



## CLV65x

1D code identification using an auto focus scanner for long reading distances

**SICK**  
Sensor Intelligence.

## Advantages



## Automatic code focusing for large working ranges

Thanks to the auto focus, codes can be reliably read at different reading distances up to a depth of field of 1,500 mm. Setting the focus position and connecting a trigger for focus switching are a thing of the past. This simplifies both commissioning and integration into complete system solutions.



### Immense depth of field thanks to auto focus

Thanks to the integrated auto focus, only one device is required for a wide range of code sizes and changing reading distances in order to cover large working ranges. In addition, sensors such as photoelectric sensors that trigger focus switching are no longer required.

### Increase efficiency with networking and tracking

The CLV65x devices allow for omnidirectional networking as a track and trace system. With their integrated tracking function, the fixed mount barcode scanners enable high throughput of objects of the most varied heights, regardless of the code orientation on the conveying equipment (360° reading).



**Auto focus eliminates the need for complex installations when large working ranges have to be covered.**



## Challenges exist to be overcome

When reading barcodes, reflections are more than just an unpleasant side effect. Thanks to polarizing filters, the CLV65x reads reliably even under total reflection without having to tilt the device. Heating and shock absorbers ensure that this happens even in frosty temperatures and with heavy vibrations.



### The polarizing filter simply pushes away light reflection

When reading barcodes, reflections are more than just an unpleasant side effect. Thanks to polarizing filters, the CLV65x reads reliably even under total reflection without having to tilt the device. Heating and shock absorbers ensure that this happens even in frosty temperatures and with heavy vibrations.



### Withstands fluctuating ambient temperatures

Depending on the device variant, the CLV65x is equipped with surface-mounted heating in order to work reliably even in deep-freeze environments down to  $-35^{\circ}\text{C}$ . Thanks to the intelligent controller, the fixed mount barcode scanner can take advantage of cheaper night electricity rates.

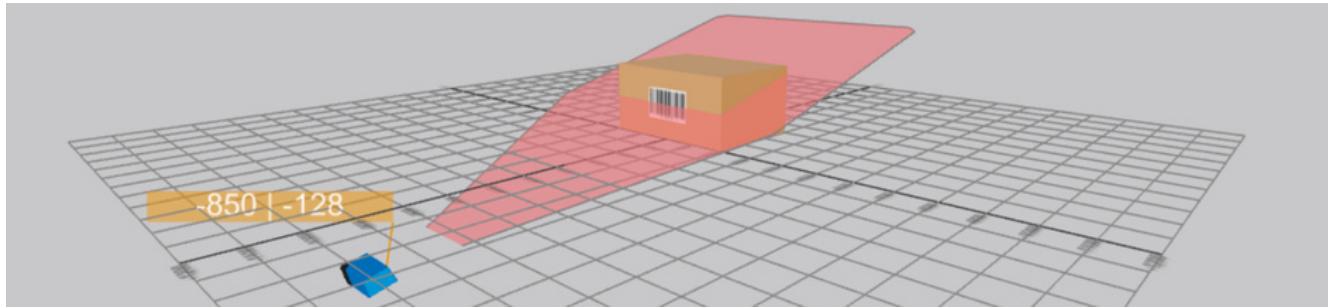


### Unshakeable thanks to shock absorber

The specially designed bracket for applications with high vibrations or shocks compensates for the forces acting on the CLV65x. This significantly increases the service life of the fixed mount barcode scanner.



**Reliable read results even under harsh ambient conditions and on shiny surfaces.**



## Virtual product demo before purchase? SICK makes it possible.

Bring our products to life: Our reading field visualization tools can be used to visualize all CLV65x device variants. Select your device parameters and use our tool to find out which product variant is the best one for your device. Uncertainty when selecting products is a thing of the past.



**Use product visualization to help you select the exact right product before you buy.**



## SICK LifeTime Services

From consulting to modernization: SICK LifeTime Services increase the productivity of plants and machines, improve the safety of your employees, and provide a solid foundation for sustainable business operations. As a solution provider, SICK works with you to manage the holistic implementation of projects relating to industrial automation, safety and digitalization.



**Comprehensive industry know-how and more than 75 years of practical experience create ideas and provide knowledge for your solutions. Find out more**



## Technical data overview

<b>Optical focus</b>	Auto focus
<b>Aperture angle</b>	≤ 50°
<b>Scanning frequency</b>	600 Hz ... 1,000 Hz
<b>Code resolution</b>	0.25 mm ... 1 mm (depends on variant)
<b>Reading distance</b>	125 mm ... 1,625 mm (depends on variant)
<b>PROFINET</b>	✓, optional over external fieldbus module / ✓ (depends on variant)
<b>EtherCAT</b>	✓, optional over external fieldbus module
<b>Serial</b>	✓, RS-232, RS-422, RS-485
<b>CAN</b>	✓
<b>CANopen</b>	✓
<b>PROFIBUS DP</b>	✓, optional over external fieldbus module
<b>Ethernet</b>	✓, TCP/IP
<b>EtherNet/IP™</b>	✓
<b>Weight</b>	250 g ... 520 g (depends on variant)

