

Omnidirectional code reading systems





The omnidirectional OPS (Omni-Portal System) from SICK makes a decisive contribution towards optimising logistics transport and information processes. As a technically optimised complete system for identifying bar codes on goods and freight, it is more than suitable for state-of-the-art logistics demands.

The use of individual scanners allows an optimised configuration to be achieved for a number of applications. Over 2,000 installations worldwide document the reliability and performance capability of the OPS.

Content

Product overview	Page 136
CLX490	Page 138
OPS400	Page 142
OPS	Page 146
ALIS400	Page 148

Omnidirectional code reading systems

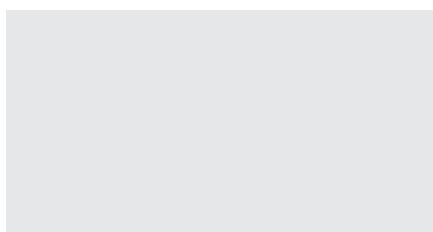


Omnidirectional bar code reading systems



PRODUCT	CLX490	OPS400	OPS
Reading ranges	<p>Module width (mm)</p> <p>Reading distance (mm)</p> <p>Width max. 400 mm</p>	<p>Module width (mm)</p> <p>Reading distance (mm)</p> <ul style="list-style-type: none"> ○ HD – max. 1,500 mm ○ LD – max. 1,700 mm <p>Width max. 800 mm</p>	<p>Module width (mm)</p> <p>Reading distance (mm)</p> <ul style="list-style-type: none"> ○ Variable widths possible ○ Multi-sidereading possible
Application areas	<ul style="list-style-type: none"> • Parcel identification • Logistics & distribution • Mail-order business 	<ul style="list-style-type: none"> • Parcel identification • Logistics & distribution • Mail-order business 	<ul style="list-style-type: none"> • Parcel identification • Logistics & distribution • Mail-order business
Technical data	<p>Scanning frequency 600 ... 1.200 Hz</p> <p>Operating voltage 18 ... 30 V DC</p> <p>Data interfaces RS-232, RS-422/485, CAN</p> <p>Switching inputs/outputs 6 x IN/4 x OUT</p> <p>Dimensions 176/208/153 mm</p> <p>Weight 2.0 kg</p> <p>Enclosure rating IP 65</p>	<p>Scanning frequency 600 ... 1.200 Hz</p> <p>Operating voltage 115/230 V AC +10 %/-15 %</p> <p>Data interfaces RS-232, RS-422/485</p> <p>Switching inputs/outputs 16 x IN/4 x OUT/1 x Relais OUT</p> <p>Dimensions 530/270/158 mm</p> <p>Weight 10.7 kg</p> <p>Enclosure rating IP 54/IP 65</p>	<p>Scanning frequency 600 ... 1.200 Hz</p> <p>Operating voltage 115/230 V AC +10 %/-15 %</p> <p>Data interfaces RS-232, RS-422/485</p> <p>Switching inputs/outputs 16 x IN/4 x OUT/1 x Relais OUT</p> <p>Dimensions Depending on application</p> <p>Weight Depending on application</p> <p>Enclosure rating IP 65</p>
Special features	<ul style="list-style-type: none"> ● Compact Omni bar code scanner ● Autofocus ● SMART decoder ● Tracking software ● Host and Aux interfaces ○ Optional heating for operating temperature down -30 °C ○ Remote diagnostics 	<ul style="list-style-type: none"> ● Omni bar code scanner ● Autofocus ● SMART decoder ● Tracking software ● Host and Aux interfaces ○ Remote diagnostics 	<ul style="list-style-type: none"> ● Omni bar code scanner ● SMART decoder ● Tracking with separate OTS Software ● Host and Aux interfaces ○ Remote diagnostics
Accessories	<ul style="list-style-type: none"> ● CLV Setup Software, CLV Connect Software ○ RDT400 Remote Diagnostic Software ○ CDB420, CDM490 connection modules ○ Gateways for PROFIBUS, DeviceNet and Ethernet ○ External parameter memory ○ Reading trigger sensors ○ Incremental encoder ○ Mounting bracket ○ Mounting bracket with shock-absorber 	<ul style="list-style-type: none"> ● CLV Setup Software, CLV Connect Software ○ RDT400 Remote Diagnostic Software ○ Mechanical mounting frame ○ Incremental encoder ○ Reading trigger sensors 	<ul style="list-style-type: none"> ● CLV Setup Software, CLV Connect Software ○ RDT400 Remote Diagnostic Software ○ Mechanical mounting frame ○ Incremental encoder ○ Reading trigger sensors

