PRODUCT INFORMATION

CLV6 Series

INTELLIGENT SOLUTIONS FOR LOGISTICS AND AUTOMATION

Bar code scanners

SICK
Sensor Intelligence.

CLV6 series – AT HOME IN MANY INDUSTRIES

OVERVIEW OF INDUSTRIES AND APPLICATION EXAMPLES

Maximum reading performance, more flexibility when changing products, and optimum networking with formats that are becoming increasingly smaller are the key requirements of today's identification solutions. And SICK is able to meet all these quality demands: The powerful bar code scanners in the CLV6 series product families can accommodate virtually any industry or industrial application in the field of automatic identification.

Automotive and part suppliers

The main task of the CLV6xx bar code scanner in the automotive and parts supplier industry consists of identification and batch tracing. These scanners are used in tasks such as identifying coils, installing dashboards, and identifying racks.

Document handling

The CLV6xx bar code scanners are used for identifying documents. They can be useful in tasks such as letter sorting.

Industrial vehicles

The CLV6xx bar code scanners are used on industrial vehicles for identifying totes and pallets.

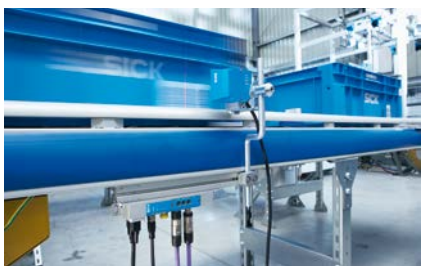
Clinical analysis

Thanks to features such as its incredible depth of field and its compact design for installation inside analysis instruments, the outstanding flexibility of the CLV6 series makes it a winning choice.

Courier, express post, and cargo (CEP)

In today's logistics systems, omnidirectional reading tasks are performed using omni port systems (OPS). Powerful and flexible thanks to the use of individual scanners.

Storage and conveyor systems



The CLV6xx bar code scanners, from the CLV69x with oscillating mirror for pallet identification to the CLV615 for reading totes, can be used across the whole logistics chain.

8016144/2013-09-19

Food

The food industry places stringent requirements on hygiene. The IP 69K version, featuring a stainless steel housing and with a plastic disk, is ideally placed to meet these standards.

Packaging

From object identification to checking codes in labeling machines, the CLV6xx bar code scanners are suited to a multitude of tasks. The solutions from the CLV6 series product families are an impressive choice thanks to their excellent reading properties, even when it comes to highly reflective materials.

TABLE OF CONTENTS

Example applications

Forklift trucks: pallet identification

Customer benefits

- Exceptional depth of field thanks to integrated auto-focus
- Full range of accessories adapted perfectly to suit the needs of the scanner and the application concerned: holders featuring vibration and shock absorption
- Reliable code reconstruction thanks to SMART+

Ideal product solution

CLV69x . . . . . Page 58

Industrial vehicles: Very narrow aisle trucks

Customer benefits

- High reading rate thanks to integrated auto-focus
- Complete accessories portfolio, including drag chain cables for maximum availability and service life
- Flexible data output format and sorting saves programming work in the control system

Ideal product solution

CLV65x . . . . . Page 50

Document handling: letter sorting

Customer benefits

- High triggering and decoding rates enable conveyor speeds of up to 6 m/s
- Excellent reading performance for codes with low contrast, thus increasing the reading rate
- Compact design to save space and allow flexible mounting in the system

Ideal product solution

CLV62x . . . . . Page 24

Storage and conveyor systems: pallet identification

Customer benefits

- Reliable decoding for large reading distances and codes with low contrast
- Bar code detection on up to six sides of the object
- Cost-saving integration into existing fieldbus environment thanks to flexible interface concept

Ideal product solution

CLV69x . . . . . Page 58

8016144/2013-09-19
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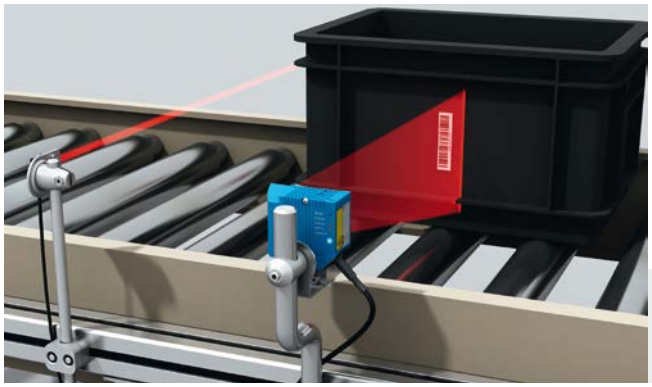
Storage and conveyor systems: tote identification



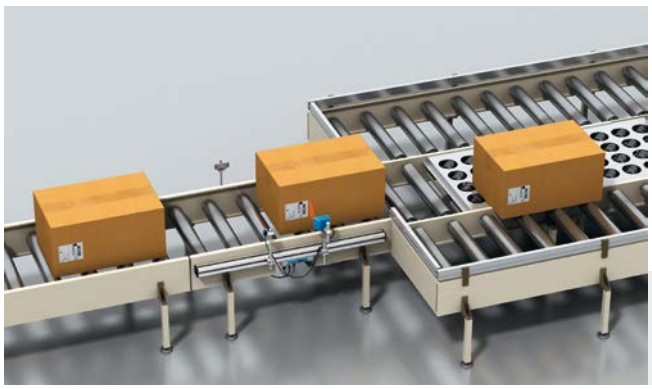
Customer benefits

- Simple and fast integration into existing conveyor systems thanks to the optimized reading field
- Flexible fieldbus connection with either CDF600-2 PROFIBUS DP or CDF600-2 PROFINET IO

Ideal product solution

CLV615 . . . . . Page 18

Storage and conveyor systems: remote control of switching points



Customer benefits

- High reading rate thanks to maximum scan frequency and fixed focus with outstanding depth of field
- Low storage costs as the focus position for the CLV64x can be adjusted to a range of applications
- Integrated logic functions minimize the amount of control work required in the PLC

Ideal product solutions

CLV63x. . . . . Page 32
CLV64x. . . . . Page 42

Clinical analysis: reading bar codes in samples

Customer benefits

- Reliable reading of damaged codes thanks to the SMART function
- Reliable reading on narrow module widths with maximum reading field height

Ideal product solution

CLV61x. . . . . Page 18

CEP: top or omni reading station

Customer benefits

- Flexible connection within a scanner portal via CAN-Bus minimizes the amount of wiring work required
- Excellent depth of field with extremely fast focusing ensures maximum throughput
- Simple commissioning thanks to cross-device SOPAS ET configuration software with integrated project structure

Ideal product solutions

CLV65x. . . . Page 50
CLV69x. . . . Page 58

WIDE RANGE OF MODELS

VERSIONS WITHIN THE CLV6 SERIES

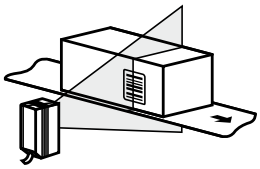
Designs

Front reading window

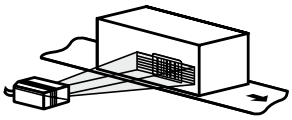
Side reading window, light emission below 105°

Side reading window with oscillating mirror

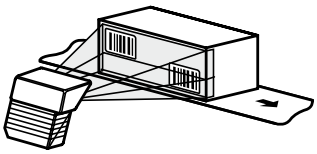
Scanning methods



Line scanner – for reading in tilted positions



Raster scanner – for reading codes redundantly



Oscillating mirror – for reading on large surfaces

Please refer to the selection guide on page 16 onwards.

Flexible interface concept

- PROFINET, Ethernet/IP, Ethernet TCP/IP, CANopen, CSN (SICK CAN sensor network), and serial communication on board
- PROFIBUS DP, PROFINET IO Dual Port, EtherCAT, and other interfaces via external gateways with fieldbus proxies

Uniform configuration concept

All CLV6xx products have a user-friendly configuration system based on SOPAS ET. This uniform, cross-sensor operating system from SICK means users can quickly find their way around without the need for time-consuming training. This also provides flexible adjustment options for the output format. The sorting and filtering function incorporated into SOPAS saves PLC programming.

Statistics function

The CLV62x to CLV65x also offer an integrated statistics function, which can be visualized via a user-friendly web server. If required, the SICK visualization platform (SVP) can be accessed. This includes a high-performance information and image management platform for performance control, which is used with SICK data recording systems in sorting tasks.

More information on page 14 onwards.

8016144/2013-09-19
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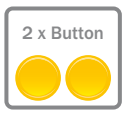
OUTSTANDING PRODUCT FEATURES

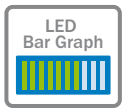
Two function buttons



"Select" and "Start/End" functions, such as

- Starting auto-setup
- Teaching in a match code
- Starting reading diagnostics

LED bar graph



A PC is not required for statical checking of the reading rate. The information can be read directly from the LED bar graph.

Intelligent auto-setup

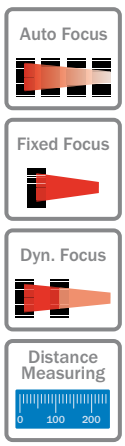
Optimizes the bar code scanner automatically to the bar codes that are to be read.

microSD memory card

An integrated microSD memory card slot allows simple and rapid exchange of a bar code scanner in the event of a fault. In addition, the firmware can be updated easily using the microSD memory card. This is done by means of external parameter cloning, without the need for reconfiguring using a PC. In turn, this achieves a very low MTTR value *.

* MTTR = mean time to repair.

Focus



Fixed focus for fixed distances, dynamic focus for reading at dynamic reading distances, and automatic focus position switching in real time with integrated distance measurement (no additional photoelectric sensors required).

SMART620 (code reconstruction)

Reliable reading of even damaged, dirty, and/or partially covered bar codes.

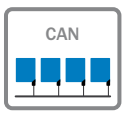
SMART (code reconstruction)

Reliable reading of even damaged, dirty, and/or partially covered bar codes. Reliable reading even in tilted positions. This means that the bar code can be attached in a position that is rotated up to 45 degrees in relation to the scanning beam.

SMART+

The CLV69x sets new benchmarks in computing power and reading performance. It also offers innovative analysis features, creating additional benefits.
The novel image output concept on the CLV69x can be activated for any conceivable reading situation. The device sends the recorded image data to software, which later displays not only the actual image, but also how the current reading situation is progressing in terms of focus.
The data gathered in this way ensures that the decoder is continuously optimized and offers significant advantages for "no-read" analysis.

CAN



The integrated CAN bus supports:

- CANopen® protocol
- SICK CAN sensor network for simple networking of scanners using master/slave or multiplexer/server methods

Cloning plug

Flexible connectors: consisting of a 60-pin Samtec male connector and four different connectors that enable the technology to be adapted perfectly to the application in question.

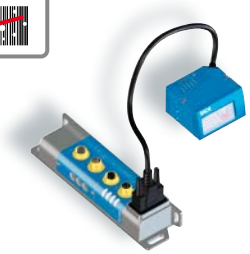
CLV61x, CLV62x

RELIABLE DECODING, SIMPLE INTEGRATION

Display and status LEDs
For simple visual feedback.

SMART620 (code reconstruction)
Reliable reading of even damaged, dirty, and/or partially covered bar codes.

Flexible mounting
Space-saving solution in storage and conveyor systems.



Cable or male connector
The CLV61x is available as a cable version, while the CLV62x is also available as an Ethernet version with a swivel connector.


Cable version


Ethernet version with connector

Dual port connection
Together with the fieldbus module with either CDF600-2 PROFIBUS DP or CDF600-2 PROFINET IO.

Fixed focus
The CLV61x and CLV62x bar code scanners enable simple and fast adjustment and commissioning thanks to their integrated fixed focus feature.

Line scanner and/or raster scanner
Choose from a line scanner with a simple working area and a raster scanner with an extended working area.

Compact design
Maximum flexibility when mounting.

PRODUCT DETAILS

8016144/2013-09-19
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CLV63x to CLV65x

SIMPLE MOUNTING AND FIELDBUS CONNECTION

Integrated function buttons

Commissioning without a PC by simply teaching in directly on the device via the function buttons.

SMART (code reconstruction)

Reliable reading of even damaged, dirty, and/or partially covered bar codes. Reliable reading even in tilted positions. This means that the bar code can be attached in a position that is rotated up to 45 degrees in relation to the scanning beam.

microSD memory card

Cable or male connector

CLV63x to CLV65x are available as cable and male connector versions.

Swivel connector

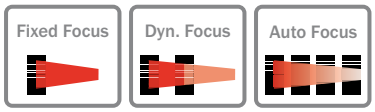
Exceptionally simple mounting thanks to the swivel connector and the SPEEDCON thread. As a result, the scanner can be integrated easily into your network, even under difficult installation conditions.

Flexible interface concept

PROFINET IO, Ethernet/IP, Ethernet TCP/IP, CANopen, SICK CAN sensor network, and serial communication on board. PROFIBUS DP and additional fieldbus connection via external CDF600-2 fieldbus modules.

Range of focus types

Fixed focus, dynamic focus, and auto-focus.



Line scanner and/or raster scanner

Choose from a line scanner with a simple working area and a raster scanner with an extended working area.

Oscillating mirror version and designs with side reading windows

Industry-tested IP 65 housing

Integrated event monitor

Analysis tool for commissioning support.

Remote monitoring with integrated web server

For monitoring the reading rate.

Auto-setup

For fast commissioning.

PRODUCT DETAILS

CLV69x

FLEXIBLE AND HIGH-PERFORMANCE AT THE HIGHEST LEVEL

Function buttons

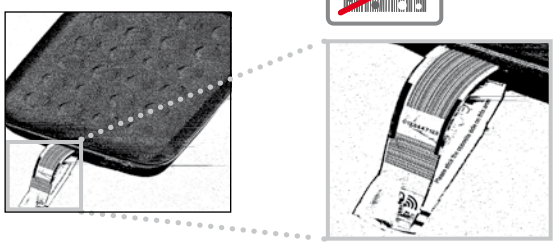
LED bar graph

A PC is not required for statical checking of the reading rate.

Blue status LED for visualizing the CAN termination status

SMART+ (code reconstruction)

Additional image output for analysis purposes.



Flexible mounting

Quick action clamps, shock absorbers, and holders are available.

Cloning plug

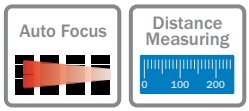
The flexible cloning plug concept offers maximum flexibility and safety. In addition to the Ethernet and D-Sub versions, CAN and CAN redundant versions are also available. The CLV4 series can be converted using the D-Sub cloning plug.

Flexible interface concept

Ethernet/IP, Ethernet TCP/IP, SICK CAN sensor network, and serial communication on board. PROFIBUS DP and additional fieldbus connection via external CDF600-2 fieldbus modules.

Integrated auto-focus

You can rely on excellent reading performance, high-speed processing and maximum levels of reading accuracy. The depth of field and auto-focus function, which is based on an integrated distance measurement concept, enable height-dependent code reading possible within a reading field.



Intelligent application wizard

The integrated application wizard supports commissioning as a master, slave, or stand-alone device. It simplifies commissioning considerably and guides the user through the configuration process.

PRODUCT DETAILS

CLV69x . . . . . Page 58

8016144/2013-09-19
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SPECIAL VERSIONS

FOR SPECIAL CHALLENGES

External mirror hood

For shortening the reading distance and enlarging the reading field width. The external mirror hood is particularly suitable for use between two belts located next to each other in cases where there is very little installation space.

IP 69K housing

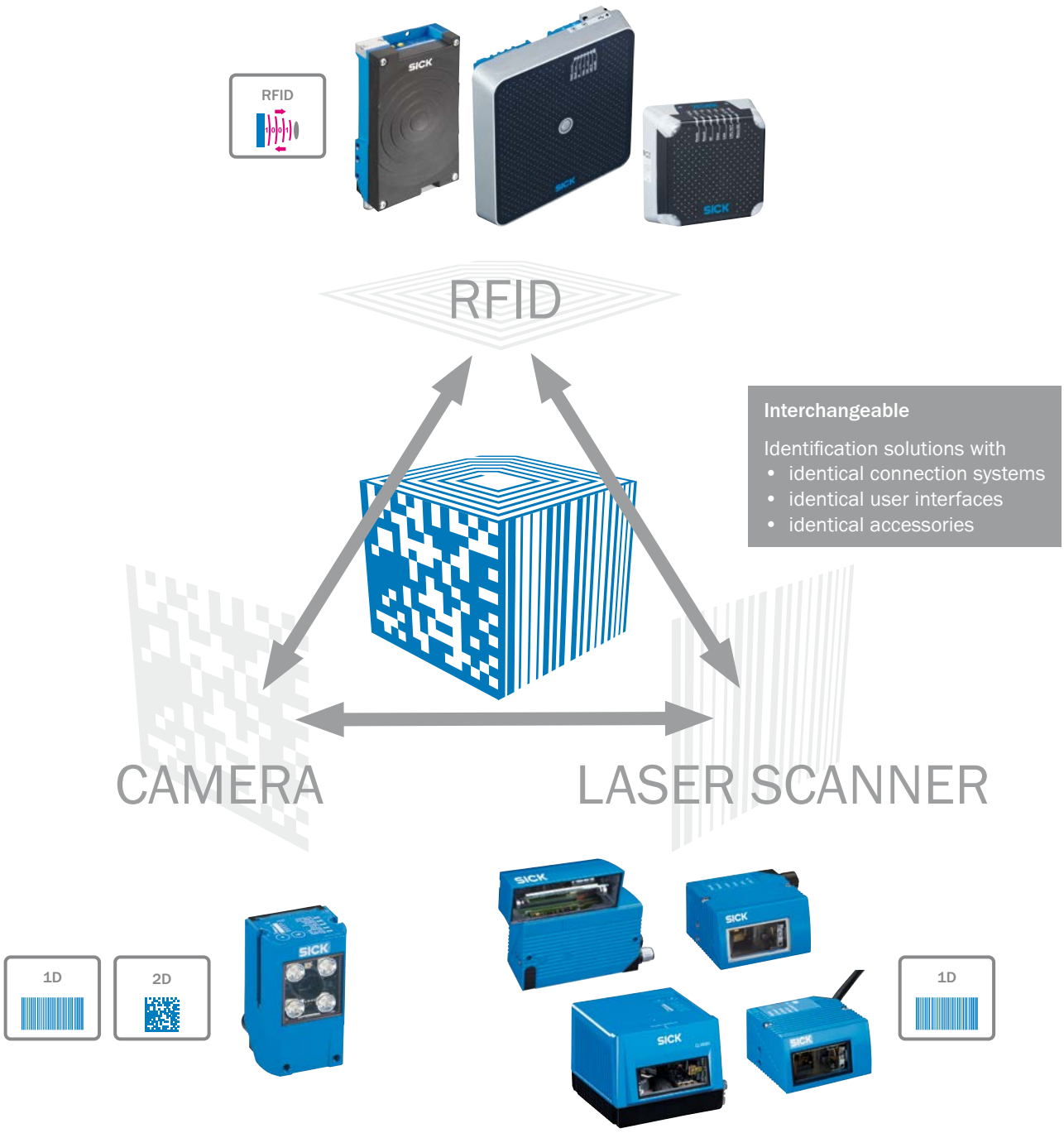
The IP 69K housing offers maximum resistance. The integrated plastic disk is ideal for use in the food industry. Offers resistance to the chemical cleaning agents typically used in this application area.

CLV6xx with heating

The CLV6xx heating versions can be used in deep freeze applications that reach temperatures as low as –35 °C. There is also a CLV69x version with reading window heating. This means that the bar code scanners are also suitable for applications subject to fluctuating temperatures.

For more information on special versions available in the CLV6 series, ask your regional SICK sales organization.

IDpro CONNECTS



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A single source for all your technology needs

ALL YOU CAN READ

Ensure your investment over the long term

ID*pro* represents SICK's expertise in all three automatic identification technologies: **laser scanner, camera** and **RFID.**

All ID*pro* devices are compatible and interchangeable via our standardized ID*pro* platform. To elp you choose the ideal identification technology, we will provide you with comprehensive information to determine the best technology choice.

As the market leader with the largest number of worldwide installations, we have the experience and widest range of solutions that provide maximum uptime and reduced costs.

