ifm electronic

Identification systems for industrial production control and mobile machines.

32767

Identification systems

www.ifm.com/gb/identification

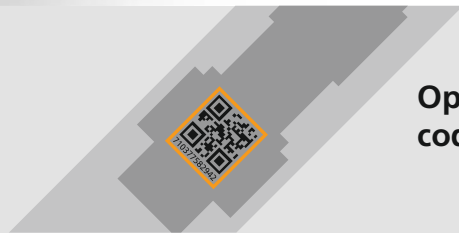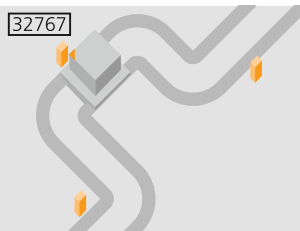WARRANTY
5 years
on ifm products

Identification systems from ifm electronic.
The optimum solution for every requirement.

Multicode reader type O2I
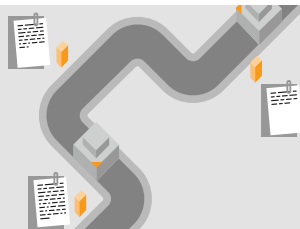
Optical code reader
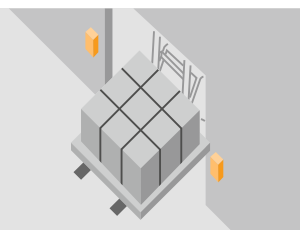
RFID system DTS125

LF system 125 KHz

RFID system DTE100

LF/HF system 125 KHz 13.56 MHz

RFID system DTE800

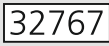**UHF system 868 MHz (EU) 913 MHz (USA)**

RFID system DTM

HF system 13.56 MHz

Type overview

	Range	Fieldbus	Storage capacity tag	Hard tag, adapted to the application condition	Smart tag, low-cost adhesive tape	
Identification of 1D and 2D codes for the monitoring of process operations.	up to 2 m	RS232 Ethernet TCP/IP Ethernet/IP	1D bar codes, 2D Matrix codes, Text	–	–	4 - 5	Optical code reader
Identification in routing conveyors.	up to 100 mm	AS-i	16 bit 32767	✓	–	6 - 7	RFID routing conveyors
Identification in conveyors. Large data volumes, high speed.	up to 100 mm	SAP/ERP Profibus DP Profinet DP EtherNet/IP TCP/IP Ethercat	8 KB	✓	✓	8 - 9	RFID conveyors
Identification in production and logistics. Long ranges, many tags.	up to 10 m	Ethernet TCP/IP EtherNet/IP	240 bit EPC 512 bit user	✓	✓	10 - 11	RFID production and logistics
Identification in mobile machines.	100 mm	CANopen	8 KB	✓	–	12 - 13	RFID mobile machines
						14 - 15	

Multicode reader type O2I
The compact all-rounder.

High reading reliability:
Automatic setting of the exposure time, adaptation by segmented lighting for critical surfaces.

Intelligence in the sensor:
Verifier system reduces data transmission.

Flexible connection:
RS-232, Ethernet TCP/IP and Ethetnet/IP interface.

Quick in the process:
Object speeds of up to 7 m/s.

Compact integration:
Illumination, optics, evaluation and interfaces in an industrially compatible housing.

Easy handling:
The system is configured and ready for use within a few minutes – with PC software or directly on the sensor.

Powerful identification.

Independent of orientation and number of codes the multicode reader automatically decodes 1D and 2D codes.

The new version also solves OCR tasks, e.g. for product identification by type designations or serial numbers. All information such as expiry date or production date can now be read directly.

Further functions include the output of the code position via the process interface,

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The compact unit is installed using the suitable mounting set and connected to the controller (PLC) via the process interface.
Parameter setting is done via an Ethernet cable using a common PC.

Orientation-independent identification of 1D and 2D codes.

adjustable total quality parameters, individual illumination settings for each configuration in a group, integrated fault memory and access protection with password.

The professional software of the multicode reader takes the high reading reliability of the Data Matrix code to a new dimension.

Top choice for price/performance: the multicode reader provides high functionality and performance at the price of a sensor.

Optimum illumination.

