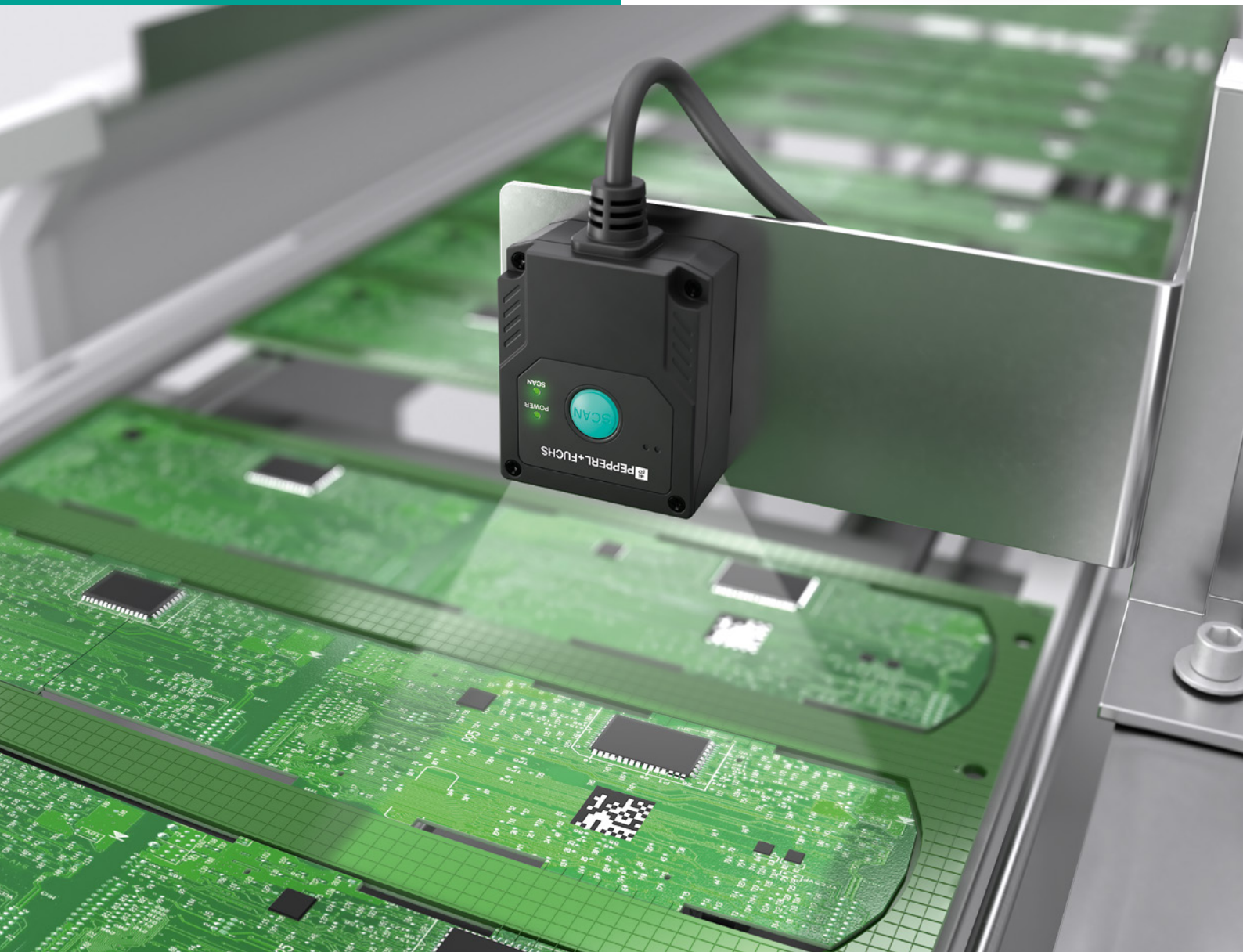


**Compact.  
Economical.  
Powerful.**

Stationary 1-D/2-D Code Reader  
CleverReader

Reliable code reading up to 3.5 m/s—  
from packaging to electronic  
components.

