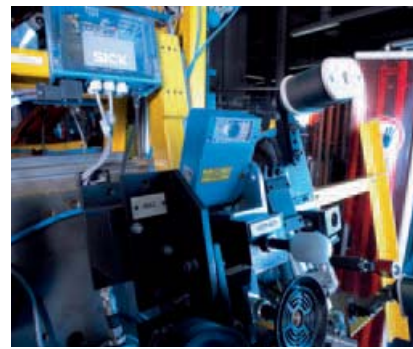


# 2D code scanners





Stationary 2D code scanners from SICK are multi-flexible. 1D or 2D, direct marked codes (e. g. laser, dot peening, inkjet) on metal, plastic or paper surfaces, a suitable solution for every application. They demonstrate their multi-compatibility in their connection capability: from the machine to the controller, they can be integrated in any environment.

#### Content

Product overview	Page 114
ICR803	Page 116
ICR840-2	Page 118
ICR850-2	Page 122
ICR860	Page 126
ICR890	Page 130

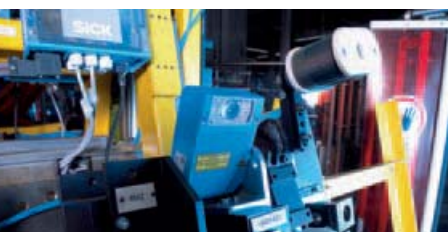
# 2D code scanners →

## 2D code scanner



PRODUCT	ICR803	ICR840-2B	ICR850-2/852-2
<b>Reading ranges</b>	<p>Module/Cell size (mm)</p> <p>Reading distance (mm)</p>	<p>Module width (mm)</p> <p>Reading distance (mm)</p>	<p>Module width (mm)</p> <p>Reading distance (mm)</p> <p>○ ICR 852: focus at 60 mm, different reading ranges</p>
<b>Application areas</b>	<ul style="list-style-type: none"> <li>• Automatic clinical analysis</li> <li>• Electronic manufacturing</li> <li>• Document processing</li> <li>• Access control (e-tickets)</li> </ul>	<ul style="list-style-type: none"> <li>• Automotive industry</li> <li>• Electronic manufacturing</li> <li>• Direct part marking</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic manufacturing</li> <li>• Document processing</li> </ul>
<b>Technical data</b>	<p>Scanning frequency: 10 ... 20 Hz</p> <p>Resolution: 752 x 480 pixel</p> <p>Operating voltage: 5 V DC</p> <p>Data interfaces: RS-232 TTL, USB-Keyboard wedge, USB serial</p> <p>Switching inputs/outputs: 49/40/25 mm</p> <p>Dimensions (L, W, H): 49/40/25 mm</p> <p>Weight: 37 g</p> <p>Enclosure rating: IP 65</p>	<p>Scanning frequency: 25 ... 200 Hz</p> <p>Resolution: 1280 x 1024 pixel</p> <p>Operating voltage: 10 ... 30 V DC</p> <p>Data interfaces: RS-232, RS-422/485, CAN, Ethernet</p> <p>Switching inputs/outputs: 2 x IN/2 x OUT</p> <p>Dimensions (L, W, H): 112/80/39 mm</p> <p>Weight: 900 g</p> <p>Enclosure rating: IP 65</p>	<p>Scanning frequency: Max. 15,000 Hz</p> <p>Operating voltage: 10 ... 30 V DC</p> <p>Data interfaces: RS-232, RS-422/485, CAN, Ethernet</p> <p>Switching inputs/outputs: 2 x IN/2 x OUT</p> <p>Dimensions (L, W, H): 115/80/39 mm</p> <p>Weight: 900 g</p> <p>Enclosure rating: IP 65</p>
<b>Special features</b>	<ul style="list-style-type: none"> <li>• Integrated trigger switch</li> <li>• Serial trigger and host commands</li> <li>• Presentation Mode</li> <li>• Hardware trigger via CDB405 connection module</li> <li>• Optical alignment aid</li> <li>• Wide FGS CMOS technology</li> </ul>	<ul style="list-style-type: none"> <li>• Omni bar code and Data Matrix code identification</li> <li>• Ethernet assistant</li> <li>• Code quality evaluation</li> <li>• Host and Aux interfaces</li> <li>• Megapixel CMOS technology</li> </ul>	<ul style="list-style-type: none"> <li>• Omni bar code and Data Matrix code identification</li> <li>• Ethernet assistant</li> <li>• Code quality evaluation</li> <li>• Host and Aux interfaces</li> <li>• Minimum cell size 0.1 mm at ICR852</li> </ul>
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Visual Xpress Software</li> <li>○ CDB405 connection modules</li> <li>○ Gateways for PROFIBUS, DeviceNet or Ethernet TCP/IP</li> </ul>	<ul style="list-style-type: none"> <li>• CLV Setup Software, CLV Connect Software</li> <li>○ CDB620 connection modules</li> <li>○ Gateways for PROFIBUS, DeviceNet</li> <li>○ Reading trigger sensors</li> <li>○ Mounting bracket</li> </ul>	<ul style="list-style-type: none"> <li>• CLV Setup Software, CLV Connect Software</li> <li>○ CDB620 connection modules</li> <li>○ Gateways for PROFIBUS, DeviceNet</li> <li>○ Reading trigger sensors</li> <li>○ Mounting bracket</li> </ul>