In addition to an automatic exposure setting, manual adjustment is also possible. Four lighting segments can be deactivated and activated manually. So optimum results are achieved even with highly reflective metal surfaces.
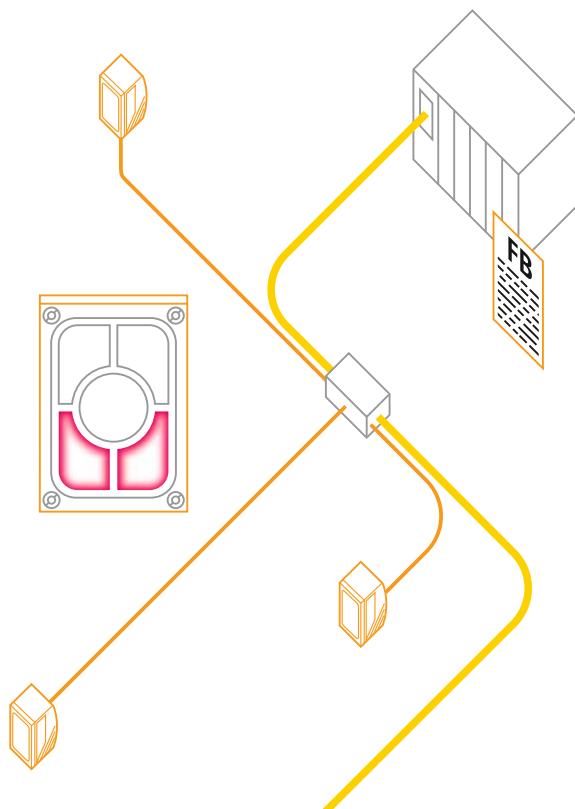
QR code

PDF code

DMC code

Bar code

Text

710377582942

The ifm multicode reader detects numerous 2D and 1D codes. The standardised 2D code can be applied in different ways: printed on paper, engraved by laser or dot-peened onto a metal surface.

O2I in the application.

The ifm multicode reader is used in a wide range of industrial applications. It provides product tracking, production control or product identification in the most varied areas: automotive, electronic and food industries, conveyor technology or in machine tools and printing machines.

The standardised process interfaces RS-232, Ethernet TCP/IP and Ether-Net/IP ensure fast and easy integration in industrial control technology.

One of many examples: Based on the Data Matrix code, the multicode reader identifies hygienically packed cotton swabs on a conveyor belt dynamically.

Optical code reader

RFID routing conveyors

RFID conveyors

RFID production and logistics

RFID mobile machines

Further information at
www.ifm.com/gb/multicodereader

RFID system DTS125
Keep track of the workpiece.

The DTS125 RF identification system from ifm is an industrially compatible identification system in 125 KHz technology. It is the first RFID system for AS-Interface worldwide.

The compact read / write heads include, in addition to the antenna, the complete evaluation and the interface to AS-i. So the units can be operated directly on the AS-Interface and enable data transmission to the controller.

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Plug and play:
Cost reduction with quick and easy set-up.

Efficient:
Connection of up to 31 RFID readers to one AS-i master.

Safe:
High reading reliability for compact design.

Ready for operation at once:
No programming for read / write systems with AS-Interface. The stored value is automatically provided by the transponder when the antenna is passed.

Certified:
The AS-Interface certification guarantees interoperability in automation technology.

Plug and Play also for the hardware: connection via M12 connector or AS-i splitter box. The DTS125 system can be integrated into AS-i networks in no time and is ready for operation immediately. In addition to the lower cost for hardware, this also saves time during set-up.

The DTS125 RFID system ensures smooth logistics flow on a production line for transmissions. All workpiece carriers can be identified by means of RFID. Optical processes such as bar codes were eliminated due to the severe operating conditions (oils, metal swarf).

LF RFID system with integrated AS-Interface.

ifm offers the system solution app "RFID DTA" for a particular ease of handling of the RFID data and communication with higher-level networks. Download and configuration of the app is made via the integrated web interface, i.e. all required settings can be conveniently made using a device with internet browser.

