



**CLV620, CLV630, CLV640:  
Intelligence for logistics  
and automation.**

**A new generation of bar code scanners with high  
reading and network performance.**

Greater speed for your processes.

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## **The powerful CLV620, CLV630, CLV640 bar code scanners**

**A new generation of bar code scanners accelerates logistics and automation applications. The excellent reading properties of the new scanners ensure reliable process flows even with poor or damaged bar codes; their high scanning frequency allows increased process speeds.**

**Their networkability and easy of use also provide new process advantages – the integrated Ethernet cuts costs. No other bar code scanner offers so many advantages in such a small housing.**

**Discover the new generation of compact bar code scanners from SICK: CLV620, CLV630, CLV640.**

## Excellent “technical ability” for applications in all markets.

The new compact bar code scanners of the CLV6xx product family were developed in close collaboration with customers in the most varied of industries. The knowledge that we gained has been integrated in the product family. The future demands greater reading performance, greater flexibility for product changes, optimum networkability – and at ever-decreasing sizes.

In addition to a wide variety of optimised features, the new bar code scanners from SICK also offer you access to SICK’s system architecture. The advantages are evident: our application experts see and understand your application in its entirety and suggest process solutions that impress – and go on impressing.



### PHARMACEUTICALS CLINICAL ANALYSES

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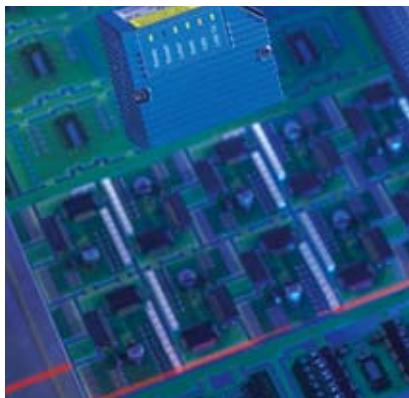
SICK drives laboratory automation forwards. The bar code scanners of the CLV6xx product family can optimise, for example, applications with test tubes in carousels and racks. Here, they ensure more efficient sample presorting by reading package codes faster.





### HANDLING & WAREHOUSING SYSTEMS

Long reading distances, rapid conveyor belts, varying package sizes, damaged bar codes – the challenges of logistical workflows are many and varied. The CLV6xx is ideally prepared for these challenges with its excellent reading properties and a flexible communication capability at the field-bus level.



### THE ELECTRONICS INDUSTRY

Conveyor applications can be challenging. The CLV6xx product family's extremely rapid processing capability and depth of focus are highly outstanding. And the product family's new connector technology optimises integration in every plant application.



### DOCUMENT HANDLING

With their fast decoding rate, the CLV6xx bar code scanners quickly and reliably solve high-speed document sorting and printing applications.

## Fast, simple, easy to use.

Rapid, reliable data detection is the prerequisite for efficient processes in automation and logistics. The new CLV6xx family of bar code scanners offers this and far more. Its data handling is brilliantly simple: sort and filter functions ensure that the data is transmitted to the controller in the desired format. Integrated Ethernet allows processing in networks – without the need for additional gateways – saving time and cutting installation costs.

The CAN-bus possibilities are extremely varied, each scanner can be used as a multiplexer without restriction. And SICK's own software, SOPAS-ET, provides you with a universal platform for complete and user-friendly data management for all new SICK devices.

As intelligent network components, the bar code scanners of the CLV6xx product family offer greater speed, transparency and functionality in processes. With considerably lower hardware and wiring costs.



CAN/Ethernet on board

### READING PERFORMANCE

The CLV6xx family of scanners has SMART, a function for detecting poor or partially covered bar codes. This allows reasonably priced upgrading of existing plants, as well as permitting plant concepts that combine the compact design with the capability of coping with maximum transport speeds. An extra real-time advantage: the CLV6xx product family's scanning frequency of up to 1,200 Hz – available in the smallest of housings.



### NETWORK AND COMFORT

The compact housings and networkability of the CLV6xx product family save space and cut costs. Each scanner can be used as a multiplexer; all common network topologies are possible. The Connection Assistant, automatic triggering and diagnostic interface, as well as the SOPAS-ET software, offer a high level of user-friendliness in this device class.



### EASY SOFTWARE HANDLING

Parameterisation and data management – it is all under control with SOPAS-ET, the device-spanning SICK software. A single parameterisation tool handles access to all new SICK devices, an Assistant provides rapid connection to each SICK device in the network. Advantages include reliable monitoring and comprehensive commissioning of complex applications.

### PIVOTING PLUG-IN UNIT



The practical pivoting plug-in unit allows the CLV6xx product family to be installed and connected even in impossible locations. Result: more comfortable network construction, more rapid plug connection thanks to “SPEED Con”, and flexible mounting options.






Bar code scanners from SICK.  
Adaptable to any application.




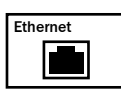
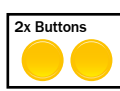


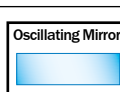
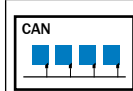
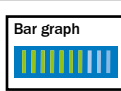
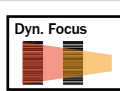


Every bar code scanner from SICK contains the experience of decades of continuous development, and thousands of successful applications throughout all markets. This also applies to the CLV6xx series. They combine high reading performance with SMART code reconstruction, a reading algorithm that accurately decodes bar codes despite their being damaged or partially covered.

### Versions CLV6xx bar code scanner:

	Standard version	<ul style="list-style-type: none"> <li>• Cable and 15-pin D-sub HD plug</li> <li>• Pin-compatible with CLV4xx</li> </ul>
	Ethernet version	<ul style="list-style-type: none"> <li>• M12 socket for Ethernet</li> <li>• With M12 plug for power supply, triggering, host &amp; auxiliary interface, CAN-bus</li> </ul>
	Plastic window version (for the food industry)	<ul style="list-style-type: none"> <li>• Available on request (type code CLV6xx-xxx1)</li> </ul>

### Our CLV6xx bar code scanners have much to offer:

Features					
	Innovative code reconstruction that puts together damaged, dirty and/or partially covered bar codes during the read process and thus reliably decodes them.		Integrated Ethernet interface		2 buttons: - start read diagnosis - teach-in a match-code - display the RA limits
	Like the SMART CLV620, but with larger tilt angle (30°)		Micro SD card slot - simple firmware updates - parameter cloning		Oscillating mirror allows reading of bar codes within larger areas
	Integrated CAN bus supports: - CANopen - SICK CAN-sensor networks: for simple formation of scanner groups		Bar graph - display of read rate as percentage - easily visible, no PC necessary		Dynamic focus: allows reading of bar codes despite varying reading distances

# The CLV620, CLV630, CLV640 bar code scanners: stationary but flexible.

The CLV6xx models are so flexible that they match almost any reading requirement perfectly – for close-, long- and mid-range distances, with front or side reading window, as a line, raster, or oscillating mirror design with or without Ethernet. Which device matches your application?

## The CLV620 bar code scanner



### CLV620 at a glance:

- CAN and Ethernet TCP/IP on board
- SMART620 code reconstruction
- Data handling: even more flexible sort and filter functions
- Varied CAN-bus functionalities
- Configuration with SOPAS-ET
- High scanning frequency of up to 1,200 Hz
- Small housing

### Your benefits:

- No supplementary Ethernet Gateway card required – lower costs for Ethernet connection
- High reading rate for damaged, dirty and partially covered bar codes
- Data transmitted to controller in desired format
- The CLV620 scanner can be used as a multiplexer in any CAN-scanner network from SICK – no supplementary multiplexer necessary
- A parameterisation tool for all new SICK devices – Connection Assistant (rapid connection), simple parameterisation network projects
- Code identification even at very high transport speeds
- Simple mounting in constricted locations

## The CLV630 bar code scanner



### CLV630 at a glance:

- CAN and Ethernet TCP/IP on board
- SMART code reconstruction
- Micro SD card slot
- Integrated LED bar graph
- Integrated functional buttons
- Oscillating mirror version
- Data handling: even more flexible sort and filter functions
- Varied CAN-bus functionalities
- Configuration with SOPAS-ET
- High scanning frequency of up to 1,200 Hz

### Your benefits:

- No supplementary Ethernet Gateway required – lower costs for Ethernet connection
- High reading rate for damaged, dirty and partially covered bar codes
- Data transmitted to controller in desired format
- Simple firmware updates via Micro SD flash card: no PC necessary
- Easy setup without PC thanks to integrated buttons and bar graph
- Teach-in of match-code possible on device itself
- A configuration tool for all new SICK devices
- Connection Assistant (rapid connection), simple parameterisation in network projects
- Reading of bar codes within larger areas through use of oscillating mirror version
- Code identification even at high transport speeds



## The CLV640 bar code scanner



### CLV640 at a glance:




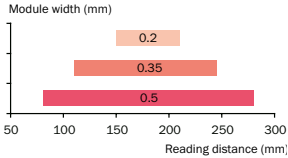
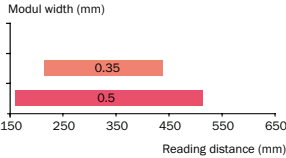
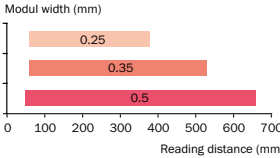

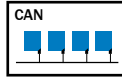


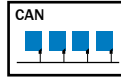
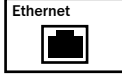

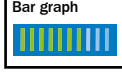
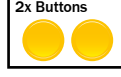


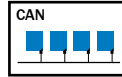
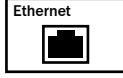

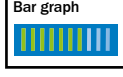
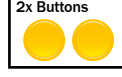


- CAN and Ethernet TCP/IP on board
- SMART code reconstruction
- Micro SD card slot
- Dynamic focal point switching in real time
- Integrated LED bar graph
- Integrated functional buttons
- Oscillating mirror version
- Data handling: even more flexible sort and filter functions
- Varied CAN-bus functionalities
- Configuration with SOPAS-ET
- High scanning frequency of up to 1,200 Hz

