Flexible, high performance, convenient and simple – the ICR800 series

Stationary, Image-based Code Readers – intelligent solutions to meet the challenges of code identification.

SICK
Sensor Intelligence.

Image-based Code Readers

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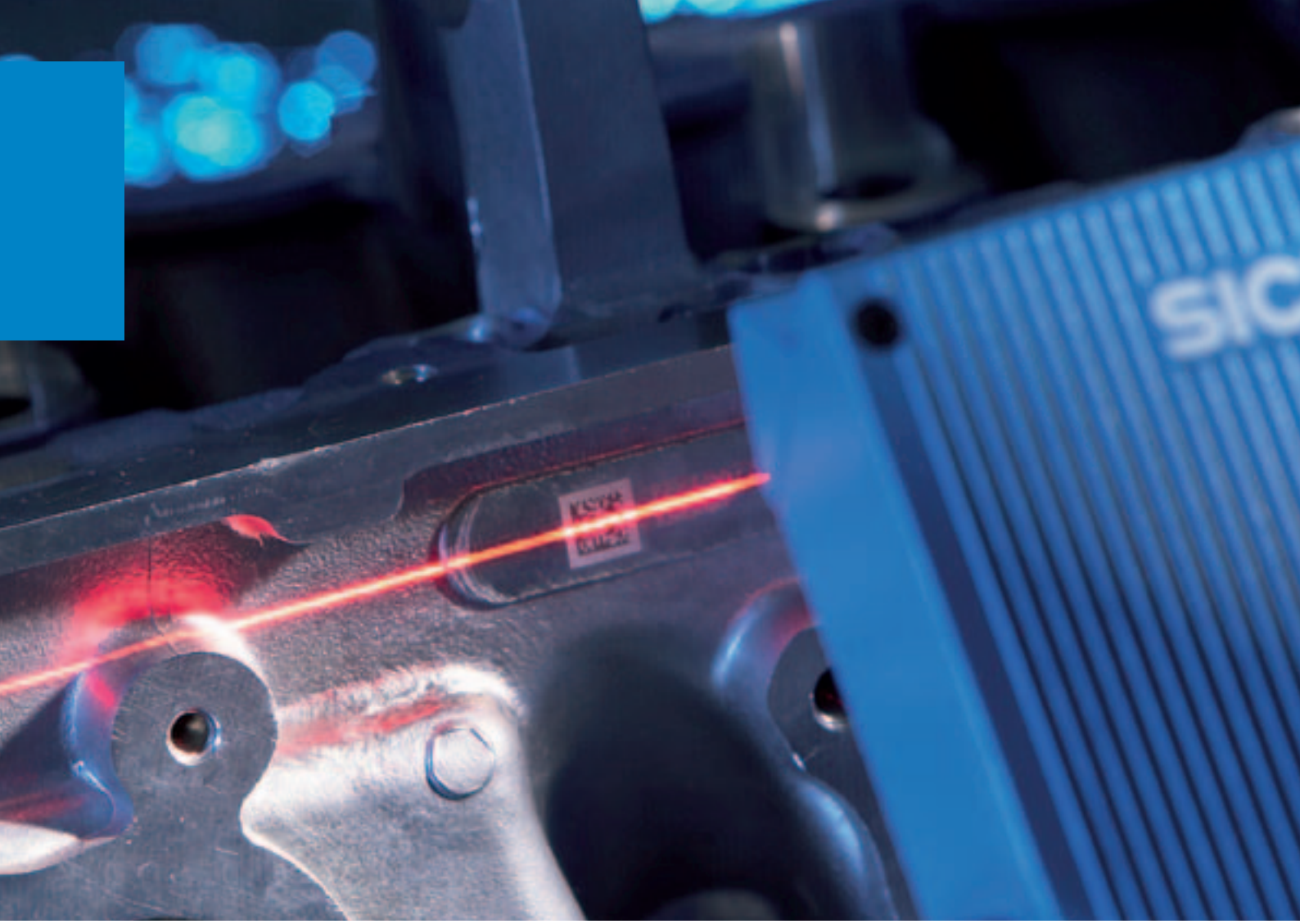
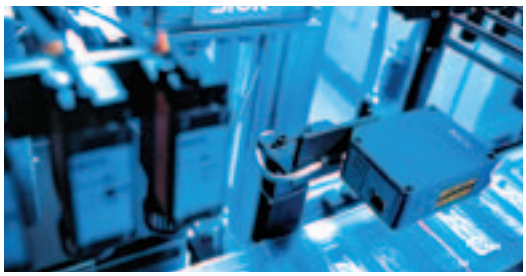


The requirements for code readers are growing. Codes are getting smaller and smaller, while the amount of data to be stored is increasing. Today, 2D codes contain valuable data that makes it possible to trace products or parts and makes brand piracy more difficult.

Even at fast transport speeds, 1D, 2D, DPM codes, as well as partially damaged codes are reliably detected and evaluated.

With a wide range of models to choose from, various interfaces and networking ability, image-based code readers are flexible, high performance, convenient and simple to use.

Typical industries



Packaging, food and beverage, consumer goods, pharmaceuticals and cosmetics

- Identification of preparations for tracing the serial number or product line
- Detection of packing and expiration dates

Automotive

In the automotive industry, image processing systems for component tracing are increasingly becoming key components for quality assurance:

- Traceability throughout the lifecycle
- Individual production control
- Archiving test data

Electronics, solar

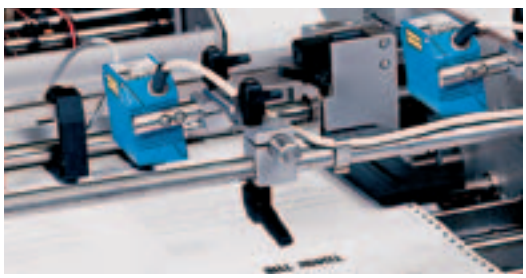
The electronics industry demands reliable code identification in small areas:

- Quality check 2D codes
- Identification of individual components
- Wafer identification

Logistics, storage and conveying technology

Reading 1D and 2D codes on differently sized objects even at long reading distances and while in motion are necessary for sorting objects in logistics, storage and conveying technology:

- Sorting objects by code
- Pallet, container and packaging identification



Printing & document handling

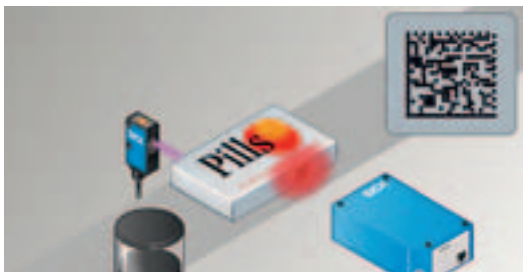
High-performance code readers make it possible to identify many objects at high conveyor speeds:

- Checking documents at sorting machines
- Checking for the correct number of documents at enveloping machines

Typical applications

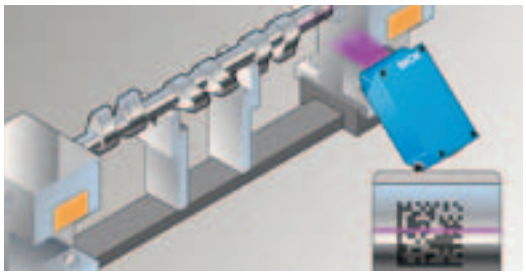
Read 2D codes on pharmaceutical product boxes

- Identify information stored in the code, such as:
  - Central pharmaceutical number, serial number
  - Packing and expiration dates
- Compliance with exacting security requirements
- Enable traceability back to the individual product box



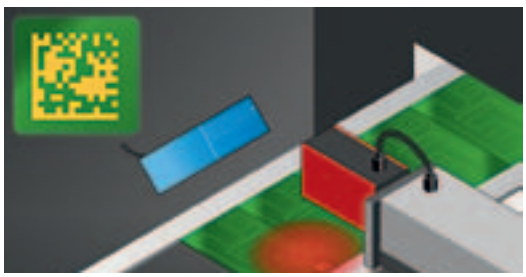
Identify 2D codes on camshafts

- Archive read results and test data
- Traceability throughout the lifecycle of the shaft
- Reliably identify DPM codes on curved objects even while in motion



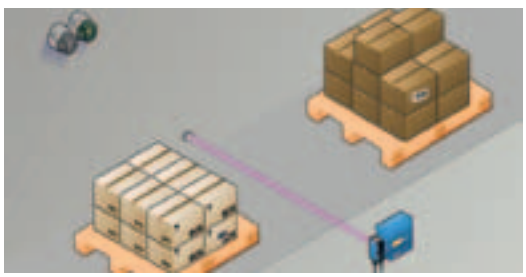
Read 2D codes on printed circuit boards

- Enable traceability of printed circuit boards and components
- Detect every single printed circuit board
- Register the ID number on the production line
- Quality check of the directly marked code



Pallet identification

- Sort an entire pallet using bar codes
- Check the accuracy of sorting a single type of item on the pallet
- Check the quality of the pallet prior to shipping



Read 2D codes on letters and mass mail

- Proof of sending without any commissions
- Automatical detection of an extremely wide variety of documents
- Read codes at rapid cycle rates and speeds

A variety of products*) ...

*) See page 10 for product selection guide.

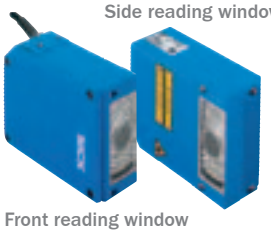
Matrix Camera

Matrix cameras from SICK read codes that are stationary and/or in motion.

ICR803

Easy, small and light
The ICR803 is ideal when size is important. With its small dimensions (49 x 40 x 25 mm) and light weight of 37 g, it offers high-performance stationary decoding within the most compact possible space.

Side reading window



Front reading window

ICR840-2

High resolution, powerful decoding
Four optical variants with a large camera chip allow this stationary decoder to read even the smallest codes (5 mil cell size). The decoding algorithms are specifically configured for reading printed and directly marked codes.

ICR845-2

Maximum performance when stationary and in motion
Decodes 60 images per second and can read rapid object sequences and at fast conveying speeds.

Image similar

ICR845-2L FlexLens

Clearly the best solution
The ICR845-2L offers exceptional reading and decoding performance with an adjustable C-mount lens and integrated lighting for reading stationary and fast-moving codes at long ranges.

Line Scan Camera

The line scan cameras from SICK identify codes in motion and at high travel speeds.

Side reading window

Front reading window

ICR850-2

Wide reading field with high resolution
Thanks to the line camera principle, it is possible to decode long objects and identify the codes on them reliably.

ICR852-2

Reliably reading the smallest cell sizes in motion
A resolution of 0.1 mm (4 mil) cell size is identified reliably during the reading gate – this opens new opportunities for minimizing codes and object size.

ICR855-2

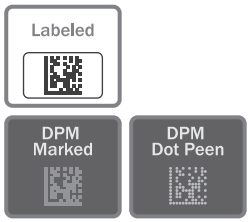
High-speed reader
Even if the fastest packaging machine is setting the pace, it can keep up: reliable code reading at transport speeds up to 15 m/s.

... for versatile use.

Image-based code readers from SICK meet various requirements in terms of code types, marking processes, interfaces and networking ability.

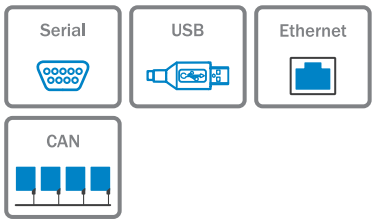
Code types

Image-based code readers read **1D codes, stacked codes** and **2D codes**. Among 2D codes, the **Data Matrix Code** is the most used. It makes it possible to encode a large number of different characters and fonts, and it is very reliable due to its **error correction algorithm**. Identifying and detecting **OCR fonts** (optical character recognition) makes it possible for objects to be labeled so they are readable by people **and** machines. This offers the user additional flexibility in the application.



Marking process

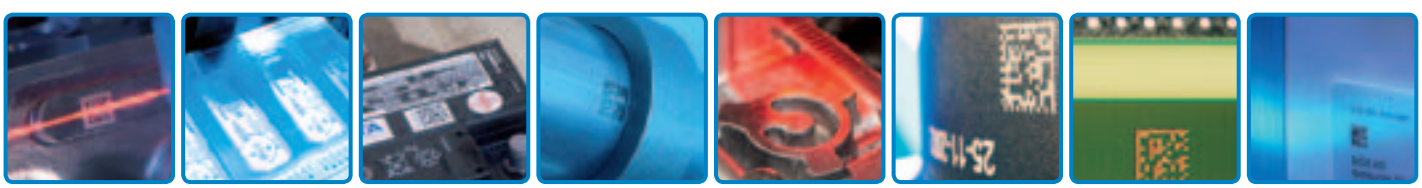
The method of printing a code on a carrier material and adhering it to products (**labeling**) is one that is simple and commonly used. However, labels can come off and get lost, or undergo significant damage. This cannot happen with **"Direct Part Marking" (DPM)**. A wide range of marking methods can be used for applying the codes directly onto the industrial items, which means the markings are **"indelible"** and **secure**. In direct marking, it is necessary to distinguish between **inkjet printing**, **laser marking**, **electrochemical etching** and **dot peening**. Even complex challenges, such as curves, low contrast, reflections and distortions can be solved with SICK's code readers.