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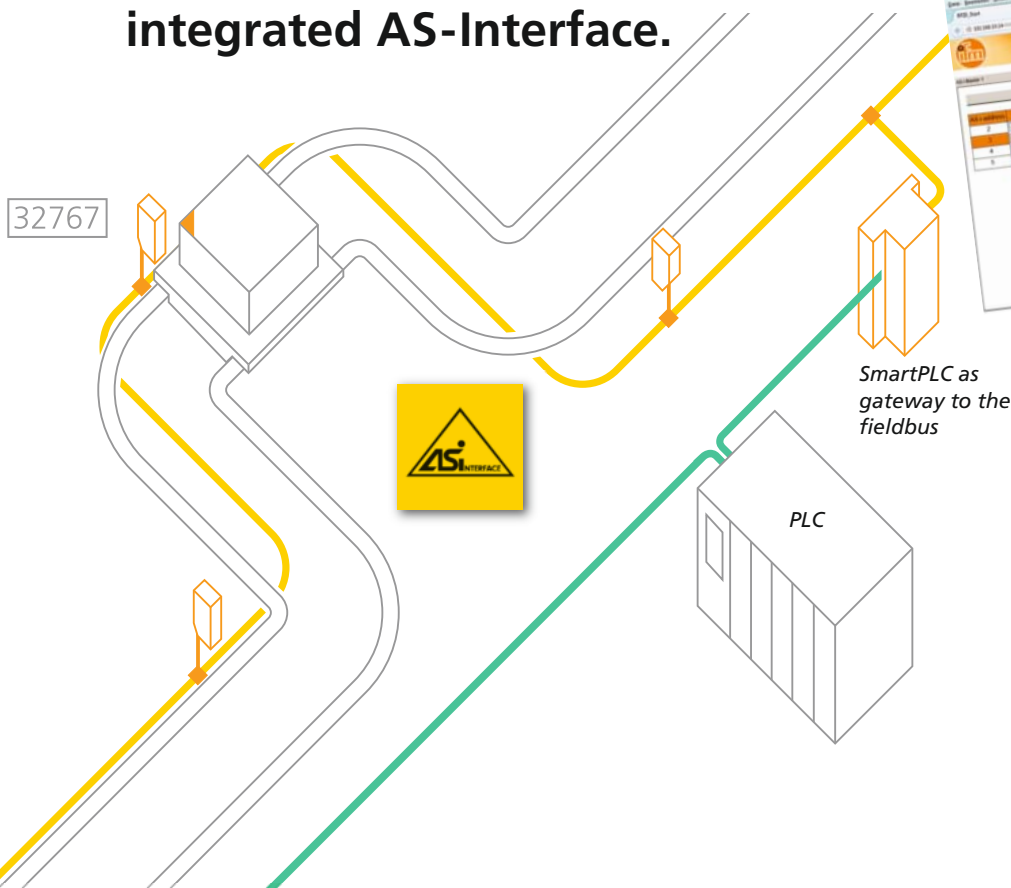
ifm system solutions app RFID DTA

SmartPLC as gateway to the fieldbus

PLC

ID tags for assembly and conveyor systems. The robust transponders, which do not require any batteries, are particularly suited for use in high temperature ranges.

DTS125 in the application.

The DTS125 RFID system has been designed for production control in assembly and conveying technology, handling, packaging and filling systems. The system is also the optimum choice for marking workpiece carriers.

The RFID system DTS125 – ideal for solving tasks in assembly and conveying technology as well as in handling automation. It detects objects on transport systems at a travel speed of up to 0.5 m/s.

Further information at
www.ifm.com/gb/dts125

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RFID system DTE100
The "electronic route card".

RFID system with evaluation unit, antennas and transponders.

ifm electronic has developed a new RFID system for production and conveying in particular.

The integrated web server enables easy parameter setting via the web browser. The requirements of harsh industrial environments are met by a robust housing, a wide temperature range and the high protection rating IP 67.

Clear:
Status display via LED and integrated web server.

Flexible:
Connection of RFID antennas or digital inputs / outputs. Antenna and transponder combinations of some bits to several Kbytes.

Easy:
Connection of the antennas with unshielded standard cables up to 20 m.

Integrable:
Function blocks enable easy integration into the higher level automation or process control.

Certified:
The fieldbus certification guarantees interoperability in automation technology.

Robust:
Protection rating IP 67 for harsh industrial environments.

Scan code and watch the video on the DTE100 system!

The LF or HF read / write antennas in an industrially compatible housing are simply connected to the evaluation unit via a standard M12 connector.

LF/HF RFID with integrated fieldbus interface.