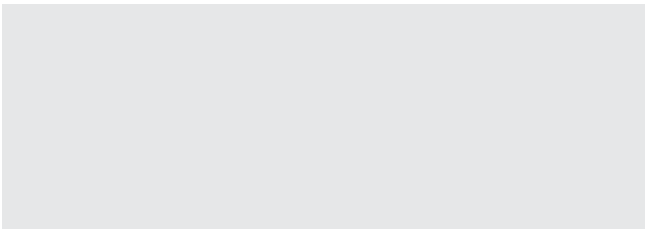
- Standard
- Optional





PRODUCT	ALIS400
Reading ranges	<p>Module width (mm)</p> <p>Suited for T-codes and linear codes</p> <ul style="list-style-type: none"> ○ Variable widths and multi-side reading possible
Application areas	<ul style="list-style-type: none"> • Airport luggage sortation • Airport luggage tracing
<p>Technical data</p> <p>Scanning frequency</p> <p>Operating voltage</p> <p>Data interfaces</p> <p>Switching inputs/outputs</p> <p>Dimensions</p> <p>Weight</p> <p>Enclosure rating</p>	<p>600 ... 1.200 Hz</p> <p>115/230 V AC +10 %/- 15 %</p> <p>RS-232, RS-422/485</p> <p>16 x IN/4 x OUT/1 x Relais OUT</p> <p>Depending on application</p> <p>Depending on application</p> <p>IP 65</p>
Special features	<ul style="list-style-type: none"> ● Airport Luggage Identification System ● Barcode identification in all positions ● SMART decoder ● Modular concept ● Host and Aux interfaces ● Scanners will be custom-designed and custom-mounted ○ Remote diagnostics
Accessories	<ul style="list-style-type: none"> ● CLV Setup Software ○ RDT400 Remote Diagnostic Software ○ Mechanical mounting frame ○ Incremental encoder ○ Reading trigger sensors

- Standard
- Optional



CLX490

The all-in-one solution



Get your logistics in shape for the Internet business of tomorrow. As markets become more and more deeply involved in the Internet, and demands for speed and quality increase, logistics solutions that can keep pace are in demand. SICK solutions like the compact Omni scan-

ner ensure that your logistics will keep up with the market demands of the future. SICK is your best source for electronic commerce equipment. Because SICK provides the technology requirements for your e-logistics concepts of tomorrow.

Your benefits:

- Identical scanning frequency and decoding output to the CLV490 bar code scanner
- Real-time autofocus feature and processing of read-gate and path information (tracking) in stand-alone applications
- Bar code scanners can be used in an Omni Portal System, e.g. as additional side scanners

The CLX490 at a glance:

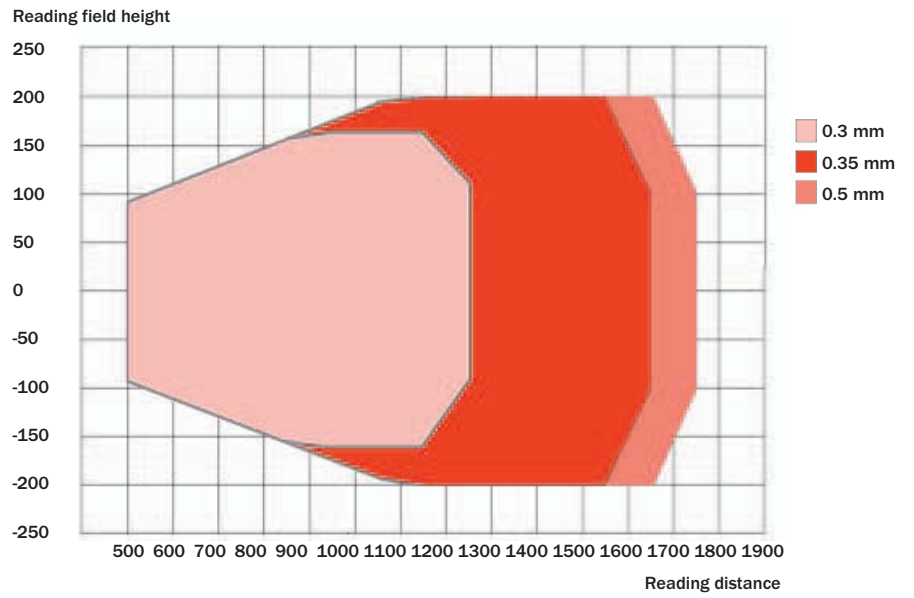
- Real-time autofocus function
- Independent of tilt (omni-directional bar code reading)
- Reliable code detection in real time thanks to SMART technology
- Smallest volume of its class
- Additional interfaces for external parameter memory
- Flash PROM for firmware
- Optional heating