## Product description

The CLV65x high-performance scanner with auto focus system identifies barcodes with different module widths of 0.25 mm through 1.0 mm and has an extremely high depth of field. Depending on module width, reading widths of up to 1,600 mm at a depth of field of 1,425 mm can be achieved. It combines high-performance reading with the further enhanced SMART code reconstruction system, a reading algorithm that can accurately detect and decode barcodes even if they are damaged, poorly printed, or partially covered. The entire product family is designed to be so flexible that almost any reading requirement and output format can be met perfectly. Diagnosis data such as reading rate statistics, scanner monitoring data, etc. can be called up via the integrated web server without the need for additional software.

This scanner, with integrated Ethernet and auto focus system, is the most compact in its class and is ideally suited for use in storage and conveyor systems. An oscillating mirror variant is also available.

## At a glance

- Huge depth of field due to auto focus
- Integrated function buttons, e. g., for starting auto setup or reading quality evaluation
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP on board. No additional Ethernet gateway required (for “Ethernet” connection type)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Integrated web server for diagnostic data and network monitoring
- Advanced, easy-to-use SOPAS configuration software
- Integrated LED bar graph

## Your benefits

- Cost-effective, as auto focus means no variants or additional light barriers are required for focus adjustment
- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Easily execute firmware updates using the microSD memory card: no need for a PC
- Enhanced SMART technology reads damaged and partially obscured codes, increasing read rates
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- Integrated web server provides remote diagnostics and monitoring; no additional software is required

## Fields of application

- CEP industry as well as retail and warehousing: Material handling in automated sorter systems
- Airports: independent bag drop by passengers
- Warehouse conveyor technology: barcode identification of pallet feet and objects on pallets
- Industrial trucks: barcode identification of goods and pallets

## Ordering information

Other models and accessories → [www.sick.com/CLV65x](http://www.sick.com/CLV65x)

- **Optical focus:** Auto focus
- **Type:** Cable connection variant
- **Code printing process:** Label (printed codes)
- **Communication interface:** PROFINET, EtherCAT®, Serial, CAN, CANopen, PROFIBUS DP
- **Window material:** Glass
- **Enclosure rating:** IP65

Max. reading distance	Code resolution	Sensor type	Cold storage applications	Type	Part no.
≤ 880 mm	0.5 mm	Oscillating mirror	–	CLV651-6000	1046559
≤ 930 mm	0.5 mm	Line scanner	–	CLV651-0000	1046557
≤ 1,570 mm	0.25 mm ... 1 mm	Oscillating mirror	✓	CLV650-6000F0	1052181
			–	CLV650-6000	1042124
≤ 1,625 mm	0.25 mm ... 1 mm	Line scanner	✓	CLV650-0000F0	1052180
			–	CLV650-0000	1041290

- **Optical focus:** Auto focus
- **Type:** Rotary angle variant single port (12-pin)
- **Code printing process:** Label (printed codes)
- **Communication interface:** Ethernet, PROFINET, EtherNet/IP™, EtherCAT®, Serial, CAN, CANopen, PROFIBUS DP
- **Window material:** Glass
- **Enclosure rating:** IP65

Max. reading distance	Code resolution	Sensor type	Cold storage applications	Type	Part no.
≤ 880 mm	0.5 mm	Oscillating mirror	–	CLV651-6120	1046560
				CLV651-6120S52	1082895
≤ 930 mm	0.5 mm	Line scanner	–	CLV651-0120	1046558
≤ 1,400 mm	0.25 mm ... 1 mm	Line scanner	–	CLV650-0120S01	1051957
≤ 1,570 mm	0.25 mm ... 1 mm	Oscillating mirror	✓	CLV650-6120F0	1053104
			–	CLV650-6120	1042125
			–	CLV650-6120S52	1082894
≤ 1,625 mm	0.25 mm ... 1 mm	Line scanner	✓	CLV650-0120F0	1058893
			–	CLV650-0120	1042121

- **Optical focus:** Auto focus
- **Type:** Rotary angle variant single port (17-pin)
- **Code printing process:** Label (printed codes)
- **Communication interface:** Ethernet, PROFINET, EtherNet/IP™, EtherCAT®, Serial, CAN, CANopen, PROFIBUS DP
- **Window material:** Glass
- **Enclosure rating:** IP65

Max. reading distance	Code resolution	Sensor type	Type	Part no.
≤ 880 mm	0.5 mm	Oscillating mirror	CLV651-68300A	1050849
≤ 930 mm	0.5 mm	Line scanner	CLV651-08300A	1050847
≤ 1,570 mm	0.25 mm ... 1 mm	Oscillating mirror	CLV650-68300A	1050848
≤ 1,625 mm	0.25 mm ... 1 mm	Line scanner	CLV650-08300A	1050845

## 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](http://www.sick.com)