# Multicode reader verifies and analyses codes and text
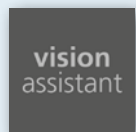
## Optical identification

- **Versatile use for quality and process control in production and logistics**

- **Detects and verifies text and codes alike**

- **High performance thanks to fast evaluation of several different codes and text passages in one image**

- **Reliable detection even in case of extraneous light and challenging surfaces**

- **Easy parameter setting on the device or via the ifm Vision Assistant**

### Universal solution for production and logistics

The O2I multicode reader detects 1D and 2D codes as well as text elements and analyses their quality within a few milliseconds. The number of elements to be detected is irrelevant as the O2I can evaluate several codes or text elements as well as their combination with only one image capture. This makes the multicode reader a universal solution in production and logistics processes where the presence of codes and text information is to be checked for quality or used for product tracking.

The O2I can be quickly set up for simple applications directly on the device. More complex tasks can be implemented just as easily by means of the award-winning ifm Vision Assistant.

**To the video:**
ifm.com/gb/o2i

# Increase product and process quality

## Make processes transparent
Be informed about what is going on, when and where

## Optimise material handling
Provide sufficient material in the correct production step

## Assure quality
Reliably detect, validate and check the readability of relevant text imprints thanks to the anchor function.

## Precise delivery schedule
Data-based control of timed process flows.





## Products

| Type | Description | Order no. |
|------|-------------|-----------|
| **Multicode reader: Ethernet/IP, TCP/IP** | | |
| | Standard lens, red light | **O2I500** |
| | Standard lens, infrared | **O2I501** |
| | Wide-angle lens, red light | **O2I502** |
| | Wide-angle lens, infrared | **O2I503** |
| | Telephoto lens, red light | **O2I504** |
| | Telephoto lens, infrared | **O2I505** |
| **Multicode reader: PROFINET, TCP/ IP** | | |
| | Standard lens, red light | **O2I510** |
| | Standard lens, infrared | **O2I511** |
| | Wide-angle lens, red light | **O2I512** |
| | Wide-angle lens, infrared | **O2I513** |
| | Telephoto lens, red light | **O2I514** |
| | Telephoto lens, infrared | **O2I515** |
| **Accessories** | | |
| | Mounting set for multicode reader | **E2D500** |
| | Mounting set for illumination unit | **E2D501** |
| | Illumination unit, 193 x 136 x 75 mm, red light, cyan light, M12 connector | **O2D931** |
| | Illumination unit, 256.8 x 197 x 106.7 mm, red light, cyan light, M12 connector | **O2D933** |
| **Connection technology** | | |
| | Y connection cable, adapter cable for O2I5xx, trigger sensor, 0.4 m PUR cable | **EVC847** |
| | Y connection cable, adapter cable for external illumination, 0.4 m PUR cable | **EVC848** |

## Configuration via smartphone app

A smartphone app (iOS, Android) is available for basic configuration of the device. The user can e.g. use it to define the trigger or IP address.

Based on these settings, a Data Matrix code is generated on the smart phone's display. When this code is held into the multicode reader's field of view, the configuration is automatically adopted.

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**For further technical details, please visit: ifm.com**

# Complete set: product detection for incoming and outgoing goods

## Track & Trace Gate system solution

- **Clear assignment of products to incoming and outgoing goods**

- **Avoidance of wrong deliveries through transparency of the goods flow**

- **Standardised interface to SAP / ERP**

- **Ready-to-start application package with easy, graphical set-up**

- **With direction detection and optional 3D volume measurement**

### Logistics made simple

The complete solution for incoming and outgoing goods includes all the RFID components required for automatic product detection. Optional sensors offer the possibility to determine the direction of movement and even the volume of the products.
Optical and acoustic signalling devices support the processes. Reports and alarm messages can be relayed directly to the commodity management system.
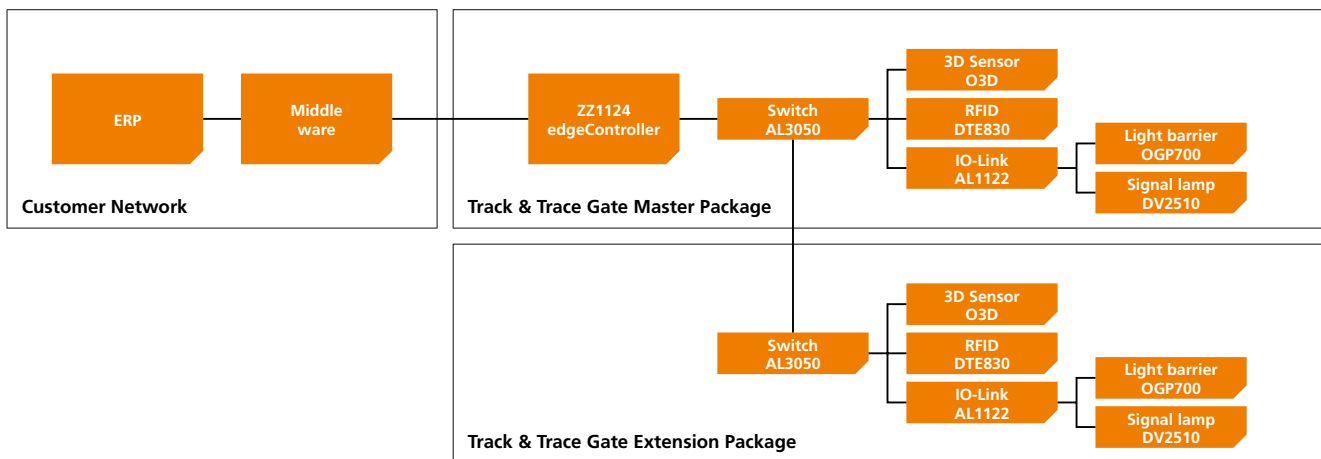
### Easy extension