Technical data

Type	CLX490
Scanner design	X scanner (2 lines offset from each other at a 90° angle)
Light source	Laser diode, red light ($\lambda = 650 \text{ nm}$)
Laser class	2 (acc. to EN 60825-1)
Ambient light compatibility	2,000 lx (on bar code)
Scanning frequency	600 ... 1,200 Hz
Operation and parameterisation	With Windows based "CLV Setup" configuration software or command strings
Displays	4 LED status displays
Data interfaces	Host: RS-232, RS-422/485; Terminal: RS-232
Switch inputs/outputs	6 x IN/4 x OUT
Electrical connection	2 x 15-pin D-Sub HD plugs
Operating voltage	18 ... 30 V DC
Power consumption	Typically 11 W, max. 16 W
Housing	Aluminium die-cast
Enclosure rating	IP 65 (to DIN 40 050)
Protection class	Class 3 (to VDE 0106)
EMC test	To EN 61000-6-2, EN 61000-6-3
Weight	Approx. 2.0 kg
Temperature (operating /storage)	0 ... +40 °C/-20 ... +70 °C

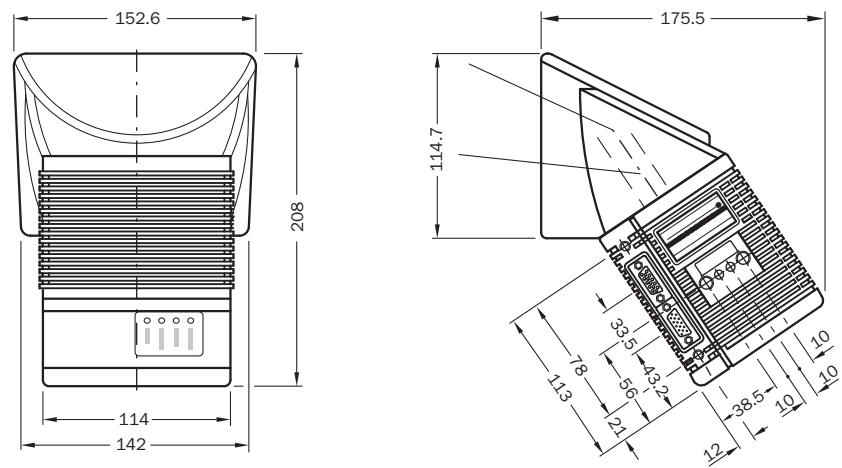


Reading field diagram CLX490



CLX490

Dimensional drawings



CLX490

All dimensions in mm

Order information

Type	Description	Order no.
CLX490-0010	Compact Omni Scanner CLX490	1019318
CLX490-0011	Compact Omni Scanner CLX490 with heating	1019319

Accessories

Accessories can be found on Page 218



OPS400

Complete performance in compact design



The OPS400, with its simple operation, is the compact solution for omni-directional reading tasks. The functionality of a complete Omni Portal System is inte-

grated in a single housing, covering the same path width at the same scanning frequency.

Your benefits:

- Compact housing
- Plug-and-play (optimised CLV Setup)
- Integrated tracking for minimum object distances
- Scanning/decoder frequency max. 1,200 Hz
- Real-time autofocus function
- Variants: standard, high or low density
- No supplementary components necessary for detection of object distances
- Reliable code recognition in real time through SMART technology
- Flash-PROM for Firmware

The OPS400 at a glance:

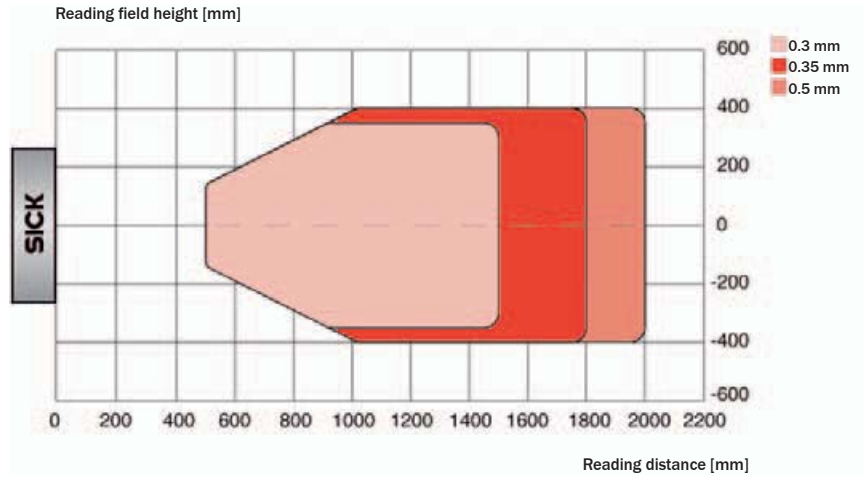
- Omnidirectional reading cover on one side
- Real-time autofocus function
- Reliable code detection through SMART technology
- Flash-PROM for Firmware
- High Density, Standard Density or Low Density

