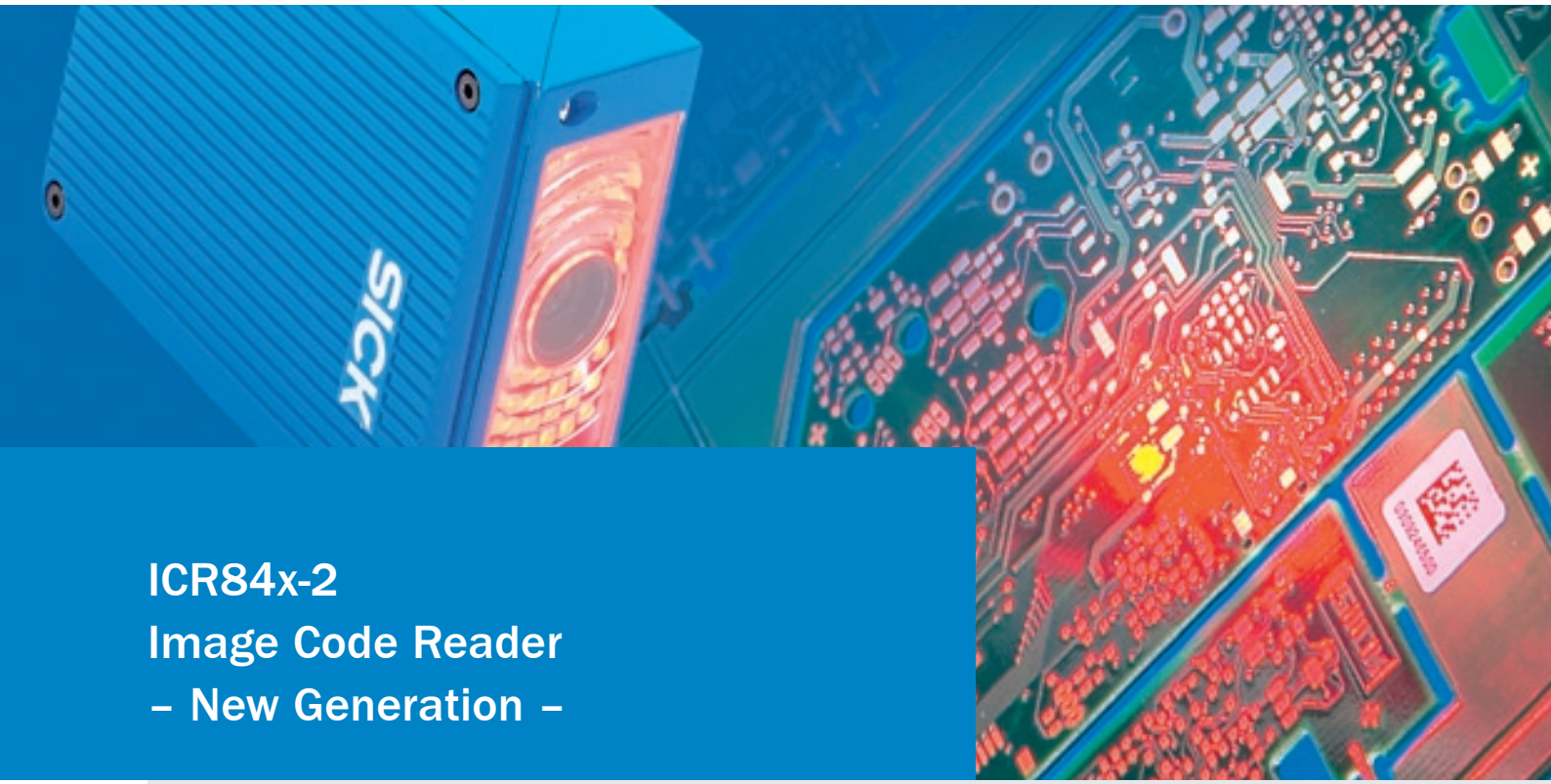
PRODUCT INFORMATION



ICR84x-2
Image Code Reader
– New Generation –

Scanner family for reading 1D and 2D codes

SICK
Sensor Intelligence.

As varied as their applications: ICR84x-2 Image Code Readers

The Image Code Readers of the ICR84x-2 product family combine the latest technology for rapid computing performance with high-quality matrix sensors. Industry-compatible IP 65 housings, integrated illumination, user-friendly image recording, and decoding with rapid image and data output via standardised interfaces allow quick implementation in many applications.

Side reading window

Front reading window

Your benefits:

- Comfortable visualisation of image and diagnostic data in the live image
- Easy configuration via established user interface
- Reliable reading of codes on stationary or moving objects
- Omni-directional reading of all popular 1D codes and the Data Matrix ECC200 codes
- Rapid and reliable identification, even with poorly printed codes or DPMs
- Integrated, controllable LED illumination
- Ethernet interface for rapid data and image transfer

Flexible use, numerous variants, simple commissioning

Whether on substrate, directly marked (DPM) or misaligned: ICR84x-2 Image Code Readers read 1D and 2D codes even with weak contrasts, poor markings and in dirty surroundings – thanks to progressive decoders. This increases process reliability and ensures dependable identification.

A large number of device variants offer the right solution for your application – regardless of the mounting position. The variants differ in reading distance, resolution and reading field size, and are available with side or front reading windows.

Curved objects can be homogeneously lit by the powerful integrated illumination. The segmentally controllable LEDs permit optimum adaptation of the illumination to the operating environment.

A variety of interfaces or Ethernet integrate the ICR84x-2 Image Code Readers in your existing data environment directly or via the network.

A easily accessible output of live pictures via Ethernet allows user-friendly alignment and configuration. Optimum adjustment for the application can be achieved in just a few steps.

Two product lines: ICR840-2 and ICR845-2

ICR840-2: large field of view and high resolution through 1.3 megapixel technology

The ICR840-2 Image Code Reader is optimised for applications in which the objects are either stationary during reading or are moving at a low transport speed. Its high picture quality and high resolution, as a result of its large matrix sensor (1,280 x 1,024 pixels) is highly convincing. Thus the smallest of codes can be decoded even in large reading fields. The reading field can be reduced (windowing) leading to an increase in image frequency from 25 Hz to, for example, 60 Hz (with a VGA resolution of 640 x 480 pixels) in order to achieve greater throughput performance.

The ICR840-2 at a glance:

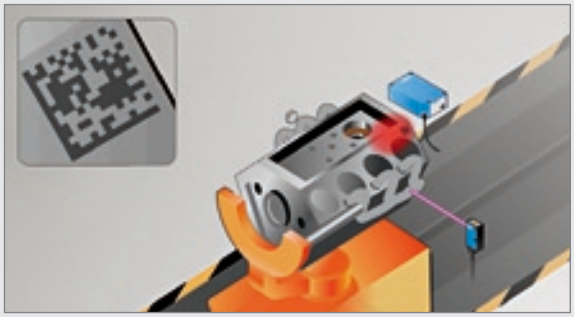
- CMOS matrix sensor with 1.3 megapixel
- 25 Hz image frame rate with complete field of view and up to 200 Hz with reduced field of view
- Depth of field up to 100 mm (depending on resolution)
- Smallest resolution 0.1 mm
- Several optical variants

Typical areas of use for the ICR840-2

- The automotive industry (e.g. identification during engine construction)
- The electronics industry (e.g. identification of components and circuit boards, inspection of incoming goods)
- The pharmaceutical industry (e.g. identification of folding boxes and package inserts, tracing blister packs)

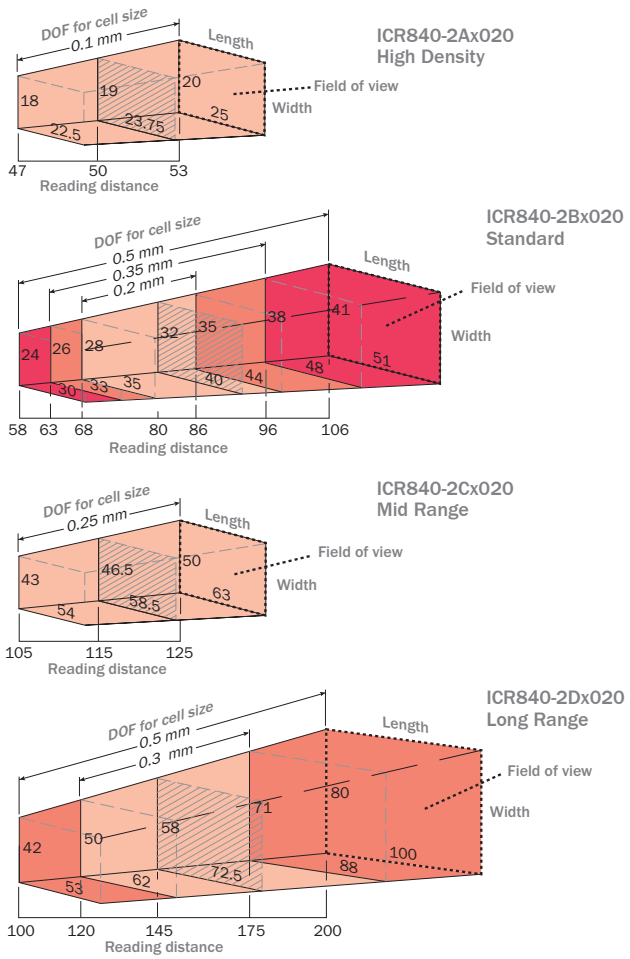
- ▸ Checking quality of codes
- ▸ Meeting high safety requirements
- ▸ Ensuring traceability

Application example



Reading 2D codes on a motor block

Field of view size/depth of field (typical)



ICR845-2: rapid decoding at high transport speeds

High reading rates, even under difficult conditions, make the ICR845-2 Image Code Reader a multitalent. Even directly marked codes of the poorest quality can be decoded while in motion. The sensor technology of the ICR845-2 is based on a WVGA-CMOS matrix sensor (752 x 480 pixels). The high computing performance enables it to search through all the images in the evaluation of codes and achieve a high object throughput rate. Readings at transport speeds of several metres per second can be achieved.

The ICR845-2 at a glance:

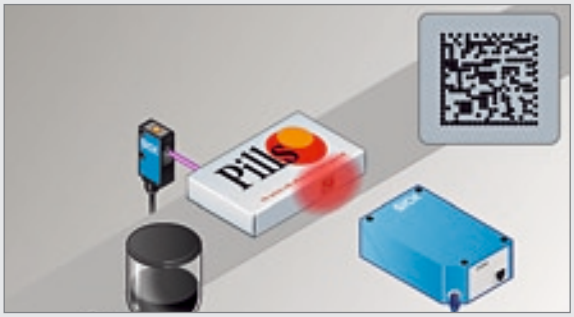
- WVGA CMOS matrix sensor with global shutter and 752 x 480 pixels
- Recording up to 60 images per second
- High image frequency of 60 Hz for reliable identification of rapidly moving objects
- “On the fly” identification even at high transport speeds

Typical areas of use for the ICR845-2

- The pharmaceutical industry (e.g. identification of tablet packaging, blisters and package inserts)
- The electronics industry (e.g. identification of components and circuit boards, inspection of incoming goods)
- The packaging industry (e.g. identification of food packaging)
- Document handling (e.g. identification of letters in inserting machines)
- The automobile industry (e.g. identification of parts)

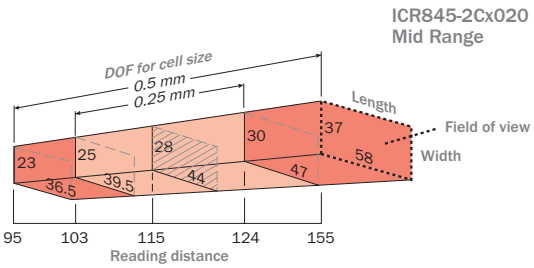
- ▸ Reliable decoding at high transport speeds
- ▸ “On the fly” identification
- ▸ Ensuring traceability

Application example



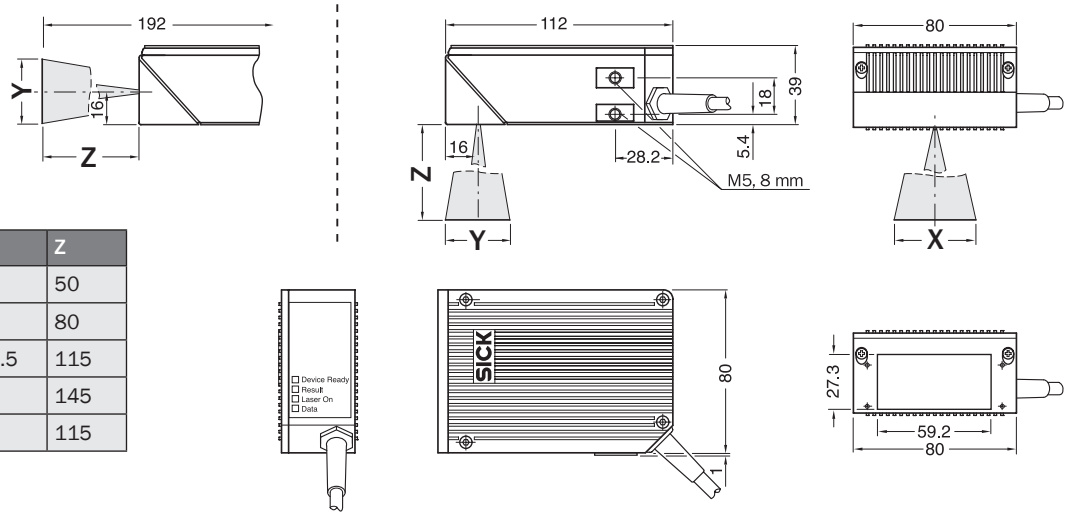
Reading 2D codes on folded boxes for pharmaceutical products

Field of view size/depth of field (typical)



All dimensions in mm

Dimensional drawing ICR84x-2, front and side reading window



Type	X	Y	Z
ICR840-2Ax020	23.75	19	50
ICR840-2Bx020	40	32	80
ICR840-2Cx020	58.5	46.5	115
ICR840-2Dx020	72.5	58	145
ICR845-2Cx020	44	28	115

Technical data ICR840-2 and ICR845-2

Type	ICR840-2A (High Density)	ICR840-2B (Standard)	ICR840-2C (Mid Range)	ICR840-2D (Long Range)	ICR845-2C (Mid Range)
Front reading window	ICR840-2A0020 (Order No. 1042896)	ICR840-2B0020 (Order No. 1042277)	ICR840-2C0020 (Order No. 1042279)	ICR840-2D0020 (Order No. 1043547)	ICR845-2C0020 (Order No. 1043740)
Side reading window	ICR840-2A1020 (Order No. 1042897)	ICR840-2B1020 (Order No. 1042338)	ICR840-2C1020 (Order No. 1042885)	ICR840-2D1020 (Order No. 1043546)	ICR845-2C1020 (Order No. 1043739)
Resolution	0.10 to 2 mm	0.15 to 2 mm	0.25 to 2 mm	0.3 to 2 mm	0.25 to 2 mm
Focus position	50 mm	80 mm	115 mm	145 mm	115 mm
Image recording rate	25 Hz at 1.3 megapixels (SXGA resolution)				60 Hz (WVGA)
Light source	Illumination LEDs: visible red light (λ = 617 ± 15 nm)				
MTBF of LEDs/LED class	20,000 h/class 1 pursuant to EN 60825-1 and IEC 60825-1				
Immunity to ambient light	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/size	Data Matrix ECC200/according to ISO/IEC 16022				
No. of codes	Per image: 1 to 50/per reading interval: 1 to 50				
Optical/acoustic indicators	4 x LED (status indicator)/beeper, can be switched off and assigned to a function for result status indication				
Reading pulse	Switching input/free-running/serial data interface				
“Host” data interface	Serial (RS 232 or RS 422/485, 300 Bd to 57.600 Bd) or Ethernet; variable data output format				
“AUX” data interface	Serial (RS 232, 9,600 Bd, 8 data bits, no parity, 1 stop bit) or Ethernet; fixed data output format				
“Ethernet” data interface	10/100 Mbit/s, TCP/IP, FTP				
“CAN” data interface	10 kbit/s to 1 Mbit/s, CANopen protocol, CAN scanner network				
Switching inputs/outputs	Digital, 2 x Sensor/2 x Result				
Electrical connection	RJ 45 socket at the device and 0.9 m cable with 15-pin D-Sub HD connector (male)				
Operating voltage/power consumption	15 V to 30 V DC/max. 13 W				
Housing/weight	Zinc die-cast/approx. 900 g with connecting cable				
Electrical safety	To EN 61010-1 (2001-03)				
Protection class	III, to EN 61140 (2002-03)				
Enclosure rating	IP 65, to EN 60529; A2, (1991-10) 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 test	To EN 61000-6-2 (2005-08) and EN 61000-6-4 (2001-10)/to EN 60068-2-6 (1995)/to EN 60068-2-27 (1993)				
Ambient temperature	Operating: 0 °C to 40 °C/storage: –20 °C to +70 °C				
Max. relative humidity	90%, non-condensing				

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