Interfaces, networking capability (also see page 24)

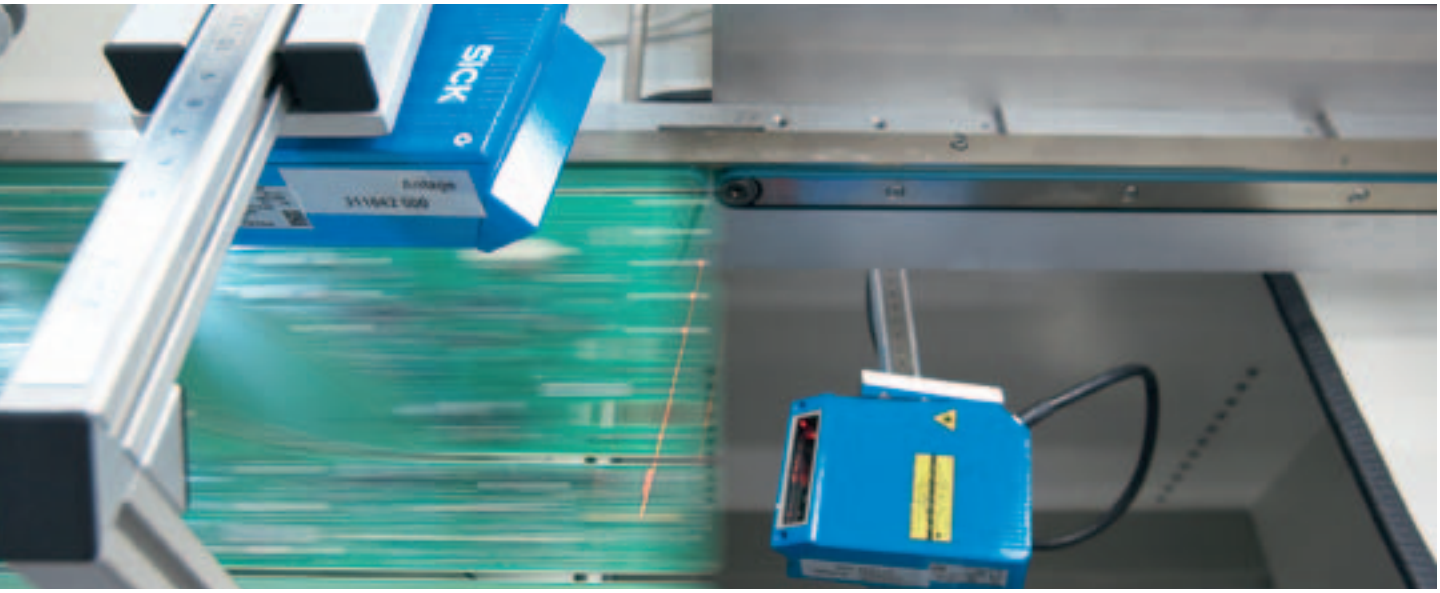
Image-based code readers also offer many options when it comes to selecting possible **interfaces: Serial, USB, Ethernet, PROFIBUS, DeviceNet**.

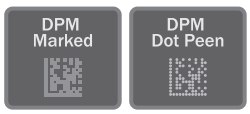
The integrated **CAN bus** supports CANopen® and the SICK CAN sensor network for straightforward networking. This means several devices can be connected together into one reader system in order to cover a wider reading range. There is no need for an additional multiplexer, and a reader handles communication with the host.



Powerful, ...

Reliable reads in every direction. These code readers do not lose their orientation even at high speeds or with inverted codes.





Decoding performance/marking process

DPM codes are achieving ever greater market penetration. They shrug off environmental influences and overcome even the harshest production or operating processes. At the same time, this kind of marking prevents product piracy. Image-based code readers **decode** DPM codes **particularly reliably**, right down to the smallest dot-peened cell sizes.

Speed

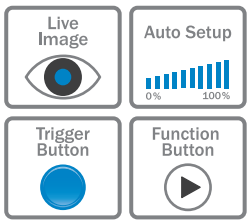
As you would expect, the application dictates whether the codes are read when **stationary** or **in motion**. SICK offers one solution that fits all – including **high-speed applications**.

Code orientation

Image-based code readers take a picture of the object and scan it using image processing algorithms, looking for 1D codes, stacked codes or 2D codes, in order to decode them. The codes can be identified with a single device in orientations up to 360°, i.e., **omnidirectionally**.

... convenient and simple.

And, in addition to their outstanding functions, they are above all easy to use.

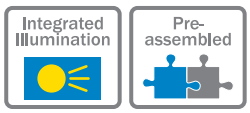


Simple operation

The product's integrated software allows you to see a **live image** on your PC showing the current camera view, allowing you to adjust your device optimally. The **auto-setup function** means the device creates its parameter settings independently and automatically. As a result, the code readers can be easily and quickly put into operation. The **trigger button** or **function button** is used for straightforward navigation directly on the device itself, with no need to use a PC.

Convenient analysis

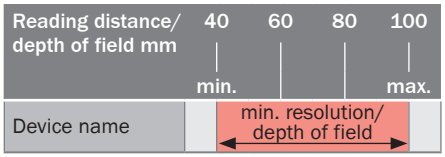
The image-based code readers are able to **record images** and **image sequences** from the object and transmit them.



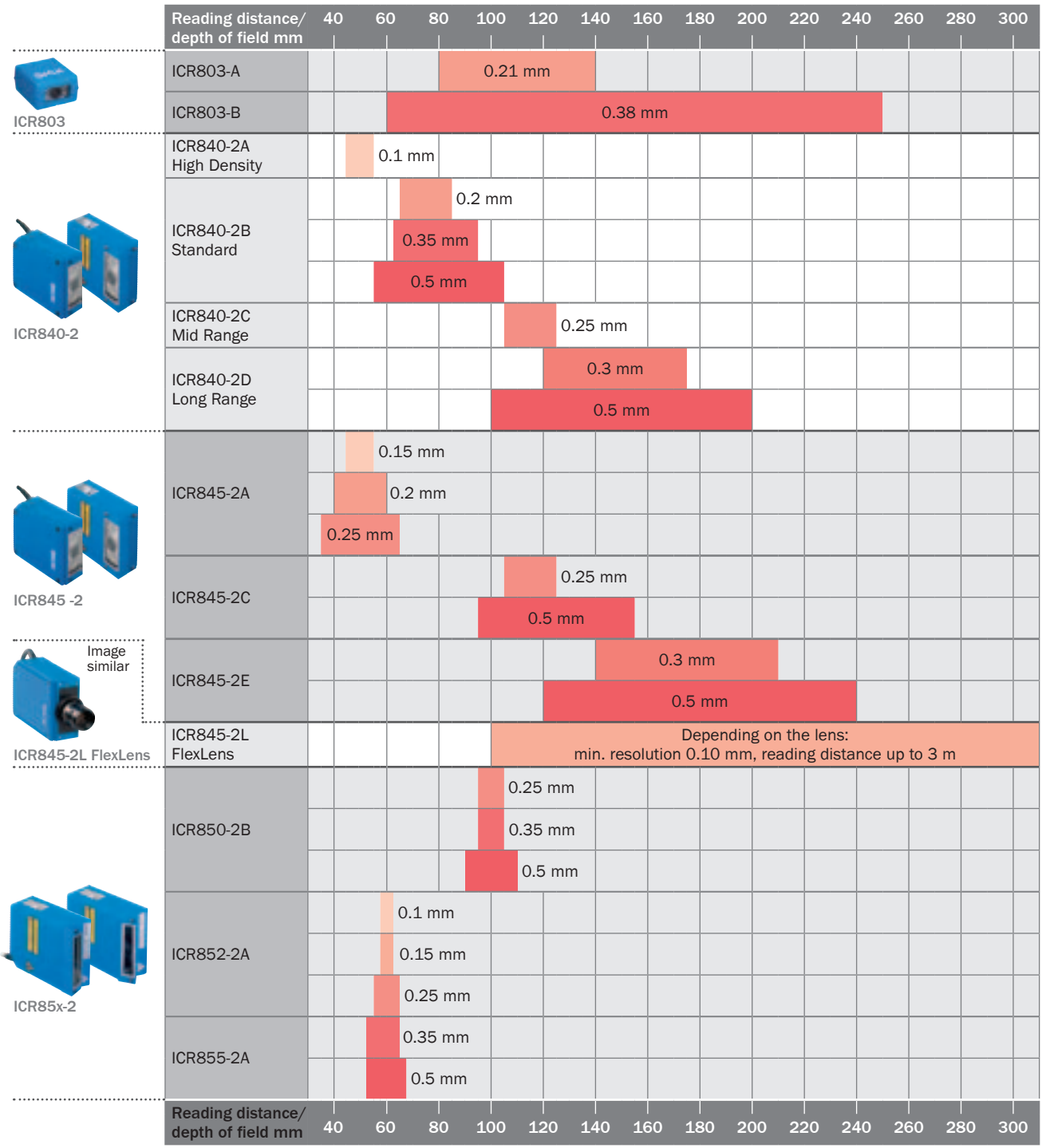
Inexpensive integration

Most devices have **integrated illumination**, while the FlexLens variants are available **fully pre-assembled in the kit**: straightforward ordering and startup saves you time and costs (also see page 27).

Legend



Overview of reading distance, min. resolution and depth of field for Data Matrix Codes



2009-11
Subject to change without notice

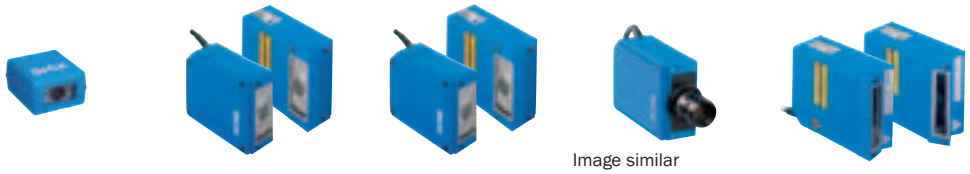
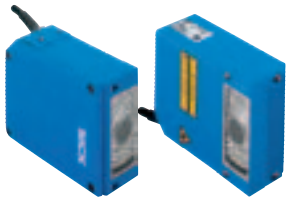


Image similar

Device feature	ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR850-2
Reading when stationary/ in movement	Reading Stationary	Reading Stationary	Reading Stationary; Reading In Motion [2]	Reading Stationary; Reading In Motion [2]	Reading In Motion [2]
Marking method	Labeled; DPM Light [1]	Labeled; DPM Marked; DPM Dot Peen	Labeled; DPM Marked; DPM Dot Peen	Labeled; DPM Marked; DPM Dot Peen	Labeled; DPM Marked
Code types	1D; 2D; Stacked; OCR (Best before 2009-04-30)	1D; 2D; Stacked	1D; 2D; Stacked	1D; 2D; Stacked	1D; 2D; Stacked
Code orientation	Omni-directional 360°	Omni-directional 360°	Omni-directional 360°	Omni-directional 360°	Omni-directional 360°
Trigger button, Function button, Auto setup	Trigger Button	Function Button; Auto Setup	Function Button; Auto Setup	Function Button; Auto Setup	Trigger Button
Live image, image output	Image Processing	Live Image; Image Processing	Live Image; Image Processing	Live Image; Image Processing	Image Processing
Integrated lighting/ pre-assembled kits (incl. lighting)	Integrated Illumination	Integrated Illumination	Integrated Illumination	Pre-assembled	Integrated Illumination
Data interfaces	Serial; USB	Serial; Ethernet	Serial; Ethernet	Serial; Ethernet	Serial; Ethernet
Bus	–	CAN	CAN	CAN	CAN
Technical data	● From page 12				
Dimensional drawings and reading field diagrams	● From page 17	● From page 18	● From page 19	● From page 20	● From page 21
Order information	● From page 26				
Accessories	● From page 28				
Lighting systems, lenses	● From page 28				

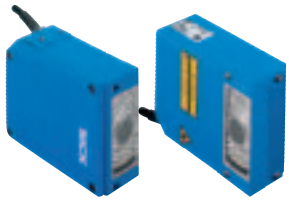
[1] Only DPM codes with good marking quality and adequate contrast can be read.
[2] Max. transport speed, see technical data on page 12 onwards.