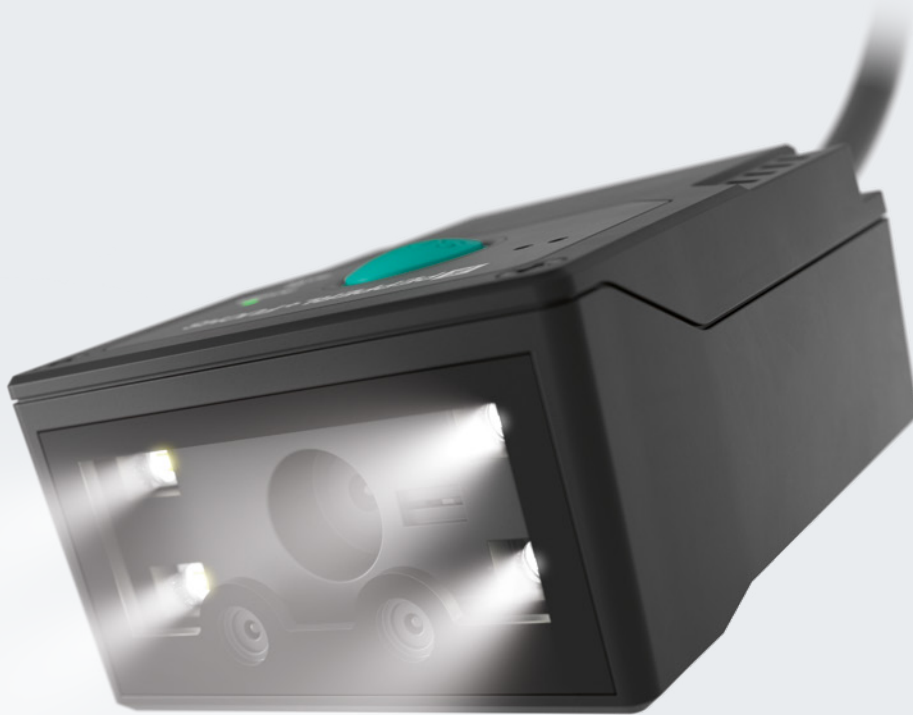


Your automation, our passion.

 **PEPPERL+FUCHS**

# Versatile, Reliable, and Cost-Effective

Track-and-trace increases process efficiency and enables consistent quality control. The CleverReader stationary code reader reliably captures 1-D and 2-D codes, even under the most difficult conditions and at high throughput speeds. The device offers a wide range of functions and an optimum price-performance ratio.



## Flexible by Design

The sensor technology reliably detects all common 1-D and 2-D codes, including on reflective surfaces and displays. With its compact design, an RS-232 interface and a 24 V/5 V converter cable, it can be easily integrated anywhere. Parameterization is conveniently performed using control codes on the device itself or via the intuitive graphical user interface. Its unique price-performance ratio makes the CleverReader a particularly cost-effective solution.

## Multitalented and Built for Diverse Tasks

- Microelectronics: identification of printed circuit boards in the assembly process
- Logistics and material handling: code reading on containers on conveyor belts
- Packaging: code reading on components and packaging
- Manufacturing processes: identification of components and assemblies



For more information, visit  
[pepperl-fuchs.com/pf-clever-reader](https://pepperl-fuchs.com/pf-clever-reader)

## VOI1000: Basic Code Reader for Multiple Applications

The basic version offers a solid solution for predominantly static applications. The device provides reliable identification data and can be adapted to different applications with several reading modes. The output string can also be formatted to suit the application in order to feed the read result directly into the respective program or ERP system. Code comparison after teach-in or specification by the controller can be used to initiate specific sub-processes. If a code is not recognized, the device saves the error image for detailed analysis and complete traceability.



## VOI1100: High Performance for Complex Tasks

The sensor technology ensures reliable reading under difficult conditions. It reads codes in motion, up to a speed of 3.5 m/s, and can therefore monitor objects on fast-moving conveyor belts. The device also recognizes directly applied codes (direct part marking, DPM), lasered or needled, on printed circuit boards, metal parts, and other components.



Excerpt of Technical Data	VOI1000-F330-4MM-R2	VOI1100-F330-4MM-R2
<b>Field of view</b>	51° × 32°	
<b>Depth of focus</b>	Data Matrix (module size 0.25 mm): 50–170 mm EAN-13 (module size 0.33 mm): 55–360 mm	Data Matrix (module size 0.25 mm): 50–230 mm EAN-13 (module size 0.33 mm): 55–460 mm
<b>Object speed</b>	Standstill	Up to 3.5 m/s
<b>DPM code reading</b>	–	■ (reading of lasered and dot peen codes)
<b>Valid/invalid output</b>	■	■
<b>Match code function</b>	■	■
<b>Output string formatting</b>	■	■
<b>Error images</b>	■	■
<b>Code symbologies</b>	<b>1-D:</b> Code 128, Code 93, Code 39, Code 49, Code 11, EAN-8/-13, UPC-A/-E, Interleaved 2 of 5, Codabar, Plessey, MSI/Plessey, GS1-128, GS1 DataBar, ISBN, AIM 128, Industrial 25, ISBT 128, postal barcodes <b>2-D:</b> Data Matrix, QR codes, micro QR codes, PDF417, MicroPDF417, Aztec, MaxiCode	
<b>Interface</b>	RS-232	
<b>Power supply</b>	5 V, 24 V via cable	
<b>Degree of protection</b>	IP54	

