for the many drive manufacturers and machine builders who use the system it could be exactly the solution they have been waiting on for such a long time.”

AS-i 3.0 EtherCAT Gateway, Safety over EtherCAT, as safety master in the FSoE network



The AS-i FSoE Gateway acts as a safety master in the FSoE network and can take over all safety-relevant functions without an additional safety controller. This allows the advantages of AS-i and AS-i Safety to be exploited in parallel on the lowest field level.

Safe coupling of applications using Safe Link



Using Safe Link, the safe coupling over standard Ethernet from Bihl+Wiedemann, multiple drives can be safely monitored and controlled with FSoE – even when they are installed in different machines or system parts.

Interview with Christian Lang, Director of Sales for Germany at Bihl+Wiedemann

“Small parts with great value”

Whether a company belongs to the technology leaders in its industry is evidenced by more than groundbreaking innovations. Other clear indices are new things that may seem unremarkable at first glance but offer great practical added value. Christian Lang, Director of Sales, reveals in an interview with AS-i MASTER NEWS why the new Active and Passive Distributors from Bihl+Wiedemann fall right in this category.

AS-i MASTER NEWS: Mr. Lang, most sales professions in the automation field feel in top form especially when they have an absolutely revolutionary concept to introduce. Is it the same for you?

Christian Lang: Of course it's fun to introduce high-end products, but for my colleagues and myself at Bihl+Wiedemann the question is mainly: does our new product or system actually help our customers in solving their problems or not? I am in the fortunate position of being able to present extraordinary innovations on a regular basis, and we are highly successful with these products. But in my presentations I have rarely received so much positive feedback as I do when introducing our new Active and

Passive Distributors. We are not reinventing the wheel with these products, but they make life enormously easier for users and at the same time result in significant cost reductions.

AS-i MASTER NEWS: Small parts with great value, one could say?

Christian Lang: That's a good way to put it. The impetus for our developments is almost always the findings that come out of our ongoing discussions with customers. This is how we know where the shoe is pinching. In this case we identified two typical application cases that were not really effectively being solved with the Passive Distributors currently available on the market: on one

hand when the user needs to connect an additional sensor or individual I/Os to an already existing Passive Distributor, and on the other when the need is for special sensors which are not available with AS-i capability or whose pin configuration is unusual. In such cases the customers always had to resort to cumbersome special adapters, which was an expensive and troublesome procedure.

AS-i MASTER NEWS: And the new Active Distributors from Bihl+Wiedemann are a more elegant solution?

Christian Lang: Exactly. Thanks to the integrated AS-i Chip they are ideal for incorporating any sensors or actuators into AS-Interface. And all without any additional



hardware. On the contrary: using them even eliminates the cable between the distributor and the component. We then connect a M8 cable or a 5- or 8-pin M12 cable – preassembled cut to the correct length and with correct pin configuration needed by the customer. Another great benefit is the compact design optimized for the cable duct, which allows highly individual installation paths. It used to be impossible to position the slaves precisely where they were needed, since most modules have an M12 or M8 socket on the top side, making them physically taller. Even using right-angle sockets we're talking about several centimeters. Our new Active Distributors eliminate this problem completely, even with switch boxes or control panels. The cables exit the housing on the side, which adds nothing to the already compact 19 mm height.

AS-i MASTER NEWS: And what makes the new generation of Passive Distributors stand out?

Christian Lang: In addition to the wide range of possible connections, the optionally integrated cable protection is a key subject: either with 4 × 4 A replaceable fuses or with 4 × 1 A self-resetting fuses. In case of a short circuit the user no longer has to worry about cable fires or damages to the connected terminal devices. For this reason some customers use our new 20 A Passive Distributors together with the black 2.5 mm² AS-i cable even as a power distribution concept in itself. This concept is supplemented by our 20 A DC safe output with an installation width of just 22.5 mm, which can safely turn off power.

AS-i MASTER NEWS: Do the new Passive Distributors also offer any hardware savings?