Technical data



	ICR803-x	ICR840-2x	
Features			
Reading window	Front	Front	Side
Focus	Fixed focus	Fixed focus	
Light source	LED lighting, visible red light (630 nm) LED aiming line, visible green light (530 nm)	LED lighting, visible red light (λ = 617 nm ± 15 nm)	
MTTF[1] of the laser diode/LEDs	75,000 hours	75,000 hours	
Laser class of the device[2]	Class 1 acc. to EN 60825-1	Class 1 acc. to EN 60825-1/IEC 60825-1	
Sensor	Matrix sensor (752 x 480 pixel, WVGA resolution)	CMOS matrix sensor, 1.3 megapixel (1,280 x 1,024 pixel, SXGA resolution)	
Scanning/decoding frequency	54 Hz	25 Hz at 1.3 megapixel	
Min. resolution	ICR803-A: 1D 0.19 mm / 2D 0.21 mm ICR803-B: 1D 0.21 mm / 2D 0.38 mm	ICR840-2A: 0.10 mm ICR840-2B: 0.15 mm ICR840-2C: 0.25 mm ICR840-2D: 0.30 mm	
Focus position	ICR803-A: 115 mm ICR803-B: 180 mm	ICR840-2A: 50 mm ICR840-2B: 80 mm ICR840-2C: 115 mm ICR840-2D: 145 mm	
Reading distance			
Min.	ICR803-A: 50 mm ICR803-B: 50 mm	ICR840-2A: 47 mm ICR840-2B: 58 mm ICR840-2C: 105 mm ICR840-2D: 100 mm	
Max.	ICR803-A: 230 mm ICR803-B: 330 mm	ICR840-2A: 53 mm ICR840-2B: 106 mm ICR840-2C: 125 mm ICR840-2D: 200 mm	
At code resolution	ICR803-A: 0.33 mm (UPC) ICR803-B: 0.33 mm (UPC)	ICR840-2A: 0.1 mm (Data Matrix) ICR840-2B: 0.5 mm (Data Matrix) ICR840-2C: 0.25 mm (Data Matrix) ICR840-2D: 0.5 mm (Data Matrix)	
Reading field in focus	ICR803-A: 53 mm x 84 mm ICR803-B: 83 mm x 130 mm	ICR840-2A: 19 mm x 23.75 mm ICR840-2B: 32 mm x 40 mm ICR840-2C: 46.5 mm x 58.5 mm ICR840-2D: 58 mm x 72.5 mm	
Performance			
No. of codes per scan	5, basic setting 1, parameter adjustment necessary	1 to 50 (max. 4000 characters per reading gate)	
No. of codes per reading interval	Depending on trigger mode	1 to 50 (max. 4000 characters per reading gate)	
Code types	See overview on page 16		
No. of characters per reading interval	Only limited by optical properties (resolution, reading field size)	1D: max. 50 characters per code 2D: acc. to ISO/IEC 16022 max. 4000 characters per reading gate	
Readable marking method	See overview on page 16		
Max. transport speed	Standstill reading, 0 m/s	Reading at standstill and with slow movement up to 0.2 m/s[3]	
Parameter setting	Configuration code manual, software	Software with live image, automatically using auto-setup, function button without PC	
Image capture (format)	BMP, JPEG, TIFF	BMP	

[1] MTTF = Mean Time To Failure; [2] Publication date see warning label on the device; [3] Speed changes can be tolerated



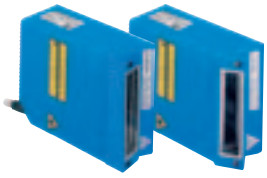


Image similar

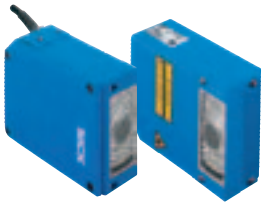
ICR845-2x		ICR845-2L FlexLens	ICR85x-2	
Front	Side	Front	Front	Side
Fixed focus		Variable, C-mount lenses	Fixed focus	
LED lighting, visible red light (λ = 617 nm ± 15 nm)		–	Laser diode, visible red light (λ = 650 nm)	
75,000 h		–	20,000 h	
Class 1 acc. to EN 60825-1/IEC 60825-1		–	Class 2 acc. to EN 60825-1/IEC 60825-1	
CMOS matrix sensor (752 x 480 pixel, WVGA resolution)			CCD line camera (2,048 pixel) (ICR855-2A: 512 pixel)	
60 Hz, for WVGA resolution			24 Hz to 15 kHz (ICR855-2A: 113 Hz to 45 kHz)	
ICR845-2A: 0.15 mm ICR845-2C: 0.25 mm ICR845-2E: 0.30 mm		0.10 mm	ICR852-2A: 0.10 mm ICR850-2B: 0.20 mm ICR855-2A: 0.35 mm	
ICR845-2A: 50 mm ICR845-2C: 115 mm ICR845-2E: 175 mm		Variable (C-mount lens)	ICR852-2A: 70 mm ICR850-2B: 110 mm ICR855-2A: 70 mm	ICR852-2A: 60 mm ICR850-2B: 100 mm ICR855-2A: 60 mm
ICR845-2A: 38 mm ICR845-2C: 95 mm ICR845-2E: 120 mm		0.1 m, depending on lens	ICR852-2A: 67.5 mm ICR850-2B: 99 mm ICR855-2A: 63 mm	ICR852-2A: 57.5 mm ICR850-2B: 89 mm ICR855-2A: 53 mm
ICR845-2A: 62 mm ICR845-2C: 155 mm ICR845-2E: 240 mm		3 m, depending on lens	ICR852-2A: 73.5 mm ICR850-2B: 121 mm ICR855-2A: 77 mm	ICR852-2A: 63.5 mm ICR850-2B: 111 mm ICR855-2A: 67 mm
ICR845-2A: 0.15 mm (Data Matrix) ICR845-2C: 0.50 mm (Data Matrix) ICR845-2E: 0.50 mm (Data Matrix)		Variable (C-mount lens)	ICR852-2A: 0.25 mm (Data Matrix) ICR850-2B: 0.50 mm (Data Matrix) ICR855-2A: 0.50 mm (Data Matrix)	
ICR845-2A: 18 mm x 28 mm ICR845-2C: 28 mm x 44 mm ICR845-2E: 42 mm x 66 mm		Variable (C-mount lens)	ICR852-2A: 40 mm ICR850-2B: 80 mm ICR855-2A: 40 mm	
1 to 50 (max. 4000 characters per reading gate)			–	
1 to 50 (max. 4000 characters per reading gate)				
See overview on page 16				
1D: max. 50 characters per code 2D: acc. to ISO/IEC 16022 max. 4000 characters per reading gate				
See overview on page 16				
Up to 5 m/s[3) 4)]			Up to 2.5 m/s (ICR852-2A); up to 5 m/s (ICR850-2B); up to 15 m/s (ICR855-2A)[4)]	
Software with live image, automatically using auto-setup, function button without PC			Software with image transfer	
BMP				

[3)] Speed changes can be tolerated; [4)] Max. speed depending on application, consultation with SICK necessary

Technical Data

	ICR803-A/-B	ICR840-2	
Reading window	Front	Front	Side
Interfaces			
Serial (RS 232/422/485)	● In RS 232 variants	●	
Function	RS 232 TTL, Image transfer	Host, AUX	
Data transmission rate	300 Bd to 115,000 Bd	Host: 300 Bd to 57,600 Bd; AUX: 9,600 Bd	
Ethernet	–	●	
Function	–	Host, AUX, Image transfer	
Data transmission rate	–	10/100 Mbit/s	
Protocol	–	TCP/IP, FTP	
CAN Bus	–	●	
Function	–	CAN sensor network (Master/Slave, Multiplexer)	
Data transmission rate	–	10 KBit/s to 1 MBit/s	
Protocol	–	CANopen®, CSN (SICK CAN sensor network)	
PROFIBUS	Via external connection module (CDF600)	Via external connection module (CDM + CMF)	
DeviceNet	–	Via external connection module (CDM + CMF)	
USB	● In USB variants	–	
Function	Keyboard wedge, COM-Port emulation	–	
Switching inputs (digital)	1 (“Sensor 1”)	2 (“Sensor 1”, “Sensor 2”)	
Switching outputs (digital)	–	2 (“Result 1”: Low side switch NPN; “Result 2”: High side switch PNP)	
Reading pulse	Switching input, presentation mode, serial interface	Switching inputs/nonpowered/serial interface	
Optical displays	–	6 x LED (status displays)	
Acoustic indicators	Beeper (can be switched off) to confirm reading	Buzzer (can be switched off) can be assigned a function to signal the result status	
Mechanical/electrical system			
Electrical connection	RJ45 socket on device	RJ45 socket on device (Ethernet), cable with 15-pin D-Sub-HD plug (0.9 m, ± 5 %)	
Operating voltage/power consumption	5 V DC	15 V DC to 30 V DC/max. 13 W	
Electrical safety	–	Acc. to EN 61010-1	
Housing	Plastic	Zinc diecast	
Enclosure rating	IP 20	IP 65, acc. to EN 60529; A2 (with special accessories, see page 31) IP 30 without covered Ethernet connection or with standard Ethernet cable	
Protection class	Low Voltage Directive standard: EN 60950-1:2001 Information Technology Equipment – Safety – Part 1: General Requirements	Class 3 (acc. to EN 61140)	
Dimensions	47.8 mm x 39.9 mm x 24.1 mm	112 mm x 80 mm x 39 mm	
Weight (L x W x H)	37 g	Approx. 900 g, with connecting cable	
Colour	Light blue (RAL 5012)	Light blue (RAL 5012)	
Ambient data			
Electromagnetic compatibility Vibration-/shock-resistance	Emitted interference acc. to EN 55022/A1/A2 class A ITE; Interference immunity acc. to EN 55024/A1/A2 ITE	To EN 61000-6-2 and EN 61000-6-4/EN 60068-2-6/EN 60068-2-27	
Operating environment/storage temperature	0 to +50 °C/–20 to +60 °C	0 to +40 °C/–20 to +70 °C	
Permissible relative humidity	95 %, Non-condensing	90 %, Non-condensing	

● Integrated



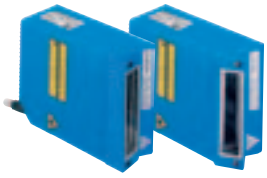


Image similar

ICR845-2		ICR845-2L FlexLens	ICR85x-2	
Front	Side	Front	Front	Side
●		●	●	
Host, AUX				
Host: 300 Baud to 57,600 Baud, AUX: 9,600 Baud				
●		●	●	
Host, AUX, Image transfer				
10/100 Mbit/s				
TCP/IP, FTP				
●		●	●	
CAN-sensor-network (Master/Slave, Multiplexer)				
10 KBit/s to 1 MBit/s				
CANopen®, CSN (SICK CAN sensor network)				
Via external connection module (CDM + CMF)		Via external connection module (CDM + CMF)	Via external connection module (CDM + CMF)	
Via external connection module (CDM + CMF)		Via external connection module (CDM + CMF)	Via external connection module (CDM + CMF)	
–				
–				
2 (“Sensor 1”, “Sensor 2”)				
2 (“Result 1”: Low side switch NPN; “Result 2”: High side switch PNP			2 (“Result 1”, “Result 2”)	
Switching inputs/nonpowered/serial interface				
6 x LED (status displays)				
Buzzer (can be switched off) can be assigned a function to signal the result status				
RJ45 socket on device, cable with 15-pin D-Sub-HD plug (0.9 m, ± 5 %)				
15 V to 30 V DC/max. 13 W		15 V to 30 V DC/max. 8 W	10 V DC to 30 V DC/max. 11 W	
Acc. to EN 61010-1				
Zinc diecast				
IP 65, acc. to EN 60529; A2 (with special accessories, see page 31) IP 30 without covered Ethernet connection or with standard Ethernet cable				
Class 3 (acc. to EN 61140)				
112 mm x 80 mm x 39 mm		123.3 mm x 80 mm x 42.3 mm	114.6 mm x 80 mm x 39 mm	
Approx. 900 g, with connecting cable				
Light blue (RAL 5012)				
To EN 61000-6-2 and EN 61000-6-4/EN 60068-2-6/EN 60068-2-27				
0 to +40 °C/–20 to +70 °C				
90 %, Non-condensing				