The RFID evaluation units DTE10x have four antenna connections, which can alternatively be used as digital I/Os.
The antennas are connected via standardised M12 connectors.

The standard pin assignment of the I/O connections ensures that common sensors or actuators are directly connected and powered from the RFID evaluation unit.

LF and HF transponder.

In addition to LF transponders with up to 2-Kbit memory, the product portfolio of ifm also covers HF transponders with 8 Kbits as FRAM version which can be rewritten an unlimited number of times.

Different interfaces.

DTE100 with Profibus DP: evaluation unit with integrated Profibus DP interface.

DTE101 with Profinet: Evaluation unit with integrated Profinet interface.

DTE102 with EtherNet/IP: evaluation unit with integrated EtherNet/IP interface.

DTE104 with TCP/IP and SAP/ERP connectivity: Ideal for direct connection to PCs, industrial PCs or PLCs that have no standardised fieldbus interface.
Users can access all connected antennas, sensors and actuators via TCP/IP protocol.
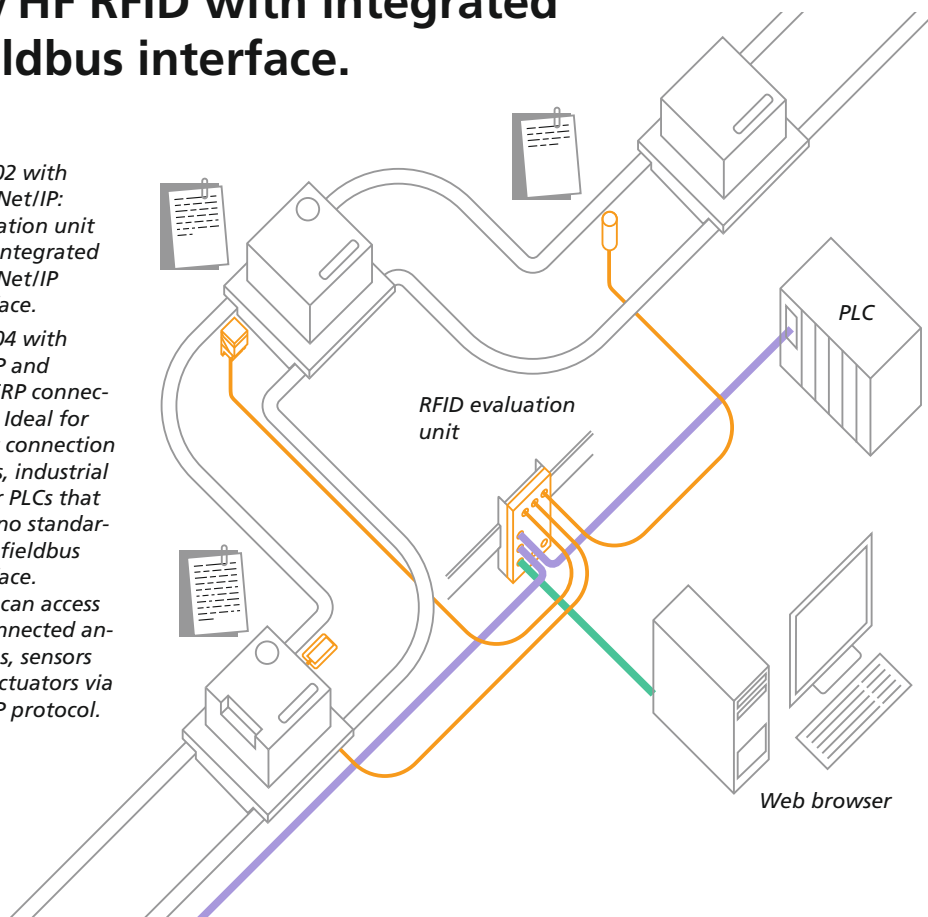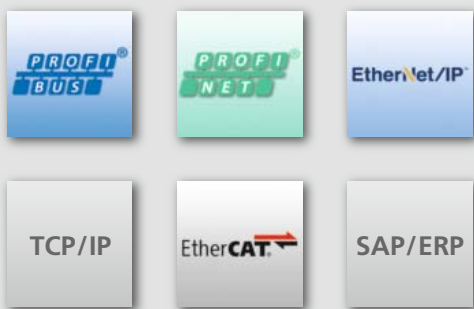
PLC

RFID evaluation unit

Web browser

DTE100 in the application.

