



# CLV650-0120S01

CLV65x

**FIXED MOUNT BARCODE SCANNERS**

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
CLV650-0120S01	1051957

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



## Detailed technical data

### Features

<b>Version</b>	Standard Density
<b>Connection type</b>	Ethernet
<b>Reading field</b>	Front
<b>Polarisation filters</b>	✓
<b>Sensor type</b>	Line scanner
<b>Optical focus</b>	Auto focus
<b>Light source</b>	Light spot, laser, Visible, Red, 658 nm
<b>Laser class</b>	2, complies with 21 CFR 1040.10 except for the conformance according to "Laser Notice No. 56" from May 8, 2019 (EN 60825-1:2014+A11:2021, IEC 60825-1:2014)
<b>Aperture angle</b>	≤ 50°
<b>Reading distance</b>	160 mm ... 1,400 mm <sup>1)</sup>
<b>Scanning frequency</b>	600 Hz ... 1,000 Hz
<b>Code resolution</b>	0.25 mm ... 1 mm

<sup>1)</sup> For details see reading field diagram.

### Mechanics/electronics

<b>Connection type</b>	2 x M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector
<b>Supply voltage</b>	18 V DC ... 30 V DC
<b>Power consumption</b>	8.5 W
<b>Housing material</b>	Aluminum die cast
<b>Housing color</b>	Light blue (RAL 5012)

<sup>1)</sup> Swivel connector is 15 mm longer.

<sup>2)</sup> At 25 °C.

<b>Window material</b>	Glass
<b>Enclosure rating</b>	IP65 (EN 60529)
<b>Protection class</b>	III (EN 61140)
<b>Weight</b>	250 g, without connecting cable
<b>Dimensions (L x W x H)</b>	61 mm x 96 mm x 38 mm <sup>1)</sup>
<b>MTBF</b>	100,000 h
<b>MTTF</b>	40,000 h (Laser diode) <sup>2)</sup>

<sup>1)</sup> Swivel connector is 15 mm longer.

<sup>2)</sup> At 25 °C.

## Performance

<b>Readable code structures</b>	1D codes
<b>Bar code types</b>	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
<b>Code printing process</b>	Label (printed codes)
<b>Print ratio</b>	2:1 ... 3:1
<b>No. of codes per scan</b>	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
<b>No. of codes per reading interval</b>	1 ... 50 (auto-discriminating)
<b>No. of characters per reading interval</b>	5,000 500 (for multiplexer function in CAN operation)
<b>No. of multiple readings</b>	1 ... 99

## Interfaces

<b>Ethernet</b>		✓ , TCP/IP
	Function	Data interface (read result output), Service interface
	Data transmission rate	10/100 MBit/s
<b>PROFINET</b>		✓
	Function	PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2)
	Data transmission rate	10/100 MBit/s
<b>EtherNet/IP™</b>		✓
	Data transmission rate	10/100 MBit/s
<b>EtherCAT®</b>		✓
	Type of fieldbus integration	Optional over external fieldbus module CDF600
<b>Serial</b>		✓ , RS-232, RS-422, RS-485
	Function	Data interface (read result output), Service interface
	Data transmission rate	2,400 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
<b>CAN</b>		✓
	Function	SICK CAN sensor network CSN (CAN controller/CAN device, multiplexer/server)
	Data transmission rate	20 kbit/s ... 1 Mbit/s
<b>CANopen</b>		✓
	Data transmission rate	20 kbit/s ... 1 Mbit/s
<b>PROFIBUS DP</b>		✓
	Type of fieldbus integration	Optional over external fieldbus module CDF600-2

<b>Digital inputs</b>	3 ("Sensor 1", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
<b>Digital outputs</b>	2 (Via optional CMC600 parameter memory in CDB620/CDM420)
<b>Reading pulse</b>	Digital inputs, non-powered, serial interface, auto pulse, CAN
<b>Optical indicators</b>	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
<b>Acoustic indicators</b>	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
<b>Control elements</b>	2 buttons (choose and start/stop functions)
<b>Configuration software</b>	SOPAS ET
<b>Memory card</b>	MicroSD memory card (flash card), optional