● Integrated

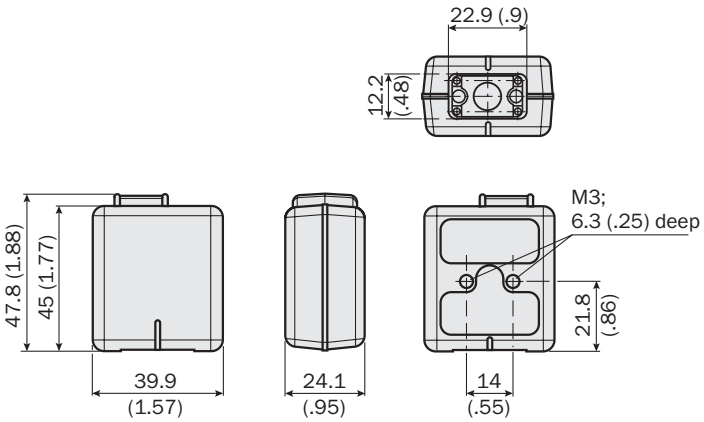
Selection table of readable codes

Description	ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
1D					
Codabar	●	●	●	●	●
Codablock	●				
Code 11	●				
Code 32 PARAF	●				
Code 39	●	●	●	●	●
Code 93	●				
Code 128	●	●	●	●	●
Industrial 2 of 5	●				
Interleaved 2 of 5	●	●	●	●	●
Pharmacode		●	●	●	●
Posicode	●				
Postal Codes	●				
RSS14 / RSS-Limited&Expanded	●				
Telepen	●				
UPC / EAN	●	●	●	●	●
Stacked					
PDF417	●	●	●	●	●
2D					
Aztec	●				
Data Matrix ECC 200	●	●	●	●	●
Data Matrix GS 1	●	●	●	●	●
Maxicode	●				
QR-Code	●	●[1]	●[1]	●[1]	●[1]
OCR					
OCR-A, OCR-B	●				
Labeled / DPM Light[2] / DPM Marked / DPM Dot Peen					
Label	●	●	●	●	●
Laser marking	●[2]	●	●	●	●
Inkjet pressure	●[2]	●	●	●	●
Electrochemical etching	●[2]	●	●	●	●
Dot peening		●	●	●	

[1] Available from December 2009 onwards; [2] Only DPM codes with good marking quality and adequate contrast can be read

Dimensional drawings/reading field diagrams
ICR803

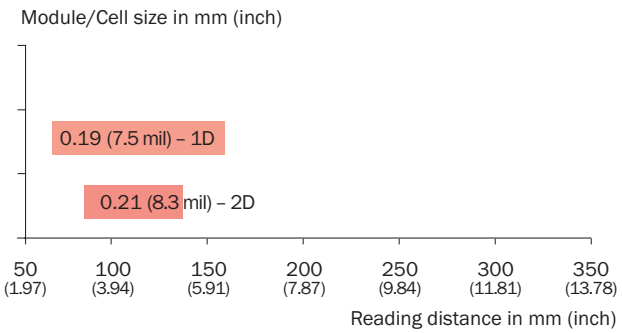
Dimensional drawing



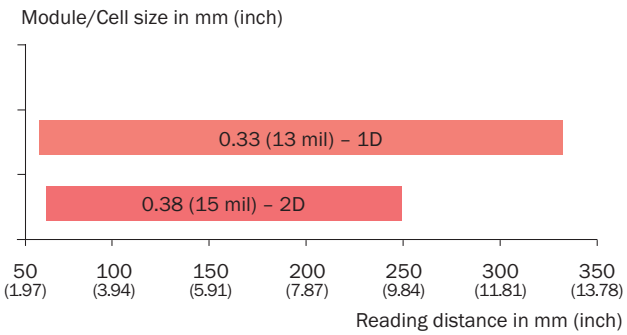
All dimensions in mm

Typical reading field diagrams

ICR803-A Smart Focus



ICR803-B Standard Range



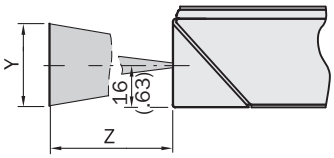
Dimensional drawings/reading field diagrams
ICR840-2

Front reading window

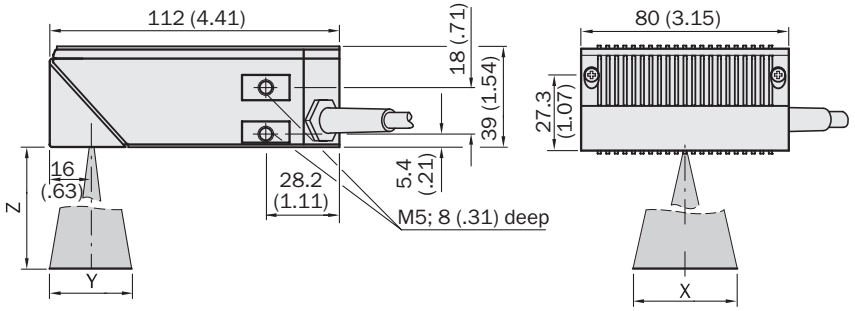
Side reading window

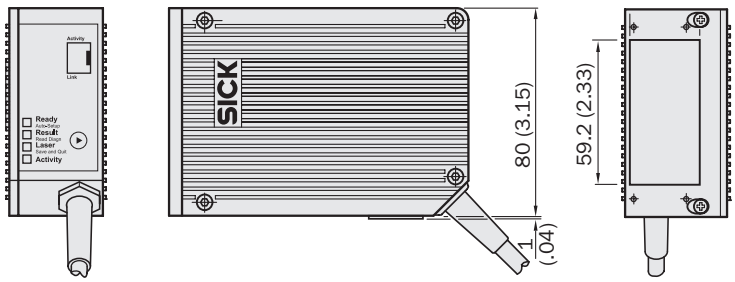
Dimensional drawing ICR840-2

Front reading window



Side reading window



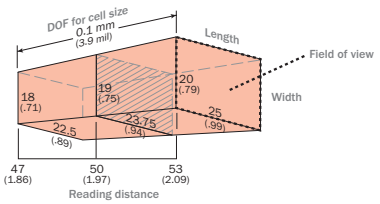


All dimensions in mm

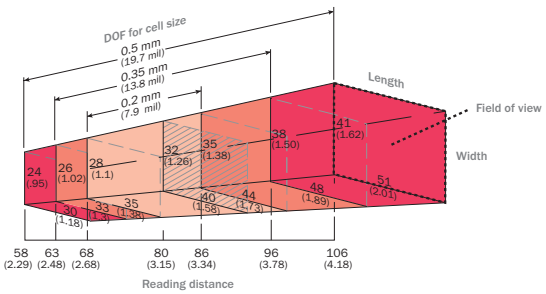
	ICR840-2A	ICR840-2B	ICR840-2C	ICR840-2D
X	23.75	40	58.5	72.5
Y	19	32	46.5	58
Z	50	80	115	145

Typical reading field diagrams

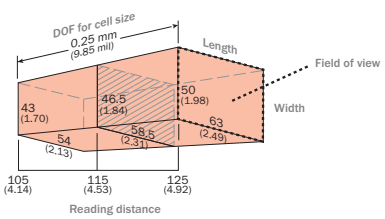
ICR840-2A High-Density



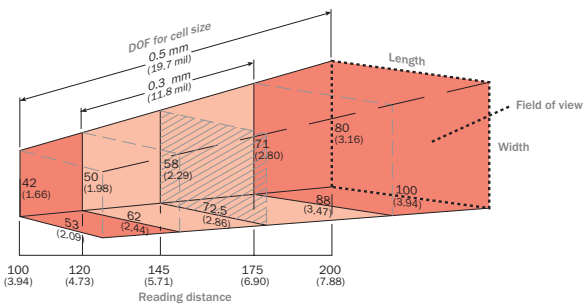
ICR840-2B Standard



ICR840-2C Mid-Range



ICR840-2D Long-Range



2009-11
Subject to change without notice

Dimensional drawings/reading field diagrams
ICR845-2

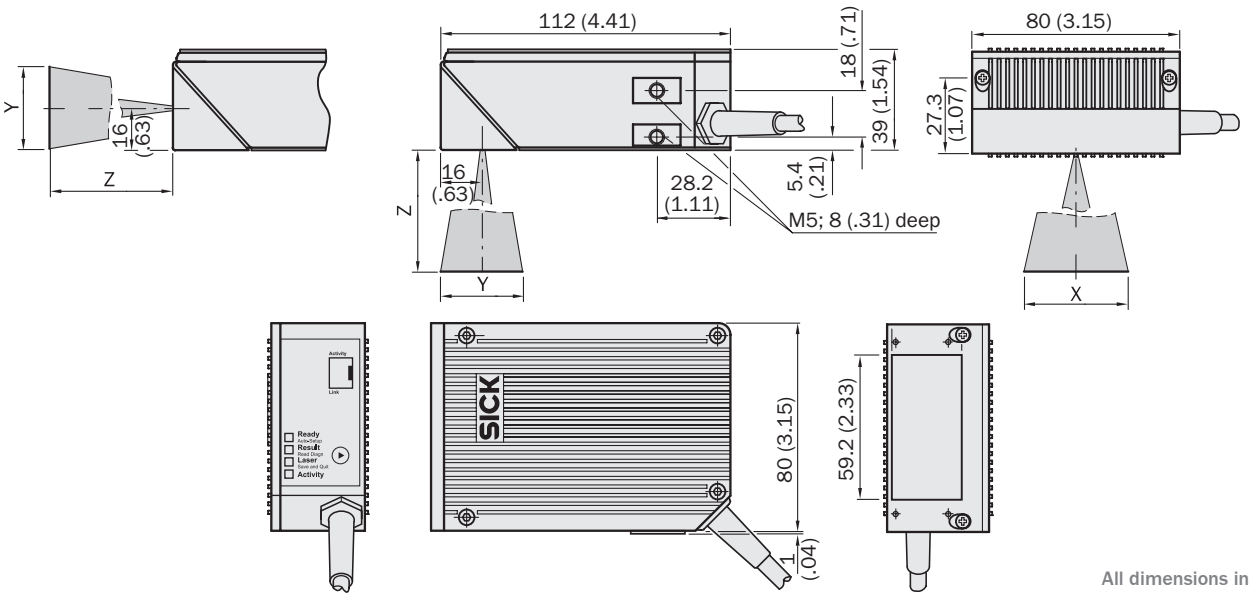
Front reading window

Side reading window

Dimensional drawing ICR845-2

Front reading window

Side reading window

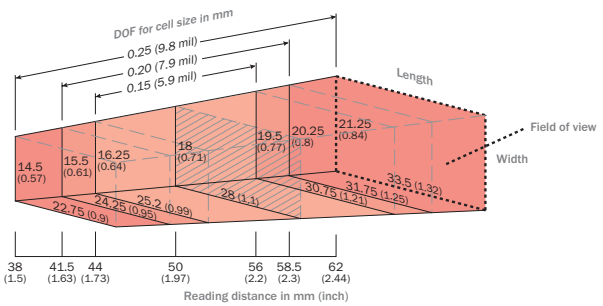


All dimensions in mm

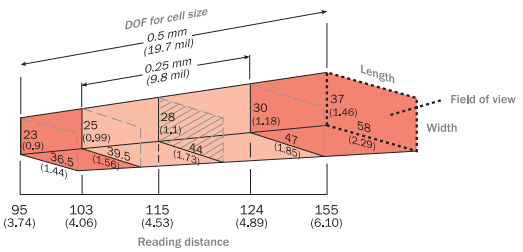
	ICR845-2A	ICR845-2C	ICR845-2E
X	28	44	66
Y	18	28	42
Z	50	115	175

