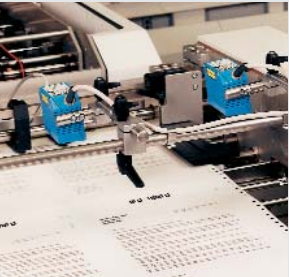




**Bar Code Scanning Systems
Automatic Identification Technology**

SICK, a Leader in Automatic Identification Technology



The market for automatic identification systems is benefiting from the global trend for automation in all industrial sectors.

Among a variety of different identification technologies the bar code technology offers tailor-made solutions for most applications and is established as a standard throughout the industry.

As one of the leading manufacturers of sensor

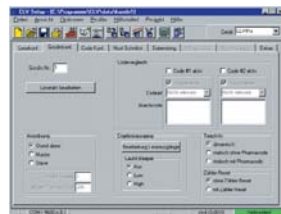
equipment, SICK also offers bar code readers for quick, reliable and economic manufacturing and handling processes in industry, wholesale and transportation. The product portfolio consists of the following bar code scanners:

- Fixed position bar code scanners
- Fixed position matrix code scanners
- Omni directional bar code scanning systems
- Over-the-belt cameras

■ Mobile hand held scanners
All bar code scanners are supported by sophisticated and easy-to-use software tools. For operators, this means an easy installation and initialization of the total system.

As bar code experts, we not only talk about innovation, we accomplish it. Use our expertise to provide an efficient solution for your application.

SICK Software



CLV Setup/Assistant*

- Features
- Windows™-based Setup Software
 - Supports all CLV and ICR products
 - Simple, application-specific scanner configuration
 - Extensive, context-based help system
 - Direct file transfer to/from all scanners
 - Simple parameter cloning for the identical configuration of several bar code scanners
 - Integrated terminal emulation for online communication
 - Option for printing the scanner configuration as Profile bar codes
 - Configuration of a CAN Scanner Network solution is possible
 - Stand-alone operation

RDT 400

- Remote Diagnostic Tool for monitoring scanners (systems)
- Local or central visualization
- Use of existing "state-of-the-art" network infrastructure, such as Ethernet
- Remote monitoring and download of the logfiles via modem, intranet or internet
- Performance monitoring through automatic control of the system read rates and the single scanners in a system
- Detailed visualization:
 - Complete system performance
 - Long-term read rates (up to one year)
 - Detailed read rates
 - Hourly read rates
 - Reading positions
 - Multiread histograms

*Current software version downloadable at www.sickusa.com

Bar code scanners – fixed position



CLP 100

CLV 410

CLV 420

Optical Features

- CCD scanner
- Fixed Focus
- Best reading performance at short reading distances up to 2.2 in (50 mm)

- Laser scanner
- Fixed Focus

- Laser scanner
- Fixed Focus

Versions for various reading distances:

- CLV 410 – standard reading distance up to 15.7 in (400 mm)
- CLV 412 – reading distance up to 3.7 in (95 mm), HD bar codes
- CLV 414 – short reading distance starting at 1.6 in (40 mm)

Versions for various reading distances:

- CLV 420 – standard reading distance up to 14 in (365 mm)
- CLV 421 – extended reading distance up to 28.5 in (725 mm)
- CLV 422 – short reading distance up to 8.0 in (200 mm), HD bar codes

- Line and raster scanner

- Line and raster scanner

Mechanical Features

- Miniature bar code reader
- Metal housing, IP 40
- Front or lateral reading window

- Compact, zinc die cast housing for the use in industrial environment, IP 54
- Front or lateral reading window

- Compact, zinc die cast housing for the use in industrial environment, IP 65
- Front or lateral reading window

Special Features

- Standard decoder
- Scanning frequency up to 500 Hz
- Realtime decoding
- Power supply 5 V DC
- 1 programmable digital input/output

- Standard decoder
- High scanning frequency up to 800 Hz
- Wide range of power supply 4.5...30 V DC
- Programmable beeper
- 1 programmable digital input
- 3 programmable digital outputs