The benefits of ID*pro* devices

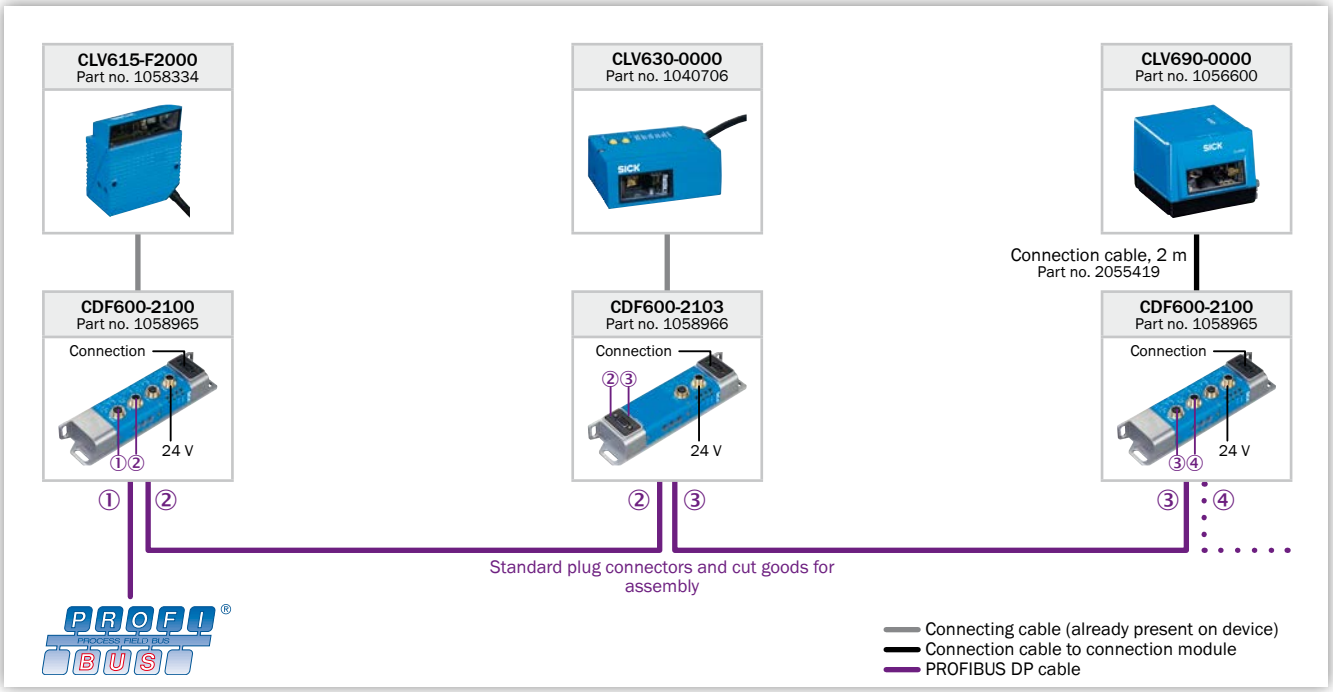
- **Reduced integration effort**
  thanks to standardized ID*pro* platform
- **Simple commissioning**
  even with cross-technology applications
- **Maximum process reliability**
  through the use of common industry standards in the connection systems
- **Fast and flexible exchanging**
  due to standardized connection systems
- **Low-cost maintenance**
- **Fast training in the three identification technologies**
  thanks to the standardized operating concept with a single operation software
- **Investment security**
  due to the ability to easily switch between technologies with the same connection systems
- **Low storage effort, low storage costs**
  due to fewer components and accessories
- **Information from a single source**
  cross-technology and comprehensive

MODULAR CONNECTORS ALL FROM A SINGLE SOURCE

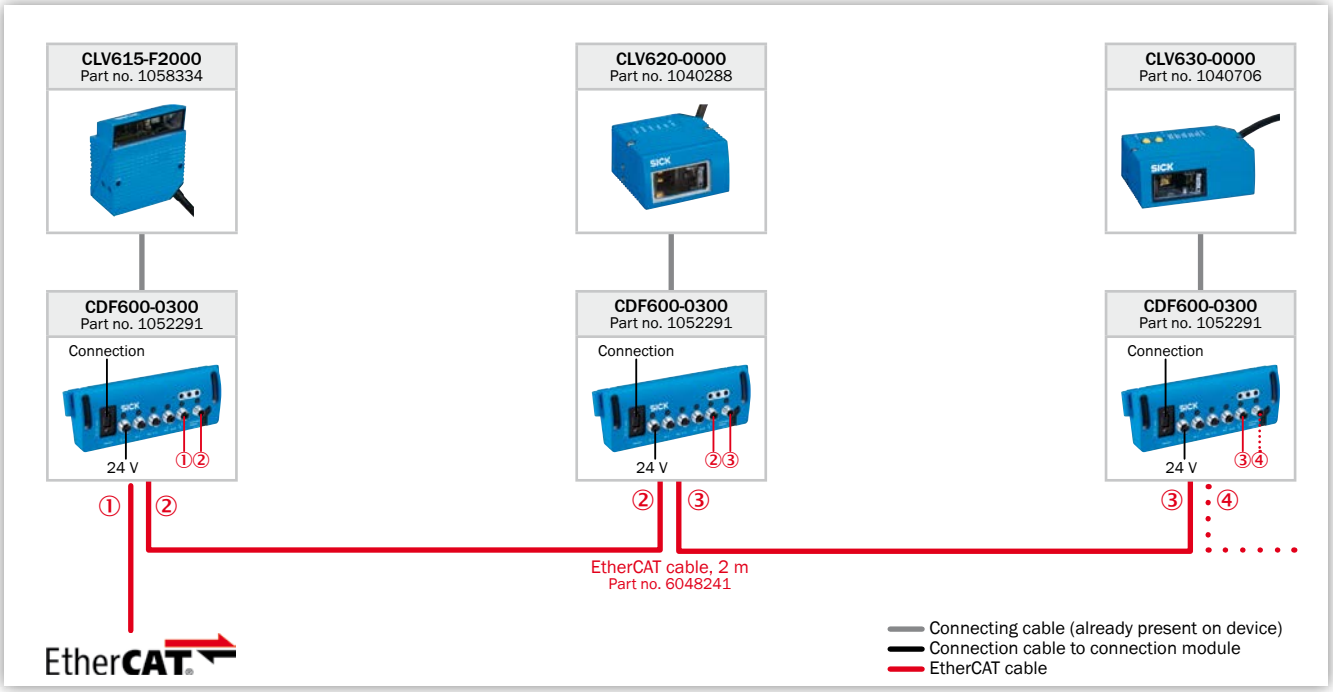
The ability to network auto-ID sensors is becoming particularly important in the light of demands for cost-effective solutions. SICK has the tools to stand up to this challenge: Through the ID*pro* platform, it offers a product portfolio that is perfect for fieldbus systems.

It gives you the freedom to select the identification technology you require, and enables flexible connection to numerous fieldbus technologies with very little cabling work. The function blocks, available free of charge, keep the amount of work required for integration and programming in the PLC to a minimum.

PROFIBUS DP



EtherCAT



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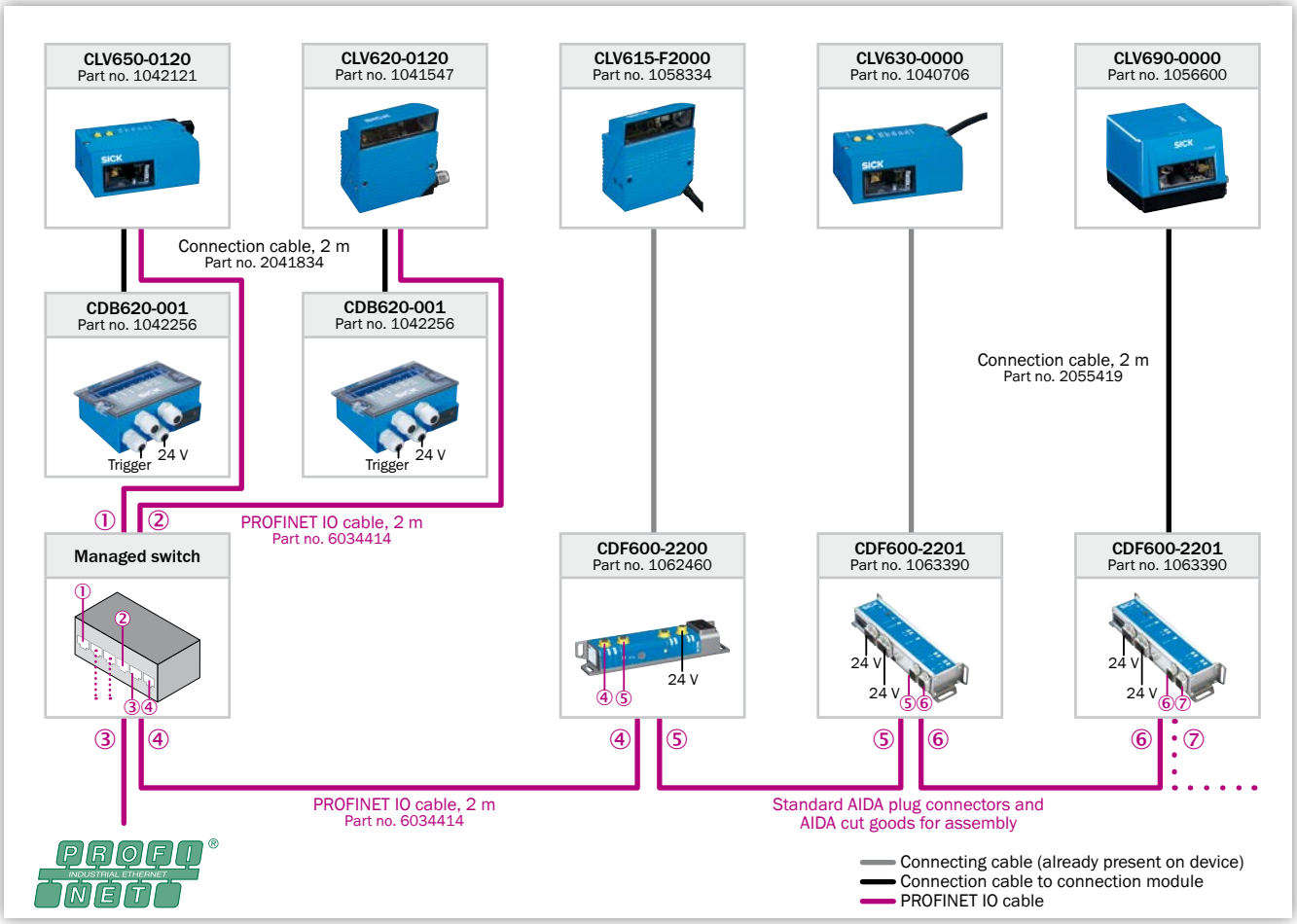
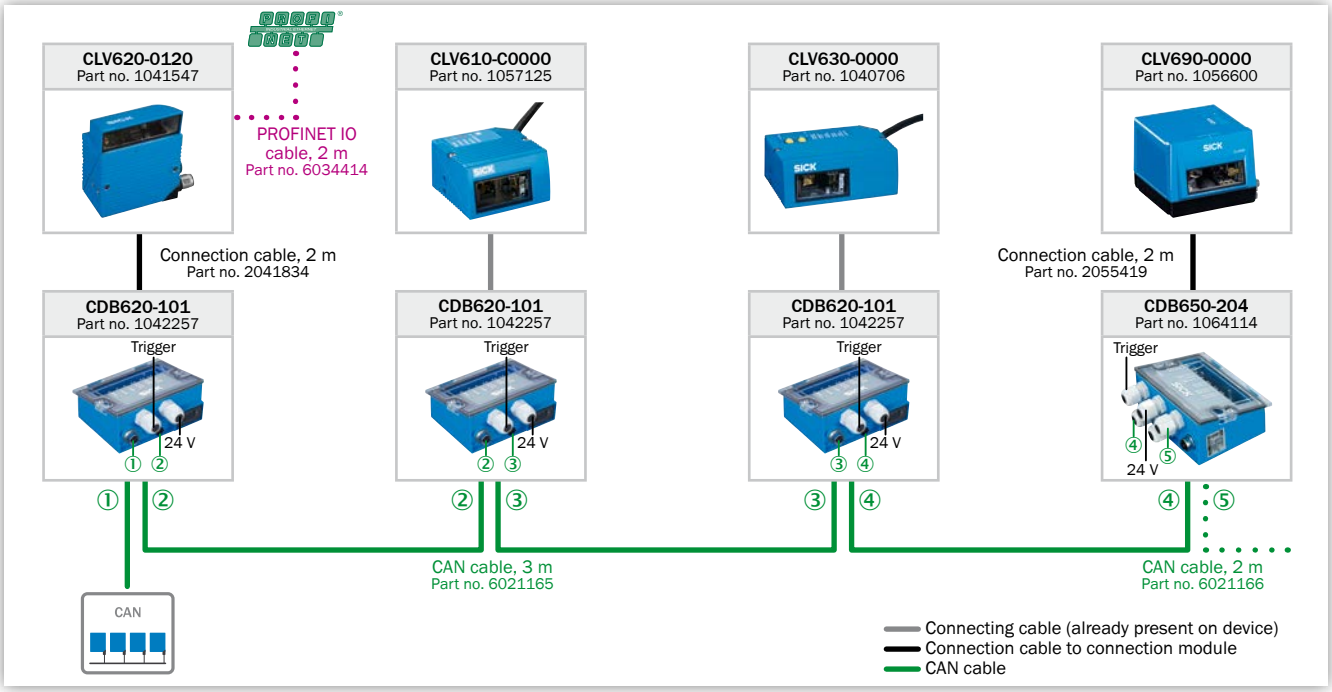
PROFINET IO



SICK CAN sensor network



SELECTION GUIDE

	Scanner design				Focus			SMART			
	Line scanner	Raster scanner	Oscillating mirror	Heating	Fixed focus	Dynamic focus control	Auto-focus	SMART620	SMART	SMART+	
CLV61x											
CLV610 Mid Range	■	□			■			■			
CLV612 Short Range	■	□			■			■			
CLV615 Long Range	■	□			■			■			
CLV62x											
CLV620 Mid Range	■	■			■			■			
CLV621 Long Range	■	■			■			■			
CLV622 Short Range	■	■			■			■			
CLV63x											
CLV630 Long Range	■	■	■	□	■				■		
CLV631 Mid Range	■	■	■	□	■				■		
CLV632 Short Range	■	■	■	□	■				■		
CLV64x											
CLV640 Standard Density	■	■	■	□		■			■		
CLV642 High Density	■		□	□		■			■		
CLV65x											
CLV650 Standard Density	■		■	□		■	■		■		
CLV651 Low Density	■		■	□		■	■		■		
CLV69x											
CLV690 Standard Density	■		■	□ [1)]		■	■			■	
CLV691 Low Density	■		■	□ [1)]		■	■			■	
CLV692 High Density	■		■	□ [1)]		■	■			■	

[1)] Available upon request.

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■ = applicable
□ = optional

Product features										Reading distance (at code resolution)	Page
Ethernet as connector version	microSD memory card	Cloning plug	2 function buttons	LED bar graph	Intelligent auto-setup	Application wizard	Configuration with SOPAS ET	IP 69K	Integrated CAN bus	250 500 750 1,000 1,250 1,500 1,750 2,000 ...	
							■		■	60 mm – 365 mm (1 mm)	18
							■		■	43 mm – 93 mm (0.2 mm)	18
							■		■	25 mm – 330 mm (0.5 mm)	18
■					■		■	□	■	60 mm – 365 mm (1 mm)	24
■					■		■	□	■	60 mm – 730 mm (1 mm)	24
■					■		■	□	■	55 mm – 200 mm (0.5 mm)	24
■	■		■	■	■		■	□	■	58 mm – 742 mm (1 mm) [2]	32
■	■		■	■	■		■	□	■	87 mm – 455 mm (0.5 mm) [2]	32
■	■		■	■	■		■	□	■	58 mm – 288 mm (0.5 mm) [2]	32
■	■		■	■	■		■	□	■	58 mm – 840 mm (1 mm) [2]	42
■	■		■	■	■		■	□	■	30 mm – 338 mm (0.2 mm)	42
■	■		■	■	■		■		■	125 mm – 1,625 mm (1 mm) [1]	50
■	■		■	■	■		■		■	155 mm – 930 mm (0.5 mm) [2]	50
		■	■	■		■	■		■	500 mm – 2,100 mm (0.5 mm)	58
		■	■	■		■	■		■	500 mm – 2,200 mm (0.5 mm)	58
		■	■	■		■	■		■	400 mm – 1,600 mm (0.3 mm)	58

[1] Available upon request.

[2] Depending on scanner design.

RELIABLE DECODING, SIMPLE INTEGRATION

Product description

The CLV61x product family consists of compact, powerful bar code scanners. In order to offer the best solution for the application, different versions are available (CAN, Fieldbus). The CLV615 Fieldbus version was developed specifically for the requirements of intralogistics. Thanks to the optimized reading field for container identification on the conveyor belt, in combination with the intuitive SOPAS user interface, quick and easy integration into your conveyor system is possible. The optional connectors, e. g., CDF600-2, enable simple connection to your control system, as well as direct configuration from the control environment. Thanks to the optional configuration cloning module, rapid scanner replacement is also possible in the event of a fault – without having to reconfigure via laptop/PC.

At a glance

- Optimized reading field for intralogistics applications
- Available with SICK CAN sensor network
- Configuration with SOPAS, the configuration tool for all new SICK products
- Available in different versions (CAN, Fieldbus) for use in almost any application
- Adjustable scanning frequency of up to 1000 scans/second
- Compact design

Your benefits

- A suitable scanner version for any CLV61x application
- An optimized reading field for container identification on a conveyor belt, in combination with the intuitive SOPAS user interface, enables quick and easy integration into your conveyor system
- Compact design enables installation even in applications with limited space
- Less programming time required for the control system, since data can be transmitted to the control system in the desired format
- Depending on the version, the CLV61x bar code scanner can be used as a multiplexer in any SICK CAN sensor network, so additional multiplexers are not required
- The optional configuration cloning module in combination with the quick-release mounting bracket enables very fast replacement time in the event of a fault

Additional information

→ www.mysick.com/en/CLV61x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Variant	CAN		Fieldbus
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (2008-05), IEC 60825-1 : 2007-03, Ed. 2.0)		
Field of view	≤ 50°		
Scanning frequency	400 Hz ... 1,000 Hz		
Code resolution	0.2 mm ... 1 mm	0.1 mm ... 0.2 mm	0.35 mm ... 0.5 mm
Reading distance (at code resolution)	60 mm ... 365 mm (1 mm)	43 mm ... 93 mm (0.2 mm)	25 mm ... 330 mm (0.5 mm)
Raster height, number of lines, at distance	15 mm, 8, 200 mm		–

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, UPC / GTIN / EAN, Interleaved 2 of 5
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 10 (Standard decoder) 1 ... 6 (SMART620)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	1,500 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Serial (RS-232)	✔		
Function	Host, AUX		
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud		
Ethernet	–		✔
Protocol	–		PROFINET Dual Port (optional via external connection module CDF600-2)
CAN bus	✔		
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)		
Data transmission rate	20 kbit/s ... 1 Mbit/s		
Protocol	CSN (SICK CAN Sensor Network)		
PROFIBUS DP	–		✔, optional via external connection module (CDF600-2)
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 in CDB620/CDM420)		
Switching outputs	4 (“Result 1”, “Result 2”, 2 outputs via optional CMC600 in CDB620/CDM420)		
Reading pulse	Switching inputs, non-powered, serial interface, auto pulse, CAN		
Optical indicators	1 RGB LED (multifunctional)		
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)		

Mechanics/electronics

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Electrical connection	1 15-pin D-Sub HD male connector (0.9 m)		
Operating voltage	10 V DC ... 30 V DC		
Power consumption	2.8 W		
Housing	Die-cast aluminum		
Housing color	Light blue (RAL 5012)		
Enclosure rating	IP 65 (DIN 40 050)		
Protection class	III (VDE 0106/IEC 1010-1)		
Weight	265 g, with connecting cable		295 g, with connecting cable
Dimensions	61 mm x 66 mm x 38 mm		80 mm x 66 mm x 38 mm

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-4 (2007-01) + A1 (2011) / EN 61000-6-2 (2005-08)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

- **Focus:** Fixed focus
- **Connection type:** cable
- **Front screen:** Glass

Version	Reading field	Scanner design	Items supplied	Model name	Part no.
CLV610 Mid Range	Front	Line scanner	Single scanner	CLV610-C0000	1057125
		Raster scanner	Single scanner	CLV610-C1000	1062846
CLV612 Short Range	Front	Line scanner	Single scanner	CLV612-C0000	1066271
		Raster scanner	Single scanner	CLV612-C1000	1062861
	Side	Line scanner	Single scanner	CLV612-C2000	1066272
		Raster scanner	Single scanner	CLV612-C3000	1062862
CLV615 Long Range	Side	Line scanner	Single scanner	CLV615-F2000	1058334
			Kit including single scanner and fieldbus module PROFIBUS DP (interface 1 x D-Sub, female connector, 9-pin)	CLV615-F2000 CDF600-2100 Kit	1061528
			Kit includes single scanner and fieldbus module PROFIBUS DP (interface 2 x M12, male connector/female connector, 5-pin)	CLV615-F2000 CDF600-2103 Kit	1061529

