INTRODUCTION

SICK Auto Ident, Inc. has developed innovative, high performance fixed position bar code scanners for over fifteen years to meet the demanding requirements of the automatic identification and data capture industry. The most critical element of a bar code scanner is the optics design. This is where it all begins in a bar code scanning application and this is also SICK's area of expertise. Over 50 years of experience integrating electronics with optics across several different product platforms shows in SICK's high performance bar code scanners. Our scanners feature rugged housings for years of accurate service in industrial environments.

In addition to high performance, we also build a high level of flexibility into our scanners. This allows our customers to configure the bar code scanners to meet their application requirements using common platform, off-the-shelf technology. This ability also increases productivity because SICK bar code scanners can be optimized on the spot.

In an effort to make sure our customers can implement our systems without requiring extensive training, we blend in a touch of simplicity. Our bar code scanners are accompanied by simple-to-use Windows™-based setup software. This software eliminates frustration with complicated programming and lets you get the scanner into action quickly and easily.

Our patented SMART technology, a "code recognition" algorithm, allows our scanners to decode only small segments of a bar code label. This provides much improved read rates when the bar code labels are at very high tilt angles and/or partially destroyed. Our unique Dynamic Focus Control and patented Auto Focus Control technologies provide large depth of field even with high-density bar code labels.

SICK's new generation and broad line of compact, fixed position scanners provide solutions for many different market segments such as electronic assembly, medical instrumentation, material handling, automotive packaging, print and apply, and pharmaceutical product label verification. SICK provides the most accurate read rates in the industry and that is the bottom line in any bar code system application.

CLP 100
Pgs. 16-21

The CLP 100 can identify bar codes at short reading distances in a limited amount of space. It has a fast response time thanks to a high scanning frequency of 500 Hz. The optimized focus distance is 1.38 in (35 mm) and side or end scanning models are available. It is also priced to fit into a limited budget. It is supported by Windows™-based setup software or by the use of the Host Command language which is fast and user friendly.

CLP 100 Applications:

- Component identification
- Patient sample tracking
- Circuit board tracking

CLV 410/412/414
Pgs. 22-27

The high performance scan rate, automatic triggering, real time decoding, broad reading range and integrated scanner and decoder make the CLV 410, CLV 412 and CLV 414 models an excellent solution in applications where compact size and high performance are needed. This family also has profile programming and a teach mode for new match codes.

CLV 410/412/414 Applications:

- Product label verification
- Circuit board tracking
- Patient sample tracking
- Part identification
- Package tracking
- Small conveyor applications





FIXED POSITION SCANNERS

CLV 420/421/422
Pgs. 28-33

The CLV 420/421/422 scanners fit in the palm of your hand and at 400 to 1200 Hz they are the most powerful bar code scanners of their size. This series has a scanning range of 2 to 29 inches. The rugged die cast zinc housing, precision optics and powerful electronics create a highly reliable system for industrial applications.

CLV 420/421/422 Applications:

- Material handling
- Document handling
- Packaging applications
- Electronics applications

CLV 430/431/432
Pgs. 34-39

The CLV 430, CLV 431 and CLV 432 models feature SMART technology to read damaged or partially hidden bar codes. They have a fixed focus type, integrated CAN Bus networking and a teach mode for new match codes.

CLV 430/431/432 Applications:

- Package tracking
- Package identification
- Automotive assembly
- Circuit board identification

CLV 440/442
Pgs. 40-45

The CLV 440 and CLV 442 have Dynamic Focus Control, which allows a large depth of field by dynamically adjusting its focus position to the object distance making it ideal for decoding bar codes on objects of different heights. This family also features integrated CAN Bus networking and SMART technology to read damaged or partially hidden bar codes. The CLV 442 is designed with special optics to read high density bar codes.

CLV 440/442 Applications:

- Circuit board tracking
- Part identification
- Automotive assembly
- Product label verification

CiMAX® 7500A/ 7550A/7555A
Pgs. 46-51

The CiMAX 7500A series is an integrated scanner and decoder with a maximum scan rate of up to 1800 Hz, preset focal lengths of 4 to 36 inches with a full 36 inch depth of field in a reading range of 2 to 38 inches. For maximum application flexibility an on-board processor allows local programmability and control.

CiMAX 7500A/7550A/7555A Applications:

- High speed sortation
- Automated distribution
- Quality control systems
- Intelligent conveyors

CLV 450
Pgs. 52-57

The CLV 450 has all the features and high performance you need in the smallest housing for scanners in its class on the market. It has a long scanning distance, Dynamic Focus Control and SMART technology. This is an excellent choice for demanding applications that require reading bar codes produced by ink jet printers, on corrugated surfaces and through shrink wrap.

CLV 450 Applications:

- Package identification
- Package tracking
- Product label verification

CLV 490
Pgs. 58-63

The CLV 490 features selectable standard or SMART decoding, Auto Focusing, a high scan rate and a long reading range. It is the most advanced, powerful and smallest scanner of its kind on the market. The CLV 490 features SMART technology for high tilt angles and reading bar codes that are damaged or partially hidden from the scanner's view. All parameters are software selectable and it also features automatic scanner setup via the cloning module.

CLV 490 Applications:

- Vehicle sequencing
- Error-proofing

CLP 100

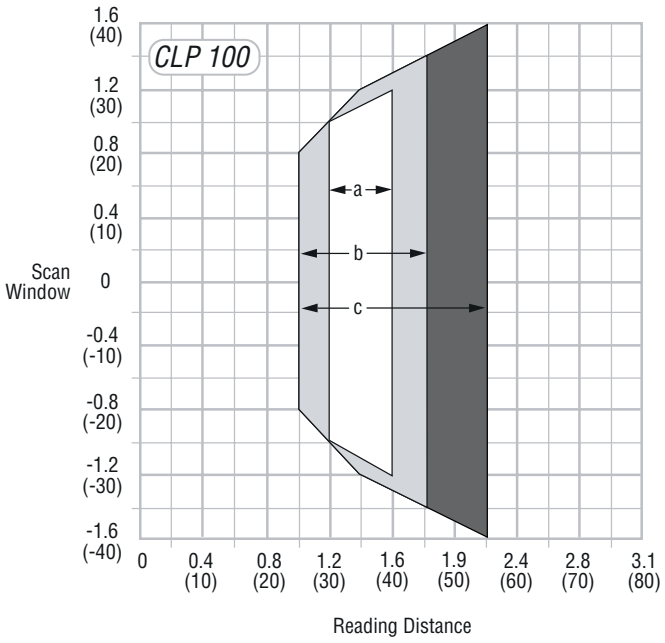
FEATURES

- All parameters user selectable
- CCD integrated scanner and decoder
- Economical scanning solution
- High speed (500 Hz)
- Side emitting or front emitting
- Super compact size
- Windows™-based setup software

Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLP 100	Standard	1.0…2.2 in (25…55 mm)	0.005…0.040 in (0.125…1.0 mm)	500 Hz

Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ CCD Line	✓ Fixed Focus	✓ Standard	✓ Front Emitting
Raster	Focus Control	PCX	✓ Side Emitting
Oscillating Mirror	Dynamic Focus Control	SMART	Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*



Code Resolution

- a: 0.006 in (0.15 mm)
- b: 0.008 in (0.20 mm), 0.010 in (0.25 mm)
- c: 0.014 in (0.35 mm), 0.020 in (0.50 mm), 0.040 in (1.00 mm)

CLP 100

TECHNICAL SPECIFICATIONS

	CLP 100
Scanning Characteristics	
Scanning Method	CCD
Scanning Frequency	500 Hz
Light Source	Visible red light (630 nm)
Reading Distance (Bar Code Dependent)	1.0…2.2 in (25…55 mm)
Resolution	0.005…0.040 in (0.125…1.0 mm)
Bar Code Types	
Bar Code Symbology	Code 39, Interleaved 2/5, Code 128, EAN, Codabar, Interleaved 2/5 B
Readability	10 bar codes per reading gate
Auto Discrimination	6 different symbologies per scan or reading gate
Communications / I/O / Indicators	
Host Interface	RS 232, variable data output format
Baud Rate	1,200…19,200 (software selectable)
Data Format	Data bits, stop bits, parity (software selectable)
LED Indicators	CCD on, reading gate on, good read, no read
Switching Inputs	1 x NPN, maximum 30 V DC
Switching Outputs	1 x NPN, maximum 50 mA
Trigger Methods	Sensor input (I/O interface) / Serial (host interface)
Mechanical / Electrical	
Supply Voltage	Operating voltage 5 V DC ± 5%
Current Consumption	350 mA
Dimensions	End scanning: 2.17 x 0.79 x 1.85 in (55 x 20 x 47 mm); Side scanning: 2.17 x .79 x 2.17 in (55 x 20 x 55 mm)
Weight	Approx. 7 oz (200 g)
Housing / Enclosure Rating	Metal / IP 40
Connectivity	Open cable, 9-pin D-Sub connector
Environmental	
Ambient Operating Temperature	32…104°F (0…40°C)
Storage Temperature	-4…158°F (-20…70°C)
EMV	To IEC 801
Maximum Relative Humidity	30…85%, non-condensing
Programming	Windows™-based CLP Setup Software



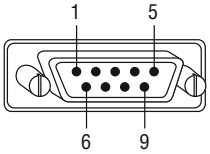


MODELS AND PART NUMBERS

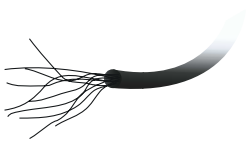
	Open Cable End	9-Pin Connector
Front Emitting Scanner		
Model	CLP 100-0110	CLP 100-0010
Part Number	1 018 333	1 018 331
Side Emitting Scanner		
Model	CLP 100-2110	CLP 100-2010
Part Number	1 018 334	1 018 332

PINOUTS

9-pin connector



Open cable end



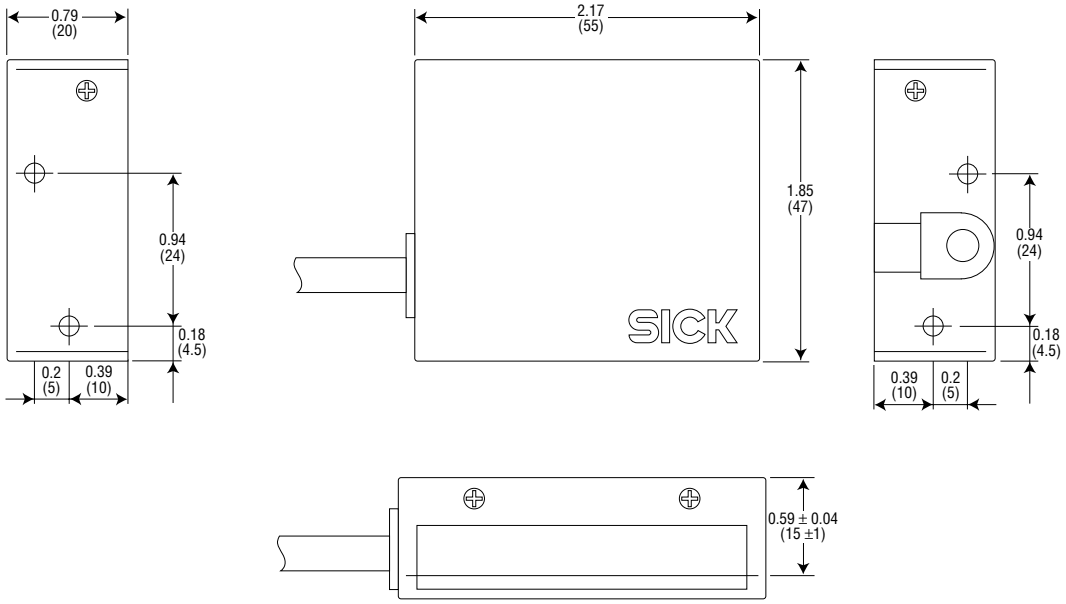
Pin	Signal
1	Sensor
2	RxD (RS 232), Host
3	TxD (RS 232), Host
4	Result “GO/NG”
5	GND
6	Not Assigned
7	RxD (RS 232, TTL), Terminal
8	TxD (RS 232, TTL), Terminal
9	DC +5 V