- Standard
- Optional





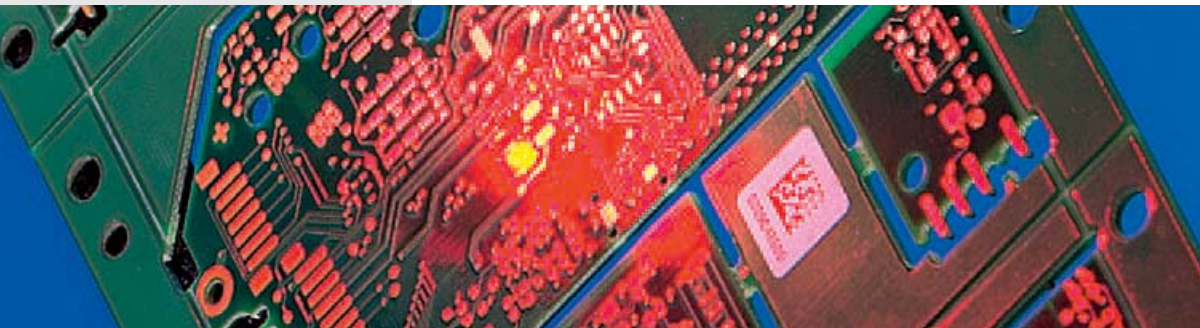
PRODUCT	ICR855-2	ICR860/862	ICR890
<b>Reading ranges</b>			
<b>Application areas</b>	<ul style="list-style-type: none"> <li>• Document processing</li> <li>• Packaging industry</li> <li>• Pharmaceutical applications</li> </ul>	<ul style="list-style-type: none"> <li>• Automotive industry</li> </ul>	<ul style="list-style-type: none"> <li>• Package identification</li> <li>• Logistics &amp; distribution</li> <li>• Mail order companies</li> </ul>
<b>Technical data</b>	<p>Scanning frequency Resolution</p> <p>Max. 45,000 Hz</p> <p>Operating voltage Data interfaces</p> <p>10 ... 30 V DC RS-232, RS-422/485, CAN, Ethernet</p> <p>Switching inputs/outputs Dimensions (L, W, H) Weight Enclosure rating</p> <p>2 x IN/2 x OUT 115/80/39 mm 900 g IP 65</p>	<p>Max. 30 images/s ICR860: 640 x 480 Pixel (VGA) ICR862: 1024 x 768 Pixel (XGA) 24 V DC ± 20 % RS-485, Ethernet (UDP),</p> <p>1 x IN/3 x OUT 160/55/60 mm 505 g IP 65 (with lens protective cover)</p>	<p>Max. 19,100 Hz</p> <p>24 V DC ± 10 % RS-232, RS-422/485, CAN, Ethernet, 2 x Gbit-Ethernet 14 x IN/6 x OUT Application-specific Application-specific IP 64</p>
<b>Special features</b>	<ul style="list-style-type: none"> <li>• Omni bar code and Data Matrix code identification</li> <li>• Ethernet assistant</li> <li>• Code quality evaluation</li> <li>• Host and Aux interfaces</li> <li>• Transport speed max. 7.8 m/s with cell sizes of 0.7 mm</li> </ul>	<ul style="list-style-type: none"> <li>• Data Matrix code identification</li> <li>• Suited for CS- and C-Mount lenses</li> <li>• Ethernet assistant</li> </ul>	<ul style="list-style-type: none"> <li>• High-end CCD camera system</li> <li>• Omni identification of bar codes and 2D codes</li> <li>• Real-time output for OCR and image video coding</li> <li>• SMART decoder</li> <li>• Integrated focus control</li> <li>• Tracking software</li> <li>• Host and Aux interfaces</li> <li>○ External parameter memory</li> <li>○ Remote diagnosis</li> </ul>
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• CLV Setup Software, CLV Connect Software</li> <li>○ CDB620 connection modules</li> <li>○ Gateways for PROFIBUS, DeviceNet</li> <li>○ Reading trigger sensors</li> <li>○ Mounting bracket</li> </ul>	<ul style="list-style-type: none"> <li>• ICR Setup Software, ImageFTP Software</li> <li>○ Lenses</li> <li>○ Protective covers</li> <li>○ CDB420 connection modules</li> <li>○ Illuminations</li> <li>○ Reading trigger sensors</li> <li>○ Mounting bracket</li> </ul>	<ul style="list-style-type: none"> <li>• System Controller MSC800</li> <li>• SOPAS Engineering Tool Software</li> <li>○ RDT400 remote diagnosis software</li> <li>○ Mechanical mounting frame</li> <li>○ Encoder</li> <li>○ Reading trigger sensors</li> </ul>

- Standard
- Optional



# ICR803

## Automatic identification in highly compact housing



LED illumination, newest Imaging Technology, USB or RS-232 interface – all functions necessary for reading 1D or 2D codes are already included inside the compact housing of the ICR803. It only measures 49 x 40 x 25 mm<sup>3</sup>. With only 37 g it also is a real lightweight. Everywhere the space for mounting is limited, the ICR803 is the ideal choice. Bar codes, stacked codes, 2D codes, RSS codes or image acquisition – the ICR803 reads omnidirectional, meaning

in every code orientation. Therefore a defined code adjustment is not necessary.

The ICR803 can be integrated in different devices. Examples are clinical analysers, electronic kiosks, robot systems, access controls as well as information and transaction terminals.

Through an external push-button the ICR803 can be triggered manually. The device also can be controlled via serial commands.

### Your benefits:

- Fast and reliable code identification
- Reading of 1D codes, stacked codes, 2D codes, RSS codes, OCR-A/B and image acquisition with only one device
- Easy and fast installation and configuration
- No moving parts, robust design

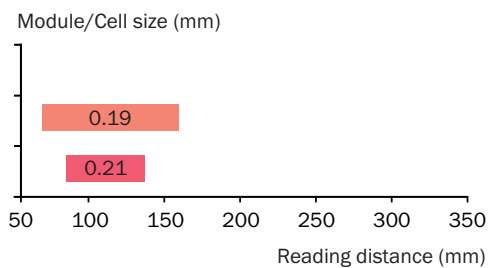
### The ICR803 at a glance:

- Omnidirectional code reading
- Optical aiming line
- Compact dimensions
- Only 37 g (without cable)
- USB and RS-232 versions
- RoHS and WEEE conform
- Triggering via button, presentation mode, serial commands or hardware trigger via SICK connection technology

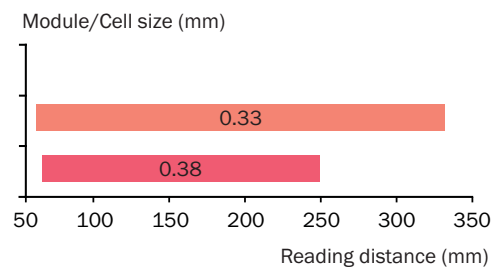
## Technical data

Typ	ICR803
Scanner design	2D Image Code Reader
Light source	
LED illumination	Visible red light (630 nm)
LED aiming line	Visible green light (530 nm)
Ambient light compatibility	Max. 100,000 lx
Resolution	752 x 480 Pixel
Code types	
Linear	Codabar, Code 39, Code 32 PARAF, Code 93, Code 2 of 5, Code 11, Code 128, Telepen, UPC/EAN, RSS14, RSS-Limited&Expanded, Codablock, Posicode, Interleaved 2 of 5, Postal Codes
Stacked	PDF417
2D	Aztec, Data Matrix, Maxicode, QR Code
OCR	OCR-A, OCR-B
Image acquisition	BMP, JPEG, TIFF
Object velocity	Max. 0.1 m/s
Interfaces	USB keyboard wedge, USB serial, RS-232 TTL
Operating voltage	5 V DC
Weight	37 g
Dimensions	49 mm x 40 mm x 25 mm
Operating temperature	0 ... 50 °C

## Reading diagram



Reading field diagram for ICR803-Axxx  
 ■ = 1D, ■ = 2D



Reading field diagram for ICR803-Bxxx  
 ■ = 1D, ■ = 2D

## Order information

Type	Description	Order no.
ICR803-A0201	2D Image Code Reader ICR803-A0201, optical version A, RS-232 interface	6034210
ICR803-A0271	2D Image Code Reader ICR803-A0201, optical version A, USB interface	6034212
ICR803-B0201	2D Image Code Reader ICR803-A0201, optical version B, RS-232 interface	6034211
ICR803-B0271	2D Image Code Reader ICR803-A0201, optical version B, USB interface	6034213
	Straight USB cable, 2.4 m length	6028232
	Straight RS-232 TTL cable, 2.4 m length, external power supply necessary	6033047
	Straight RS-232 TTL cable, 2.4 m length, power supply on pin 9	6028186
CDB405-001	Connection module with integrated 24/5 V DC converter	1027093
	Straight RS-232 TTL cable, 2 m length, for connection of ICR803 to CDB405-001	6034935
	Additional products such as interface cables and power supply units	On request

## Accessories

Accessories can be found on Page 235

# ICR840-2

## The new generation of 2D code reading technology



1D and 2D code reading is possible with the ICR840-2 family. The sensor technology of the ICR840 is based upon a 1.3 Megapixel CMOS sensor with state-of-the-art technology. By adjusting the field of view, the framerate can be increased. For example, if the adjustment is set to VGA resolution of 640 x 480

pixel, the image refresh rate of the ICR840-2 will be increased to 60 Hz. Due to special decoding functions, the ICR840-2 is specially customized for reading direct marked codes. The integrated computing performance provides short response times.