# Adapted for Every Task

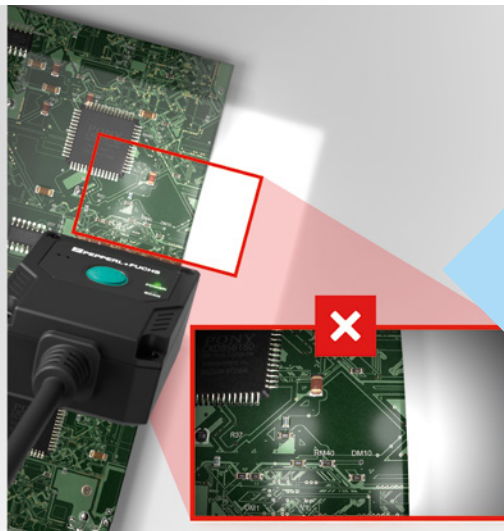
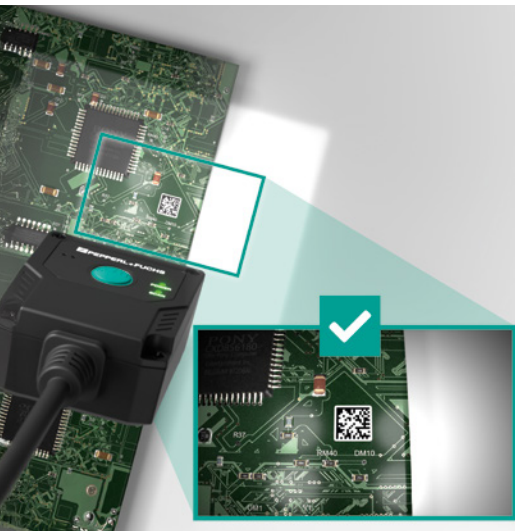
The reliable identification of individual objects is a task that is as demanding as it is diverse. There is a wide range of challenges in factory automation. With numerous equipment options, the CleverReader offers the right solution for a wide range of applications.

## Dependable in Demanding Conditions: Robust Code Reading at High Speed and DPM

Conveyors in production and logistics often run at high speed. The CleverReader VO1100 provides reliable identification at speeds of up to 3.5 m/s. The device reads both glued and printed codes as well as lasered and needled DPM codes. The reading works on various materials, including shiny, reflective, and metallic surfaces.

## Code Comparison and Error Image Memory

The match code function is used to define a code as a comparison code after teach-in or specifying it via the control unit. The read codes are then compared for complete or partial matches. If codes are missing, damaged, or obscured, the error image is automatically stored in the device. Both functions support traceability and quality assurance as well as efficient analysis for process optimization.