8016144/2013-09-19
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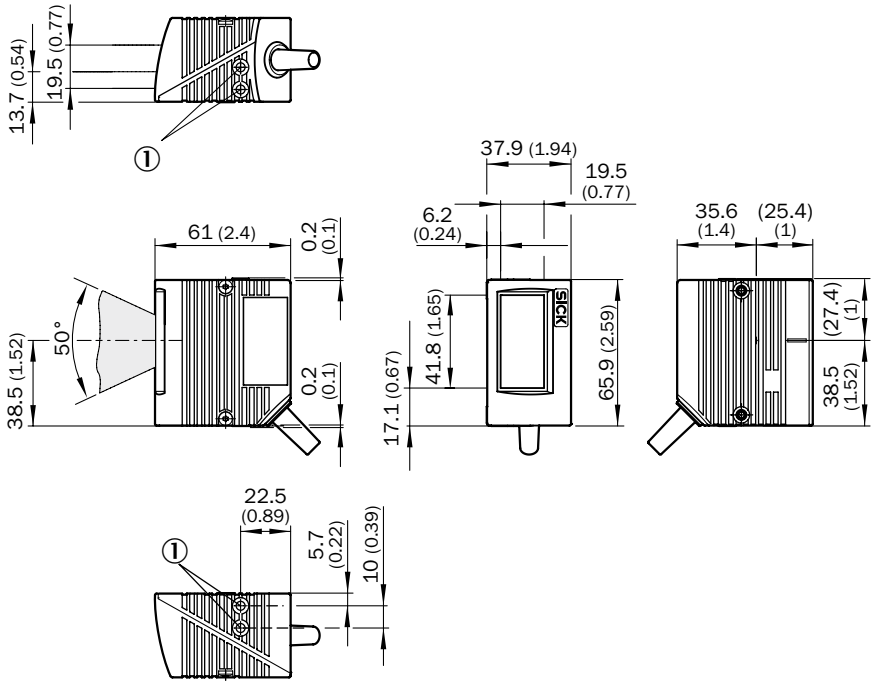
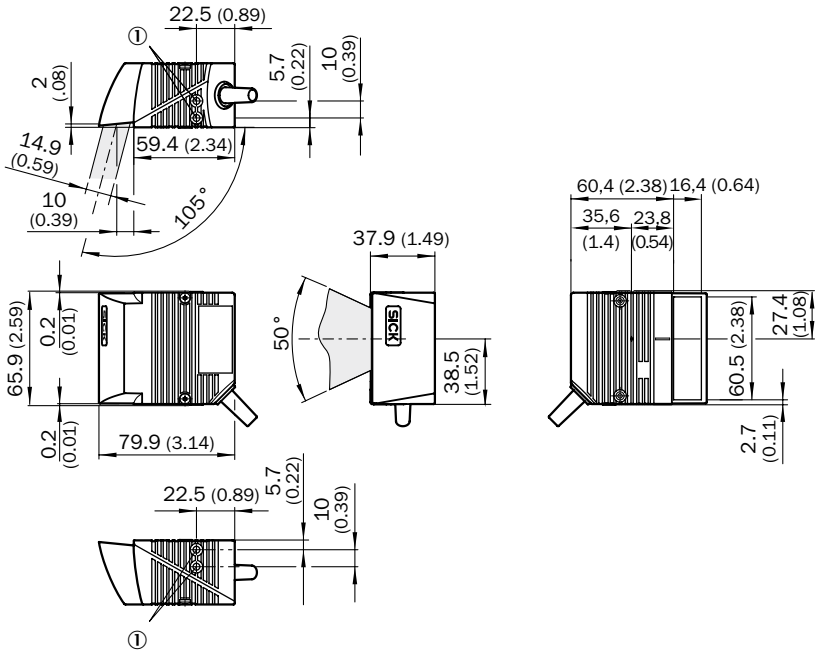
Dimensional drawings (Dimensions in mm (inch))

CLV61x Standard, front



① Blind hole thread M5, 5 mm deep (2 x), for mounting

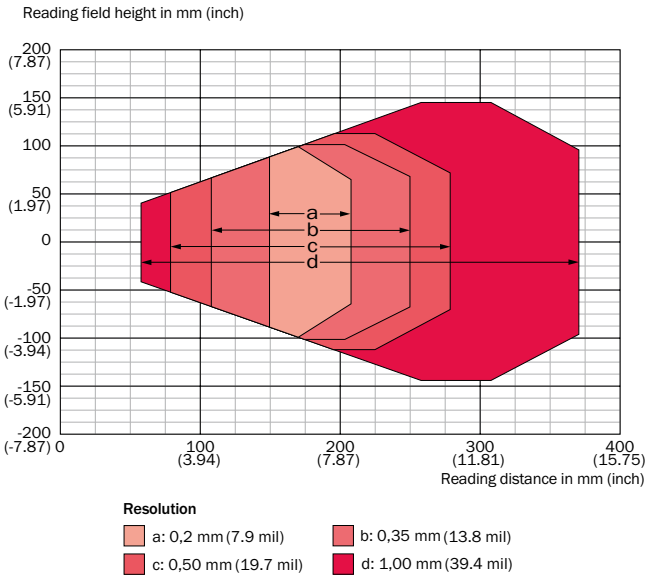
CLV615 cable, side



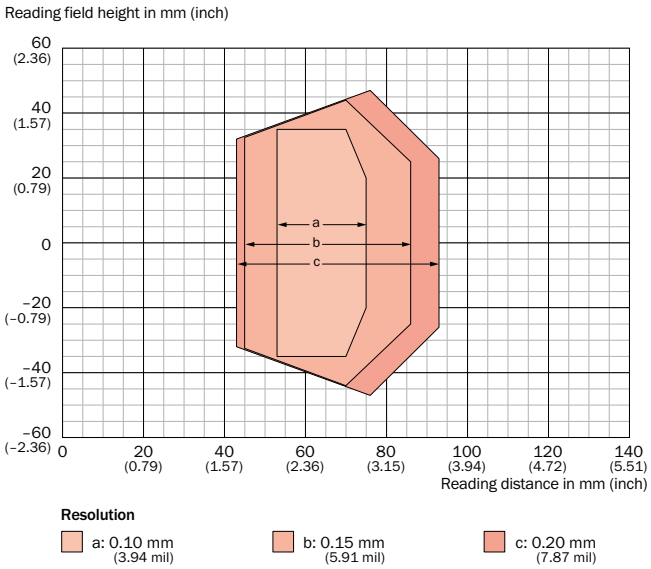
① Blind hole thread M5, 5 mm deep (2 x), for mounting

Reading field diagrams

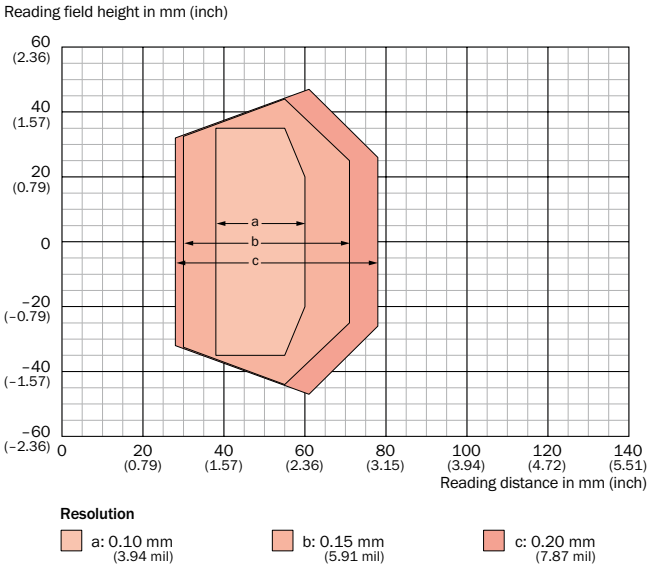
CLV610 Mid Range, front



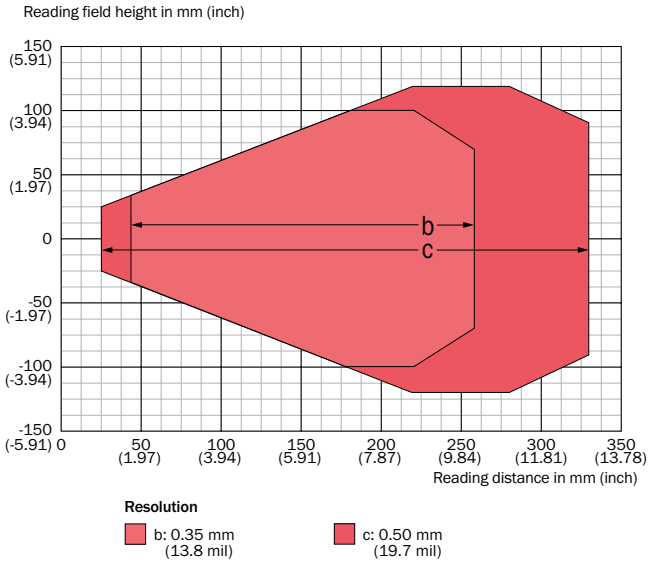
CLV612 Short Range, front



CLV612 Short Range, side



CLV615 Long Range, side



Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966
	Modular connection module for one sensor	CDM420-0001	1025362

Plug connectors and cables

	Signal type	Connection type head A	Connection type head B	Cable length	Part no.
	Serial	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	3 m	2014054

Mounting systems

Mounting brackets/plates

	Brief description	Part no.
	Bracket with adapter board	2042902

➜ For additional accessories, please see page 66

POWERFUL SCANNER – FLEXIBLE USE

Product description

The CLV62x series of bar code scanners are compact, powerful tools for a wide range of logistics applications. Speed, power, flexibility and ease of use are the features that define the CLV62x family. The CLV62x combines high reading performance with the SMART620 code reconstruction system, a reading algorithm that can accurately detect bar codes even if they are damaged or partially covered. These scanners are available with the standard serial or embedded Ethernet, including EtherNet/IP and PROFINET communications. Other advanced features, like an embedded web server for remote diagnostics and reading performance statistics give the CLV62x family the kind of high-end performance and flexibility usually expected in more costly scanners.

At a glance

- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- SMART620 code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS configuration software
- High scanning frequency of up to 1,200 Hz
- Small housing
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet
- IP 65 rated

Your benefits

- High read rate on damaged and obscured codes using SMART620 code recognition technology
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- No supplementary Ethernet gateway required with Ethernet models – lowers costs
- The CLV62x scanner can be used as a multiplexer in any CAN scanner network from SICK – no supplementary multiplexer necessary
- Real-time decoding at very high speeds
- Small size and simple setup enables fast installation, even in compact machines

Additional information

→ www.mysick.com/en/CLV62x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8016144/2013-09-19
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Detailed technical data

Features

	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)		
Field of view	≤ 50°		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.2 mm ... 1 mm	0.35 mm ... 1 mm	0.15 mm ... 0.5 mm
Reading distance (at code resolution)	60 mm ... 365 mm (1 mm)	60 mm ... 730 mm (1 mm)	55 mm ... 200 mm (0.5 mm)
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)		

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART620)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	1,500 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)
Function	Host, AUX
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud
Ethernet	– / ✔ (depending on type)
Function	Host, AUX
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT (optional via external connection module CDF600) (depending on type)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CANopen, CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 in CDB620/CDM420)
Ethernet	3 (“Sensor 1”, 2 inputs via optional CMC600 in CDB620/CDM420)
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional CMC600 in CDB620/CDM420)
Ethernet	2 (via CMC600 in CDB620/CDM420)

Reading pulse	Switching inputs, non-powered, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX)
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)

Mechanics/electronics

	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Electrical connection			
Cable	1 15-pin D-Sub HD male connector (0.9 m)		
Ethernet	2 M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector		
Operating voltage	10 V DC ... 30 V DC		
Power consumption	4.5 W		
Housing	Die-cast aluminum		
Housing color	Light blue (RAL 5012)		
Enclosure rating	IP 65 (DIN 40 050)		
Protection class	III (VDE 0106/IEC 1010-1)		
Weight			
Cable	225 g ... 250 g, with connecting cable (depending on type)		
Ethernet	205 g ... 230 g, without connecting cable (depending on type)		
Dimensions			
Front	61 mm x 66 mm x 38 mm [1]		
Side	80 mm x 66 mm x 38 mm [1]		

[1] Swivel connector is 15 mm longer with Ethernet model.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

- **Focus:** Fixed focus
- **Front screen:** Glass

Version	Connection type	Reading field	Scanner design	Model name	Part no.
CLV620 Mid Range	Cable	Front	Line scanner	CLV620-0000	1040288
			Raster scanner	CLV620-1000	1041548
		Side (105°)	Line scanner	CLV620-2000	1041550
			Raster scanner	CLV620-3000	1041552
	Ethernet	Front	Line scanner	CLV620-0120	1041547
			Raster scanner	CLV620-1120	1041549
		Side (105°)	Line scanner	CLV620-2120	1041551
			Raster scanner	CLV620-3120	1041553

8016144/2013-09-19
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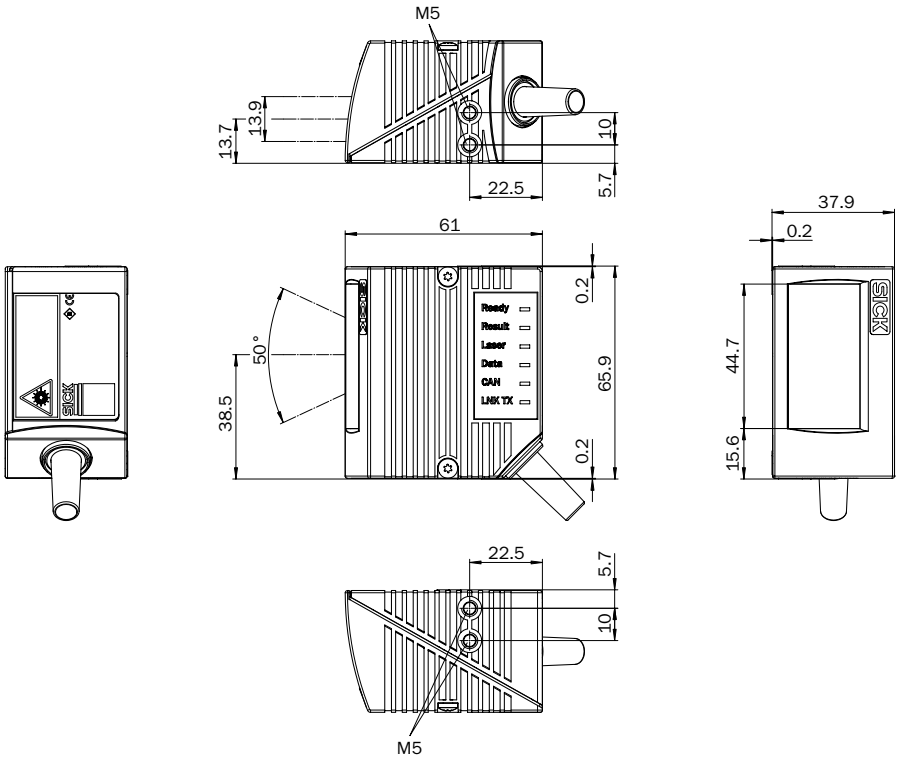
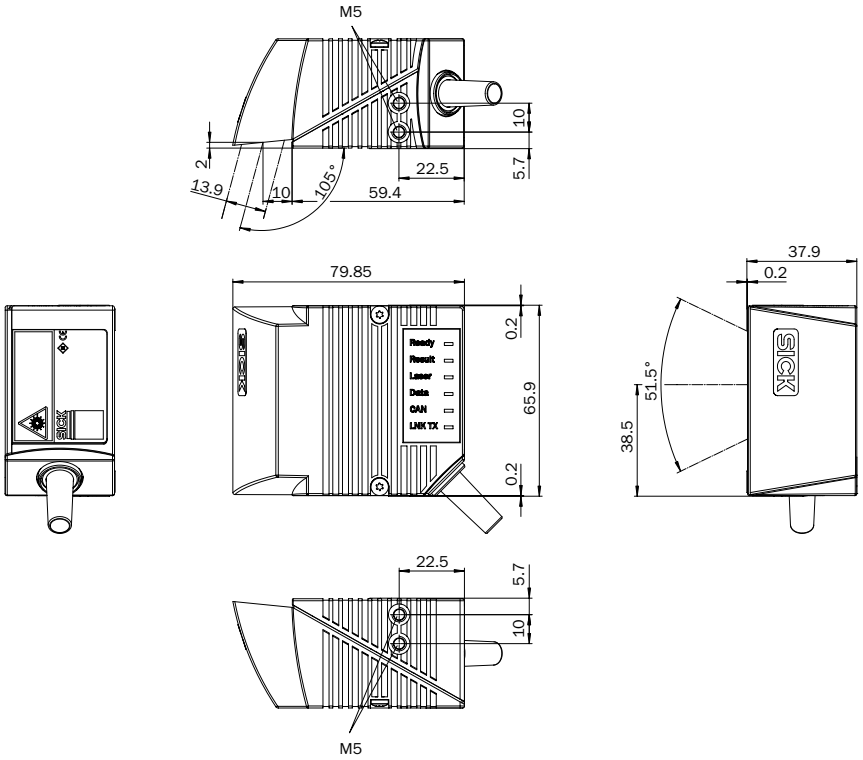
Version	Connection type	Reading field	Scanner design	Model name	Part no.
CLV621 Long Range	Cable	Front	Line scanner	CLV621-0000	1041784
			Raster scanner	CLV621-1000	1041786
		Side (105°)	Line scanner	CLV621-2000	1041788
			Raster scanner	CLV621-3000	1041790
	Ethernet	Front	Line scanner	CLV621-0120	1041785
			Raster scanner	CLV621-1120	1041787
		Side (105°)	Line scanner	CLV621-2120	1041789
			Raster scanner	CLV621-3120	1041791
CLV622 Short Range	Cable	Front	Line scanner	CLV622-0000	1041792
			Raster scanner	CLV622-1000	1041794
		Side (105°)	Line scanner	CLV622-2000	1041796
			Raster scanner	CLV622-3000	1041798
	Ethernet	Front	Line scanner	CLV622-0120	1041793
			Raster scanner	CLV622-1120	1041795
		Side (105°)	Line scanner	CLV622-2120	1041797
			Raster scanner	CLV622-3120	1041799

Dimensional drawings (Dimensions in mm (inch))