### Your benefits:

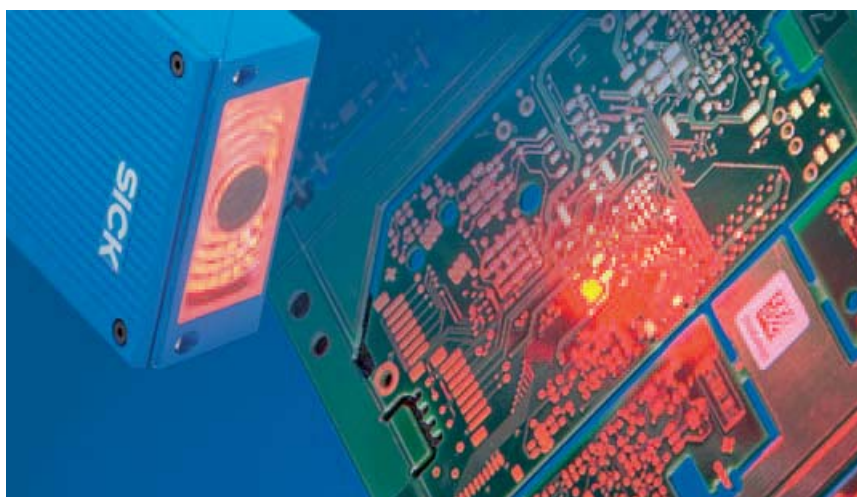
- Fast and reliable identification, also in the case of poor quality codes
- Easy configuration via established graphical user interface
- Comfortable visualisation of image and diagnosis data
- Omni-directional identification of all popular linear codes and Data-Matrix-ECC200 codes

### The ICR840-2 at a glance:

- CMOS matrix sensor with 1.3 Megapixel
- Integrated, controllable LED illumination with  $617 \pm 15$  nm
- Image refresh rate 25 Hz at highest resolution
- Big depth of field
- Different optical variants
- Smallest resolution 0.1 mm
- Ethernet interface for data and image transfer

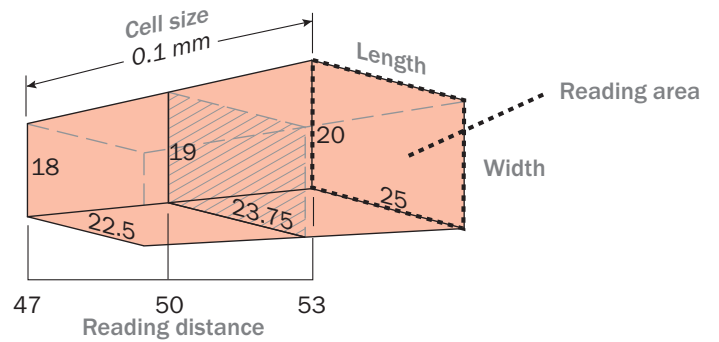
## Technical data

Type	ICR840-2A High Density	ICR840-2B Standard	ICR840-2C Mid Range	ICR840-2D Long Range
Front reading window	ICR840-2A0020 (Order no. 1042896)	ICR840-2B0020 (Order no. 1042277)	ICR840-2C0020 (Order no. 1042279)	ICR840-2D0020 (Order no. 1043547)
Side reading window	ICR840-2A1020 (Order no. 1042897)	ICR840-2B1020 (Order no. 1042338)	ICR840-2C1020 (Order no. 1042885)	ICR840-2D1020 (Order no. 1043546)
Resolution	0.10 ... 2 mm	0.15 ... 2 mm	0.25 ... 2 mm	0.30 ... 2 mm
Focal position	50 mm	80 mm	115 mm	145 mm
Light source	Illumination LEDs: visible red light ( $\lambda = 617 \pm 15$ nm)			
MTBF of LEDs	20,000 h			
LED class	Class 1 pursuant to EN/IEC 60825-1			
Image refresh rate	25 Hz at 1.3 Megapixel			
Ambient light compatibility	2,000 lx			
Bar code types	Code 39, Code 128, Codabar, EAN, EAN 128, UPC, 2/5, Interleaved, Pharmacode, RSS limited			
Bar code length	Max. 50 characters (max. 4,000 characters across all codes per reading interval)			
2D code types	Data Matrix ECC200			
2D code size	To ISO / IEC 16022			
No. of codes per image	1 ... 50			
No. of codes per reading interval	1 ... 50			
Optical indicators	4 x LED (status indicator)			
Acoustic indicator	Beeper, can be switched off and assigned to a function for result status indication			
Reading pulse	"Sensor 1" switching input/free-running/serial interface			
"Host" data interface	RS-232 or RS-422/-485, 300 Bd ... 57,600 Bd, variable data output format			
"Ethernet" data interface	10/100 Mbit/s, TCP/IP, FTP			
"AUX" data interface	RS-232, 9,600 bd, 8 data bits, no parity, 1 stop bit, fixed output format			
Digital switching inputs	2 ("Sensor 1", "Sensor 2")			
Digital switching outputs	2 ("Result 1", "Result 2"); Result 1: low-side switch, Result 2: high-side switch			
Electrical connection	15-pin D Sub HD connector, cable length 0.9 m/RJ-45 socket			
Operating voltage/ power consumption	15 V ... 30 V DC/max. 13 W			
Housing	Zinc die-cast			
Electrical safety	To EN 61010-1			
Protection class	III, to EN 61140			
Enclosure rating	IP 65, to EN 60529; A2, with mounted adapter frame and IP 65 Ethernet cable or with mounted adapter frame and IP 65 cover. IP 30 without adapter frame and cover or with standard Ethernet cable.			
EMC/vibration/shock tested	To EN 61000-6-2 and EN 61000-6-4 / EN 60068-2-6 / EN 60068-2-27			
Weight	Approx. 900 g with connecting cable			
Operating/storage temperature	0 °C ... 40 °C / -20 °C ... +70 °C			
Max. rel. humidity	90 %, non condensing			