### Your benefits:

- No supplementary Ethernet Gateway required – lower costs for Ethernet connection
- High reading rate for damaged, dirty and partially covered bar codes
- Data transmitted to controller in desired format
- Simple firmware updates via Micro SD flash card: no PC necessary
- Easy setup without PC thanks to integrated buttons and bar graph
- Teach-in of match-code possible on device itself
- Long reading range through dynamic focal adjustment
- A configuration tool for all new SICK devices
- Connection Assistant (rapid connection), simple parameterisation in network projects
- Reading of bar codes within larger areas through use of oscillating mirror version
- Code identification even at high transport speeds



# Overview: CLV6xx.

Type	CLV62x	CLV63x	CLV640
			
<b>Reading distances</b>			
	<p>Module width (mm)</p>  <p>Reading distance (mm)</p> <ul style="list-style-type: none"> <li>• High density - max. 200 mm</li> <li>• Long-range - max. 730 mm</li> </ul>	<p>Modul width (mm)</p>  <p>Reading distance (mm)</p> <ul style="list-style-type: none"> <li>• Mid-range - max. 400 mm</li> <li>• Short-range - max. 280 mm</li> </ul>	<p>Modul width (mm)</p>  <p>Reading distance (mm)</p>
<b>Areas of use</b>			
	<ul style="list-style-type: none"> <li>- Document Handling</li> <li>- The food industry</li> <li>- Clinical analysis / pharmaceuticals</li> <li>- Handling and warehousing systems</li> <li>- Letter sorting</li> <li>- The electronics industry</li> </ul>	<ul style="list-style-type: none"> <li>- Handling and warehousing systems</li> <li>- The food &amp; beverages industries</li> <li>- Storage systems</li> </ul>	<ul style="list-style-type: none"> <li>- The electronics industry</li> <li>- Handling and warehousing systems</li> <li>- The food &amp; beverages industries</li> </ul>
<b>Features</b>			
	  	      	       