The RFID system platform is widely used in production for identifying tools or monitoring production steps.

Data can be saved and read in the transponder as on an electronic route card.

Further applications can be found in quality assurance, in the automotive industry as well as in automation and conveying.

Easy use and flexible parameter setting allow the user to solve each identification task precisely and without any problems.

All connections are for standard M12 connectors. Current is also directly supplied via an M12 connection. The wide range of accessories such as Profibus connection cables and terminating resistors facilitate the system set-up.

PROFIBUS

PROFINET

EtherNet/IP

TCP/IP

EtherCAT

SAP/ERP

Further information at
www.ifm.com/gb/dte100

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RFID system DTE800
Long ranges for production and logistics.

UHF evaluation units.

As components of the UHF system platform, the UHF evaluation units DTE800 and DTE900 are compliant with the UHF bands in Europe and the USA respectively. The setting of corresponding country profiles enables use of the units in many other countries.

Clear:
Status display via LED and integrated web server.

Flexible:
Ultra low, low, mid and wide range antennas for every application.

Easy:
UHF evaluation unit with four external antenna terminals.

Integrated:
Ethernet TCP/IP and Ethernet IP interface for parameter setting and data transmission.

Robust:
The protection ratings IP 65 / IP 67 meet all requirements for harsh industrial environments.

The stationary units in the UHF range allow long read / write ranges with passive tags.

Connection of 4 antennas.

Only for ifm: UHF evaluation unit with different types of antenna, also for mixed operation. With Ethernet interface and digital inputs and outputs.

Up to 10 m:
Wide range antenna for the simultaneous detection of large quantities, e.g. boxes on pallets when gates are passed.

# Systematic UHF RFID transparency.

Ultra low and low range antennas.

These antennas are designed to opeate in the near field. In order to achieve a high selectivity, the smallest possible designs are used enabling short reading ranges.

Mid range antennas.

Due to its smaller dimensions the mid range antenna is chosen for applications in the near / far field with reading ranges of up to 2 m.

Wide range antennas.

With an angle of aperture of 30° these antennas have been developed for applications in the far field where reading ranges of up to 10 m are required.

RFID evaluation unit

PLC
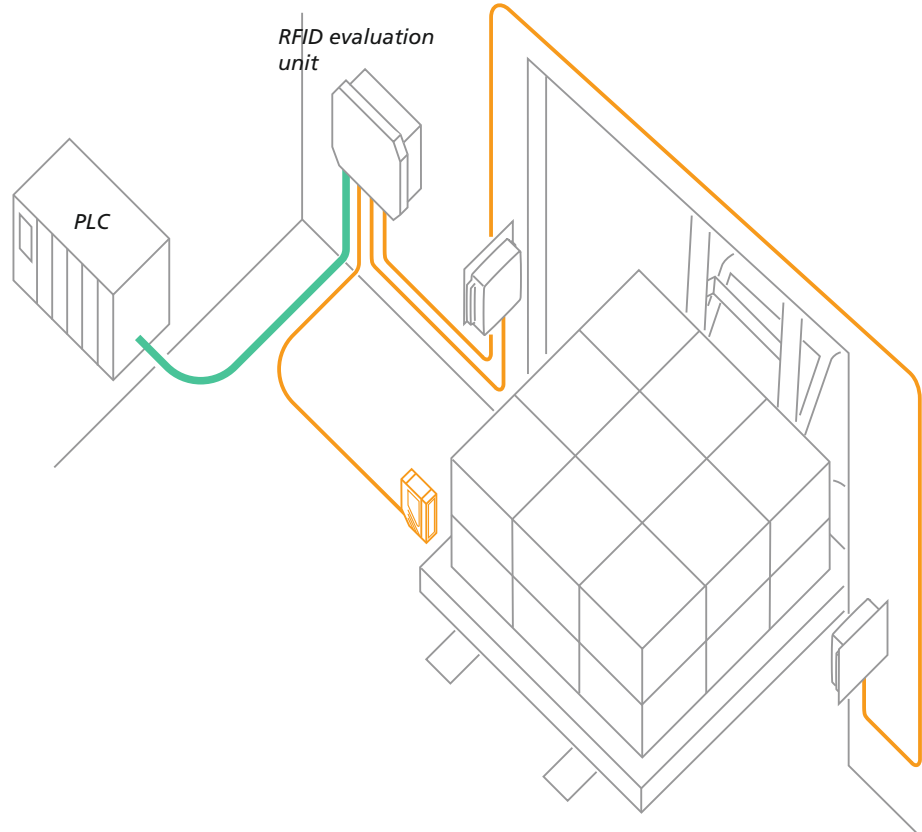
Up to 20 cm:
(Ultra) low range antenna for the selective detection of individual products in the close range.