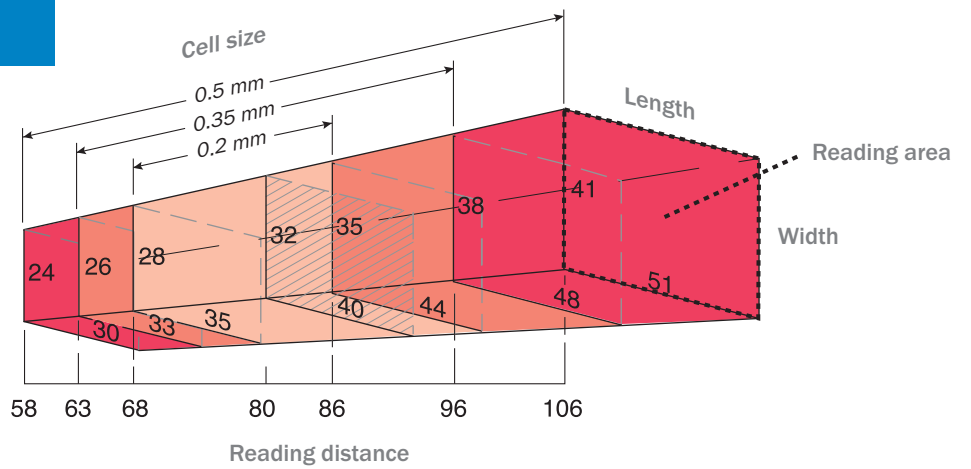


Read field diagrams

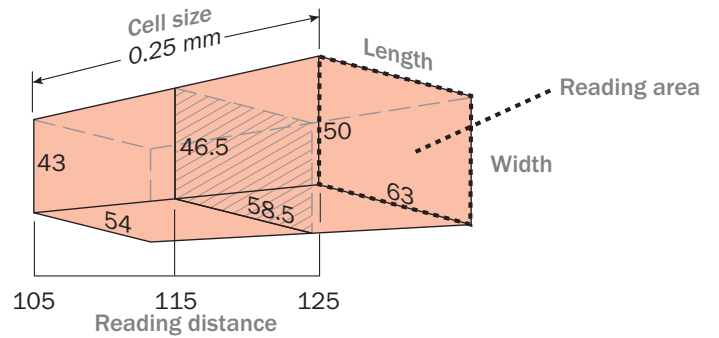
ICR840-2A0020/1020  
High Density



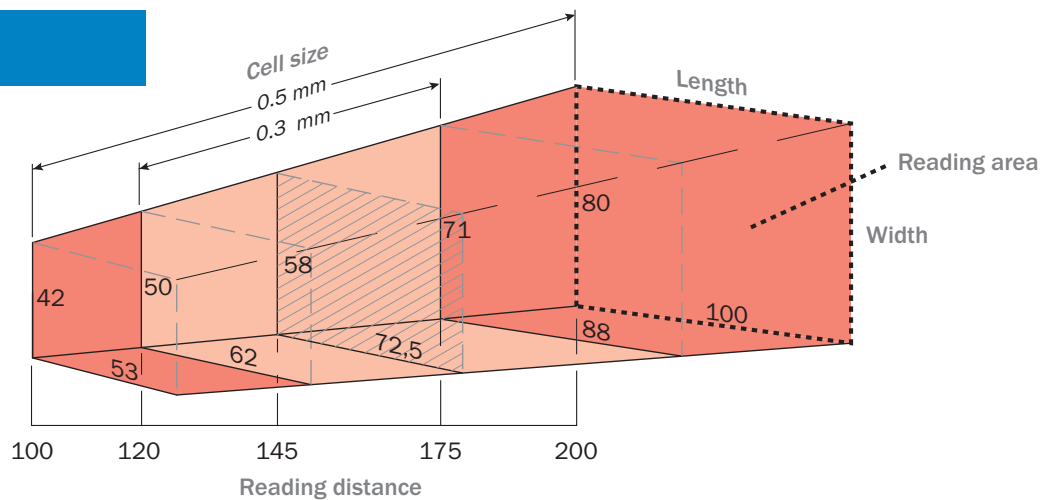
ICR840-2B0020/1020  
Standard



ICR840-2C0020/1020  
Mid Range

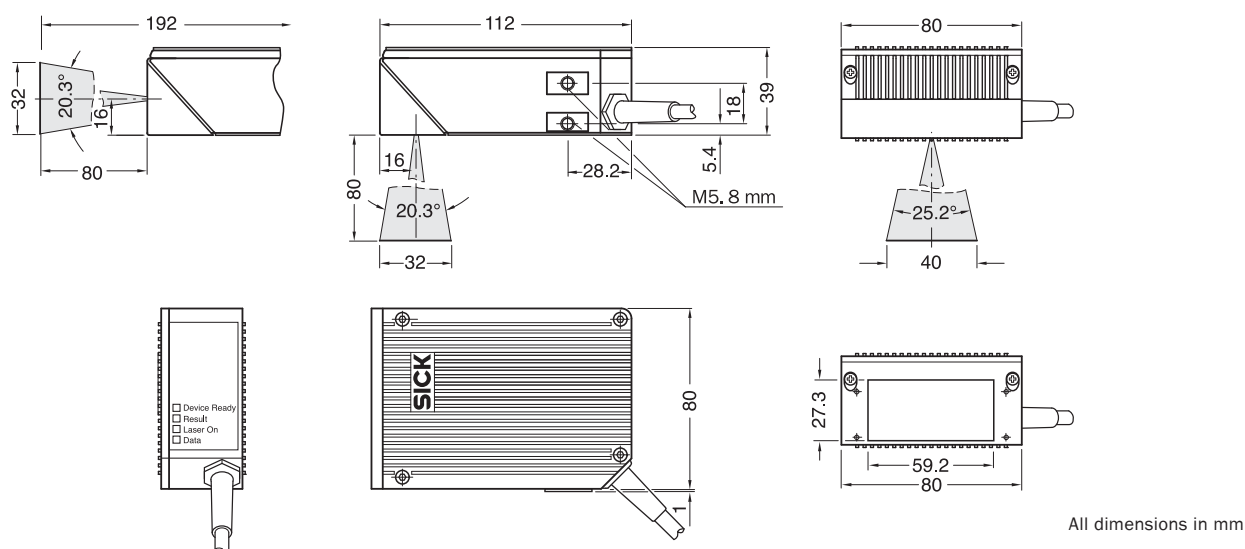


ICR840-2D0020/1020  
Long Range



## Dimensional drawings

### ICR840-2B0020/1020 Standard



## Order information

### High Density

Type	Description	Order no.
ICR840-2A0020	Front reading window, focal position 50 mm, min. resolution 0.10 mm	1042896
ICR840-2A1020	Side reading window, focal position 50 mm, min. resolution 0.10 mm	1042897

### Standard

Type	Description	Order no.
ICR840-2B0020	Front reading window, focal position 80 mm, min. resolution 0.15 mm	1042277
ICR840-2B1020	Side reading window, focal position 80 mm, min. resolution 0.15 mm	1042338

### Mid Range

Type	Description	Order no.
ICR840-2C0020	Front reading window, focal position 115 mm, min. resolution 0.25 mm	1042279
ICR840-2C1020	Side reading window, focal position 115 mm, min. resolution 0.25 mm	1042885

### Long Range

Type	Description	Order no.
ICR840-2D0020	Front reading window, focal position 145 mm, min. resolution 0.3 mm	1043547
ICR840-2D1020	Side reading window, focal position 145 mm, min. resolution 0.3 mm	1043546

## Accessories

Accessories can be found on Page 235

# ICR85x-2 – The new generation of this scanner family for dynamic reading of 1D and 2D codes



The ICR85x-2 device family is based on state-of-the-art computer technology combined with an innovative illumination concept. The integrated laser illumination generates an intensive, homogeneous illumination line; the multi-processor architecture is the basis for a powerful complete device.

