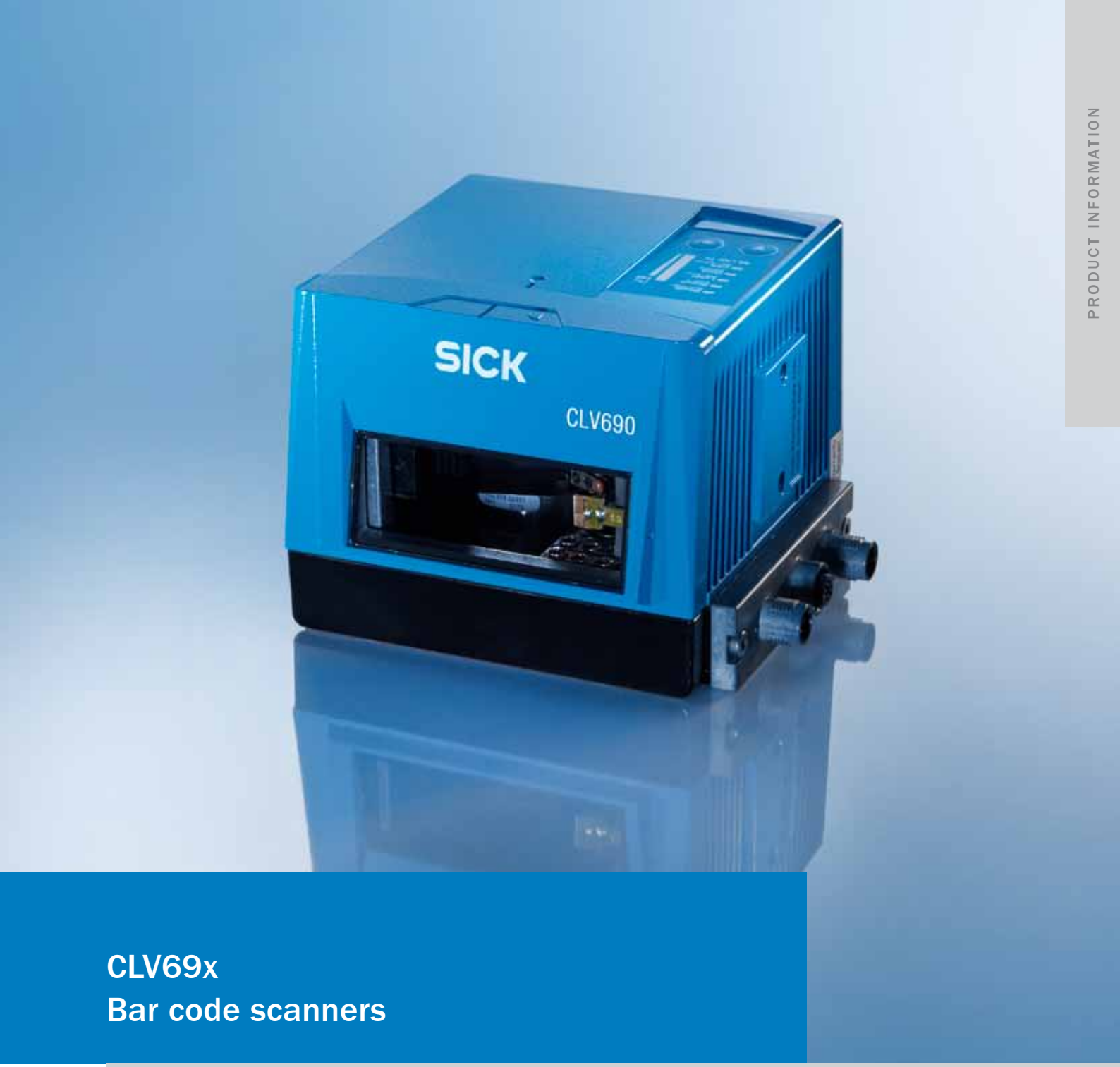
PRODUCT INFORMATION



CLV69x
Bar code scanners

Flexible and high-performance at the highest level

SICK
Sensor Intelligence.

CLV690 - play in the major leagues with these high-end bar code scanners

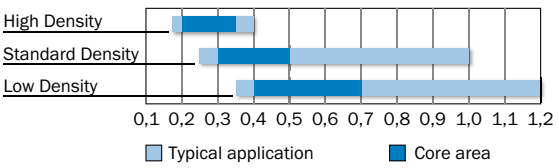
You can rely on excellent reading performance, high-speed processing and high levels of reading accuracy. The high depth of field and auto-focus function based on built-in distance measurement make it possible to have height-independent code reading possible within the reading field. This means no additional sensors are required for distance measurement. The compact aluminum casing makes it lightweight and easy to integrate, even in confined spaces.

