



LBC631

Label Checker

QUALITY CONTROL SYSTEMS

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

Applications	OCR OCV Barcode and 2D code reading Advanced inspections
Task	Presence inspection Code reading Quality inspection
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 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"

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
Maximum encoder frequency	1 kHz

Ambient data

Ambient temperature, operation	-20 °C ... +70 °C, permissible relative air 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 air humidity: 0 % ... 90 % (non-condensing).

General notes

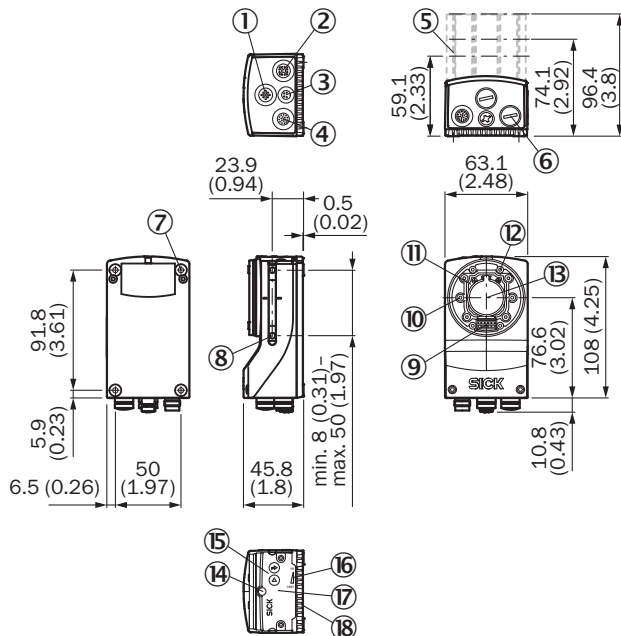
Items supplied	InspectorP V2D631P LabelChecker software
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Classifications

eCl@ss 5.0	27310205
eCl@ss 5.1.4	27310205
eCl@ss 6.0	27310205
eCl@ss 6.2	27310205
eCl@ss 7.0	27310205
eCl@ss 8.0	27310205

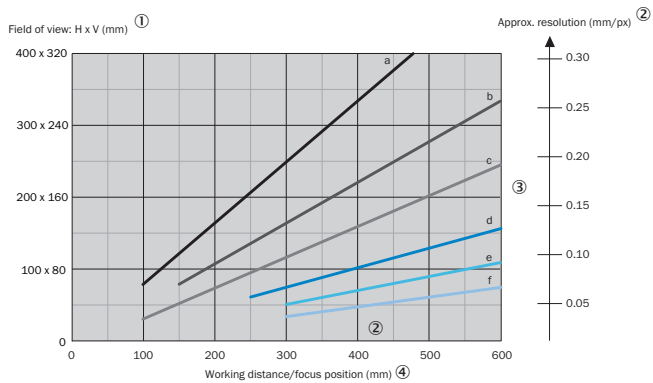
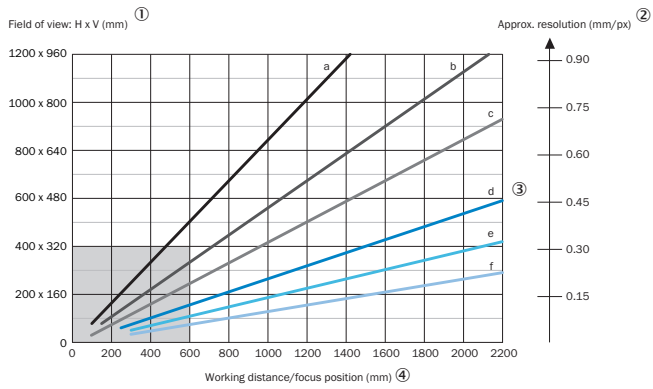
eCl@ss 8.1	27310205
eCl@ss 9.0	27310205
eCl@ss 10.0	27289090
eCl@ss 11.0	27289090
eCl@ss 12.0	27289090
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	43211731

