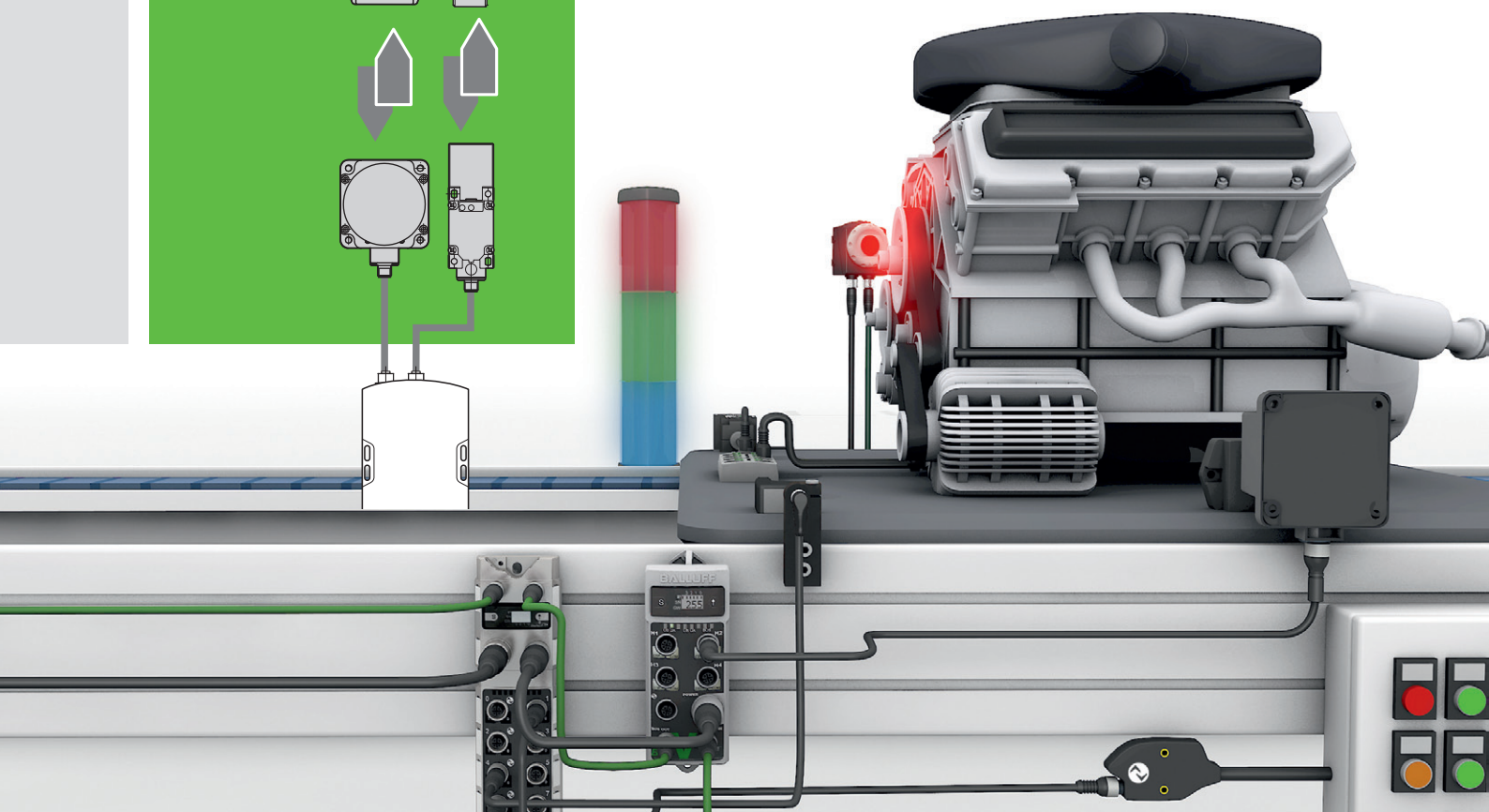
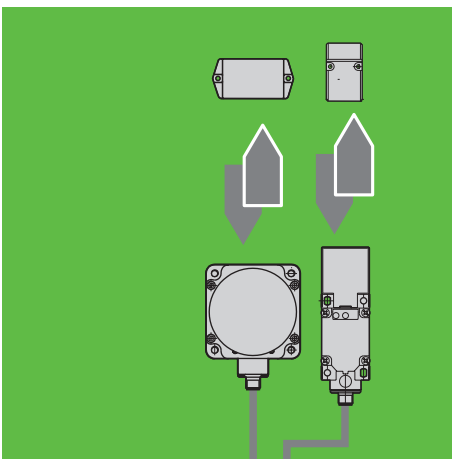


