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## AS-Interface

The simple solution



# Technical information and product overview

Modern industrial plants with conventional valve control systems require a significant amount of time and effort for installation and maintenance. GF Piping Systems offer their customers a competitive edge with the AS-Interface modules. The AS-Interface components are part of a comprehensive and intelligent system from one source and feature such benefits as:

- cost effectiveness
- easy handling
- great flexibility.

## AS-Interface

AS-Interface (Actuator Sensor Interface) is an industrial standard, specially developed for fieldbus connection of actuators and sensors. It maps the lowest automation level.

The AS-Interface complements advanced fieldbus systems ideally and is used in place of conventional parallel wiring. It is suitable for simple on/off applications. The cable structure is not limited. This interface is a single master system, which polls the configured slaves in cycles, thereby exchanging input and output data.

Gateways are used to connect the AS-Interface network to the next higher automation level (e.g. Profibus DP or Foundation Fieldbus) as a slave. Flexibility in the choice of fieldbus system is thus given, enabling cooperation in international projects. More information: [www.as-interface.net](http://www.as-interface.net)

## Simple fieldbus connection

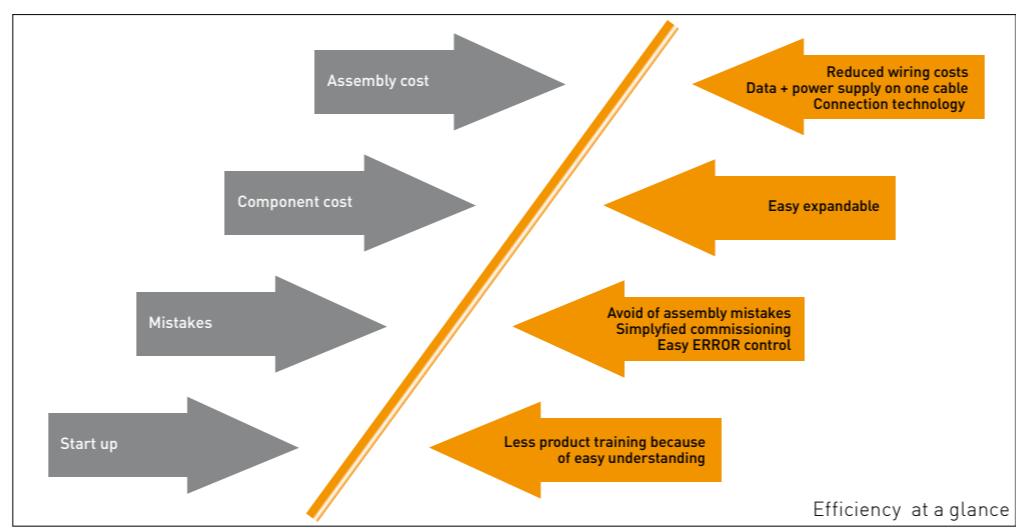
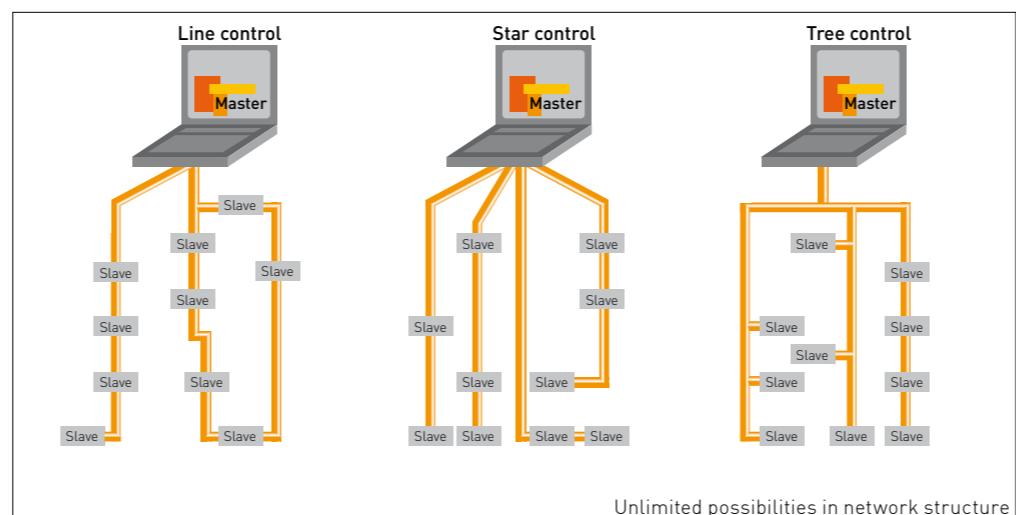
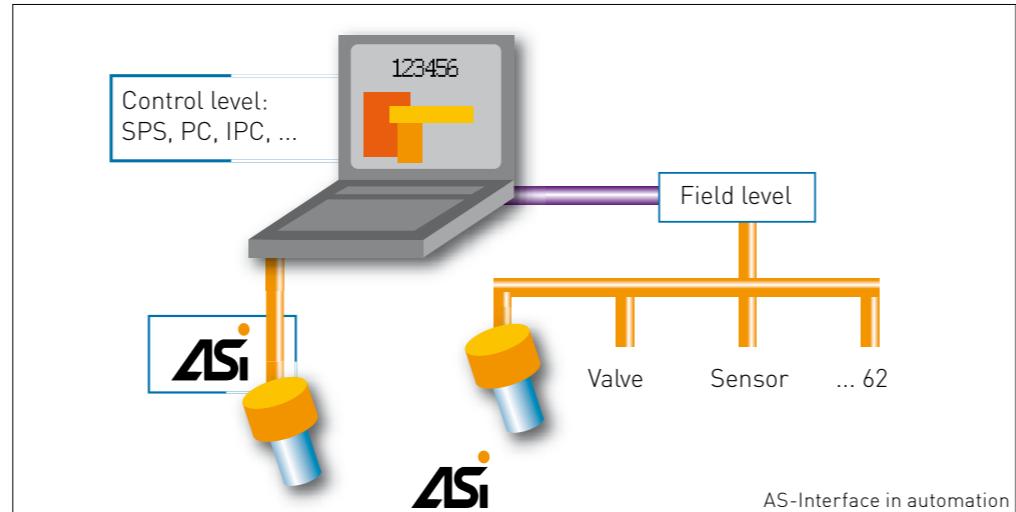
Fieldbus systems are an international standard in industrial automation. Nonetheless, cost is a frequent concern regarding the connection of simple sensors and actuators. The AS-Interface system provides an easy and cost-effective solution for integrating these in any higher fieldbus system.