Typical reading field diagrams

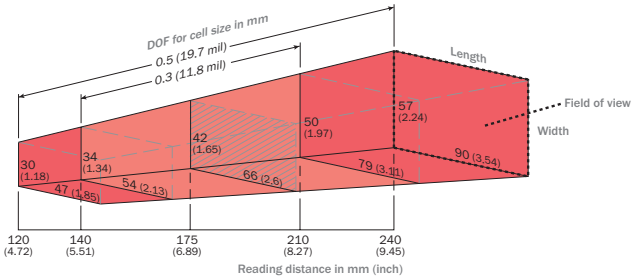
ICR845-2A High-Density



ICR845-2C Mid-Range

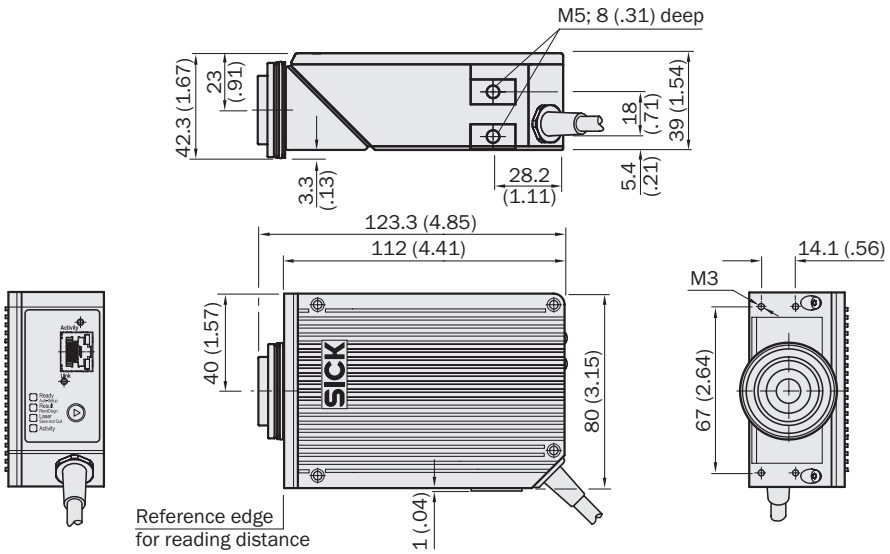


ICR845-2E Extended Long-Range



Dimensional drawings/reading field diagrams
ICR845-2L FlexLens

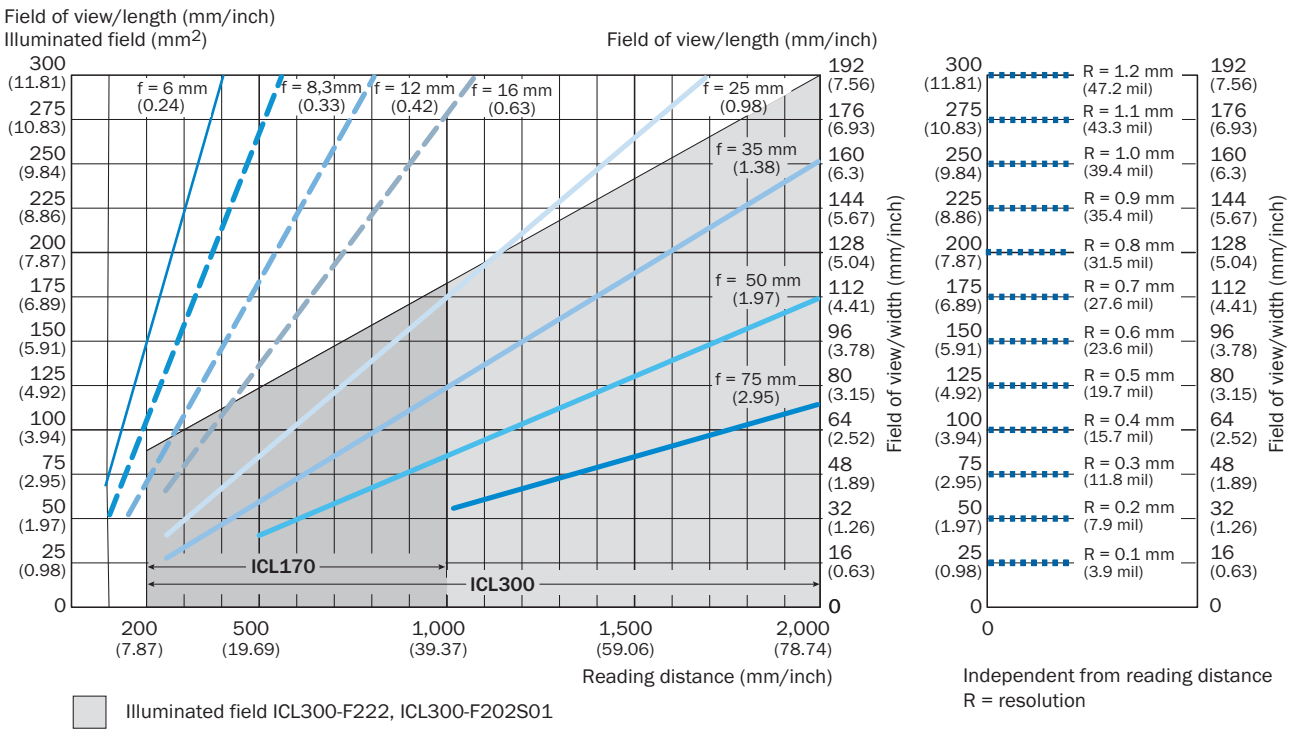
Dimensional drawing ICR845-2L FlexLens



All dimensions in mm

Reading field diagram ICR845-2L

Reading field size on distance and resolution



For accessories, such as lighting and lenses, see page 28.

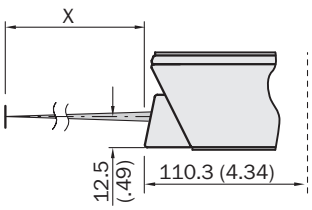
Dimensional drawings/reading field diagrams ICR850-2/ICR852-2

Front reading window

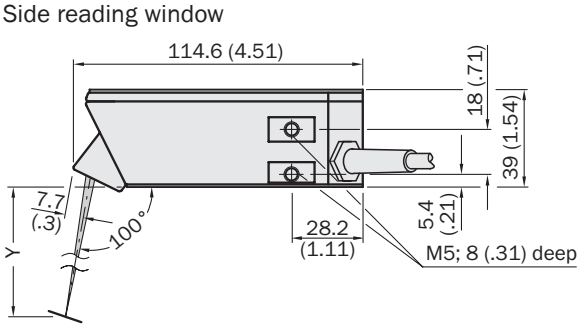
Side reading window

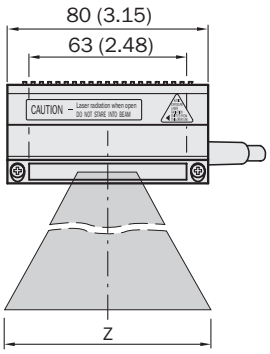
Dimensional drawing ICR850-2/ICR852-2

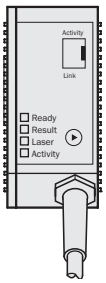
Front reading window

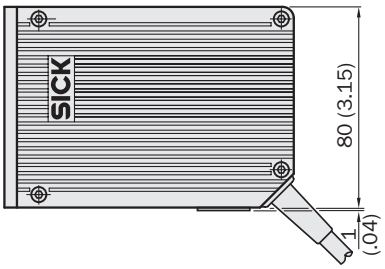


Side reading window







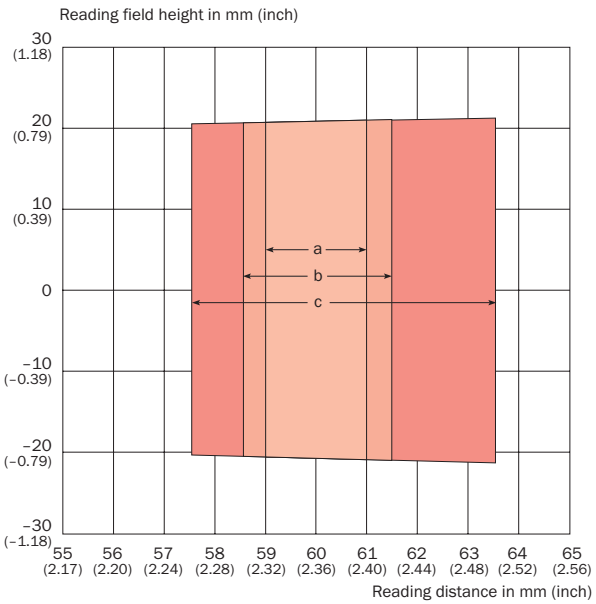


All dimensions in mm

	ICR852-2	ICR850-2
X	70	110
Y	60	100
Z	80	40

Reading field diagrams

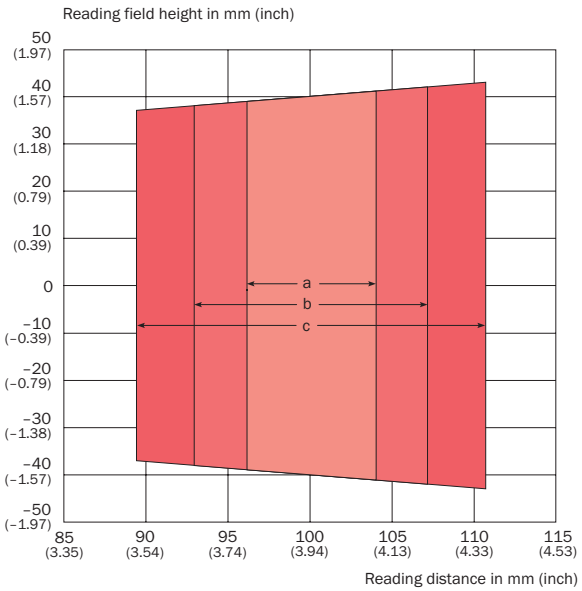
ICR852-2A High-Density



Resolution:

- a: 0.10 mm (3.9 mil)
- b: 0.15 mm (5.9 mil)
- c: 0.25 mm (9.8 mil)

ICR850-2B Standard



Resolution:

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

Dimensional drawings/reading field diagrams
ICR855-2

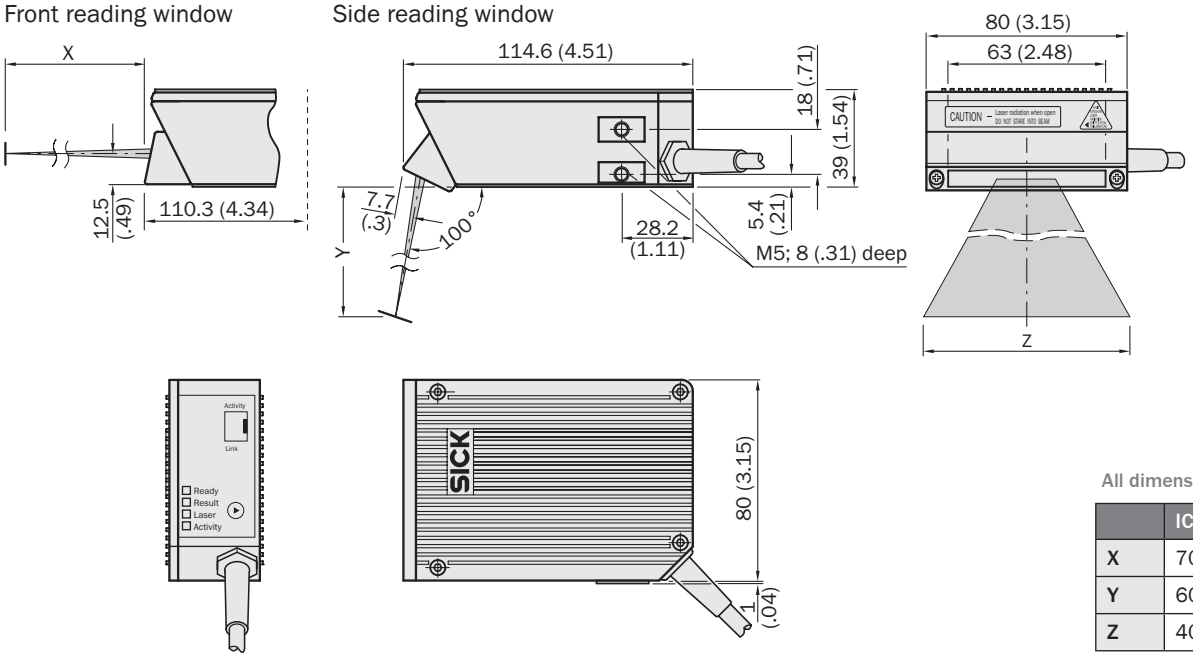
Front reading window

Side reading window

Dimensional drawing ICR855-2

Front reading window

Side reading window

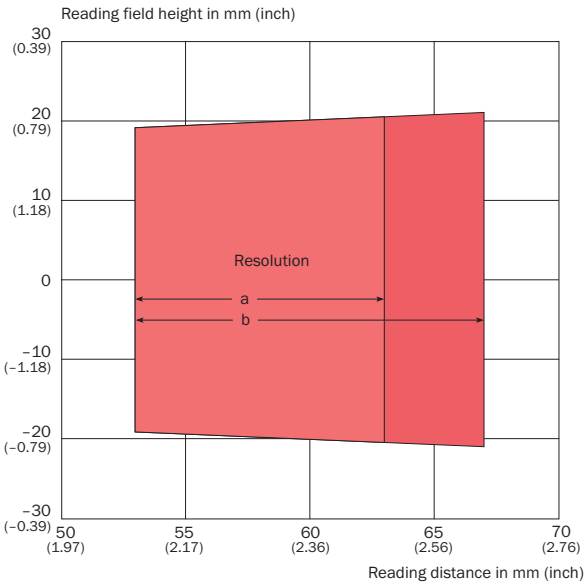


All dimensions in mm

	ICR855-2
X	70
Y	60
Z	40

Reading field diagrams

ICR855-2A High-Speed



Resolution:

a: 0.35 mm (13.8 mil)

b: 0.50 mm (19.7 mil)

Connection options for individual devices

Examples of flexible connection options for our code readers using serial, USB and Ethernet connections are shown below.