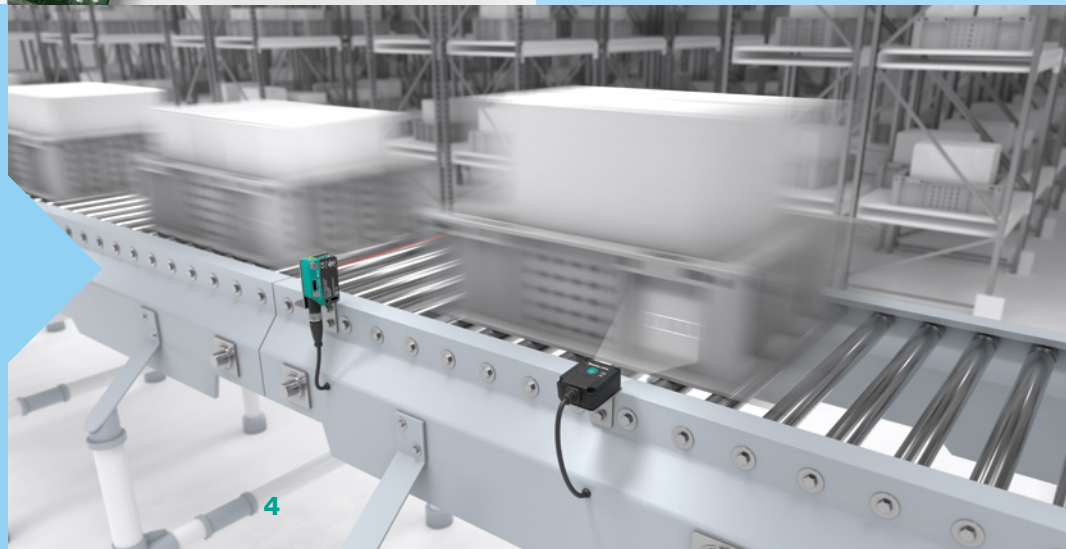


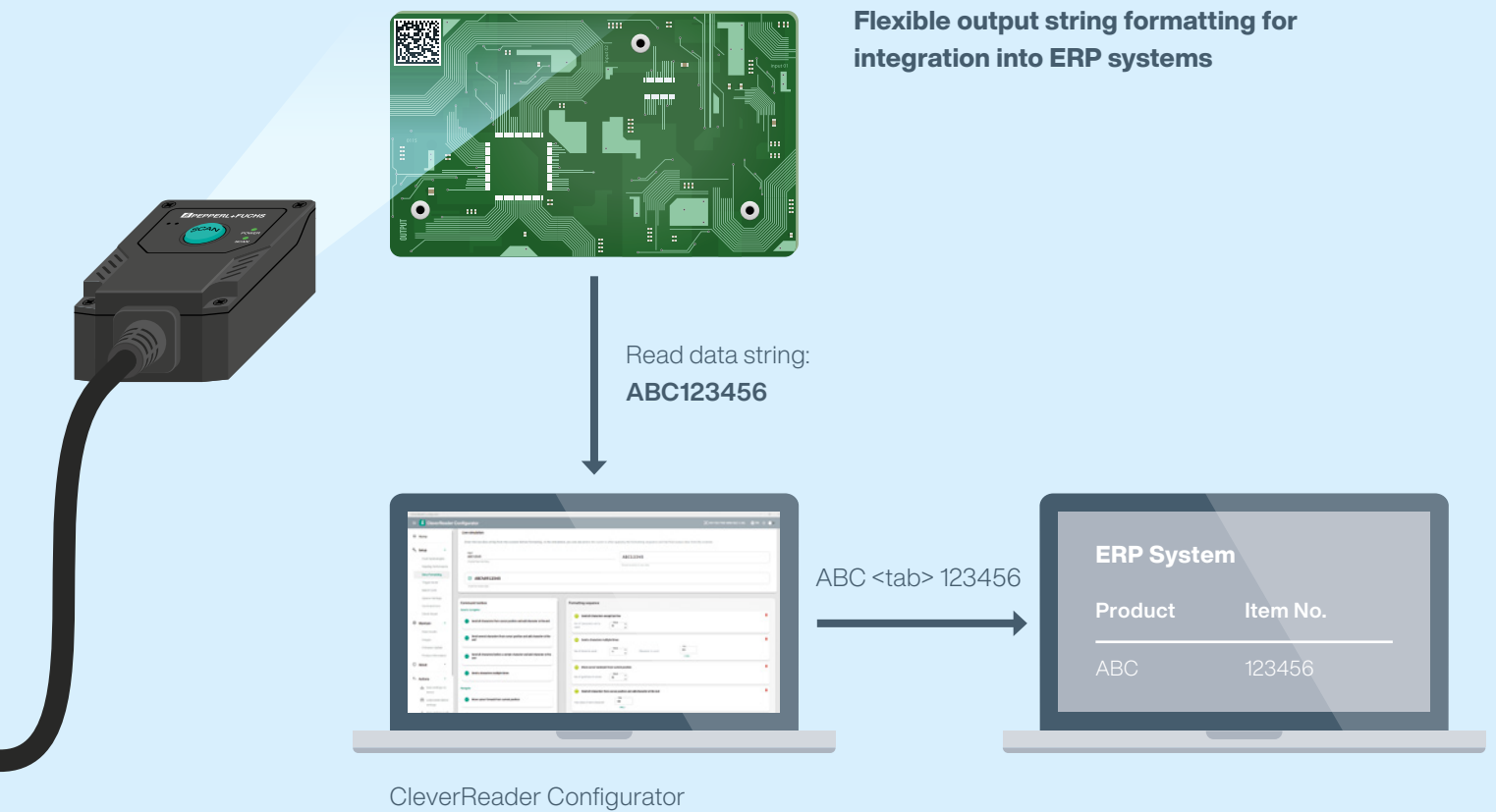
## Error Image Memory

The current image is saved if no code has been read within a specified period of time.