The ICR850-2 can detect codes with a minimum cell size of 0.2 mm in a reading field of 80 mm – at an object speed of 0.6 m/s. This reading performance is

achieved by a scanning frequency of 15 kHz. The ICR855-2 is designed for more rapid applications. It operates at a maximum of 45 kHz and can reliably detect a cell size of 0.35 mm at a speed of 4 m/s. Smaller symbols are used in many sectors, particularly in electronic and component production.

The ICR852-2 has been specially developed for the demands posed here. It can detect small structures of 0.1 mm at a speed of up to 0.3 m/s.

## Your benefits:

- Reduced cost through a fully integrated scanner (decoding and illumination)
- Decoding of bar codes and 2D codes with the same scanner at common settings
- Easy configuration via well established graphical user interface
- Omni-directional reading of bar codes and 2D codes
- Ideal for realising the transition from bar codes to 2D codes for existing manufacturing lines. Connectivity identical to SICK bar code scanner family.

## The ICR85x-2 at a glance:

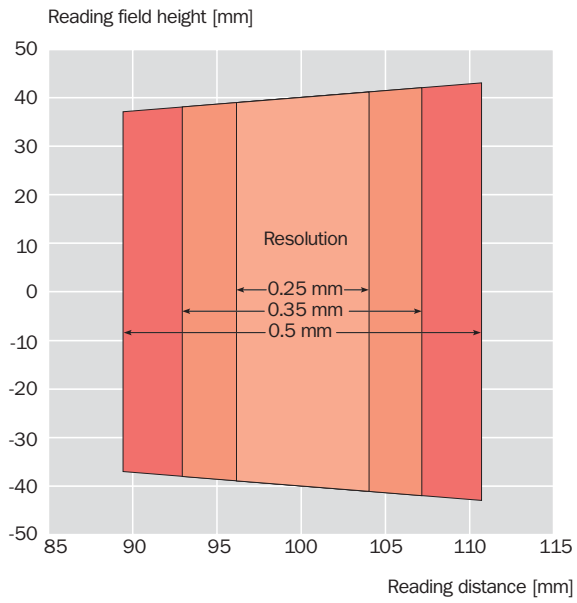
- ICR850-2: Wide reading field height of 80 mm
- ICR855-2: Scan frequency up to 45 kHz for high transport speeds
- ICR852-2: Reading high resolution codes at cell sizes/bar width down to 0.10 mm
- Laser line at 650 nm provides ideal illumination of the reading field
- On-board Ethernet interface introduces an innovative bus concept

## Technical data

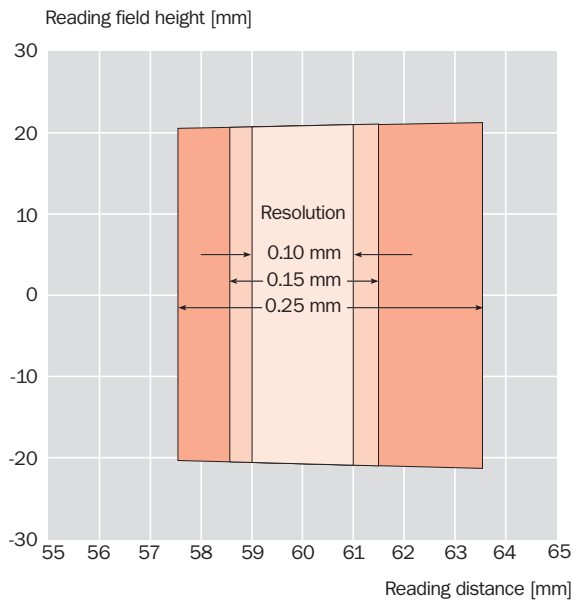
Type	ICR850-2 Standard	ICR852-2 High Density	ICR855-2 High Speed
Front reading window	ICR850-2B0020 (Order no. 1042280)	ICR852-2A0020 (Order no. 1042899)	ICR855-2A0020 (Order no. 1042898)
Side reading window	ICR850-2B1020 (Order no. 1042341)	ICR852-2A1020 (Order no. 1042900)	ICR855-2A1020 (Order no. 1042281)
Resolution	0.20 ... 2 mm	0.10 ... 2 mm	0.35 ... 2 mm
Scanning frequency max.	15 kHz	15 kHz	45 kHz
Laser diode (wavelength)	Red light ( $\lambda = 650 \text{ nm}$ )		
MTBF of laser diode	20,000 h		
Laser class of the device	Class 2 to EN 60825-1/IEC 60825-1		
Ambient light compatibility	2,000 lx on code		
Bar code types	Code 39, Code 128, Codabar, EAN, EAN 128, UPC, 2/5 Interleaved, Pharmacode, RSS limited		
Bar code length	Max. 50 characters (max. 4,000 characters across all codes per reading interval)		
2D code types	Data Matrix ECC200		
2D code size	To ISO/IEC 16022		
No. of codes per scan	1 ... 20 (bar codes: 1 ... 20 with standard decoder, 1 ... 6 with SMART decoder)		
No. of codes per reading interval	1 ... 50		
Optical indicators	4 x LED (status indicator)		
Acoustic indicators	Beeper, can be deactivated and assigned to a function for result status indication		
Reading pulse	"Sensor 1" switching input/free-running/serial interface		
"Host" data interface	RS-232 or RS-422/485, 300 Bd ... 57,600 Bd, variable data output format		
"Ethernet" data interface	10/100 Mbit/s, TCP/IP, FTP		
"AUX" data interface	RS-232, 9,600 Bd, 8 data bits, no parity, 1 stop bit, fixed output format		
Digital switching inputs	2 ("Sensor 1", "Sensor 2")		
Digital switching outputs	2 ("Result 1", "Result 2")		
Electrical connection	RJ 45 socket at the device and cable 0.9 m with 15-pin D Sub HD connector		
Operating voltage/ power consumption	10 V ... 30 V DC/ max. 11 W		
Housing	Zinc die-cast		
Electrical safety	To EN 61010-1		
Protection class	III, to EN 61140		
Enclosure rating	IP 65, to EN 60529; A2, with mounted adapter frame and IP 65 Ethernet cable or with mounted adapter frame and IP 65 cover. IP 30 without adapter frame and cover or with standard Ethernet cable.		
EMC/vibration/shock tested	To EN 61000-6-2 and EN 61000-6-4/EN 60068-2-6/EN 60068-2-27		
Weight	Approx. 900 g with connecting cable		
Operating/storage temperature	0 °C ... +40 °C/ -20 °C ... +70 °C		
Max. rel. humidity	90 %, non condensing		

