PRODUCT INFORMATION

CLV 440/442
Bar Code Scanner

Dynamic focus control

Advanced line

Compact but powerful

The new bar code scanners CLV 440/442 represent the newest members of our high performance scanner family using dynamic focus control, extremely large reading distance and great depth of field. This all comes in a very compact and robust housing with IP 65 protection. These scanners were designed by incorporating innovative features into a miniaturized package size. SMART Code recognition technology leads to a definite increase of first good read rate. The Reflector Polling feature eleminates the neccessity of additional photoelectric triggering switches. The dynamic focus control feature opens up a myriad of new applications with alternating reading distances. Additional variants, such as angled and oscillating mirror versions, provide solutions for special requirements, such as reading bar codes on large areas.

Benefits:

- Enhanced read rate even on damaged or dirty bar codes
- Cost savings for identification of bar codes at various angles thanks to attractive system design
- No additional photoelectric switch necessary for triggering
- Extremely easy handling
- Quick installation
- Highest availability
- High reliability

CLV 440/442 at a glance:

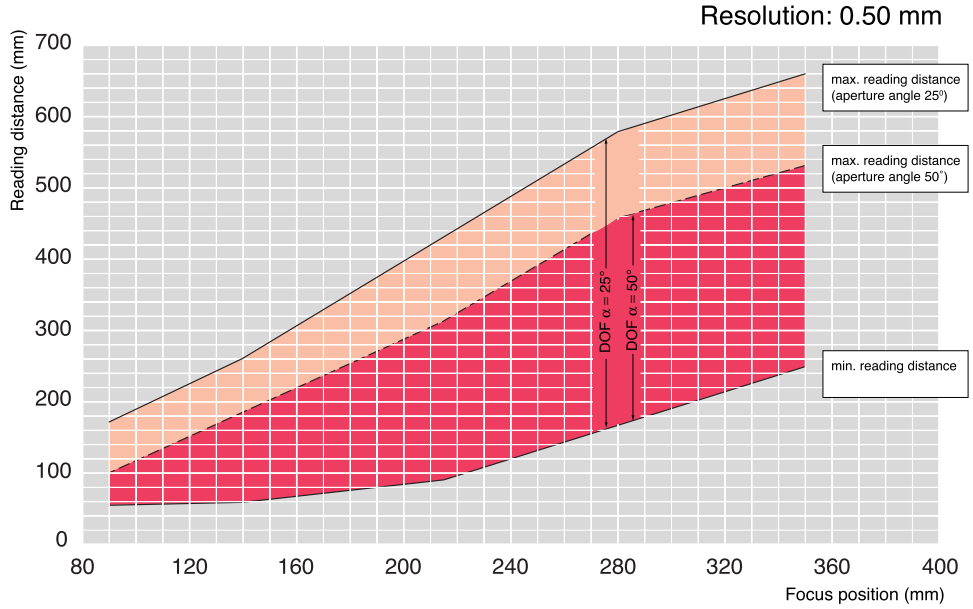
- Reliable code recognition in realtime using SMART technology
- Dynamic focus control in realtime
- Insensitive to ambient light and glare
- Reflector Polling generates an integrated trigger
- Beeper confirms reading process
- AutoSetup ensures automatic optimizing of reading performance
- Profile Programming makes configuration easy
- CAN bus compatible
- Flash memory for firmware
- Integrated power supply tolerates wide range of input voltage
- Compact housing for tight fits
- Oscillating mirror option

