



LBC631

Label Checker

2D MACHINE VISION

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Sensor	Type	Part no.
CMOS matrix sensor, grayscale values 1.3 Mpixel 1,280 px 1,024 px	LBC631	1091689

Other models and accessories → www.sick.com/Label_Checker



Detailed technical data

Features

Technology	2D snapshot
Light source	Illumination LEDs: (to be ordered separately as accessories) Laser alignment aid: visible red light ($\lambda = 630 \text{ nm} \dots 680 \text{ nm}$)
Laser class	1, complies with 21 CFR 1040.10 except for the conformance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014)
Focus	Adjustable focus (manually)
Sensor	CMOS matrix sensor, grayscale values, 1.3 Mpixel, 1,280 px, 1,024 px
Spectral range	Approx. 400 nm ... 900 nm
Lens	C-mount

Mechanics/electronics

Dimensions, system (L x W x H)	108 mm x 63 mm x 46 mm (Housing only, without lens and optics protection hood)
Enclosure rating	IP67 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Protection class	III (EN 60950-1 (2014-08))
Power consumption	Typ. 10 W, $\pm 20 \%$
Housing material	Aluminum die cast
Output current	$\leq 100 \text{ mA}$
Connections	1 x M12, 17-pin male connector (serial, I/Os, voltage supply) 1 x M8, 4-pin female connector (USB, not used) 2 x M12, 8-pin female connector (Gigabit Ethernet, only one connection used) 1 x M12, 4-pin male connector (external illumination)
Supply voltage	12 V DC ... 24 V DC, $\pm 20 \%$
Window material	PMMA
Weight	430 g

Performance

Bar code types	2/5 Industrial Interleaved 2 of 5 Codabar Code 39
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	Code 93 Code 128 EAN-8 EAN13 Pharmacode
2D code types	Data Matrix ECC200 QR code Micro QR code PDF417 Aztec
OCR/OCV fonts	Universal, industrial, document, DotPrint, pharma, OCR-A, OCR-B, Arabic numbers
Optical format	1/1.8"
Maximum encoder frequency	1 kHz

Interfaces

Serial (RS-232, RS-422)	✓
Data transmission rate	(300 Baud ... 115.2 kBaud)
Ethernet	✓, TCP/IP
Function	EtherNet/IP UDP / PROFINET FTP HTTP
Data transmission rate	10/100/1,000 Mbit/s
Operator interface	Web server
Optical indicators	5 x status display, 5 x LED bar graph, 1 green/red feedback spot
Data storage and retrieval	Image and data logging via microSD memory card and external FTP
Acoustic indicators	Beeper

Ambient data

Ambient temperature, operation	-20 °C ... +70 °C, permissible relative humidity: 0% ... 90% (non-condensing)
Ambient temperature, storage	-20 °C ... +70 °C ¹⁾
Shock load	EN 60068-2-27:2009-05
Vibration load	EN 60068-2-6:2008-02

¹⁾ Permissible relative humidity: 0% ... 90% (non-condensing).

General notes

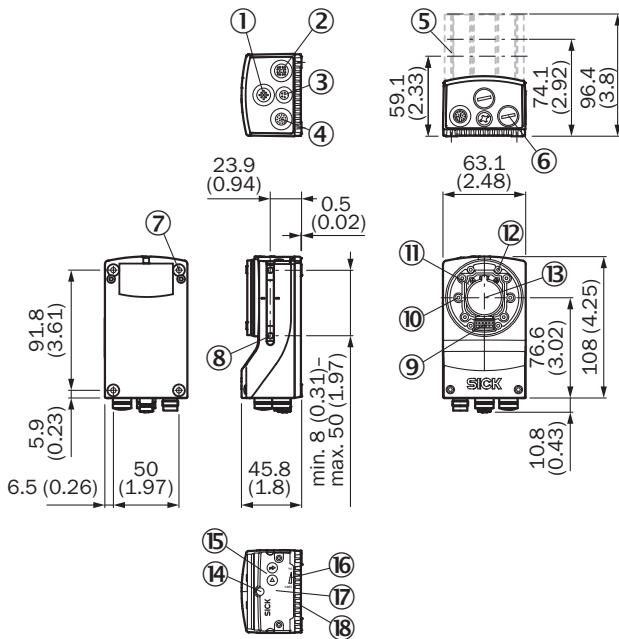
Items supplied	InspectorP V2D631P LabelChecker software
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Classifications

