



2D vision
Lector®65x, Lector®654 Flex

V2D654R-MCXXA6 Flex



Model Name > **V2D654R-MCXXA6 Flex**
Part No. > **1060892**



At a glance

- 4 megapixel resolution; high frame repetition rate of 40 Hz
- Integratable high-power LED illumination as accessory
- Function buttons, aiming laser, optical and acoustic feedback signal
- Intelligent, rapid decoding algorithms

Your benefits

- Highly flexible code position, object height, and transport speed due to a large field of view
- Cost-effective, straightforward, modular integration of multiple devices adapted to the width of the conveyor belt
- Minimum training and installation work due to intuitive device equipment that includes function buttons, auto setup, integrated illumination, an aiming laser, an acoustic feedback signal, and a green feedback LED
- Intelligent decoding algorithms ensure maximum reading performance and high package throughput, even with codes that are difficult to read
- SICK 4Dpro platform facilitates quick and easy integration into numerous industrial networks



Features

Focus:	Adjustable focus (manually)
Sensor:	CMOS matrix sensor, gray scale values
Light source:	Lighting LEDs: - (to be ordered separately as accessory) aiming laser: visible red light ($\lambda = 630 \text{ nm} \dots 680 \text{ nm}$)
Laser class:	1M (IEC 60825-1 (2007-3)), complies with 21 CFR 1040.10 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007
Scanning frequency:	40 Hz, at 4 megapixels resolution
Code resolution:	$\geq 0.1 \text{ mm}^{1)}$
Reading field:	Side
Sensor resolution:	2,048 px x 2,048 px
Reading distance:	300 mm ... 2,200 mm, depends on lens used ²⁾

¹⁾ Depends on lens used ²⁾ For details see field of view

Performance

Bar code types:	Interleaved 2 of 5, Codabar, Code 128, Code 32, Code 39, Code 93, GS1 DataBar, GS1-128/EAN 128, Pharmacode, UPC/GTIN/EAN
2D code types:	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code

Code qualification:	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004
Internal image storage:	512 MB
Stacked code types:	PDF417

Interfaces

Serial (RS-232, RS-422):	✓
Function (Serial (RS-232, RS-422)):	Host, AUX
Data transmission rate (Serial (RS-232, RS-422)):	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
USB:	✓
Remark (USB):	USB 2.0
Ethernet:	✓
Function (Ethernet):	Host, AUX, image transmission
Data transmission rate (Ethernet):	10/100/1,000 Mbit/s
Protocol (Ethernet):	TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional via external connection module CDF600-2)
CAN bus:	✓
Function (CAN bus):	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate (CAN bus):	20 kbit/s ... 1 Mbit/s
Protocol (CAN bus):	CSN (SICK CAN Sensor Network)
PROFIBUS DP:	✓
Remark (PROFIBUS DP):	Optional via external connection module (CDF600-2)
DeviceNet:	-
Switching inputs:	4 ("Sensor 1", "Sensor 2", 2 inputs via optional CMC600 in CDB650/CDM420)
Switching outputs:	6 (CDB650: "Result 1", "Result 2", "Result 3", "Result 4", 2 external outputs via CMC600 or CDM420: "Result 1", "Result 2", 2 external outputs via CMC600 or cable with open end "Result 1", "Result 2", "Result 3", "Result 4")
Reading pulse:	Auto pulse, CAN, Ethernet, Non-powered, Presentation mode, Switching inputs, Serial interface
Optical indicators:	21 LEDs (10 x status display, 10 x LED bar graph, 1 green feedback spot)
Acoustic indicators:	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)
Control elements:	2 buttons (choose and start/stop functions)
Configuration software:	SOPAS ET
Memory card:	MicroSD memory card (flash card) max. 16 GB, optional

