



Lector85x

1D and 2D code identification using a camera for wide fields of view and large reading distances

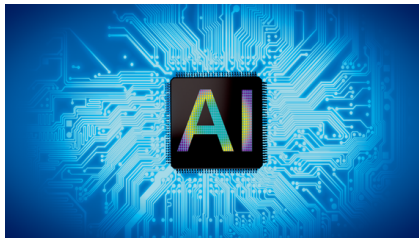
SICK
Sensor Intelligence.

Advantages



Record throughput and fast code reading using the pacesetter

Are you having difficulties reading codes quickly and precisely? Are high conveying speeds and poor code quality presenting a challenge? The AI-based pacesetter equipped with the latest imager technology is the solution. Thanks to superresolution and upsampling, a multi-core CPU, and dynamic focus, codes can be reliably identified. Tracking and 3D code assignment enable a high sorting rate and at the same time reduce manual post-processing work. With the Lector85x you will be breaking throughput records!



AI-based segmentation – efficient image processing

AI-based segmentation enables relevant code areas to be processed quickly and precisely and saves up to 75% of decoding time. The data is processed efficiently with a multi-core CPU. The deep learning-based segmentation ensures high accuracy – even in poor lighting conditions or with distorted codes. This increases the reading speed and throughput.



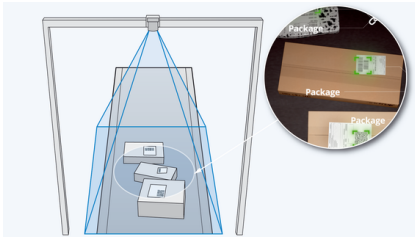
Superresolution and upsampling – precision redefined

Thanks to superresolution and upsampling, precise decoding is achieved even at low resolutions. Superresolution improves the resolution of 1D codes with the help of scan fusion, while upsampling optimizes the image quality of 2D codes. Fine code details are captured, ensuring that even complex codes or codes with small pixel sizes are recognized. This ensures reliable and accurate code reading.



Sharp images – no details missed

The camera resolution of up to 12 megapixels, the 32 integrated high-performance LEDs, and the dynamic focus ensure crystal-clear images – regardless of the reading distance, reading angle or code resolution. The dimensions of the objects to be identified often vary and therefore also the reading distance to the code. Thanks to the dynamic focus adjustment, the focus position of the camera lens adapts to the respective reading height. As a result, the image created is always sharp and well illuminated. Codes at different heights are read reliably and processed quickly, regardless of the camera distance.



High sorting accuracy - top-class tracking

Tracking allows objects to be precisely tracked and sorted - without a separate controller. Tracking enables the simultaneous tracking of several singulated objects in the field of view of the camera at an object distance of at least 50 mm. This allows codes to be assigned precisely to the corresponding objects, thereby reducing manual post-processing and maximizing sorting efficiency. It also ensures deliveries are reliably made to the correct recipient or storage area.



3D software assignment: Sorting rate optimized through tracking and dimensioning

The 3D software assignment feature enables codes to be precisely allocated to objects - both for objects next to each other or objects on top of each other. The camera simultaneously captures multiple codes in the field of view and assigns them to the respective objects thanks to tracking in conjunction with object dimensioning by a VMS system. This enables several objects in the mass flow to be efficiently captured and sorted. It also reduces manual rework and increases system productivity.



Trouble-free code reading - more clarity, fewer reflections

The basis for reliable code reading is an optimally illuminated image and a clearly visible code - free of interfering reflections and glare. A polarizing filter can be used to eliminate reflections, particularly in the case of codes under a film or on glossy surfaces. The result: Codes remain legible even under challenging conditions.



In the passing lane with the pacesetter! The Lector85x enables fast code reading and a high productivity - regardless of object size and code quality - with conveying speeds up to 3.5 m/s achievable.



Ready for operation in five minutes with the quickstarter - even without experts

Are you familiar with the problem that configuring a device is a tedious matter that also requires expert knowledge? The quickstarter Lector85x is ready for operation in just a few minutes without the need for a single expert. Application data can be entered effortlessly and the device adapts itself automatically. Using the web server, you can conveniently configure and monitor as well as diagnose your device from anywhere. The laser alignment aid and feedback LEDs optimally support you with aligning the device and monitoring the read results.



Web server – device access anytime and anywhere

The Lector85x can be configured from anywhere through the web server. Diagnostics are also uncomplicated to perform, and the system can be constantly monitored. Secure and scalable integration into existing IT infrastructures is also possible.



Application-based GUI – automatic parameterization without experts

With the help of the intuitive GUI of the device, individual application data can be entered simply and quickly and the Lector85x parameterizes itself automatically. A technical expert in image-based code readers is no longer required – the Lector85x is ready for operation in just a few minutes.

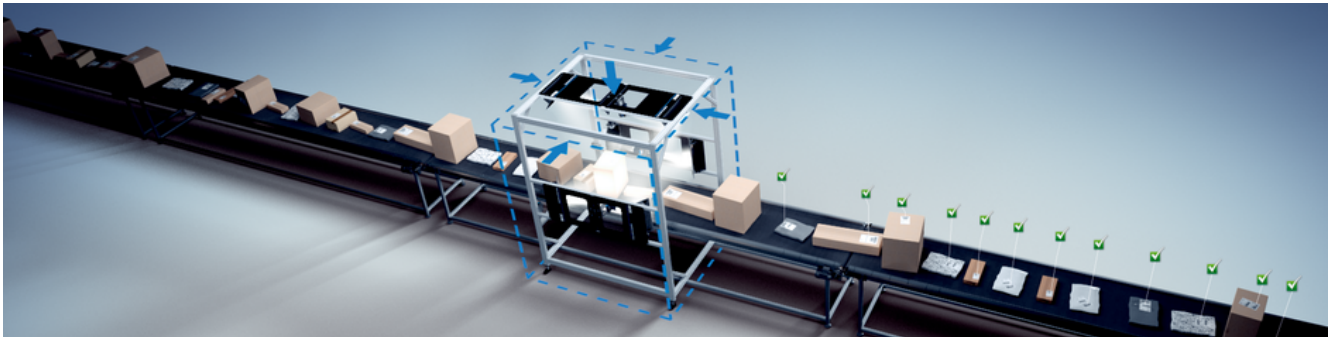


Optical feedback – simple installation and monitoring

The Lector85x can be precisely adjusted using the laser alignment aid, and the feedback LEDs inform you of important events such as a successful read operation.

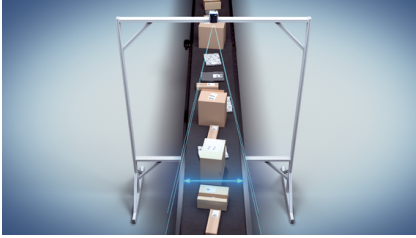


The Lector85x is the quickstarter with user-friendly and application-based configuration and is ready for operation in just five minutes – with no expert knowledge required.



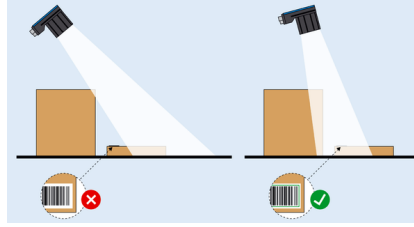
More performance, smaller footprint with the space-saver

Do you need a solution for your code reading applications but have limited space and don't want to install lots of cameras and other components? The Lector85x is the space-saver that offers you an efficient and effective solution. With its imager resolution of up to 12 megapixels and the flexibility of a number of different optical device variants, it adapts to your specific needs and is also extremely reliable. A skew angle of up to 75 degrees can be achieved to avoid shadowing of objects and thereby improve the accuracy as well as reliability of the code identification. Use the Lector85x as a stand-alone solution, integrate it into your existing system, or settle on a turnkey identification solution – everything is fully scalable and can be easily adapted to your requirements.



Large field of view – few cameras

The large field of view and high camera resolution of the Lector85x reduces the number of cameras and accessories required for a system, which saves commissioning time. Gigabit Ethernet also allows an easy exchange of data and downstream image analysis.



75-degree skew angle – all codes in view

The up to 75-degree skew mounting of the Lector85x device avoids shadowing of objects. Codes on smaller, hidden objects can therefore also be detected.



Scalable code reading for individual requirements

Whether as a stand-alone solution, integrated into an existing system, or as a turnkey Lector Identification System – the Lector85x is scalable and adaptable to your requirements.



With the Lector85x, space-saving code reading is a reality. Performance where space is at premium – a true space-saver! Efficient and flexible identification solutions for any application.



Technical data overview

Focus	Adjustable focus (manually) / dynamic focus control (depending on type)
Sensor type	CMOS matrix sensor, grayscale values
Sensor resolution	2,464 px x 2,048 px (5 Mpixel) 4,096 px x 2,176 px (9 Mpixel) 4,096 px x 3,008 px (12 Mpixel)
Scanning frequency	30 Hz / 20 Hz / 15 Hz (depending on type)
Enclosure rating	IP65
Ethernet	✓ / TCP/IP / ✓ (3) / TCP/IP (depending on type)
EtherNet/IP™	✓ (2)
CAN	✓
Serial	✓ / RS-232 / RS-422 / ✓ / RS-232 / RS-232 (depending on type)
USB	✓, USB 2.0
PROFINET	✓ (2)
Weight	640 g / 975 g (depending on type)

Product description

The Lector85x image-based code reader is designed for very high scanning performance and equally high throughput. The small camera has a resolution of up to 12 megapixels, an enormous depth of field and field of view as well as very good computing power. For reading stations, this means a compact design as well as fewer devices and installation work. When combined with AI-based segmentation, the camera reliably identifies codes even at conveyor speeds of up to 3.5 m/s and correctly assigns the codes to objects. This guarantees efficient identification processes and significantly reduces manual rework. The Lector85x can be intuitively configured using a web server and is ready for use within a few minutes – without the need for specialist knowledge.

At a glance

- AI-based segmentation, super resolution, multi-core CPU
- Large depth of field, extra-large field of view
- 12, 9 or 5 megapixel resolution, various lenses and illumination colors
- Intuitive, application-based configuration via web server
- Three-dimensional assignment of codes to objects
- 2 channels for high-speed image output

Your benefits

- High sort rate and reduction of manual rework thanks to high read rates for all objects, regardless of the code quality
- High-performance decoder and processor ensure high object throughput at low object distances, even at high conveyor speeds
- Easy commissioning in minutes thanks to intuitive, application-based configuration via web server
- High flexibility, even when space is limited: Wide conveying lines can be covered with just one camera, reducing the number of necessary devices and components

Fields of application

- Retail and warehousing: Code identification in sorting and picking processes, recording of incoming and outgoing goods
- CEP industry: Code identification, for instance on letters, parcels, flats
- Airports: Code identification on baggage and freight items; automatic sorting and warehousing

Ordering information

Other models and accessories → www.sick.com/Lector85x

- **VARIANT:** main unit
- **Readable code structures:** 1D codes, 2D codes, Stacked
- **Optical focus:** adjustable focus (manually)
- **Illumination:** To be ordered separately as accessories

Sensor resolution	Lens	Type	Part no.
2,464 px x 2,048 px (5 Mpixel)	C-mount, 1/1.8", 12 mm, 16 mm, 25 mm, To be ordered separately as accessories	V2D8505R-1MCXXXAF0SXXXX	1134614
		V2D8505R-1MCXXXAL0SXXXX	1130543
4,096 px x 2,176 px (9 Mpixel)	C-mount, 1", 12 mm, 16 mm, 25 mm, To be ordered separately as accessories	V2D8509R-1MCXXXAF0SXXXX	1134613
		V2D8509R-1MCXXXAL0SXXXX	1130539
4,096 px x 3,008 px (12 Mpixel)		V2D8512R-1MCXXXAF0SXXXX	1134611
		V2D8512R-1MCXXXAL0SXXXX	1123615

- **VARIANT:** Complete device
- **Readable code structures:** 1D codes, 2D codes, Stacked
- **Illumination:** integrated

Sensor resolution	Optical focus	Illumination color	Lens	Type	Part no.
2,464 px x 2,048 px (5 Mpixel)	Adjustable focus (manually)	White	C-mount, 1/1.8", 12 mm, 1.8, 11	V2D8505R-1MCICXAF2SXXXX	1138873
				V2D8505R-1MCICXAL2SXXXX	1134221
			C-mount, 1/1.8", 16 mm, 1.8, 11	V2D8505R-1MCKDXAF2SXXXX	1143531
				V2D8505R-1MCKDXAL2SXXXX	1134220
			C-mount, 1/1.8", 25 mm, 1.85, 16	V2D8505R-1MCKEXAL2SXXXX	1134222
	Dynamic focus control	Red	C-mount, 1/1.8", 8 mm, 1.85, 16	V2D8505R-1MCIBXAF2SXXXX	1142896
				V2D8505R-1MCIBXAL2SXXXX	1140575
			25 mm, 5.6, 5.6	V2D8505R-1MEKEXAF2SXXXX_tbd	1145298
				V2D8505R-1MEKEXAF2SXXXX	1144347
				V2D8505R-1MEKEXAL2SXXXX	1134056

Sensor resolution	Optical focus	Illumination color	Lens	Type	Part no.	
4,096 px x 2,176 px (9 Mpixel)	Adjustable focus (manually)	White	C-mount, 1", 12 mm, 1.8, 16	V2D8509R-1MCICXAL2SXXXX	1134218	
			C-mount, 1", 12 mm, To be ordered separately as accessories	V2D8509R-1MCICXAF2SXXXX	1143836	
			C-mount, 1", 16 mm, 1.8, 16	V2D8509R-1MCIDXAF2SXXXX	1134349	
				V2D8509R-1MCIDXAL2SXXXX	1134217	
			C-mount, 1", 25 mm, 1.8, 22	V2D8509R-1MCKEXAF2SXXXX	1142879	
	V2D8509R-1MCKEXAL2SXXXX	1134219				
	Dynamic focus control	Red	25 mm, 5.6, 5.6	V2D8509R-1MEMEXAF2SXXXX	1144624	
				V2D8509R-1MEMEXAL2SXXXX	1144622	
		White	25 mm, 5.6, 5.6	V2D8509R-1MEKEXAF2SXXXX	1144348	
				V2D8509R-1MEKEXAL2SXXXX	1144112	
	4,096 px x 3,008 px (12 Mpixel)	Adjustable focus (manually)	Red	C-mount, 1", 16 mm, 1.8, 16	V2D8512R-1MCLDXAF2SXXXX	1137895
					White	C-mount, 1", 12 mm, 1.8, 16
C-mount, 1", 16 mm, 1.8, 16			V2D8512R-1MCIDXAF2SXXXX	1139825		
			V2D8512R-1MCIDXAL2SXXXX	1134213		
C-mount, 1", 25 mm, 1.8, 22			V2D8512R-1MCKEXAF2SXXXX	1144402		
		V2D8512R-1MCKEXAL2SXXXX	1134215			
Dynamic focus control		Red	25 mm, 5.6, 5.6	V2D8512R-1MEMEXAF2SXXXX	1145299	
				White	25 mm, 5.6, 5.6	V2D8512R-1MEKEXAF2SXXXX
		V2D8512R-1MEKEXAL2SXXXX	1134045			

- **Readable code structures:** 1D codes, 2D codes, Stacked
- **Sensor resolution:** 4,096 px x 3,008 px (12 Mpixel)
- **Optical focus:** adjustable focus (manually)
- **Illumination:** integrated
- **Illumination color:** White
- **Lens:** C-mount, 1", 16 mm, 1.8, 16

Type	Part no.
Lector85x OPS Performance Upgrade Kit CDx	1139884
Lector85x OPS Performance Upgrade Kit Controller	1139883

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com