Color	Signal
Pink	Sensor
Brown	RxD (RS 232), Host
Gray	TxD (RS 232), Host
White	Result “GO/ND”
Black	GND
-	Not Assigned
Yellow	RxD (RS 232, TTL), Terminal
Orange	TxD (RS 232, TTL), Terminal
Red	DC +5 V
Blue	RTS
Green	CTS

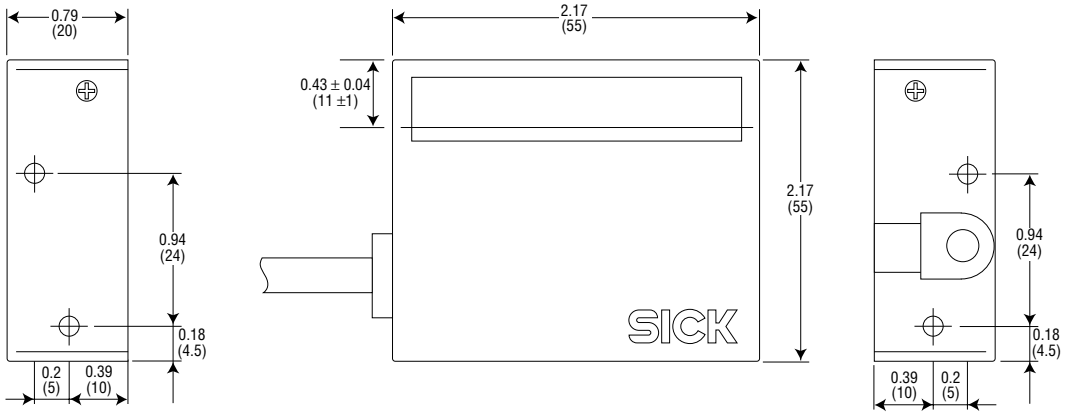
CLP 100

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

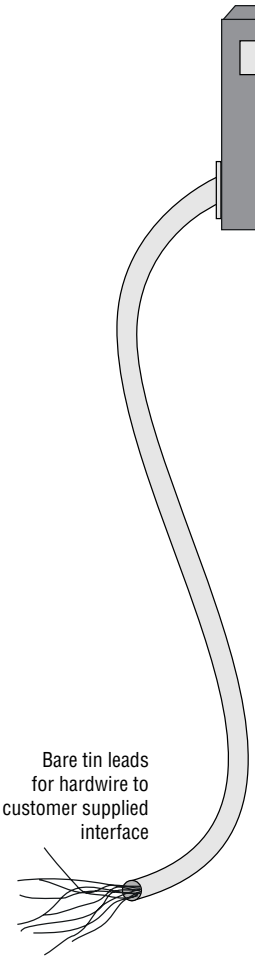
CLP 100 front emitting scanner

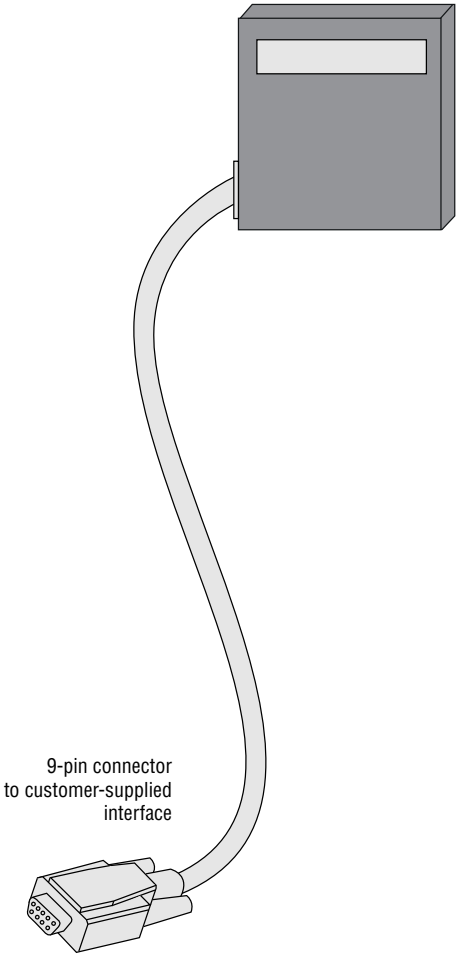


CLP 100 side emitting scanner



CONNECTION DRAWINGS





CLV 410/412/414

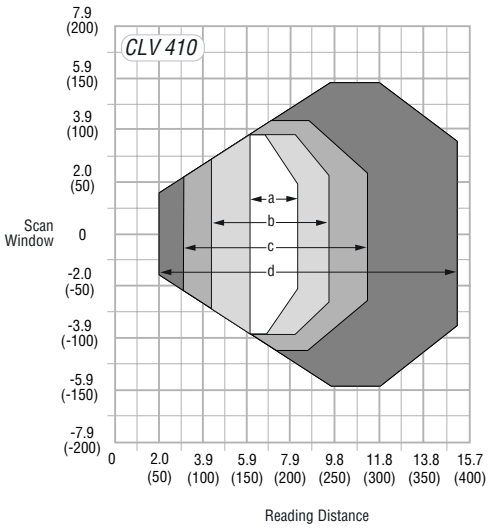
FEATURES

- All parameters user selectable
- Integrated scanner and decoder
- Profile programming- automatic setup
- Match code capability (match, mismatch and no read outputs)
- Automatic triggering with reflector
- Side emitting housing
- Windows™-based setup software
- Flexible input voltage (5…30 V DC)

Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 410	Standard	2.0…15.7 in (50…400 mm)	0.008…0.040 in (0.2…1.0 mm)	200…800 Hz (software selectable)
CLV 412	High Density	1.4…3.7 in (35…95 mm)	0.004…0.020 in (0.1…0.5 mm)	200…800 Hz (software selectable)
CLV 414	Standard (Close Range)	1.6…3.9 in (40…100 mm)	0.008…0.020 in (0.2…0.5 mm)	200…800 Hz (software selectable)

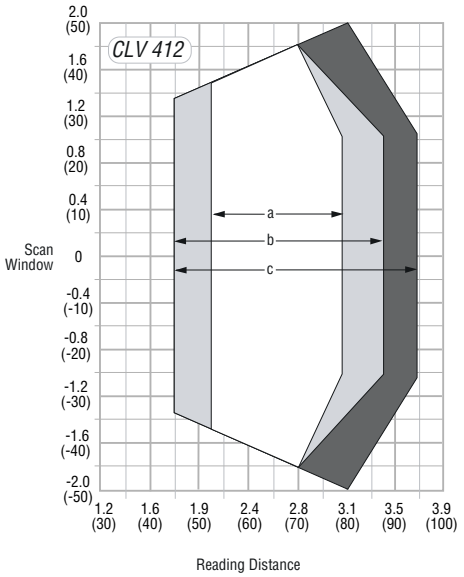
Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	✓ Fixed Focus	✓ Standard	✓ Front Emitting
✓ Raster	Focus Control	PCX	✓ Side Emitting
Oscillating Mirror	Dynamic Focus Control	SMART	Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*



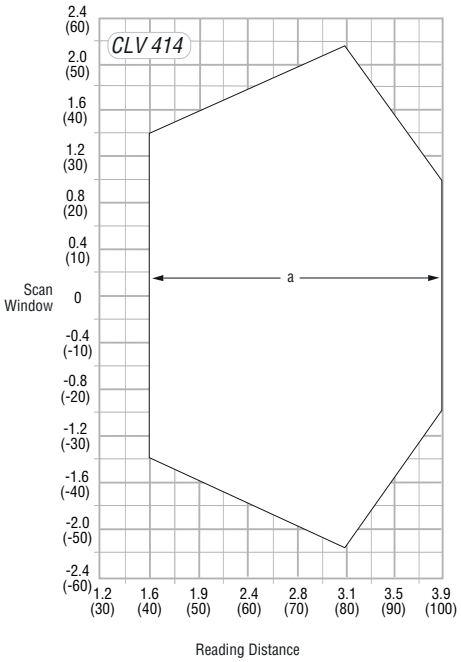
Code Resolution
- a: 0.008 in (0.20 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)
- d: 0.040 in (1.0 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window



Code Resolution
- a: 0.004 in (0.10 mm)
- b: 0.006 in (0.15 mm)
- c: 0.008 in (0.20 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window



Code Resolution
- a: 0.008 in (0.20 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window

CLV 410/412/414

TECHNICAL SPECIFICATIONS

	CLV 410	CLV 412	CLV 414
Scanning Characteristics			
Scanning Method	8-sided polygon mirror wheel		
Aperture Angle	Line/raster scanner: 60°; side emitting scanner: 50°		
Scanning Frequency	200…800 Hz (software selectable)		
Light Source	Visible laser diode (670 nm); CDRH Class II		
Reading Distance (Bar Code Dependent)	2.0…15.7 in (50…400 mm)	1.4…3.7 in (35…95 mm)	1.6…3.9 in (40…100 mm)
Resolution	0.008…0.040 in (0.2…1.0 mm)	0.004…0.008 in (0.1…0.2 mm)	0.008…0.020 in (0.2…0.5 mm)
Bar Code Types			
Bar Code Symbology	Code 39, Interleaved 2/5, Industrial 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128, Pharmacode		
Readability	10 bar codes per reading gate		
Auto Discrimination	3 different symbologies per scan or reading gate		
Communications / I/O / Indicators			
Host Interface	RS 232 and RS 422/485, variable data output format		
Baud Rate	300…57,600 (software selectable)		
Data Format	Data bits, stop bits, parity (software selectable)		
Network Configuration	Pass-through; master/slave; RS 485 network		
LED Indicators	Device ready, result, laser on, data		
Switching Inputs	2 x PNP, opto-decoupled, maximum 30 V DC		
Switching Outputs	3 x PNP, maximum 100 mA / 24 V DC; Output 1, Output 2, Output 3		
Trigger Methods	Sensor input (I/O interface) / Serial (Host interface) / Free running / Reflector polling (automatic)		
Mechanical / Electrical			
Supply Voltage	Operating voltage 5…30 V DC		
Current Consumption	125 mA at 24 V DC / 3.0 W		
Dimensions	Line/raster scanner: 2.3 x 2.5 x 1.4 in (59 x 62.7 x 35.2 mm); side emitting scanner: 2.8 x 2.5 x 1.4 in (72 x 62.7 x 35.2 mm)		
Weight	Approx. 8.75 oz (250 g)		
Housing / Enclosure Rating	Die cast zinc / IP 54		
Connectivity	15-pin male D-Sub high density cable, 3 ft (0.9 m) cable length		
Environmental			
Ambient Operating Temperature	32…104°F (0…40°C)		
Storage Temperature	-4…158°F (-20…70°C)		
Vibration	To IEC 68-2-6 test FC		
Shock	To IEC 68-2-27 test EA		
EMV	To IEC 801		
Maximum Relative Humidity	90%, non-condensing		
Programming	Windows™-based CLV Setup Software		