## Advantages of AS-Interface

- gateways to all fieldbus systems are available
- interoperability with valves of other manufacture
- low connection costs per node
- simple installation technique
- easy setup, configuration and maintenance
- highly effective error protection
- very reliable operation in an industrial environment
- electronic slave addressing
- expandable as required

## General system data

- single master
- master-slave principle
- each slave has a static address
- 4-bit transfer per slave and cycle
- up to 62 slaves possible
- standard voltage 24 V DC
- up to 8 A per bus line (depending on the power supply)
- power and data via a two-wire cable
- cable length 100 m, with repeater up to 300 m
- medium unshielded cable 2 x 1.5 mm<sup>2</sup>



- IP 67 for use with cabinets and industrial environments
- piercing technology

## AS-Interface components:

### AS-Interface Slave

A slave can be integrated in the sensor or actuator as well as be connected upstream to them. The standard voltage is 24 V DC. The current consumption of a slave may be maximum 100 mA. If this value is exceeded, an auxiliary power supply is necessary.

### AS-Interface Master

An AS-Interface master can control and manage an AS-Interface network independently. Integrated as a plug-in card in an SPS, it is addressed from there.

### AS-Interface Gateway

An AS-Interface gateway works in the same way as an AS-Interface master and also acts as a connection to a higher level fieldbus system. AS-Interface gateways are available, for example, for Profibus Safety Bus P or Foundation Fieldbus.

### AS-Interface Power Supply

Power supply via the AS-Interface cable (31 V) is only recommended for low loads. An additional AS-Interface power supply ensures the consistent availability of 24 V DC (e.g. EAs). Eight amps per bus line are permitted. Power and data are transmitted through the same cable and are only separated at the slave.

## AS-Interface Programming

All AS-Interface slaves are delivered with „0“ as address. To assign a new valid address, a programming device is required; simple function tests may also be performed with this device.

## AS-Interface Transmission Medium

The yellow mechanical coded AS-Interface cable prevents wiring errors. Piercing technology is utilized for contacting. This eliminates time-consuming installation steps, such as stripping cables and mounting wire-end sleeves. The cable is “self-healing”. If the slave later needs to be moved, the cable will still conform to IP 67 after removing the connection. A round cable can be used as an alternative to the profile cable.

## Cost-effectiveness of AS-Interface

The benefits of an AS-Interface system depend on the actual application. A general rule of thumb: The use of AS-Interface is profitable from approximately 12 sensors or actuators. The most convincing features of the AS-Interface system:

- quick installation
- high potential for cost savings
- saves a lot of space in cabinets
- low wiring costs
- fast setup
- fewer wiring errors.