# Reading field diagrams, CLV62x.

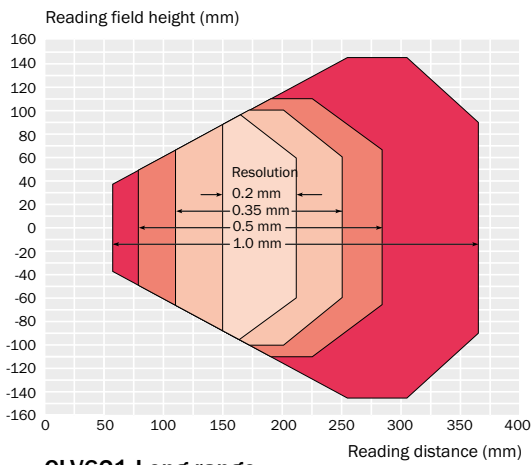
## Front reading window



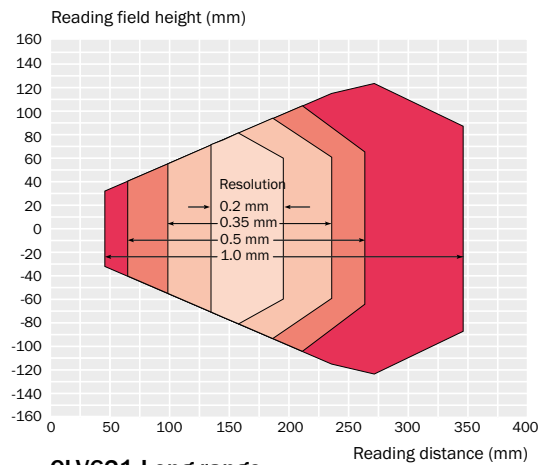
## Side reading window



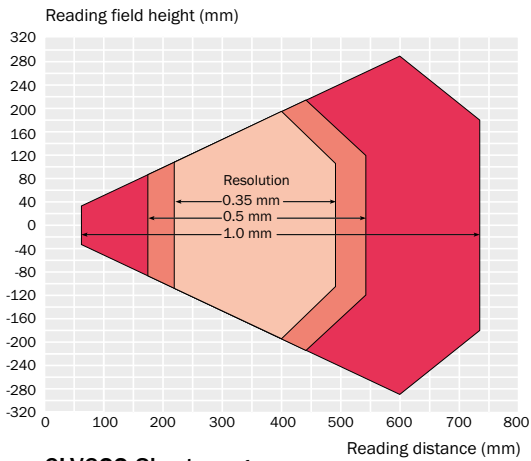
### CLV620 Mid-range



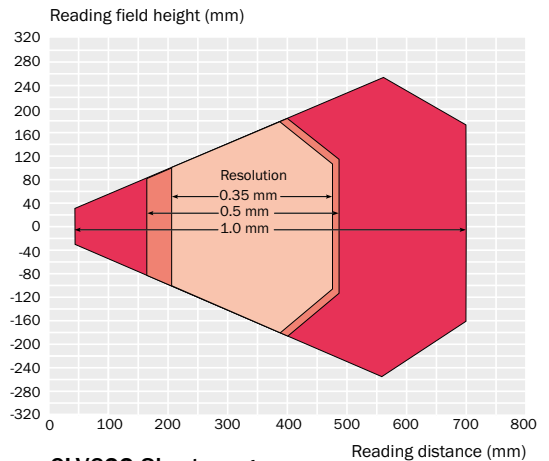
### CLV620 Mid-range



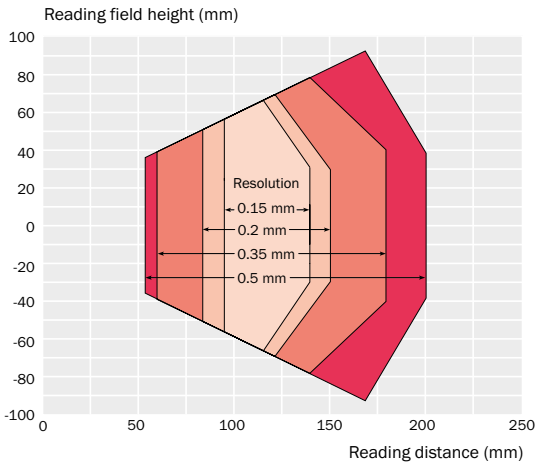
### CLV621 Long-range



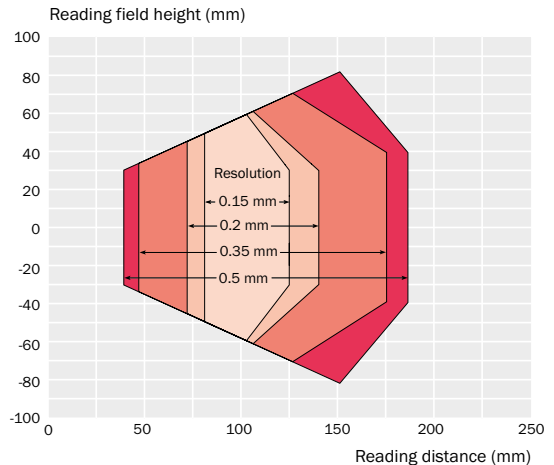
### CLV621 Long-range



### CLV622 Short-range



### CLV622 Short-range



# Reading field diagrams, CLV63x.

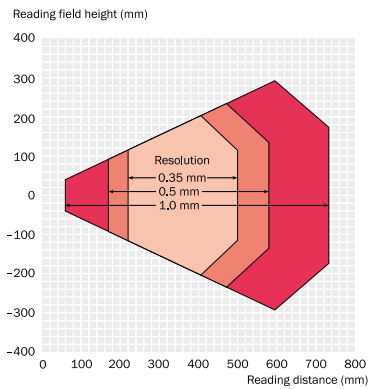
## Front reading window



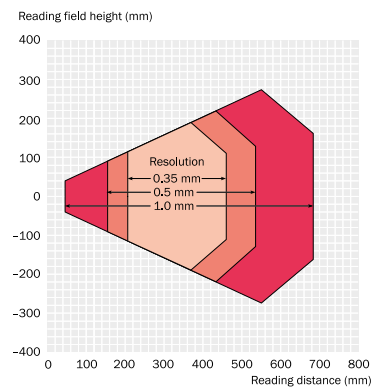
## Side reading window



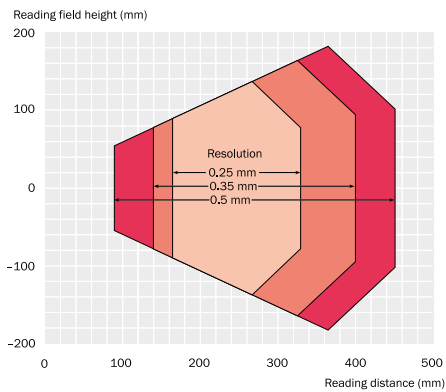
### CLV630 Long-range



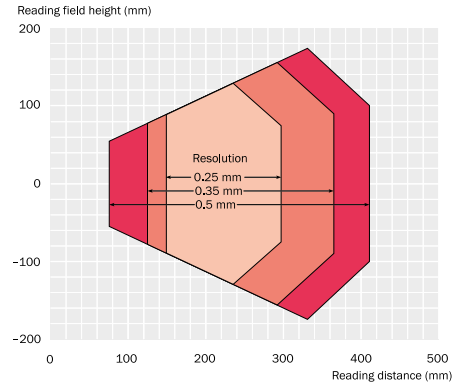
### CLV630 Long-range



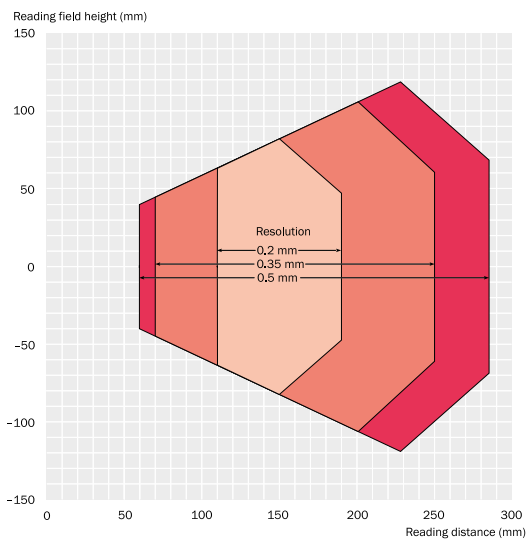
### CLV631 Mid-range



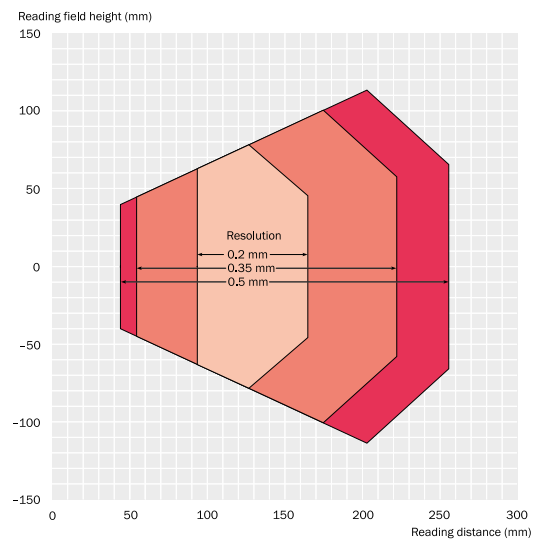
### CLV631 Mid-range



### CLV632 Short-range



### CLV632 Short-range



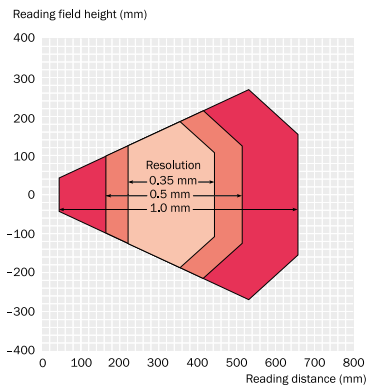


# Reading field diagrams, CLV63x.

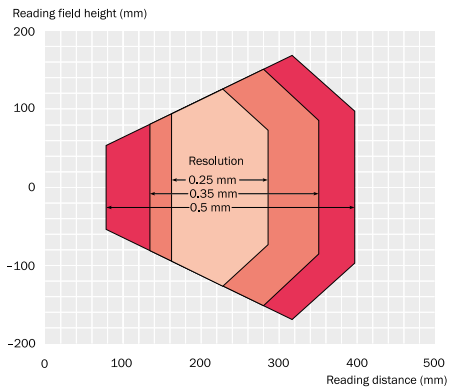
## Oscillating mirror (Side reading window)



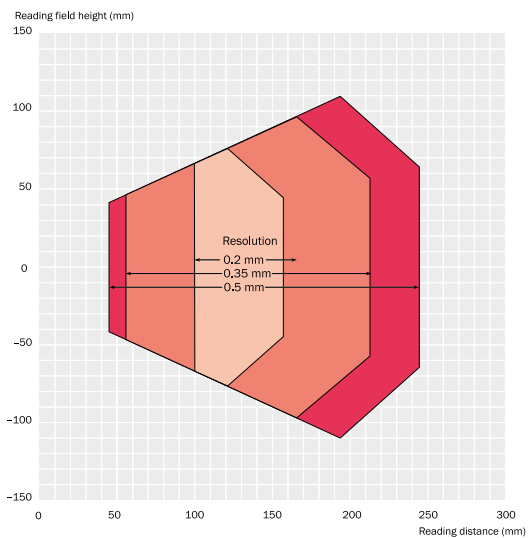
### CLV630 Long-range



### CLV631 Mid-range



### CLV632 Short-range

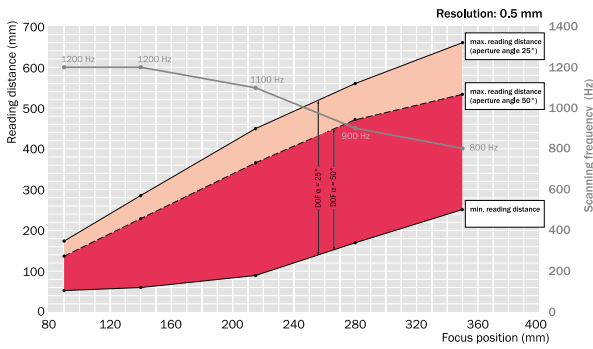


# Reading field diagrams, CLV640.

## Front reading window



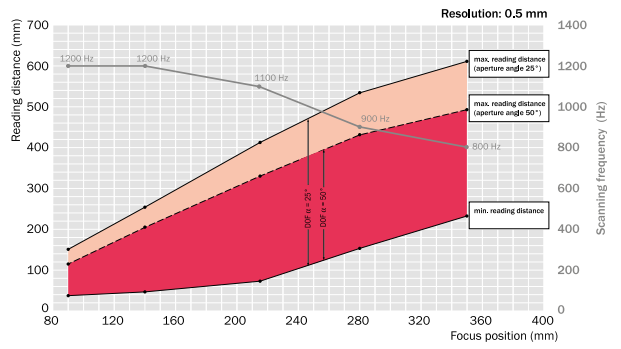
CLV640 dynamic



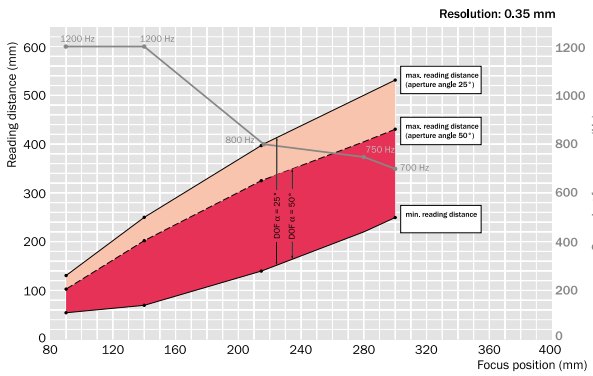
## Side reading window



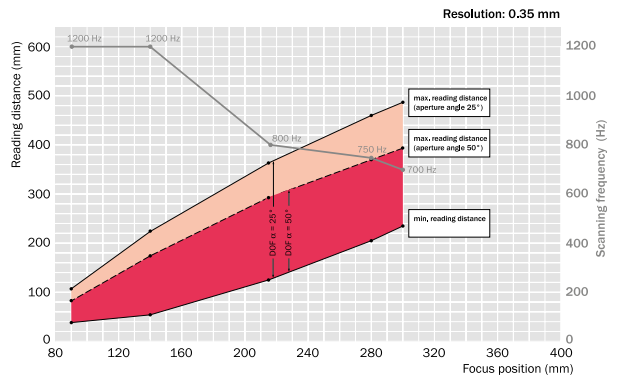
CLV640 dynamic



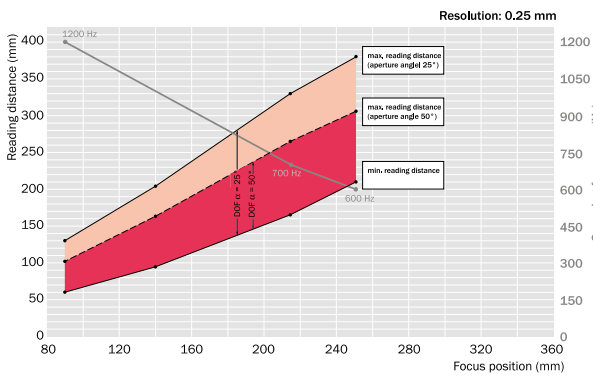
CLV640 dynamic



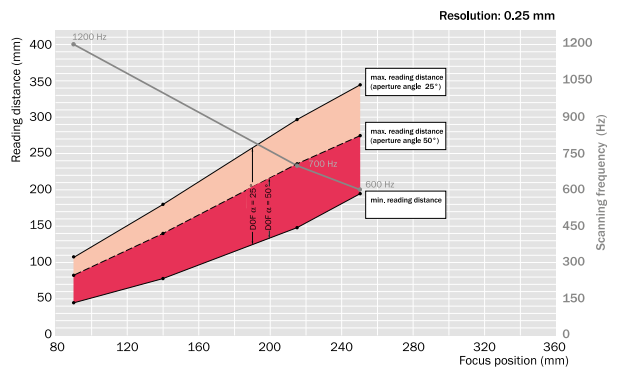
CLV640 dynamic



CLV640 dynamic



CLV640 dynamic

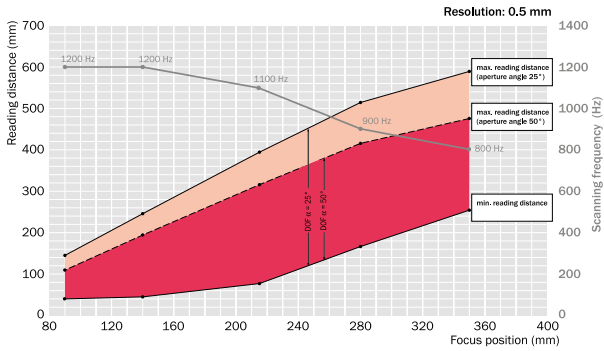


# Reading field diagrams, CLV640.

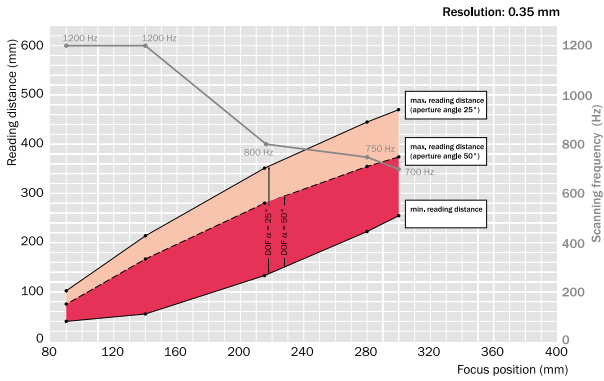
Oscillating mirror  
(Side reading window)