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

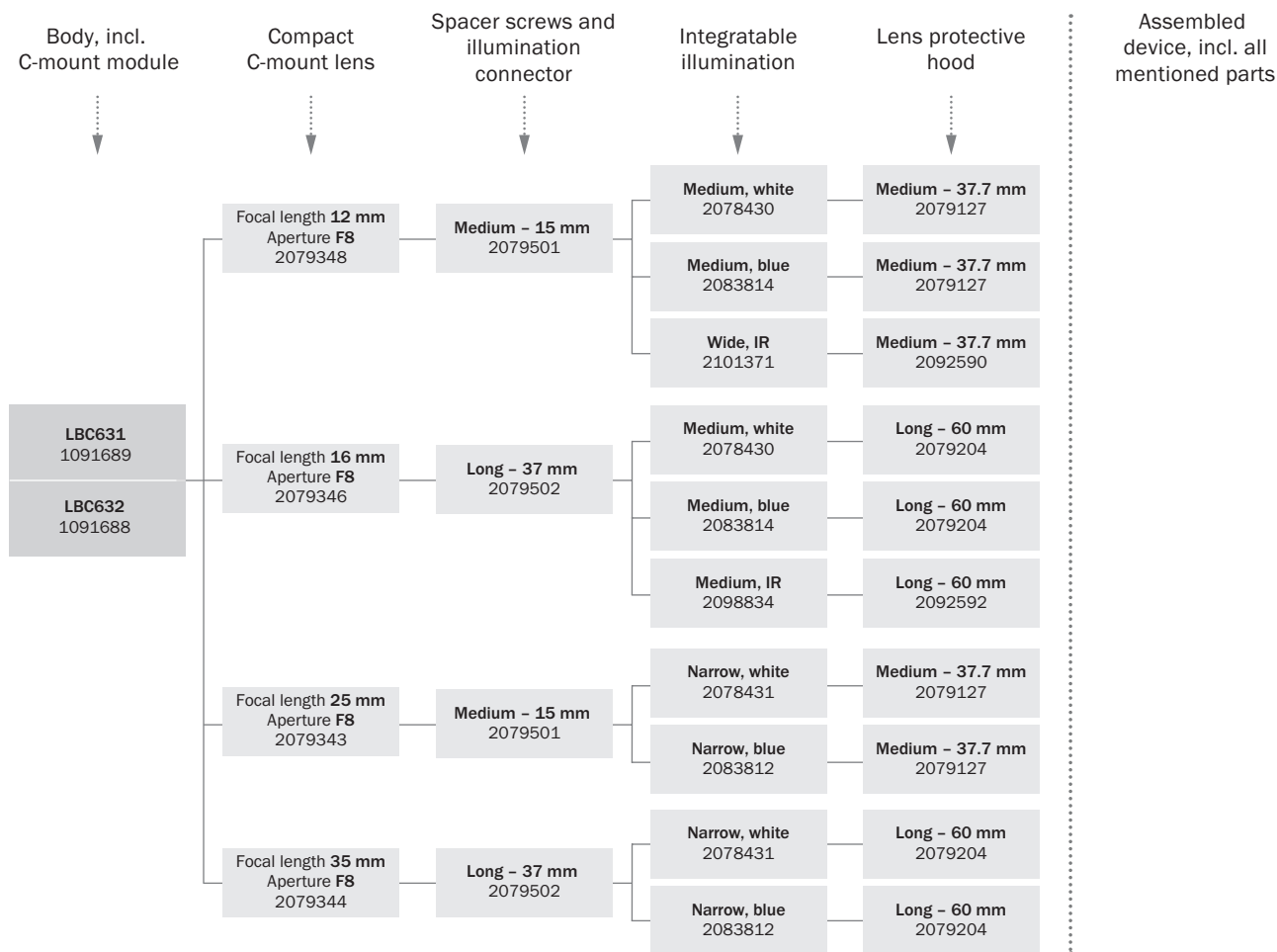
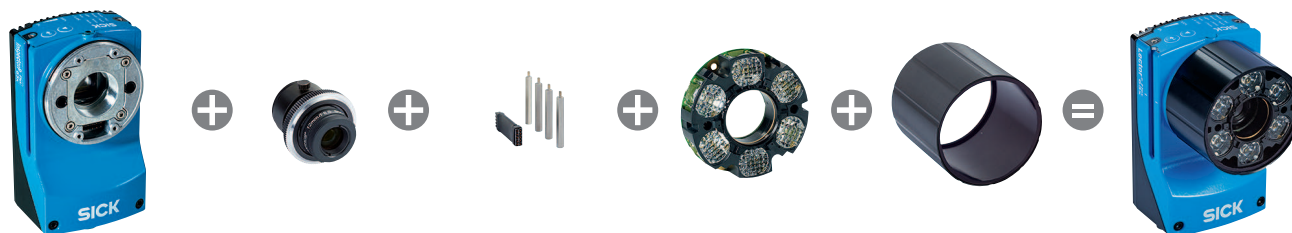


