BOČEK1
Passioned automation & electronics

Bihl + Wiedemann

AS-interface

state of the art since 90s,
in my company's care **now!**





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Consulting and deliveries for **industrial**
and **home automation and electronics**

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Main features that distinguish AS-Interface from Ethernet-based buses:

- **Data and power on a single two-core cable:** the yellow molded cable is the basis...
- **Highest flexibility on the market:** Totally free choice of topology and cable branching
- **Piercing technology:** Communication nodes can be moved repeatedly as desired
- **Safety at work:** Safety I/O at no additional cost locally or even with PLC connection
- **Certification:** Completely independent of the supplier. However, the latest ASi-5 standard only from B+W. The older ASi-3 standard can be operated together with the new ASi-5.

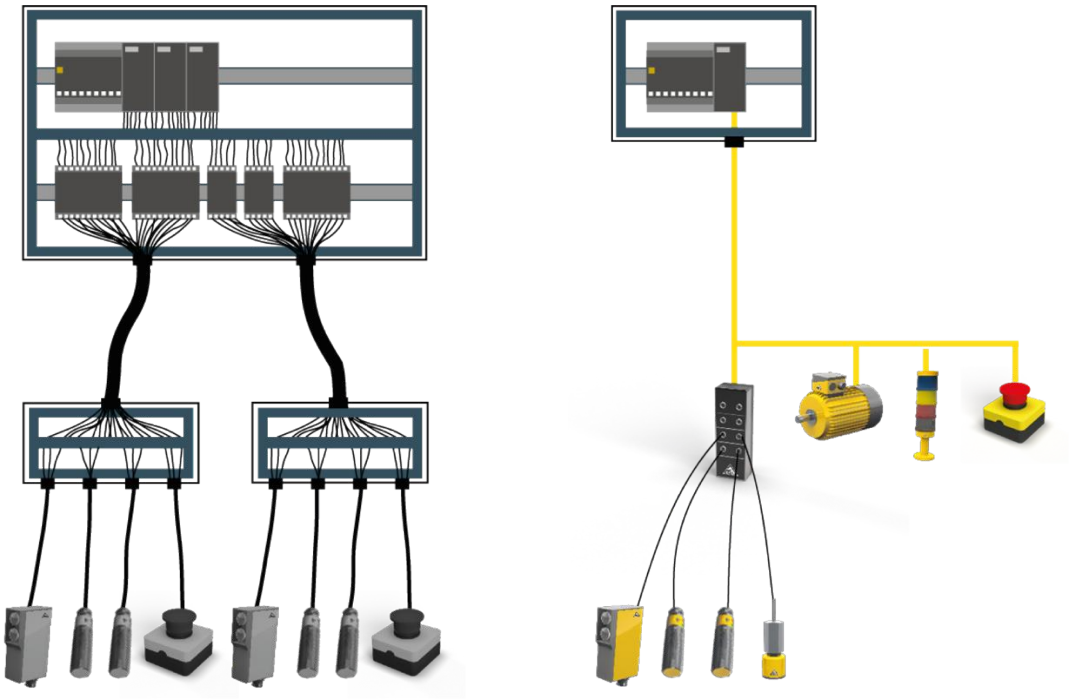
The ASi-5 from Bihl+Wiedemann adds more to these advantages:

- **Higher bandwidth:** big boost of data capacity – 32 bytes per node (instead of 4+4 bits)
- **Faster cycle:** up to 384 DI + 384 DO with an update every 1.27 ms
- **Not just digital signals:** analogue I/Os, IO-Link slaves, counters, drive controls, etc.

The latest gateways from Bihl+Wiedemann bring:

- **All modern networks:** Profinet, Ethernet/IP, Modbus TCP, EtherCAT, Powerlink, Sercos
- **The older ones too:** Profibus, CC-Link, DeviceNet, Modbus RTU, CANOpen...
- **Mostly with integrated safety:** ProfiSafe, CIP Safety, Safety over EtherCAT
- **Modern technologies:** IIoT, OPC UA, REST API, C-programming of user PLC
- **Diagnostic port with web server:** in addition to 2 Industrial Ethernet ports

AS-Interface Safety at Work up to PLe / SIL3 (EN ISO 13849 / IEC 61508)