The basic package with the central edgeController can be supplemented at any time by extension packages for up to 10 gates.

| Description | Extensibility | Triggering | Direction detection | Order no. |
|---|---|---|---|---|
| Master package with edgeController | For 1 gate, extensible with max. 9 extension packages to control 10 gates per master package | O3D sensor | • | **ZZ0814** |
| Extension package for ZZ0814 or ZZ0816 | 1 extension package required per additional gate | O3D sensor | • | **ZZ0815** |
| Master package with edgeController | For 1 gate, extensible with max. 9 extension packages to control 10 gates per master package | Laser retro-reflective sensor | • | **ZZ0816** |
| Extension package for ZZ0814 or ZZ0816 | 1 extension package required per additional gate | Laser retro-reflective sensor | • | **ZZ0817** |
| UHF gate edgeController | Spare part for ZZ0814 and ZZ0816 | edgeController with pre-installed RFID software | – | **ZZ1124** |

## System overview



## Transparent flows of goods

By using smart RFID incoming and outgoing goods inspection, flows of goods can be displayed transparently and transferred to a smart system. This allows optimising loading times, avoiding errors and saving costs.

## Advantages of smart incoming and outgoing goods inspection

- Clear assignment of products to incoming and outgoing goods.
- Avoidance of wrong deliveries through transparency of the goods flow.
- Cost and error savings.



ifm.com/gb/gate

## Further advantages

### Intelligently networked sensors

The system allows the detection of direction, optionally via 3D sensors or light barriers. Besides, 3D volume measurement is possible as an option.

### Individual real-time support of edge device and ERP

Simple interface through file transfers between edgeController and ERP for networked logistics processes. The edgeController including interface to the customer's ERP system is included in the scope of delivery.

### Rapid implementability and extension

The system components and their functions are put into operation plug & play. Additional gates can be added to the existing edgeController without much effort via a switch.

### Suitable for robust applications

The ifm gate solution consists entirely of components suitable for industrial use with protection rating IP 65 / IP 67.

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# RFID for Industry 4.0: IoT solutions with direct connection to the IT infrastructure
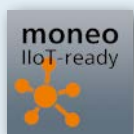
## RFID Systems

**Lean infrastructure: direct data exchange between RFID system and IT level**

**Standard Ethernet protocols simplify integration and interoperability**

**Product diversity covers any requirement at any location**

**IoT Core Visualizer simplifies the selection and transmission of data point URLs**

**Track-and-trace IT solution without detours**

RFID systems are an excellent solution when it comes to product tracking in intralogistics. The new IoT-enabled RFID solutions of the DTExx5 series now make the implementation of track-and-trace systems even simpler and leaner thanks to establishing a direct connection to the IT system.

**IoT Core Visualizer: easy access to data point URLs**

The portfolio comprises compact UHF and HF solutions as well as an HF evaluation unit for up to 4 antennas. All units come with an Ethernet interface for bidirectional transfer of information via HTTP, JSON, or MQTT. Thanks to the concise IoT Core Visualizer, users can easily access the URL of each data point. This makes integration into their own software application very easy to achieve.

| Type | Description | Order no. |
|---|---|---|
| | RFID HF evaluation unit for up to 4 antennas | **DTE105** |
| | RFID HF compact unit | **DTE605** |
| | RFID UHF compact unit EU | **DTE805** |
| | RFID UHF compact unit US/CA | **DTE905** |

## ifm IoT Core: easy IT integration

With ifm's IoT Core, devices can make data, events and services available to interested parties. The ifm IoT Core supports various protocols in the Internet ecosystem such as HTTP, MQTT and JSON.

### The right solution for every application:

### DTE105 HF and antennas

Applications are found in production lines where the evaluation unit is used for material flow control, or in guided material handling systems for coding of workpiece carriers.

### DTE605 HF compact unit

The compact unit is ideal for long writing/reading distances.

### DTE805/905 UHF compact unit

The compact UHF RFID system is suited for long ranges. In material logistics, for example, the device can determine whether the right material is available in the required quantity for the production order.

### Connection technology

| Type | Description | Order no. |
|---|---|---|
| | Ethernet connection cable, PUR, 5 m, M12 / RJ45 | **EVC933** |
| | Ethernet connection cable, PUR, 10 m, M12 / RJ45 | **EVC934** |
| | Ethernet connection cable, PUR, 5 m, M12 / M12 | **EVC907** |

## Accessories

| Type | Description | Order no. |
|---|---|---|
| **Mounting accessories for DTE605, DTE805, DTE905** | | |
| | Angle bracket RFID compact system | **E80335** |
| | Mounting plate RFID compact system | **E80336** |
| | Mounting rod RFID compact system | **E80337** |
| **Selection RFID transponders** | | |
| | ID tag/110x25x12.7/04 | **E80413** |
| | ID tag/51x48x12.6/04 | **E80414** |
| | ID tag/51x37x7.5 | **E80417** |
| | ID tag/47x10/06 | **E80341** |
| | ID tag/10.1x3.9/03 | **E80415** |

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