Technical data

Type	OPS400
Scanner design	X scanner (2 lines at 90° to one another)
Light source	Laser diode, red light ($\lambda = 650 \text{ nm}$)
Laser class	2 (to EN 60825-1)
Ambient light compatibility	2.000 lx (on bar code)
Scanning frequency	600 ... 1.200 Hz
Path width covered	800 mm (Standard and Low Density) 700 mm (High Density)
Operation and parameterization	With Windows based "CLV Setup" configuration software or command strings
Indicators	26 LED status and function indicators
Data interfaces	Host: RS-232, RS-422/485; Terminal: RS-232
Switching inputs/outputs	16 x IN/4 x OUT/1 x OUT relay
Electrical connection	2 x 9-pin D-sub plugs/terminals
Operating voltage	85 ... 264 V AC (100 ... 240 V AC +10 %/-15 %)
Power consumption	Typ. 30 W, max. 70 W
Housing	Sheet steel with aluminium top and base
Enclosure rating	IP 54/optics IP 65 (acc. to DIN 40 050)
Protection class	Class 3 (to VDE 0106)
EMC test	To EN 61000-6-2, EN 61000-6-3
Weight	10.7 kg
Temperature (operation/storage)	0 ... +40 °C/-20 ... +70 °C

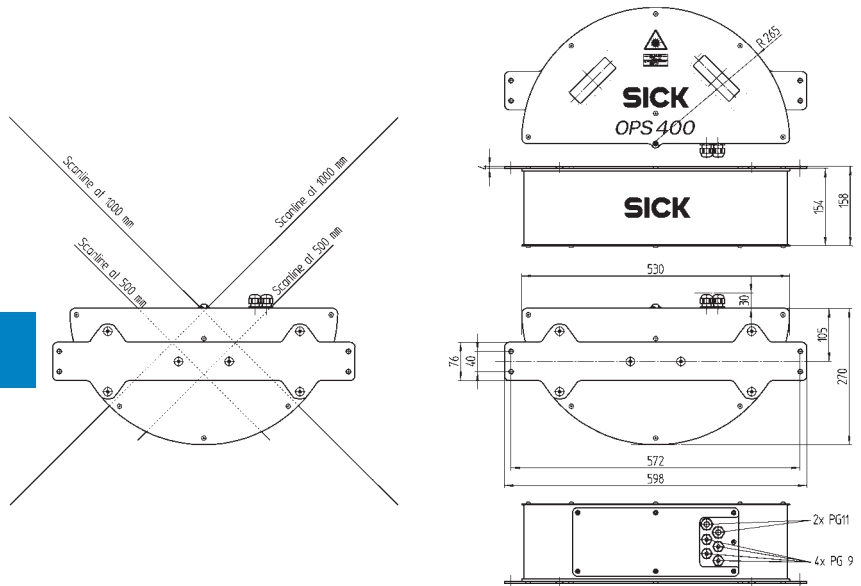


Reading field diagram



OPS400

Dimensional drawing



OPS400

All dimensions in mm

Order information

Type	Description	Order no.
OPS400-00	Omni Portal scanner, Standard Density	1019691
OPS400-20	Omni Portal scanner, High Density	1019692
OPS400-60	Omni Portal scanner, Low Density	1019693

Accessories

Accessories can be found on Page 237

OPS

The variable system solution for all omni-demands



Application-specific configuration. The OPS can be precisely adapted to your application as a result of the good performance of the CLV490 bar code scanners and optimised system configura-

tion regarding the number and position of the scanners. Result: the system's high levels of reliability and cost-effectiveness.