## High-Speed Code Reading

Code reading is guaranteed up to a conveyor speed of 3.5 m/s.





## Data for Direct ERP Feed

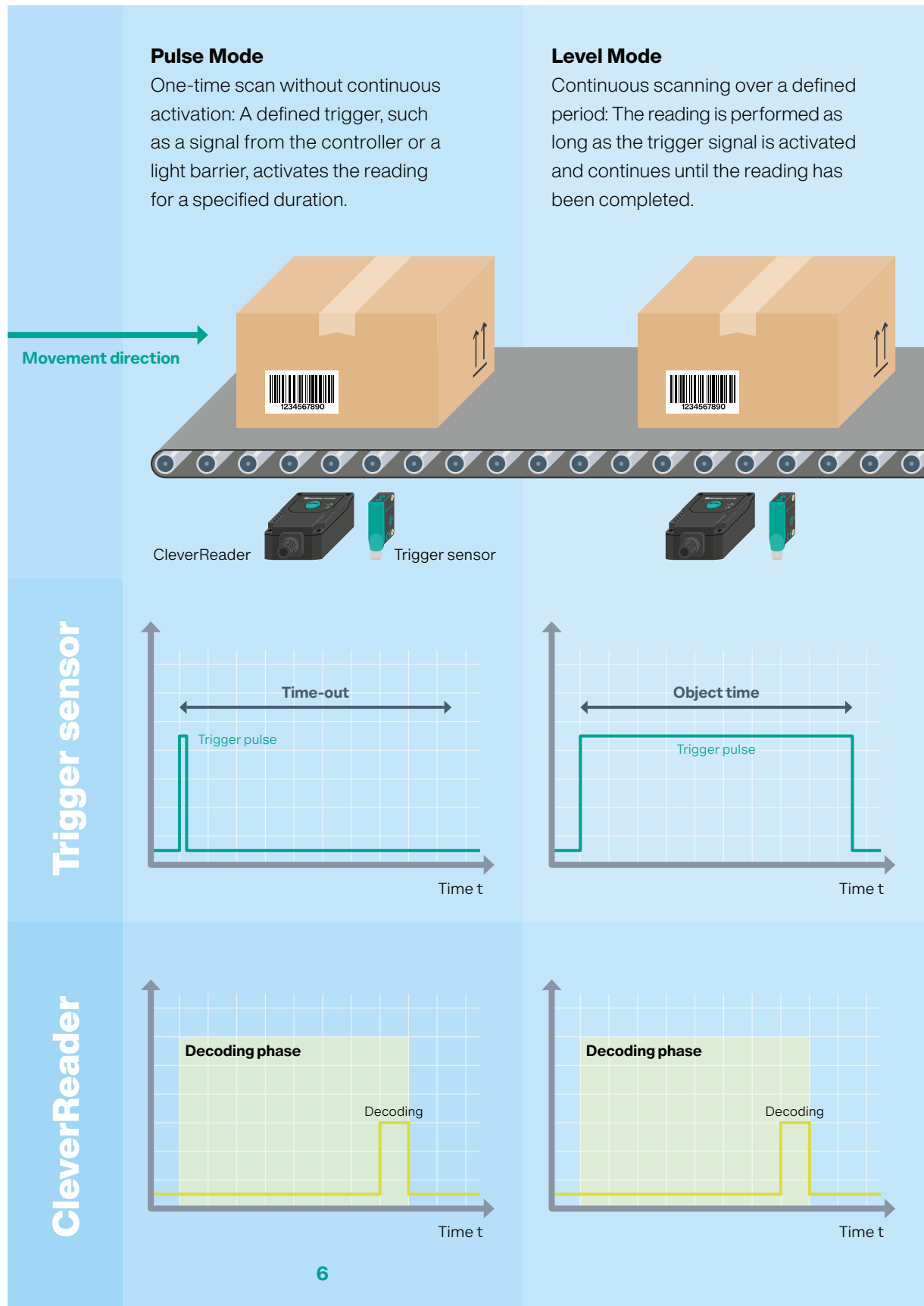
The output string can be formatted flexibly. This allows the relevant code information (data string) to reach the controller in the appropriate format. At the same time, this eliminates the often time-consuming adaptation on the ERP side: The data can be fed into the ERP system without any further intermediate steps.