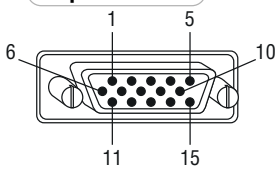


MODELS AND PART NUMBERS

	CLV 410	CLV 412	CLV 414
Front Emitting Line Scanner			
Model	CLV 410-0010	CLV 412-0010	CLV 414-0010
Part Number	1 015 421	1 017 527	1 017 368
Front Emitting Raster Scanner			
Model	CLV 410-1010	CLV 412-1010	CLV 414-1010
Part Number	1 015 427	1 017 528	1 016 767
Side Emitting Line Scanner			
Model	CLV 410-2010	CLV 412-2010	CLV 414-2010
Part Number	1 017 534	1 017 538	1 017 396
Side Emitting Raster Scanner			
Model	CLV 410-3010	CLV 412-3010	CLV 414-3010
Part Number	1 017 536	1 017 540	1 016 831

PINOUTS

15-pin connector



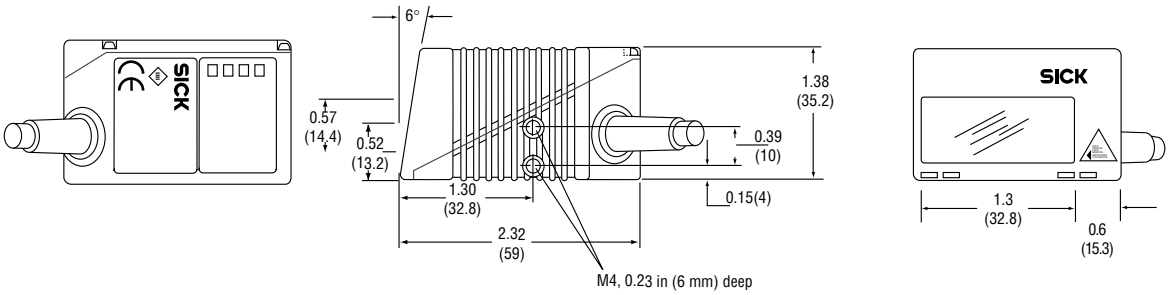
Pin	Signal	Function
1	DC 4.5…30 V	Supply voltage
2	Sensor 2[1]	Switching input teach-in (match code 1)
3	Result 3[2]	Switching output (to PLC)
4	Term RS 422	Termination for data interface 1
5	GND	Ground
6	RD+ (RS 422/485)	Data interface 1 (receiver)
7	RD- (RS 422/485)	Data interface 1 (receiver)
8	TD+ (RS 422/485)	Data interface 1 (transmitter)
9	TD- (RS 422/485)	Data interface 1 (transmitter)
10	RxD (RS 232)	Data interface 2 (receiver)
11	TxD (RS 232)	Data interface 2 (transmitter)
12	Result 1[2]	Switching output (to PLC)
13	Result 2[2]	Switching output (to PLC)
14	Sensor 1[3]	Switching input for ext. reading pulse
15	Sensor GND	Common ground (all inputs)
-	-	Shield

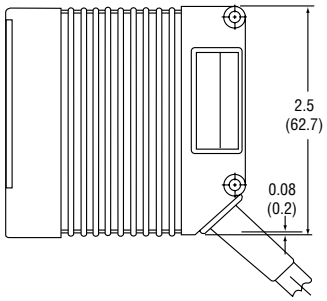
[1] 24 V DC input for Teach Mode
[2] 24 V DC output
[3] External sensor input (24 V DC @ 100 mA) for trigger

CLV 410/412/414

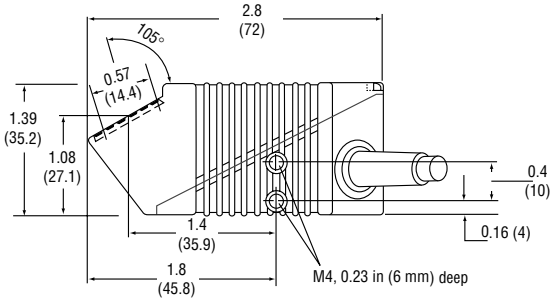
DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

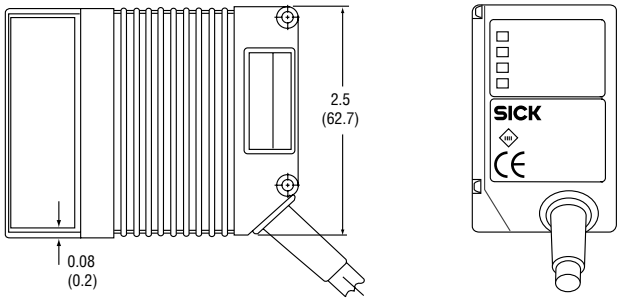
CLV 410/412/414 front emitting scanner



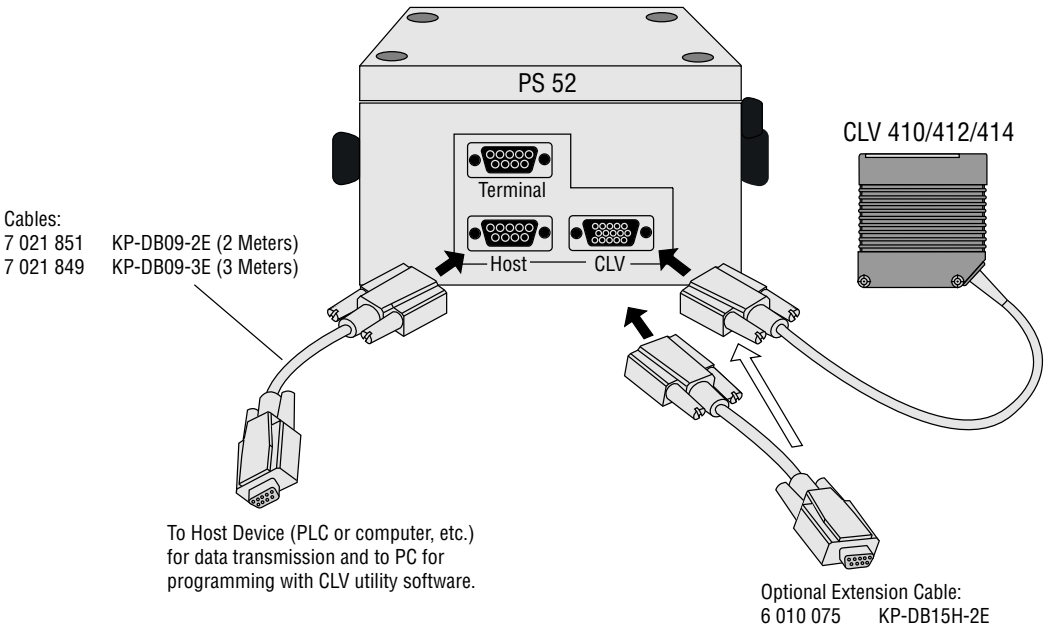


CLV 410/412/414 side emitting scanner





CONNECTION DRAWINGS



CLV 420/421/422

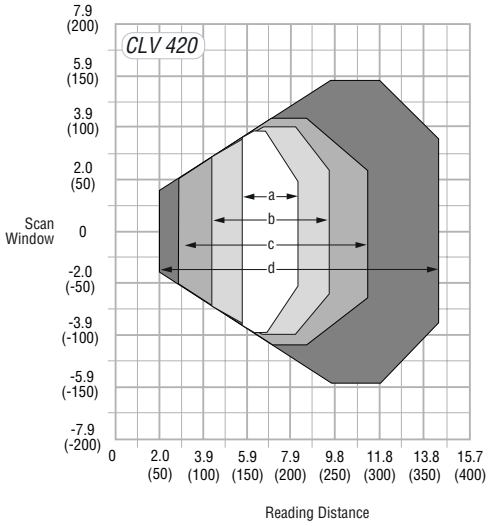
FEATURES

- High speed (1200 Hz)
- Ultra compact design
- Integrated CAN Bus network
- Automatic triggering
- Profile programming- automatic setup
- Real time decoding and diagnostics
- All parameters software selectable
- Match code capability (match, mismatch, no read outputs)

Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 420	Standard	2.0…14.0 in (50…365 mm)	0.008…0.040 in (0.20…1.0 mm)	400…1200 Hz (software selectable)
CLV 421	Standard (Long Range)	2.0…28.5 in (50…725 mm)	0.014…0.04 in (0.35…1.0 mm)	400…1200 Hz (software selectable)
CLV 422	High Density	1.5…8.0 in (40…200 mm)	0.006…0.02 in (0.15…0.5 mm)	400…1200 Hz (software selectable)

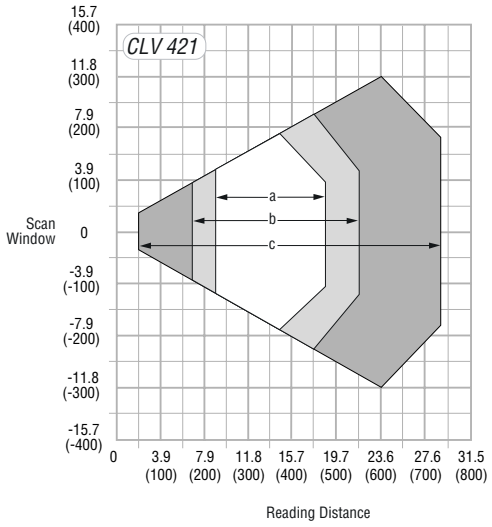
Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	✓ Fixed Focus	✓ Standard	✓ Front Emitting
✓ Raster	Focus Control	PCX	✓ Side Emitting
Oscillating Mirror	Dynamic Focus Control	SMART	Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*



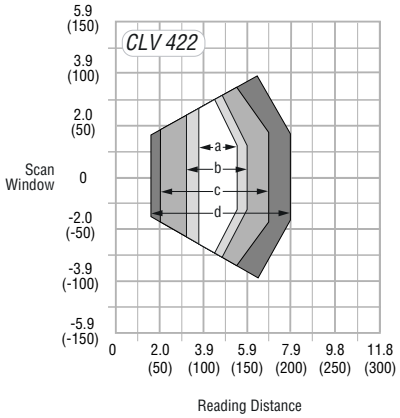
Code Resolution
- a: 0.008 in (0.20 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)
- d: 0.040 in (1.0 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window



Code Resolution
- a: 0.013 in (0.35 mm)
- b: 0.020 in (0.50 mm)
- c: 0.040 in (1.0 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window



Code Resolution
- a: 0.006 in (0.15 mm)
- b: 0.008 in (0.20 mm)
- c: 0.013 in (0.35 mm)
- d: 0.020 in (0.50 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.71 in (18 mm) toward the reading window

CLV 420/421/422

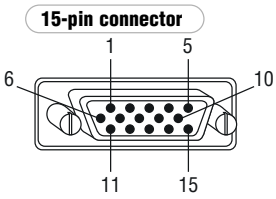
TECHNICAL SPECIFICATIONS

	CLV 420	CLV 421	CLV 422
Scanning Characteristics			
Scanning Method	8-sided polygon mirror wheel		
Aperture Angle	50°		
Scanning Frequency	400…1200 Hz (software selectable)		
Light Source	Visible laser diode (670 nm); CDRH Class II		
Reading Distance (Bar Code Dependent)	2.0…14.0 in (50…365 mm)	2.0…28.5 in (50…725 mm)	1.5…8.0 in (40…200 mm)
Resolution	0.008…0.040 in (0.20…1.0 mm)	0.014…0.04 in (0.35…1.0 mm)	0.006…0.02 in (0.15…0.5 mm)
Bar Code Types			
Bar Code Symbology	Code 39, Interleaved 2/5, Industrial 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128, Pharmacode		
Readability	10 bar codes per reading gate		
Auto Discrimination	3 different symbologies per scan or reading gate		
Communications / I/O / Indicators			
Host Interface	RS 232 and RS 422/485, variable data output (software selectable)		
Baud Rate	300…57,600 (software selectable)		
Data Format	Data bits, stop bits, parity (software selectable)		
Network Configuration	Pass-through; master/slave; RS 485 network, CAN Bus		
LED Indicators	Device ready, result, laser on, data		
Switching Inputs	2 x PNP, opto-decoupled, maximum 30 V DC		
Switching Outputs	2 x PNP, maximum 100 mA / 24 V DC; Output 1, Output 2		
Trigger Methods	Sensor input (I/O interface) / Serial (Host interface) / Free running / Reflector polling (automatic)		
Mechanical / Electrical			
Supply Voltage	Operating voltage 10…30 V DC		
Current Consumption	145 mA at 24 V DC / 3.5 W		
Dimensions	Line/raster scanner: 2.3 x 2.5 x 1.4 in (59 x 63 x 35 mm); side emitting scanner: 2.8 x 2.5 x 1.4 in (72 x 63 x 35 mm)		
Weight	Approx. 8.75 oz (250 g) including cable		
Housing / Enclosure Rating	Die cast zinc / IP 65		
Connectivity	15-pin male D-Sub high density cable, 3 ft (0.9 m) cable length		
Environmental			
Ambient Operating Temperature	32…104°F (0…40°C)		
Storage Temperature	-4…158°F (-20…70°C)		
Vibration	To IEC 60-2-6 test FC		
Shock	To IEC 60-2-27 test EA		
EMV	To IEC 801		
Maximum Relative Humidity	90%, non-condensing		
Programming	Windows™-based CLV Setup Software		