Ordering information for code readers (see page 26)

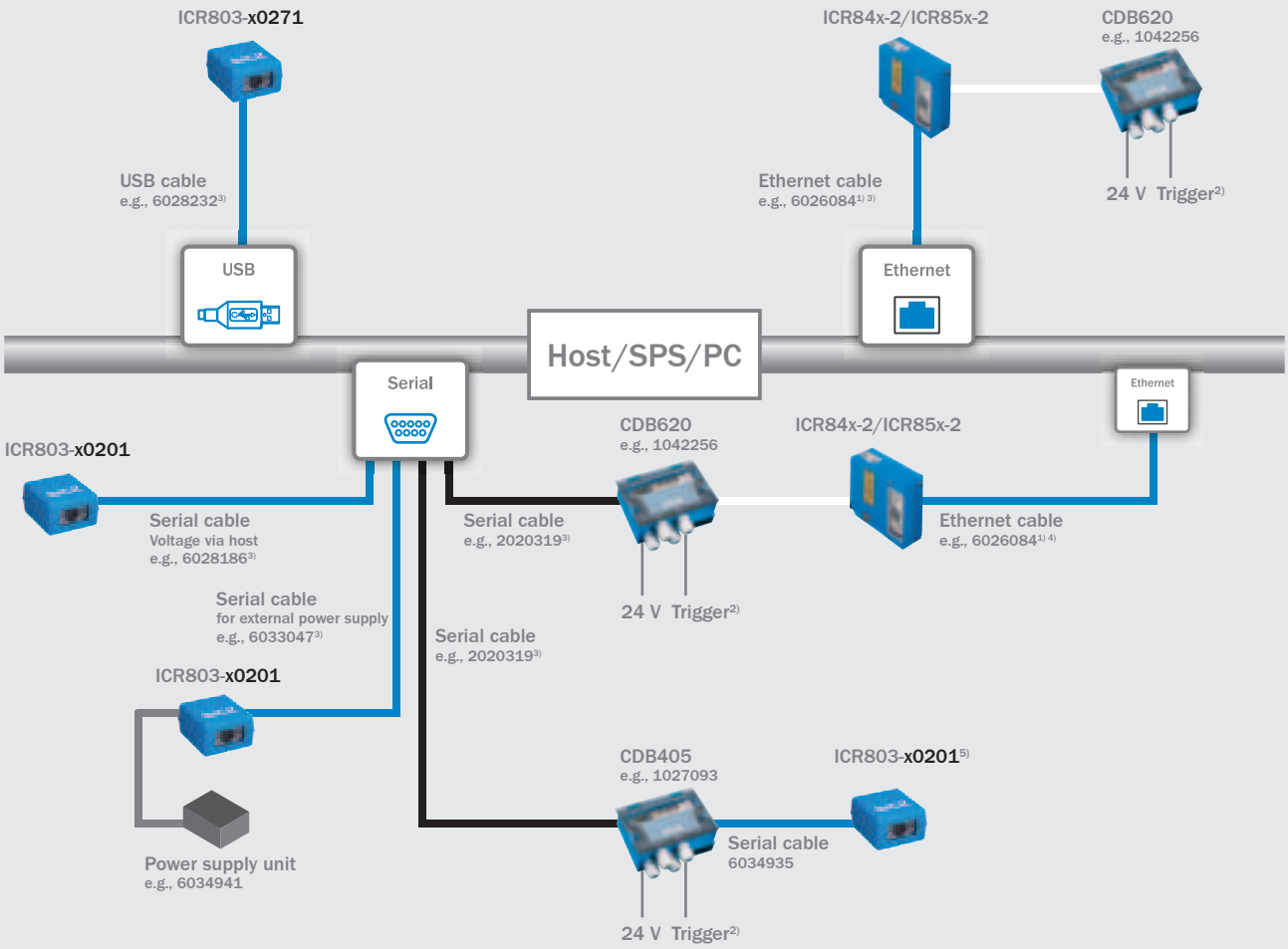
Ordering information for connection modules (see page 34)

Ordering information for power supply units (see page 35)

Connection technology for code readers (see page 30)

Connection technology for connection modules (see page 35)

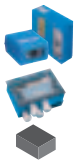
Mains cables (see page 35)



[1] For data/image transfer and parameter setting; [2] e.g., WL18-3; [3] For data transfer and parameter setting; [4] Additionally for image transfer; [5] Can only be triggered with CDB405.

Images similar

Examples of how image-based code readers can be incorporated into numerous fieldbus technologies without requiring major cabling complexity are shown below.



Ordering information for code readers (see page 26)

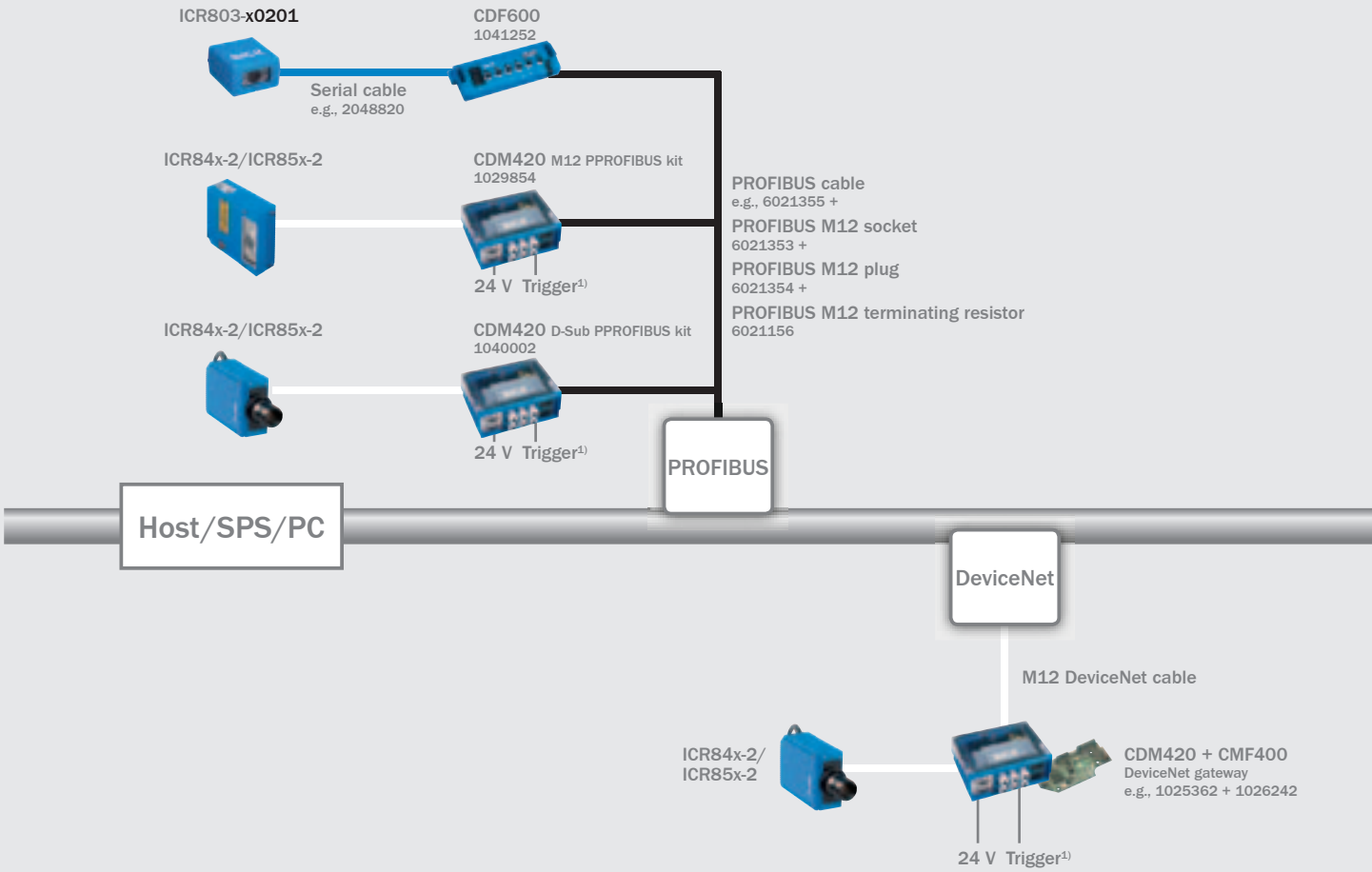
Ordering information for connection modules (see page 34)

Ordering information for power supply units (see page 35)

Connection technology for code readers (see page 30)

Connection technology for connection modules (see page 35)

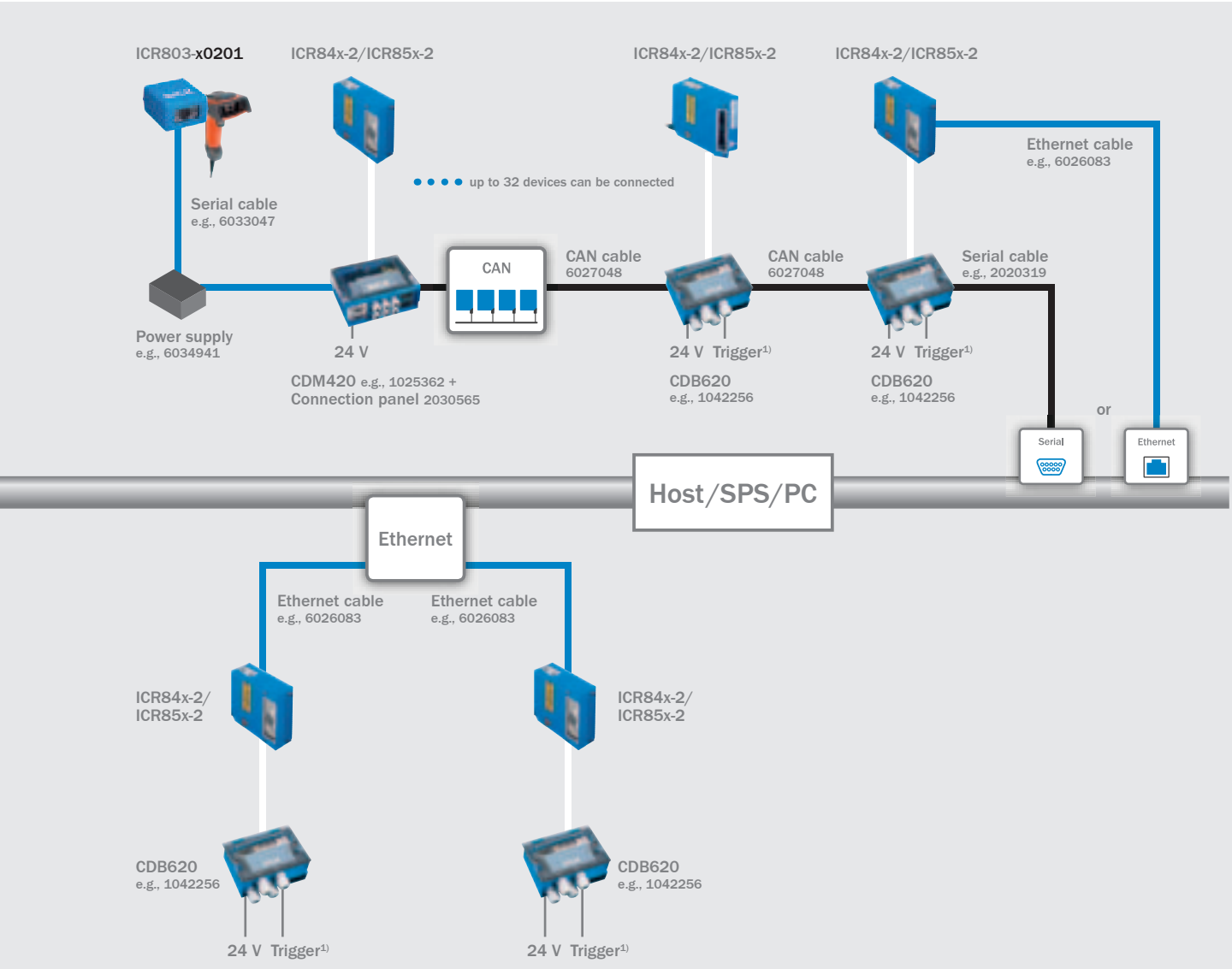
Mains cables (see page 35)



1) e.g., WL18-3

Images similar

In addition to the fieldbus technologies (PROFIBUS, DeviceNet, Ethernet), the ICR84x-2 and ICR85x-2 device families can be networked to one another very easily using the integrated SICK CAN sensor network. In this case, one station is responsible for communication with the host (serial or Ethernet) and therefore manages the read results of all stations. One communication interface on the host is enough to solve complex identification tasks.