- Standard decoder
- Very high scanning frequency up to 1200 Hz
- Wide range of power supply 10...30 V DC
- Programmable beeper
- 2 programmable digital inputs/outputs
- Auxiliary interface for diagnosis of the reading performance

Operation Features

- Windows based CLP Setup Software, Host Command Configuration

- Easy to use due to Auto-Setup function, Profile Programming, Reflector Polling, CLV Setup Software, Host Command Configuration

- Easy to use due to Auto-Setup function, Profile Programming, Reflector Polling and Host Command Configuration
- Cloning plug for automatic recovery of scanner parameters

Technical Data	CLP 100	CLV 410	CLV 420
Reading Range	1...2.2 in (25...50 mm)	1.4...15.7 in (35...400 mm)	2...28.5 in (50...725 mm)
Scanning Frequency	500 Hz	200...800 Hz	400...1200 Hz
Data Interfaces	RS 232	RS 232, RS 422, RS 485	RS 232, RS 422, RS 485, CANopen, SICK CAN Scanner Network
Dimensions (L x W x H)	2.2 x 0.8 x 1.9 in (55 x 46 x 20 mm)	2.3 x 2.5 x 1.4 in (59 x 62.5 x 35.2 mm)	2.3 x 2.5 x 1.4 in (59 x 62.5 x 35.2 mm)



Bar code scanners – fixed position



CLV 430

CLV 440

CLV 450

Optical Features

- Laser scanner
- Fixed Focus

- Laser scanner
- Dynamic Focus Control

- Laser scanner
- Dynamic Focus Control

Versions for various reading distances:

- CLV 430 – standard reading distance up to 31.5 in (800 mm)
- CLV 431 – medium reading distance up to 16.7 in (424 mm)
- CLV 432 – short reading distance up to 10.0 in (254 mm)
- Line and raster scanner
- Line scanner with oscillating mirror

Versions for various reading distances:

- CLV 440 – standard reading distance up to 31.5 in (800 mm)
- CLV 442 – short reading distance up to 13.4 in (340 mm), HD bar codes
- Line scanner
- Line scanner with oscillating mirror

Versions for various reading distances:

- CLV 450 – standard reading distance up to 62.9 in (1600 mm)
- CLV 451 – extreme depth of field for each focus position
- Line scanner
- Line scanner with oscillating mirror

Mechanical Features

- Compact, zinc die cast housing for the use in industrial environment, IP 65
- Front or lateral reading window

- Compact, zinc die cast housing for the use in industrial environment, IP 65
- Front or lateral reading window

- Compact, zinc die cast housing for the use in industrial environment, IP 65
- Front reading window

Special Features

- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- High scanning frequency up to 800 Hz
- Wide range of power supply 10...30 V DC
- Programmable beeper
- 2 programmable digital inputs/outputs
- Auxiliary interface for diagnosis of the reading performance

- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- High scanning frequency up to 800 Hz
- Wide range of power supply 10...30 V DC
- Programmable beeper
- 2 programmable digital inputs/outputs
- Auxiliary interface for diagnosis of the reading performance

- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- High scanning frequency up to 1000 Hz
- Wide range of power supply 10...30 V DC
- Programmable beeper
- 2 programmable digital inputs/outputs
- Auxiliary interface for diagnosis of the reading performance

Operation Features

- Easy to use due to Auto-Setup function, Profile Programming, Reflector Polling and Host Command Configuration
- Cloning plug for the automatic recovery of scanner parameters

- Easy to use due to Auto-Setup function, Profile Programming, Reflector Polling and Host Command Configuration
- Cloning plug for the automatic recovery of scanner parameters

- Easy to use due to Auto-Setup function, Profile Programming, Reflector Polling and Host Command Configuration
- Cloning plug for the automatic recovery of scanner parameters

