

ifm efector



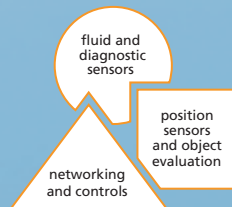
## Compact Multi-Code Reader

Reliable Identification of  
Data Matrix and 1D Codes



List Price  
\$875.00

Identification Systems



**ifm efector** – *close to you!*



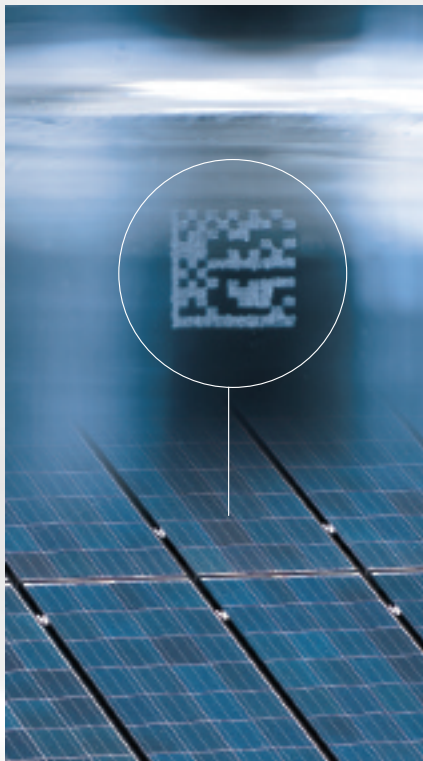
**ifm Multi-Code Reader for industrial applications**

## Challenging applications – *no problem!* Reads any marking method on a variety of materials

### Application challenges in reading DMC codes

Data matrix codes are critical for tracking parts and insuring reliable quality in the manufacturing process. However, some limitations exist for applying DMC technology which include the complexity of the vision system, its ability to withstand industrial environments, and the cost of the camera.

ifm has designed a high-performance, easy-to-use Multi-Code Reader in a compact metal housing for rugged industrial automation applications – priced 50% lower than current technologies.



**Laser-etched code on glass and solar panels**



**Dot-peened on highly reflective metal parts**



**Printed code on plastic parts**

### A better alternative from ifm

The ifm Multi-Code Reader is designed to read 2D Data Matrix Codes and 1D bar codes in high-speed industrial automation applications. The versatile Multi-Code Reader can identify, verify and qualify most marking methods including dot-peened, laser-etched and printed DMC codes as well as printed barcodes.

With more features than current technologies at a price 50% less, ifm's Multi-Code Reader is a new benchmark for price / performance.

Features	ifm
Robust housing	✓
Reads both 2D and 1D codes	✓
CMOS image sensor	✓
Reads all marking methods	✓
Orientation independent	✓
Configurable quadrant lighting	✓
7 meters/second line speed	✓
Easy Setup Wizard	✓
Switching output for I/O	✓
Ethernet TCP/IP	✓
Ethernet/IP	✓
Price – 50% lower than current technologies	<b>\$875</b>



## Minutes vs. hours Setup Wizard makes it easy

Application parameters are quickly established using the camera's Setup Wizard and a PC. The Setup Wizard guides the user in a few steps to configure the application.

### Step 1: Establish image quality

Adjust focus with integrated potentiometer and auto exposure.

### Step 2: Define code

Auto recognition detects code. Fine tune code type / field size.

### Step 3: Set process interface

Define data string and set options for code verification.

### Step 4: Configure trigger

Define a suitable trigger from a number of options.

### Step 5: Perform function test

A final read test to confirm functionality.