Your benefits:

- Integrated decoder with real-time decoding
- Real-time autofocus function
- SMART code recognition
- Extremely high depth-of-fields even with small module widths
- Tilt-independent from -45° to $+45^{\circ}$
- Scanning rates of up to 1,200 Hz
- No maintenance
- Low energy requirement: typically 11 W/with oscillating mirror 13 W
- High enclosure rating of IP 65
- Laser class 2
- Smallest size in the high-end range
- Low weight

The OPS/OTC at a glance:

- Processes read-gate and path information (tracking)
- Controls bar code scanner focus and reading
- Evaluates and filters individual read results
- Assigns bar code information to objects
- Communicates with the host
- Provides switching outputs
- Runs statistical analyses
- Monitors the system
- Displays system status

Technical data

Typ	OPS	OTC
No. of bar-code scanner per system	Max. 24	
No. of objects per reading field	Max. 15 (auto-discriminating)	
Types of bar codes	Code 39, code 128, code 93, codabar, EAN, EAN 128, UPC, 2/5 interleaved	
Length of bar codes	Max. 50 characters (max. 600 characters over all bar codes per read interval)	
Print ratio	2:1 ... 3:1	
No. of multiple readings	1 ... 99	
Optical indicators	26 LED status and function indicators	
Read cycle	Switching inputs "trigger 1, 2 and 3"/software trigger (host interface)	
"Host" data interface	RS-232 or RS-422/485, data output format adjustable, optional bus connection	
Data transfer rate	300 ... 57,600 Bd	
Protocols	SICK Standard, SICK-CLX200 Network, 3964(R)/RK512/Crisplant S 2000	
Physical configurations	Stand-alone, network (bus), daisy chain (pass-through or master/slave)	
"Terminal" data interface	RS-232, 9,600 bd, 8 data bits, no parity, 1 stop bit, fixed output format	
Function-switching inputs	16 (all inputs are visualised by LED, opto-uncoupled, Uimax = +30 V, reverse-polarity protected) "trigger 1 to 3", "path increment 1 to 2", "sensor 1-1 to 1-7", "sensor 2-1 to 2-4"	
Function-switching outputs	4 ("outputs 1 to 4") PNP, I _{max} = 30 mA, short-circuit protected, adjustable impulse length (10 ... 990 ms/100 ... 9,900 ms), selectable result indicator function 1 ("relay output 2") 24 V DC; max. 1.5 A; 250 V DC; max. 0.2 A; 250 V AC; max 1.5 A; adjustable input length (10 ... 990 ms/100 ... 9,900 ms), selectable result indicator function	
Electrical connections	1 x Aux connection (9-pin D-sub plug for diagnosis, serial) 1 x CAN connection (9-pin D-sub socket)	
Operating voltage	230 V AC (115 V AC) -15 %/+10 %, 50 Hz (50/60 Hz)	24 V DC +20 %/-10 %
Housing	Sheet steel, lacquered, reading window made of PC	Aluminium cont. cast profile
Enclosure rating	IP 65 (to DIN 40 050)	IP 20
Protection class	Class 3 (acc. to VDE 0106/IEC 1010-1)	
EMC/vibration/shock tests	To EN 61000-6-2, EN 61000-6-3/to EN 60068-2-6/to EN 60068-2-27	
Weight	Approx. 10.3 kg (incl. power supply unit and automatic fuse)	Approx. 1.3 kg
Ambient operating/storage temp.	0 ... +50 °C/-25 ... +70 °C	
Max. relative humidity	90 %, non-condensing	

The technical data for the CLV490 bar code scanner can be found on Page 79

Order information

Type	Description	Order no.
	"customized"	

ALIS400

Airport Luggage Identification System from SICK



Time and space are dominating parameters of our life – and all the more when you are dealing with luggage worldwide. To make sure that your luggage gets quickly sorted and to provide punctual transfer times, SICK offers ALIS: a flexible bar code reader system that is specially designed to identify IATA bar codes on airport luggage. Using state-of-the-art technology and providing all-round support, SICK is one of the few solution providers for these applications.

An increase in the throughput times between check-in and departure and a reduction in the manual work involved – that is what you would expect from a powerful baggage handling system. This is precisely where ALIS from SICK comes in. As one of the few manufacturers in this field, we provide all-in-one solutions in the form of turnkey systems – from electronic components, photoelectric switches and evaluation software, right down to worldwide commissioning services. We can also help you plan and engineer your system by supporting you through every phase of the project.

Your benefits:

- Extremely high reading rates
- Tried-and-tested high performance CLV490 scanners
- For T-codes and linear codes
- Reduction in manual processing thanks to reading of labels that are dirty or partially concealed
- Autofocus
- Suitable for belt conveyors and container-type sorters
- Extremely reliable
- Parameters stored in the connector mean that scanners can be replaced quickly
- Service-friendly and economical
- 100 % redundant design