ECLASS 5.0	27310205
ECLASS 5.1.4	27310205
ECLASS 6.0	27310205
ECLASS 6.2	27310205
ECLASS 7.0	27310205
ECLASS 8.0	27310205
ECLASS 8.1	27310205
ECLASS 9.0	27310205
ECLASS 10.0	27289090

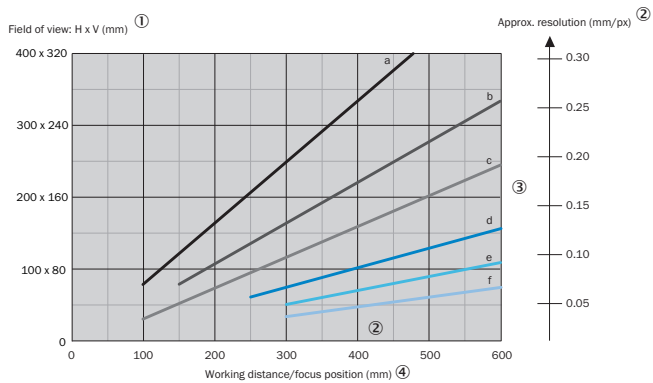
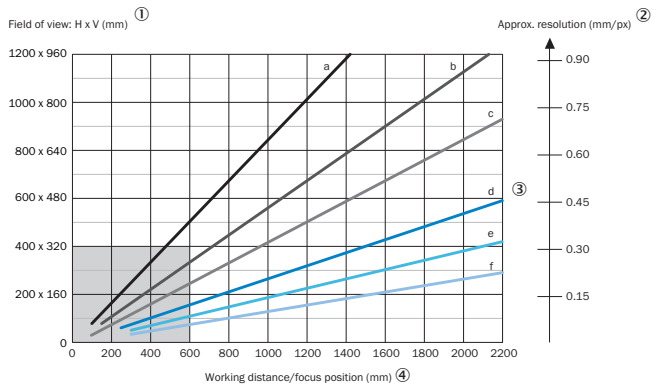
ECLASS 11.0	27289090
ECLASS 12.0	27289090
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

Dimensional drawing (Dimensions in mm (inch))



- ① “External light” connection (external illumination unit, female connector, M12, 4-pin, A-coded)
- ② “Ethernet” connection (Gigabit Ethernet, female connector, M12, 8-pin, X-coded)
- ③ “USB” connection (female connector, type M8, 4-pin), for temporary use as a service interface only
- ④ “Power/Serial Data/CAN/I/O” connection (male connector, M12, 17-pin, A-coded)
- ⑤ Optics protection hood (length: 22.7 mm, 37.7 mm or 60 mm)
- ⑥ 4 protective caps for sealing off the electrical connections as required for enclosure rating IP67 (delivery condition)
- ⑦ 4 tapped blind holes, M5, 5.5 mm deep for mounting the device
- ⑧ 2 sliding nuts, M5, 5.5 mm deep, as an alternative method of mounting the device
- ⑨ Connection for an integrable illumination unit (VI55I ring illumination unit)
- ⑩ 2 laser alignment aids
- ⑪ S-mount or C-mount optics module
- ⑫ 4 blind tapped holes, 2.5 mm for mounting the spacers for the integrable illumination (VI55I ring illumination unit)
- ⑬ Optical axis and center of the image sensor
- ⑭ Basic device: Manual focus screw for an S-mount lens, accessible via the round opening in the housing cover. To secure the focus setting, cover the round opening with a self-adhesive label. Complete device: The opening is already covered by a label.
- ⑮ 2 function keys
- ⑯ 5 bar graph LEDs
- ⑰ Hinged cover on the top side of the device, access to the microSD memory card and the manual focus screw (S-mount)
- ⑱ 5 status LEDs (2 levels)