### Highlights

- Maximum economic efficiency: Optimal price-performance ratio due to versatile functionalities in a single sensor
- Wide range of applications through high-speed code reading at up to 3.5 m/s, reliable reading of lasered or dot peen codes, and match code function
- Flexible output string formatting and multiple reading modes for optimal adaptation to the application
- Integrated error image memory for high transparency and traceability in quality processes
- Easy integration due to space-saving housing design (24.3 × 41.5 × 49.5 mm) and 24 V/5 V converter cable with connectors or freely configurable ends
- Convenient parameterization via control codes and intuitive graphical user interface

# Reading According to Specification

The CleverReader has five reading modes that are tailored to typical situations in logistics and production. They offer practical solutions for identification tasks under a wide range of conditions, with or without an external trigger.



### Continuous Mode

The trigger is permanently activated; the reading is performed continuously.



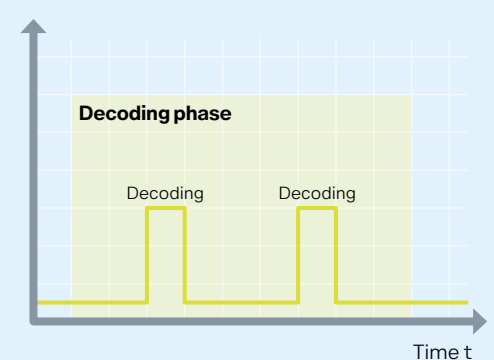
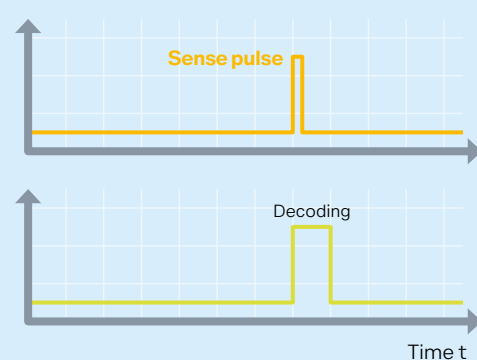
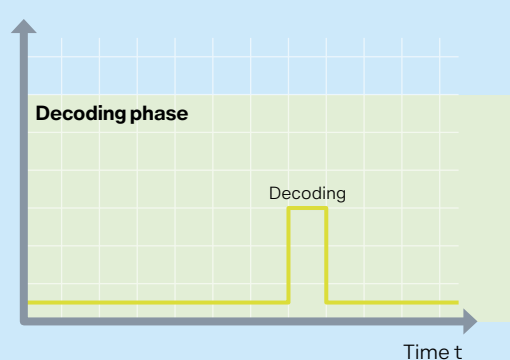
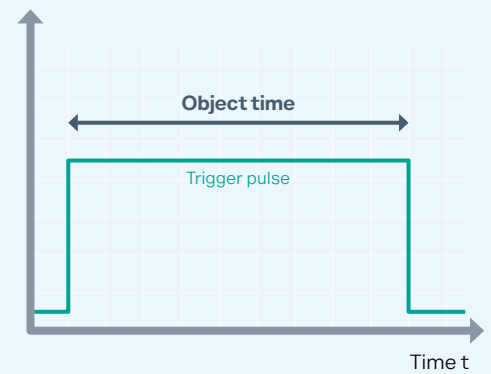
### Sense Mode

Code reading is triggered automatically by a change in the detection area, and the sensitivity of the motion detection can be adapted to the application. A trigger sensor is not required.



### Multiple-Session Mode

The CleverReader reads several different codes on the same object as long as the trigger is activated.



Simple Integration

# Space-Saving Design, Seamless Connectivity

The compact sensor housing leaves plenty of freedom for installation. Connection with the 24 V/5 V converter cable is straightforward; integration into the application is plug-and-play and requires minimal effort.



## Compact Sensor Technology, Simple Installation

The housing of the CleverReader measures  $24.3 \times 41.5 \times 49.5$  mm and is barely larger than a matchbox. With these compact dimensions, the device fits into confined environments and can be easily installed in almost all applications.

## Simple Tests at the Touch of a Button

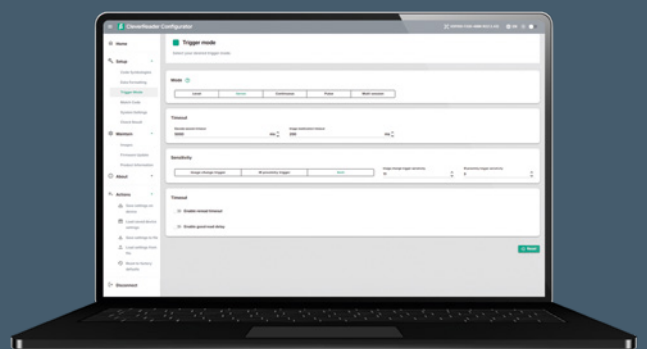
The integrated SCAN button allows a quick function test to be carried out at any time. A brief press is sufficient to start the reading process manually. After successfully reading the code, the CleverReader reliably confirms the result with a clear audiovisual signal and transmits it.