Mechanics/electronics

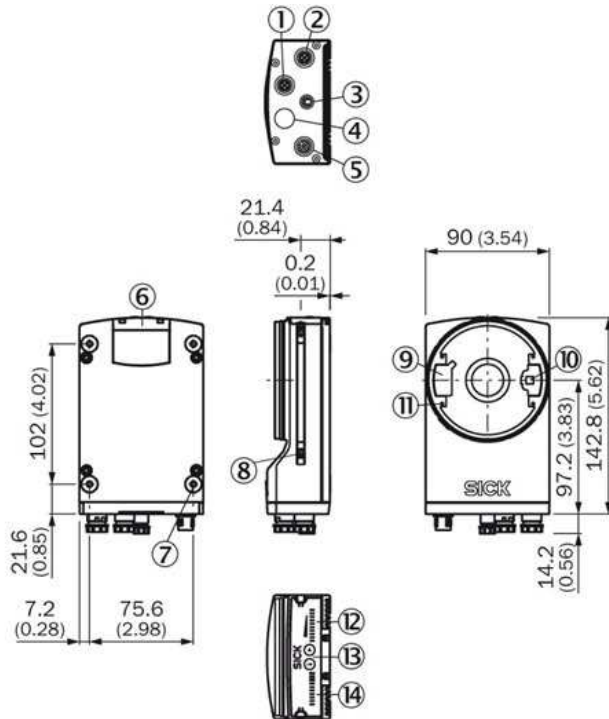
Enclosure rating:	IP 65 (EN 60529 (1991-10), EN 60529/A2 (2002-02))
Lens:	Exchangeable (C-mount), to be ordered separately as accessory
Electrical connection:	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply), 1 x M8, 4-pin socket (USB), 2 x M12, 8-pin socket (Ethernet, P1 not yet with function)
Operating voltage:	24 V DC ± 20 %
Power consumption:	Typ. 20 W, ± 20 %
Housing:	Die-cast aluminum
Housing color:	Light blue (RAL 5012)
Protection class:	III
Weight:	635 g
Dimensions:	142 mm x 89 mm x 46 mm ¹⁾

¹⁾ Only housing without lens and protective hood

Ambient data

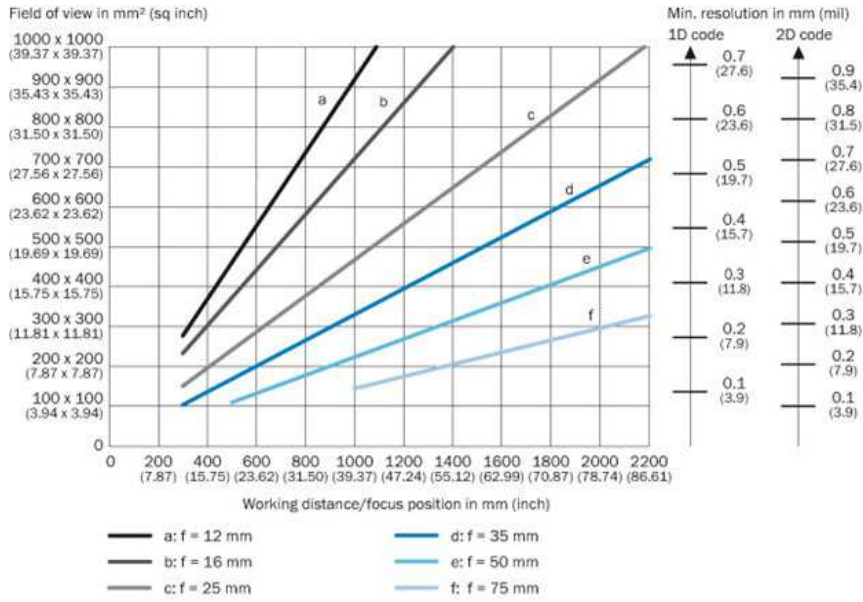
Electromagnetic compatibility (EMC):	EN 61000-6-2 (2005-08)/EN 61000-6-3 (2007-01)
Shock resistance:	EN 60068-2-6
Electrical safety:	EN 60950-1 (2011-01)
Ambient operating temperature:	0 °C ... +50 °C
Storage temperature:	-20 °C ... +70 °C
Permissible relative humidity:	90 %, non-condensing
Ambient light immunity:	2,000 lx, on code

