



## Bar code scanners CLV45x / CLV451 / Low Density

CLV451-6010



**Model Name** > [CLV451-6010](#)  
**Part No.** > [1019524](#)



#### At a glance

- Dynamic focus control in real time
- Immune to ambient light
- Large reading distance of up to 1.6 m
- Auto setup ensures automatic optimizing of reading performance
- CAN bus compatible
- High read rates, even with damaged, rotated, or dirty bar codes
- Adjustable scanning frequency up to 1,000 scans per second

#### Your benefits

- Reliable bar code identification across large reading distances
- Dynamic focus control allows the scanner to accommodate a large depth of field by dynamically adjusting the focus to the object distance
- Small size and simple setup enables fast installation, even in compact machines
- Extremely easy to configure, shortening commissioning time
- Short commissioning time
- Reliable operation
- Parameter cloning plug ensures very short MTTR

**The product is currently being phased out and can be ordered until September 30, 2013. A replacement product can be found under "Replacement Products"**



#### Features

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| Version:                        | Low Density                                         |
| Connection type:                | Standard                                            |
| Reading field:                  | Oscillating mirror                                  |
| Scanner design:                 | Line scanner                                        |
| Focus:                          | Dynamic focus control                               |
| No. of distance configurations: | 8                                                   |
| Focus adjustment time:          | ≤ 50 ms                                             |
| Focus trigger source:           | Switching input "Sensor 2", Serial interface, Timer |
| Light source:                   | Visible red light (650 nm)                          |
| MTBF:                           | 20,000 h                                            |
| Laser class:                    | 2 (DIN EN 60825-1)                                  |

|                                        |                                                                                  |
|----------------------------------------|----------------------------------------------------------------------------------|
| Field of view:                         | ≤ 50 °                                                                           |
| Code resolution:                       | 0.5 mm ... 0.5 mm                                                                |
| Reading distance (at code resolution): | 150 mm ... 780 mm (0.5 mm)                                                       |
| Oscillating mirror functions:          | Fixed (adjustable position), One shot, Oscillating (variable or fixed amplitude) |
| Oscillation frequency:                 | 0.5 Hz ... 4 Hz                                                                  |
| Angle of deflection:                   | -20 ° ... 20 ° (can be adjusted via software)                                    |
| Scanning frequency:                    | 400 Hz ... 1,000 Hz                                                              |

## Performance

|                                         |                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Bar code types:                         | Interleaved 2 of 5, All current code types, Codabar, Code 128, Code 39, Code 93, GS1-128/EAN 128, UPC/GTIN/EAN |
| 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: | 500                                                                                                            |
| No. of multiple readings:               | 1 ... 99                                                                                                       |

## Interfaces

|                                                       |                                                                                              |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Serial (RS-232, RS-422/485):                          | ✓                                                                                            |
| Remark (Serial (RS-232, RS-422/485)):                 | AUX (only RS-232)                                                                            |
| Function (Serial (RS-232, RS-422/485)):               | Host, AUX                                                                                    |
| Data transmission rate (Serial (RS-232, RS-422/485)): | 300 Baud ... 57,600 Baud, AUX: 9,600 Baud                                                    |
| Ethernet:                                             | ✓                                                                                            |
| Remark (Ethernet):                                    | Optional via external connection module (CDM + CMF)                                          |
| CAN bus:                                              | ✓                                                                                            |
| Function (CAN bus):                                   | SICK CAN sensor network (Master/Slave, Multiplexer)                                          |
| Protocol (CAN bus):                                   | CANopen, CSN (SICK CAN Sensor Network)                                                       |
| Data transmission rate (CAN bus):                     | 10 kbit/s ... 1 Mbit/s                                                                       |
| PROFIBUS DP:                                          | ✓                                                                                            |
| Remark (PROFIBUS DP):                                 | Optional via external connection module (CDM + CMF)                                          |
| EtherCAT:                                             | -                                                                                            |
| DeviceNet:                                            | ✓                                                                                            |
| Remark (DeviceNet):                                   | Optional via external connection module (CDM + CMF)                                          |
| Switching inputs:                                     | 2 ("Sensor 1", "Sensor 2")                                                                   |
| Switching outputs:                                    | 2 ("Result 1", "Result 2")                                                                   |
| Reading pulse:                                        | Non-powered, "Sensor 1" switching input, Serial interface                                    |
| Optical indicators:                                   | 4 LEDs (function indicator)                                                                  |
| Acoustic indicators:                                  | Beeper/buzzer (can be switched off, can be allocated as a result status indication function) |