Further accessories available at  
[pepperl-fuchs.com/pf-clever-reader-acc](https://www.pepperl-fuchs.com/pf-clever-reader-acc)

## Intuitive Configuration

The CleverReader Configurator graphical user interface is designed for intuitive operation. It enables quick and easy commissioning and parameterization. Configuration can also be performed directly on the sensor through scanning control codes.



## Plug-and-Play Cable for Instant Connection

The CleverReader is connected with a 24 V/5 V converter cable. It ensures the right power supply without any further effort and transmits sensor signals. Two variants are available:

### Cable with Connectors

- DB9: PLC/PC connection via RS-232
- M12: 24 V power supply, earthing, and configurable outputs
- M8: Trigger signal input

### Cable with Open Ends

- Flexible integration in any environment



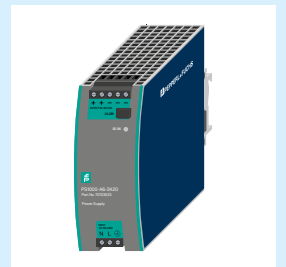
CleverReader



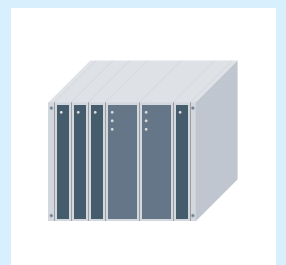
Converter cable



Trigger sensor



Power supply



PLC

# One Device, Endless Possibilities

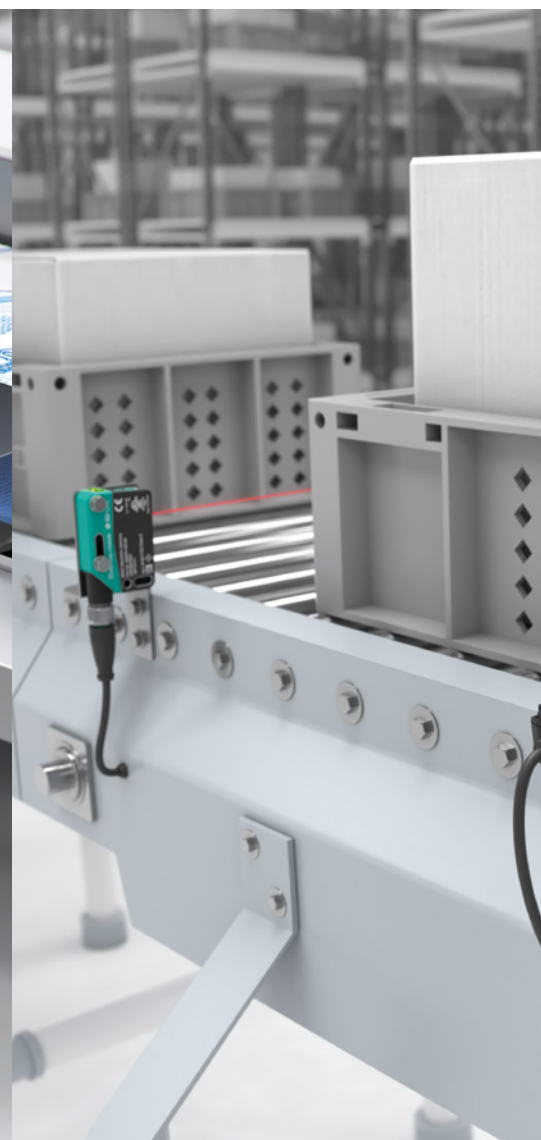
Its wide range of functions and diverse configuration options make the CleverReader a universally applicable stationary code reader. Where codes need to be read automatically, the sensor technology delivers optimum results in a wide range of applications.

### Components and Packaging

From primary to end-of-line packaging, components and packaging units can pass through numerous stations. In the packaging process, the CleverReader ensures reliable identification at every station. The path of the components and packaging is seamlessly tracked and documented, and quality and safety are fully guaranteed.