SICK

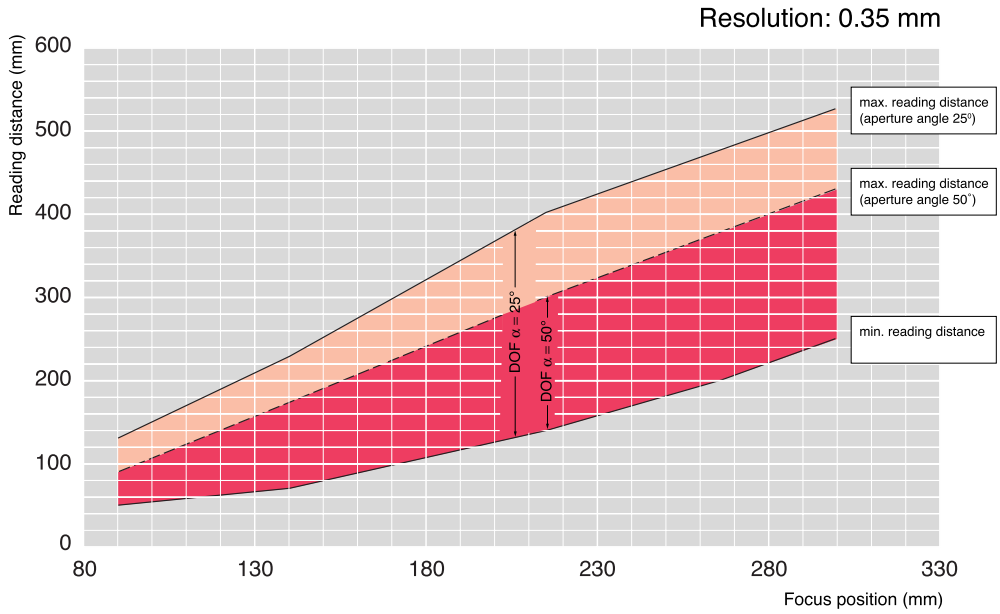
Reading diagrams

Line scanner

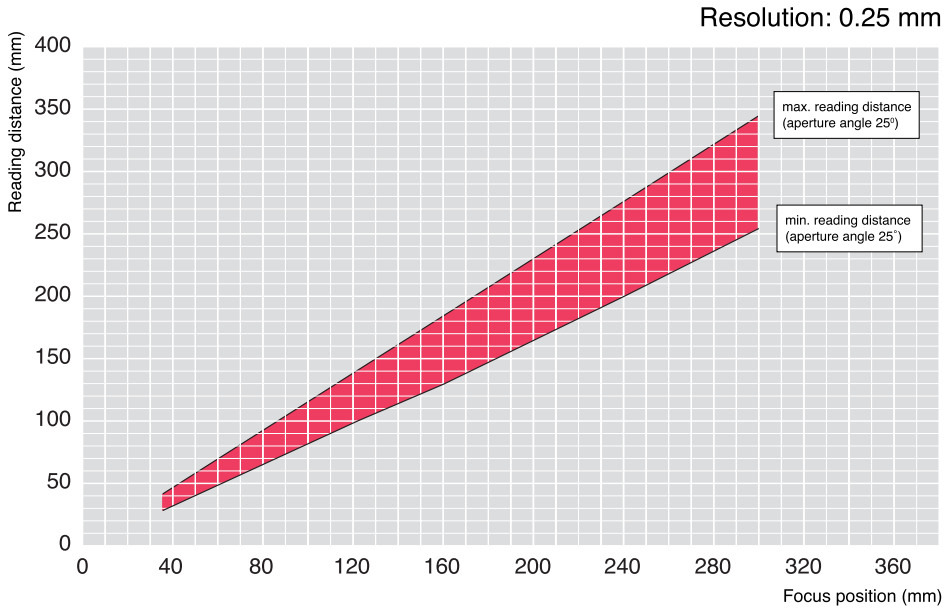
CLV 440-0010



CLV 440-0010



CLV 442-0010



Technical data line/raster scanner

Type	CLV 440	CLV 442
Line scanner	CLV 440-0010/Order No. 1 017 588	CLV 442-0010/Order No. 1 017 595
Focus	dynamic focus control	
Number of distance configurations	max. 8	
Focus adjustment time	≤ 50 ms (from min. to max focus position)	
Focus trigger source	„Sensor 2“ switching input/serial interface/timer	
Laser diode (wavelength)	red light (λ= 650 – 670 nm)	
MTBF of laser diode	20,000 h	
Laser class	Class 2 (to DIN EN 60825-1)	
Useful aperture angle	max. 50 °	
Scanning/decoding frequency	300 ... 800 Hz	
Resolution	0.2 ... 1.0 mm	
Bar code print contrast (PCS)	≥ 60 %	
Immunity to ambient light	2000 lx (on bar code)	
No. of bar codes per scan	1 ... 20 (standard decoder), 1 ... 6 (SMART decoder)	
No. of bar codes per reading interval	1 ... 50 (autodiscriminating)	
Bar code types (SMART decoder)	Code 39, Code 128, Code 93, Codabar, EAN, EAN 128, UPC, 2/5 Interleaved	
Bar code length	max. 50 characters (max. 500 characters across all bar codes per reading interval)	
Print ratio	2:1 ... 3:1	
No. of multiple reads	1 ... 99	
Optical indicators	4 x LED	
Acoustic indicator	Beeper, can be deactivated and assigned to a function for result status indication	
Reading pulse	Reflector polling/“Sensor 1” switching input/free running/serial interface	
“Host” data interface	RS 232 or RS 422/485, variable data output format	
Data transfer rate	300 ... 57 600 Bd	
Protocols	SICK Standard, SICK Network and 3964 (R)	
Physical configurations	Stand-alone, SICK Network (Bus), Daisy Chain (Pass-Through or Master/Slave)	
“CAN” data interface	CANopen protocol, CAN Scanner Network	
Data transfer rate	10 KBits/s ... 1 MBits/s	
“Terminal” data interface	RS 232, 9 600 Bd, 8 data bits, no parity, 1 stop bit, fixed output format	
Switching inputs	2 (“Sensor 1”, “Sensor 2”), opto-decoupled	
Switching outputs	2 (“Result 1”, “Result 2”), PNP	
Electrical connection	15-pin D Sub HD connector, cable length 0.9 m	
Operating voltage/power consumption	10 ... 30 V DC*)/5 W	
Housing	Cast zinc die-cast, does not represent a problem in paint shops	
Enclosure rating/protection class	IP 65 (to DIN 40 050)/ Class 3 (to VDE 0106/IEC 1010-1)	
EMC/vibration/shock tested	to EN 61000-6-2, EN 55011/to IEC 68-2-6 Test FC/to IEC 68-2-27 Test EA	
Weight	480 g with connecting cable	
Operating/storage temperature	0 ... + 40 °C/– 20 ... + 70 °C	
Max. rel. humidity	90 %, non condensing	