Dimensional drawing



- |1| P1 connection, no function, planned "Ethernet", depending on type
- |2| P3 connection "Ethernet"
- |3| X2 "USB" connection or "trigger external lighting", depending on type
- |4| P2 connection "CAN OUT", depending on type
- |5| X1 "Power/Serial Data/CAN/I/O" connection or "CAN IN", depending on type
- |6| cover (flap) for the slot of the microSD memory card
- |7| blind hole thread M5, 5 mm deep (4 x), for mounting
- |8| sliding nut M5, 5.5 mm deep (2 x), for mounting (as alternative)
- |9| plug connector for connecting the integrated lighting
- |10| outlet, aiming laser
- |11| blind hole thread M2.5, 5.5 mm deep (4 x), for mounting the lighting fixture
- |12| Bar graph display
- |13| Function button (2 x)
- |14| LED for status display (2 levels), 10 x

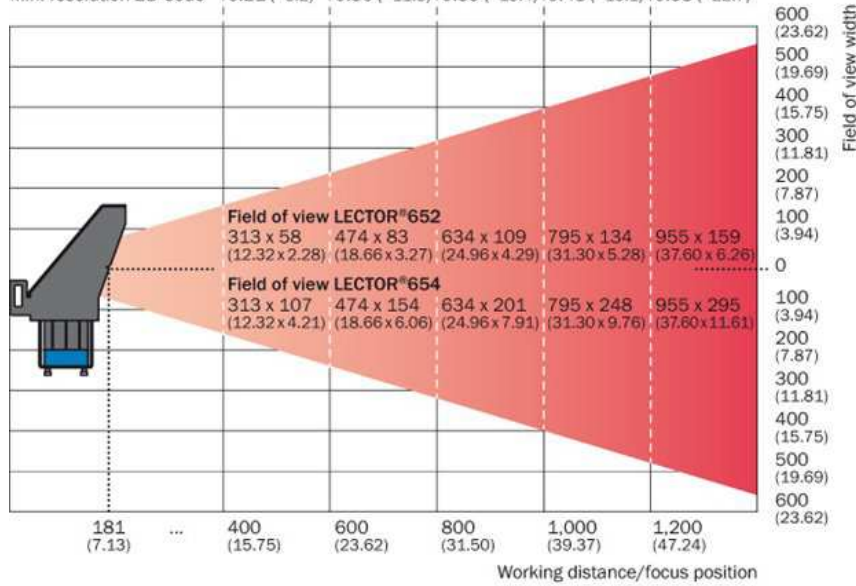
Field of view



Field of view Lector®65x with Panorama 25 mm

Dimensions in mm (inch/*mil)