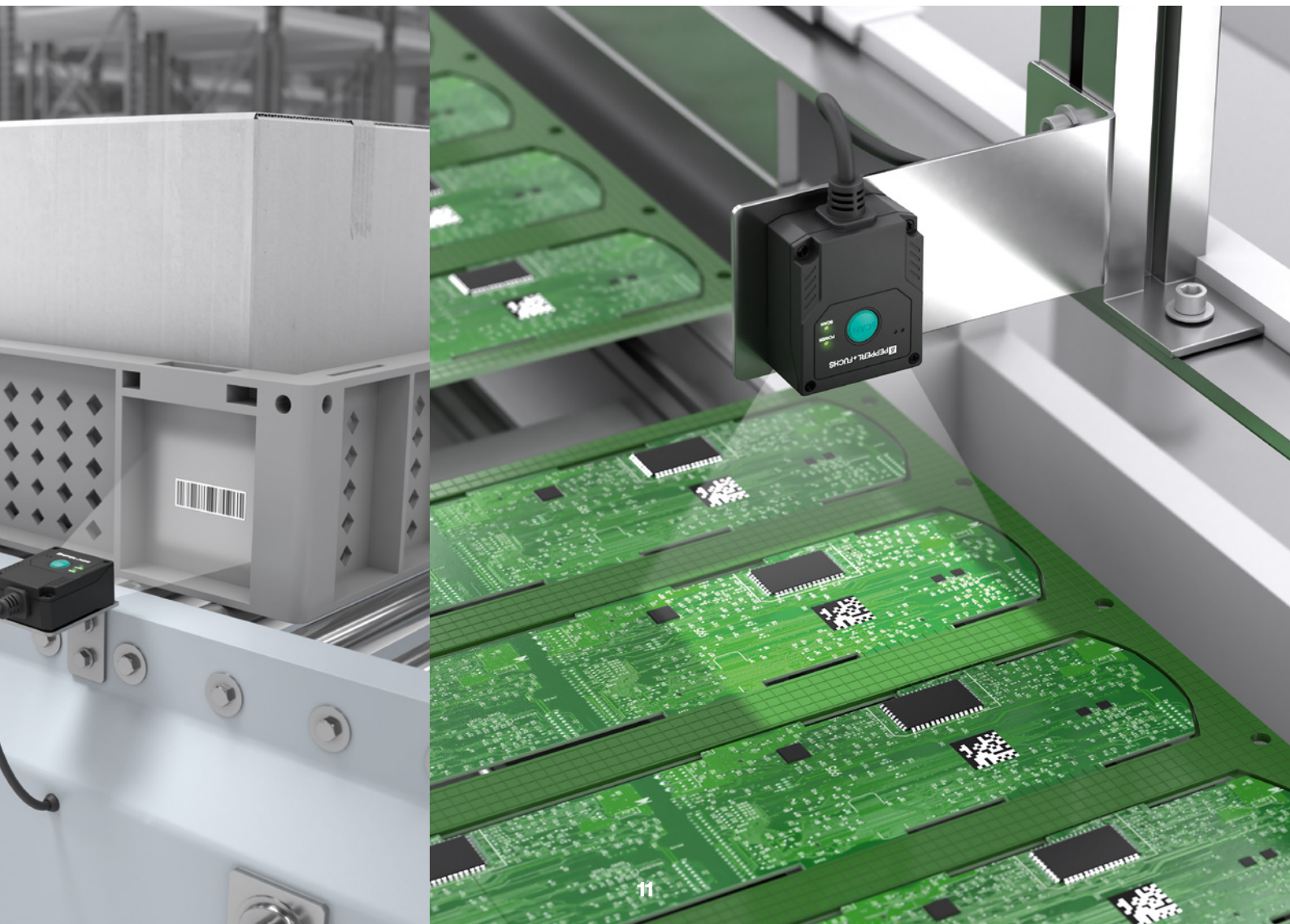
### Containers on Conveyor Belts

In many logistics applications, the entire flow of goods is coordinated by reading codes. From delivery to removal, the containers with goods are transported to the individual stations on conveyor belts. This process requires reliable identification of the containers. The CleverReader stationary code reader ensures this reliably, even at conveyor speeds of up to 3.5 m/s.



## Identification in Printed Circuit Board Production

Printed circuit boards must be reliably identified during production in order to control the production process and ensure complete traceability. As a rule, a Data Matrix code is used on the printed circuit board for this purpose. It is either printed on a stick-on label or marked by laser directly in the material of the printed circuit board. The CleverReader is capable of reading all common 1-D and 2-D codes, including lasered and needled DPM codes.



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