Reading field diagrams

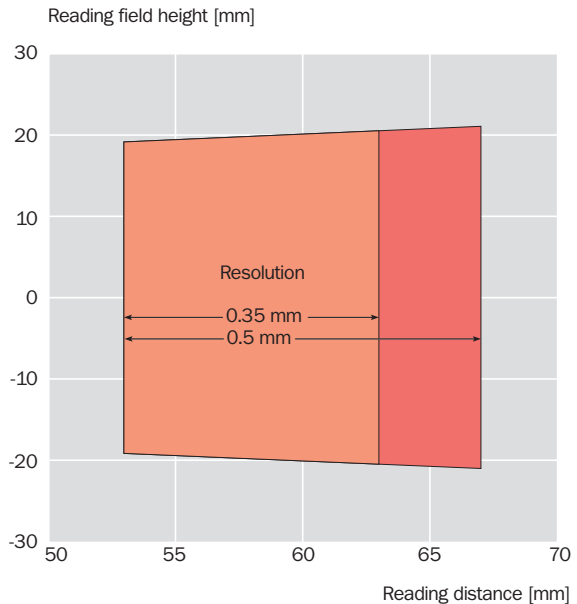
ICR850-2B1020 Standard



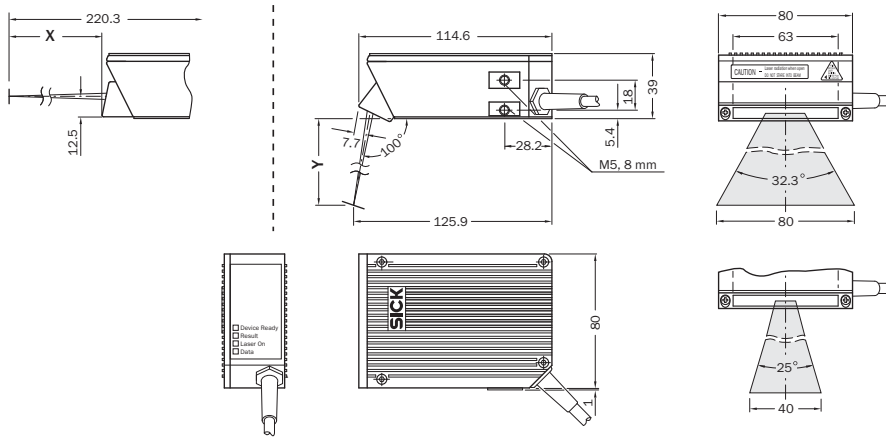
ICR852-2A1020 High Density



ICR855-2A1020 High Speed



## Dimensional drawings



All dimensions in mm

Type	X	Y
ICR850-2B0020	110	
ICR852-2A0020	70	
ICR855-2A0020	70	
ICR850-2B1020		100
ICR852-2A1020		60
ICR855-2A1020		60

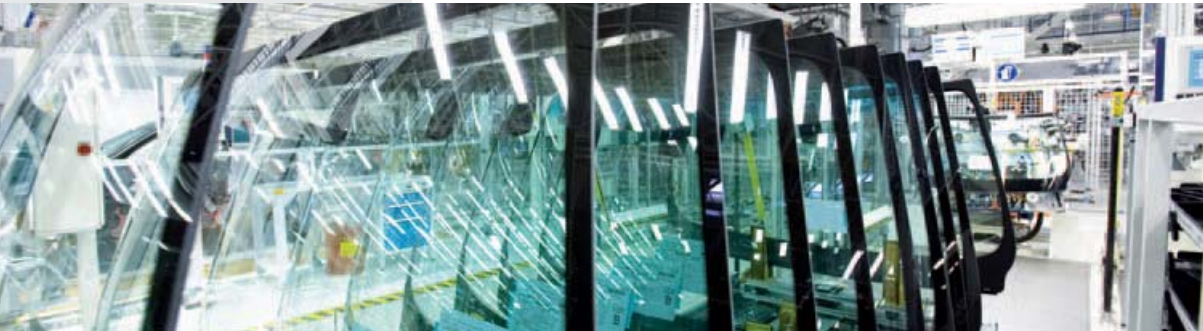
## Order information

Type	Description	Order no.
ICR850-2B0020	Front reading window exit, RS-232/422/485, Ethernet	1042280
ICR850-2B1020	Side reading window exit, RS-232/422/485, Ethernet	1042341
ICR852-2A0020	Front reading window exit, RS-232/422/485, Ethernet	1042899
ICR852-2A1020	Side reading window exit, RS-232/422/485, Ethernet	1042900
ICR855-2A0020	Front reading window exit, RS-232/422/485, Ethernet	1042898
ICR855-2A1020	Side reading window exit, RS-232/422/485, Ethernet	1042281

## Accessories

Accessories can be found on Page 236

# ICR86x Image Code Reader – a new kind of Image Code Reader



The ICR86x family opens new possibilities to identify Data Matrix codes at variable reading distances.

The ICR86x combines the advantages of high performance, industrial camera technology with the identification know-how of SICK.

Each application offers different challenges, in code resolution, code printing, reading distance, etc. The ICR86x overcomes these various challenges through its remarkable flexibility.

The ICR86x can be equipped with any conventional CS- or C-mount lenses. With appropriate illumination this permits reading distances of up to 2 m.

The ICR86x is capable of reliably decoding all kinds of marking types. The device is particularly characterised by its reading power for direct part marking, e.g. laser-printed or dot-peened Data Matrix codes.

SICK offers a set of pre-qualified lenses and light sources.

## Your benefits:

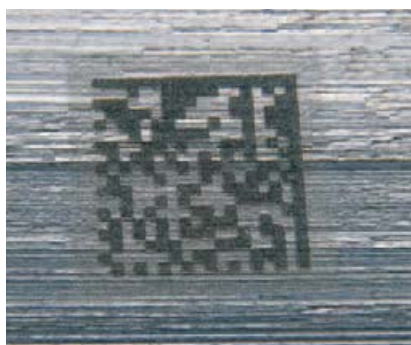
- Data Matrix identification with a reading distance of up to 2 m
- Flexible adaptation of reading distances by exchangeable lenses
- Free choice of illumination
- Quick configuration through easy and comfortable GUI

## The ICR86x at a glance:

- Integrated Data Matrix decoder
- Wide variety of lenses and illumination
- RS-485 and Ethernet interface
- Robust IP 54 housing, with lens protection hood IP 65