## Mechanics/electronics

|                        |                                                                     |
|------------------------|---------------------------------------------------------------------|
| Electrical connection: | 1 15-pin D-Sub HD plug (0.9 m)                                      |
| Operating voltage:     | 10 V DC ... 30 V DC <sup>1)</sup>                                   |
| Power consumption:     | 7.2 W                                                               |
| Housing:               | Die-cast zinc, does not contain paint wetting impairment substances |
| Housing color:         | Light blue (RAL 5012)                                               |
| Enclosure rating:      | IP 65 (DIN 40 050)                                                  |
| Protection class:      | III (VDE 0106)                                                      |
| Weight:                | 700 g, with connecting cable                                        |
| Dimensions:            | 99.8 mm x 90 mm x 37.8 mm                                           |

1) UL certified for use with a Class 2 mains supply unit (checked to UL 1310)

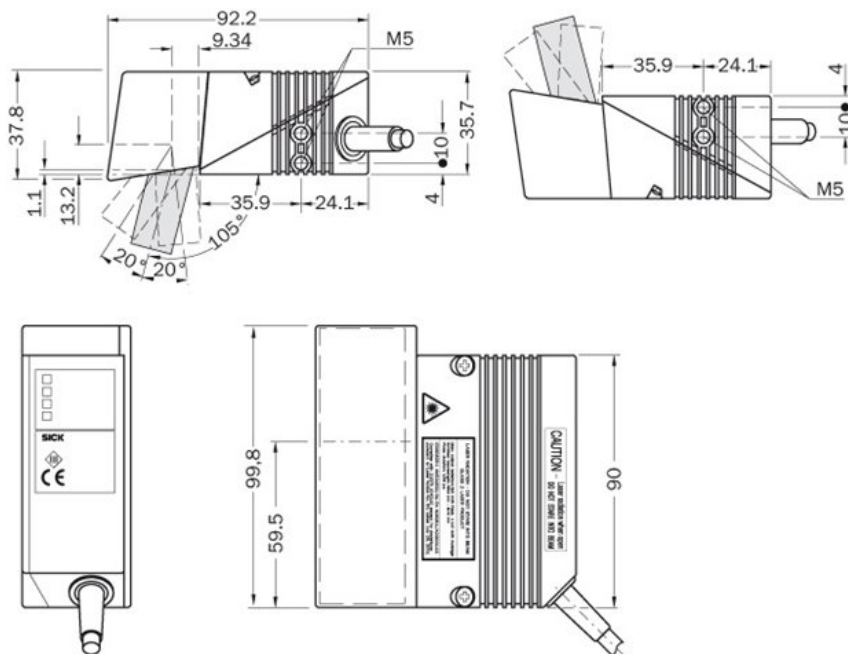
## Ambient data

|                                      |                                                    |
|--------------------------------------|----------------------------------------------------|
| Electromagnetic compatibility (EMC): | (EN 61000-6-4)<br>(EN 61000-6-1)<br>(EN 61000-6-2) |
| Vibration resistance:                | (IEC 68-2-6 Test FC)                               |
| Shock resistance:                    | (IEC 68-2-27 Test EA)                              |
| Ambient operating temperature:       | 0 °C ... 40 °C                                     |
| Storage temperature:                 | -20 °C ... 70 °C                                   |
| Permissible relative humidity:       | ± 90 %, non-condensing                             |
| Ambient light safety:                | 2,000 lx, on bar code                              |

## General notes

|                   |                                      |
|-------------------|--------------------------------------|
| Life cycle phase: | Available until September 30th, 2013 |
|-------------------|--------------------------------------|

## Dimensional drawing



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