DTE800 in the application.

The UHF system platform from ifm electronic is used in production, intralogistics and conveying due to the application-specific antennas.

Goods such as packaging or pallets can be detected without contact.

The UHF RFID is optimised for applications in production and material flow control, the asset and supply chain management as well as track & trace.
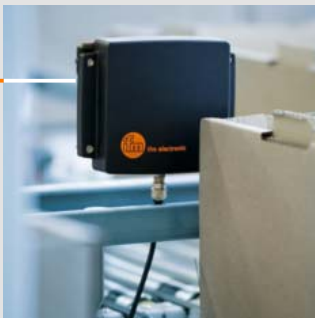
Up to 2 m:
Mid range antenna for the reliable identification of larger units, e.g. on a conveyor belt.

Further information at
www.ifm.com/gb/dte800

RFID system DTM
Robust and for mobile use.

*RFID compact
unit suitable for
mobile use.*

*The robust RFID
compact unit with
CANopen inter-
face has been
developed for
identification tasks
in agricultural
machines, muni-
cipal vehicles and
construction
machines.*

*It can be used to
automatically
detect different
attachments and
configure the
corresponding
settings in the
controller.*

Integrated:
Antenna, evaluation and
CANopen interface in a compact
M18 or M30 housing.

Insensitive:
Extended temperature range of
-40...85 °C.

Approved:
E1 type approval.

Robust:
Optimised for outdoor use with
IP 67 and IP 69K, shock resistant
to EN60068-2-27, vibration
resistant to EN60068-2-64.

Compatibility:
CANopen protocol, optimised
for use with ifm ecomatmobile
controllers.

Completeness check:
**The presence of different tools on the
corresponding fixtures is detected.**

RFID compact unit with integrated CANopen interface.

This automatic identification simplifies the creation of user-specific system set-ups.

Information on maintenance intervals and operating times can automatically be generated and stored since the controller automatically detects when and how long a specific machine set-up runs. Downtime is kept to a minimum, productivity is increased.
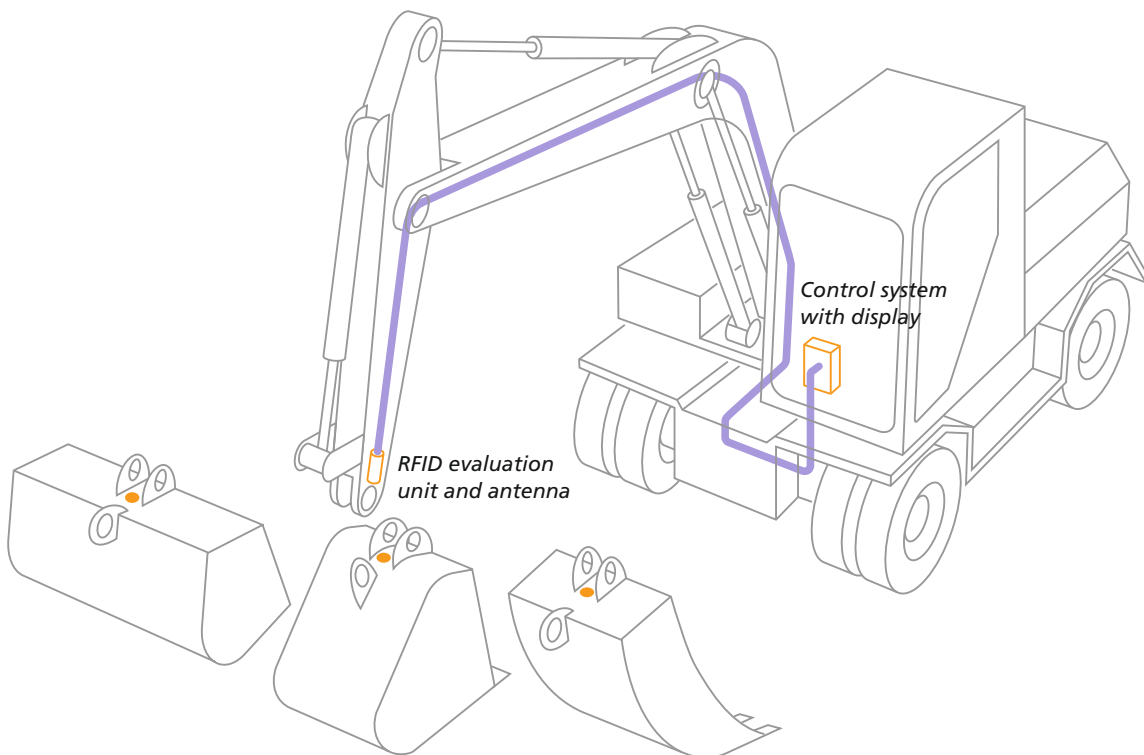
Control system with display