MODELS AND PART NUMBERS

	CLV 420	CLV 421	CLV 422
Front Emitting Line Scanner			
Model	CLV 420-0010	CLV 421-0010	CLV 422-0010
Part Number	1 022 031	1 022 547	1 022 548
Front Emitting Raster Scanner			
Model	CLV 420-1010	CLV 421-1010	CLV 422-1010
Part Number	1 022 032	1 022 616	1 022 619
Side Emitting Line Scanner			
Model	CLV 420-2010	CLV 421-2010	CLV 422-2010
Part Number	1 022 033	1 022 617	1 022 620
Side Emitting Raster Scanner			
Model	CLV 420-3010	CLV 421-3010	CLV 422-3010
Part Number	1 022 034	1 022 618	1 022 621

PINOUTS

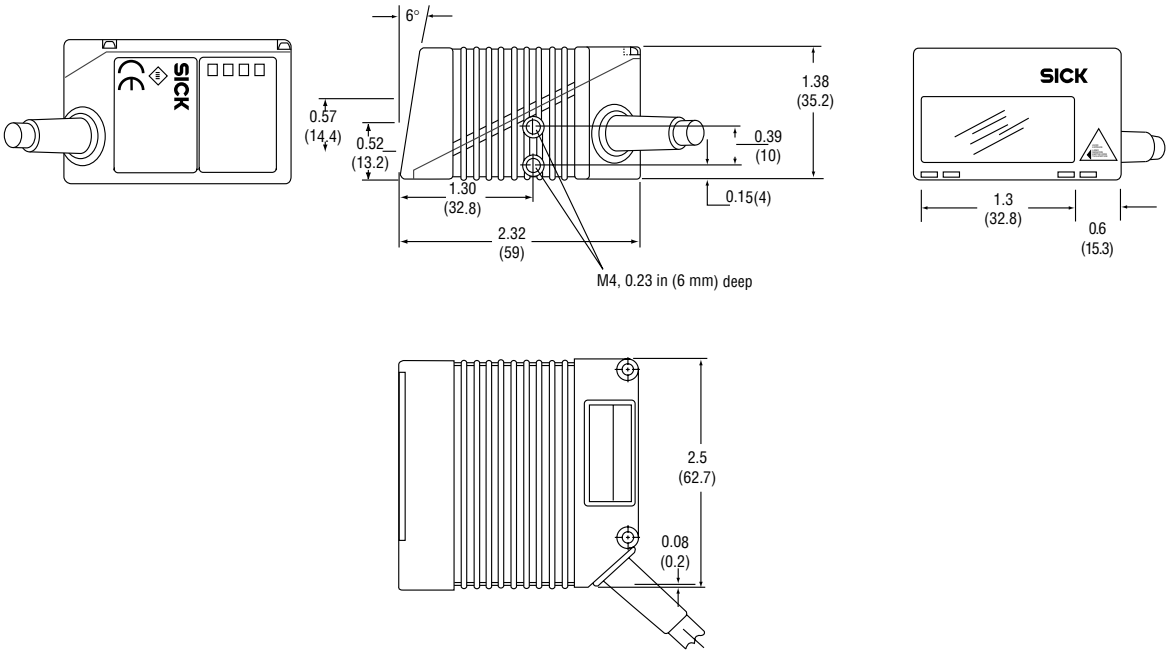


Pin	Signal	Function
1	10…30 V	Power supply
2	RxD (Terminal)	Terminal interface (receiver)
3	TxD (Terminal)	Terminal interface (transmitter)
4	Sensor 2	Switching input, variable function
5	GND	Ground
6	RD+ (RS 422/485)	Host interface (receiver)
7	RD- (RS 422/485)	Host interface (receiver)
	RxD (RS 232)	-
8	TD+ (RS 422/485)	Host interface (transmitter)
9	TD- (RS 422/485)	Host interface (transmitter)
	TxD (RS 232)	-
10	CAN H	CAN Bus (IN / OUT)
11	CAN L	CAN Bus (IN / OUT)
12	Result 1	Switching output, variable function
13	Result 2	Switching output, variable function
14	Sensor 1	Switching input for ext. reading pulse
15	Sensor GND	Common ground (all inputs)
-	-	Shield

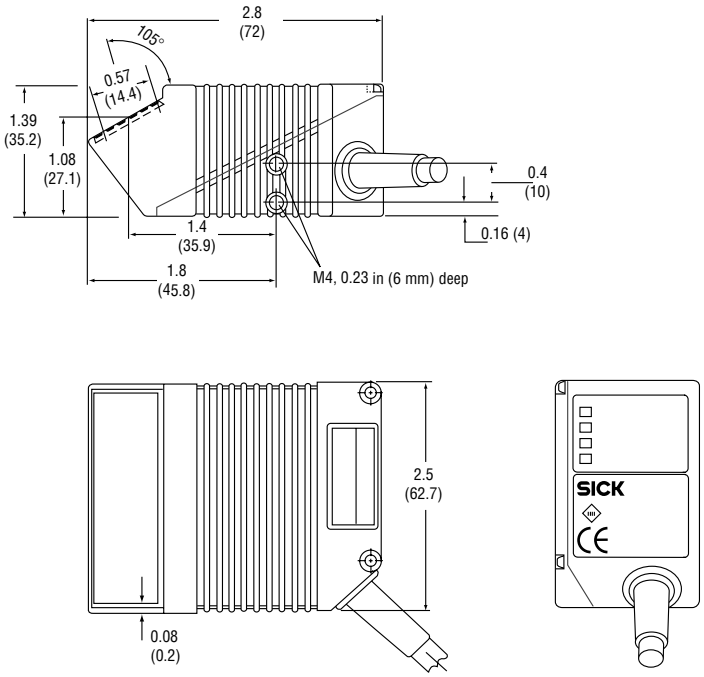
CLV 420/421/422

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

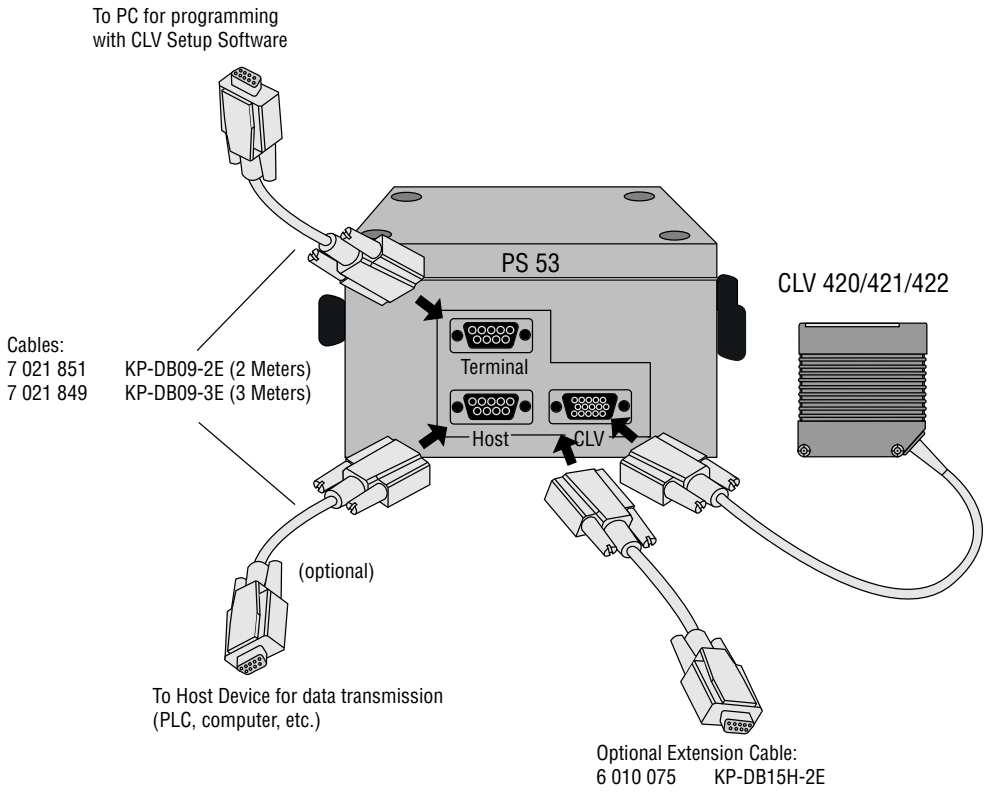
CLV 420/421/422 front emitting scanner



CLV 420/421/422 side emitting scanner



CONNECTION DRAWINGS



CLV 430/431/432

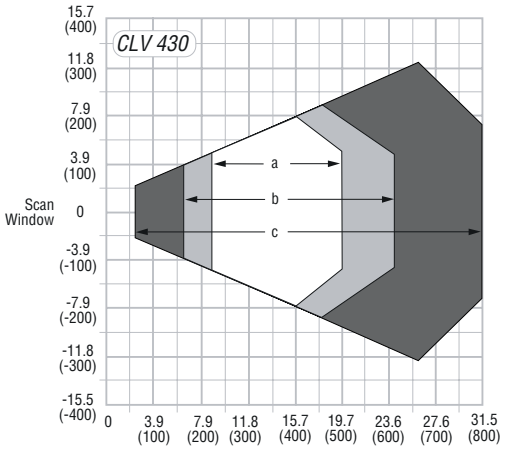
FEATURES

- Compact design
- Integrated CAN Bus network
- SMART technology
- Profile programming- automatic setup
- Real time decoding and diagnostics
- All parameters software selectable
- Automatic triggering
- Match code capability (match, mismatch, no read outputs)

Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 430	Standard	2.0…31.5 in (51…800 mm)	0.008…0.040 in (0.2…1.0 mm)	300…800 Hz (software selectable)
CLV 431	Standard	3.5…16.7 in (89…424 mm)	0.008…0.040 in (0.2…1.0 mm)	300…800 Hz (software selectable)
CLV 432	Standard (Close Range)	2.0…10.0 in (51…254 mm)	0.008…0.040 in (0.2…1.0 mm)	300…800 Hz (software selectable)

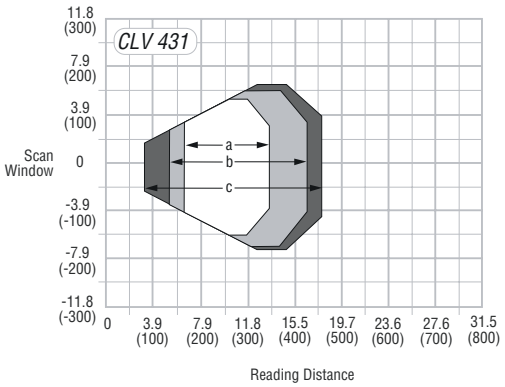
Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	✓ Fixed Focus	✓ Standard	✓ Front Emitting
✓ Raster	Focus Control	PCX	✓ Side Emitting
✓ Oscillating Mirror	Dynamic Focus Control	✓ SMART	✓ Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*