#### Ambient data

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

#### Certificates

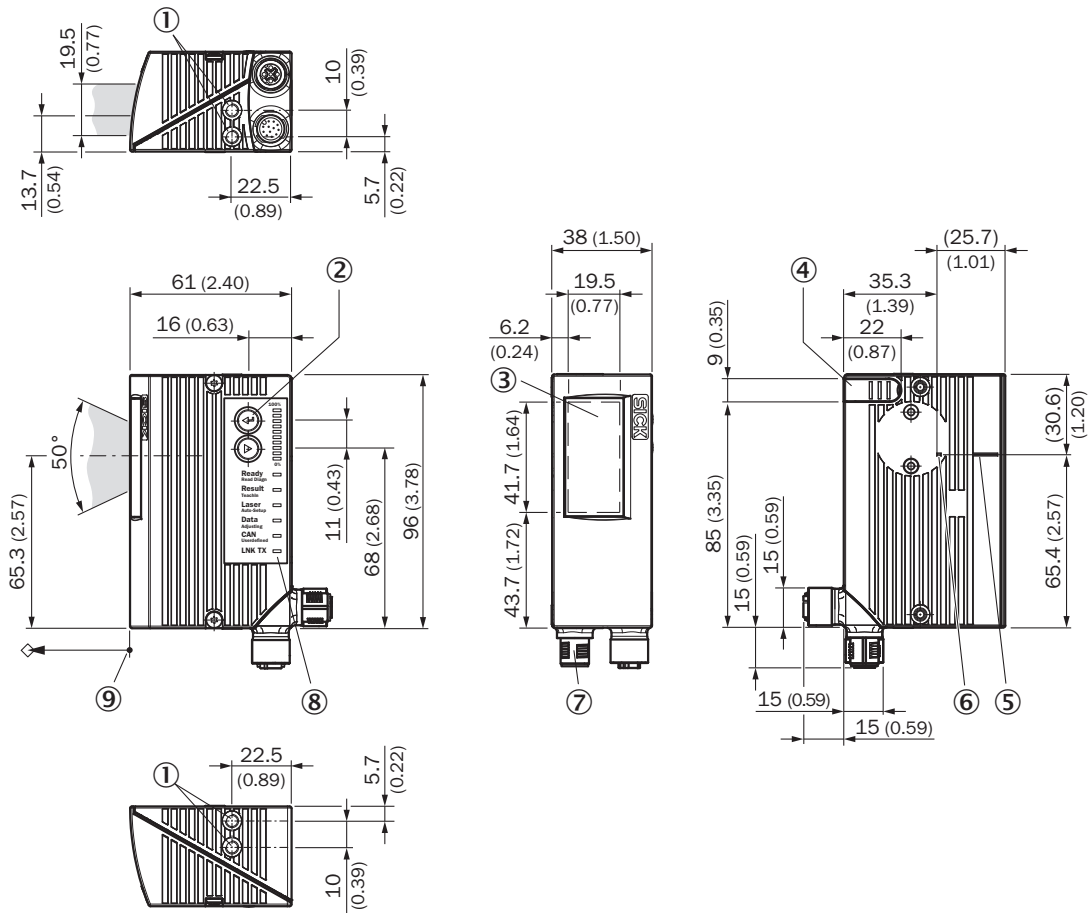
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>KC Mark certificate</b>	✓
<b>Ethercat certificate</b>	✓
<b>Profinet certificate</b>	✓
<b>Laser safety (IEC 60825-1) declaration of manufacturer</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓
<b>4Dpro</b>	✓

#### Classifications

<b>ECLASS 5.0</b>	27280102
<b>ECLASS 5.1.4</b>	27280102
<b>ECLASS 6.0</b>	27280102
<b>ECLASS 6.2</b>	27280102
<b>ECLASS 7.0</b>	27280102
<b>ECLASS 8.0</b>	27280102
<b>ECLASS 8.1</b>	27280102
<b>ECLASS 9.0</b>	27280102
<b>ECLASS 10.0</b>	27280102
<b>ECLASS 11.0</b>	27280102

<b>ECLASS 12.0</b>	27280102
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>ETIM 7.0</b>	EC002550
<b>ETIM 8.0</b>	EC002550
<b>UNSPSC 16.0901</b>	43211701

Dimensional drawing CLV63x/64x/65x, JEF3xx, JEF5xx, Ethernet, front



Dimensions in mm (inch)

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

② Function button (2 x)

③ Reading field

④ cover for the microSD memory card

⑤ central position of the deflected laser beam in the V-shaped aperture angle

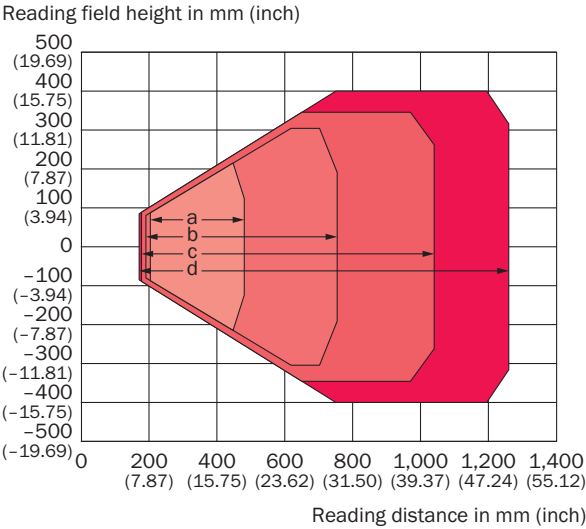
⑥ internal impact point: rotation point of the variable direction laser beam

⑦ M12 round connectors (1 x 12-pin or 1 x 17-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) with swivel connector

⑧ LED status indicator (6x) and bar graph





⑨ reference point for reading distance (from housing edge to object)


Reading field diagram



Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Hanger-shaped mounting bracket</li><li>• <b>Items supplied:</b> Mounting hardware included</li></ul>	Mounting bracket	2042800
Junction boxes			
		CDB620-001	1042256
connectors and cables			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li>• <b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li>• <b>Signal type:</b> Ethernet, PROFINET</li><li>• <b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li><li>• <b>Description:</b> Ethernet, shielded, PROFINET</li><li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants</li></ul>	YM2D24-020P-N1MRJA4	2106182
Storage media			
	<ul style="list-style-type: none"><li>• <b>Description:</b> microSD memory card with 1 GB for industrial use</li></ul>	microSD memory card	4051366

	Brief description	Type	part no.
integration modules and adapters			
	<ul style="list-style-type: none"><li><b>Description:</b> External parameter memory for integration in CDB620/CDB650/CDM42x</li></ul>	CMC600-101	1042259

## SICK AT A GLANCE

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

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

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

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)