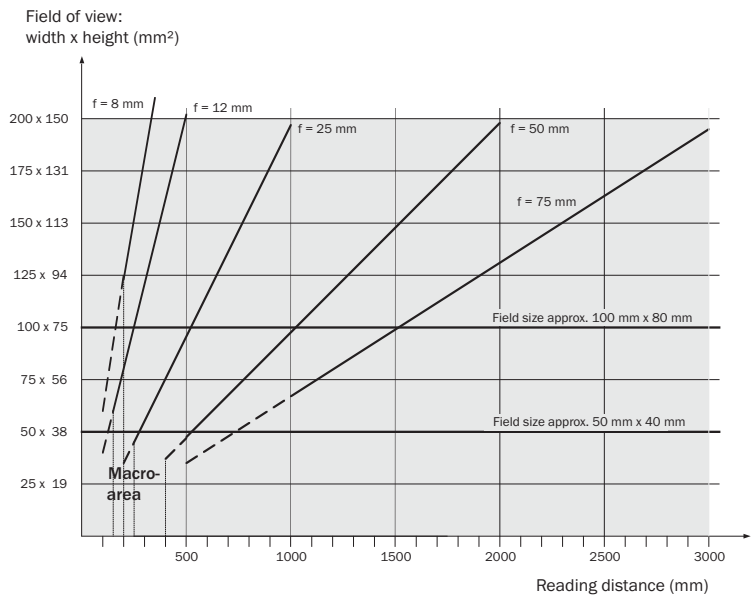
## Technical data

Type	ICR860	ICR862
CCD sensor	640 x 480 pixel (VGA), grey values	1024 x 768 pixel (XGA), grey values
Spectral sensitivity	Approx. 400 ... 750 nm	
Lenses	CS- or C-Mount threads	
Exposure time	64 $\mu$ s ... 500 ms	
Reading area/field of view	See reading diagrams	
Code types	Data Matrix ECC200	
Data interfaces	RS-485, Ethernet (10/100 Mbit/s, UDP)	
Digital switching inputs	1 x Reading Trigger (VIN HIGH = 10 V ... 28.8 V)	
Digital switching outputs	3 x ("Good Read", "No Read", "Trigger OUT" (TTL)), type B, IOOUT total < 100 mA	
Electrical connections	1 x 8-pole M12 plug ("Power, I/O") 1 x 4-pole M12 socket, D-coded ("Ethernet") 1 x 8-pole M12 socket ("RS-485")	
Supply voltage/power consumption	24 V DC $\pm$ 20 %/max. 10 W	
Housing	Aluminium, front window PMMA	
Dimension (L x W x H)	160.6 mm x 60 mm x 54.5 mm	
Enclosure rating	IP 54 (IP 65 with lens protection hood)	
Temperature (operating/storage)	0 ... +50 °C/-20 ... +70 °C	

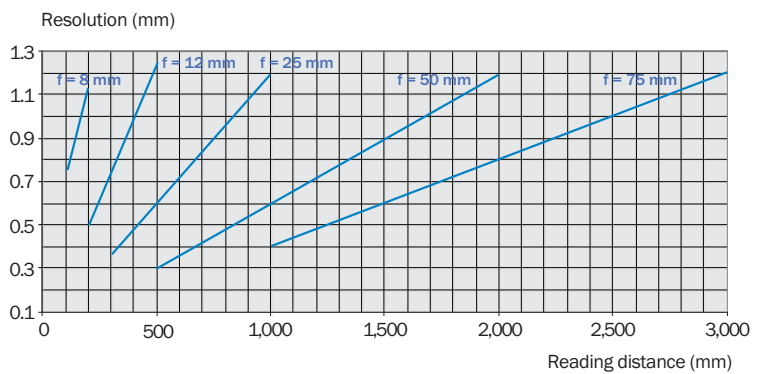


Reading field diagrams

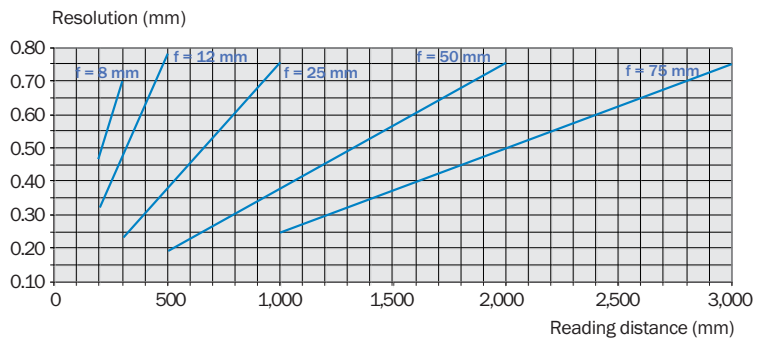
ICR86x



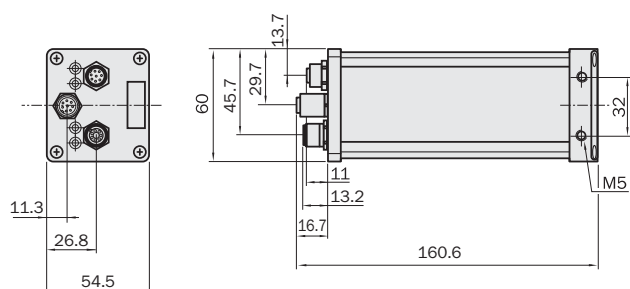
ICR860



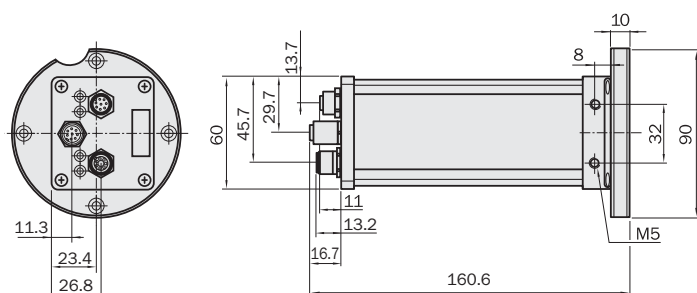
ICR862



## Dimensional drawings



ICR86x



ICR86x with adapter plate for ICL110 ring illumination

All dimensions in mm

## Order Information

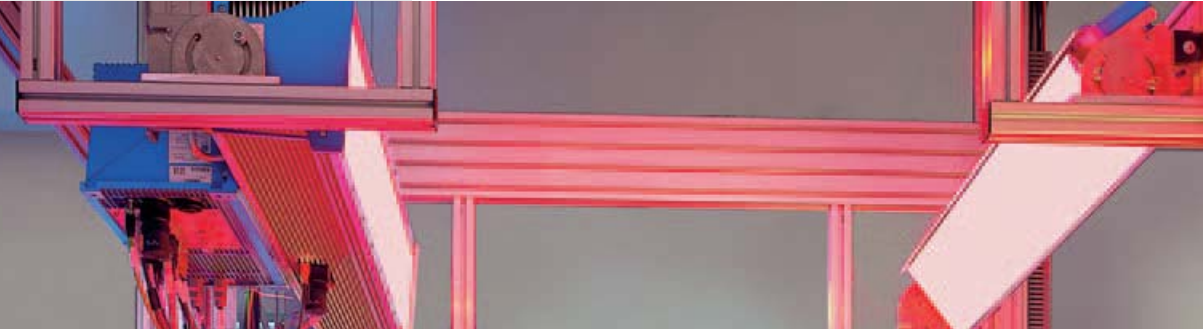
Type	Description	Order no.
ICR860-0020	Image Code Reader ICR860	1040100
ICR862-0020	Image Code Reader ICR862	1040149

## Accessories

Accessories can be found on Page 236

# ICR890

## High-end CCD camera system – the next step to the future



The ICR890 camera system is the ideal solution in linear and 2D code reading for all high-end applications in sortation, transport and logistics processes. In addition the excellent image quality provided by the ICR890 makes it suitable for all kinds of OCR and video coding tasks.

The modular camera design includes integrated illumination, focus control and a high-performance decoder. Depending on the application, proprietary products such as Volume Measurement System can be integrated.