BALLUFF

sensors worldwide

Powertrain Assembly

Transparency and efficiency in manufacturing and installation





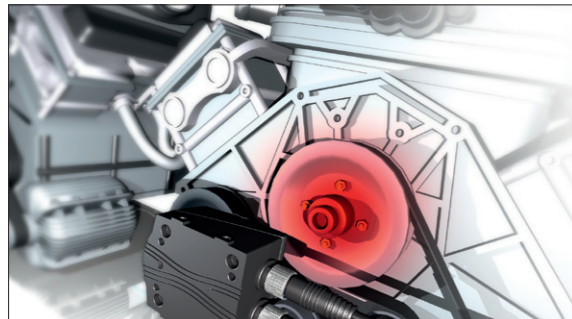
Vision sensors BVS

For automated quality assurance

The vision sensor, for example, can check all at once that the four fastening nuts for the V belt pulley are correctly installed. This way it ensures quality – reliably and around the clock.

The benefits to you

- Automated quality assurance
- Simultaneous checking of multiple, different characteristics
- Quick, flexible change between complex scans



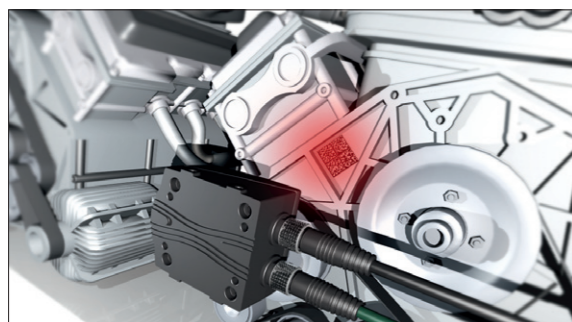
Vision sensors BVS Ident

Read codes reliably – in any position

The BVS ident vision sensor quickly and accurately reads the most common barcodes, including Data Matrix and QR codes. Whether the codes are affixed, printed, lasered or directly marked – all are reliably identified with the BVS-E Ident, even if the code is turned or upside down. With the OCV function you can also verify batch and serial numbers.

The benefits to you

- Fast and reliable reading
- Reliably verify batch and serial numbers
- Read, check and verify codes in one step



BIC inductive couplers

The contactless IO-Link interface

Inductive couplers BIC make mechanical plug contacts unnecessary. Energy and data are transmitted without contact.

The benefits to you

- Wear-free and reliable connection
- Extend machine run time
- Plug and play for actuators and sensors



SmartLight

The intelligent light for displaying machine states

For many testing and inspection procedures, visualizing operating states directly in the system means additional security.

The benefits to you

- Use less display equipment
- Flexibly visualize operating states with 16 bits and RGB LEDs
- Plug and play



Sensor hubs

Connection technology with minimal effort

The benefits to you

- Bundle signals: from up to 16 sensors/actuators per sensor hub
- Up to 136 inputs/outputs via a master module
- Reduce bus nodes