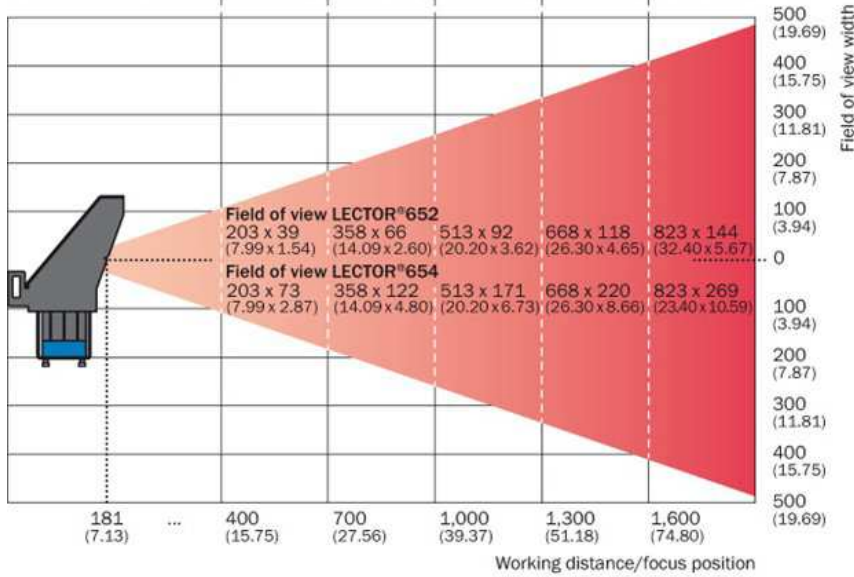
Max. code size	58 (2.28)	83 (3.27)	108 (4.25)	121 (4.76)	134 (5.28)
Min. resolution 1D-Code	0.16 (*6.2)	0.23 (*8.9)	0.29 (*11.6)	0.36 (*14.3)	0.43 (*17.0)
Min. resolution 2D-Code	0.21 (*8.2)	0.30 (*11.8)	0.39 (*15.4)	0.48 (*19.1)	0.58 (*22.7)



Field of view Lector®65x Flex with Panorama 35 mm

Dimensions in mm (inch/*mil)

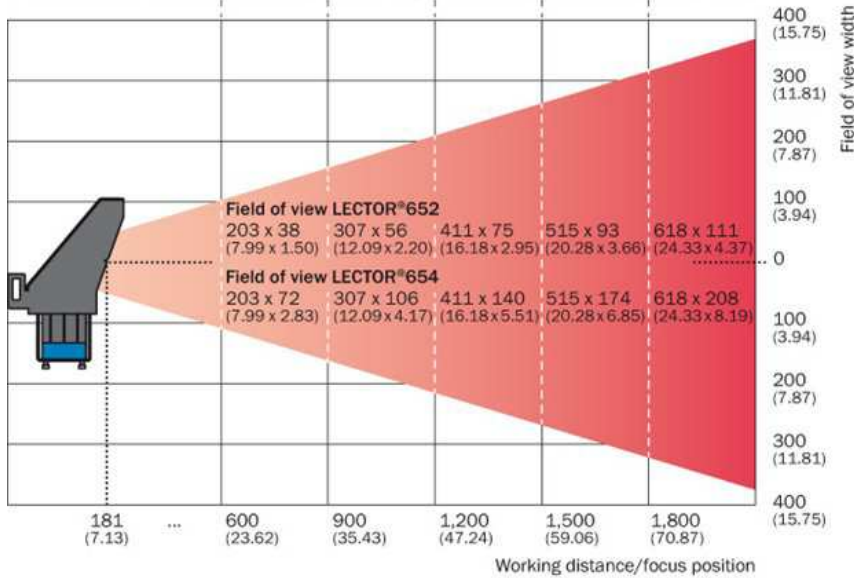
Max. code size	39 (1.54)	66 (2.60)	92 (3.62)	118 (4.65)	144 (5.67)
Min. resolution 1D-Code	0.11 (*4.2)	0.18 (*7.0)	0.25 (*9.9)	0.32 (*12.7)	0.39 (*15.5)
Min. resolution 2D-Code	0.14 (*5.6)	0.24 (*9.4)	0.33 (*13.2)	0.43 (*16.9)	0.53 (*20.7)



Field of view Lector®65x Flex with Panorama 50 mm

Dimensions in mm (inch/*mil)

Max. code size	72 (2.83)	105 (4.13)	133 (5.24)	162 (6.38)	190 (7.48)
Min. resolution 1D-Code	0.11 (*4.1)	0.16 (*6.1)	0.20 (*8.1)	0.25 (*10.0)	0.30 (*12.0)
Min. resolution 2D-Code	0.14 (*5.5)	0.21 (*8.2)	0.27 (*10.8)	0.34 (*13.4)	0.41 (*16.0)



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