### Your benefits:

- Fast and reliable identification including badly printed codes
- Constant resolution over the entire DOF
- Easy configuration with SOPAS engineering tool
- Remote diagnosis with RDT400
- Short MTTR because of modular design
- High reliability (50,000 h MTBF)
- Low cost of ownership
- Maintenance-free, no cyclic calibrations
- Easy device exchange without any re-adjustment due to quick release brackets

### The ICR890 at a glance:

- Large reading field from 1,400 to 3,000 mm
- High-end CCD sensor (8,192 pixel)
- High line rate of 19 kHz
- Integrated co-planar LED illumination
- Integrated real time focus control
- Integrated high performance decoder board
- Ethernet interfaces for data transfer and image-lift
- Integrated flash card for parameter cloning
- Integrated digital zoom function
- OCR compatible picture quality
- Online status monitoring of all system components

## Technical data

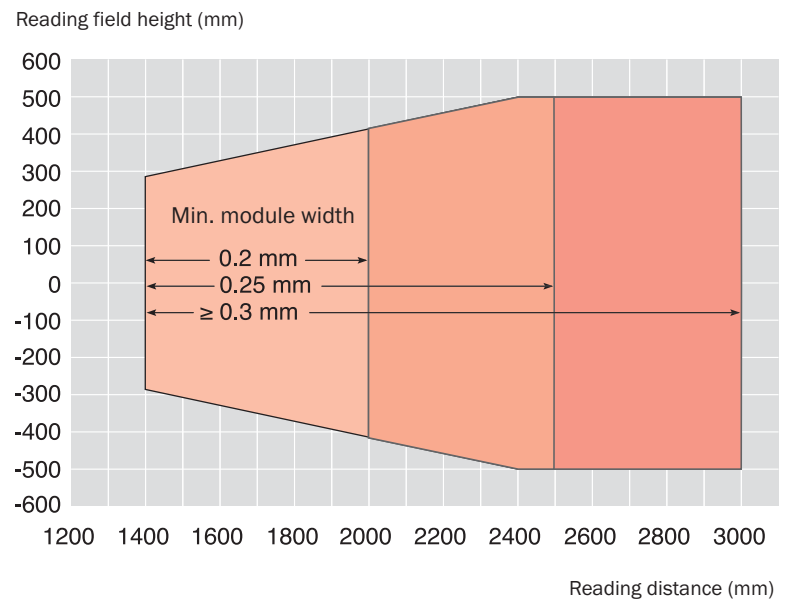
Type	ICD890	ICI890
Function	Camera and decoding system	LED lighting
LED Class	-	Class 1M to EN 60825-1
Wave length	-	Red light ( $\lambda = 620 \text{ nm}$ )
MTBF	> 50,000 h	> 50,000 h
MTTR <sup>1)</sup>	< 20 min	< 20 min
CCD line sensor	Line camera with 8,192 pixel	
Max. line rate	19.1 kHz	
Image resolution	250 dpi at reading distance 2 m 170 dpi at reading distance 3 m	
Conveyor coverage	1,000 mm at resolution of 170 dpi 600 mm at resolution of 250 dpi	
Depth of field	1,600 mm at resolution of 170 dpi 600 mm at resolution of 250 dpi	
Max. conveyor speed	1.9 m/s at resolution of 250 lpi 2.8 m/s at resolution of 170 lpi 4.8 m/s at resolution of 100 lpi	
Supported lenses	Focal length 135 mm (standard)	
Image data output	Ethernet FTP	
Ambient light compatibility	2,000 lx (on 2D code/bar codes)	
1D code types (bar codes)	2/5 Interleaved, Code 39, Code 128, EAN/UPC with add-on, Codabar, EAN 128	
2D code types	Data Matrix ECC200, PDF 417 (others on request)	
No. of objects per second	Max. 10	
Minimum object gap	50 mm	
No. of codes per object	1D: max. 50 2D: max. 10	
Data communication	2 x RS-232/422/485, max. 115.2 kbit/s 1 x Ethernet, 10/100 Mbit/s 2 x CAN bus, max. 1 Mbit/s 2 x 1-Gbit Ethernet for image output	
Digital inputs	2 x IN, programmable	
Digital outputs	2 x OUT, programmable	
Electrical connections	11 x M12 3 x RJ-45 1 x power supply in/out	1 x M12 1 x power supply in
Operating voltage	24 V DC $\pm$ 10 %	Power supply via ICD890
Power consumption	Typical 75 W	Typical 350 W
Housing	Aluminium die-cast	Aluminium extrusion
Dimensions	495 mm x 205 mm x 200 mm <sup>2)</sup>	1.115 mm x 210 mm x 175 mm
Weight	13.5 kg	23.5 kg
Enclosure rating	IP 64 (to DIN 40 050)	
Protection class	Class 3 (to IEC 1010-1)	
EMC/vibration/shock tested	To EN 61000-6-2, EN 61000-6-4 / IEC 68-2-6 / IEC 68-2-27, IEC 68-2-29	
Operating temperature	0 ... +40 °C	
Storage temperature	-20 ... +70 °C	
Max. relative humidity	95 %, non condensing	
Colour	SICK blue (RAL 5012)	

<sup>1)</sup> ICD890 and ICI890 are changeable independently

<sup>2)</sup> including decoder

## Reading field diagram

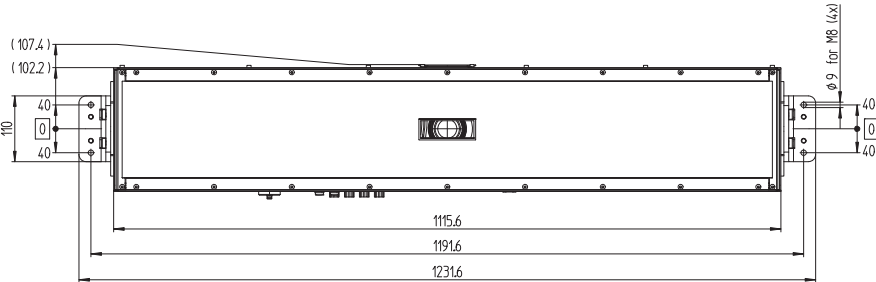
ICR890



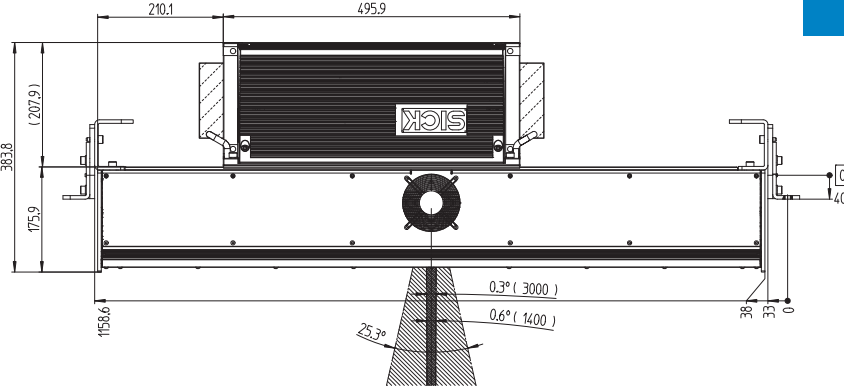
## Reading conditions:

Test code:	Code 128
Code quality:	A or B acc. to ANSI
Print contrast:	> 90 %
Ambient light:	< 2,000 lx
Min. resolution:	2 pixel/module
Tilt:	360°
Pitch:	-15° ... +15°
Skew:	-15° ... +15°

Dimensional drawing



ICR890



All dimensions in mm

Order information

Type	Description	Order no.
	"Customized"	