1) e.g., WL18-3

Images similar

Ordering information for code readers

ICR803

Order no.	Type	Description
6034210	ICR803-A0201	Lens version A, data interface RS 232
6034212	ICR803-A0271	Lens version A, data interface USB
6034211	ICR803-B0201	Lens version B, data interface RS 232
6034213	ICR803-B0271	Lens version B, data interface USB

• Accessories begin on page 28

ICR840-2

Order no.	Type	Description
1042896[1)]	ICR840-2A0020	**High Density**, front reading window, focus position 50 mm, min. resolution 0.10 mm
1042897[1)]	ICR840-2A1020	**High Density**, side reading window, focus position 50 mm, min. resolution 0.10 mm
1042277[1)]	ICR840-2B0020	**Standard**, front reading window, focus position 80 mm, min. resolution 0.15 mm
1042338[1)]	ICR840-2B1020	**Standard**, side reading window, focus position 80 mm, min. resolution 0.15 mm
1042279[1)]	ICR840-2C0020	**Mid Range**, front reading window, focus position 115 mm, min. resolution 0.25 mm
1042885[1)]	ICR840-2C1020	**Mid Range**, side reading window, focus position 115 mm, min. resolution 0.25 mm
1043547[1)]	ICR840-2D0020	**Long Range**, front reading window, focus position 145 mm, min. resolution 0.30 mm
1043546[1)]	ICR840-2D1020	**Long Range**, side reading window, focus position 145 mm, min. resolution 0.30 mm
1047906[1)]	ICR840-2D0920S01	Ⓔx II 3D td A22 IP65 T100 °C, **Atex version**, **Long Range**, front reading window, focus position 145 mm, min. resolution 0.30 mm, incl. serial cable 5 m and Ethernet cable

• Accessories begin on page 28; [1)] CD-ROM manuals & software supplied with product

ICR845-2

Order no.	Type	Description
1044617[1)]	ICR845-2A0020	**High Density**, front reading window, focus position 50 mm, min. resolution 0.15 mm
1044616[1)]	ICR845-2A1020	**High Density**, side reading window, focus position 50 mm, min. resolution 0.15 mm
1043740[1)]	ICR845-2C0020	**Mid Range**, front reading window, focus position 115 mm, min. resolution 0.25 mm
1043739[1)]	ICR845-2C1020	**Mid Range**, side reading window, focus position 115 mm, min. resolution 0.25 mm
1047749[1)]	ICR845-2E0020	**Extended Long Range**, front reading window, focus position 175 mm, min. resolution 0.30 mm
1047750[1)]	ICR845-2E1020	**Extended Long Range**, side reading window, focus position 175 mm, min. resolution 0.30 mm

• Accessories begin on page 28; [1)] CD-ROM manuals & software supplied with product

ICR845-2L FlexLens

Order no.	Type	Description
Individual devices		
1046574[1)]	ICR845-2L0020	**FlexLens** (C-mount lens) front reading window, suitable for **all lighting colors except for infrared**
1047956[1)]	ICR845-2L0020S01	**FlexLens** (C-mount lens) front reading window, suitable for **infrared lighting**
Camera kits (see below for more information)		
1047431[1) 2)]	ICR845-2L0020P01 FlexLens Kit01	ICR845-2L C-mount lens **f = 25 mm**, IP 65 lens cover, lighting ICL300 (red color) incl. holders, screws, connection cable 2 m, Ethernet crossover cable 3 m, 2 x RJ45, fastening bracket, red filter
1047432[1) 2)]	ICR845-2L0020P02 FlexLens Kit02	ICR845-2L C-mount lens **f = 75 mm**, IP 65 lens cover, lighting ICL300 (red color) incl. holders, screws, connection cable 2 m, Ethernet crossover cable 3 m, 2 x RJ45, fastening bracket, red filter

• Accessories begin on page 28; [1)] CD-ROM manuals & software supplied with product; [2)] A connection module (CDB/CDM) is required for startup

ICR85x-2

Order no.	Type	Description
1042280[1) 2)]	ICR850-2B0020	**Standard**, front reading window, focus position 110 mm, min. resolution 0.20 mm
1042341[1) 2)]	ICR850-2B1020	**Standard**, side reading window, focus position 100 mm, min. resolution 0.20 mm
1042899[1) 2)]	ICR852-2A0020	**High Density**, front reading window, focus position 70 mm, min. resolution 0.10 mm
1042900[1) 2)]	ICR852-2A1020	**High Density**, side reading window, focus position 60 mm, min. resolution 0.10 mm
1042898[1) 2)]	ICR855-2A0020	**High Speed**, front reading window, focus position 70 mm, min. resolution 0.35 mm
1042281[1) 2)]	ICR855-2A1020	**High Speed**, side reading window, focus position 60 mm, min. resolution 0.35 mm

• Accessories begin on page 28; [1)] CD-ROM manuals & software supplied with product; [2)] Calibration raster for distance measurement supplied with product

Low-cost camera kits

Save time and costs with our pre-assembled devices ICR845-2L FlexLens.

A complete camera kit is available at a low price using a single order number.

Connection module and power supply unit must also be selected according to your requirements (see page 34). They are not supplied with the product.

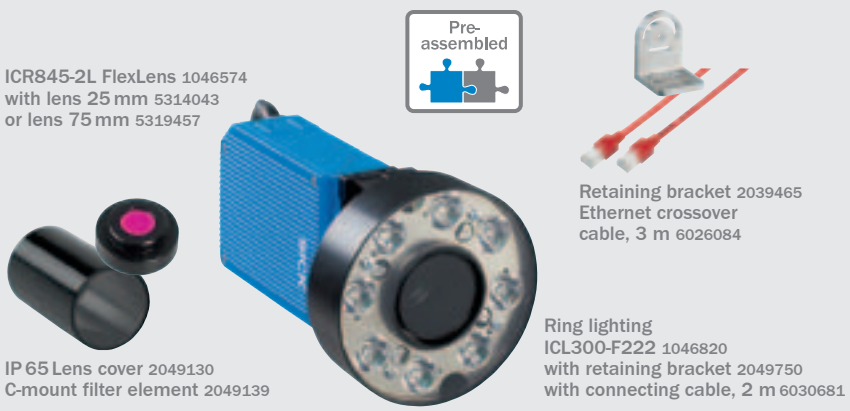


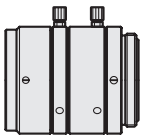
Image similar

Lighting

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
Sets, consisting of lighting, holder and 2 m cable								
1047877		Ring lighting set, dark field for ICR84x-2B (focus position 80 mm), **red** lighting color			●			
1047878		Ring lighting set, dark field for ICR84x-2A (focus position 50 mm), **red** lighting color			●	●		
1048476	ICL170-F222 Set01	Ring lighting set ICL170-F222, bright field, **red** lighting color, lighting distance 200 mm to 1 m						
1047879[1]	ICL300-F222 Set01	Ring lighting set ICL300-F222, bright field, **red** lighting color, lighting distance 200 mm to 2 m					●	
1047994[1]	ICL300-F202S01 Set01	Ring lighting set ICL300-F202, bright field, **infrared** lighting color, lighting distance 200 mm to 2 m					●[3]	
Sets, consisting of lighting and 5 m cable								
6037794	VLR66-PL1011	Spot lighting set, **red** lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)					●	
6037796	VLR52-PL1011	Spot lighting set, **green** lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)					●	
6037797	VLR47-PL1011	Spot lighting set, **blue** lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)					●	
6037795	VLR10-PL1011	Spot lighting set, **white** lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)					●	
Individual components								
2034076		Ring lighting, dark field for ICR840-2B (focus position 80 mm), **red** lighting color, incl. holder[2]			●			
2040503		Ring lighting, dark field for ICR84x-2A (focus position 50 mm), **red** lighting color, incl. holder[2]			●	●		
1048371	ICL170-F222	Ring lighting, bright field, **red** lighting color, lighting distance 200 mm to 1 m[2]						
1046820[1]	ICL300-F222	Ring lighting, bright field, **red** lighting color, lighting distance 200 mm to 2 m[2]					●	
1047957[1]	ICL300-F202S01	Ring lighting, bright field, **infrared** lighting color, lighting distance 200 mm to 2 m[2]					●[3]	
2049750[1]		2 x retaining brackets for installation of ICL300 or ICL170 on ICR845-2L FlexLens					●	
6030681[1]		Connection cable for ring lighting, 4-pin M8 socket, 2 m			●	●	●	
6030682		As 6030681, but 5 m			●	●	●	
6030683		As 6030681, but 10 m			●	●	●	

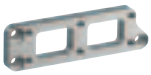
[1] Preferred accessories; [2] Startup requires a connection cable (6030681, 6030682 or 6030683) and retaining bracket 2049750;
[3] Can only be used with ICR845-2L0020S01

Lenses & filter elements

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
5314041[1)]	OBJ-C00814A	C-mount lens f = 8 mm					●	
5314042[1)]	OBJ-C01214A	C-mount lens f = 12 mm					●	
5315114[1)]		C-mount lens f = 16 mm					●	
5314043[1)]	OBJ-C02514A	C-mount lens f = 25 mm					●	
5319456[1)]	OBJ-C05023A	C-mount lens f = 50 mm					●	
5319457[1)]	OBJ-C07528A	C-mount lens f = 75 mm					●	
2049139[1)]	OG590	C-mount filter element for reducing sensitivity to ambient light when using **red** lighting					●	
2052458		As 2049139, but with **infrared** lighting					●	

[1)] Preferred accessories

Fastening technology for image-based code readers

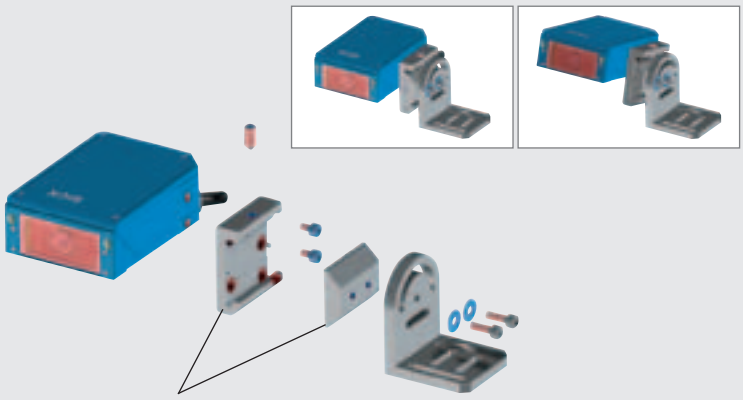
Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
2039465[1)]		Fastening bracket, skew angle adjustable, incl. fastening materials (2 screws M5 x 16, self-locking)			●	●	●	●
2025491		Fastening bracket with fastening materials (2 screws M5 x 16, self-locking)			●	●	●	●
2050023[1)]		Fastening bracket for ICR803		●				
2050691		Fastening rod incl. fastening materials (2 screws M5 x 16, self-locking) for variable installation of the ICR in three selectable positions)					●	
2042484[1)]		Quick clamp			●	●	●	●

[1)] Preferred accessories

Rapid device change thanks to easy installation

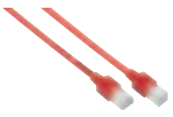
Convenient adjustment of the device for selecting the correct reading angle.

The quick clamp secures the fastening bracket and the distance of the camera; no need for realignment after a device change.