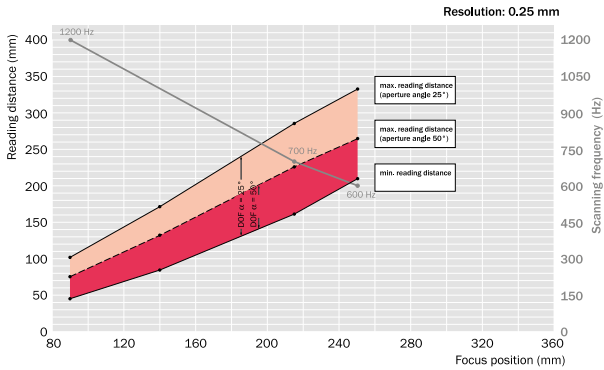
CLV640 dynamic



CLV640 dynamic








CLV640 dynamic







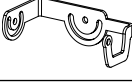
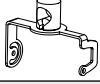



# A wide variety: accessories for every use.

Type	Accessories, CLV6xx		CLV6xx Standard version	CLV6xx Ethernet version	CDB420/ CDB620	CDM420	CMF400/ CDF600 PROFIBUS	Part No.
<b>Cable</b>								
	M12 4-pin, Ethernet, to Host RJ45, 2 m (plug/plug)			✓				6034414
	M12 4-pin, Ethernet, to Host RJ45, 3 m (plug/plug)			✓				6029630
	M12 4-pin, Ethernet, to Host RJ45, 5 m (plug/plug)			✓				6034415
	M12 4-pin, Ethernet, to Host RJ45, 10 m (plug/plug)			✓				6030928
	M12 4-pin, Ethernet, to Host M12, 2 m (plug/plug)			✓				6034420
	M12 4-pin, Ethernet, to Host M12, 3 m (plug/plug)			✓				6034421
	M12 4-pin, Ethernet, to Host M12, 5 m (plug/plug)			✓				6034422
	M12 12-pin, to CDB620/CDM400/CDF600 15-pin D-sub, 0.9 m (socket/plug)			✓	✓	✓	✓	2042916
	M12 12-pin, to CDB620/CDM400/CDF600 15-pin D-sub, 2 m (socket/plug)			✓	✓	✓	✓	2041834
	M12 12-pin, to CDB620/CDM400/CDF600 15-pin D-sub, 3 m (socket/plug)			✓	✓	✓	✓	2042914
	M12 12-pin, to CDB620/CDM400/CDF600 15-pin D-sub, 5 m (socket/plug)			✓	✓	✓	✓	2042915
	M12 12-pin, to open cable end 5 m (socket)			✓				6034605
	Data connection cable (RS-232 ) for CLV6xx to PC, 3 m, 2 x 9-pin D-sub (socket/socket)				✓	✓		2014054
	Extension cable up to 3 m, 16 x 0.14 mm <sup>2</sup> (AWG26), screened, by metre		✓	✓				6034419
	Extension cable, 2 m, 15-wire, screened, with 15-pin D-sub HD (plug/socket) AWG26		✓	✓				6034417
	Extension cable, 3 m, 15-wire, screened, with 15-pin D-sub HD (plug/socket) AWG26		✓	✓				6034418
	Extension cable, 2 m, 15-wire, screened, with 15-pin D-sub HD (socket/open cable end) AWG26		✓	✓				2043413
	IP 65 rubber seal for extension cables with 15-pin D-sub plug-in connectors		✓	✓				4038847

Type	Accessories, CLV6xx		CLV6xx Standard version	CLV6xx Ethernet version	CDB420/ CDB620	CDM420	CMF400/ CDF600 PROFIBUS	Part No.
<b>Leitung</b>								
	D-sub plug-in connector insert, 15-pin HD receptacle strip (socket), manual solder connection		✓	✓				6010019
	D-sub plug-in connector insert, 15-pin HD receptacle strip (plug), manual solder connection		✓	✓				6010020
	D-sub plug-in connector housing (metal) for 9-pin/15-pin HD inserts		✓	✓				6009438
	Unitron CAN cable 2 x 2 x 0.5mm <sup>2</sup> , by metre (CAN)				✓	✓		6027048
	CAN cable, M12 (plug/socket), 1 m				✓			6021164
	CAN cable, M12 (plug/socket), 3 m				✓			6021165
	CAN cable, M12 (plug/socket), 5 m				✓			6021168
	M12 cable, (socket/open cable end) 5 m (CAN)				✓			6021166
	M12 plug with resistor (CAN)				✓			6021167
	Parameterisation cable for PC connection (9-pin SUB-D) to CDF600 (4-pin M8)						✓	6021195
	Power supply, CDF600 M12, 5-pin plug (straight)/open cable end, 2 m						✓	6025906
	Power supply, CDF600 M12, 5-pin plug (straight)/open cable end, 10 m						✓	6025908
	Power supply, CDF600 M12, 5-pin plug (angled)/open cable end, 2 m						✓	6025909
	Power supply, CDF600 M12, 5-pin plug (angled)/open cable end, 10 m						✓	6025911
	M12 plug, resistance (PROFIBUS)						✓	6021156
	Bus IN, PROFIBUS cable socket, M12						✓	6021353
	Bus OUT, PROFIBUS cable plug, M12						✓	6021354
	PROFIBUS cable, 2 x 0.34 mm, by the metre						✓	6021355
	Cable for digital I/Os for CDF600 M12, 5-pin (socket/plug), 2 m						✓	6025931

## A wide variety: accessories for every use.

Type	Accessories, CLV6xx		CLV62x	CLV63x/ CLV640	Part No.
<b>Brackets</b>					
	Mounting bracket (simple angle)		✓	✓	2020410
	Quick-action clamp		✓	✓	2025526
	Universal clamp mounting, bar attachment		✓		2042802
	Bracket with adapter plate		✓		2042902
	Mounting bracket, stirrup, incl. mounting material			✓	2042800
	Round bar mounting for round bars and pipes with an external diameter of 12 ... 20 mm, incl. mounting material			✓	2042801
<b>SD Card</b>					
	Micro SD memory medium for CLV63xx bar code scanners			✓	4051366

# Order information, CLV62x variants.



Type	Read range	Scanning process	Read window	Standard version with 15-pin D-sub HD plug		Ethernet version with 2 x M12 plug connectors	
				Type	Part number	Type	Part number
<b>CLV620</b>	<b>Mid-range</b>	Line	Front	CLV620-0000	1040288	CLV620-0120	1041547
		Raster	Front	CLV620-1000	1041548	CLV620-1120	1041549
		Line	Side	CLV620-2000	1041550	CLV620-2120	1041551
		Raster	Side	CLV620-3000	1041552	CLV620-3120	1041553
<b>CLV621</b>	<b>Long-range</b>	Line	Front	CLV621-0000	1041784	CLV621-0120	1041785
		Raster	Front	CLV621-1000	1041786	CLV621-1120	1041787
		Line	Side	CLV621-2000	1041788	CLV621-2120	1041789
		Raster	Side	CLV621-3000	1041790	CLV621-3120	1041791
<b>CLV622</b>	<b>Short-range</b>	Line	Front	CLV622-0000	1041792	CLV622-0120	1041793
		Raster	Front	CLV622-1000	1041794	CLV622-1120	1041795
		Line	Side	CLV622-2000	1041796	CLV622-2120	1041797
		Raster	Side	CLV622-3000	1041798	CLV622-3120	1041799

## Order information, CLV63x variants.



Type	Read range	Scanning process	Read window	Standard version with 15-pin D-sub HD plug		Ethernet version with 2 x M12 plug connectors	
				Type	Part number	Type	Part number
<b>CLV630</b>	<b>Long-range</b>	Line	Front	CLV630-0000	1040706	CLV630-0120	1041969
		Raster	Front	CLV630-1000	1041970	CLV630-1120	1041971
		Line	Side	CLV630-2000	1041972	CLV630-2120	1041973
		Raster	Side	CLV630-3000	1041974	CLV630-3120	1041975
		Line scanner with oscillating mirror	Side	CLV630-6000	1041976	CLV630-6120	1041977
<b>CLV631</b>	<b>Mid-range</b>	Line	Front	CLV631-0000	1041978	CLV631-0120	1041979
		Raster	Front	CLV631-1000	1041980	CLV631-1120	1041981
		Line	Side	CLV631-2000	1041982	CLV631-2120	1041983
		Raster	Side	CLV631-3000	1041984	CLV631-3120	1041985
		Line scanner with oscillating mirror	Side	CLV631-6000	1041986	CLV631-6120	1041987
<b>CLV632</b>	<b>Short-range</b>	Line	Front	CLV632-0000	1041988	CLV632-0120	1041989
		Raster	Front	CLV632-1000	1041990	CLV632-1120	1041991
		Line	Side	CLV632-2000	1041992	CLV632-2120	1041993
		Raster	Side	CLV632-3000	1041994	CLV632-3120	1041995
		Line scanner with oscillating mirror	Side	CLV632-6000	1041996	CLV632-6120	1041997



# Order information, CLV640 variants.



Type	Read range	Scanning process	Read window	Standard version with 15-pin D-sub HD plug		Ethernet version with 2 x M12 plug connectors	
				Type	Part number	Type	Part number
CLV640	Dynamic	Line	Front	CLV640-0000	1042014	CLV640-0120	1042015
		Raster*	Front	CLV640-1000	1042016	CLV640-1120	1042017
		Line*	Side	CLV640-2000	1042018	CLV640-2120	1042019
		Raster*	Side	CLV640-3000	1042020	CLV640-3120	1042021
		Line scanner with oscillating mirror	Side	CLV640-6000	1042022	CLV640-6120	1042023