High-performance

High-power computing provides even better decoding of bar codes and sets new standards in terms of computing power and decoding performance.
The integrated tracking and precise position assignment mean the CLV690 can solve standard applications without additional system controllers.

Flexible

The product family offers a high level of flexibility in terms of module width, with three options, Standard Density (CLV690), Low Density (CLV691) and High Density (CLF692). It also comes in different designs, such as a line scanner or a line scanner with oscillating mirror. The optional heading extends the temperature range to as low as –30 °F.



Fields of application of different options based on module width

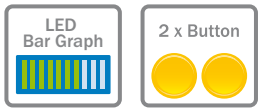
Configuration via SOPAS ET

Besides the product, the CLV690 has a user-friendly configuration system based on SOPAS ET. This consistent 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.

Improved SMART

SMART code reconstruction enables reliable reading of damaged, contaminated and/or partially concealed bar codes is implemented in the CLV690 at the highest level of performance. This ensures accurate reading results, improved read rates and reliable decoding across various code formats.

Built-in control panel with bar graph



An LED bar graph display and control panel have been built into the CLV690 product family. The bar graph can also be used as a direct user interface which indicates if the bar code has been read. The direct read-out of reading performance makes commissioning easier and supports performance controls. The built-in control panel with two push-buttons also makes commissioning easier.

Modular connectivity

Innovative connectivity features consist of a 60-pin system plug and application-specific cloning plugs. This also offers flexibility and makes it easier to customize it to the application. In the event of an error, integrated parameter storage makes it quick and simple to replace the scanner.

There are four different cloning plugs available as accessories:

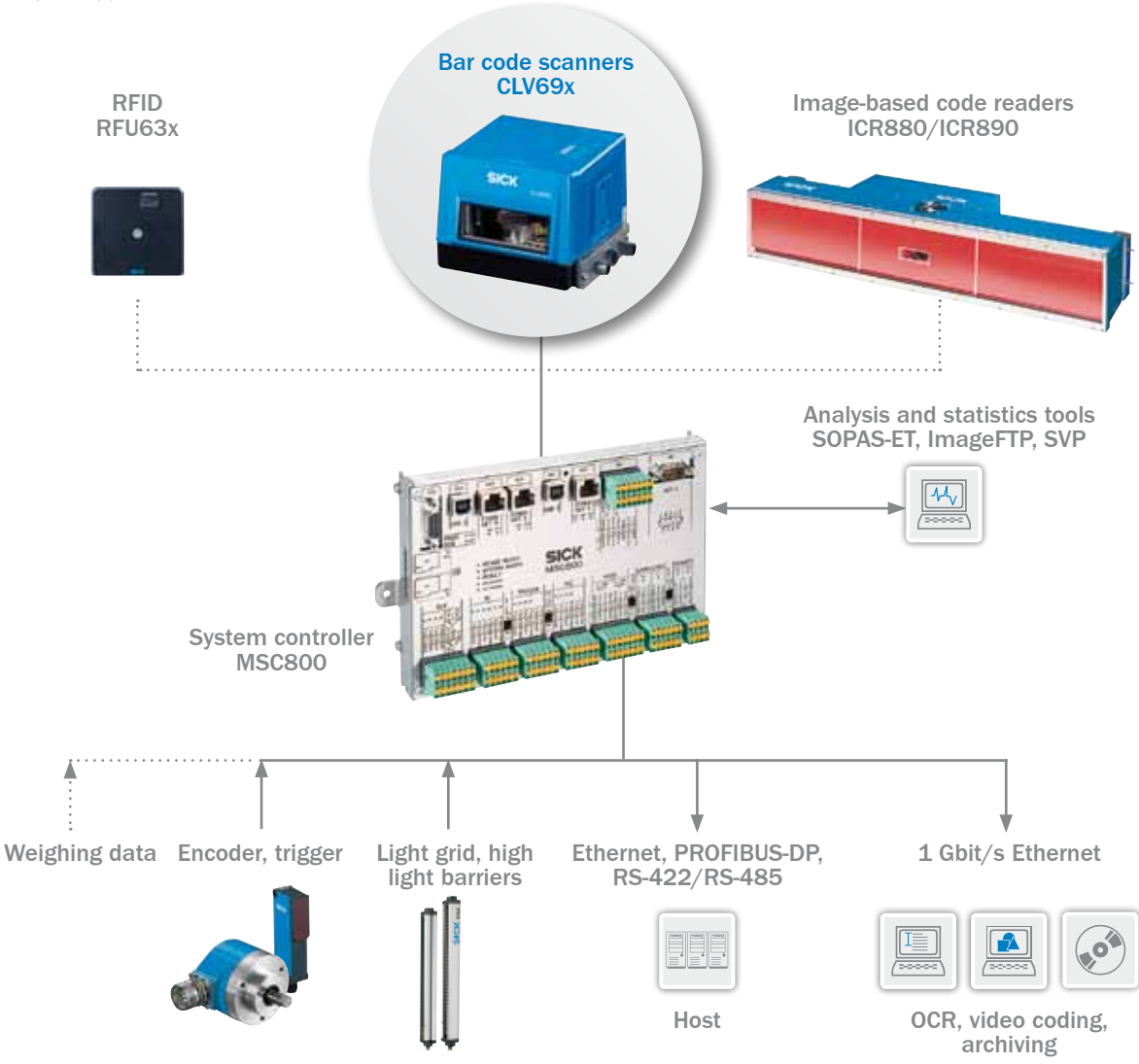
- D-Sub (for standalone operation, 1:1 exchange with CLV490)
- I/O Ethernet (for standalone operation, no additional Ethernet gateway required)
- CAN (for system applications, e.g., OMNI, ALIS ...)
- CAN redundant (for system applications, e.g., ALIS redundant)