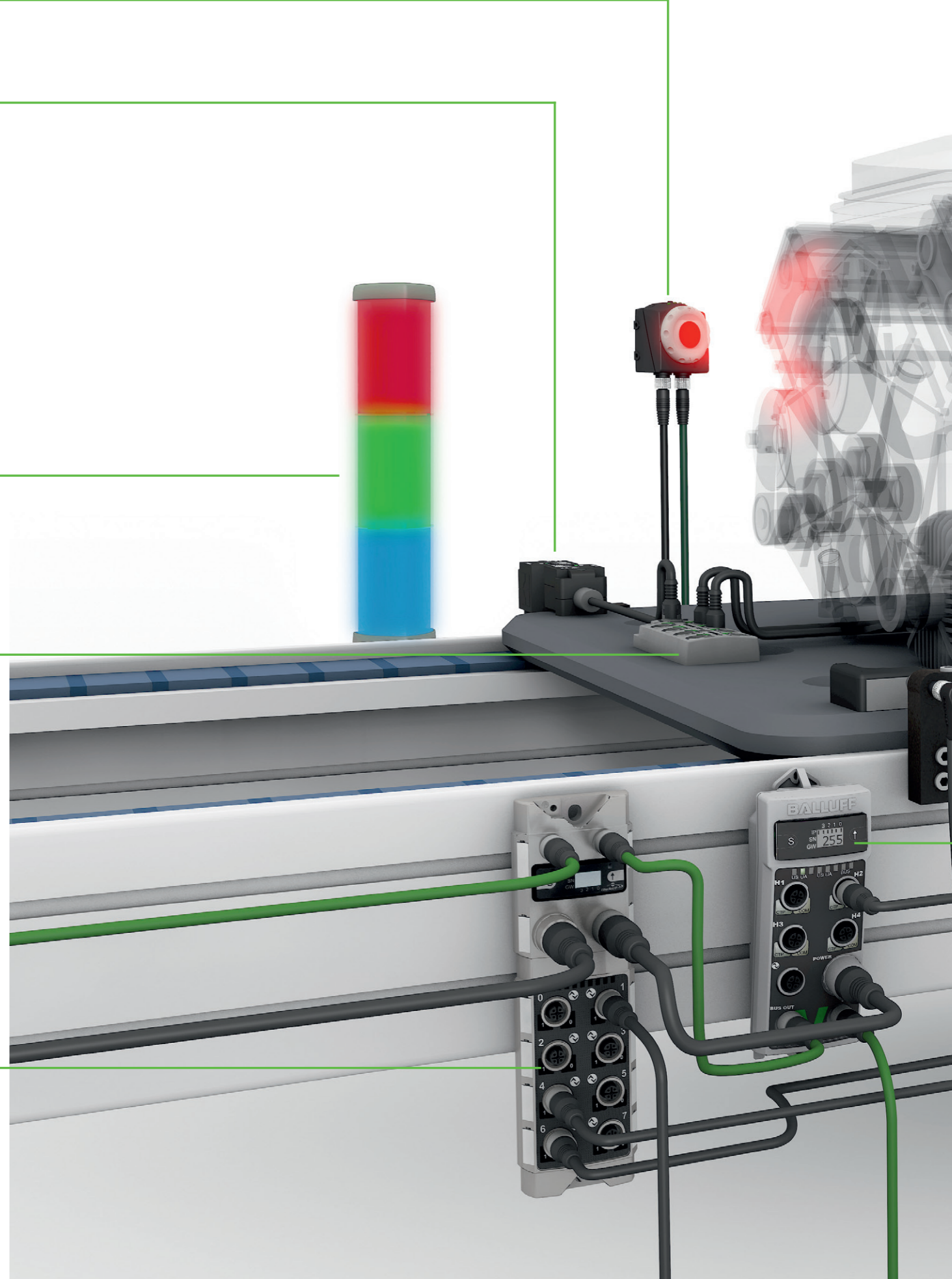


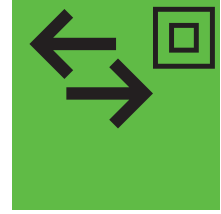
IO-Link master

To simplify the network topology, fieldbus modules BNI are available for all important bus systems.