Characteristic curve

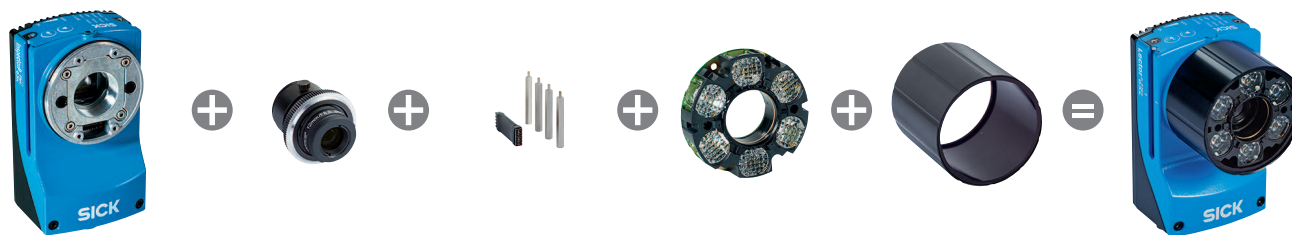


- a: f = 8.0 mm (only C-mount standard) — d: f = 25.0 mm
- b: f = 12.0 mm — e: f = 35.0 mm
- c: f = 16.0 mm — f: f = 50.0 mm

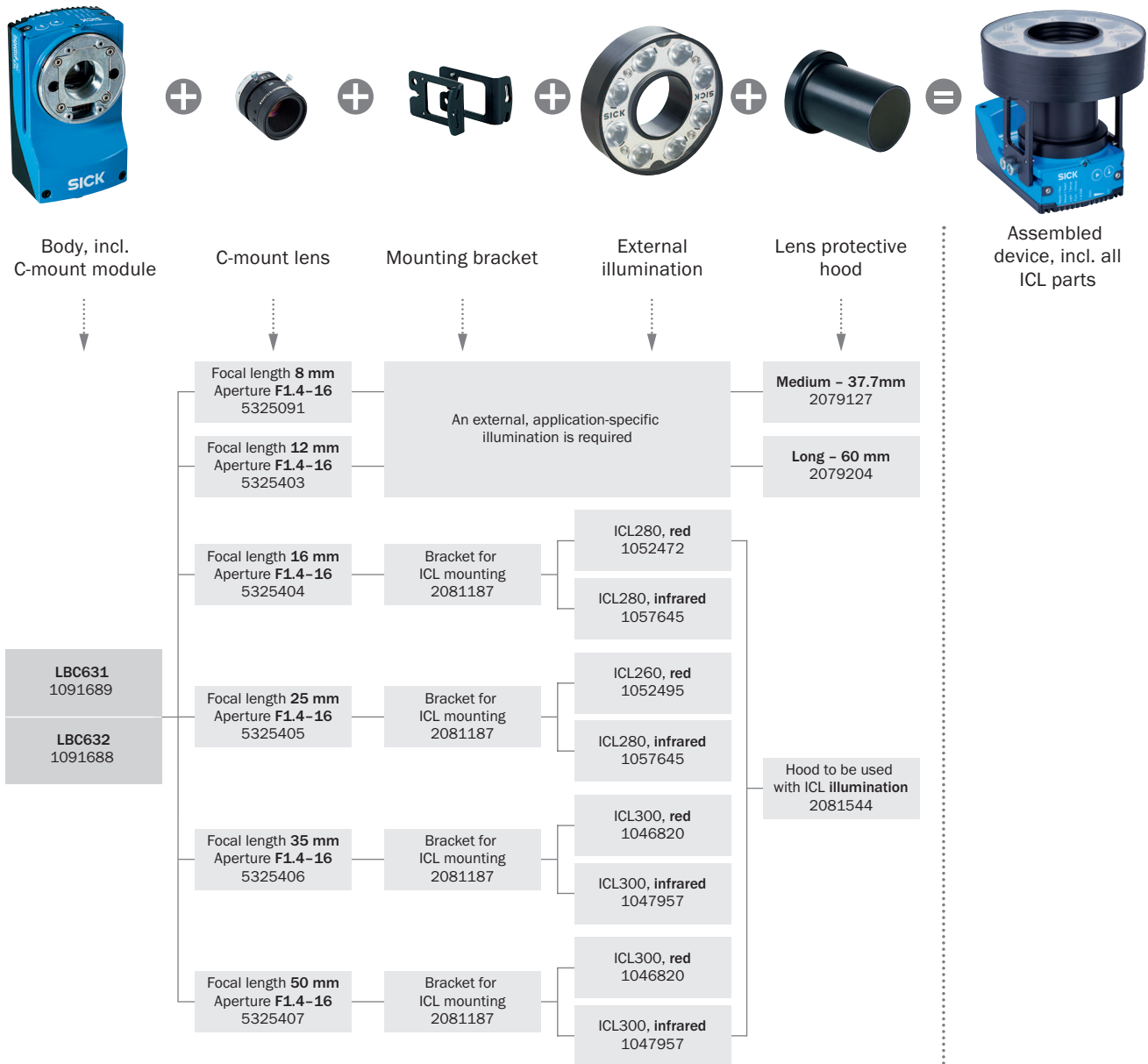
For S-mount and standard C-mount lenses, spacer rings are needed for working distances shorter than approximately 10 times the focal length. For compact C-mount lenses, spacer rings are not needed, but the built-in illumination cannot be used for distances shorter than 300 mm.