\* Available from Q4/2008

# Technical Data.

Type	CLV62x bar code scanners	CLV63x bar code scanners	CLV640 bar code scanners
Focus	Fixed focus		Dynamic focus
Reading field	Line/raster scanner: frontal, line/raster scanner with angle attachment: lateral (light exit below 105°)		
Laser diode (wavelength)	Red light ( $\lambda = 655 \text{ nm}$ )		
MTTF of laser diode	20.000 h		
Laser class of device	Class 2 acc. to IEC 60825-1 and EN 60825-1, see warning label on device for date of publication		
Usable aperture	Max. 50°		
Scanning/decoder frequency	400 ... 1.200 Hz		
Resolution	0,15 ... 1,0 mm (type-dependent)	0,15 ... 1,0 mm (type-dependent)	0,2 ... 1,0 mm (type-dependent)
Raster height	15 mm (8 lines) at 200 mm reading distance (frontal read field)		
Bar code print contrast (PCS)	$\geq 60 \%$		
Ambient light immunity	2,000 lx (on bar code)		
Number of bar codes per scan	Standard decoder: 1 ... 20, SMART620 decoder: 1... 6, SMART decoder: 1 ... 6		
Number of bar codes per reading gate <sup>1)</sup>	1 ... 50 bar codes (auto-discriminating)		
Bar code types	Code 39, Code 128, Code 93, Codabar, EAN, EAN 128, UPC, 2/5 Interleaved, Pharmacode		
Bar code length	Max. 50 symbols (max. 5,000 symbols from all bar codes per read gate, 500 symbols with Multiplexer function (CAN))		
Print ratio	2:1 ... 3:1		
Number of multiple readings	1 ... 99		
Memory card for parameters (cloning)	No	Micro SD card (flash card), 512 MB, optional	
Optical indicators	6 LEDs: Ready, Result, Laser, Data, CAN, LNK TX		
	–	Bar graph display	
Acoustic indicators	Beeper, can be deactivated, potential function for results status indication		
Control elements	No	2 buttons (Select and Start/Stop functions)	
Read cycles	Cycle sources for start: switching inputs "Sensor 1" 2) and/or "Sensor 2"; Command; Autocycle; CAN		
	Cycle sources for stop: read cycle source, "Sensor 1", "Sensor 2", Command, Timer, Good Read, Condition		
Data interface, "Host"	Serial: RS-232 or RS-422/485; Ethernet (Port 2112), data format (serial) and data output format adjustable		
Data transfer rate	2.4 ... 115.2 kBd		
Protocol	SICK Standard (SOPAS-ET ET Cola A)		
Physical configurations	Stand-alone		
Data interface, "Aux"	Serial: RS-232 (57.6 kBd; 8 data bits, no parity, 1 stop bit); Ethernet (Port 2111), fixed data output format		
Data interface, "Ethernet"	Only with Ethernet version: 10/100 MBit/s; TCP/IP, half/full duplex		
Data interface, "CAN"	20 kBit/s ... 1 MBit/s, SICK CAN-SENSOR network (Master, Slave, Multiplexer)		
Digital switching inputs <sup>2)</sup>	Standard version: 2 Ethernet version: 1 Each version with 2 additional external inputs via CMC600		
Digital switching outputs	Standard version: 2 Ethernet version: 0 Each version with 2 additional external outputs via CMC600		



Type	CLV62x bar code scanners	CLV63x bar code scanners	CLV640 bar code scanners
Electrical connection	Standard version: cable (0.9 m) with 15-pin D-sub HD plug Ethernet version: rotating plug unit with 2 M12 round plug-in connectors (12-pin plug, 4-pin socket)		
Operating voltage	10 ... 30 V DC acc. to IEC 364-4-41 (SELV and PELV acc. to IEC 60364-4-41)	18 ... 30 V DC acc. to IEC 364-4-41 (SELV and PELV acc. to IEC 60364-4-41)	
Power consumption	Line/raster scanner: typically 4.5 W at 24 V DC $\pm$ 10%	Line/raster scanner: typically 5 W at 24 V DC $\pm$ 10%	Line/raster scanner: typically 5.5 W at 24 V DC $\pm$ 10%
Housing	Aluminium die-cast		
Material, read window	Glass or plastic, see type label CLV63x-xxx (y = 0: glass, y = 1: plastic)		
Electrical safety	Acc. to EN 60950-1		
Protection Class	III acc. to EN 61140		
Enclosure rating	IP 65, acc. to EN 60529; A1		
EMV testing	Emission of interference: acc. to EN 61000-6-3, immunity to interference: acc. to EN 61000-6-2		
Vibration/impact immunity	Acc. to EN 60068-2-6/acc. to EN 60068-2-27		
Weight	Standard version: 225 g with connection cable (frontal read window), Ethernet version: 205 g without connection cables (frontal read window)	Standard version: 320 g with connection cable (frontal read window) Ethernet version: 250 g without connection cables (frontal read window)	
Ambient/storage temperature	0 ... +40 °C/-20 ... +70 °C		
Max. relative air humidity	90 %, non-condensing		
Housing colour	SICK blue (light blue acc. to RAL 5012)		

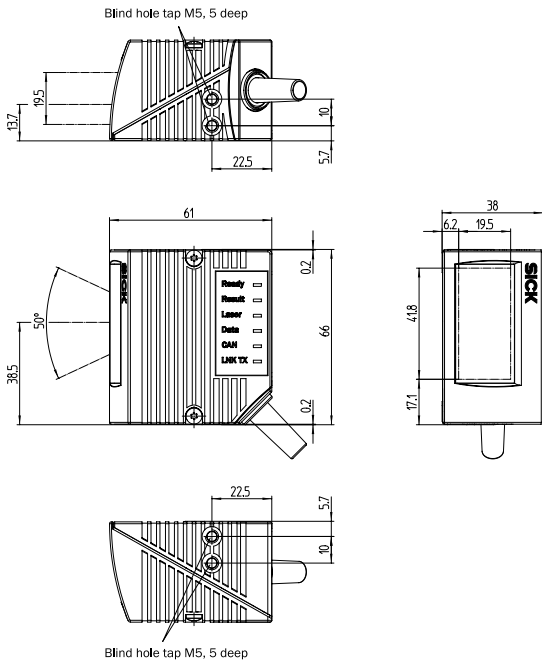
- 1) Read gate: time window for code evaluation generated internally via read cycle
- 2) Ethernet version: only switching input Sensor 1.

Supplementary technical data for oscillating mirror	CLV63x-6xxx bar code scanner	CLV640-6xxx bar code scanner
Read window	Lateral, light exit below 105° (basic setting)	
Usable aperture angle	Max. 50°	
Oscillating mirror functions	<b>Uncontrolled operation:</b> - fixed (adjustable position) or - continuous free oscillation <b>Controlled operation (start and stop condition adjustable):</b> - triggered oscillations (start position and number of oscillations adjustable) - one-shot: single oscillation in forward and backward motion (start position adjustable) The amplitude is adjustable for all oscillation modes in both directions of motion independently of one another. The oscillation speed for both directions of motions can be adjusted compared to one another within the selected period length for a complete oscillation.	
Oscillation frequency / length of period	0.5 ... 6.25 Hz / 2,000 ... 160 ms	
Max. amplitude	+20° ... -20°	
Power consumption	Typically 6 W at 24 V DC $\pm$ 10%	Typically 6.5 W at 24 V DC $\pm$ 10%
Weight	Standard version: 450 g Ethernet version: 350 g	

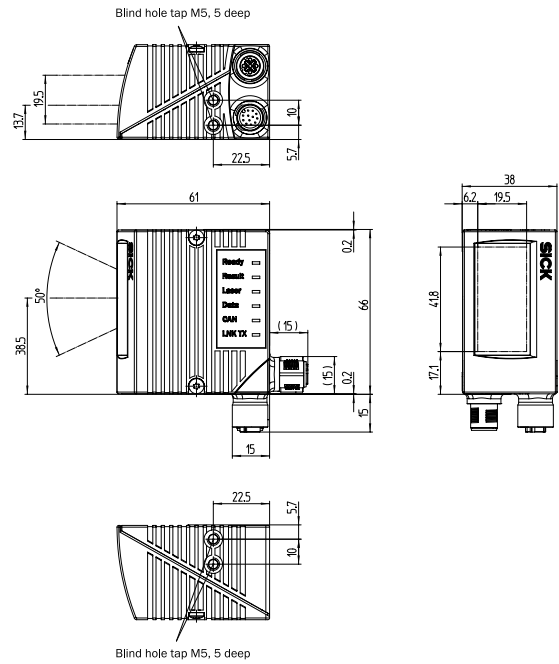
# Dimensional drawings, CLV620.