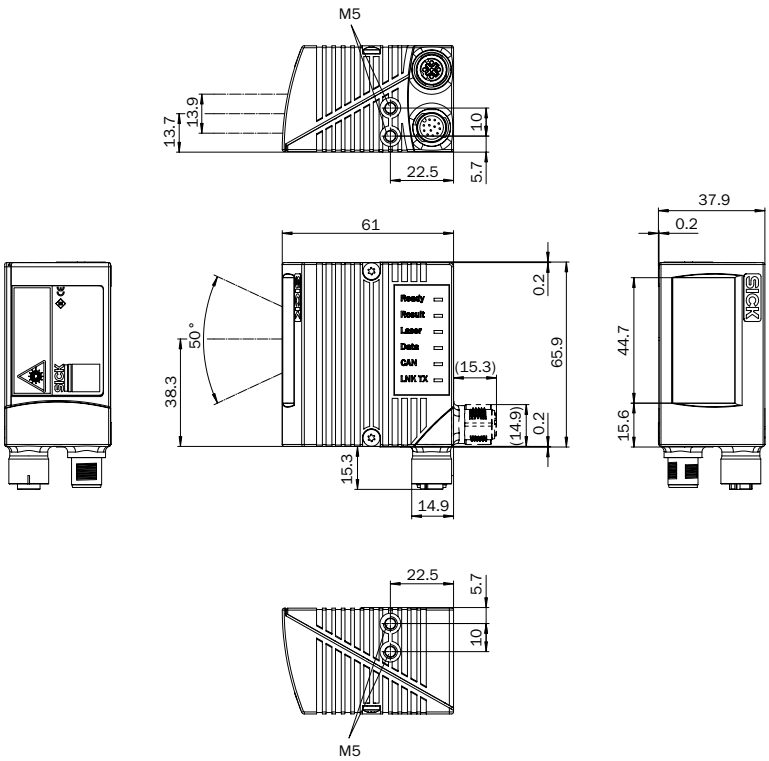
CLV62x Standard, front



CLV62x Standard, side



CLV62x Ethernet, front



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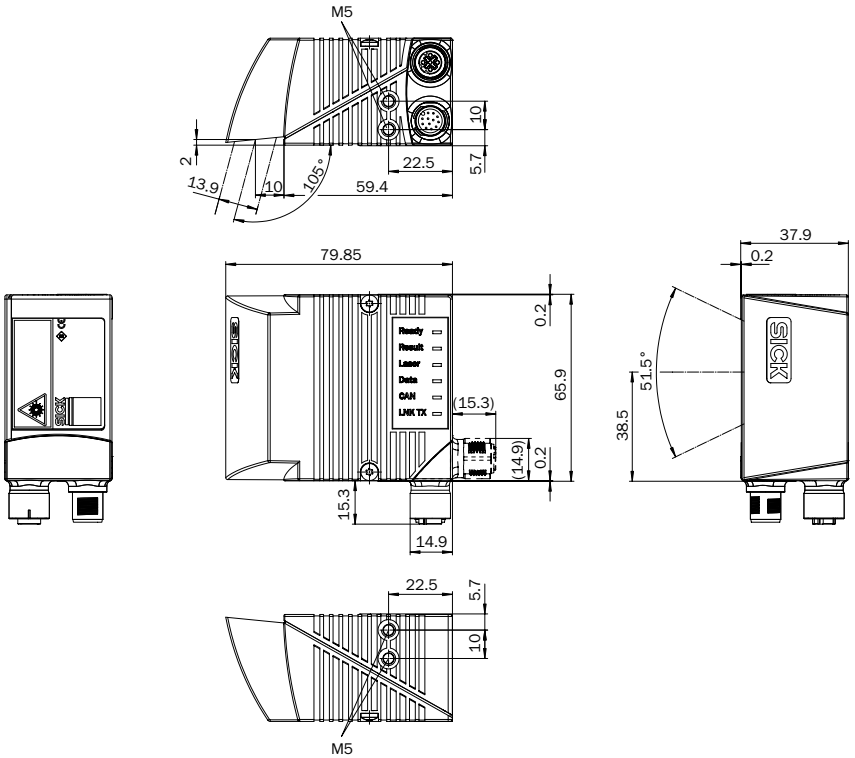
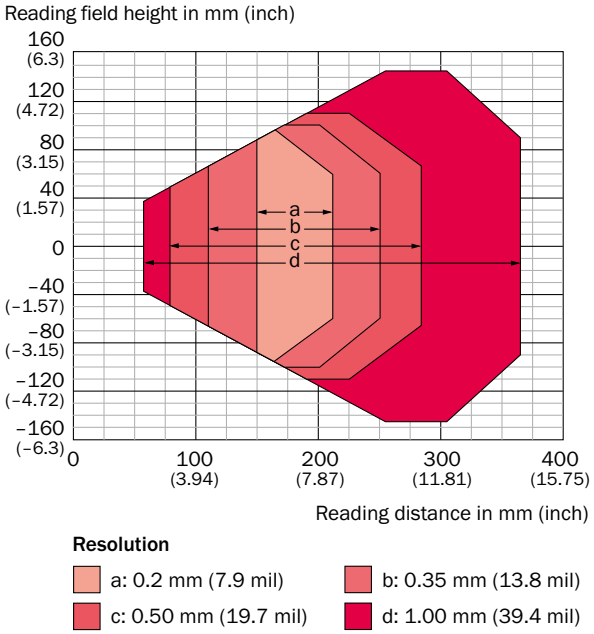
CLV62x Ethernet, side



Reading field diagrams

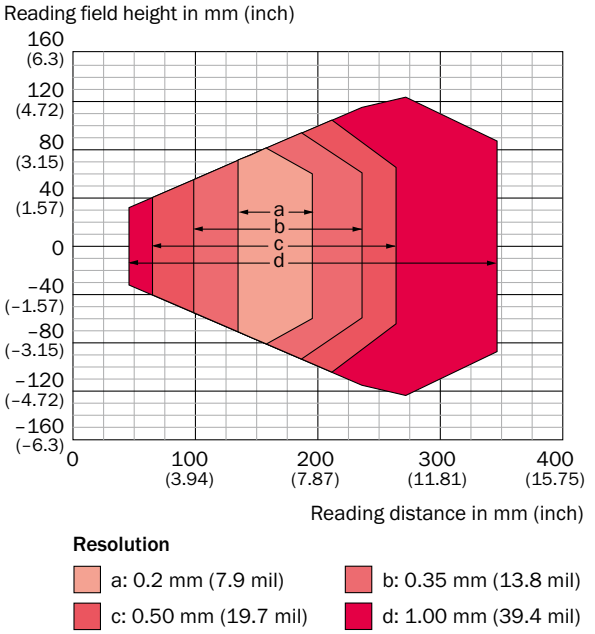
CLV620 Mid Range, front



Resolution

- a: 0.2 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

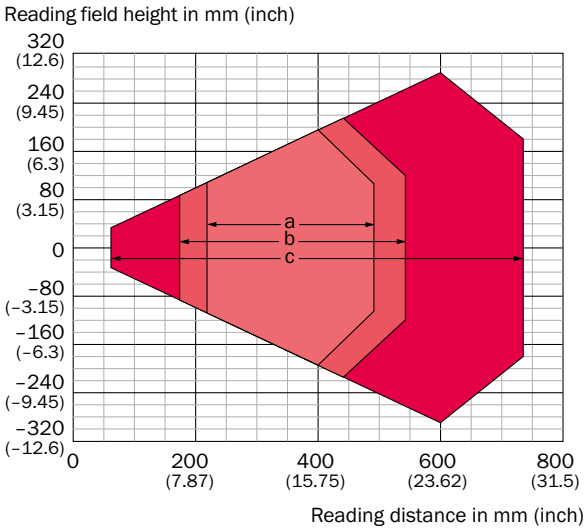
CLV620 Mid Range, side



Resolution

- a: 0.2 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

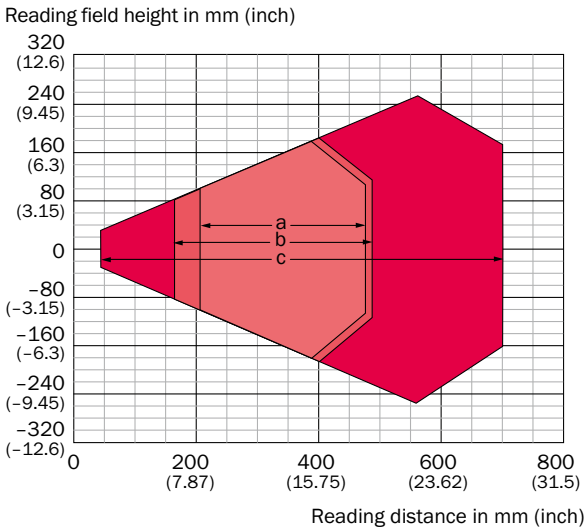
CLV621 Long Range, front



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.00 mm (39.4 mil)

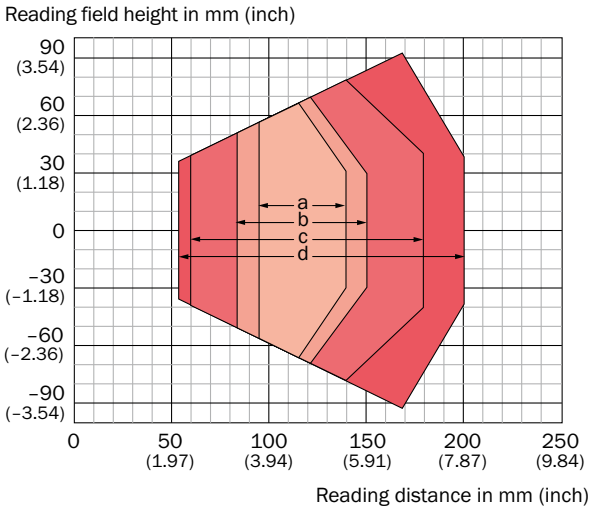
CLV621 Long Range, side



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.00 mm (39.4 mil)

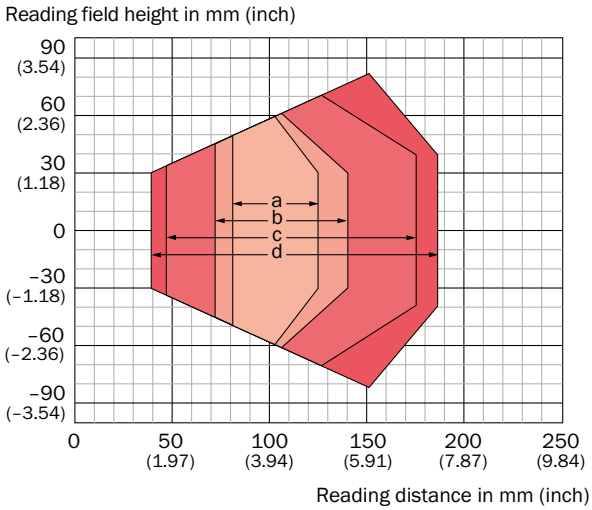
CLV622 Short Range, front



Resolution

- a: 0.15 mm (5.9 mil)
- b: 0.2 mm (7.9 mil)
- c: 0.35 mm (13.8 mil)
- d: 0.50 mm (19.7 mil)

CLV622 Short Range, side



Resolution

- a: 0.15 mm (5.9 mil)
- b: 0.2 mm (7.9 mil)
- c: 0.35 mm (13.8 mil)
- d: 0.50 mm (19.7 mil)

Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.	CLV62x Cable	CLV62x Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●

Plug connectors and cables

- **Cable length:** 2 m

	Signal type	Connection type head A	Connection type head B	Cable	Part no.	CLV62x Cable	CLV62x Ethernet
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	6034414	–	●
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2041834	–	●

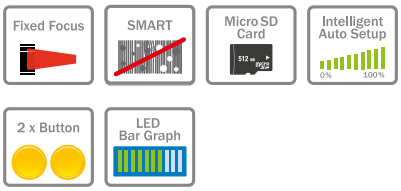
Mounting systems

Mounting brackets/plates

	Brief description	Part no.	CLV62x Cable	CLV62x Ethernet
	Bracket with adapter board	2042902	●	●

➜ For additional accessories, please see page 66

INTELLIGENT SCANNING SOLUTION FOR LOGISTICS AND AUTOMATION



Product description

The CLV63x series of bar code scanners are compact, powerful tools satisfying the needs of a wide range of applications and industries. Newly improved SMART algorithms in the CLV63x are superior when reading damaged and tilted codes. In addition, pushbuttons on the CLV63x and above allow for quick bar code setup without using a computer. Match code teach-in and diagnostic triggering are also possible. In addition to the LED bar graph, the CLV63x has other LED indicators on its body that show communication and scanner performance. The microSD memory card slot allows users to easily clone scanner parameters. Variants include line, raster, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Integrated pushbuttons for auto setup and reading diagnostics
- Integrated LED bar graph
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS configuration software
- High scanning frequency of up to 1,200 Hz
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet

Your benefits

- 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
- Real-time decoding at very high speeds
- Increased reading reliability due to high-performance computing power and a high scanning frequency

Additional information

→ www.mysick.com/en/CLV63x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)		
Field of view	≤ 50°		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.35 mm ... 1 mm	0.25 mm ... 0.5 mm	0.2 mm ... 0.5 mm
Reading distance (at code resolution)			
Front	60 mm ... 735 mm (1 mm)	90 mm ... 450 mm (0.5 mm)	60 mm ... 285 mm (0.5 mm)
Side	44 mm ... 683 mm (1 mm)	74 mm ... 412 mm (0.5 mm)	44 mm ... 256 mm (0.5 mm)
Oscillating mirror	45 mm ... 659 mm (1 mm)	78 mm ... 397 mm (0.5 mm)	45 mm ... 245 mm (0.5 mm)
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)		
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot		
Oscillation frequency	0.5 Hz ... 6.25 Hz		
Angle of deflection	–20° ... 20°		

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)		
Function	Host, AUX		
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud		
Ethernet	– / ✔ (depending on type)		
Function	Host, AUX		
Data transmission rate	10/100 Mbit		
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT (optional via external connection module CDF600) (depending on type)		
CAN bus	✔		
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)		
Data transmission rate	20 kbit/s ... 1 Mbit/s		
Protocol	CANopen, CSN (SICK CAN Sensor Network)		
PROFIBUS DP	✔, optional via external connection module (CDF600-2)		
DeviceNet	✔, optional via external connection module (CDM + CMF)		

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Switching inputs			
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 in CDB620/CDM420)		
Ethernet	3 (“Sensor 1”, 2 inputs via optional CMC600 in CDB620/CDM420)		
Switching outputs			
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional CMC600 in CDB620/CDM420)		
Ethernet	2 (via CMC600 in CDB620/CDM420)		
Reading pulse	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN		
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))		
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)		
Control elements	2 buttons (choose and start/stop functions)		
Memory card	MicroSD memory card (flash card) 512 MB, optional		

Mechanics/electronics

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Electrical connection			
Cable	1 15-pin D-Sub HD male connector (0.9 m)		
Ethernet	2 M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector		
Operating voltage	18 V DC ... 30 V DC		
Power consumption	5 W / 6 W (depending on type)		
Housing	Die-cast aluminum		
Housing color	Light blue (RAL 5012)		
Enclosure rating	IP 65 (EN 60529)		
Protection class	III (EN 61140)		
Weight			
Cable	320 g ... 420 g, with connecting cable (depending on type)		
Ethernet	250 g ... 350, without connecting cable (depending on type)		
Dimensions			
Front	61 mm x 96 mm x 38 mm [1]		
Side	80 mm x 96 mm x 38 mm [1]		
Oscillating mirror	95 mm x 96 mm x 41 mm [1]		

[1] Swivel connector is 15 mm longer with Ethernet model.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

8016144/2013-09-19

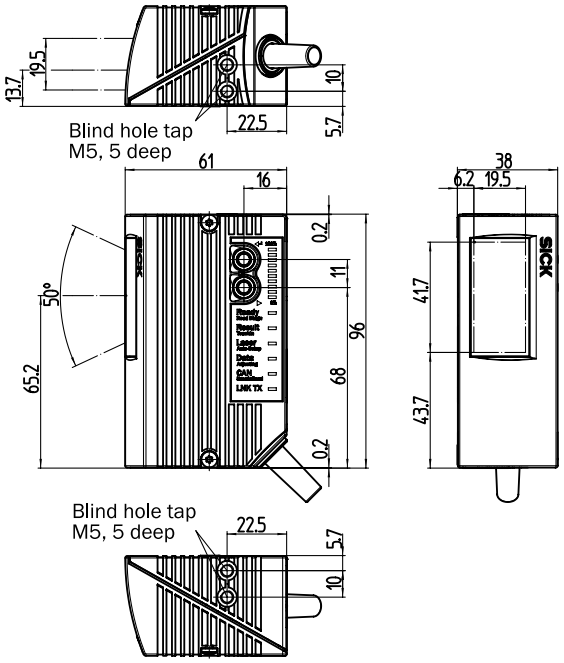
Ordering information

- **Focus:** Fixed focus
- **Heating:** optional
- **Front screen:** Glass

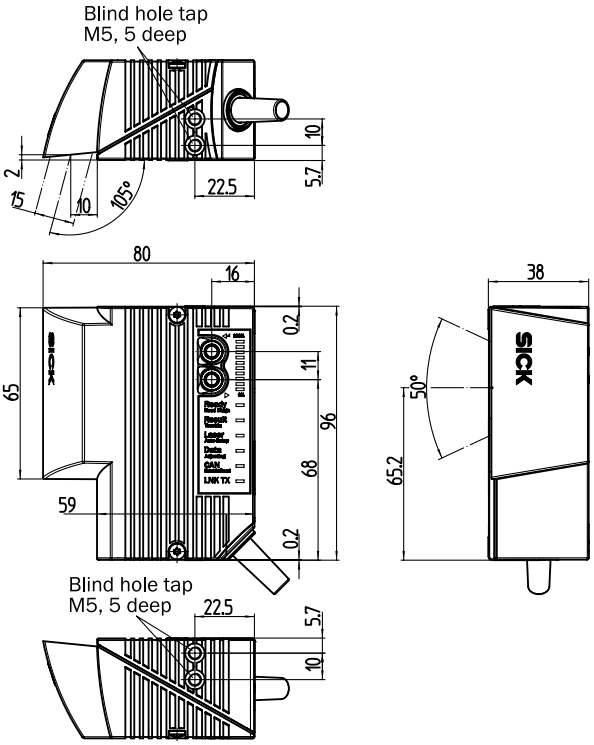
Version	Connection type	Reading field	Scanner design	Model name	Part no.
CLV630 Long Range	Cable	Front	Line scanner	CLV630-0000	1040706
			Raster scanner	CLV630-1000	1041970
		Side (105°)	Line scanner	CLV630-2000	1041972
			Raster scanner	CLV630-3000	1041974
		Oscillating mirror	Line scanner	CLV630-6000	1041976
	Ethernet	Front	Line scanner	CLV630-0120	1041969
			Raster scanner	CLV630-1120	1041971
		Side (105°)	Line scanner	CLV630-2120	1041973
			Raster scanner	CLV630-3120	1041975
		Oscillating mirror	Line scanner	CLV630-6120	1041977
CLV631 Mid Range	Cable	Front	Line scanner	CLV631-0000	1041978
			Raster scanner	CLV631-1000	1041980
		Side (105°)	Line scanner	CLV631-2000	1041982
			Raster scanner	CLV631-3000	1041984
		Oscillating mirror	Line scanner	CLV631-6000	1041986
	Ethernet	Front	Line scanner	CLV631-0120	1041979
			Raster scanner	CLV631-1120	1041981
		Side (105°)	Line scanner	CLV631-2120	1041983
			Raster scanner	CLV631-3120	1041985
		Oscillating mirror	Line scanner	CLV631-6120	1041987
CLV632 Short Range	Cable	Front	Line scanner	CLV632-0000	1041988
			Raster scanner	CLV632-1000	1041990
		Side (105°)	Line scanner	CLV632-2000	1041992
			Raster scanner	CLV632-3000	1041994
		Oscillating mirror	Line scanner	CLV632-6000	1041996
	Ethernet	Front	Line scanner	CLV632-0120	1041989
			Raster scanner	CLV632-1120	1041991
		Side (105°)	Line scanner	CLV632-2120	1041993
			Raster scanner	CLV632-3120	1041995
		Oscillating mirror	Line scanner	CLV632-6120	1041997

Dimensional drawings (Dimensions in mm (inch))