**That's it! Ready for application.**



### Compatible 2 D Codes:

ECC200, PDF-417, QR

### Compatible 1 D Codes:

UPC-A	Interleaved 2-of-5
UPC-A Add-On 2	Industrial 2-of-5
UPC-A Add-On 5	Code 39
UPC-E	Code 128
UPC-E Add-On 2	Pharmacode
UPC-E Add-On 5	Code 93
RSS-14	Codabar
RSS-14 Truncated	EAN13
RSS-14 Stacked	EAN13-Add-On 2
RSS-14 Stacked Omnidirectional	EAN13-Add-On 5
RSS Limited	EAN8
RSS Expanded	EAN8-Add-On 2
RSS Expanded Stacked	EAN8-Add-On 5



**Integrated lighting system can eliminate external lighting and reduce total install costs.**

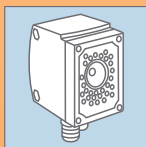
### Integrated lighting system



**The Multi-Code Reader features a maximum speed of 7 meters/second. The unit reads three types of 2D codes: ECC200, PDF-417 and QR as well as 26 styles of printed barcodes.**

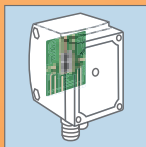
### Fast code reading and data transfer

# Reliable functionality with a new benchmark for performance and value



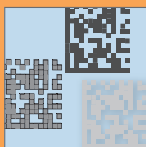
## Robust Housing

Robust design and compact metal housing provide long life and reliability in industrial environments.



## High-Performance

CMOS image sensor and Digital Signal Processor with no moving parts for durability.



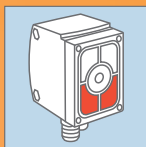
## Reliable Reader

Reliably reads dot-peened, laser-etched and printed Data Matrix Codes as well as printed bar codes.



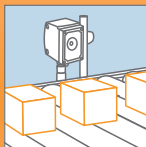
## Orientation Independent

Innovative "Smart Algorithm" in camera reads codes in any orientation and at angles up to 45°.



## Integrated Lighting

Configurable four-quadrant lighting improves readability, reduces glare and the need for external lighting.



## High Speed

Reader can be applied in conveyor and dynamic applications with moving targets.



## Setup Wizard

## Easy Setup

Easy application Setup Wizard guides you step-by-step with advanced functionality for demanding applications.



## Ethernet

## Flexible Connection

Integrated digital I/O for switching and RS-232, Ethernet TCP/IP and Ethernet/IP for data transfer.

ifm's Multi-Code Reader is designed to reliably read 2D Data Matrix Codes and 1D bar codes

80 mm

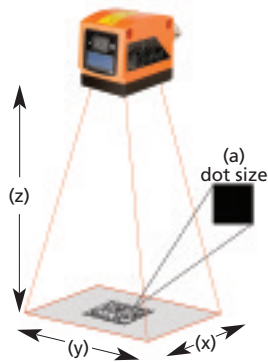


Powerful camera in a compact housing

## New Price / Performance Benchmark

The ifm Multi-Code Reader can reliably read DMC codes and has a list price 50% lower than current technologies in the market.





### Application Variables

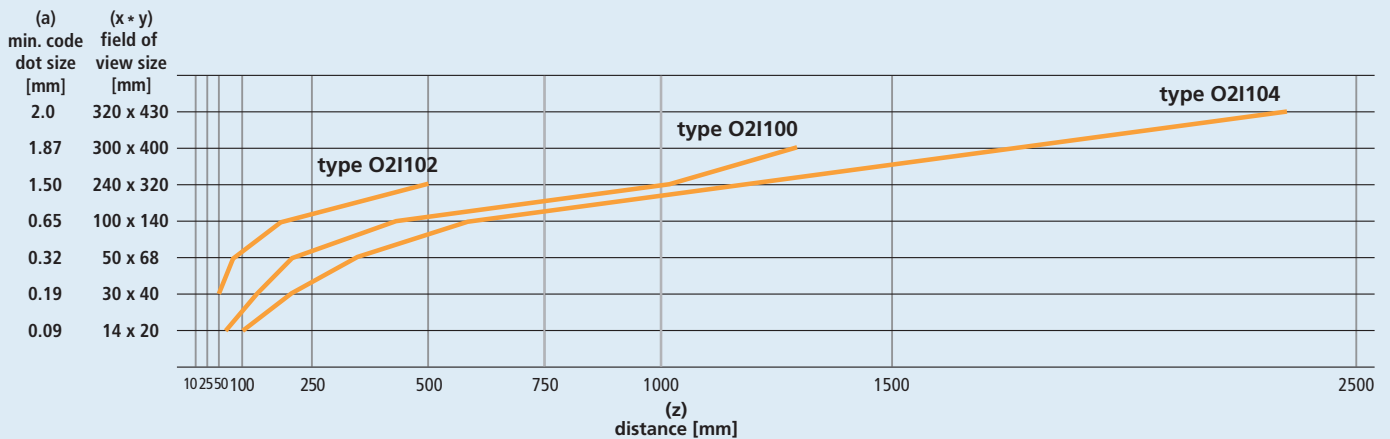
Consider your data code size, field of view and distance before choosing the appropriate camera.