Technical Data	CLV 430	CLV 440	CLV 450
Reading Range	2...31.5 in (50...800 mm)	1.2...31.5 in (30...800 mm)	6.2...62.9 in (160...1600 mm)
Scanning Frequency	300...800 Hz	300...800 Hz	400...1000 Hz
Data Interfaces	RS 232, RS 422, RS 485, CANopen, SICK CAN Scanner Network	RS 232, RS 422, RS 485, CANopen, SICK CAN Scanner Network	RS 232, RS 422, RS 485, CANopen, SICK CAN Scanner Network
Dimensions (L x W x H)	3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm)	3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm)	3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm)



Bar code scanners – fixed position



CLV 480



CLV 490



CLX 490

Optical Features

- Laser scanner
- Dynamic Focus Control

- Laser scanner
- Automatic Focus Control

- Omni directional laser scanner
- Automatic Focus Control

Versions for various reading distances:

- CLV 480 – standard reading distance up to 80.7 in (2000 mm)
- Line scanner
- Line scanner with oscillating mirror

Versions for various reading distances:

- CLV 490 – standard reading distance up to 82.7 in (2100 mm)
- CLV 490 – reading distance up to 63.0 in (1600 mm), HD bar codes
- Line scanner
- Line scanner with oscillating mirror

- CLX 490 – standard reading distance up to 68.9 in (1750 mm)
- 90° crossed scanning lines

Mechanical Features

- Smallest and most compact bar code scanner of its class, IP 65
- Option: integrated heating for the use in cold environment

- Smallest and most compact bar code scanner of its class, IP 65
- Option: integrated heating for the use in cold environment

- Smallest and most compact omni directional bar code scanner of its class, IP 65
- Option: integrated heating for the use in cold environment

Special Features

- Larger aperture angle enables code reading close up
- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- Highest reading reliability for tilted bar codes in an angle of -45...45°
- Optimal reading of thermal print codes via 650 nm laser diodes
- Very high scanning frequency up to 1200 Hz
- Wide range of power supply 18...30 V DC

- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- Highest reading reliability for tilted bar codes in an angle of -45...45°
- Extreme depth of field range due to realtime Automatic Focus Control
- Very high scanning frequency up to 1200 Hz
- Wide range of power supply 18...30 V DC
- Remote diagnostic opportunity upon the base of the RDT 400 software

- SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes
- Bar code identification in any tilt orientation
- Integrated tracking electronic guarantees the correct assignment of bar codes to the appropriate object – even under the condition of small object gaps
- Option: Use as an omni directional bar code scanner from side position in combination with the OPS system
- Remote diagnostic opportunity upon the base of the RDT 400 software

Operation Features

- Easy to use due to CLV Setup Software, Host Command Configuration
- Cloning plug for the automatic recovery of scanner parameters

- Easy to use due to CLV Setup Software, Host Command Configuration
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- Easy to use due to CLV Setup Software, Host Command Configuration
- Cloning plug for the automatic recovery of scanner parameters

Technical Data	CLV 480	CLV 490	CLX 490
Reading Range	10.2...80.7 in (260...2050 mm)	19.7...82.7 (500...2100 mm)	23.0...68.9 in (600...1750 mm)
Reading Field Height	up to 47.2 in (up to 1200 mm)	up to 47.2 in (up to 1200 mm)	up to 15.7 in (up to 400 mm)
Scanning Frequency	600...1200 Hz	600...1200 Hz	600...1200 Hz
Data Interfaces	RS 232, RS 422, RS 485, CANopen, SICK CAN Network	RS 232, RS 422, RS 485, CANopen, SICK CAN Network	RS 232, RS 422, RS 485, CANopen, SICK CAN Network
Dimensions (L x W x H)	4.6 x 4.6 x 3.7 in (117 x 117 x 94 mm)	4.6 x 4.6 x 3.7 in (117 x 117 x 94 mm)	6.0 x 3.6 x 8.0 in (153 x 93.5 x 208 mm)