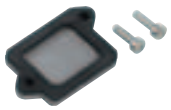
Quick clamp 2042484 Fastening bracket 2039465

Connection technology for code readers

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
Serial connection								
6010075	2 m	Extension cable, 15-pin, shielded, with 15-pin D-Sub-HD plug/socket			●	●	●	●
6020092	3 m				●	●	●	●
6010137	2 m	Extension cable, 15-pin, shielded, with 15-pin D-Sub-HD plug/open end (insulation removed from conductors)			●	●	●	●
6010088	Sold by meter	Data cable for extensions up to 3 m, Ø 6.6 mm, 15 x 0.09 mm², shielded			●	●	●	●
6033047[1]	2.4 m	Smooth RS 232 TTL cable, external power supply unit required (see page 35)		●[2]				
6012109	2.4 m	Spiral RS 232 TTL cable, external power supply unit required (see page 35)		●[2]				
6028186[1]	2.4 m	Smooth RS 232 TTL cable, supply voltage on pin 9		●[2]				
6025955	2.4 m	Spiral RS 232 TTL cable, supply voltage on pin 9		●[2]				
6034935[1]	2 m	Smooth RS 232 TTL cable, for connecting the ICR803 to the connection module CDB405-001		●[2]				
2048820[1]	2.4 m	Spiral RS 232 cable, with integrated 12 V DC/5 V DC converter for connecting the ICR803 or 5 V hand scanners on CDF600		●[2]				
6010019		D-Sub plug connection insert, 15-pin HD multipoint connector, socket, manual solder connection			●	●	●	●
6010020		D-Sub plug connection insert, 15-pin HD multipoint connector, plug, manual solder connection			●	●	●	●
6009438		D-Sub plug casing, metal, for 9-pin/15-pin HD inserts			●	●	●	●
4038847		IP 65 sealing rubber for extension cables with 15-pin D-Sub plug connections			●	●	●	●
USB connection								
6028232[1]	2.4 m	Smooth USB cable		●				
6032516	2.8 m	USB spiral cable		●				
Ethernet connection								
6026083		Ethernet data cable 2 x RJ45			●	●	●	●
6026084[1]		Ethernet crossover cable 2 x RJ45			●	●	●	●

[1] Preferred accessories; [2] Only for ICR803-x0201 with data interface RS 232

Accessories for upgrading to an IP 65 rating

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
2039986[1)]		IP 65 Ethernet set, incl. adapter frame and IP 65 Ethernet cable 1 m (illustration shows the set assembled)			•	•	•	•
6032800		Ethernet protective cap for achieving IP 65 in combination with add-on frame from set 2039986 (if cable has been removed)			•	•	•	•
2048510[1)]		IP 65 Ethernet protective cap with gasket incl. screws for direct mounting on casing without additional frame; Ethernet cable cannot be plugged in once unit has been screwed on			•	•	•	•
2049130[1)]		IP 65 lens cap					•	

[1)] Preferred accessories

Turn IP 30 into IP 65

With only a few accessories, you can upgrade Ethernet variants of image-based code readers for applications in dusty and wet conditions.

Connection modules and gateways

CDB405 and CDB620 Basic Connection Module

Image similar

- Compact connection modules
  - **CDB405: ICR803**
  - **CDB620: ICR84x-2, ICR845-2, ICR845-2L FlexLens, ICR85x-2**
- Integrated connection diagram
- Clear arrangement of spring cage terminal blocks
- Enclosure rating IP 65
- Cables with strain relief

+ Saves time and space
+ Clear wiring with the peripherals
+ Requires little investment
+ Quick and easy troubleshooting
+ Rapid scanner exchange using a CMC600 (only with CDB620)

CDM420 Modular Connection Module

Image similar

- For integration of:
  - Fieldbus modules, **CMF**
  - Power supply units (electrical power supply), **CMP**
  - Display module, **CDM**
- Integrated connection diagram
- Clear arrangement of screw/spring cage terminal blocks
- Enclosure rating IP 65
- Cables with strain relief

+ Convenient network connection
+ Rapid scanner exchange using a CMC600
+ Quick and easy installation
+ Easy troubleshooting
+ Single voltage supply with power supply module CMP4xx

CMC600 External Parameter Memory for CDB620 and CDM420

- Quick and easy installation
- Plug & play functions
- Address monitoring by visible rotary encoding switches
- Simplified startup of CAN networks

+ Rapid scanner exchange for repair
+ Quick installation in existing base units, even for retrofitting
+ Does not require additional space
+ Does not require additional wiring

CMD400 External Display Module for CDM420

Image similar

- Large illuminated display with 4 x 20 characters
- 5 buttons for menu control
- Enclosure rating IP 65

+ Easy to read
+ Simple plant-floor scanner diagnostics without PC
+ Can be retrofitted
+ Does not require additional cabling
+ Easy startup



	CDB405/CDB620	CDM420	CMC600
Versions	Basic Connection Module	Modular Connection Module	External Display Module for integration in CDB620 and CDM420
Optical indicators	5 x LED/9 x LED	5/10 x LED	1 x LED
Scanner connection	15-pin D-Sub HD socket		–
Service plug	9-pin D-Sub HD plug		–
Supply voltage	+1 V (acc. to IEC 60364-4-41), in addition to $V_{scanner}$		10 to 30 V DC via CDB/CDM
Power consumption	$P_{scanner}$ +0.5 W		500 mW
Housing	Polycarbonate		
Color	Light blue (RAL 5012)		–
Inspections	CE	CE, UL	
Protection class	Class 3 (acc. to EN 61140)	Class 3 (acc. to EN 61140), with power supply module: Class 1	Class 3 (acc. to EN 61140)
Enclosure rating	IP 65 (acc. to EN 60529; A1), on use of a SICK scanner standard connection cable		–
Dimensions (mm)	124.2 x 113.1 x 53.9	192 x 167 x 70	70 x 23 x 17
Weight	Approx. 260 g	Approx. 800 g	30 g
Temperature (operating/storage)	0 to +40 °C/–20 to +70 °C		
Relative air humidity	Max. 90 %, non-condensing		–

• Ordering information begin on page 34



	CMF400-1X01	CDF600	CMF400-2101
Versions	Gateway	Proxy	Gateway
Interface	PROFIBUS	PROFIBUS	DeviceNet
Data transfer rate, fieldbus	9.6 kBit/s to 12 MBit/s		125, 250, 500 kBit/s
Data interface to code reader	RS 232; 9.6 to 57.6 kBd	RS 232; 57.6 kBd	RS 232; 9.6 to 57.6 kBd
Electrical connection Gateway	26-pin SMD plug connector	6 x M12 (plug/socket); 1 x 15-pin D-Sub HD socket	26-pin SMD plug connector
Electrical connection fieldbus	9-pol. D-Sub socket or 5-pin M12 plug/socket	5-pin M12 plug/socket	5-pin M12 plug
Power supply	18 to 30 V DC via CDM420	12 V DC or 24 V DC ± 20%	18 to 30 V DC via CDM420
Power consumption	2 W	5.0 W	2 W
Enclosure rating	IP 20/IP 65	IP 65	
Temperature (operating/storage)	0 to +40 °C/–20 to +70 °C		
Max. rel. air humidity	90 %, non-condensing		

• Ordering information begin on page 34

Rapid device exchange thanks to parameter cloning

The parameters do not need to be set again if a device is exchanged, they are automatically transferred to the new device via CMC600.

External parameter memory CMC600 1042259

Ordering information for connection modules and power supply units

Modular structure possible

Connection module + External parameter memory + Display module + Gateway

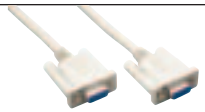
Image similar

Connection modules, incl. accessories, gateways and proxy

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
CDB405 and CDB620, Basic Connection Module								
1027093[1]	CDB405-001	With integrated 24/5 V DC converter		●[2]				
1042256[1]	CDB620-001	4 x cable gland			●	●	●	●
1042257	CDB620-101	2 x cable gland, 2 x M12 for straightforward CAN network wiring			●	●	●	●
1042258	CDB620-201	4 x cable gland, 1 x cable gland M12			●	●	●	●
CDM420, Modular Connection Module								
1025362[1]	CDM420-0001	6 x cable gland			●	●	●	●
1028487	CDM420-0004	Connection of 2 x ICR possible via CAN network, 6 x cable gland			●	●	●	●
1040002[1]	CDM420-0105	**Pre-assembled CDM420/CMF PROFIBUS kit** connection module on PROFIBUS-DP, **D-Sub 9-pin**, IP 20; contains: CDM420, CMF400-1001, CMC600-101			●	●	●	●
1029854	CDM420-0205	**Pre-assembled CDM420/CMF PROFIBUS kit M12** connection module on PROFIBUS-DP, **plug/socket M12**; contains: CDM420, CMF400-1201, CMC600-101			●	●	●	●
CMC600, External parameter memory for ICR84x-2 and ICR85x-2 for integration in CDB620/CDM420								
1042259[1]	CMC600-101	External parameter memory for integration in CDB620 and CDM420			●	●	●	●
CMx modules, can be retrofitted for CDM420								
2030091	CMP490	Power supply, 25 W, installation by exchange of cover on CDM420[3]			●	●	●	●
2029466	CMD400	Display module, installation by exchange of cover on CDM420[3] [4]			●	●	●	●
CMF400-1x01, PROFIBUS-DP gateways for CDM420-0001								
2030565		Connection panel for looping in a hand-held scanner or ICR803[5]	PROFIBUS	●[2]				
1026241[1]	CMF400-1001	IP 20, 9-pin D-Sub socket[5]			●	●	●	●
1026643	CMF400-1101	IP 65, 9-pin D-Sub socket[5] [6]			●	●	●	●
1028663	CMF400-1201	IP 65, 5-pin M12 plug/socket[5]			●	●	●	●
CDF600								
1041252[1]	CDF600-0110	IP 65, M12 plug/socket, 12 V variant for integrating a hand-held scanner or ICR803 into the PROFIBUS network	PROFIBUS	●[2]				
CMF400-2101, DeviceNet gateway for CDM420-0001								
1026242[1]	CMF400-2101	M12 plug	DeviceNet	●[2]	●	●	●	●

[1] Preferred accessories; [2] Only for ICR803-x0201 with data interface RS 232; [3] CMP490 and CMD400 cannot be used together; [4] CMC600 required; [5] CDM420 required; [6] Only in conjunction with PROFIBUS connector 6029030

Connection technology for connection modules

Order no.	Type	Description		CDB405	CDB620	CDM420	CMF400	CDF600
Serial connection								
6034935[1]	2 m	Smooth RS 232 TTL cable, for connecting the ICR803 to the connection module CDB405-001		●[2]				
2020319[1]	3 m	Serial RS 232 cable, 9-pin, D-Sub, socket/ open cable end		●	●	●		
2014054[1]	3 m	Data connection cable RS 232 to PC, 2 x 9-pin D-Sub, socket/socket, null modem cable			●	●		
2048820[1]	2.4 m	Spiral RS 232 cable, with integrated 12 V DC/5 V DC converter for connecting the ICR803 or 5 V hand scanners on CDF600						●[2]
USB connection								
6035396[1]		Converter, USB on RS 232, if there is no RS 232 interface on the PC			●	●		
CAN connection								
6027048[1]	Sold by meter	Unitron CAN cable 2 x 2 x 0.5 mm²			●	●		
6021164	1 m	CAN cable, M12, 5-pin, plug/socket			●[3]			
6021165	3 m				●[3]			
6021168	5 m				●[3]			
PROFIBUS connection								
6021355[1]		PROFIBUS cable, 2 x 0.34 mm, sold by meter					●	
6021353[1]		Bus-IN, PROFIBUS cable socket, M12					●[4]	
6021354[1]		Bus-OUT, PROFIBUS cable plug, M12					●[4]	
6021156[1]		M12 plug, terminating resistor, PROFIBUS					●[4]	

[1] Preferred accessories; [2] Only for ICR803-x0201 with data interface RS 232; [3] Can be used with CDB620-101;
[4] Only in conjunction with M12-PROFIBUS connection

Power supply units, mains cables

Order no.	Type	Description		ICR803	ICR840-2	ICR845-2	ICR845-2L FlexLens	ICR85x-2
6034941[1]	PS5U-42E	5 V DC, input voltage 100 to 240 V at 47 to 63 Hz, incl. mains cable with European safety plug		●[2]				
6034942[1]	PS5U-43E	5 V DC, input voltage 100 to 240 V at 47 to 63 Hz, incl. mains cable with UK plug		●[2]				
6034790[1]	PS5U-41E	5 V DC, input voltage 100 to 240 V at 47 to 63 Hz, incl. mains cable with USA plug		●[2]				
6034354[1]		Mains cable with flat, European plug		●[2]				
6034357[1]		Mains cable with Australian plug		●[2]				

[1] Preferred accessories; [2] Only for ICR803-x0201 with data interface RS 232

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- Detecting volume, position, and contours of objects and surroundings with laser measurement systems

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