RFID evaluation unit and antenna

Identification of fittings and tools.
This allows the detection and evaluation of operating times and maintenance intervals.

DTM in the application.

ifm as an automation specialist has know-how of many years in the area of mobile machines, where control systems

and sensors from ifm have been established in the market.
The competences and experience of these both different areas have now been combined in the RFID solution for mobile machines.

Different fittings are detected.
The application parameters in the controller and in the operating devices are automatically adjusted.

Further information at
www.ifm.com/gb/dtm

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Identification systems from ifm electronic.
The choice is yours.

Multicode reader type O2I

Operating distance [mm]	50	100	200	50	100	200	200	1000	2000
Field of view size [mm]	20 x 14	36 x 26	68 x 50	46 x 32	77 x 56	140 x 100	40 x 30	200 x 150	400 x 300
Order no. red light		O2I300			O2I302			O2I304	
Order no. red light		O2I350			O2I352			O2I354	
Order no. infrared		O2I301			O2I303			O2I305	
Order no. infrared		O2I351			O2I353			O2I355	

LF RFID system DTS125 · 125 KHz

Read / write systems / antennas	Order no.	Transponders	Order no.
RFID read / write system, AS-Interface, range max. 10 mm	DTA100	ID tag / M18 x 1 / 01	E80311
RFID read system, AS-Interface, range max. 20 mm	DTA101	ID tag / Ø 12 x 2 / 01	E80312
RFID read / write system, AS-Interface, range max. 65 mm	DTA200	ID tag / Ø 20 x 2.15 / 01	E80317
RFID read system, AS-Interface, range max. 65 mm	DTA201	ID tag / Ø 30 x 2.15 / 01	E80318
RFID read / write system, AS-Interface, range max. 100 mm	DTA300	ID tag / Ø 50 x 2.2 / 01	E80319
RFID read system, AS-Interface, range max. 110 mm	DTA301	ID tag / ISO CARD / 01	E80320

LF/HF RFID system DTE100 · 125 KHz · 13.56 MHz

Evaluation units / antennas	Order no.	Transponders	Order no.
RFID evaluation unit, Profibus DP	DTE100	ID tag / Ø 30 x 2.5 / 05 – 125 KHz 256 bit	E80360
RFID evaluation unit, Profinet DP	DTE101	ID tag / Ø 30 x 2.5 / 05 – 125 KHz 2048 bit	E80361
RFID evaluation unit, EtherNet/IP	DTE102	ID tag / Ø 30 x 2.8 / 03 – 13.56 MHz 16 Kbit – FRAM	E80370
RFID evaluation unit, EtherCAT	DTE103	ID tag / Ø 30 x 2.5 / 06 – 13.56 MHz 896 bit	E80371
RFID evaluation unit, Ethernet TCP/IP	DTE104	ID tag / Ø 20 x 2.5 / 06 – 13.56 MHz 896 bit	E80377
RFID antenna 13.56 MHz, M12, flush installation	ANT410	ID tag / label 80 x 50 / 03 – 13.56 MHz 896 bit	E80379
RFID antenna 13.56 MHz, M12, non-flush installation	ANT411	ID tag / Ø 30 x 2.8 / 03 – 13.56 MHz 64 Kbit	E80380
RFID antenna 13.56 MHz, M18, flush installation	ANT420	ID tag / Ø 4,35 x 3.6 / 03 – 13.56 MHz 896 bit	E80381
RFID antenna 13.56 MHz, M18, non-flush installation	ANT421	ID tag / label 65 x 30 / 03 – 13.56 MHz 896 bit	E80382
RFID antenna 13.56 MHz, M30, flush installation	ANT430	ID tag / Ø 50 x 3.0 / 0 – 13.56 MHz 16 Kbit – FRAM	E80383
RFID antenna 13.56 MHz, M30, non-flush installation	ANT431		
RFID antenna 125 KHz, 66 x 40 x 40 mm	ANT512		
RFID antenna 13.56 MHz, 66 x 40 x 40 mm	ANT513		
RFID antenna 13.56 MHz, 48 x 20 x 7 mm, cable 1 m	ANT515		
RFID antenna 13.56 MHz, 48 x 20 x 7 mm, cable 2 m	ANT516		