Christian Lang: Yes, branching cables used to require as a rule one Passive Distributor for AS-i and AUX and in addition up to four AS-i end caps. Our new Passive

Distributors on the other hand, like many of our IP67 slaves, are suitable as the start and end point of the profile cable eliminating the need for additional end caps. The contacts make sure nothing can go wrong: we use four gold plated, turned – not punched – pins per cable and two pins per conductor. During development we placed great emphasis on perfect implementation of this piercing technology to ensure that the pins always penetrate vertically into the profile cable. We want installation to be simple, fast and reliable for our customers. Even more important: the overall AS-i cable length is reduced because the part from the Passive Distributor to the sensor does not count to the AS-i network. So customers do not only save money because they have no need to extend the network or to use an additional AS-i Master. And additionally they also get a more stable network.

AS-i MASTER NEWS: Are there particular industries for which the use of the new distributor generation is especially worthwhile?

Christian Lang: Taken together, the three unique features – the compact form factor, the integrated cable protection and the custom-tailored equipment – lend themselves especially to two industries. In the wide area of material handling many manufacturers have begun to build and test the complete individual assemblies in the plant, and then just reassemble them on their customer's site. That used to be much more difficult because the slaves often would not fit in the cable duct and they had to be fitted on-location with special pieces of sheet metal or protective screens, which of course increased the time for commissioning considerably. Another area is machine building including robotics. There, space is always at a premium, and one often has to deal with safety components which are not AS-i capable or which have an unconventional pin configuration. Customer used to then resort to complicated adapters – today they simply use our Active Distributors with matching connections and preassembled cables already cut by us to the correct length.

AS-i MASTER NEWS: Mr. Lang, we thank you for the conversation.

AS-INTERFACE HIGHLIGHT

New Active and Passive Distributors



- ✓ Gold plated pins (turned, not punched)
- ✓ Flat form factor (19 to max. 35 mm installation depth), optimized for installation in the cable duct
- ✓ 2 x connection for profile cable

Active Distributors:

| | Article number | Type | Inputs | Outputs | Input voltage (sensor supply) | Output voltage (actuator supply) | AS-i connection | Connection | Protection rating |
|--|----------------|--|---------------|-------------|-------------------------------|----------------------------------|--------------------|------------------------------------|-------------------|
| | BW3413 | Active Distributor AS-i Safety for floating contacts | 1 x 2-channel | – | out of AS-i | – | AS-i profile cable | 1 x M12 socket, right-angle, 5-pin | IP67 |
| | BW3317 | Active Distributor AS-i | 4 x digital | 4 x digital | out of AS-i | out of AUX | AS-i profile cable | 2 x round cable / connection leads | IP67 |
| | BW3326 | Active Distributor AS-i | 4 x digital | 4 x digital | out of AS-i | out of AS-i | AS-i profile cable | 2 x round cable / connection leads | IP67 |
| | BW3400 | Active Distributor AS-i | 2 x digital | 2 x digital | out of AS-i | out of AS-i | AS-i profile cable | 1 x M12 socket, straight, 8-pin | IP67 |
| | BW3414 | Active Distributor AS-i | 3 x digital | 1 x digital | out of AUX | out of AUX | AS-i profile cable | 8 x Push-In terminals | IP20 |
| | BW3349 | Active Distributor AS-i | 4 x digital | – | out of AUX | – | AS-i profile cable | 8 x Push-In terminals | IP20 |
| | BW3300 | Active Distributor AS-i | – | 4 x digital | – | out of AUX | AS-i profile cable | 1 x round cable / connection leads | IP67 |
| | BW3342 | Active Distributor AS-i | – | 4 x digital | – | out of AUX | AS-i profile cable | 8 x Push-In terminals | IP20 |

Passive Distributors:

AUX Passive Distributor with up to 20 A and 4 spring type terminals (BW3348)

- 2 x profile cable for connecting AUX (24 V auxiliary power) to 4 x spring terminals 2.5 mm²
- Protection rating IP20
- Up to 16 A / 20 A possible, depending on black AUX profile cable used