- ① Field of view: Horizontal x vertical in mm
- ② Approximate resolution in mm/px
- ③ Lens focal length
- ④ Working distance/Focus position in mm

Selection Guide










Body, incl. C-mount module	Compact C-mount lens	Spacer screws and illumination connector	Integratable illumination	Lens protective hood	Assembled device, incl. all mentioned parts
LBC631 1091689 LBC632 1091688	Focal length 12 mm Aperture F8 2079348	Medium - 15 mm 2079501	Medium, white 2078430	Medium - 37.7 mm 2079127	Assembled device, incl. all mentioned parts
			Medium, blue 2083814	Medium - 37.7 mm 2079127	
			Wide, IR 2101371	Medium - 37.7 mm 2092590	
	Focal length 16 mm Aperture F8 2079346	Long - 37 mm 2079502	Medium, white 2078430	Medium, white 2078430	Long - 60 mm 2079204
				Medium, blue 2083814	Long - 60 mm 2079204
				Medium, IR 2098834	Long - 60 mm 2092592
	Focal length 25 mm Aperture F8 2079343	Medium - 15 mm 2079501	Narrow, white 2078431	Narrow, white 2078431	Medium - 37.7 mm 2079127
				Narrow, blue 2083812	Medium - 37.7 mm 2079127
	Focal length 35 mm Aperture F8 2079344	Long - 37 mm 2079502	Narrow, white 2078431	Narrow, white 2078431	Long - 60 mm 2079204
				Narrow, blue 2083812	Long - 60 mm 2079204



Recommended accessories

Other models and accessories → www.sick.com/Label_Checker

	Brief description	Type	Part no.
Lenses and accessories			
	Compact C-mount 2/3", focal length 12 mm, aperture 8	C-mount lens	2079348
	Distance bracket and light extension connector (medium) for mounting integratable lighting, length 15 mm, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	Distance bracket	2079501

	Brief description	Type	Part no.
	Optics protection hood, medium, enclosure rating IP 67, length: 37.7 mm, PMMA, for use with compact C-mount lens with focal length 12 mm or 25 mm and S-mount lens with focal length 25 mm	Optics protection hood (PMMA)	2079127
Illuminations			
	Integratable lighting, lighting color white, medium, suitable for S-mount and compact C-mount lenses with a focal length of 12 mm, 16 mm and 17.5 mm	VI55I-WH1441M0	2078430
Mounting brackets and plates			
	Mounting bracket set consisting of mounting bracket, cooling plate, includes angle display for setting the tilt angle	Mounting bracket	2076735
Other mounting accessories			
	Sliding nut, M5, short	Sliding nut	5324896
Others			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 17-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Power, serial, CAN, digital I/Os • Cable: 3 m, 17-wire, stripped, PE-X • Description: Power, serial, CAN, digital I/Os, suitable for 2 A, Changed color coding of the flying leads, shielded • Connection systems: Flying leads • Application: Drag chain operation 	YF2ASD-030XXXXLECX	2070425

SICK AT A GLANCE

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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.

For us, that is “Sensor Intelligence.”

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