Data sheet

CLV650-0000F0

CLV65x

FIXED MOUNT BARCODE SCANNERS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
CLV650-0000F0	1052180

Other models and accessories ➜ www.sick.com/CLV65x

Detailed technical data

Features

Version	Standard Density
Connection type	Cable
Reading field	Front
Sensor type	Line scanner
Optical focus	Auto focus
Light source	Light spot, laser, Visible, Red, 658 nm
Laser class	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)
Aperture angle	≤ 50°
Reading distance	140 mm ... 1,625 mm [1]
Scanning frequency	600 Hz ... 1,000 Hz
Code resolution	0.25 mm ... 1 mm
Heating	✓
Cold storage applications	✓

[1] For details see reading field diagram.

Mechanics/electronics

Connection type	1 x 15-pin D-Sub HD male connector (0.9 m) 1 x cable, open-ended, 3-wire (2 m)
Supply voltage	≤ 24 V DC, ± 10 %
Power consumption	40 W

[1] At 25 °C.

Housing material	Aluminum die cast
Housing color	Light blue (RAL 5012)
Window material	Glass
Enclosure rating	IP65 (EN 60529)
Protection class	III (EN 61140)
Weight	520 g, with connecting cable
Dimensions (L x W x H)	61 mm x 96 mm x 50 mm
MTBF	100,000 h
MTTF	40,000 h (Laser diode) [1]

[1] At 25 °C.

Performance

Readable code structures	1D codes
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
Code printing process	Label (printed codes)
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

PROFINET	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
Function	PROFINET Single Port, PROFINET Dual Port
EtherCAT®	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600
Serial	✓ , 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)
CAN	✓
Function	SICK CAN sensor network CSN (CAN controller/CAN device, multiplexer/server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
CANopen	✓
Data transmission rate	20 kbit/s ... 1 Mbit/s
PROFIBUS DP	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
Digital inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/ CDM420)
Digital outputs	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/ CDM420)
Reading pulse	Digital inputs, 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)
Configuration software	SOPAS ET
Memory card	MicroSD memory card (flash card), optional

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	–35 °C ... +35 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on barcode
Bar code print contrast (PCS)	≥ 60 %