The benefits to you

- Rugged metal housing
- Wire all sensors and actuators efficiently and cost-effectively
- Diagnostics-capable





Powertrain Assembly Transparency and efficiency in manufacturing and installation

Your complete provider for

- ➔ **Systems and Service**
 - From the design and planning of your projects
 - To testing and setup on-site
 - To training and support

- ↻ **Industrial Networking and Connectivity**
Fieldbus systems, IO-Link, inductive couplers, passive splitters, plug connectors, valve connectors, power supplies

- ↻ **Industrial Identification**
Industrial RFID systems (LF, HF, UHF), vision sensors

- ➔ **Object Detection**
Photoelectric, ultrasonic, inductive, capacitive, magnetic, mechanical sensors

- ➔ **Accessories**
Installation system, brackets, fasteners

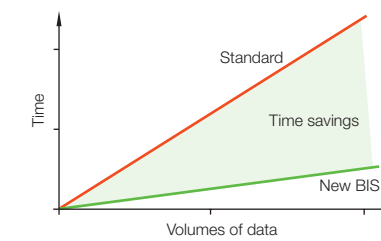
You can find RFID handhelds and other accessories in our complete "Industrial Identification" product line or online at: www.balluff.com



The Ident system for large volumes of data and high speeds Up to 8 x faster than the ISO 15693 standard

For assembly lines to remain competitive, fast and contactless data communication with Industrial RFID is crucial. The new Ident system from Balluff provides the power required for this: It is up to 8 x faster than the ISO 15693 standard.

Data carriers with a memory of unrivaled size and the highest read/write speed, together with the high-performance processor unit BIS V, provide for top performance: Cycle times can be reduced and output rates increased. You have real-time access to all data. And the decentralized data storage guarantees the greatest security.



The benefits to you

- Large storage capacities up to 128 KBytes
- Very fast data transmission between read/write device and data carrier
- Robust, compact components with high degree of protection (up to IP 68)
- Maintenance-free and battery-free data carriers with FRAM technology, resulting in practically unlimited read/write cycles
- Particularly interference-free data communication with high data integrity
- Savings potential by connecting up to 4 read/write heads to a processor unit
- Combination of RFID and sensors via an integrated IO-Link master
- Decentralized data storage guarantees the greatest security

128
KBytes

8x
faster

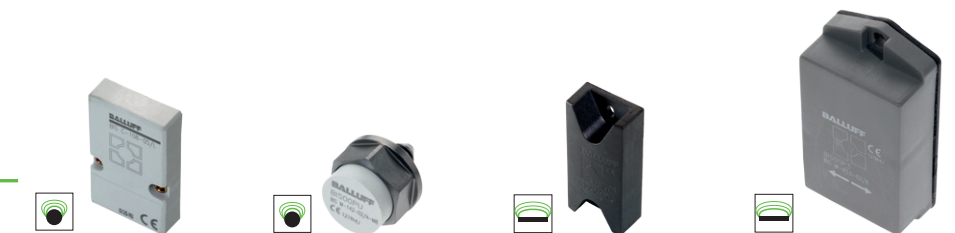


| RFID processor unit | Part number |
|---------------------|---------------------|
| BIS V | |
| Profibus | BIS V-6102-019-C001 |
| EtherCAT | BIS V-6110-063-C002 |
| CC-Link | BIS V-6111-073-C003 |
| Ethernet/IP | BIS V-6106-034-C002 |
| Profinet | BIS V-6108-048-C002 |