*) UL certificated when class 2 power supply according to UL 1310 is used

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Oscillating mirror

Additional variants, such as angled and oscillating mirror versions, provide solutions for special requirements, such as reading bar codes on large areas.

Oscillating mirror

The oscillating mirror enables the CLV to deflect the scan line so that it is perpendicular to the scanning direction. By doing so, the CLV can identify bar codes in large areas.

Various operating modes are provided:

- **Free selectable angular position:**

The oscillating mirror can be positioned at any angle.

- **Oscillating mirror with variable deflection range:**

Deflects the scan line up to the amplitude setting (max. ± 20°).

- **One shot:**

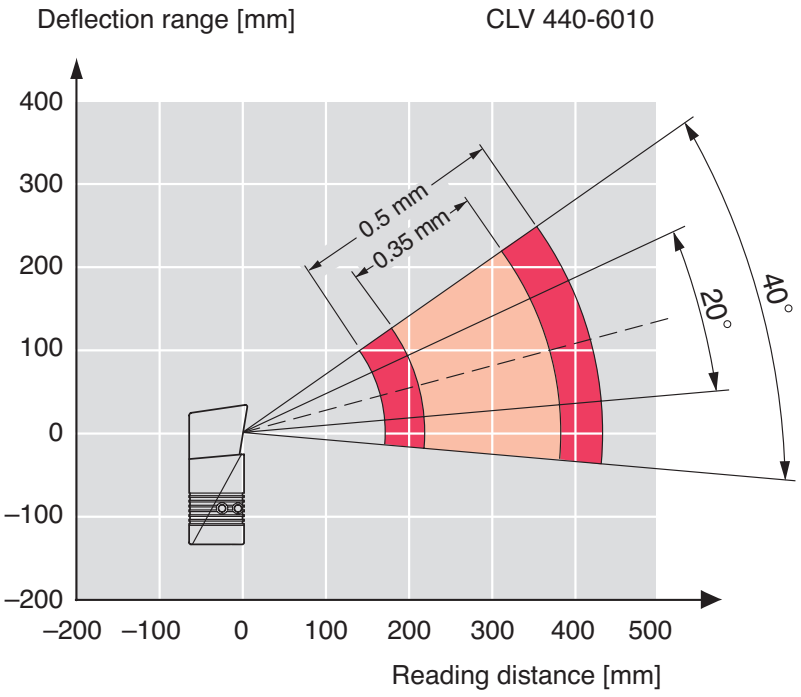
Single oscillating movement for each reading gate, comprising one forward and return phase of the oscillating mirror.