Bar code scanners – fixed position



OPS 400



OPS with OTS



ALIS 400

Optical Features	<ul style="list-style-type: none"> ■ Omni directional laser scanner ■ Automatic Focus Control <p>Versions for various reading distances:</p> <ul style="list-style-type: none"> ■ OPS 400 – standard reading distance up to 78.7 in (2000 mm) ■ OPS 400 – reading distance up to 59.0 in (1500 mm, HD codes) ■ 90° crossed scanning lines 	<ul style="list-style-type: none"> ■ Omni directional laser scanner ■ Modular concept consisting of several CLV 490 (optional CLX 490) ■ Application specific orientation of the bar code scanners ■ Automatic Focus Control ■ Versions for the coverage of various conveyor widths ■ 90° crossed scanning lines 	<ul style="list-style-type: none"> ■ Multi-side, omni directional laser scanner system ■ Airport Luggage Identification System for the automatic identification of IATA bar code labels ■ Suited for T-Codes and linear bar codes ■ Modular concept consisting of several CLV 490 bar code scanners ■ Application specific orientation of the bar code scanners ■ Automatic Focus Control
Mechanical Features	<ul style="list-style-type: none"> ■ Compact, innovative design, IP 54, all optical components IP 65 	<ul style="list-style-type: none"> ■ Modular, application specific alignment of the CLV 490 bar code scanners ■ Tunnel scanning systems for multi sided bar code identification of parcels or pallets 	<ul style="list-style-type: none"> ■ Modular, application specific alignment of the CLV 490 bar code scanners ■ Tunnel scanning systems for multi-sided bar code identification of luggage
Special Features	<ul style="list-style-type: none"> ■ SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes ■ Bar code identification in any tilt orientation ■ Integrated tracking electronic guarantees the correct assignment of bar codes to the appropriate object – even with small object gaps ■ Coverage of wide conveyors up to 800 mm width ■ Remote diagnostic opportunity upon the base of the RDT 400 software 	<ul style="list-style-type: none"> ■ SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes ■ Bar code identification in any tilt orientation ■ Tracking electronic in the separate OTS controller guarantees the correct assignment of bar codes to the appropriate object – even with small object gaps ■ Remote diagnostic opportunity upon the base of the RDT 400 software 	<ul style="list-style-type: none"> ■ SMART Decoder – high read rates even in the case of damaged, tilted or dirty bar codes ■ Bar code identification in any tilt orientation ■ Tracking electronics in the separate OTS controller guarantees the correct assignment of bar codes to the appropriate object – even with small object gaps ■ Remote diagnostic opportunity upon the base of the RDT 400 software ■ Maintenance-free operation and high reliability ■ Proven performance at airports upon a world-wide base
Operation Features	<ul style="list-style-type: none"> ■ Easy to use due to CLV Setup Software, Host Command Configuration 	<ul style="list-style-type: none"> ■ Easy to use due to CLV Setup Software, Host Command Configuration ■ Cloning plug for the automatic recovery of scanner parameters 	<ul style="list-style-type: none"> ■ Easy to use due to CLV Setup Software, Host Command Configuration ■ Cloning plug for the automatic recovery of scanner parameters

Technical Data	OPS 400	OPS with OTS	ALIS 400
Reading Range	19.7...78.7 in (500...2000 mm)	19.7...83.5 in (500...2100 mm)	19.7...83.5 in (500...2100 mm)
Reading Field Height	31.5 in (800 mm)	free selectable	free selectable
Scanning Frequency	600...1200 Hz	600...1200 Hz	600...1200 Hz
Data Interfaces	RS 232, RS 422, RS 485, SICK CAN Network	RS 232, RS 422, RS 485, Optional: Ethernet TCP/IP, DeviceNet, Profibus	RS 232, RS 422, RS 485, Optional: Ethernet TCP/IP, DeviceNet, Profibus
Dimensions (L x W x H)	208x 106x 62 in (530x 270 x 158 mm)	4.6 x 4.6 x 3.7 in (117 x 117 x 94 mm)	4.6 x 4.6 x 3.7 in (117 x 117 x 94 mm)