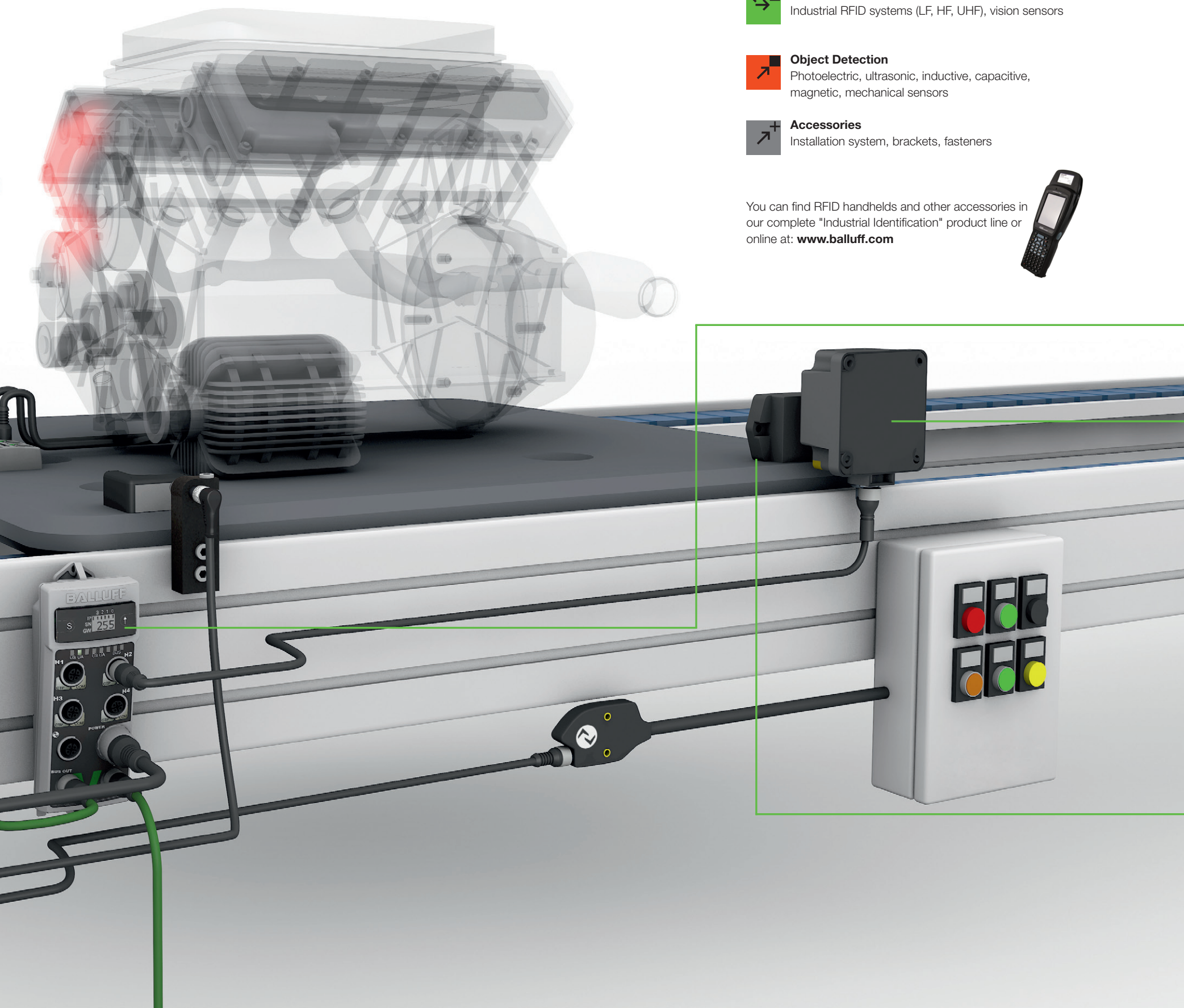
Profinet available as of end of 1st quarter in 2014