## Front reading window

### Standard version

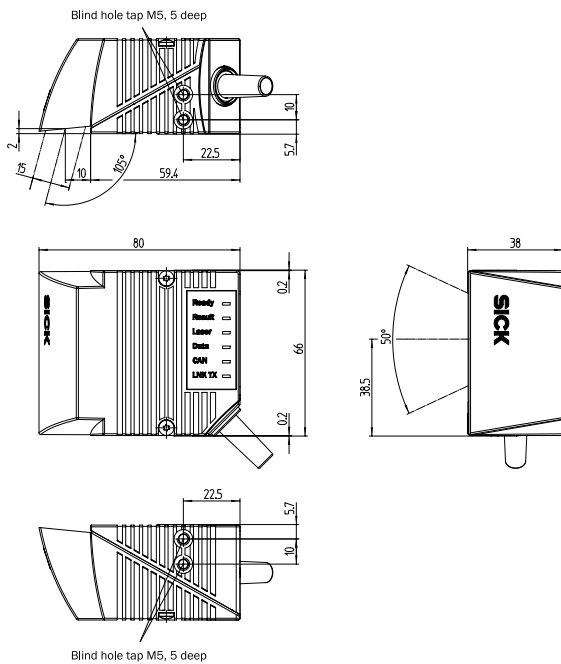


### Ethernet version

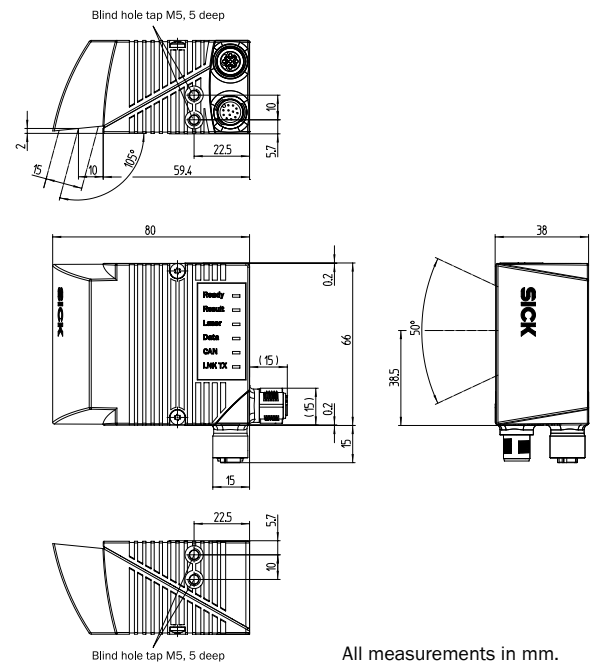


## Side reading window

### Standard version



### Ethernet version

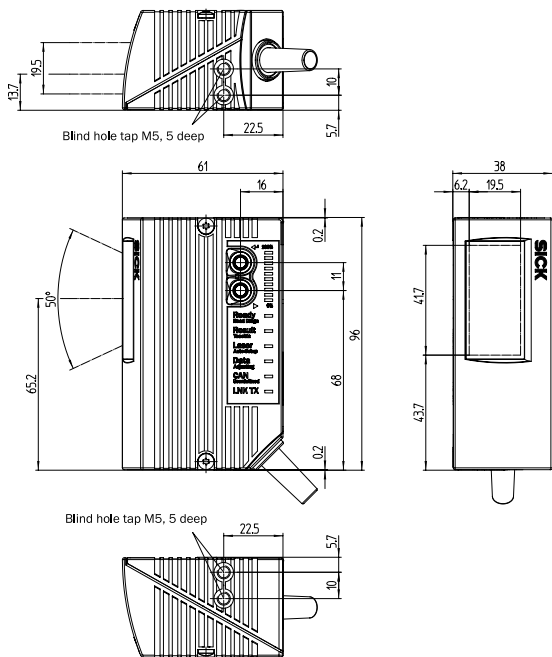


All measurements in mm.

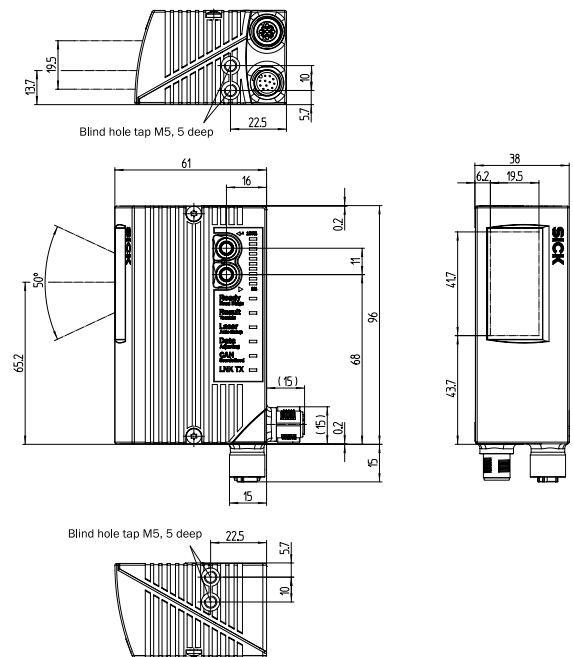
# Dimensional drawings, CLV630/CLV640.

## Front reading window

### Standard version



### Ethernet version



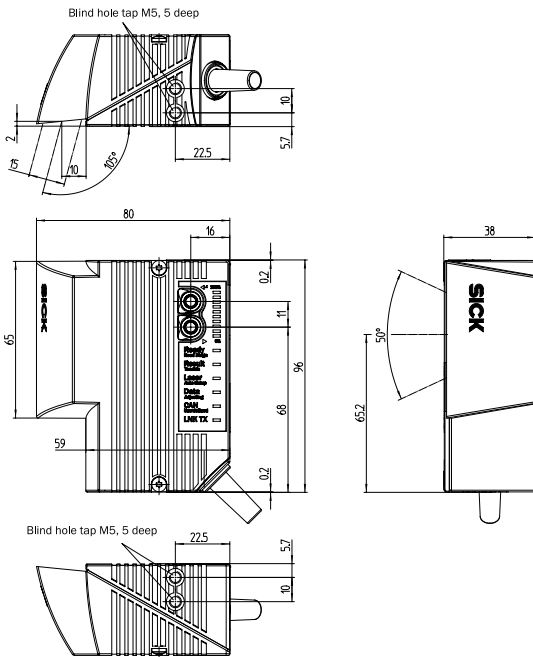
All measurements in mm.



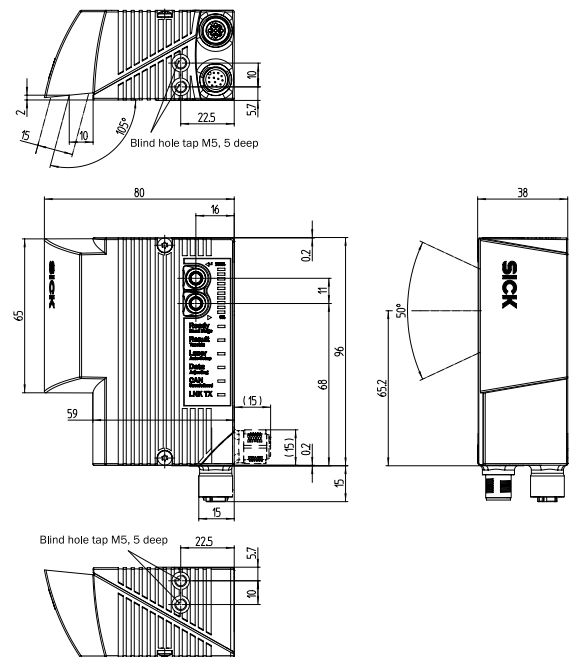
# Dimensional drawings, CLV630/CLV640.

## Side reading window

### Standard version



### Ethernet version

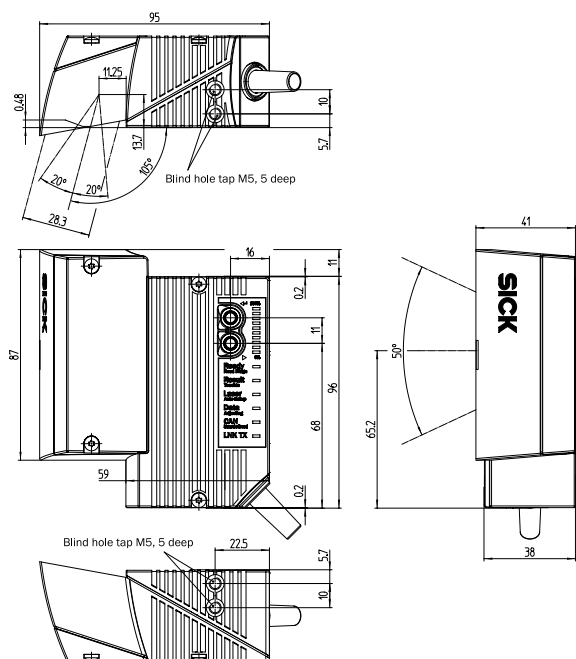


All measurements in mm.

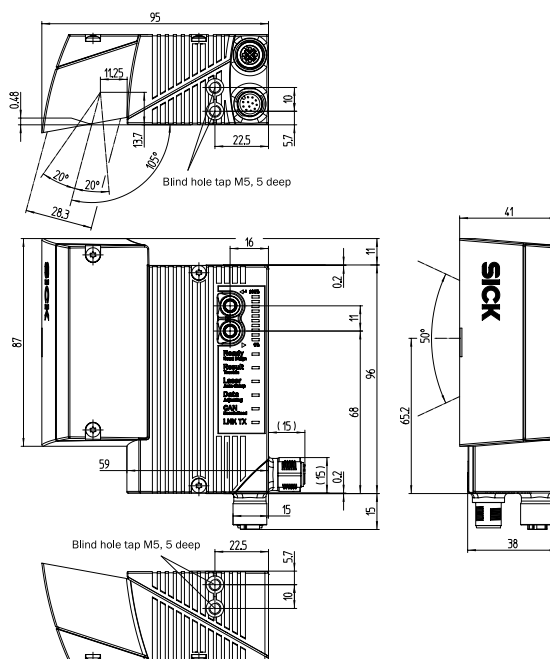
# Dimensional drawings, CLV630/CLV640 Oscillating mirror.

## Side reading window

### Standard version



### Ethernet version



All measurements in mm.

# Simplify your Network!

Invest in a needs-oriented network, optimise your plant performance without major cabling effort. The CLV6xx product family can be integrated in many fieldbus technologies. Ethernet and CAN interfaces are already available in the CLV6xx. Every device in the family can be used as a multiplexer in CAN-SENSOR networks. The scanners can be integrated in PROFIBUS and DeviceNet networks via external fieldbus gateways. The “2-component solution”, i.e. the CLV6xx with separate connection technology, offers further advantages: the scanner can be “buried” in the plant while the connection module remains easily accessible from outside. Result: simple parameterisation, simple cabling of the fieldbus to easily accessible locations.