1. Define the minimum code dot size (a).
2. Check whether the field of view size is sufficient ( $x * y$ ).
3. Determine the maximum distance to the object (z).
4. Refer to the chart below to select your camera.

## Find the optimum solution for your application

Description	CMOS image sensor, black and white, VGA resolution 640 x 480		
Part no.	O2I100	O2I102	O2I104
Unit price (USD)	\$875.00	\$875.00	\$875.00
Operating voltage	24 ±10% VDC		
Current consumption	< 300 mA		
Current rating	100 mA (per switching output)		
Short-circuit protection, pulsed	yes		
Reversed polarity, overload protection	yes		
Operating temperature	-10...50 °C		
Protection	IP 67, III		
Materials	Housing: die-cast zinc, Front pane: glass, LED window: polycarbonate		
Trigger	external 24 V PNP, internal, RS232, TCP/IP, E/IP		
Switching outputs	max. 2, 100 mA		
Connection external lighting	24 V DC PNP		
Parameter setting / process data interface	Ethernet 10 Base-T / 100 Base-TX, RS232, EtherNet/IP		
Connection	M12 connector		
Software	Download operating software at <a href="http://www.ifm.com/us">www.ifm.com/us</a> .		
Approvals	CE, cULus		

### Multi-Code Reader Selection Chart



### Cordsets

Type	Description	Part No.	List Price (USD)
	M12 Micro DC Cordset (8-pin) 2 m black, right angle	E11231	\$24.50
	M12 Micro DC Cordset (8-pin) 5 m black, right angle	E11232	\$29.50
	M12 Micro DC Cordset (8-pin) 2 m black, straight	E11950	\$24.50
	M12 Micro DC Cordset (8-pin) 5 m black, straight	E11807	\$29.50
	Ethernet cable, 2 m, M12 D-coded / RJ45, cross-link	E11898	\$41.50
	Ethernet cable, 5 m, M12 D-coded / RJ45, cross-link	E18422	\$50.00
	Ethernet cable, 10 m, M12 D-coded / RJ45, cross-link	E18423	\$64.00

### Accessories

Type	Description	Part No.	List Price (USD)
	Plastic lens for diffusing light	E21165	\$99.00
	Plastic protective lens for food and beverage applications	E21166	\$86.00
	Mounting Set, 100 mm rod	U60042	\$39.00
	Mounting Set, 100 mm rod with rail mount cube	U60043	\$47.00
	Spot Light for optional lighting enhancement. M12 connector, transmitter red light 630 mm	O2D909	\$300.00

# ifm product line catalogs



## Position sensors and object evaluation

- Inductive sensors
- Inductive safety technology
- Magnetic and cylinder sensors
- Capacitive sensors
- Actuator and valve sensors
- Photoelectric sensors
- Object evaluation systems



## Fluid and diagnostic sensors

- Level sensors
- Flow sensors
- Pressure sensors
- Temperature sensors
- Diagnostic systems



## Networking and controls

- Identification systems
- Control systems for mobile vehicles
- Evaluation systems
- Power supplies
- AS-i bus system
- Connection technology

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