Team-compatible, high-performance and simple to integrate into existing systems

Exacting demands such as identification precision, throughput and process reliability not only increase requirements on individual components, they also require perfect interaction and optimum coordination between the different system components. As an experienced identification system partner, SICK will support you throughout the implementation of your solution.

SICK products are constantly developed to guarantee consistently high levels of quality and a high degree of innovation. The complete portfolio of laser scanners, RFID readers and cameras, plus additional solutions such as weighing or volume measurement ensure the perfect solution for your application.

The focus is on implementing the system, not incorporating a single component. Individual support at every stage of the process ensures everything runs smoothly and reduces coordination costs.



8014392/2012-02-15
Subject to change without notice

OPS systems

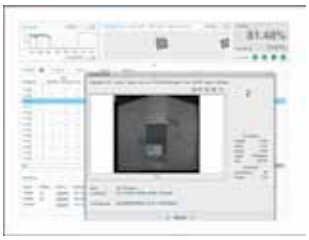
Fulfillment of OMNI directional identification tasks within modern logistics processes is implemented through OPS systems (Omni Port System). The use of individual devices enables optimum configuration for your application.

Hybrid systems
Laser scanners/camera

Combining laser scanners and cameras in a camera tunnel is cost-effective and enables bar code recording on up to six sides. The redundant coverage of different sides improves read rates, especially when reading under film (skew → counterskew).

Hybrid systems
Laser scanners/RFID tunnel

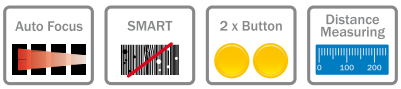
Laser scanners are also used in RFID hybrid tunnels for bar code identification. These solutions combine traditional bar code scanning with RFID reading. This not only improves read rates but also creates additional options within modern logistics systems.



Visualization

SVP is a high-performance information and camera image management platform for performance control which is used with SICK data recording systems for sorting. Package and bar code statuses are analyzed and system performance monitored across all parts of a network in real time.

Flexible and high-performance at the highest level



Product description

The high-performance CLV69x bar code scanner offers excellent reading performance, high-speed processing and high levels of reading accuracy. The auto-focus function based on built-in distance measurement technology enables height-independent code reading within the reading field. Simple and user-friendly configuration is guaranteed using the standard SOPAS-ET operating system from SICK. Thanks to built-in SMART code reconstruction technology, it can not only read bar codes independently of tilt, but can also decode heavily contaminated or partially damaged codes. The integral tracking system means that the CLV69x can be used for standard applications without additional system controllers. The innovative connectivity with built-in parameter storage not only enables fast, simple scanner replacement, but also provides additional flexibility in terms of the implementation of different applications.

At a Glance

- Advanced SMART code reconstruction technology
- Innovative connectivity with built-in parameter storage
- CAN, Ethernet and D-Sub on board (depends on cloning technique used)
- Very long depth of field thanks to real-time auto-focus function
- Consistent, user-friendly GUI - SOPAS ET
- Integrated tracking of up to seven devices without system controller
- Flexible sorting and filter function
- Integrated LED bar graph with control panel

The benefits to you

- Increased read rate of damaged, dirty and partially covered bar codes due to enhanced SMART algorithm
- Ultimate in precision even for difficult applications thanks to high-power computing
- No additional Ethernet gateway required when using Ethernet cloning techniques - cost effective
- The scanner's unique intelligence allows a flexible output format and saves additional controller programming
- It is cost-effective since standard applications can be implemented without an additional system controller thanks to integrated tracking
- The auto-focus function means additional light barriers are not required for distance measurement

→ www.mysick.com/de/CLV65x

Additional information

Detailed technical data

Features

	CLV690-0/1 Standard Density	CLV691-0/1 Low Density	CLV692-0/1 High Density
Version	Standard Density	Low Density	High Density
Connection type	Depends on clone plug used		
Reading window	On front Oscillating mirror (depends on type)		
Scanner design	Line scanner		
Focus	Auto-focus (or dynamic focus control)		
No. of distance configurations	≤ 8		
Focus adjustment time	≤ 20 ms		
Focus trigger source	Switch inputs/data interface		
Light source	Visible red light (660 nm)		
Laser class	2 (IEC 60825-1 (2007-3), EN 60825-1 (2008-05))		
Aperture angle			
On 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° (adjustable using software)		

Performance

Bar code types	2/5 interleaved, all standard code types, Codabar, Code 128, Code 39, Code 93, EAN, EAN 128, UPC, GS1 DataBar, Pharmacode
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (standard decoder, 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

Serial (RS-232, RS-422/-485)	- only with D sub clone plug
Function	Host, AUX (RS-232 only)
Data transmission rate	300 Baud ... 500 kBaud, AUX: 57.6 kBaud (RS-232)
Ethernet	-, with I/O Ethernet clone plug
Function	Host, AUX
Data transmission rate	10/100 MBit/s
Protocol	TCP/IP, half/full-duplex
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)

Input signal switching devices	6 ("Sensor 1" ... "Sensor 6")
Output signal switching devices	4 ("Sensor 1" ... "Sensor 4")
Optical indicators	6 LEDs (Ready, Result, Laser, Data, CAN, LNK TX, bar graph display of percentage read rate (10 LEDs))
Control elements	2 buttons
Parameter store	Built into clone plug
Connector	Cloning plug replaceable

Mechanics/electronics

	CLV690-0/1 Standard Density	CLV691-0/1 Low Density	CLV692-0/1 High Density
Electrical connection	Depends on clone plug used		
Operating voltage	18 V DC ... 30 V DC		
Power consumption			
On front	15 W		
Oscillating mirror	17 W		
Housing	Cast aluminum		
Housing color	Light blue (RAL 5012)		
Enclosure rating	IP 65 (IEC 60529 (1989-11))		
Protection class	III (EN 61140 (2002-03), EN 61140/A1 (2006))		
Weight			
On front	1,500 g		
Oscillating mirror	2,200 g		
Dimensions			
On 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	2000 lx, on bar code

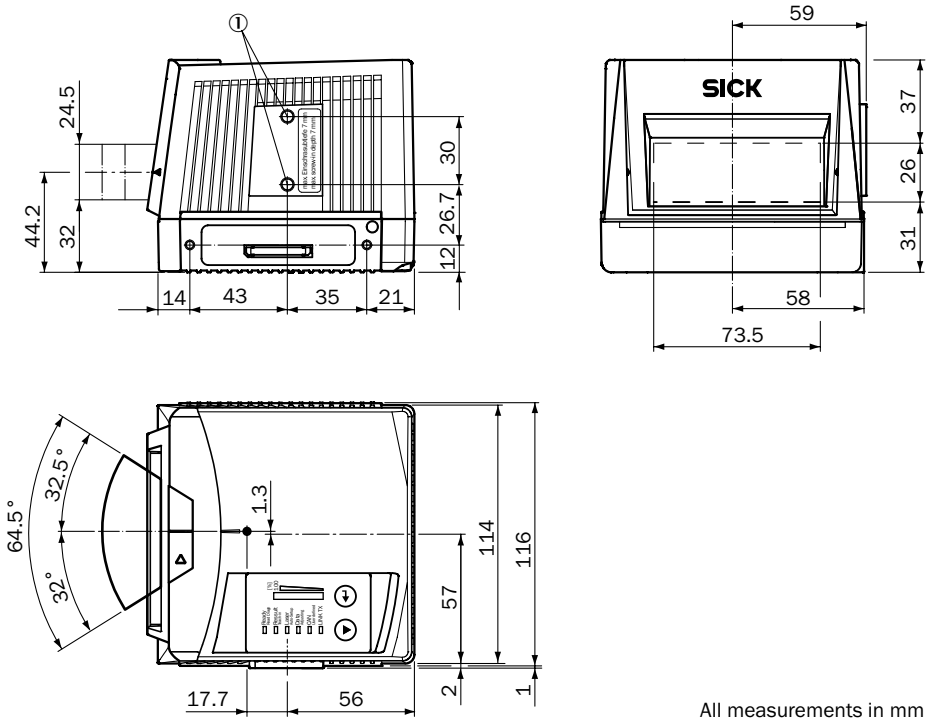
Ordering information

- **Focus:** Auto-focus
- **Connection type:** Depends on clone plug used
- **Scanner format:** Line scanner

Version	Reading window	Model name	Part no.
CLV690-0/1 Standard Density	On front	CLV690-0000	1056600
	Oscillating mirror	CLV690-1000	1056601
CLV691-0/1 Low Density	On front	CLV691-0000	1056604
	Oscillating mirror	CLV691-1000	1056605
CLV692-0/1 High Density	On front	CLV692-0000	1056608
	Oscillating mirror	CLV692-1000	1056609

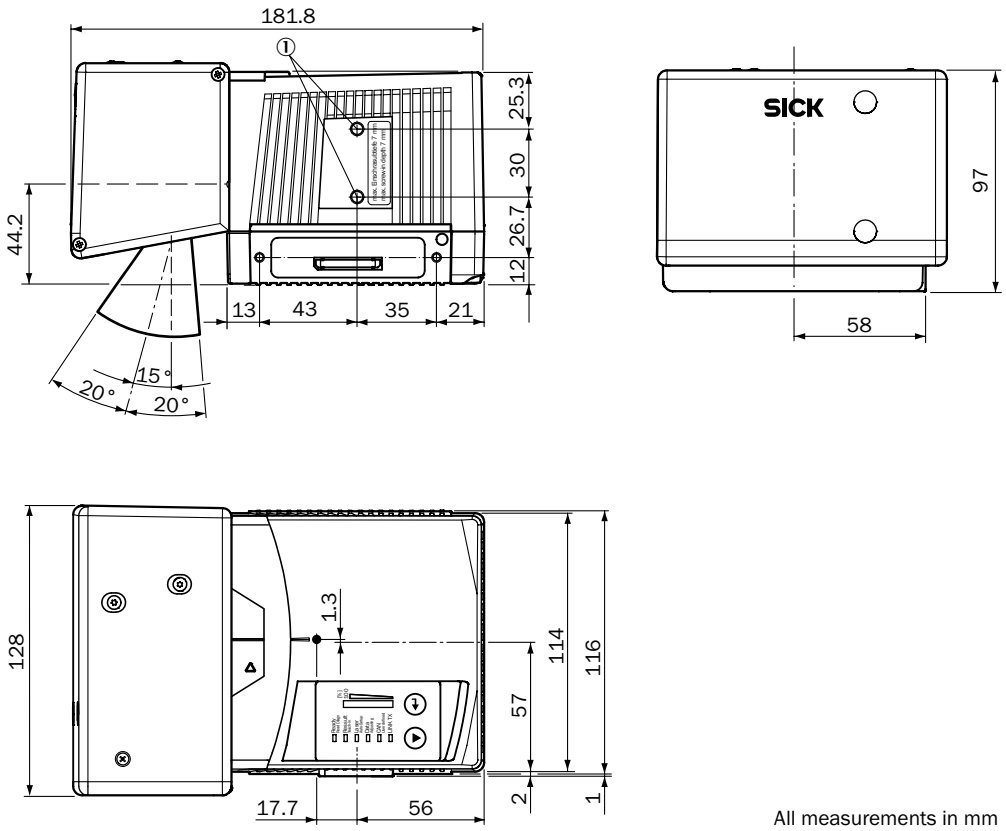
Dimensional drawings

CLV69x, front



All measurements in mm

CLV69x, oscillating mirror

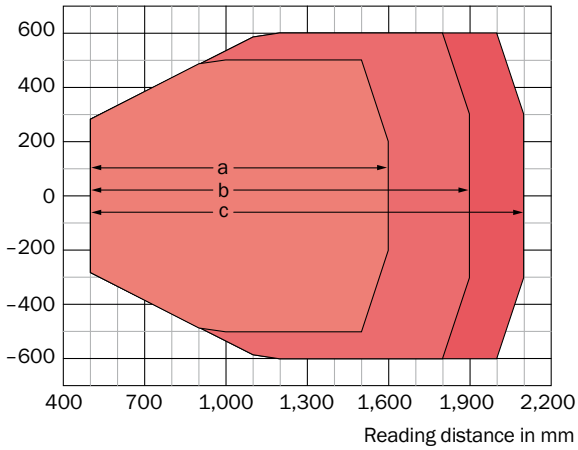


All measurements in mm

Reading field diagrams

CLV690-0/1 Standard Density, on front

Reading field height in mm

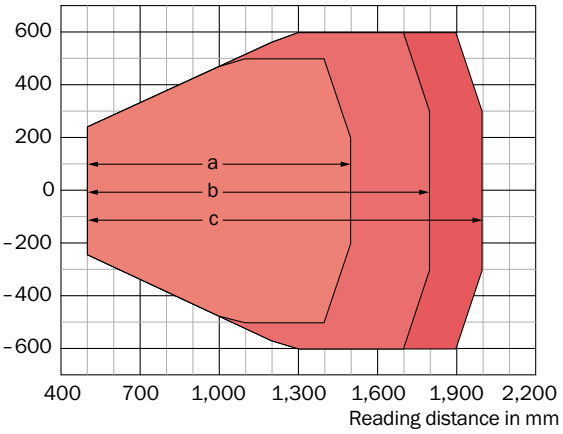


Resolution

- a: 0.30 mm
- b: 0.35 mm
- c: 0.50 mm

CLV690-0/1 Standard Density, oscillating mirror

Reading field height in mm

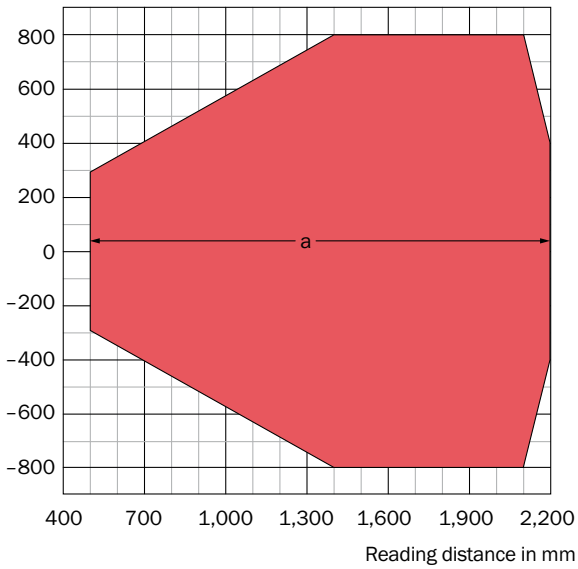


Resolution

- a: 0.30 mm
- b: 0.35 mm
- c: 0.50 mm

CLV691-0/1 Low Density, on front

Reading field height in mm

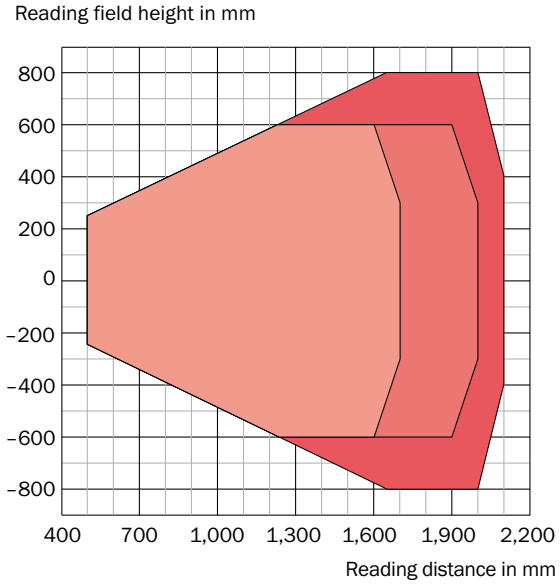


Resolution

- a: 0.50 mm

Tilt ±15°, typical specification

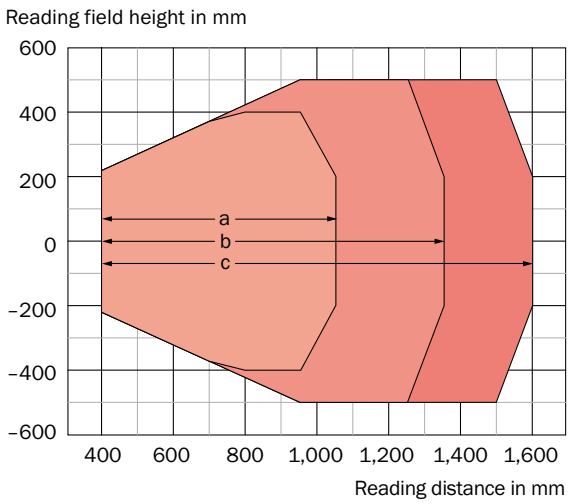
CLV691-0/1 Low Density, oscillating mirror



Resolution 0.5 mm

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

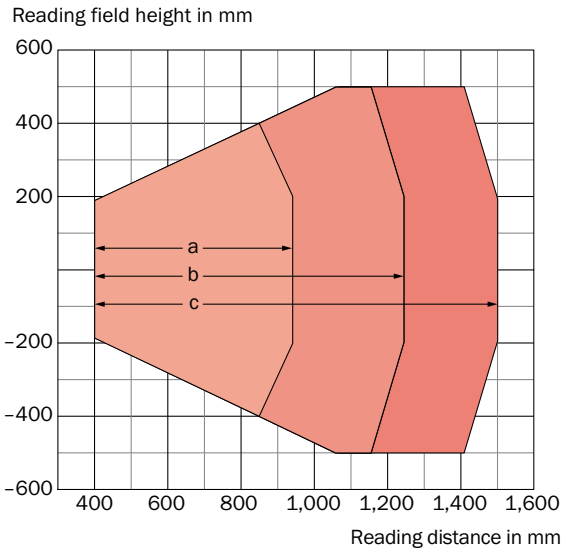
CLV692-0/1 High Density, on front



Resolution

- a: 0.20 mm
- b: 0.25 mm
- c: 0.30 mm

CLV692-0/1 High Density, oscillating mirror



Resolution

- a: 0.20 mm
- b: 0.25 mm
- c: 0.30 mm

Cloning plug inputs and outputs

Brief description [1]	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[2] (with CDM420-0006 connection module)	2062452	●	●	–	–	–	–	●	●	●	●	●	●	●	–	●
CAN IN/OUT clone plug	2062453	–	–	–	●	–	–	–	–	–	–	●	–	●	–	–
CAN redundant clone plug	2062454	–	–	–	●	–	–	–	–	–	–	●		●	●	–

[1] For fields of application see Modular connectivity on page 3.

[2] No heating.

Assignment of connection to clone plug

Connection module

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN redundant clone plug
	CDM490, modular connection module for a sensor	1025363	●	–	–	–
	CDM420-0006, modular connection modules for a CLV69x/RFU63x	1058634	–	●	–	–

Plug connectors and cables

Ethernet/host connection, M12 - RJ45

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	M12/RJ-45 Ethernet cable (plug/plug), 2 m	6034414	–	●	–	–
	M12/RJ-45 Ethernet cable (plug/plug), 3 m	6044400	–	●	–	–
	M12/RJ-45 Ethernet cable (plug/plug), 5 m	6034415	–	●	–	–
	M12/RJ-45 Ethernet cable (plug/plug), 10 m	6030928	–	●	–	–
	M12/RJ-45 Ethernet cable (plug/plug), 20 m	6036158	–	●	–	–

Plug connection to CDM420-006 modular connection module

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	M12 17-pin connecting cable to CDM420-006 (socket/plug), 0.9 m	2049764	–	●	–	–
	M12 17-pin connecting cable to CDM420-006 (socket/plug), 2 m	2055419	–	●	–	–
	M12 17-pin connecting cable to CDM420-006 (socket/plug), 3 m	2055420	–	●	–	–
	M12 17-pin connecting cable to CDM420-006 (socket/plug), 5 m	2055859	–	●	–	–

Ethernet /Host, M12 – M12

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	M12 connecting cable to M12 host (socket/plug), 2 m	6034420	–	●	–	–
	M12 connecting cable to M12 host (socket/plug), 3 m	6034421	–	●	–	–
	M12 connecting cable to M12 host (socket/plug), 5 m	6034422	–	●	–	–

CAN cables

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	CAN connection cable M12, 1 m	6021164	–	◑	●	●
	CAN connection cable M12, 3 m	6021165	–	◑	●	●
	CAN connection cable M12, 5 m	6021168	–	◑	●	●

Plug connection to CDM490 modular connection module

	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	Plug cover with cable (IP 65), 3 m	–	●	–	–	–

Plug connection to CDM420-006 modular connection module

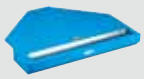
	Brief Description	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN IN/OUT clone plug	CAN Redundant clone plug
	Plug cover with cable (IP 65), 3 m	–	●	–	–	–

Recommended accessories

Mounting brackets/plates

	Brief Description	Part no.
	Angled bracket, single, self-locking	2013824

Device protection (mechanical)

	Brief Description	Part no.
	Mirror hood (to reduce fitting space required)	2032070

Terminal and alignment brackets

	Brief Description	Part no.
	Angled bracket, self-locking	2018435
	Quick-action lock system	2016110

Modules

	Brief Description	Model name	Part no.
	Modular connection module for a sensor	CDM490	1025363
	Modular connection modules for a CLV69x/RFU63x	CDM420-0006	1058634