## CDB620 Connection Device Basic



### Connector technology at a glance:

- Compact connection module for all SICK bar code scanners
- Integrated connection diagram
- Straightforward spring-loaded contacts
- IP 65 enclosure rating
- Tension-relieved cables

### Your benefits:

- Time and space savings
- Straightforward wiring with the periphery
- Low investment requirement
- Rapid, simple troubleshooting
- Rapid scanner replacement through use of CMC600

## CDM420 Connection Device Modular



- Connection module for integration of:
  - Fieldbus modules
  - Network devices for power supply
  - Display module
- Integrated connection diagram
- Straightforward spring-loaded/screw contacts
- IP 65 enclosure rating
- Tension-relieved cables

- Comfortable network integration
- Parameter memory for rapid scanner replacement
- Monitoring/diagnosis via display
- Rapid, simple mounting
- Simple troubleshooting
- Simple power provision with CMP power supply module

## CMC600 Connection Module Cloning



- External parameter memory for SICK bar code scanner
- Rapid and simple mounting in CDB/CDM connection modules
- Plug&play functionality
- Address monitoring through visible rotary coding switch
- Simplified commissioning of CAN networks

- Allows very rapid scanner replacement if repair required
- Rapid installation in existing basis devices
- Retrofit-enabled
- No additional space requirement
- No additional wiring effort




## CMD400 Connection Module Display



- Large illuminated display with 4 x 20 symbols
- 5 buttons for menu guidance
- For CDM420/490 basis device
- IP 65 enclosure rating

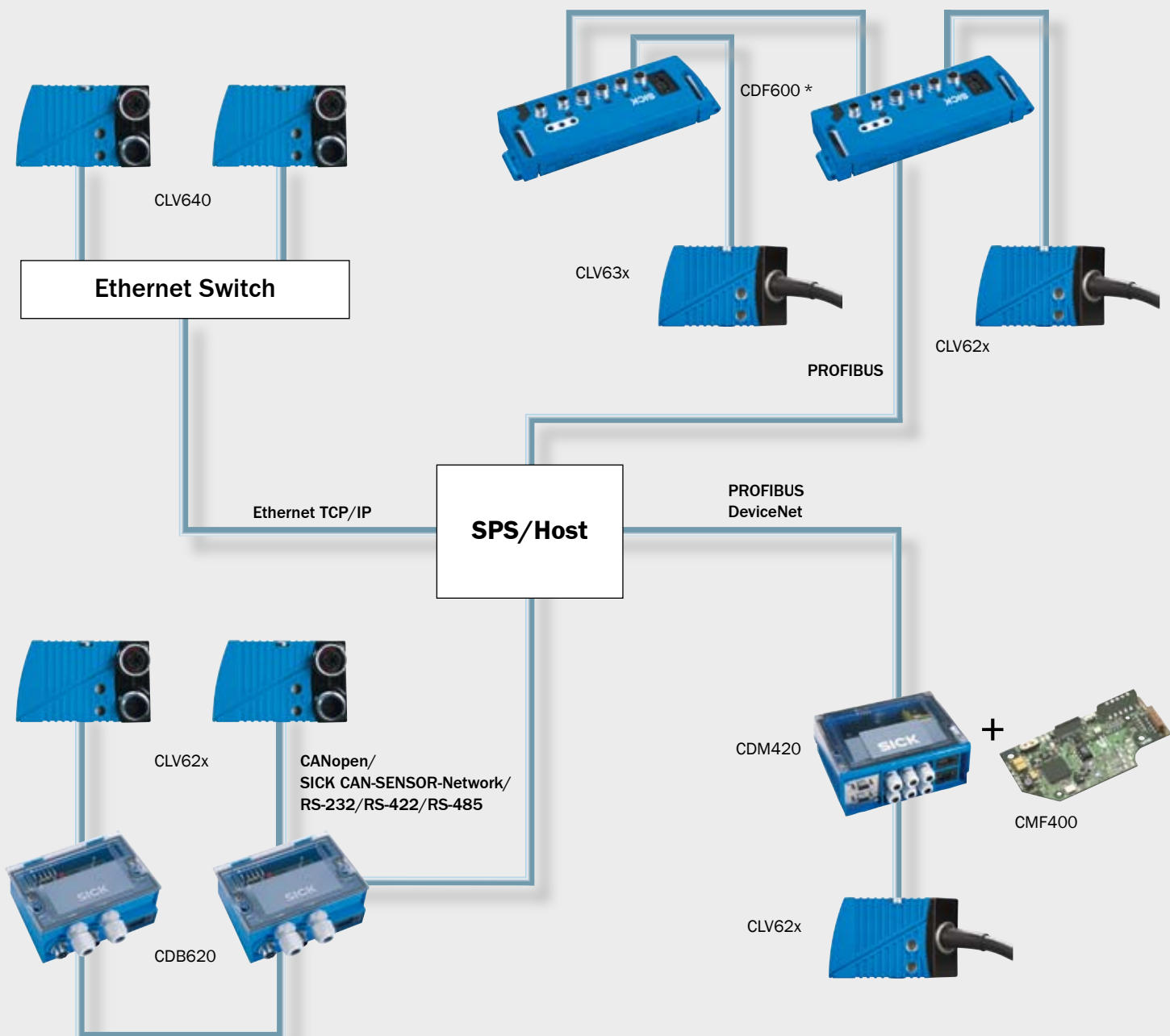
- Good legibility
- Simple in-situ diagnosis of scanner
- No PC connection required
- Retrofit-enabled
- No additional wiring effort
- Simple commissioning



	CDB620		CMC600		CDM420		CMx-Module
	Connection module for CLV6xx		External parameter memory for CLV6xx for integration in CDB620/CDM400		Modular connection module for CLV6xx		Retrofit-enabled CMx module for CDM420
<b>Versions/Part No.</b>							
	<b>CDB620-001</b>	<b>1042256</b>	<b>CMC600-101</b>	<b>1042259</b>	<b>CDM420-0001</b>	<b>1025362</b>	<b>CDM400</b>   <b>2029466</b>
	4 x M16 cable gland				6 x M16 cable gland		Display module for CLV6xx 
	<b>CDB620-101</b>	<b>1042257</b>			<b>CDM420-0004</b>   <b>1028487</b>		
	2 x M16 cable gland 2 x M12 for simple CAN network wiring				Connection of 2 x CLV6xx simultaneously via CAN network possible, 6 x M16 cable gland		
	<b>CDB620-201</b>	<b>1042258</b>					
	4 x M16 cable gland 1 x M12 cable gland						
<b>Technical data</b>							<b>CMP400</b>   <b>2029468</b>
<b>Optical indicators</b>	9 x LED		1 x LED		5/10 x LED		Retrofit-enabled CMP400 power supply unit <ul style="list-style-type: none"><li>• 11 W</li><li>• installation in the CDM420</li></ul> 
<b>Scanner connection</b>	15-pin D-sub HD socket				15-pin D-sub HD socket		
<b>Service plug</b>	9-pin D-sub HD plug				9-pin D-sub HD plug		
<b>Supply voltage</b>	V <sub>scanner</sub> + 1 V, (acc. to IEC 364-4-41)		DC 10 ... 30 V via CDB/CDM		V <sub>scanner</sub> + 1 V, (acc. to IEC 364-4-41)		
<b>Power consumption</b>	P <sub>scanner</sub> +0,5 W		500 mW		P <sub>scanner</sub> +0,5 W		
<b>Housing</b>	Polycarbonate		Polycarbonate		Polycarbonate		Retrofit-enabled CMP490 power supply unit <ul style="list-style-type: none"><li>• 25 W</li><li>• installation by replacement of lid of CDM420</li></ul> 
<b>Colour</b>	Blue				Blue		
<b>Inspections</b>	CE		CE, UL		CE, UL		
<b>Protection Class</b>	Class 3 (acc. to EN 61140)		Class 3 (acc. to EN 61140)		Class 3 (acc. to EN 61140), with power supply module: Class 1		
<b>Enclosure rating</b>	IP 65 (acc. to EN 60529), on use of a SICK scanner standard connection cable				IP 65 (acc. to EN 60529), on use of a SICK scanner standard connection cable		
<b>Dimensions (mm)</b>	124.2 x 113.1 x 53.9		70 x 23 x 17		192 x 167 x 70		
<b>Weight</b>	Approx. 260 g		30 g		Approx. 800 g		
<b>Temperature (operating/storage)</b>	0 ... +40 °C/-20 ... +70 °C		0 ... +40 °C/-20 ... +70 °C		0 ... +40 °C/-20 ... +70 °C		
<b>Relative air humidity</b>	Max. 90 %, non-condensing				Max. 90 %, non-condensing		
<b>Accessories</b>							
	CMC600 external parameter memory				CMC600 external parameter memory		
					Retrofit-enabled CMx module		

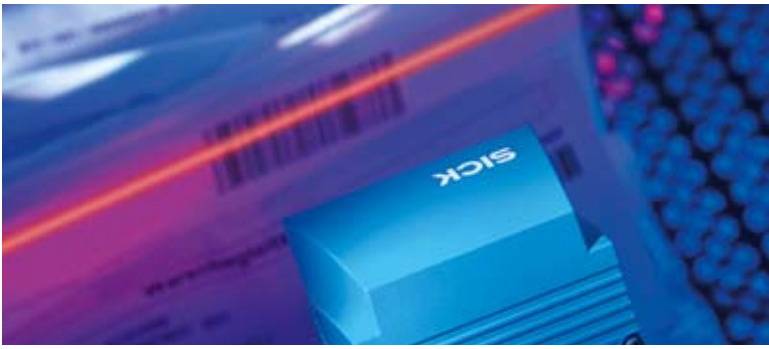
# Automation expertise.

SICK has a high level of expertise in the installation and standardisation of industrial automation systems. The bar code scanners of the CLV6xx product family can be integrated in all current fieldbus systems. The optional fieldbus gateways CMF400 and CDF600 provide an easy way to connect to PROFIBUS and DeviceNet networks.



\* PROFIBUS also possible via CMF400 with CDM420





	CMF400-1x01		CMF400-2101		CDF600	
	PROFIBUS-DP Gateway		DeviceNet Gateway		PROFIBUS-DP Proxi	
<b>Versions/Part nos.</b>						
	<b>CMF400-1001</b>	<b>1026241</b>	<b>CMF400-2101</b>	<b>1026242</b>	<b>CDF600-0100</b>	<b>1041251</b>
	IP 20, 9-pin D-sub socket		M12 socket		IP 65, M12 plug/socket	
	<b>CMF400-1101</b>	<b>1026643</b>				
	IP 65, 9-pin D-sub socket					
	<b>CMF400-1201</b>	<b>1028663</b>				
	IP 65, 5-pin M12 plug/socket					
<b>Technical data</b>						
Data transfer rate, fieldbus	9,6 kbit/s ... 12 Mbit/s		125, 250, 500 kbit/s		9,6 kbit/s ... 12 Mbit/s	
Data interface to bar code scanner	RS-232; 9,6 ... 57,6 kBd				RS-232; 57,6 kBd	
Electrical connection, CMF400	26-pin SMD plug connector				6 x M12 (plug/socket); 1 x 15-pin D-sub HD socket	
Electrical connection, fieldbus	9-pol. D-Sub-Buchse oder 5-pol. M12-Stecker/Buchse		5-pol. M12-Stecker		5-pin M12 plug/socket	
Power supply	DC 18 ... 30 V via the CDM400 connection module				DC 24 V ± 20%	
Power consumption	2 W				5.0 W	
Enclosure rating	IP 20/IP 65		IP 65			
Temperature (operating/storage)	0 ... +40 °C/-20 ... +70 °C					
Max. rel. air humidity	90%; non-condensing					

## Configuration made easy: with SOPAS-ET.

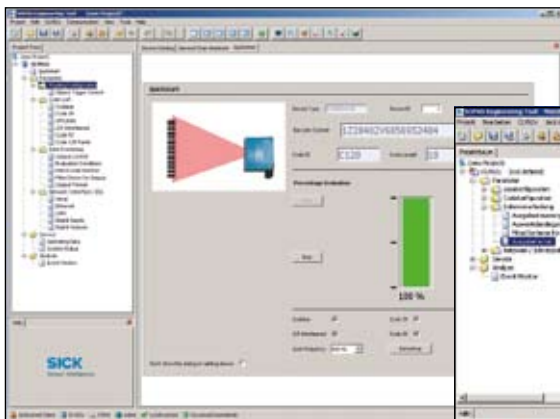
Users of SICK's automation solutions benefit from a comprehensively networked system that combines their communications functions in a central software, and thus increases transparency and availability: SICK's Open Portal for Applications and Systems, SOPAS-ET.