Also new from Bihl+Wiedemann at SPS IPC DRIVES

ASIMON360 – Safety software for configuration, diagnosis and programming (BW2916)



- Hardware catalog for simple insertion of products
- Commissioning wizard for automatic configuration and addressing of all devices
- User catalog for creating your own templates and articles
- To prevent errors only the modules that actually match the product for each connected / to be connected device can be selected
- Intuitive operation, suitable even for beginners
- Tutorials on how-to-use on the homepage

AS-i 3.0 EtherCAT Gateway with integrated Safety Monitor, Safety over EtherCAT (FSOE), with Safe Link (BWU3418)



- Safe control of drives with safe fieldbus connection
- Safety over EtherCAT, Safe Link and AS-i Safety in one unit
- Integrated switch
- Version “1 Gateway, 1 Power Supply for 2 AS-i networks”
- 2 AS-i Masters in one Gateway
- 3 two-channel safe inputs built-in, expandable with up to 62 two-channel safe inputs
- 6 independent safe outputs built-in, expandable up to a maximum of 64 independent safe outputs
- Chip Card for easy device replacement
- Applications up to SIL3, PLE

AS-i 3.0 Motor Module for SEW frequency inverters (BW3406)



- Optimized for installation in the cable duct: especially flat form factor of Motor Module (W x H x D: 90 x 60 x 18 mm) and Passive Distributor (W x H x D: 60 x 45 x 19 mm)
- Control of 1 SEW MOVIMOT® drive: start/stop, direction of rotation, speed, acceleration ramp
- Speed presets can be adjusted
- Simple control of set frequencies
- 2 digital inputs for sensors
- Input voltage out of AS-i
- AS-i connection using AS-i profile cable
- Periphery connection using 3 x M12 socket
- LEDs for direct local diagnostics
- With addressing socket for connecting an AS-i address programming device
- Protection rating IP54

Update of software for diagnostics, service and release measurements (BW2902)



- Improvement of software stability and function capability: ✓
- Integration of safety into checking and reporting of all conditions displayed in ASIMON ✓
- Condition description of Safe Link ✓
- Detection of asynchronism between Master and Chip Card ✓
- Extension of recording time (up to 24 hours) ✓
- Support of Rockwell Masters ✓
- Improved help in troubleshooting

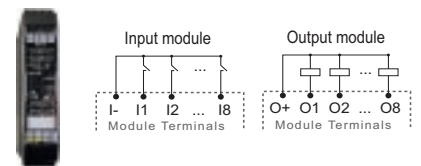
AS-i 3.0 Relay Module for 230 V in IP54 (BW3009)



- New in the range of AS-i Modules for the control of fire dampers and for universal field use
- 4 relay outputs (230 V / 24 V)

- 4 electronic inputs
- 1 AB Slave (up to 62 modules per AS-i network)
- Optional with inputs for smoke detectors
- Control of up to 4 x 230 V / 24 V damper actuators and detection of end positions
- Universal use, e.g. for fan coils, lighting, natural smoke and heat exhausts as well as smoke barriers
- Input voltage out of AS-i
- AS-i and peripherals connected using Push-in terminals

Digital Module AS-i 8I/8O in IP20 as NPN Module (BWU3359)



- Enhances the product range of AS-i IP20 Digital Modules
- 8 NPN inputs
- 8 electronic NPN outputs
- In- and outputs powered from AUX (24 V auxiliary power)
- Use of sensors with NPN outputs using reliable Bihl+Wiedemann technology

IMPRINT

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No longer miss a bus with our Safety Gateways

Safety Basic Monitor with Ethernet-interface - now also small Safety applications can be coupled safely

Safe Link over Ethernet

Safety Technology by Bihl+Wiedemann

- › Safe Link over Ethernet: The simplest way of coupling many safe signals
- › Optimal PLC connection via fieldbus, all diagnostic data in the controller, safety and standard signals mixed
- › Universally expandable with Safety I/O Modules + Standard I/O Modules in IP20 or IP67, Speed Monitors for up to 40 axis, Safety Relay Output Modules



More information on your application safety at:
www.bihl-wiedemann.com