- **Cost reduction** up to 60% by switching from discrete cabling to AS-interface
- **Various safety signals:** OSSD, floating contacts / standard | antivalent switches

Modern safety gates with ASi-5 Safety from Bihl+Wiedemann



- **Integrated Safety Monitor** (older stand-alone expensive module by other manufacturers)
- **Variants:** sequentially as shown – with local safety I/O, with Profisafe, with CIP Safety
- **Safe Link:** technology to connect safety on different PLC platforms

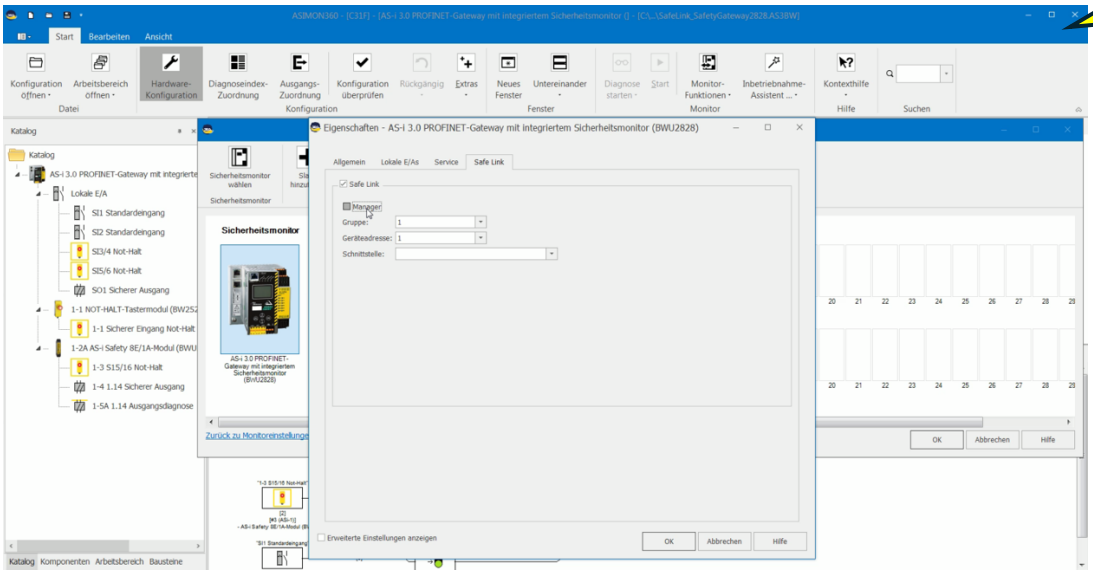
Common features of AS-interface gateways from Bihl+Wiedemann

- **Integrated data decoupling,** and therefore...
- **Ordinary** 30V power supplies, no need for special AS-i power supplies as with others
- **Even versions up to 4 A per AS-i segment,** which only need a classic 24 V power supply