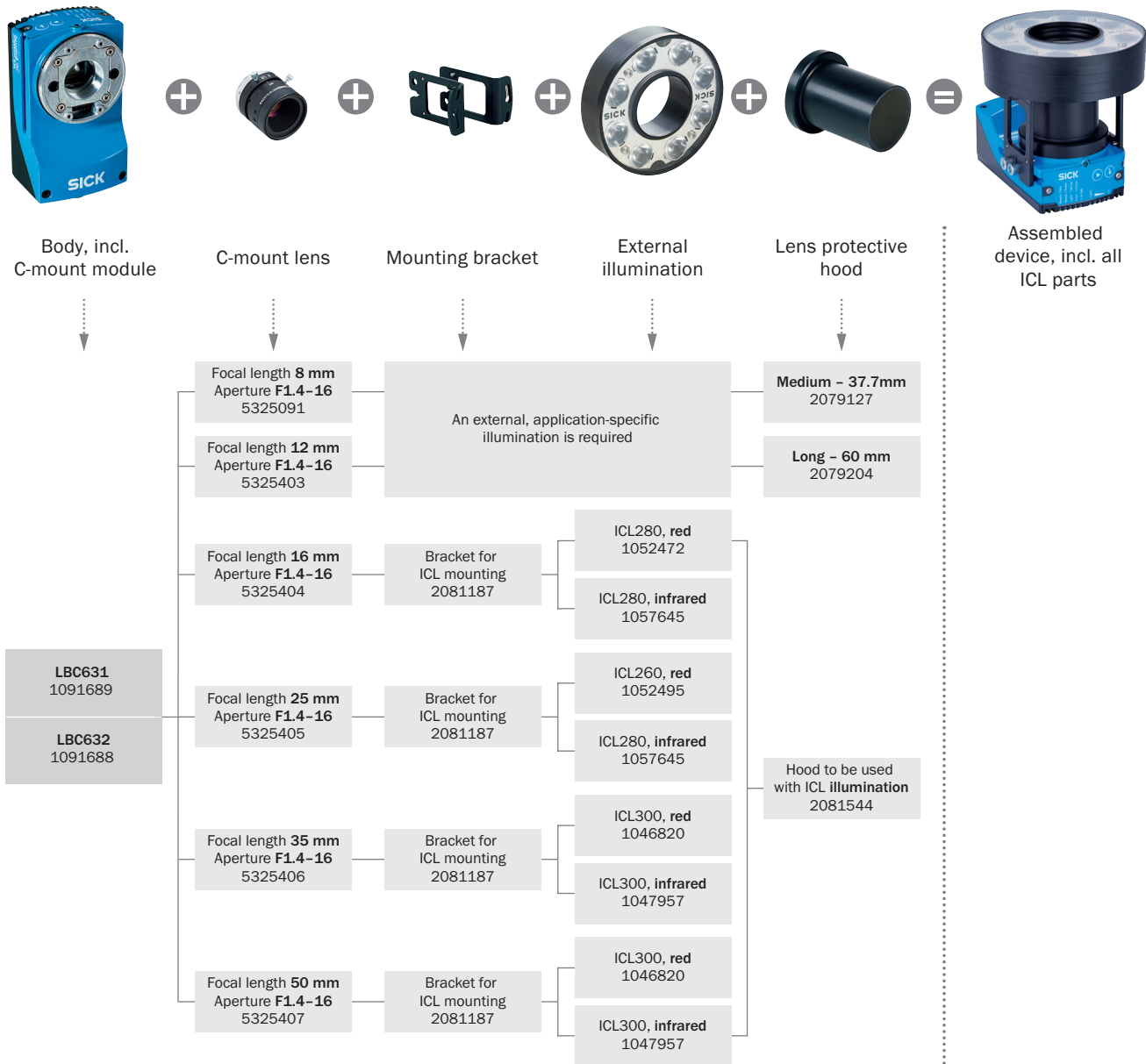
- a: f = 8.0 mm (only C-mount standard) — d: f = 25.0 mm
- b: f = 12.0 mm — e: f = 35.0 mm
- c: f = 16.0 mm — f: f = 50.0 mm

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










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
	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

	Brief description	Type	Part no.
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
Plug connectors and cables			
	Head A: female connector, M12, 17-pin, straight, A-coded Head B: Flying leads Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, Changed color coding of the flying leads, PE-X, shielded, 3 m	YF2ASD-030XXXXLECX	2070425
Terminal and alignment brackets			
	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

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:

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