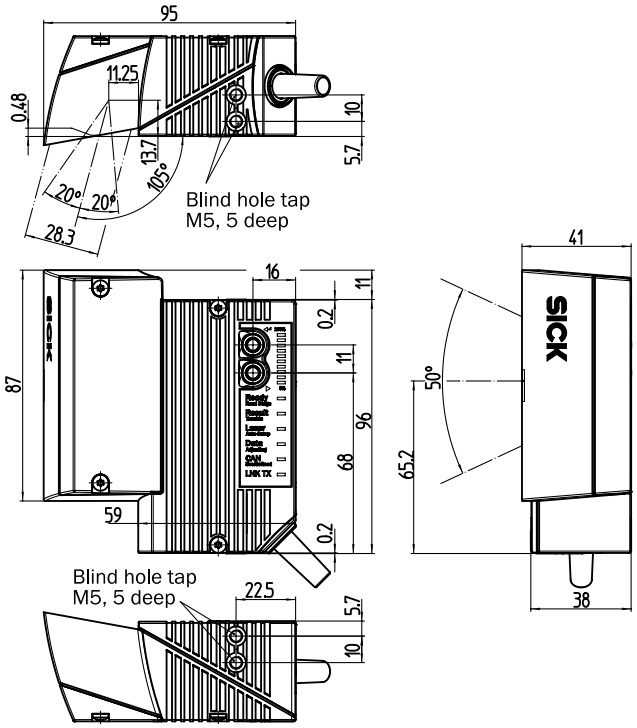
CLV63x/64x/65x Standard, front



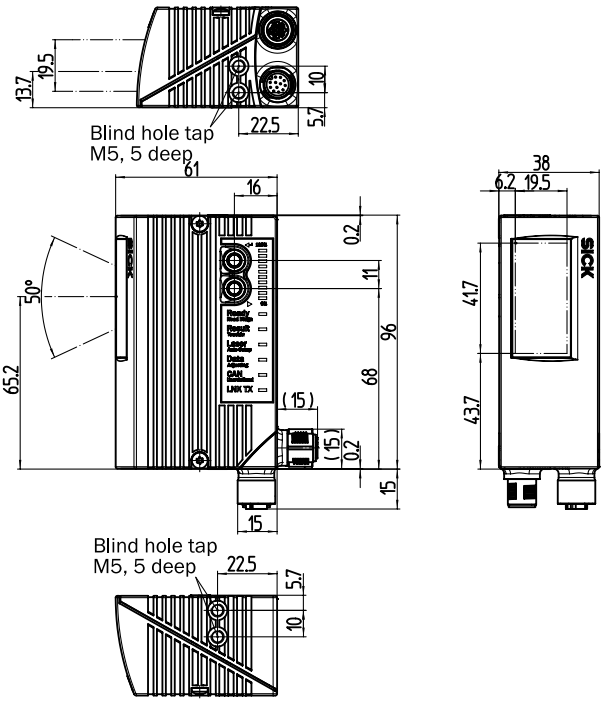
CLV63x/64x Standard, side



CLV63x/64x/65x Standard, oscillating mirror



CLV63x/64x/65x, Ethernet, front



8016144/2013-09-19
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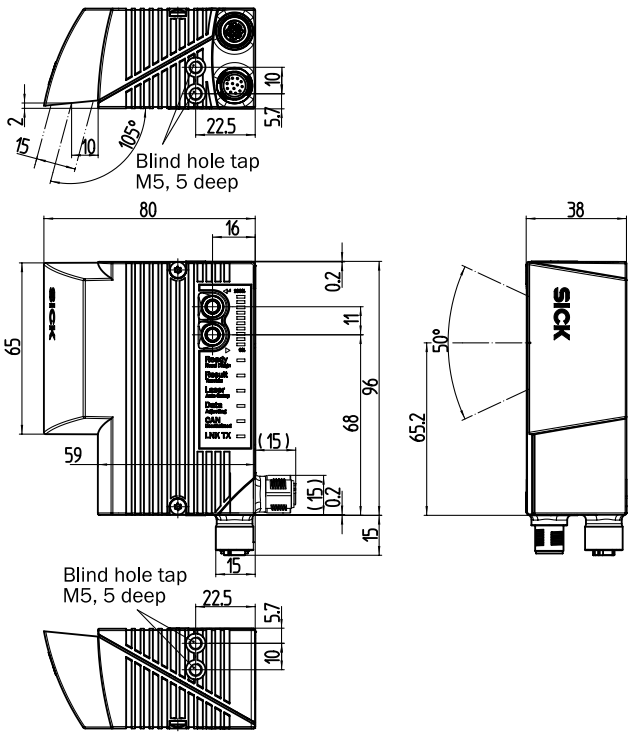
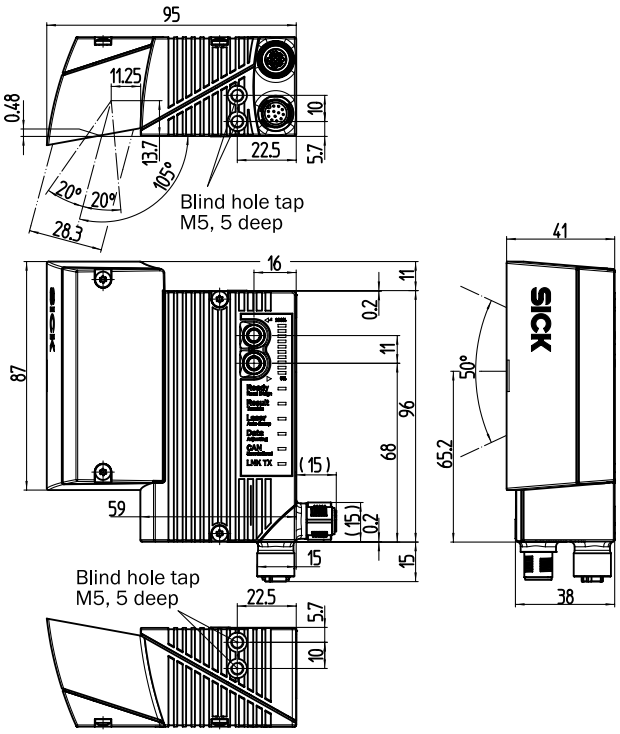
CLV63x/64x Ethernet, side

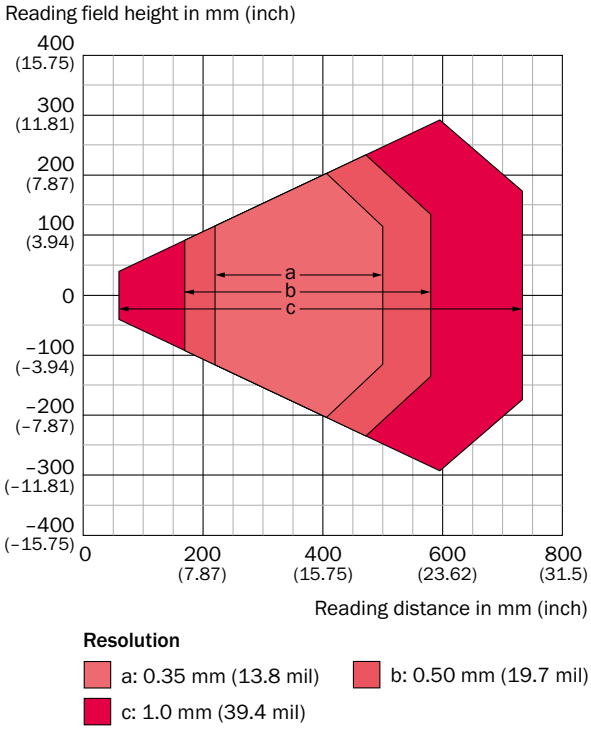


CLV63x/64x/65x, Ethernet, oscillating mirror



Reading field diagrams

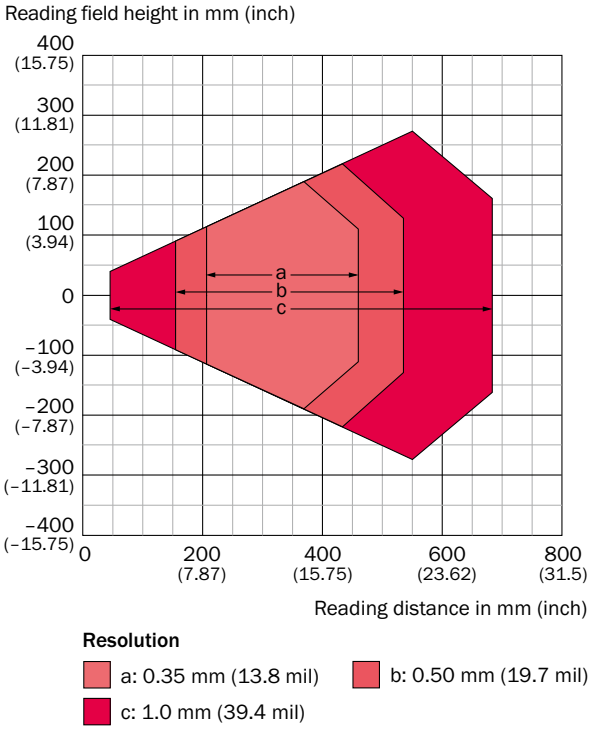
CLV630 Long Range, front



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.0 mm (39.4 mil)

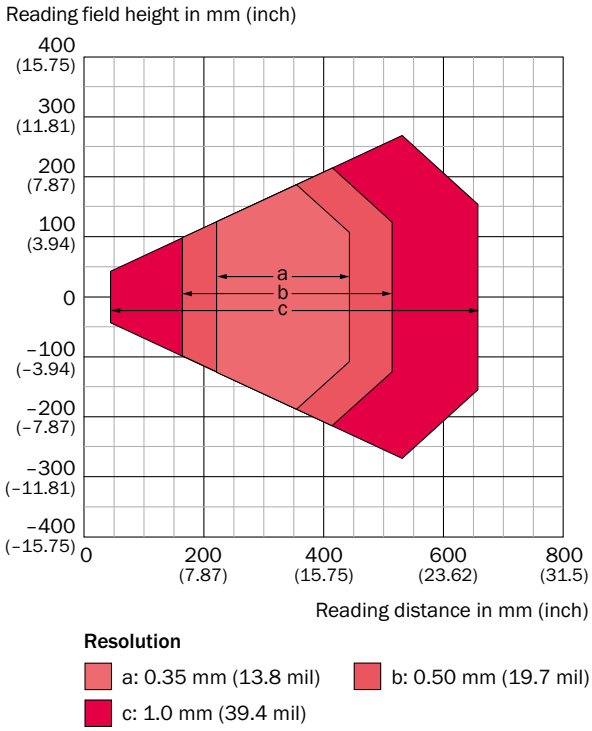
CLV630 Long Range, side



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.0 mm (39.4 mil)

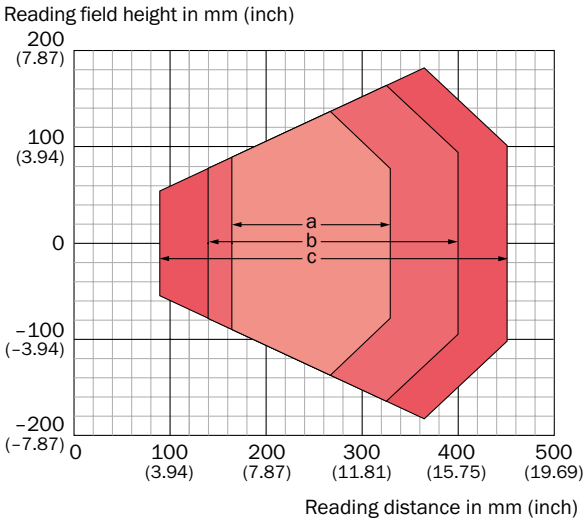
CLV630 Long Range, oscillating mirror



Resolution

a: 0.35 mm (13.8 mil)
b: 0.50 mm (19.7 mil)
c: 1.0 mm (39.4 mil)

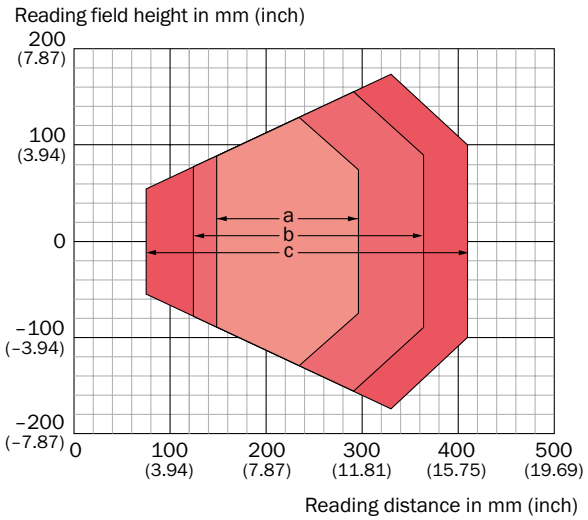
CLV631 Mid Range, front



Resolution

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

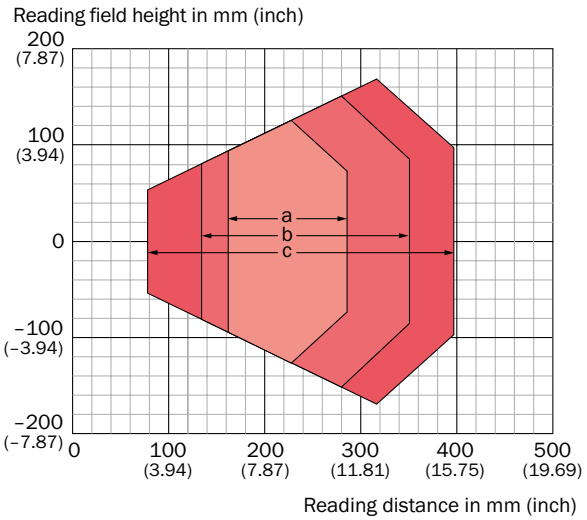
CLV631 Mid Range, side



Resolution

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

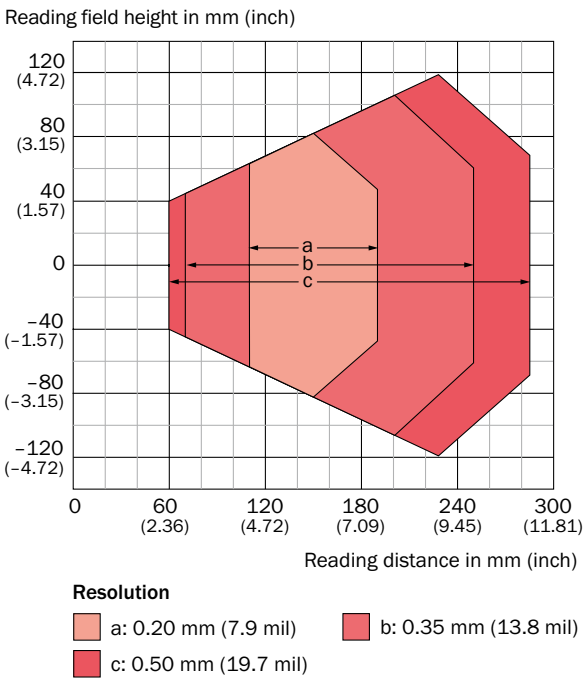
CLV631 Mid Range, oscillating mirror



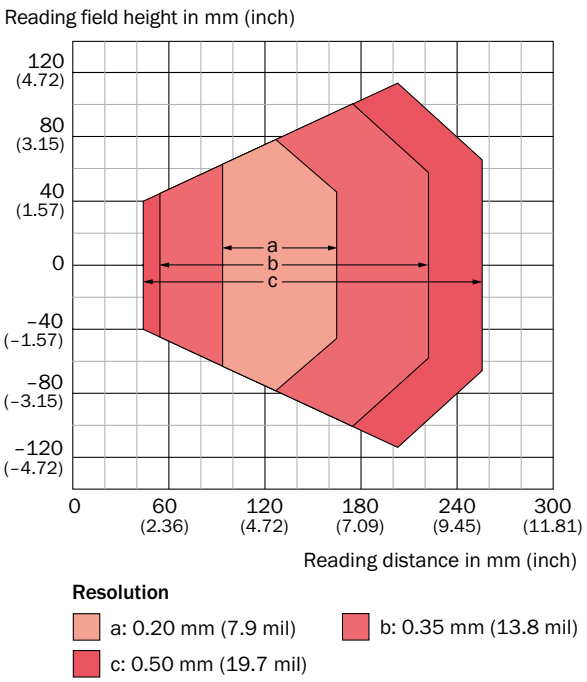
Resolution

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

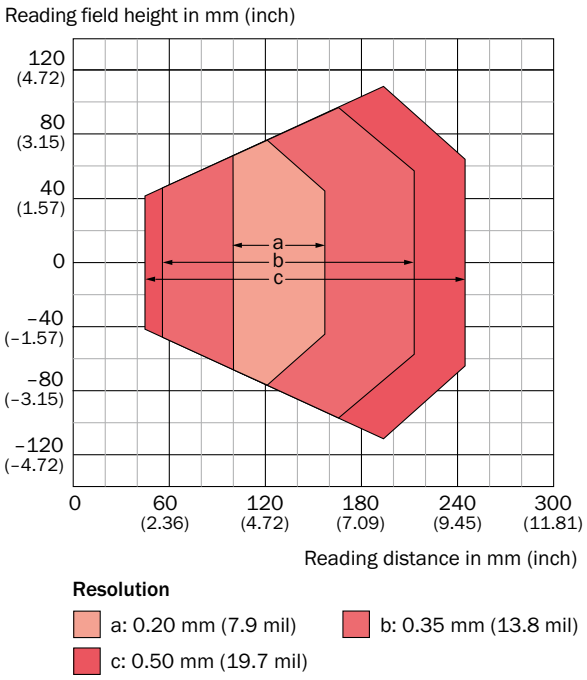
CLV632 Short Range, front



CLV632 Short Range, side



CLV632 Short Range, oscillating mirror



Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●

Plug connectors and cables

- **Cable length:** 2 m

	Signal type	Connection type head A	Connection type head B	Cable	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	6034414	–	●
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2041834	–	●

Mounting systems

Mounting brackets/plates

	Brief description	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Hanger-shaped mounting bracket	2042800	●	●

➜ For additional accessories, please see page 66

8016144/2013-09-19
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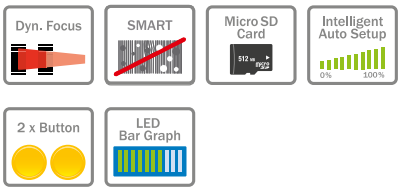
DYNAMIC, MULTI-FUNCTIONAL



Product description

The CLV64x bar code scanners offer dynamic focus adjustment extending the range of the scanner for those applications where fixed focus comes up short but autofocus is outside the budget. Newly improved SMART algorithms in the CLV64x are superior when reading damaged and tilted codes.
Combine single line, raster, oscillating mirror, high density and low contrast variants with exceptional reading performance and flexible data handling capabilities, and you have all the ingredients for solving high-performance applications in the material handling and logistics markets. Variants include line, raster, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Dynamic focus adjustment enables extended depth of field
- Integrated pushbuttons for auto setup and reading diagnostics
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS configuration software
- Integrated LED bar graph
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet

Your benefits

- Economical, as only one CLV64x is required for all focus positions
- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Teach-in of match code possible via the pushbuttons
- Easily execute firmware updates using the microSD memory card: no need for a PC
- No supplementary Ethernet gateway required with Ethernet models – lowers costs
- 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
- Real-time decoding at very high speeds

Additional information

→ www.mysick.com/en/CLV64x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8016144/2013-09-19
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Detailed technical data

Features

	CLV640 Standard Density	CLV642 High Density
Light source	Visible red light (655 nm)	
MTBF	40,000 h	
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)	
Field of view	≤ 50°	
Scanning frequency	400 Hz ... 1,200 Hz	
Code resolution	0.2 mm ... 1 mm	0.15 mm ... 0.25 mm
Reading distance (at code resolution)		
Front	60 mm ... 840 mm (1 mm)	30 mm ... 345 mm (0.25 mm)
Side	44 mm ... 738 mm (1 mm)	–
Oscillating mirror	45 mm ... 755 mm (1 mm)	–
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)	–
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot	
Oscillation frequency	0.5 Hz ... 6.25 Hz	
Angle of deflection	–20° ... 20°	

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)
Function	Host, AUX
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud
Ethernet	– / ✔ (depending on type)
Function	Host, AUX
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT (optional via external connection module CDF600) (depending on type)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CANopen, CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)

Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 in CDB620/CDM420)
Ethernet	3 (“Sensor 1”, 2 inputs via optional CMC600 in CDB620/CDM420)
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional CMC600 in CDB620/CDM420)
Ethernet	2 (via CMC600 in CDB620/CDM420)
Reading pulse	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
Control elements	2 buttons (choose and start/stop functions)
Memory card	MicroSD memory card (flash card) 512 MB, optional

Mechanics/electronics

Electrical connection	
Cable	1 15-pin D-Sub HD male connector (0.9 m)
Ethernet	2 M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector
Operating voltage	18 V DC ... 30 V DC
Power consumption	5.5 W / 6.5 W (depending on type)
Housing	Die-cast aluminum
Housing color	Light blue (RAL 5012)
Enclosure rating	IP 65 (EN 60529)
Protection class	III (EN 61140)
Weight	
Cable	320 g ... 420 g, with connecting cable (depending on type)
Ethernet	250 g ... 350 g, without connecting cable (depending on type)
Dimensions	
Front	61 mm x 96 mm x 38 mm [1]
Side	80 mm x 96 mm x 38 mm [1]
Oscillating mirror	95 mm x 96 mm x 41 mm [1]

[1] Swivel connector is 15 mm longer with Ethernet model.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

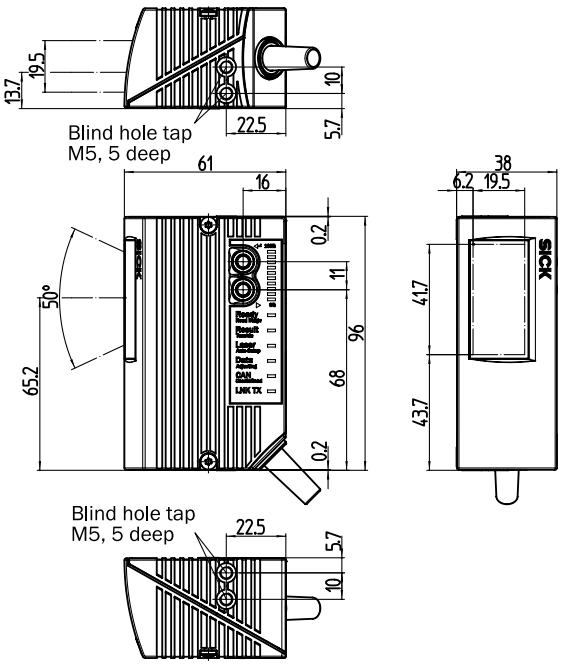
Ordering information

- **Focus:** Dynamic focus control
- **Heating:** optional
- **Front screen:** Glass

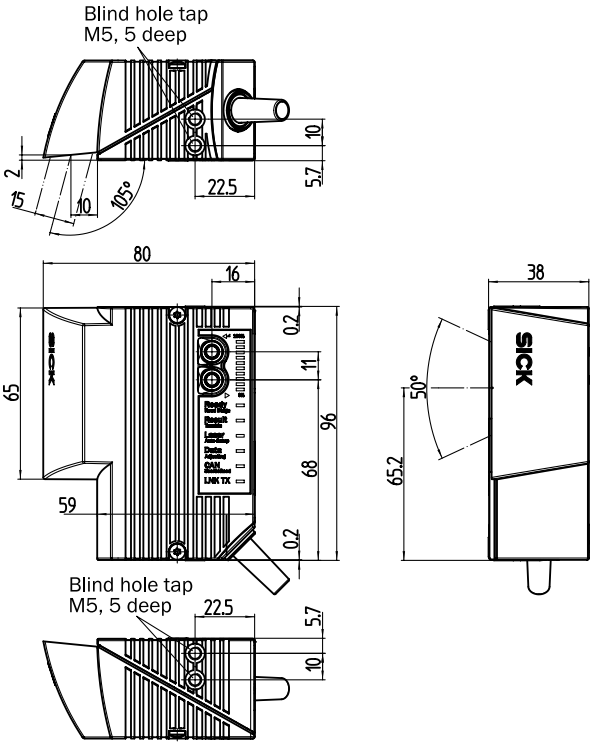
Version	Connection type	Reading field	Scanner design	Model name	Part no.
CLV640 Standard Density	Cable	Front	Line scanner	CLV640-0000	1042014
			Raster scanner	CLV640-1000	1042016
		Side (105°)	Line scanner	CLV640-2000	1042018
			Raster scanner	CLV640-3000	1042020
		Oscillating mirror	Line scanner	CLV640-6000	1042022
	Ethernet	Front	Raster scanner	CLV640-1120	1042017
			Line scanner	CLV640-0120	1042015
		Side (105°)	Line scanner	CLV640-2120	1042019
			Raster scanner	CLV640-3120	1042021
		Oscillating mirror	Line scanner	CLV640-6120	1042023
CLV642 High Density	Cable	Front	Line scanner	CLV642-0000	1044873
		Side (105°)	Line scanner	CLV642-2000	1044875
		Oscillating mirror	Line scanner	CLV642-6000	1044877
	Ethernet	Front	Line scanner	CLV642-0120	1044874
		Side (105°)	Line scanner	CLV642-2120	1044876
		Oscillating mirror	Line scanner	CLV642-6120	1044879

Dimensional drawings (Dimensions in mm (inch))

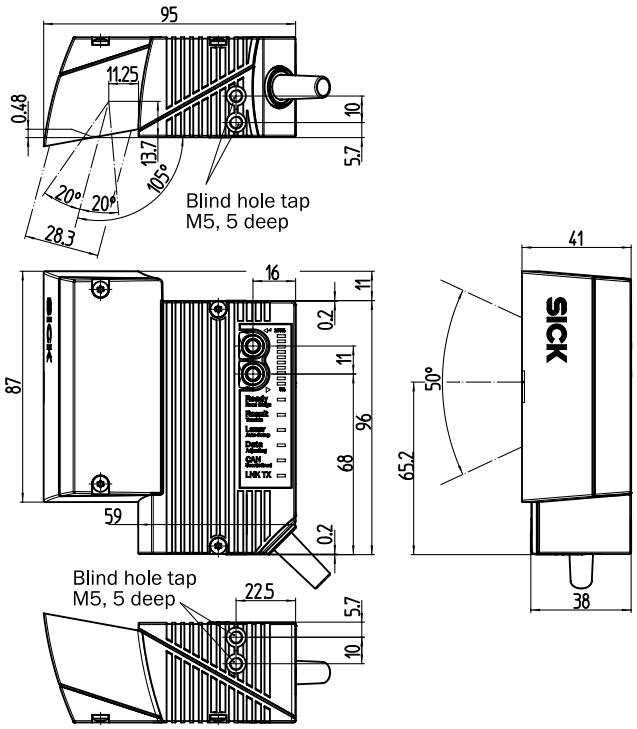
CLV63x/64x/65x Standard, front



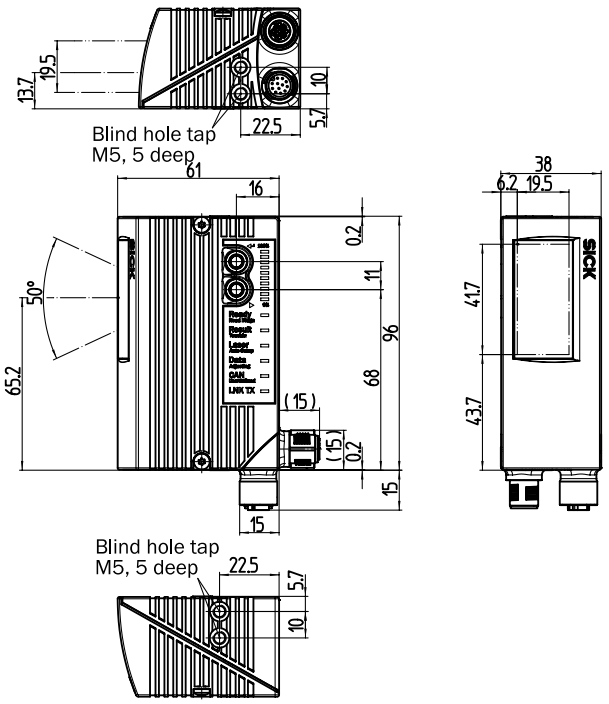
CLV63x/64x Standard, side



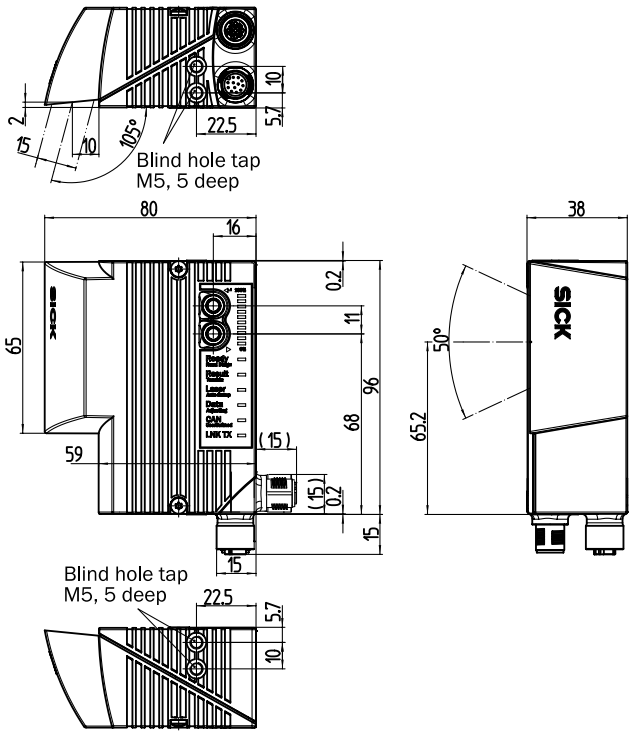
CLV63x/64x/65x Standard, oscillating mirror



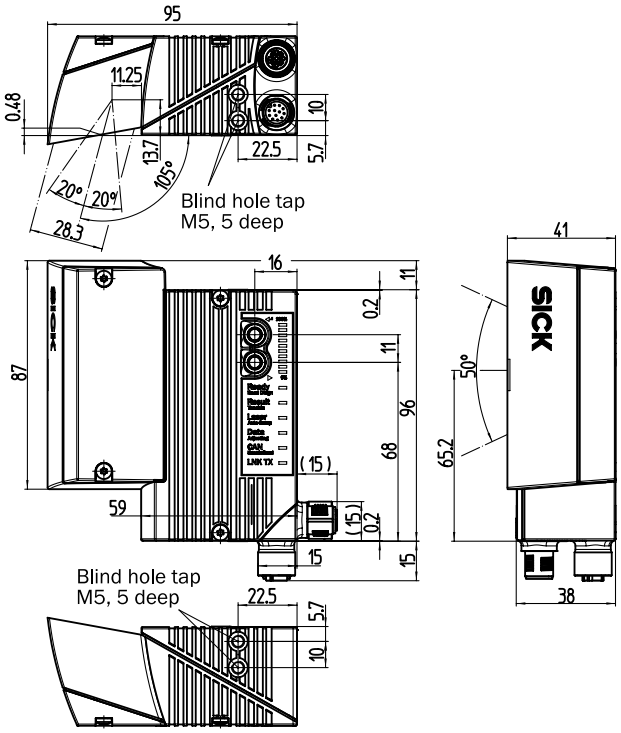
CLV63x/64x/65x, Ethernet, front



CLV63x/64x Ethernet, side



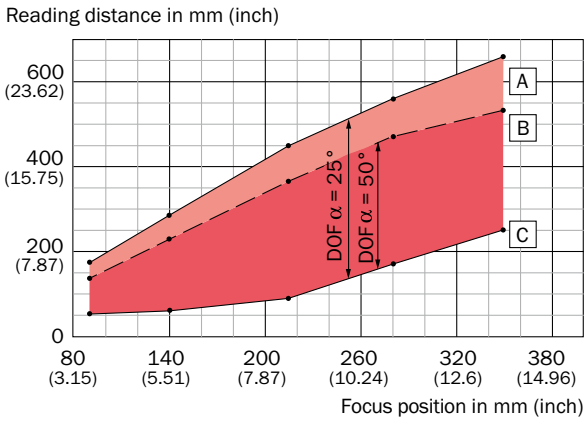
CLV63x/64x/65x, Ethernet, oscillating mirror



8016144/2013-09-19

Reading field diagrams

CLV640 Standard Density, front



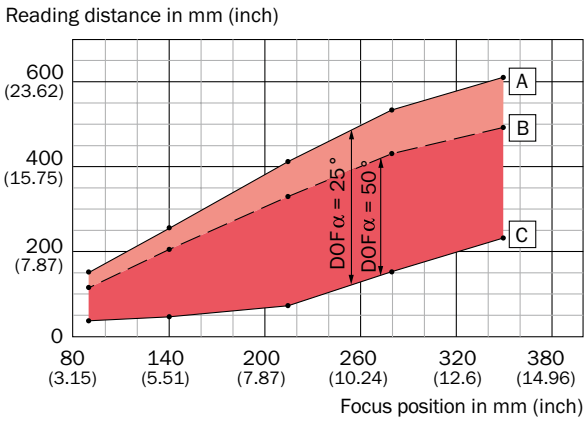
Resolution 0.5 mm (19.7 mil)

A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV640 Standard Density, side



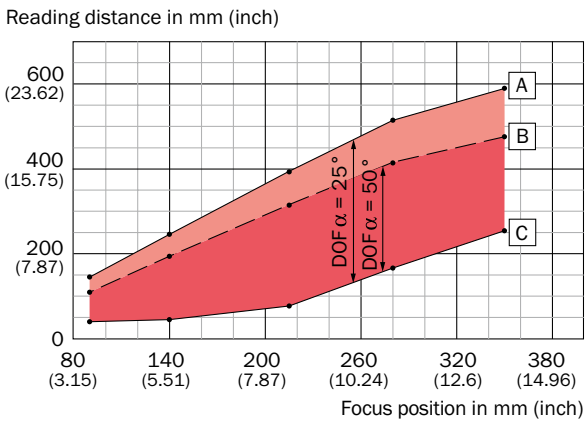
Resolution 0.5 mm (19.7 mil)

A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV640 Standard Density, oscillating mirror



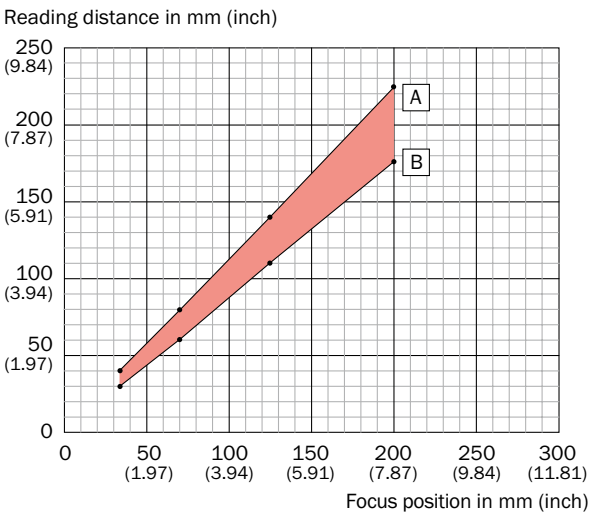
Resolution 0.5 mm (19.7 mil)

A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV642 High Density



Resolution 0.15 mm (5.9 mil)

A max. reading distance (aperture angle 25°)

B min. reading distance

Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●

Plug connectors and cables

- **Cable length:** 2 m

	Signal type	Connection type head A	Connection type head B	Cable	Type	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	SSL-2J04-G02ME	6034414	–	●
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	Verbindungsleitung (Stecker-Dose)	2041834	–	●

Mounting systems

Mounting brackets/plates

	Brief description	Type	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Hanger-shaped mounting bracket	Mounting bracket	2042800	●	●

➜ For additional accessories, please see page 66

8016144/2013-09-19
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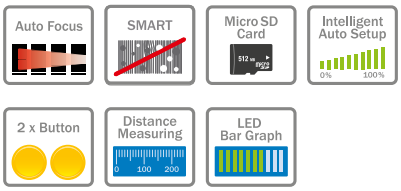
ALWAYS IN AUTO FOCUS



Additional information

Product description

The CLV65x series of bar code scanners use proprietary distance measurement and auto focus technology combined with SMART code reconstruction algorithms and high-performance microprocessor, enabling them to outperform the competition by reading damaged and dirty codes in challenging applications where a large depth of field is required. Reading distances of up to 1,625 mm for a 1 mm module width can be achieved. The CLV65x's auto focus feature, distance measurement technology, and expertly engineered optics give it a competitive advantage in applications where space is limited and a large depth of field is required.
Other advanced features, like an embedded web server for remote diagnostics and reading performance statistics, enhance the performance of the CLV65x family.
Variants include line, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Huge depth of field due to auto focus
- Integrated pushbuttons for auto setup and reading diagnostics
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Integrated web server provides remote diagnostics and monitoring
- Advanced, easy-to-use SOPAS configuration software
- Integrated LED bar graph

Your benefits

- Economical, as auto focus means no versions 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 required

→ www.mysick.com/en/CLV65x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8016144/2013-09-19
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Detailed technical data

Features

	CLV650 Standard Density	CLV651 Low Density
Light source	Visible red light (658 nm)	
MTBF	40,000 h	
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)	
Field of view	≤ 50°	
Scanning frequency	600 Hz ... 1,000 Hz	
Code resolution	0.25 mm ... 1 mm	0.5 mm
Reading distance (at code resolution)		
Front	140 mm ... 1,625 mm (1 mm)	170 mm ... 930 mm (0.5 mm)
Oscillating mirror	125 mm ... 1,570 mm (1 mm)	155 mm ... 880 mm (0.5 mm)
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot	
Oscillation frequency	0.5 Hz ... 6.25 Hz	
Angle of deflection	–20° ... 20°	

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)
Function	Host, AUX
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud
Ethernet	– / ✔ (depending on type)
Function	Host, AUX
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT (optional via external connection module CDF600) (depending on type)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CANopen, CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 in CDB620/CDM420)
Ethernet	3 (“Sensor 1”, 2 inputs via optional CMC600 in CDB620/CDM420)
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional CMC600 in CDB620/CDM420)
Ethernet	2 (via CMC600 in CDB620/CDM420)

Reading pulse	"Sensor 1" switching input, non-powered, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
Control elements	2 buttons (choose and start/stop functions)
Memory card	MicroSD memory card (flash card) 512 MB, optional

Mechanics/electronics

Electrical connection	
Cable	1 15-pin D-Sub HD male connector (0.9 m)
Ethernet	2 M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector
Operating voltage	18 V DC ... 30 V DC
Power consumption	8.5 W / 9.5 W (depending on type)
Housing	Die-cast aluminum
Housing color	Light blue (RAL 5012)
Enclosure rating	IP 65 (EN 60529)
Protection class	III (EN 61140)
Weight	
Cable	320 g, with connecting cable
Ethernet	250 g, without connecting cable
Dimensions	
Front	61 mm x 96 mm x 38 mm [1]
Oscillating mirror	95 mm x 96 mm x 41 mm [1]

[1] Swivel connector is 15 mm longer with Ethernet model.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

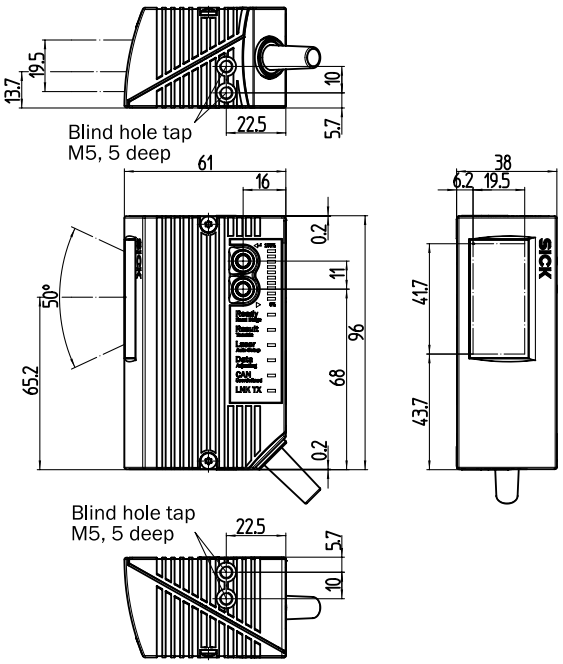
Ordering information

- **Focus:** Auto focus
- **Scanner design:** Line scanner
- **Heating:** optional
- **Front screen:** Glass

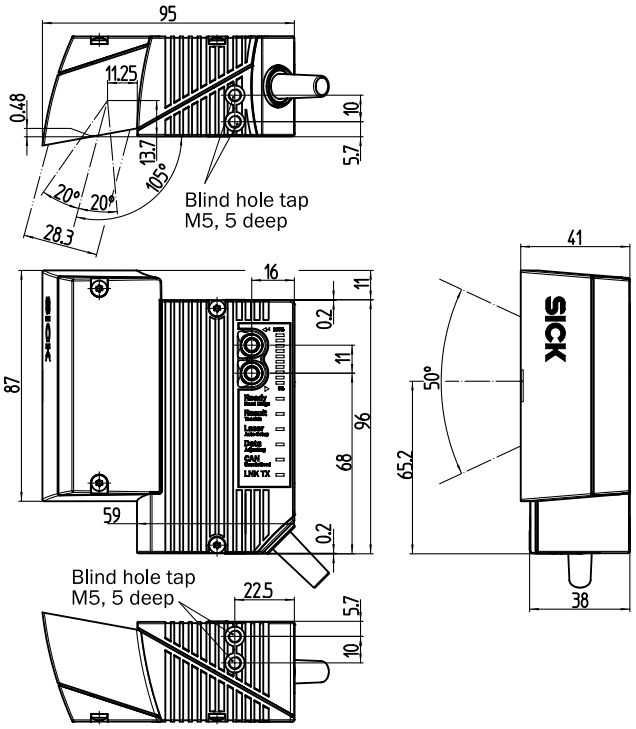
Version	Connection type	Reading field	Model name	Part no.
CLV650 Standard Density	Cable	Front	CLV650-0000	1041290
		Oscillating mirror	CLV650-6000	1042124
	Ethernet	Front	CLV650-0120	1042121
		Oscillating mirror	CLV650-6120	1042125
CLV651 Low Density	Cable	Front	CLV651-0000	1046557
		Oscillating mirror	CLV651-6000	1046559
	Ethernet	Front	CLV651-0120	1046558
		Oscillating mirror	CLV651-6120	1046560

Dimensional drawings (Dimensions in mm (inch))

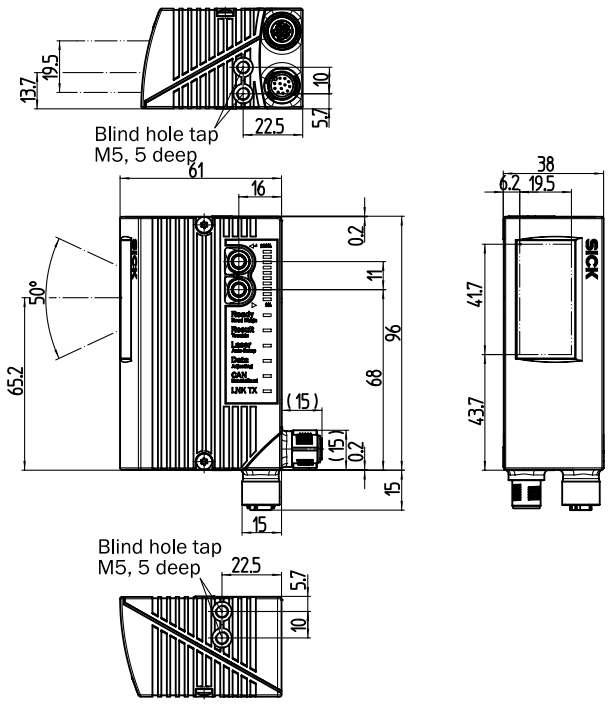
CLV63x/64x/65x Standard, front



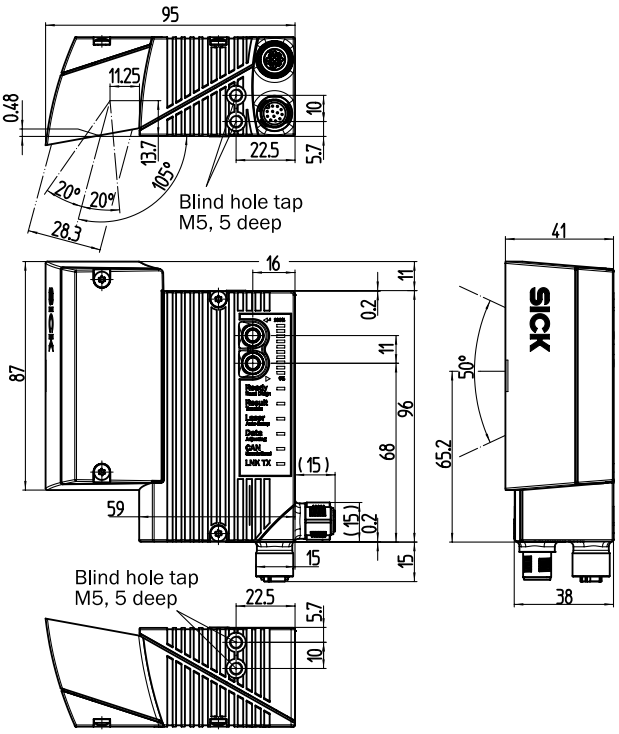
CLV63x/64x/65x Standard, oscillating mirror



CLV63x/64x/65x, Ethernet, front



CLV63x/64x/65x, Ethernet, oscillating mirror



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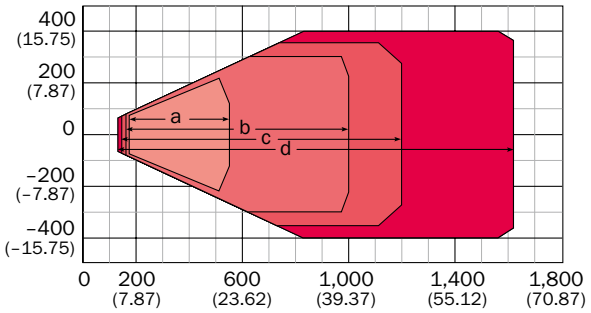
Reading field diagrams

CLV650 Standard Density, front

Reading field height in mm (inch)



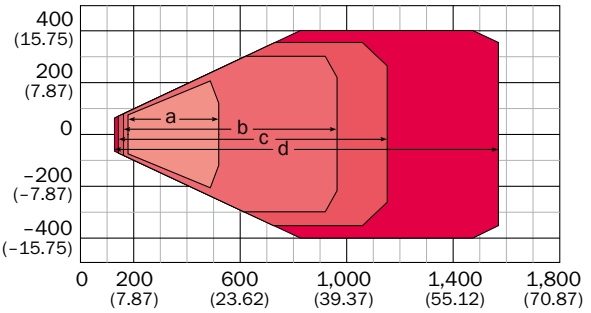
Reading distance in mm (inch)

Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

CLV650 Standard Density, oscillating mirror

Reading field height in mm (inch)



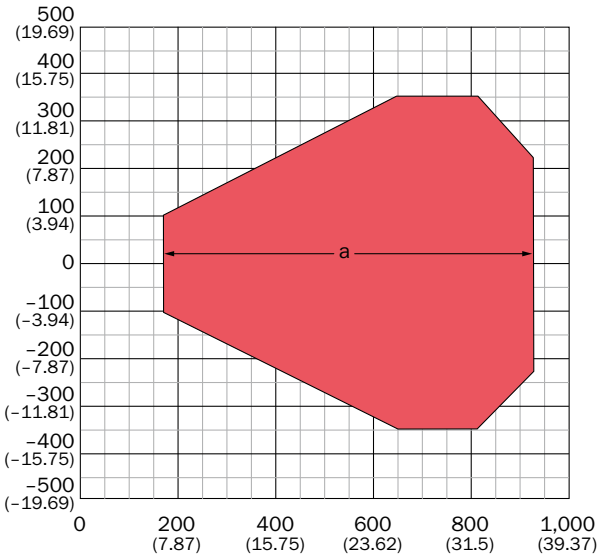
Reading distance in mm (inch)

Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

CLV651 Low Density, front

Reading field height in mm (inch)



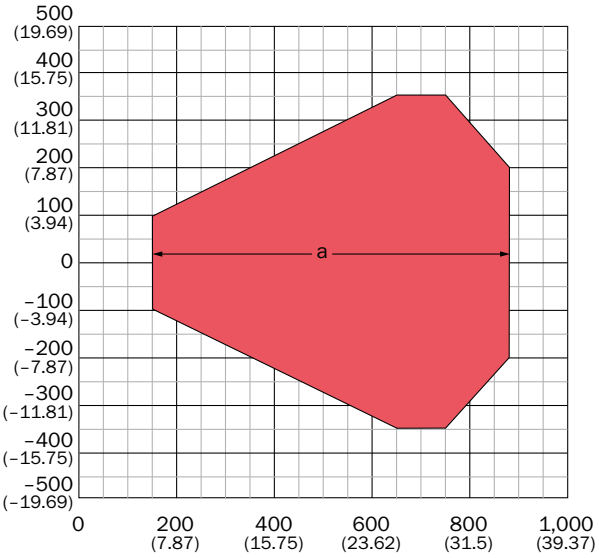
Reading distance in mm (inch)

Resolution

- a: 0.50 mm (19.7 mil)

CLV651 Low Density, oscillating mirror

Reading field height in mm (inch)



Reading distance in mm (inch)

Resolution

- a: 0.50 mm (19.7 mil)

Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●

Plug connectors and cables

- **Cable length:** 2 m

	Signal type	Connection type head A	Connection type head B	Cable	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	6034414	–	●
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2041834	–	●

Mounting systems

Mounting brackets/plates

	Brief description	Part no.	CLV63x-65x Cable	CLV63x-65x Ethernet
	Hanger-shaped mounting bracket	2042800	●	●

➜ For additional accessories, please see page 66

8016144/2013-09-19
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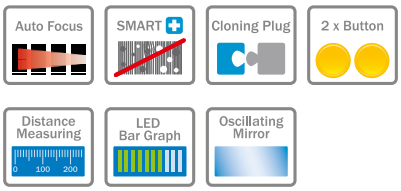
THE HIGHEST LEVEL OF FLEXIBILITY AND POWER



Product description

The CLV69x bar code scanner offers excellent reading performance, high-speed processing and a high level of reading accuracy. The auto focus function is based on built-in distance measurement technology and makes it possible to have height-independent code reading within the reading field. Simple and user-friendly configuration is guaranteed using the standard SOPAS ET operating system from SICK. Due to built-in SMART+ code reconstruction technology, the CLV69x can read heavily contaminated or partially damaged bar codes as well as those with a high angle of tilt. With its built-in tracking, the CLV69x can be used without any additional system controller to handle standard applications. The innovative connectivity with built-in parameter storage not only enables fast, simple scanner replacement, but also easy integration into a variety of applications.

At a glance

- Advanced SMART+ code reconstruction technology
- New and flexible cloning plug technology
- CAN, Ethernet and serial communications available on board (dependent on cloning plug variant)
- Large depth of field due to real-time auto focus
- Consistent, user-friendly “SOPAS ET” software
- Built-in tracking without the use of an additional system controller
- Flexible sorting, filtering, and logical functions
- Integrated LED bar graph with push-buttons

Your benefits

- Higher reading rate on damaged, heavily contaminated and partially damaged bar codes using the SMART+ algorithm
- Increased processing allows for faster and more accurate performance on demanding applications
- Fewer costs since no additional Ethernet gateway is required when using the Ethernet clone plug
- Time savings during commissioning thanks to integrated buttons and bar graph
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is delivered in the desired format
- Cost savings since standard applications can be implemented without an additional system controller due to integrated tracking

IDpro

Additional information

→ www.mysick.com/en/CLV69x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8016144/2013-09-19
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Detailed technical data

Features

	CLV690-0/1 Standard Density	CLV691-0/1 Low Density	CLV692-0/1 High Density
No. of distance configurations	≤ 8		
Focus adjustment time	≤ 20 ms		
Focus trigger source	Data interface / switching inputs		
Light source	Visible red light (660 nm)		
MTBF	100,000 h		
Laser class	2 (IEC 60825-1 (2007-3), EN 60825-1 (2008-05))		
Field of view			
Front	≤ 60°		
Oscillating mirror	≤ 50°		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.25 mm ... 1 mm	0.35 mm ... 1.2 mm	0.17 mm ... 0.4 mm
Reading distance (at code resolution)	500 mm ... 2,100 mm (0.5 mm)	500 mm ... 2,200 mm (0.5 mm)	400 mm ... 1,600 mm (0.3 mm)
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot		
Oscillation frequency	0.5 Hz ... 4 Hz		
Angle of deflection	–20° ... 20° (can be adjusted via software)		

Performance

Bar code types	Interleaved 2 of 5, all current code types, Codabar, Code 128, Code 39, Code 93, GS1-128 / EAN 128, UPC / GTIN / EAN, Pharmacode
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000
No. of multiple readings	1 ... 100

Interfaces

Ethernet	✔, only with cloning plug I/O Ethernet
Function	Host, AUX
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET (optional via external connection module CDF600-2), PROFINET Dual Port (optional via external connection module CDF600-2)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
Switching inputs	6 (“Sensor 1” ... “Sensor 6”)
Switching outputs	4 (“Result 1” ... “Result 4”)

Reading pulse	Switching inputs, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Control elements	2 buttons
Parameter storage	Integrated in cloning plug

Mechanics/electronics

	CLV690-0/1 Standard Density	CLV691-0/1 Low Density	CLV692-0/1 High Density
Electrical connection	Depending on the cloning plug used		
Operating voltage	18 V DC ... 30 V DC		
Power consumption	15 W / 17 W (depending on type)		
Housing	Die-cast aluminum		
Housing color	Light blue (RAL 5012)		
Enclosure rating	IP 65 (IEC 60529 (1989-11))		
Protection class	III (EN 60950-1 (2011-01))		
Weight	1,500 g / 2,200 g (depending on type)		
Dimensions			
Front	117 mm x 117 mm x 94 mm		
Oscillating mirror	182 mm x 128 mm x 97 mm		

Ambient data

Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Electrical safety	EN 60950-1 (2006-01) / EN 60950-1/A11 (2009-03) / EN 60950-1/A1 (2010)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing
Ambient light safety	2,000 lx, on bar code

Ordering information

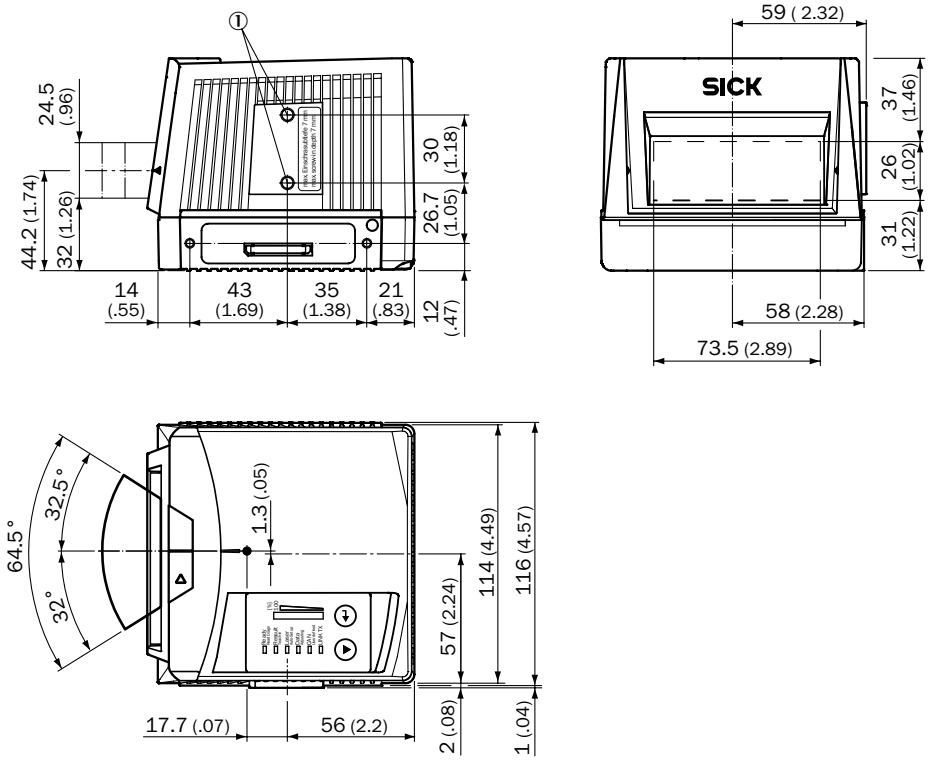
- **Focus:** Auto focus
- **Connection type:** depending on the cloning plug used
- **Scanner design:** Line scanner

Version	Reading field	Front screen	Model name	Part no.
CLV690-0/1 Standard Density	Front	Glass	CLV690-0000	1056600
		Plastic	CLV690-0010	1056614
	Oscillating mirror	Glass	CLV690-1000	1056601
CLV691-0/1 Low Density	Front	Glass	CLV691-0000	1056604
	Oscillating mirror	Glass	CLV691-1000	1056605
CLV692-0/1 High Density	Front	Glass	CLV692-0000	1056608
	Oscillating mirror	Glass	CLV692-1000	1056609

8016144/2013-09-19

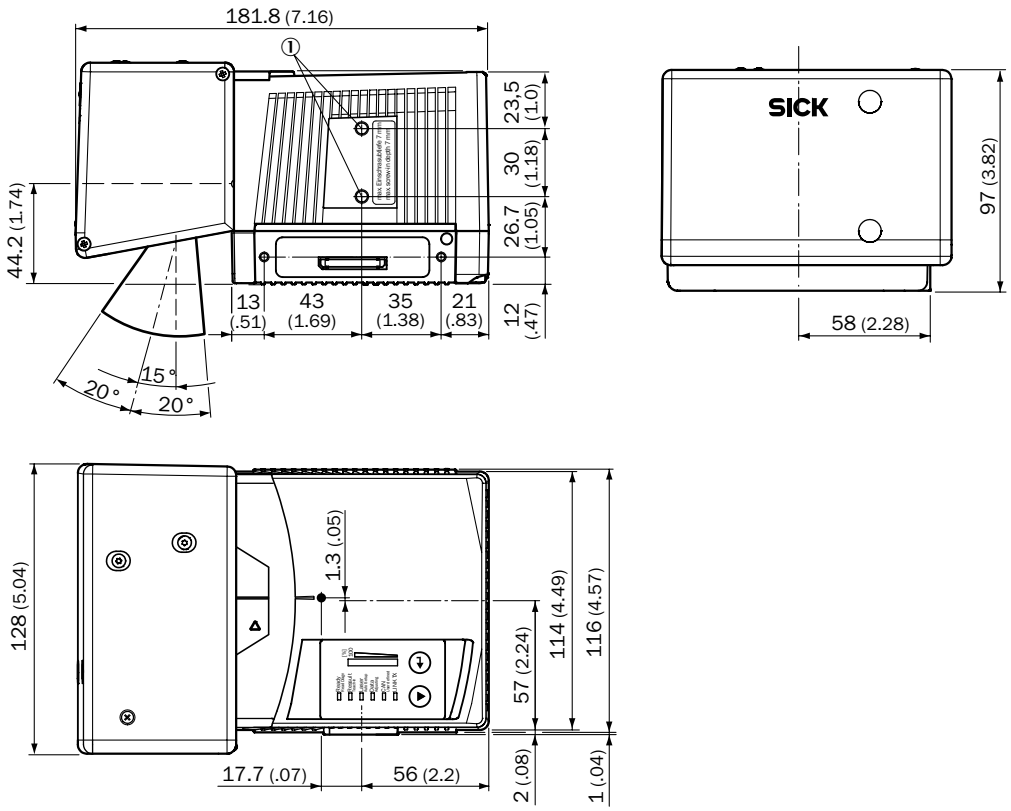
Dimensional drawings (Dimensions in mm (inch))

CLV69x, front



① Blind hole thread M6, 7 mm deep (2 x), for mounting

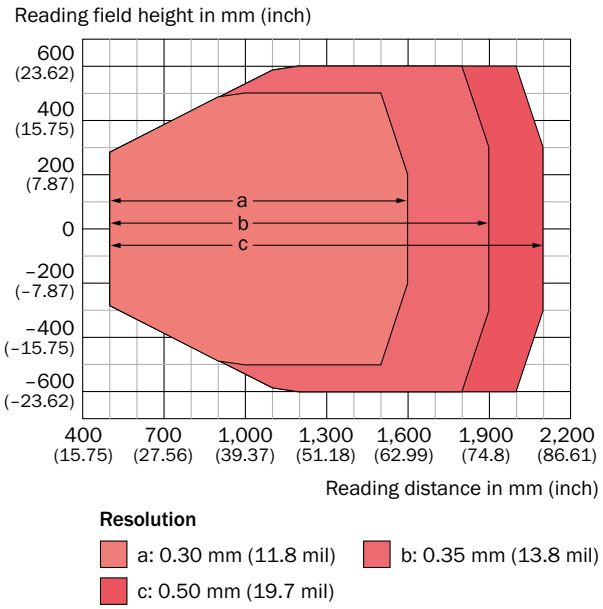
CLV69x, oscillating mirror



① Blind hole thread M6, 7 mm deep (2 x), for mounting

Reading field diagrams

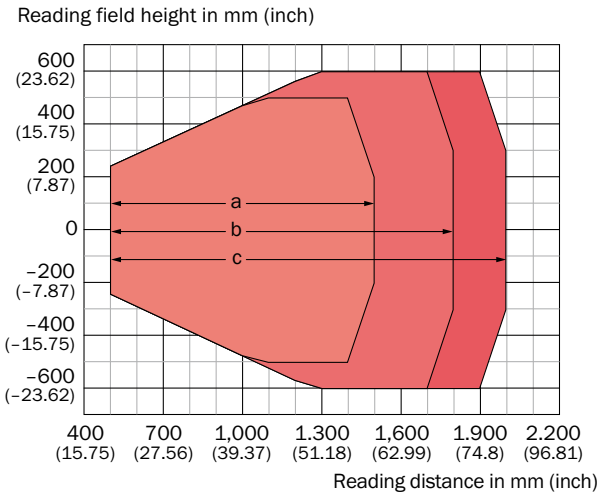
CLV690-0/1 Standard Density, front



Resolution

- a: 0.30 mm (11.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

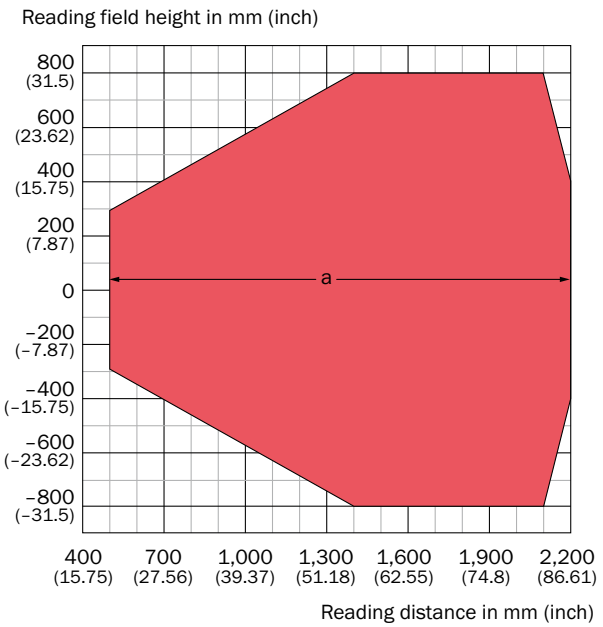
CLV690-0/1 Standard Density, oscillating mirror



Resolution

- a: 0.30 mm (11.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

CLV691-0/1 Low Density, front

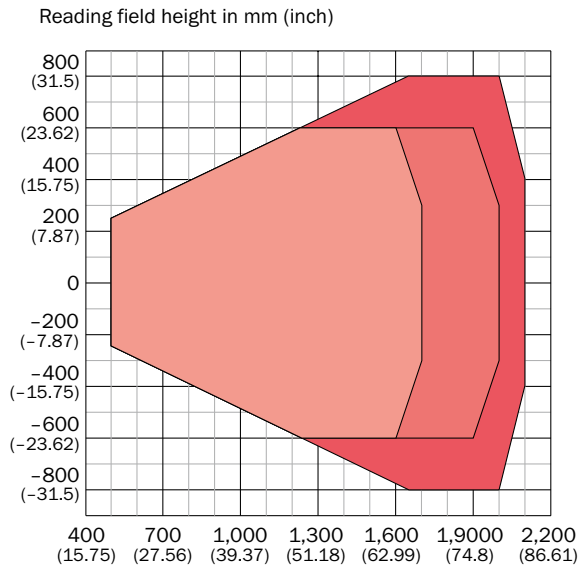


Resolution

- a: 0.50 mm (19.7 mil)

Tilt ±15°, typical specification

CLV691-0/1 Low Density, oscillating mirror

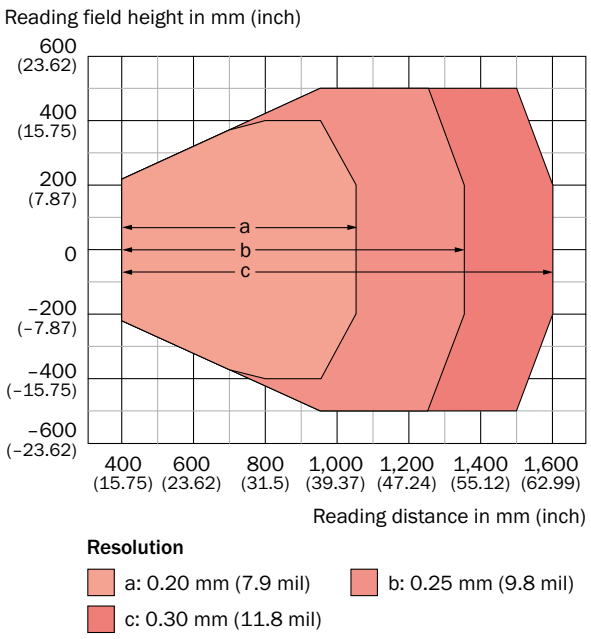


Resolution 0.5 mm (19.7 mil)

- Tilt ± 45°
- Tilt ± 30°
- Tilt ± 15° (typical values)

8016144/2013-09-19

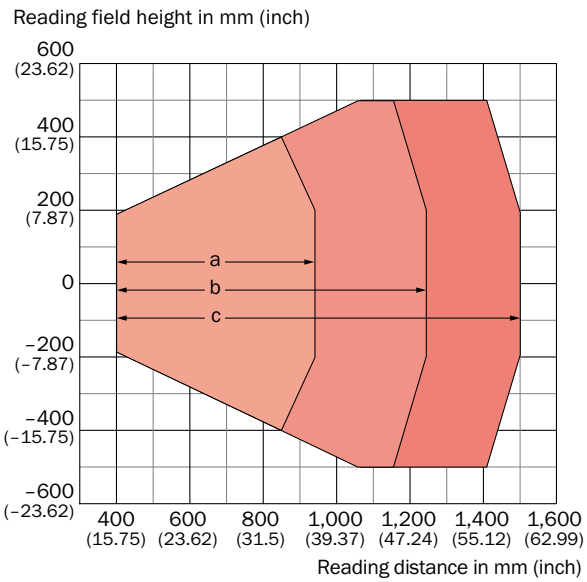
CLV692-0/1 High Density, front



Resolution

a: 0.20 mm (7.9 mil)
b: 0.25 mm (9.8 mil)
c: 0.30 mm (11.8 mil)

CLV692-0/1 High Density, oscillating mirror



Resolution

a: 0.20 mm (7.9 mil)
b: 0.25 mm (9.8 mil)
c: 0.30 mm (11.8 mil)

Recommended accessories

Connection systems

Modules

	Brief description	Type	Part no.
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR®65x	CDB650-204	1064114
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634

Plug connectors and cables

	Signal type	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	–	Male connector, D-Sub, 15-pin female connector, D-Sub, 15-pin	–	Required for connecting a CLV69x (serial)	–	2062450
	–	Male connector, M12, 17-pin male connector, M12, 5-pin female connector, M12, 4-pin	–	Required for connecting a CLV69x (Ethernet/stand-alone)	–	2062452
 Illustration may differ	–	Female connector (AUX), M12, 5-pin female connector, M12, 5-pin male connector, M12, 5-pin	–	Required for connecting a CLV69x (CAN)	–	2062453
	–	Male connector, male connector, female connector (AUX), M12, 5-pin	–	Required for connecting a CLV69x (CAN redundant)	–	2062454
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2055419
		Male connector, M12, 17-pin, straight, A-coded	Female connector, M12, 17-pin, straight, A-coded	To connection module CDB650, suitable for 2 A, Ecolab	2 m	6052286
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	2 m	6034414

Mounting systems

Mounting brackets/plates

	Brief description	Part no.
	Simple mounting bracket	2013824

Terminal and alignment brackets

	Brief description	Part no.
	Quick-action lock system	2016110

8016144/2013-09-19

Cloning plugs

CLV69x cloning plug inputs and outputs

Brief description	Part no.	Sensor (Sensor 1)	IN0 (Sensor 2)	IN1 (Sensor 3)	IN2 (Sensor 4)	IN3 (Sensor 5)	IN4 (Sensor 6)	Result1	Result2	Result3	Result4	AUX	HOST	CAN1	CAN2	Eth
D-Sub clone plug (with CDM490 connection module)	2062450	●	●	●	●	●	●	●	●	●	●	●	●	●	●	–
I/O clone plug [1] (with CDM420-0006 connection module)	2062452	●	●	–	–	–	–	●	●	●	●	●	●	●	–	●
CAN IN/OUT clone plug	2062453	–	–	–	●	–	–	–	–	–	–	●	–	●	–	–
CAN redundant clone plug	2062454	–	–	–	●	–	–	–	–	–	–	●		●	●	–

[1] No heating.

Assignment of connection to cloning plug

	Brief description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN redundant clone plug
	CDB650, connection module for a sensor	1064114	–	●	–	–
	CDM490, modular connection module for a sensor	1025363	●	–	–	–
	CDM420-0006, modular connection modules for a CLV69x/RFU63x/LECTOR®65x	1058634	–	●	–	–
	CDM420-0007, modular connection modules for two CLV69x/RFU63x/LECTOR®65x	1060324	–	●	–	–
	CDM420-0108, Kit: modular connection module for one sensor, 2 A fuse, Host and AUX interface available on face plate, power supply CMP490, US power cord	1064248	–	●	–	–

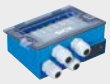
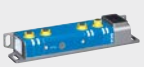
→ For additional accessories, please see page 66

Connection systems

Adapters/distributors

	Signal type	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	–	Male connector, D-Sub-HD, 15-pin	Female connector, D-Sub-HD, 15-pin	Adapter for CLV41x/CLV62x	–	2072514	–	●	●	–	–	–
		Plug, D-Sub-HD, 15-pin	Female connector, D-Sub-HD, 15-pin	Adapter for CLV41x/CLV61x	–	2068506	●	–	–	–	–	–
	CAN, Power	Female connector, M12, 5-pin, straight, A-coded	Female connector, M12, 5-pin, straight, A-coded Male connector, M12, 5-pin, straight, A-coded	Y-CAN cable	0.5 m	6027647	–	–	–	–	–	●

Modules

	Brief description	Type	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●	●	●	–
	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/socket for CAN, base for CMC600	CDB620-101	1042257	●	●	●	●	●	–
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258	●	●	●	●	●	–
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR®65x	CDB650-204	1064114	–	–	–	–	–	●
	Fieldbus proxy/gateway to connect to a EtherCAT network	CDF600-0300	1052291	●	●	●	●	●	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, plug/socket, 5-pin)	CDF600-2100	1058965	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, socket, 9-pin)	CDF600-2103	1058966	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET-IO networks (interface 2 x M12, socket/socket, 4-pin)	CDF600-2200	1062460	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET-IO networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	●	●	●	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●	●	●	–

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	Brief description	Type	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	Modular connection module for two sensors	CDM420-0004	1028487	●	●	●	●	●	–
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634	–	–	–	–	–	●
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	–	–	–	–	–	●
 Illustration may differ	Modular connection module for one sensor, Host and AUX interface available on face plate	CDM420-0101	1025364	●	●	●	●	●	–
 Illustration may differ	Kit: modular connection module for one sensor, Host and AUX interface available on face plate, power supply CMP400, US power cord	CDM420-0102	1026220	●	●	●	●	●	–
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248	–	–	–	–	–	●
	Modular connection module for one sensor	CDM490-0001	1025363	–	–	–	–	–	●
	External parameter memory for integration in CDB620/ CDM42x	CMC600-101	1042259	●	●	●	●	●	●

Plug connectors and cables

	Signal type	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	Serial	Female connector, D-Sub, 9-pin, straight	Cable	–	3 m	2020319	●	●	●	●	●	●
	–	Female connector, D-Sub-HD, 15-pin, straight	Cable	–	2 m	2043413	●	●	●	●	●	–
	–	Female connector, M12, 12-pin, straight	Cable	–	5 m	6034605	–	–	●	–	●	–
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Cable	Drag chain use	5 m	6045140	–	–	●	–	●	–
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight, A-coded	Cable	Suitable for 2 A, adapted color coding of open conductor heads, drag chain use, Ecolab	3 m	2070425	–	–	–	–	–	●
					5 m	2070426	–	–	–	–	–	●
					10 m	2070427	–	–	–	–	–	●
	Power, serial, CAN, digital I/Os	Plug, M12, 17-pin, straight, A-coded	Female connector, M12, 17-pin, straight, A-coded	To connection module CDB650, suitable for 2 A, Ecolab	2 m	6052286	–	–	–	–	–	●
					3 m	6051194	–	–	–	–	–	●
					5 m	6051195	–	–	–	–	–	●
	Serial	Plug, M12, 5-pin, straight, A-coded	Female connector, D-Sub, 9-pin, straight	–	5 m	2027955	–	–	–	–	–	●
	Power, CAN	Female connector, M12, 5-pin, straight	Male connector, M12, 5-pin, straight	CAN cable	1 m	6021164	–	–	–	–	–	●
					3 m	6021165	–	–	–	–	–	●
					5 m	6021168	–	–	–	–	–	●
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2042916	–	–	●	–	●	–
					2 m	2041834	–	–	●	–	●	–
					3 m	2042914	–	–	●	–	●	–
					5 m	2042915	–	–	●	–	●	–
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650), drag chain use	2 m	2061478	–	–	●	–	●	–
					3 m	2061604	–	–	●	–	●	–
					5 m	2061479	–	–	●	–	●	–
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2049764	–	–	–	–	–	●
					2 m	2055419	–	–	–	–	–	●
					3 m	2055420	–	–	–	–	–	●
					5 m	2055859	–	–	–	–	–	●
	Power, serial, CAN, digital I/Os	Female connector, D-Sub-HD, 15-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	Extension cable	2 m	6034417	●	●	●	●	●	–
	Power, serial, CAN, digital I/Os	Female connector, D-Sub-HD, 15-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	Extension cable	3 m	6034418	●	●	●	●	●	–
	–	Male connector, D-Sub, 15-pin female connector, D-Sub, 15-pin	–	Required for connecting a CLV69x (serial)	–	2062450	–	–	–	–	–	●

8016144/2013-09-19
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	Signal type	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	–	Male connector, M12, 17-pin male connector, M12, 5-pin female connector, M12, 4-pin	–	Required for connecting a CLV69x (Ethernet/stand-alone)	–	2062452	–	–	–	–	–	●
 Illustration may differ	–	Female connector (AUX), M12, 5-pin female connector, M12, 5-pin male connector, M12, 5-pin	–	Required for connecting a CLV69x (CAN)	–	2062453	–	–	–	–	–	●
		Male connector, male connector, female connector (AUX), M12, 5-pin	–	Required for connecting a CLV69x (CAN redundant)	–	2062454	–	–	–	–	–	●
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	–	2 m	6034414	–	–	●	–	●	●
					3 m	6044400	–	–	●	–	●	●
					5 m	6034415	–	–	●	–	●	●
					10 m	6030928	–	–	●	–	●	●
					20 m	6036158	–	–	●	–	●	●
 Illustration may differ	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	Drag chain use, suitable for refrigeration, Ecolab	2 m	6050198	–	–	●	–	●	●
					3 m	6050199	–	–	●	–	●	●
					5 m	6050200	–	–	●	–	●	●
					10 m	6050201	–	–	●	–	●	●
					20 m	6050596	–	–	●	–	●	●
	Ethernet	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	–	2 m	6034420	–	–	●	–	●	●
					3 m	6034421	–	–	●	–	●	●
					5 m	6034422	–	–	●	–	●	●
	Power, serial, CAN, digital I/Os	Male connector, female connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin female connector	To connection module CDM490	1 m	2021806	–	–	–	–	–	●
					3 m	2020307	–	–	–	–	–	●
	Power, serial, CAN, digital I/Os	Female connector, D-Sub-HD, 15-pin, straight male connector, D-Sub-HD, 15-pin, straight	Male connector, D-Sub-HD, 15-pin female connector, D-Sub-HD, 15-pin	To connection module CDM490	5 m	2022884	–	–	–	–	–	●
		Female connector, male connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin	To connection module CDM42x	3 m	2027046	–	–	–	–	–	●
	RS-232, USB	Male connector, D-Sub, 9-pin, straight	Male connector, USB-A, straight	Converter RS-232 to USB (if no RS-232 interface is available with the PC)	–	6042499	●	●	●	●	●	●
	Serial	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	–	3 m	2014054	●	●	●	●	●	●

	Signal type	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	–	Connection inlay (male connector), D-Sub-HD, 15-pin	–	–	–	6010020	●	●	●	●	●	–
	–	Connection inlay (female connector), D-Sub-HD, 15-pin	–	–	–	6010019	●	●	●	●	●	–
	–	Connection inlay (male connector), D-Sub-HD, 9-pin, 15-pin	–	–	–	6009438	●	●	●	●	●	–
	Power	Female connector, M12, 12-pin, straight	Male connector, M12, 4-pin, straight	For connection to black AS-i flat ribbon cable for supplying power to ID*pro*-Ethernet sensors, drag chain use	1 m	6044572	–	–	●	–	●	–
					2.5 m	6044573	–	–	●	–	●	–
	–	–	–	Black AS-i flat cable for looping in the power supply to ID*pro* Ethernet sensors, sold per meter		6022463	–	–	●	–	●	–
	–	–	–	M12 AS-i clip for connection on black AS-i flat cable		6022472	–	–	●	–	●	–

Mounting systems

Device protection (mechanical)

	Brief description	Type	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	All CLV62x, CLV63x and CLV64x bar code scanners have IP 69K versions – with separate part numbers – available upon request. (The housing can't be retrofitted. Special Ecolab cable available as accessory.)	CLV6xx-IP69K-Standard-Front	On request	–	●	●	●	●	–
		CLV6xx-IP69K-Standard-OM	On request	–	●	●	●	●	–
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection (6010075 and 6020092)	IP-65 sealing rubber	4038847	●	●	●	●	●	–

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Mounting brackets/plates

	Brief description	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	Bracket with adapter board	2042902	●	●	●	–	–	–
	Mounting bracket (simple bracket)	2020410	●	●	●	●	●	–
	Hanger-shaped mounting bracket	2042800	–	–	–	●	●	–
	Mounting bracket with integrated vibration and shock absorber for mounting the scanner e.g., on a forklift	2042799	–	–	–	●	●	–
	Simple mounting bracket	2013824	–	–	–	–	–	●
	Mounting bracket with integrated vibration/shock absorption for mounting the scanner on a forklift, for example (mounted in the direction of travel, on the right side)	2039493	–	–	–	–	–	●
	Mounting bracket with integrated vibration/shock absorption for mounting the scanner on a forklift, for example (mounted in the direction of travel, on the left side)	2017628	–	–	–	–	–	●
	Articulated mounting bracket, self-locking	2018435	–	–	–	–	–	●
	Mounting bracket with integrated vibration/shock absorption for mounting the scanner on a forklift, for example (mounted in the direction of travel, on the left side; in this case, the scanner's position is rotated by 180 degrees)	2065639	–	–	–	–	–	●
	Universal clamping bracket for rod mounting	2042802	●	●	●	–	–	–

Terminal and alignment brackets

	Brief description	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	Articulated bracket for mounting on mirror hood	2046822	●	●	●	●	●	–
	Rod clamp for mirror hood	2048633	●	●	●	●	●	–
	Rod clamp for outer diameter of 12 ... 20 mm	2042801	–	–	–	●	●	–
	Rod clamp with mounting bracket and quick clamp, for a diameter of 12 mm ... 20 mm	2062830	–	–	–	–	–	●
	Ball-and-socket bracket for mounting	2014726	–	–	–	–	–	●
	Quick-action lock system	2025526	●	●	●	●	●	–
		2016110	–	–	–	–	–	●

Other accessories

Heating units

	Brief description	Type	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	All CLV63x, CLV64x, CLV65x and CLV69x bar code scanners have heated versions – with separate part numbers – available upon request. (The heating can't be retrofitted.)	CLV6xx-Heating-Standard-Front	On request	–	–	–	●	●	●
		CLV6xx-Heating-Standard-OM	On request	–	–	–	●	●	●
		CLV6xx-Heating-Standard-Side	On request	–	–	–	●	●	–

Storage mediums

	Brief description	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	MicroSD memory card with 1 GB for industrial use	4051366	–	–	–	●	●	–

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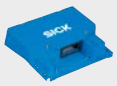
Reflectors/optics

Mirror adapters

	Brief description	Part no.	CLV61x Cable	CLV62x Cable	CLV62x Ethernet	CLV63x-65x Cable	CLV63x-65x Ethernet	CLV69x
	External mirror hood (105°) for reducing reading distance between two closely spaced conveyor belts	2046811	●	●	●	●	●	–
	Standard mirror shield with glass front window (for reducing the mounting area)	2032070	–	–	–	–	–	●
	Mirror shield with plastic front window (for reducing the mounting area)	2055917	–	–	–	–	–	●

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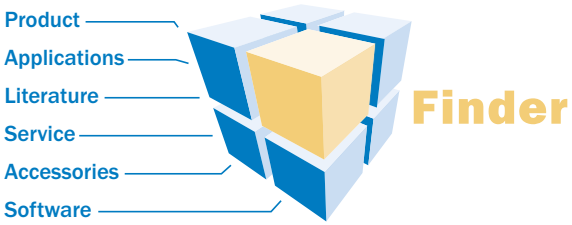

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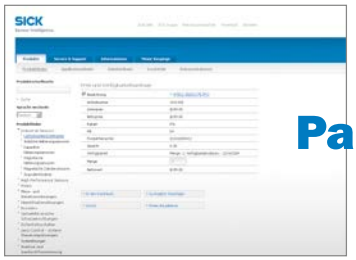

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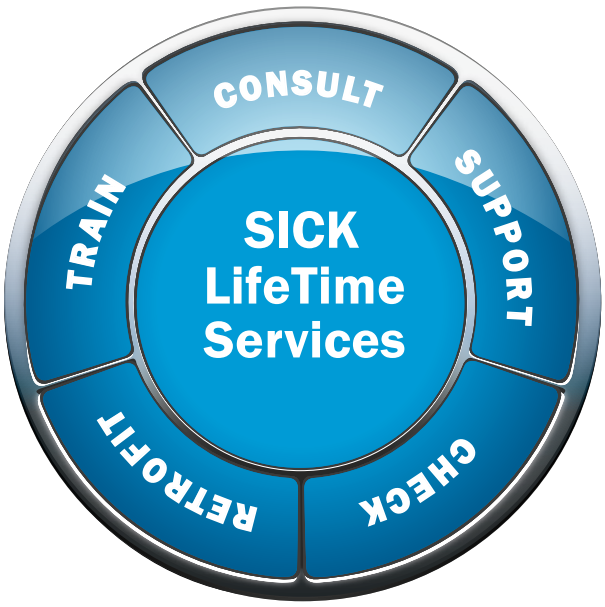

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for factory, logistics, and process automation. With more than 6,000 employees and over 40 subsidiaries worldwide, we are always close our customers. 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.

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