All types at a glance.

UHF RFID system DTE800 · 868 MHz (EU) · 913 MHz (USA)

Evaluation units	Order no.
RFID UHF evaluation unit, Ethernet TCP/IP EU/ETSI	**DTE800**
RFID UHF evaluation unit, Ethernet TCP/IP US/FCC	**DTE900**
RFID UHF evaluation unit, EtherNet/IP EU/ETSI	**DTE810**
RFID UHF evaluation unit, EtherNet/IP US/FCC	**DTE910**
RFID UHF sensor, Ethernet TCP/IP	**DTE820**

Antennas	Order no.
RFID UHF ultra low range antenna, EU/ETSI/US/FCC	**ANT805**
RFID UHF low range antenna, EU/ETSI	**ANT810**
RFID UHF low range antenna, US/FCC	**ANT910**
RFID UHF mid range antenna, EU/ETSI/US/FCC	**ANT815**
RFID UHF mid range antenna, US/FCC	**ANT920**
RFID UHF mid range antenna, 100°/100° EU/ETSI	**ANT820**
RFID UHF wide range antenna, 70°/70° EU/ETSI	**ANT830**
RFID UHF wide range antenna, 70°/70° US/FCC	**ANT930**

Transponders	Order no.
RFID-UHF ID tag / Ø 50 x 3.3 / 04	**E80350**
RFID-UHF on metal ID tag / Ø 55 x 13 / 04	**E80351**
ID tag / Ø 30 x 10 / 04	**E80353**
ID tag / Ø 40 x 10 / 04	**E80354**

More designs at www.ifm.com

RFID system DTM · 13.56 MHz

Evaluation units	Order no.
RFID evaluation unit / antenna 13.56 MHz, M18, CANopen interface, flush installation	**DTM424**
RFID evaluation unit / antenna 13.56 MHz, M18, CANopen interface, non-flush installation	**DTM425**
RFID evaluation unit / antenna 13.56 MHz, M30, CANopen interface, flush installation	**DTM434**
RFID evaluation unit / antenna 13.56 MHz, M30, CANopen interface, non-flush installation	**DTM435**

Transponders	Order no.
ID tag / Ø 30 x 2.8 / 03 – 13.56 MHz 16 Kbit – FRAM	**E80370**
ID tag / Ø 30 x 2.5 / 06 – 13.56 MHz 896 bit	**E80371**
ID tag / Ø 20 x 2.5 / 06 – 13.56 MHz 896 bit	**E80377**
ID tag / Ø 30 x 2.8 / 03 – 13.56 MHz 64 Kbit	**E80380**
ID tag / Ø 4.35 x 3.6 / 03 – 13.56 MHz 896 bit, 10 pcs.	**E80381**
ID tag / label 65 x 30 / 03 – 13.56 MHz 896 bit, 500 pcs.	**E80382**
ID tag / label 80 x 50 / 03 – 13.56 MHz 896 bit, 500 pcs.	**E80379**

Control system with display	Order no.
BasicDisplay XL 4.3", CAN interface	**CR0452**

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at a glance at **www.ifm.com**

ifm – close to you!

Overview
ifm product range:

Position sensors

**Sensors for
motion control**

Industrial imaging

Safety technology

Process sensors
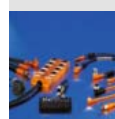
**Industrial
communication**

Identification systems

**Condition monitoring
systems**

**Systems for
mobile machines**

**Connection
technology**

Accessories