General notes

Note on use	For Ethernet connection please use an Ethernet version of CLV6xx

Classifications

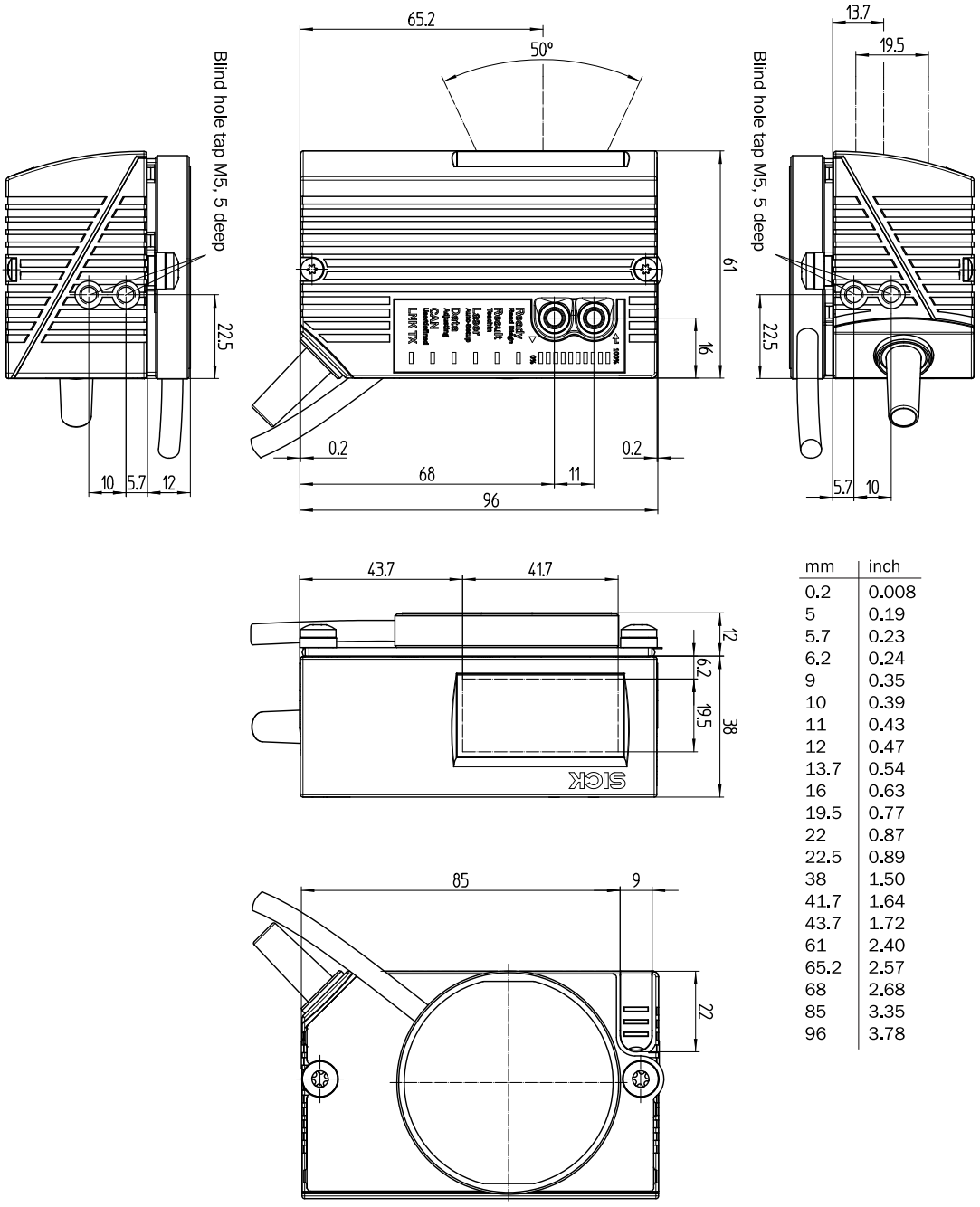
ECLASS 5.0	27280102
ECLASS 5.1.4	27280102
ECLASS 6.0	27280102
ECLASS 6.2	27280102
ECLASS 7.0	27280102
ECLASS 8.0	27280102
ECLASS 8.1	27280102
ECLASS 9.0	27280102
ECLASS 10.0	27280102
ECLASS 11.0	27280102
ECLASS 12.0	27280102
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	43211701

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Ethercat certificate	✓
Profinet certificate	✓
Laser safety (IEC 60825-1) declaration of manufacturer	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓
4Dpro	✓

Dimensional drawing

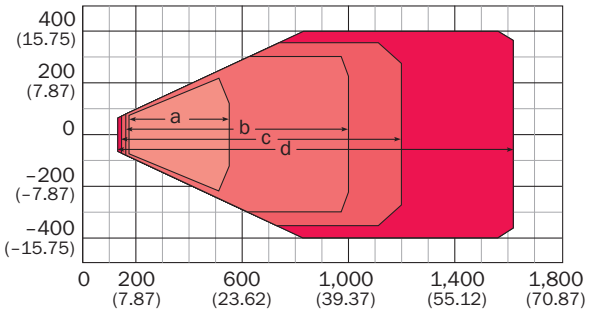


mm	inch
0.2	0.008
5	0.19
5.7	0.23
6.2	0.24
9	0.35
10	0.39
11	0.43
12	0.47
13.7	0.54
16	0.63
19.5	0.77
22	0.87
22.5	0.89
38	1.50
41.7	1.64
43.7	1.72
61	2.40
65.2	2.57
68	2.68
85	3.35
96	3.78

Dimensions in mm (inch)

Reading field diagram

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)

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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.

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