Plug connectors and cables

	Brief Description	Part no.
	CAN IN/OUT clone plug with three M12 round connectors (5-pin plug, 5-pin socket, 5-pin AUX socket)	2062453
	I/O Ethernet clone plug with three M12 round connectors (17-pin plug, 4-pin socket, 4-pin Ethernet socket, 5-pin CAN plug)	2062452
	D sub clone plug with 15-pin D sub HD device plug and 15-pin D sub HD device socket	2062450
	CAN redundant clone plug with three M12 round connectors (2 x 5-pin plug, 5-pin AUX socket)	2062454
	CAN cable, 5 m, M12, 5-pin, plug socket	6021168
	CAN cable, 3 m, M12, 5-pin, plug socket	6021165
	CAN cable, 1 m, M12, 5-pin, plug socket	6021164
	Data connection cable (RS-232) for PC, 3 m, with 2 x 9-pin D sub socket	2014054
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / RJ45 plug, 8-pin, 2 m	6034414
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / RJ45 plug, 8-pin, 3 m	6044400
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / RJ45 plug, 8-pin, 5 m	6034415
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / RJ45 plug, 8-pin, 10 m	6030928
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / RJ45 plug, 8-pin, 20 m	6036158
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / M12 plug, 4-pin, 2 m	6034420
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / M12 plug, 4-pin, 3 m	6034421
	Ethernet cable, 4-core, shielded, M12 plug, 4-pin (D-coded) / M12 plug, 4-pin, 5 m	6034422
	Plug cover (IP 65), with EEPROM parameter storage for connection to CDM490 with 2 cables, 3 m each, 15-pin, shielded, with 15-pin sub HD plug/socket.	–
	M12, 17-pin, to CDM420-006 15-pin D sub, 5 m (plug/socket)	2055859
	M12, 17-pin, to CDM420-006 15-pin D sub, 0.9 m (plug/socket)	2049764
	M12, 17-pin, to CDM420-006 15-pin D sub, 2 m (plug/socket)	2055419
	M12, 17-pin, to CDM420-006 15-pin D sub, 3 m (plug/socket)	2055420
	Connection cable for CLV48x/49x, CLX49x to CDB620, 3m, no EEPROM parameter store	–
	Converter, RS-232 to USB, if there is no RS-232 interface on the PC	6042499

→ Additional accessories can be found at www.mysick.com/de/CLV69x

Your notes

Your notes

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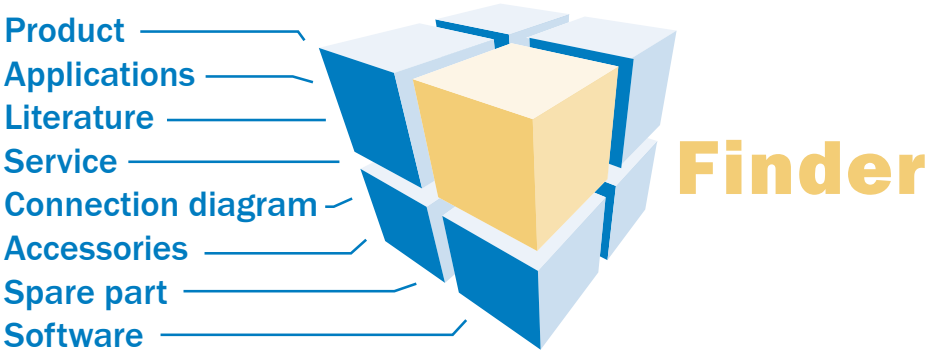

Product Finder: We can help you to quickly target the product that best matches your application.

Applications Finder: Select the application description on the basis of the challenge posed, industrial sector, or product group.

Literature Finder: Go directly to the operating instructions, technical information, and other literature on all aspects of SICK products.

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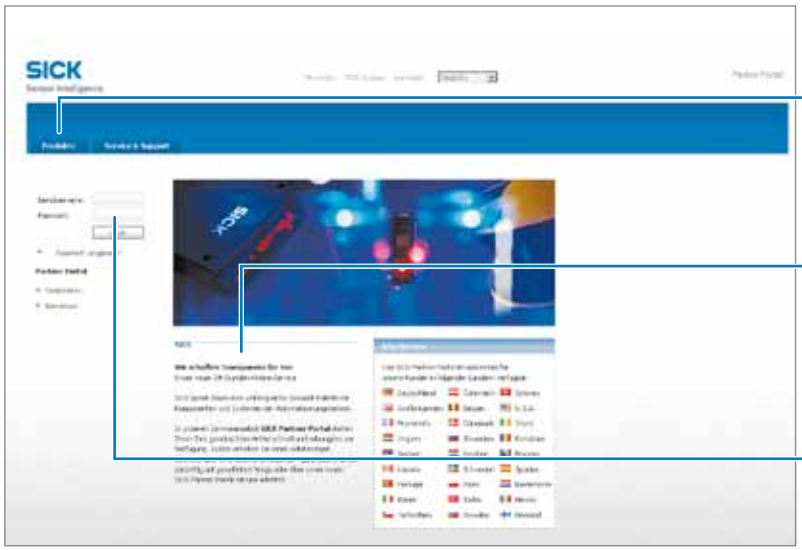

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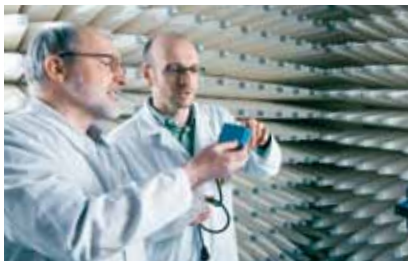
SICK at a glance



Leading technologies

With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.

Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids

Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal www.mysick.com – price and availability of products, requests for quotation and online orders

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Please find detailed addresses and additional representatives and agencies in all major industrial nations at **www.sick.com**

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