Additional technical data of line scanner with oscillating mirror

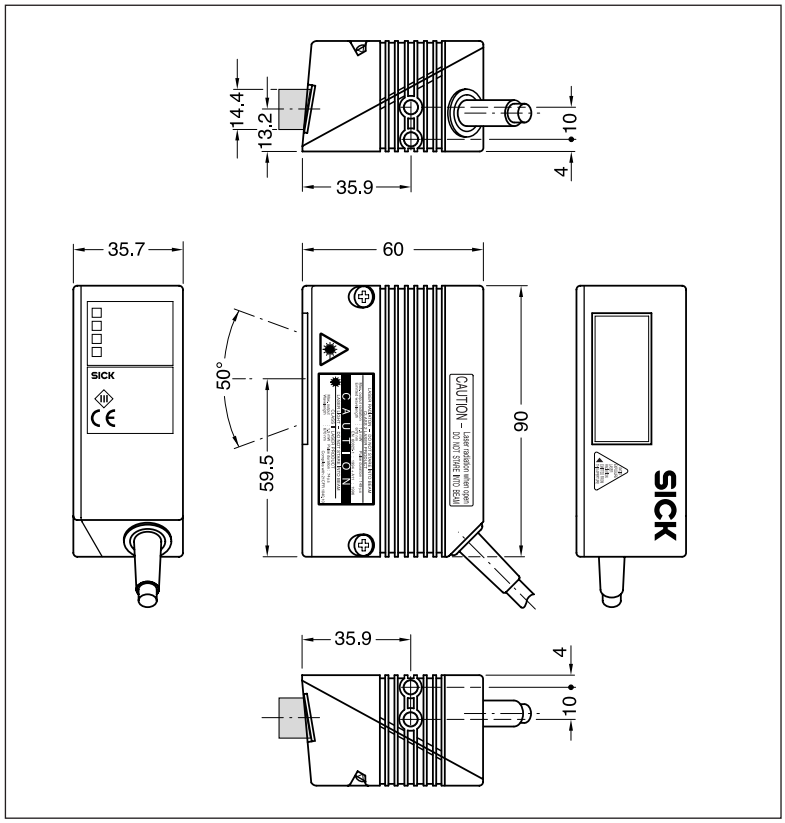
Type	CLV 440
Line scanner with oscillating mirror	CLV 440-6010/Order No. 1 017 984
Reading window	side
Angle of emergence	105° (center position CW=50)
Trigger source for DC [1] switchover	also: oscillating mirror reversal points
Useful aperture angle	max. 50°
Oscillating mirror functions	permanent (variable position)/oscillating (amplitude per DC variable or fixed)/one-shot
Oscillating frequency	0.5 ... 4 Hz
Max. angle of deflection	+20° ... -20° (can be set)
Operating voltage/power consumption	10 ... 30 V DC [2]/max 6.15 W
Weight	620 g with connecting cable

[1] DC = distance configuration

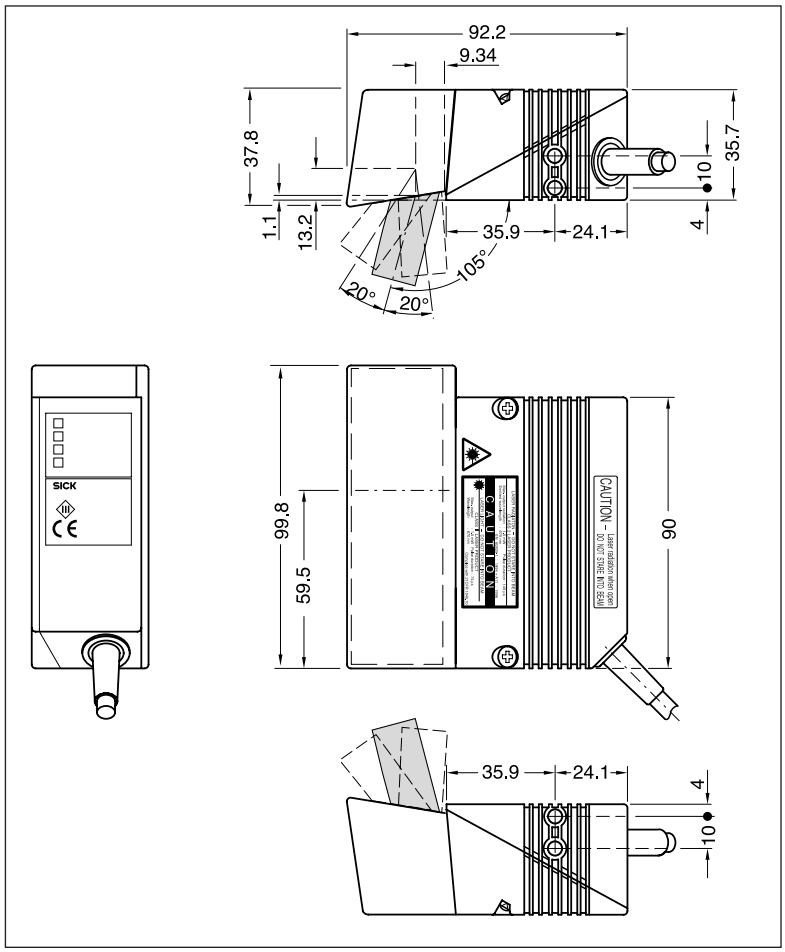
[2] UL certificated when class 2 power supply according to UL 1310 is used



Line scanner
CLV 440-0010
CLV 442-0010



Line scanner with oscillating mirror
CLV 440-6010



All tapped blind holes
5 M, 5 mm deep.

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