SOPAS-ET is also the configuration tool for all new devices and permits simple set up in all network projects. In combination with the bar code scanner systems of the CLV6xx product family, this offers many advantages. The scanner's reading diagrams can be loaded and displayed in SOPAS-ET. An event monitor permits the rapid analysis of the scanner's inputs and outputs. The effects of parameter changes are immediately visible via a diagnosis monitor. A Connection Assistant provides rapid network access. Several SICK devices can be configured and administrated with a single SOPAS-ET project setting.



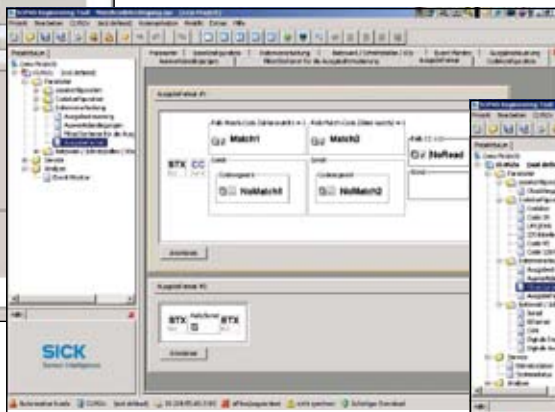
### Your benefits at a glance:

- A single device-spanning tool for all SICK devices
- Differing devices can be combined in a single project
- Optimum plant efficiency through homogeneous system architecture
- Simple real-time control of current functions via PC
- All read diagrams in view
- All effects of parameter changes immediately visible



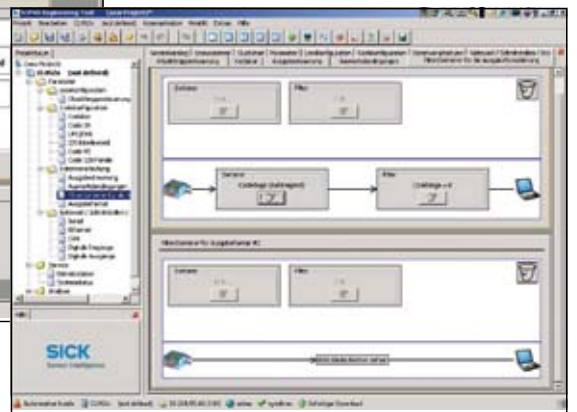
**Configuration:**

Parameter changes are automatically transferred to scanners. The effects are immediately visible in the diagnosis field – allowing rapid, logical and simple configuration.



**Programming/configuration:**

Several different SICK devices can be easily integrated in a single SOPAS-ET project. The parameter data of similar device types can easily be compared with one another and copied to other devices.



**Visualisation:**

With your plant or machine always in view, the parameters and results of several devices can be visualised simultaneously via a number of diagnostic and display opportunities.

## Auto Ident – efficient monitoring and control of goods flows.

The complete monitoring of production and logistics processes offers an immense efficiency potential. With sophisticated Auto Ident systems you always know where a product or transported good is currently located.

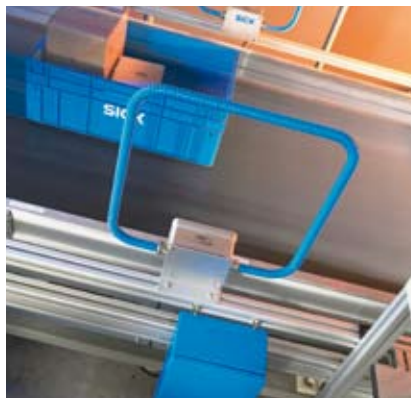
Whereby rapid data detection by automatic reading devices plays the decisive role. Reliable and error-free use is indispensable for the function of the entire system. For which SICK offers a complete programme of pioneering Auto Ident solutions.



### THE READING DEVICES

The product programme includes stationary scanners for reading linear and Data Matrix codes, as well as Radio Frequency Identification (RFID) for controlling material flows in conveyor systems, and mobile hand-held scanners for rapid and reliable detection of linear bar codes or 2D codes.





### THE SYSTEM

An Auto Ident system also includes evaluation electronics, bus connection technology and software tools. These are all supplied by SICK from a single source: leading technology with which the intelligence of sophisticated sensor systems can be optimally exploited.

### THE ENGINEERING

A precise knowledge of the possibilities offered by technology is necessary in order to be able to exploit it to the full. Profit from our knowledge and our thorough cross-sector experience. We support you in the development of needs-oriented Auto Ident solutions. Together we will develop better concepts to meet your requirements.

### THE APPLICATIONS

Auto Ident systems offer extremely versatile use: from library and document administration, through clinical laboratories, to industrial logistics and the monitoring of high-tech production processes. Auto Ident solutions everywhere register and monitor whether things are in the right place at the right time. Reliably and effectively.

# SICK services for optimum Auto Ident solutions.

## Pre-Sales



### INDIVIDUAL, INTELLIGENT, RELIABLE

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#### Application advice

SICK has the solution for your identification task. The cost-determining parameters are assessed in order to ensure that this is also economically practical – and the best possible individual solution is proposed on this basis.

#### Engineering

SICK Engineering Teams work out intelligent solutions and combine them to form individual systems. Whereby SICK's Quality Management System ensures functional capability and the high dependability of customer systems.

#### Project Management

SICK Project Management Teams ensure optimum project progress. They dependably support your project from the planning phase up to acceptance.

## After-Sales



### WORLDWIDE, COMPETENT, CO-OPERATIVE

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#### Installation

SICK Service Technicians install bar code and 2D code scanners, RFID systems, mounting frames and scanner networks worldwide. They prepare the plants for commissioning.

#### Commissioning

SICK Commissioning Engineers competently configure the application-specific reading properties of the bar code and 2D code scanners and RFID systems.

#### Site Management

SICK Site Managers ensure smooth project progress in situ. They flexibly co-ordinate the work of SICK Technicians and act as contacts for the client.

#### Acceptance

SICK Service Specialists confirm the agreed performance features of the installed scanners and RFID systems during a trial phase under practical conditions. The identification plant is handed over to the user on this basis.



## Services for the operating phase



### TAILOR-MADE, RAPID-REACTION, BASED ON PARTNERSHIP

#### Maintenance

SICK scanners and RFID systems are maintenance-free. As a result of external factors, however, regular cleaning and adjustment work is recommended. Any damage or changes in the customer application can be recognised and corrected during this work. The optimum performance capability of the customer system is thus safeguarded throughout the long operating life of the plant.

#### Fault correction and spare parts

SICK offers a spare parts and repair concept co-ordinated with customer needs and possibilities. Whereby economically interesting concepts can be worked out and, together with other services, agreed in a service contract.

#### Hotline

SICK sales organisations can be reached via a free technical Hotline. Incoming queries on SICK products can thus be quickly answered by phone. More complex problems are taken up here and immediately passed on to the appropriate specialist department for processing.

#### Training

SICK Trainers offer a comprehensive training programme at SICK and at customer's premises. Among others, product-specific training courses are run for project planners, commissioning technicians and maintenance staff, supporting participants in the achievement of their particular tasks within the works.

**SICK supports you during every phase of your Auto Ident projects – for technically and economically optimum solutions.**



### FACTORY AUTOMATION

With its intelligent sensors, safety systems, and auto ident applications, SICK realises comprehensive solutions for factory automation.

- Non-contact detecting, counting, classifying, and positioning of any types of object
- Accident protection and personal safety using sensors, as well as safety software and services



### LOGISTICS AUTOMATION

Sensors made by SICK form the basis for automating material flows and the optimisation of sorting and warehousing processes.

- Automated identification with bar code and RFID reading devices for the purpose of sorting and target control in industrial material flow
- Detecting volume, position, and contours of objects and surroundings with laser measurement systems



### PROCESS AUTOMATION

Analyzers and Process Instrumentation by SICK MAIHAK provides for the best possible acquisition of environmental and process data.

- Complete systems solutions for gas analysis, dust measurement, flow rate measurement, water analysis or, respectively, liquid analysis, and level measurement as well as other tasks



Worldwide presence with subsidiaries in the following countries:

**Australia**  
**Belgium/Luxembourg**  
**Brasil**  
**Ceská Republika**  
**China**  
**Danmark**  
**Deutschland**  
**España**  
**France**  
**Great Britain**  
**India**  
**Israel**  
**Italia**  
**Japan**

**Nederlands**  
**Norge**  
**Österreich**  
**Polska**  
**Republic of Korea**  
**Republika Slovenija**  
**România**  
**Russia**  
**Schweiz**  
**Singapore**  
**Suomi**  
**Sverige**  
**Taiwan**  
**Türkiye**  
**USA/Canada/México**

Please find detailed addresses and additional representatives and agencies in all major industrial nations at [www.sick.com](http://www.sick.com)

Handed over by:

