# Industrial HF RFID System

## High transmission speed for large volumes of data
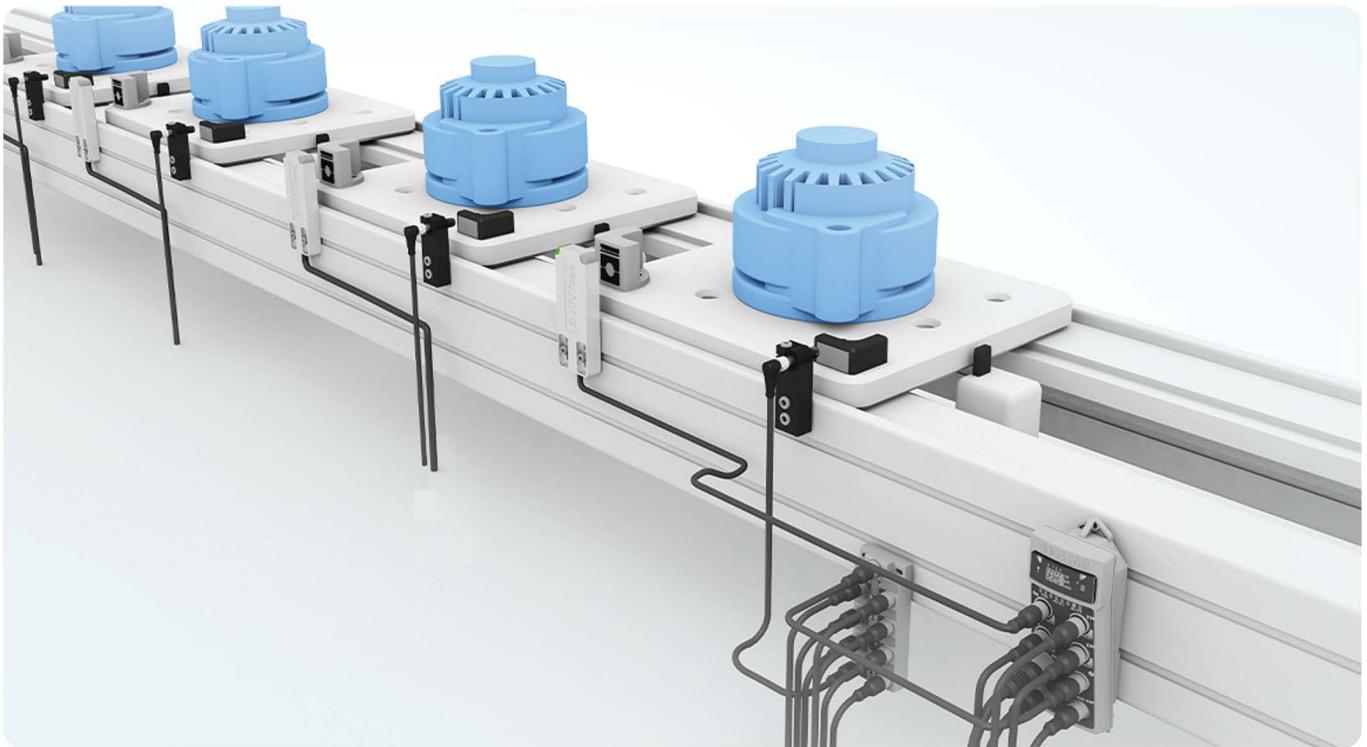
The RFID system BIS M (13.56 MHz) supports global ISO standards and scores with a high transmission speed for large volumes of data. Through various combination options of data carriers and read/write heads, the system can be used for many applications. For example, it is suitable, for part tracking in the vicinity or for applications in production control.

1. Controller
2. Universal processor unit
3. Network block
4. HF processor unit
5. HF antenna
6. HF read/write heads with IO-Link
7. HF read/write heads
8. HF read/write heads with integrated processor unit
9. HF data carriers

Tag

Reader
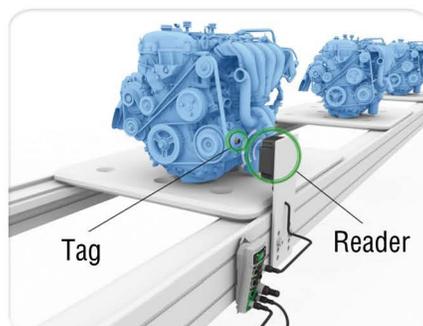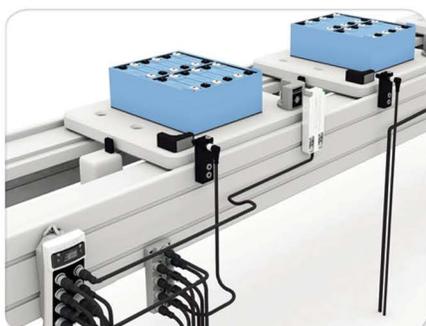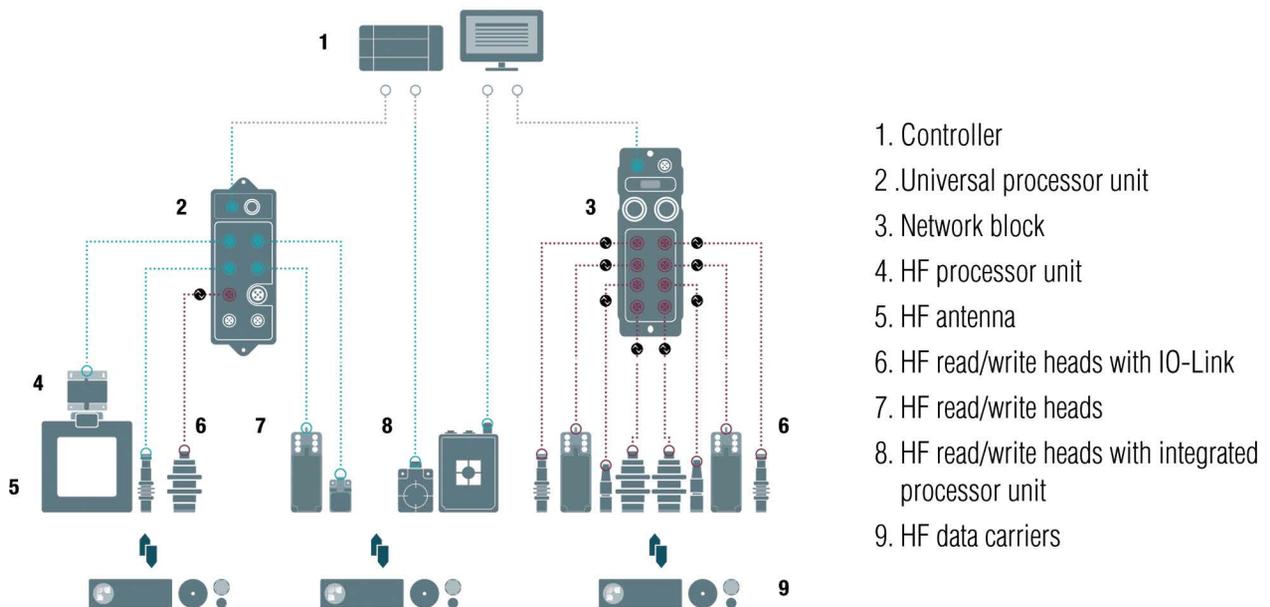
Industrial HF RFID System

RFID requires three main components:

- Data carrier (data storage)
- Read/write head (data transmission)
- Processor unit (data processing and communication)

HF Data Carriers (13.56 MHz)

- Passive data carrier: Data and power are inductively coupled by the read/write head
- All data carriers have a unique ID number; which is read-only and cannot be modified
- Can be used all over the world thanks to ISO 15693 conformity
- EEPROM data carrier, up to 992 byte memory
- FRAM data carrier with up to 128 kB for almost unlimited feed cycles
- High level of protection up to IP68/69K
- A wide variety of properties, such as installation on metal, high temperature, etc.
- High-speed data carriers are up to eight times faster than ISO 15693

HF Read/Write Heads and Antennas (13.56 MHz)

- Status indicated directly on the read/write head: easy commissioning, minimum downtimes
- Up to four read/write heads can be connected to the BIS V processor units
- Connection via M12 plug connectors, cable length 50 m
- Read/write heads for the flush installation in metal
- M12 designs with integrated antenna
- HF loop antennas for long ranges up to 400 mm
- Customized designs possible

HF Processor Units (13.56 MHz)

- Perfect EMC due to the robust zinc die-cast housing
- All connections are easily accessible from the front
- Variable mounting concept for easy assembly on top hat rails or on the profile
- Each read/write head signals its operating state via two LEDs directly on the processor unit
- Integrated IO-Link master port for the connection of IO-Link-capable sensors and actuators
- Integrated 2-port Ethernet switch for line and ring topology
- USB interface for rapid commissioning without bus link

HF Read/Write Heads (13.56 MHz) with Integrated Processor Unit

- Available interfaces: IO-Link, Serial RS232, RS485/Subnet 16, RS422, USB
- Also with bus interface: Connect All-in-One RFID Reader BIS M-4008 direct to Profinet
- Reliable use in harsh environments: rugged IP67 housing
- Status displays directly on the housing of the reader facilitate the commissioning and minimize down times

Smart Vision

## High-quality vision for harsh environments
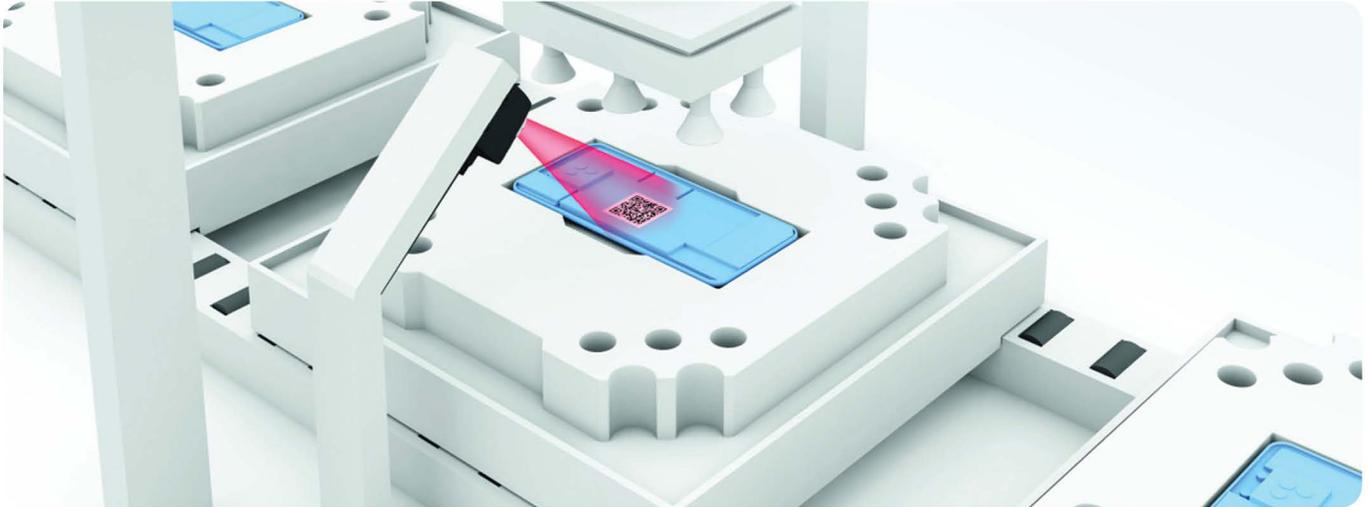
Smart Vision meet the increasing demands for maximum quality and great flexibility in modern manufacturing plants through integrated industrial image processing. With our BVS VisionSensor, optical quality control in automated production has never been easier. With its integrated and easy-to-configure image processing functions, the BVS VisionSensor meets the increasing demands for maximum quality and great flexibility in modern production systems.

BVS VisionSensor

- Reliable presence monitoring and object classification with extremely simple operation
- Position-invariant object detection
- Alternative, modern data interfaces: MQTT and REST API
- Consistent communication thanks to standardized automation and IT interfaces
- Vision sensors with IO-Link interface provide additional condition monitoring information (vibration, temperature, humidity and operating time)
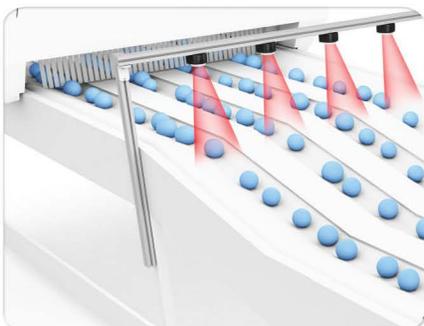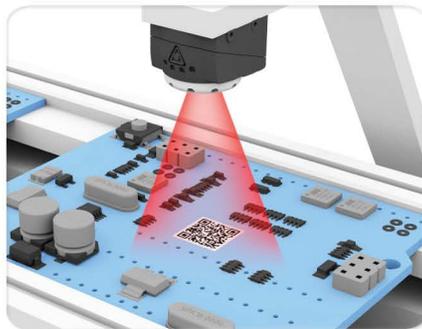
Industrial Cameras

Unsurpassed image quality for industrial applications
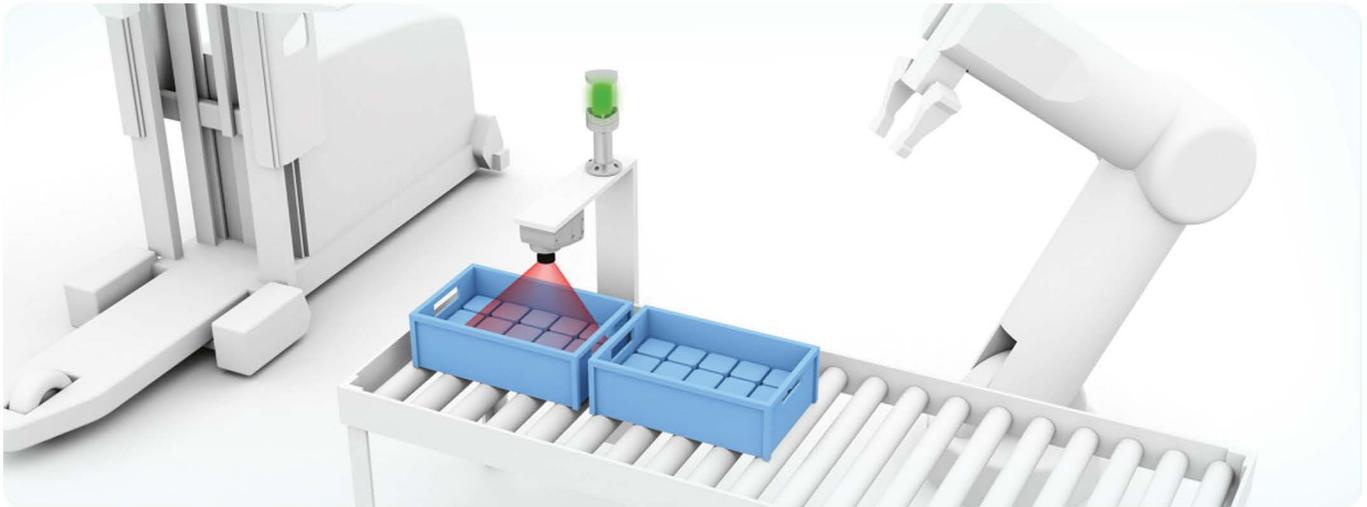
Digital industrial cameras with USB and Ethernet interfaces have an analog/digital converter, which makes a frame grabber superfluous and significantly simplifies handling. Thanks to the GenICam, GigE Vision and USB3 Vision image processing standards, all cameras have standardized camera communication and unified naming conventions for camera functions and settings. This ensures easier operation.

GigE Vision Cameras
With a wide range of configurations and features, such as variants with extended temperature range or with an IP67 protection class.

Dual GigE Vision Cameras
Benefit from the combination of two GigE ports that provide increased data bandwidth and redundancy for critical applications.

10 GigE Vision Cameras
The cameras transmit data very quickly, for applications with high resolution images and high frame rates. PoE+ enables both power and data transmission.
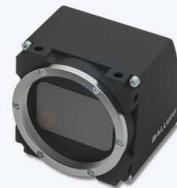
USB3 Vision Cameras
The cameras offer high resolutions and frame rates as well as camera-based smart features that significantly reduce the load on host system.

PCI Express Cameras
Without detours via additional interfaces, an almost latency-free transfer of image data directly into the memory is guaranteed with DMA.

SWIR and UV Cameras
The cameras make the invisible visible: they capture images in the ultraviolet and shortwave infrared range that the human eye can no longer perceive.