Resources for configuring AS-interface and Safety networks

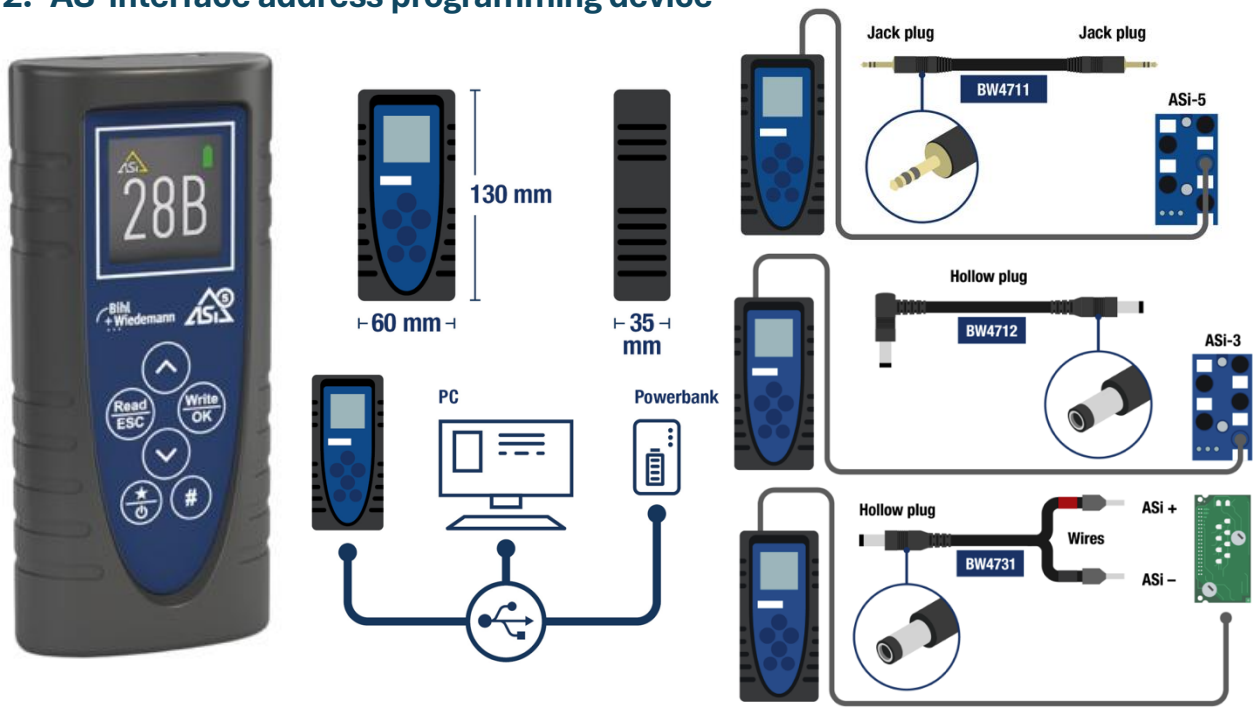
1. ASIMON360 – Bihl+Wiedemann Safety Suite

Must have!



- Intuitive graphics software suitable for beginners
- Configuration and commissioning of secure AS-i networks
- Training opportunities at the Bihl+Wiedemann Academy:
- Addressing, configuring, and commissioning hardware
- Commissioning Wizard for Automatic Configuration and Addressing of All Devices
- Diagnostics by the user's own efforts, or sending a report to the manufacturer's support
- User catalog for creating custom templates and items

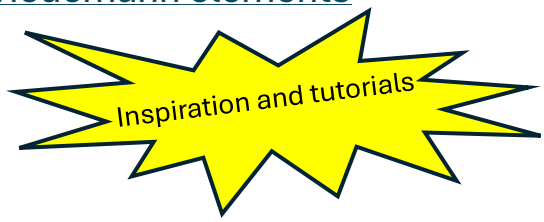
2. AS-interface address programming device



Different connections of the addressing device according to the types of slave units used

AS-interface application areas with Bihl+Wiedemann elements

Suggestions of Bihl+Wiedemann in English or other languages



AS-i network, addressing, I/O

- Power supply and network diagnostics
- Node addressing (slave units)
- Configurable Digital I/Os
- Connecting sensors and actuators to ASi-5
- Working with counter modules on ASi-5
- RGB/RGBW LED strips for ASi-5

Conveyors and drive control

- Drives with frequency converters:

  Lenze, SEW Eurodrive
  Nord, Rockwell, Danfoss

- Motorized conveyor rollers:

  Interroll, Rulmeca, Itoh Denki

- Outlets for drives for cable ducts
- 48V drive control on the ASi-5

Building management

- General reasons for using AS-interface
- Control of fire and smoke dampers

Other technologies

- Packaging automation
- Process automation

Functional safety

- ASi-5 Safety
- Safety Circuits without PLC
- Safe Link
- Muting
- Selecting a Safety Mode
- Speed monitoring
- Analogue values – safe and standard
- Passive safety up to PLe/SIL3
- Compact safety circuits
- Safety on AGVs
- Safety control of drives
- IO-Link Safety

General communication and IO-Link

- IIoT and Industry 4.0
- OPC UA
- Single-pair Ethernet and ASi-5
- Profinet Gateways
- EtherNet/IP + ModbusTCP Gateways
- EtherCAT Gateways
- Easy Safety and fieldbus connection
- IO-Link in general
- Compare IO-Link costs
- Hubs, self-configuring I/O modules

Other useful resources on the Bihl+Wiedemann website

Success stories– videos and articles on the Bihl+Wiedemann website

ASi-5 in practice – videos and articles on the Bihl+Wiedemann website

Information brochures and infosheets – *registration required*