Code Resolution
- a: 0.013 in (0.35 mm)
- b: 0.02 in (0.50 mm)
- c: 0.040 in (1.0 mm)

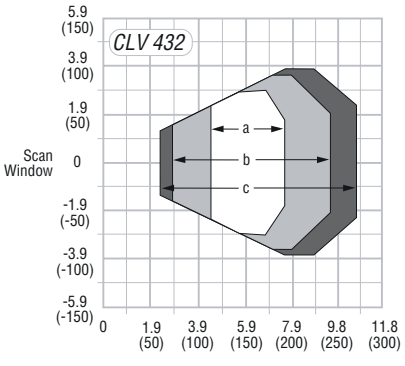
NOTE: Raster Height: The raster height is 0.60 in [15 mm (8 lines)] at a reading distance of 7.87 in (200 mm)



Code Resolution
- a: 0.010 in (0.25 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.79 in (20 mm) toward the reading window

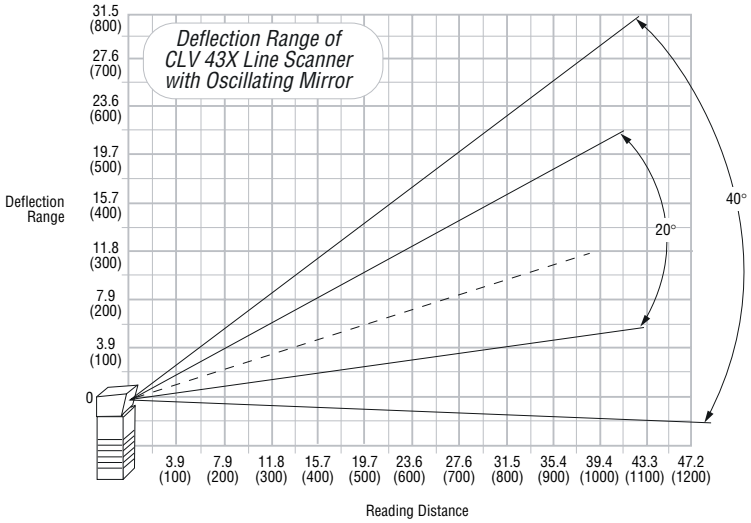
NOTE: Raster Height: The raster height is 0.60 in [15 mm (8 lines)] at a reading distance of 7.87 in (200 mm)



Code Resolution
- a: 0.008 in (0.20 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)

NOTE: Side Emitting Scanner: The entire reading field is shifted 0.79 in (20 mm) toward the reading window

NOTE: Raster Height: The raster height is 0.60 in [15 mm (8 lines)] at a reading distance of 7.87 in (200 mm)



CLV 430/431/432

TECHNICAL SPECIFICATIONS

	CLV 430	CLV 431	CLV 432
Scanning Characteristics			
Scanning Method	8-sided polygon mirror wheel		
Aperture Angle	Maximum 50°		
Scanning Frequency	300…800 Hz (software selectable)		
Light Source	Visible laser diode (670 nm); CDRH Class II		
Reading Distance (Bar Code Dependent)	2.0…31.5 in (51…800 mm)	3.5…16.7 in (89…424 mm)	2.0…10.0 in (51…254 mm)
Resolution	0.008…0.040 in (0.2…1.0 mm)		
Bar Code Types			
Bar Code Symbology	Code 39, Interleaved 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128, Pharmacode		
Readability	1 to 20 bar codes per reading gate (standard decoder); 1 to 6 (SMART)		
Auto Discrimination	8 different symbologies per scan or reading gate		
Communications / I/O / Indicators			
Host Interface	RS 232 and RS 422/485, variable data output format (software selectable)		
Baud Rate	300…57,600 (software selectable)		
Data Format	Data bits, stop bits, parity (software selectable)		
Network Configuration	Pass-through; master/slave; RS 485 network; CAN Bus		
LED Indicators	Device ready, result, sensor, data		
Switching Inputs	2 x PNP, opto-decoupled, maximum 30 V DC		
Switching Outputs	2 x PNP, maximum 100 mA / 24 V DC		
Trigger Methods	Sensor input (I/O interface) / Serial (host interface) / Free running / Reflector polling (automatic)		
Mechanical / Electrical			
Supply Voltage	Operating voltage 10…30 V DC		
Current Consumption	Line/raster scanner: 208 mA at 24 V DC / 5.0 W; Osc mirror: 258 mA at 24 V DC / 6.2 W		
Dimensions	Line/raster scanner: 3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm); Osc mirror: 3.9 x 3.6 x 1.5 in (99.8 x 92.2 x 37.8 mm)		
Weight	Approx. 14.7 oz (420 g)		
Housing / Enclosure Rating	Die cast zinc / IP 65		
Connectivity	15-pin male D-Sub high density connector		
Environmental			
Ambient Operating Temperature	32…104°F (0…40°C)		
Storage Temperature	-4…158°F (-20…70°C)		
Vibration	To IEC 68-2-6 test FC		
Shock	To IEC 68-2-27 test EA		
EMV	To IEC 801		
Maximum Relative Humidity	90%, non-condensing		
Programming	Windows™-based CLV Setup Software		



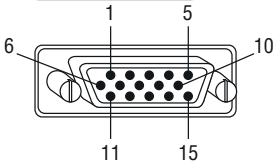


MODELS AND PART NUMBERS

	CLV 430	CLV 431	CLV 432
Front Emitting Line Scanner			
Model	CLV 430-0010	CLV 431-0010	CLV 432-0010
Part Number	1 017 585	1 017 622	1 017 623
Front Emitting Raster Scanner			
Model	CLV 430-1010	CLV 431-1010	CLV 432-1010
Part Number	1 016 705	1 016 679	1 016 680
Side Emitting Line Scanner			
Model	-	CLV 431-2010	CLV 432-2010
Part Number	-	1 016 746	1 016 748
Side Emitting Raster Scanner			
Model	-	CLV 431-3010	CLV 432-3010
Part Number	-	1 016 747	1 016 749
Oscillating Mirror Scanner			
Model	CLV 430-6010	CLV 431-6010	CLV 432-6010
Part Number	1 017 981	1 017 982	1 017 983

PINOUTS

15-pin connector

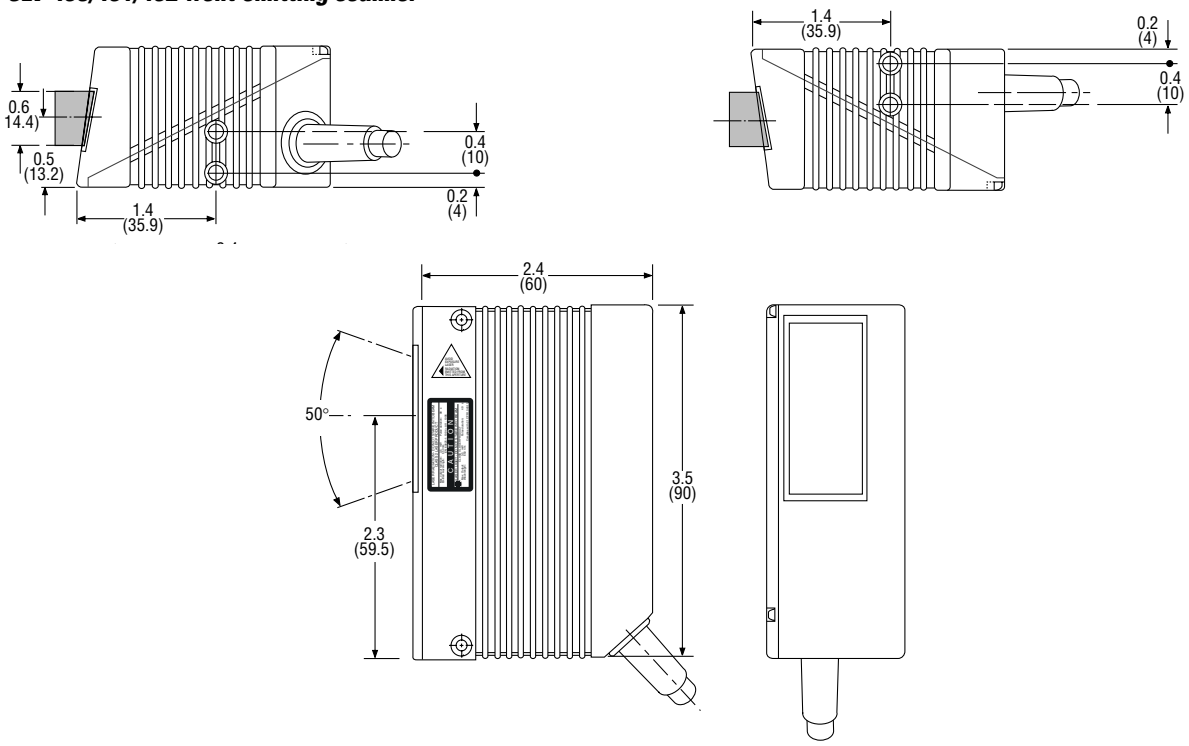


Pin	Signal	Function
1	10…30 V	Supply voltage
2	RxD (Terminal)	Data interface 2 (receiver)
3	TxD (Terminal)	Data interface 2 (transmitter)
4	Sensor 2	Switching input, variable function
5	GND	Ground
6	RD+ (RS 422/485)	Data interface 1 (receiver)
7	RD- (RS 422/485)	Data interface 1 (receiver)
	RxD (RS 232)	-
8	TD+ (RS 422/485)	Data interface 1 (transmitter)
9	TD- (RS 422/485)	Data interface 1 (transmitter)
	TxD (RS 232)	-
10	CAN H	CAN Bus (IN / OUT)
11	CAN L	CAN Bus (IN / OUT)
12	Result 1	Switching output, variable function
13	Result 2	Switching output, variable function
14	Sensor 1	Switching input for ext. reading pulse
15	Sensor GND	Common ground (all inputs)
-	-	Shield