Bar code/Matrix code scanner



ICR 850

- Optical Features**
- Linear CCD Image Code Reader
 - Fixed Focus
 - Integrated laser illumination
 - Bar code and Data Matrix ECC 200 identification
 - Reading distance 4.0 in (101 mm)
 - Versions for various applications:
 - ICR 855 - High Speed
 - ICR 852 - High Density
-
- Mechanical Features**
- Very compact, die cast zinc housing for use in industrial environments, IP 65
 - Front or lateral reading window
-
- Special Features**
- Field of view of 83 mm leads to variable positioning of 2D codes or bar codes
 - Omni directional identification of 2D codes
 - Super fast scanning frequency of up to 15 kHz
 - Wide range of power supply 10...30 V DC
 - Programmable beeper
 - Auxiliary interface for diagnosis of the reading performance
 - PIN compatible to CLV 420...450
 - Integrated Ethernet interface
-
- Operation Features**
- Easy to use due to Windows™-based Setup Software, Host Command Configuration

Technical Data	ICR 850
Reading Range	4.0 in (101 mm)
Reading Field Height	3.1 in (80 mm)
Scanning Frequency	15 kHz
Data Interfaces	RS 232, RS 422, RS 485 CANopen, SICK CAN Network, Ethernet TCP/IP 10 Mbit/s
Dimensions (L x W x H)	4.5 x 3.2 x 1.5 in (115 x 80 x 39 mm)



Connection Devices



CDM (Connection Device Modular)

- Connects a SICK CLV 4XX or ICR 85X scanners to a network or host system
- Housing for CMC 400 (Connection Module Cloning) parameter memory unit
- Optional AC power supply module
- Optional Display Module for simple diagnosis and monitoring of bar code data
- 3 Slots for optional field bus modules
- Designed for ease of CAN scanner network setup
- Service connection for direct access to the AUX interface of the bar code scanner



CDB (Connection Device Basic)

- Connects a SICK CLV 4XX or ICR 85X scanners to a network or host system
- Housing for CMC 400 (Connection Module Cloning) parameter memory unit
- Designed for ease of CAN scanner network setup
- Service connection for direct access to the AUX interface of the bar code scanner
- Connection diagram integrated in lid
- Compact footprint – 4.9 x 4.5 x 2.1 in



CMC (Connection Module Cloning)

- Externally saves bar code scanner parameters
- No configuration due to "plug and play" functionality
- Visible hardware switch to define CAN network address and baud rate
- Works in conjunction with CDM and CDB connection devices
- No extra wiring or additional space required



CMF (Connection Module Fieldbus)

- Common connectivity concept for bar code scanner interfacing to fieldbus systems
- Easy integration into Profibus-DP, DeviceNet, or Ethernet TCP/IP fieldbus systems
- Quick and easy commissioning of SICK bar code scanners
- Comprehensive error diagnosis tools



CMD (Connection Module Display)

- Display of scanner data including scanner result, diagnostics, host communications, etc.
- 4 x 20 Character, background illuminated
- 6 Operational modes interfaced by keypad
- Simple diagnosis of bar code scanner issues without the use of a PC

RANGE OF EXPERTISE

INDUSTRIAL SENSORS

SICK is one of the world's leading manufacturers of sensors, safety systems, and automatic identification products for industrial applications. SICK holds more than 450 patents for its innovative products. Through its Industrial Sensors, Safety Systems, Automatic Identification, and Environmental and Process Analysis divisions, the company has operations in 65 countries. SICK North America is headquartered in Minneapolis, MN.



SAFETY SYSTEMS

Products from SICK provide comprehensive safeguarding of both workers and machinery. As experts in sensor technology, SICK develops and manufactures pioneering products that provide protection in hazardous zones, dangerous locations and for safeguarding access points. By providing services, which encompass all aspects of machine safety and security, SICK is setting new standards in safety technology.



AUTOMATIC IDENTIFICATION

Our wide range of sensors provides solutions to suit any application in the field of automation. Even under rugged ambient conditions, objects are reliably detected, counted and positioned regardless of their form, location and surface finish.



ANALYZERS AND PROCESS INSTRUMENTATION

Whether the tasks involve identification, handling, classification or volume measurement, innovative automatic identification systems and laser measurement systems from SICK function reliably, even under rapid cycle times. Products from SICK conform to the latest standards and can be easily integrated in all industrial environments and external applications.



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