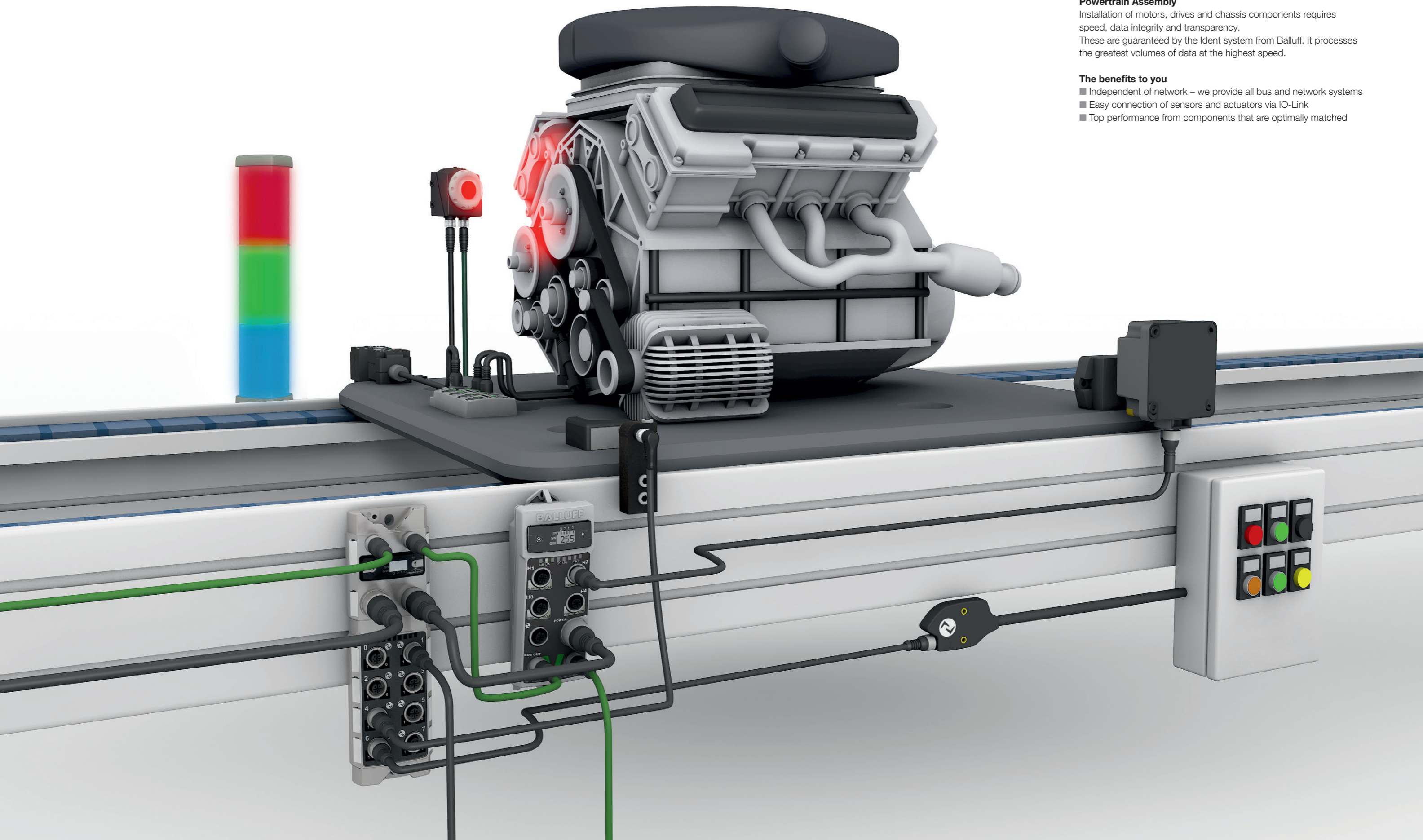
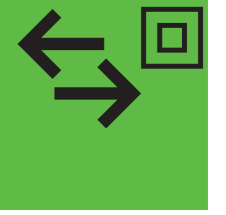


| Read/Write Heads | Part number | Part number | Part number | Part number |
|---------------------------|-------------------|-------------------|-------------------|-------------------|
| For BIS-V processor units | BIS VM-341-401-S4 | BIS VM-351-401-S4 | BIS VM-345-401-S4 | BIS VM-355-401-S4 |



| Data carrier | Part number | Part number | Part number | Part number |
|--------------|----------------|----------------------|----------------|----------------|
| 8k | BIS M-108-11/A | BIS M-142-11/A-M8-GY | BIS M-155-11/A | BIS M-153-11/A |
| 32k | BIS M-108-13/A | BIS M-142-13/A-M8-GY | BIS M-155-13/A | BIS M-153-13/A |
| 64k | BIS M-108-14/A | BIS M-142-14/A-M8-GY | BIS M-155-14/A | BIS M-153-14/A |
| 128k | BIS M-108-15/A | BIS M-142-15/A-M8-GY | BIS M-155-15/A | BIS M-153-15/A |





Powertrain Assembly

Installation of motors, drives and chassis components requires speed, data integrity and transparency. These are guaranteed by the Ident system from Balluff. It processes the greatest volumes of data at the highest speed.

The benefits to you

- Independent of network – we provide all bus and network systems
- Easy connection of sensors and actuators via IO-Link
- Top performance from components that are optimally matched

BALLUFF

sensors worldwide



Systems and Service



Industrial Networking and Connectivity



Industrial Identification



Object Detection



Linear Position Sensing and Measurement



Condition Monitoring and Fluid Sensors



Accessories

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