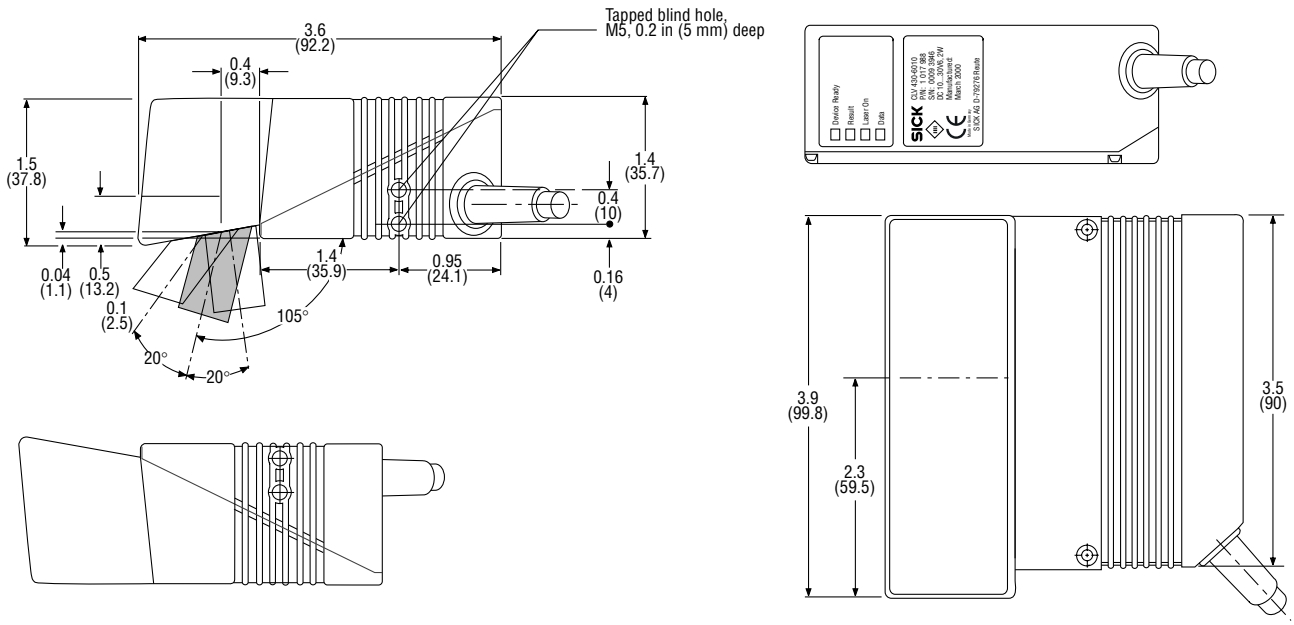
CLV 430/431/432

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

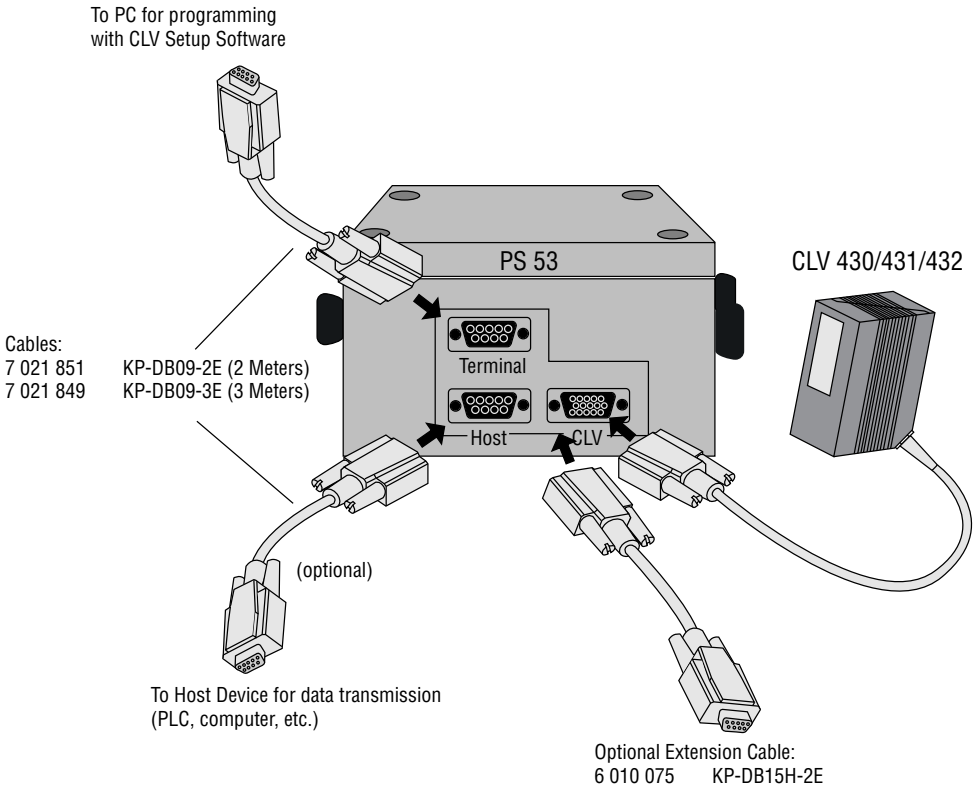
CLV 430/431/432 front emitting scanner



CLV 430/431/432 oscillating mirror scanner



CONNECTION DRAWINGS



CLV 440/442

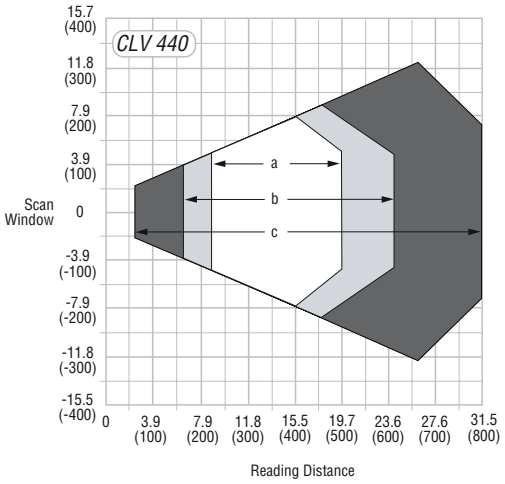
FEATURES

- Compact design
- Dynamic Focus Control
- Integrated CAN Bus network
- SMART technology
- Automatic triggering
- Profile programming- automatic setup
- Real time decoding and diagnostics
- All parameters user selectable

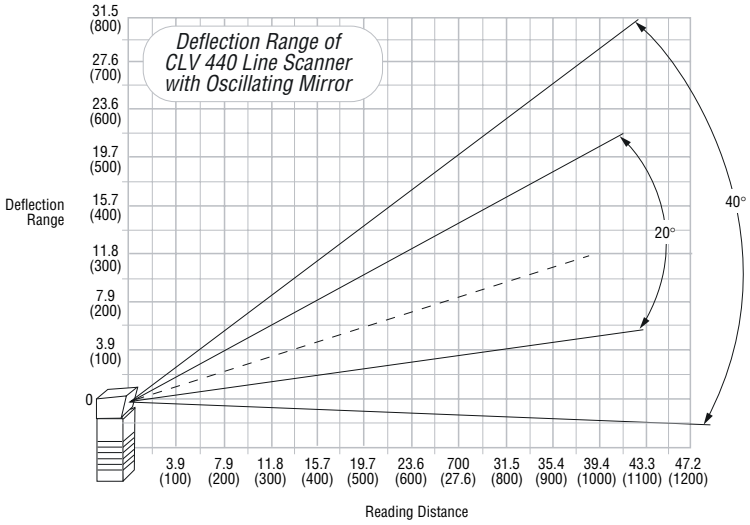
Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 440	Standard	2.0…31.5 in (51…800 mm)	0.008…0.040 in (0.2…1.0 mm)	300…800 Hz (software selectable)
CLV 442	High Density	1.2…13.4 in (30…340 mm)	0.005…0.014 in (0.15…0.35 mm)	300…800 Hz (software selectable)

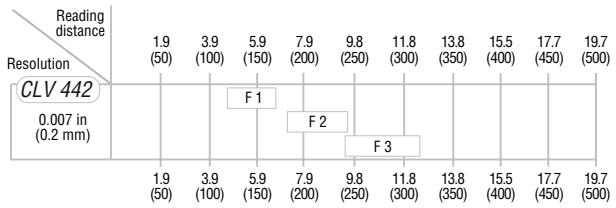
Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	Fixed Focus	✓ Standard	✓ Front Emitting
Raster	Focus Control	PCX	Side Emitting
✓ Oscillating Mirror	✓ Dynamic Focus Control	✓ SMART	✓ Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*



Code Resolution
- a: 0.013 in (0.35 mm)
- b: 0.02 in (0.50 mm)
- c: 0.040 in (1.0 mm)





Focus Position
F 1: 5.5 in (140 mm)
F 2: 8.5 in (215 mm)
F 3: 11.0 in (280 mm)

fixed position scanners

CLV 440/442

TECHNICAL SPECIFICATIONS

	CLV 440	CLV 442
Scanning Characteristics		
Scanning Method	8-sided polygon mirror wheel	
Aperture Angle	Maximum 50°	
Scanning Frequency	300…800 Hz (software selectable)	
Light Source	Visible laser diode (670 nm); CDRH Class II	
Reading Distance (Bar Code Dependent)	2…31.5 in (51…800 mm)	1.2…13.4 in (30…340 mm)
Resolution	0.008…0.040 in (0.2…1.0 mm)	0.005…0.013 in (0.15…0.35 mm)
Bar Code Types		
Bar Code Symbology	Code 39, Interleaved 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128, Pharmacode	
Readability	1 to 20 bar codes per reading gate (standard decoder); 1 to 6 (SMART)	
Auto Discrimination	8 different symbologies per scan or reading gate	
Communications / I/O / Indicators		
Host Interface	RS 232 and RS 422/485, variable data output format (software selectable)	
Baud Rate	300…57,600 (software selectable)	
Data Format	Data bits, stop bits, parity (software selectable)	
Network Configuration	Pass-through; master/slave; RS 485 network; CAN Bus	
LED Indicators	Device ready, result, laser on, data	
Switching Inputs	2 x PNP, Opto-decoupled / maximum 30 V DC	
Switching Outputs	2 x PNP, 100 mA / 24 V DC; variable pulse duration (10…990 ms)	
Trigger Methods	Sensor input (I/O interface) / Serial (host interface) / Free running / Reflector polling (automatic)	
Mechanical / Electrical		
Supply Voltage	Operating voltage 10…30 V DC	
Current Consumption	Line scanner: 208 mA at 24 V DC / 5.0 W; Osc mirror: 258 mA at 24 V DC / 6.2 W	
Dimensions	Line scanner: 3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm); Osc mirror: 3.9 x 3.6 x 1.5 in (99.8 x 92.2 x 37.8 mm)	
Weight	Approx. 1.0 lb (480 g)	
Housing / Enclosure Rating	Die cast zinc / IP 65	
Connectivity	15-pin male D-Sub high density connector	
Environmental		
Ambient Operating Temperature	32…104°F (0…40°C)	
Storage Temperature	-4…158°F (-20…70°C)	
Vibration	To IEC 68-2-6 test FC	
Shock	To IEC 68-2-27 test EA	
EMV	To IEC 801	
Maximum Relative Humidity	90%, non-condensing	
Programming	Windows™-based CLV Setup Software	



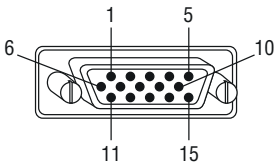


MODELS AND PART NUMBERS

	CLV 440	CLV 442
Front Emitting Line Scanner		
Model	CLV 440-0010	CLV 442-0010
Part Number	1 017 588	1 017 595
Oscillating Mirror Scanner		
Model	CLV 440-6010	-
Part Number	1 017 984	-

PINOUTS

15-pin connector

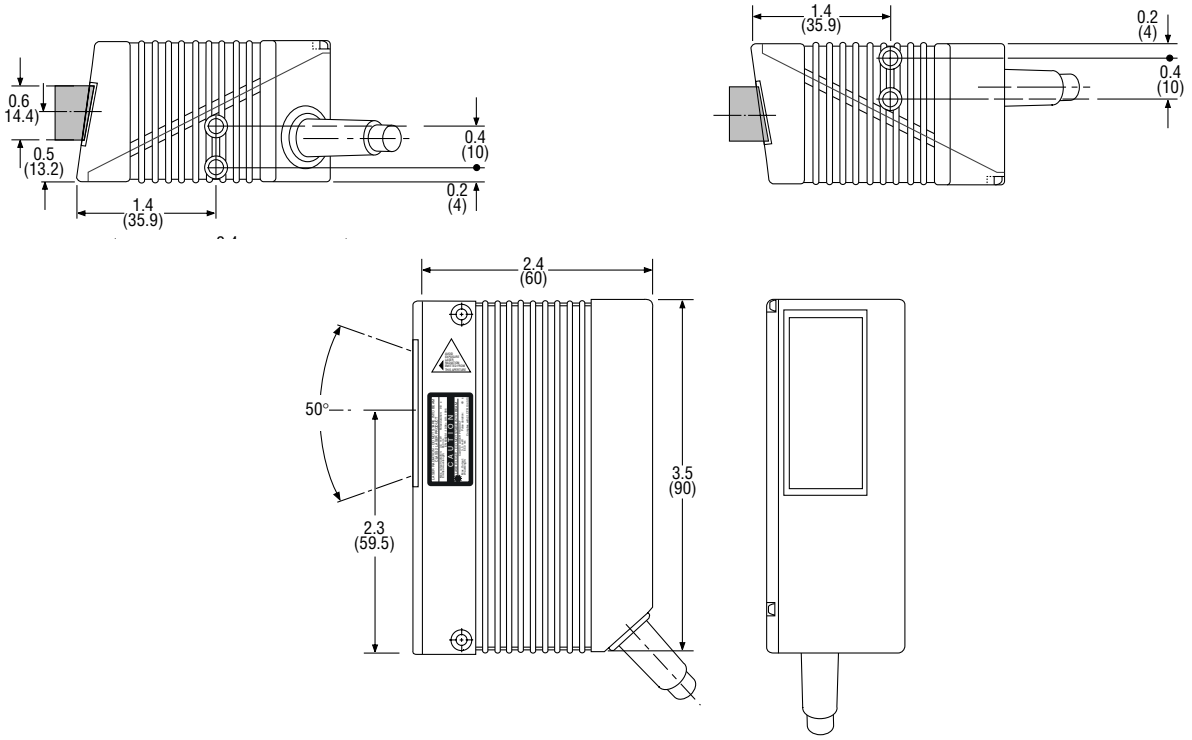


Pin	Signal	Function
1	10…30 V	Supply voltage
2	RxD (Terminal)	Data interface 2 (receiver)
3	TxD (Terminal)	Data interface 2 (transmitter)
4	Sensor 2	Switching input, variable function
5	GND	Ground
6	RD+ (RS 422/485)	Data interface 1 (receiver)
7	RD- (RS 422/485)	Data interface 1 (receiver)
	RxD (RS 232)	-
8	TD+ (RS 422/485)	Data interface 1 (transmitter)
9	TD- (RS 422/485)	Data interface 1 (transmitter)
	TxD (RS 232)	-
10	CAN H	CAN Bus (IN / OUT)
11	CAN L	CAN Bus (IN / OUT)
12	Result 1	Switching output, variable function
13	Result 2	Switching output, variable function
14	Sensor 1	Switching input for ext. reading pulse
15	Sensor GND	Common ground (all inputs)
-	-	Shield

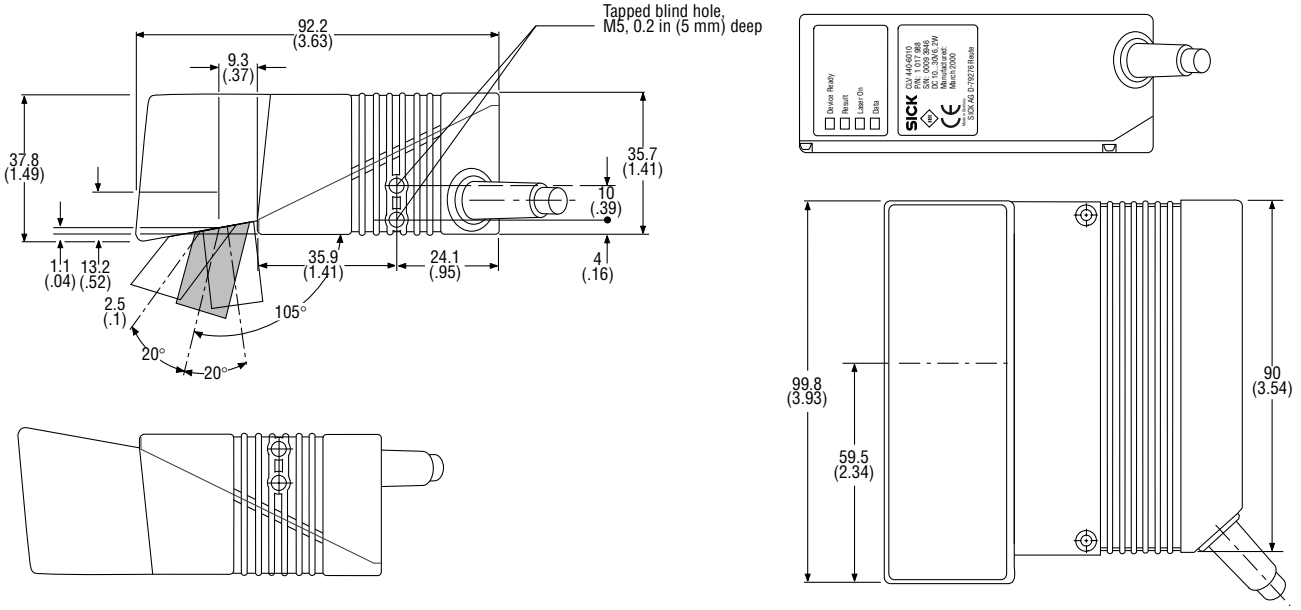
CLV 440/442

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

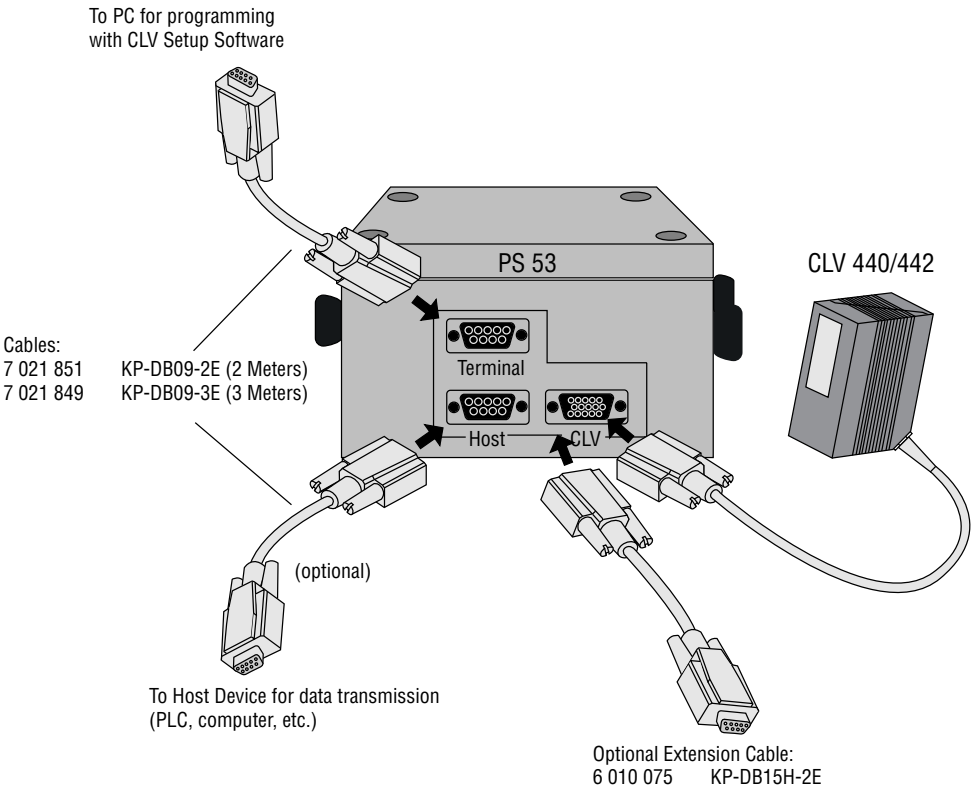
CLV 440/442 front emitting scanner



CLV 440 oscillating mirror scanner



CONNECTION DRAWINGS



CiMAX® 7500A/7550A/7555A

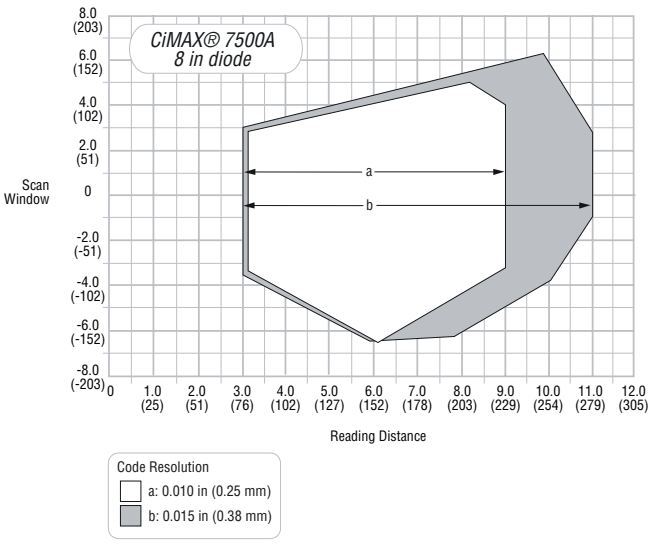
FEATURES

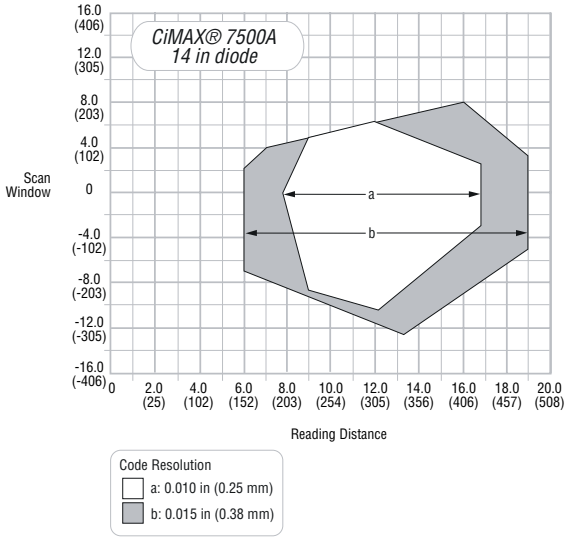
- Up to 1200 Hz
- "C" programmable
- Factory configured to meet specific applications needs
- Minimizes post-processing of data
- Open architecture, connects to factory network
- SDS, DeviceNet and Ethernet connectivity
- CIX® (Code Information eXtraction) Technology
- Integrated scanner and decoder

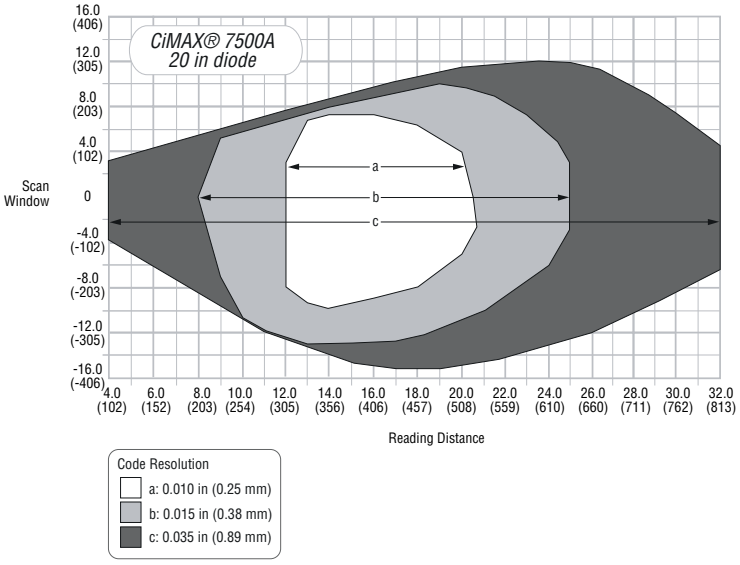
Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CiMAX 7500A	Standard	2.0…38.0 in (51…965 mm)	0.008 in (0.20 mm)	1200 Hz
CiMAX 7550A	Standard	2.0…38.0 in (51…965 mm)	0.008 in (0.20 mm)	1200 Hz
CiMAX 7555A	Standard	2.0…38.0 in (51…965 mm)	0.008 in (0.20 mm)	1200 Hz

Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	✓ Fixed Focus	✓ Standard	✓ Front Emitting
✓ Raster	Focus Control	PCX	✓ Side Emitting
✓ Oscillating Mirror	Dynamic Focus Control	✓ CIX	Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*







CiMAX® 7500A/7550A/7555A

TECHNICAL SPECIFICATIONS

	7500A	7550A/7555A
Scanning Characteristics		
Aperture Angle*	Maximum 60°	
Scanning Frequency*	1200 Hz	
Light Source*	Visible laser diode (670 nm); CDRH Class II	
Reading Distance (Bar Code Dependent)*	2.0…38.0 in (51…965 mm)	
Maximum Depth of Field	36.0 in (914 mm)	
Resolution*	0.008 in (0.20 mm)	
Bar Code Types		
Bar Code Symbology*	Code 39, Interleaved 2/5, Codabar, Code 93, EAN, UPC, Code 128	
Communications / I/O / Indicators		
Communications	1 asynchronous serial host port RS 422/232; 1 asynchronous serial terminal port RS 232; 1 LAN port with Starnode protocol RS 485; 1 Ethernet port 10 base 2 connection (optional)/SDS/DeviceNet™	
LED Indicators	Setup, Presence, Decode, XMIT/RCV, I/O, Power/Laser On	
Switching Inputs	8 x PNP, opto-decoupled / maximum 30 V DC	
Switching Outputs	8 x PNP, maximum 150 mA / 30 V DC	
Trigger Methods	Sensor input (I/O interface) / Serial (host interface) / Free running	
Setup Diagnostics	Via terminal port using CiMAX® 1400 or PC	
Process Control	32-bit processor with 256 K/1 MB non-volatile RAM, “C” programmable	
Mechanical / Electrical		
Current Consumption	12 V DC ± 5%, 1…5 A, 12 V DC ± 5%, 1A, 5 V DC ± 5%, 1 A (with Ethernet)	
Dimensions (L x W x H)	4.5 x 4.31 x 5.75 in (114 x 109 x 146 mm)	7.0 x 4.31 x 5.75 in (178 x 109 x 146 mm)
Weight	Approx. 3.5 lb (1.6 kg)	Approx. 4.4 lb (2.02 kg)
Housing / Enclosure Rating	Epoxy powder-coated aluminum, NEMA 12 / IP 65 dust and drip proof	
Connectivity	2 9-pin D-Sub connectors (1 male / 1 female), 1 25-pin D-Sub connector (female)	
Environmental		
Ambient Operating Temperature	32…122° F (0…50° C)	
Relative Humidity	5…95%, non-condensing	
Programming	Windows™-based CiMenu32™ Software	

**Actual operational specifications are optimized for each application during factory configuration*

Options

- *CIX® Technology*
- *Ethernet Interface*
- *16-side polygon discrete raster*
- *Interface box with provisions for isolation and connections to Opto-22 style solid state relays*





CiMAX® 7500A/7550A/7555A

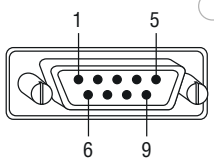
MODELS AND PART NUMBERS

	CiMAX 7500A	CiMAX 7550A	CiMAX 7555A
Front Emitting Line Scanner			
Model Configuration*	7500A-A B C D E F	7550A-A B C D E F	7555A-A B C D E F
Part Number	*	*	*

**See possible scanner configurations in Part Numbers and Accessories section, pages 128-131.*

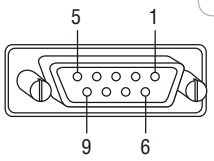
PINOUTS

9-pin male connector — **Host**



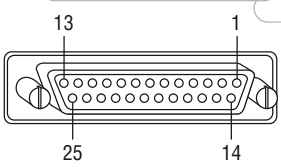
Pin	Signal
1	Host T422+
2	Host RxD
3	Host TxD
4	Setup RxD
5	Ground
6	Host T422-
7	Host R422+
8	Setup TxD
9	Host R422-

9-pin female connector — **Starnode/Setup**



Pin	Signal
1	LAN+ (blue wire)
2	TERM DETECT
3	LAN- (white wire)
4	Ground
5	Frame Ground (cable shield)
6	Ground
7	TERM RxD
8	TERM TxD
9	5 V DC, 500 mA max

25-pin female connector — **I/O**

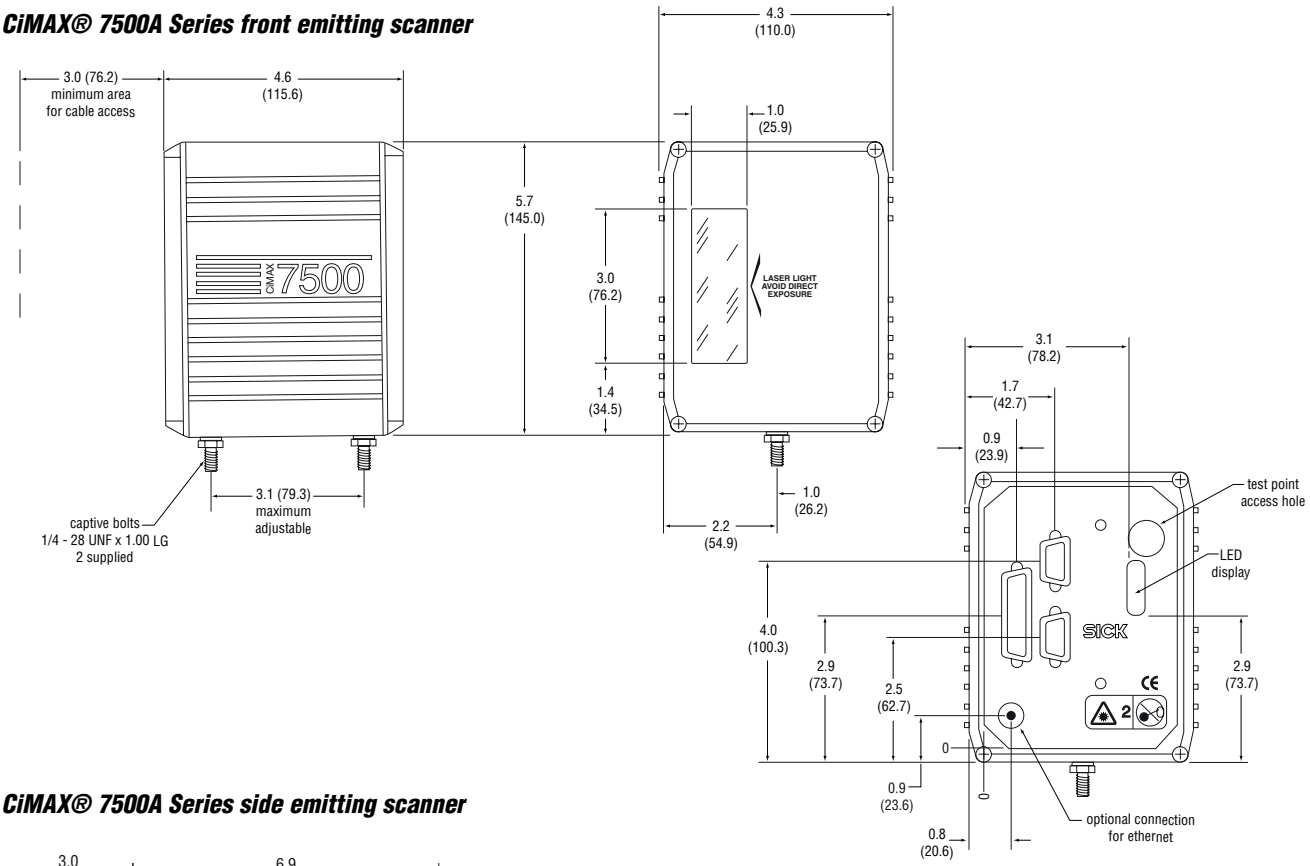


Pin	Signal
1	Input 1 (INZONE PRESENCE)
2	Input 2 (OUTZONE PRESENCE)
3	Input 3 (TACHOMETER)
4	Input 4 (HEIGHT SENSOR 1)
5	Input 5 (HEIGHT SENSOR 2)
6	Input 6 (HEIGHT SENSOR 3)
7	Input 7 (HEIGHT SENSOR 4)
8	Input 8 (HEIGHT SENSOR 5)
9	Output 1 (NO READ)
10	Output 2 (MATCH)
11	Output 3 (NO MATCH)
12	Output 4 (BEEPER)
13	Output 5
14	Output 6
15	Output 7
16	Output 8
17	Laser control
18	Frame Ground
19	12 V DC
20	12 V DC
21	Ground
22	Ground
23	Ground
24	5 V DC
25	5 V DC

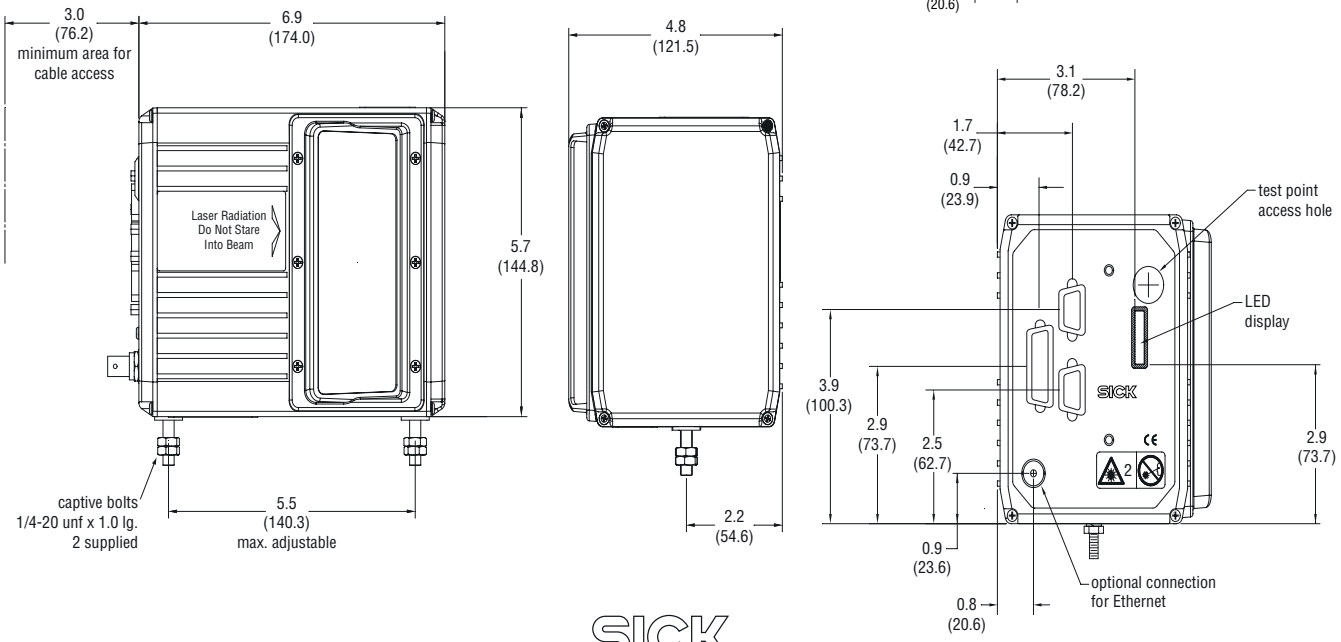
CiMAX® 7500A/7550A/7555A

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

CiMAX® 7500A Series front emitting scanner

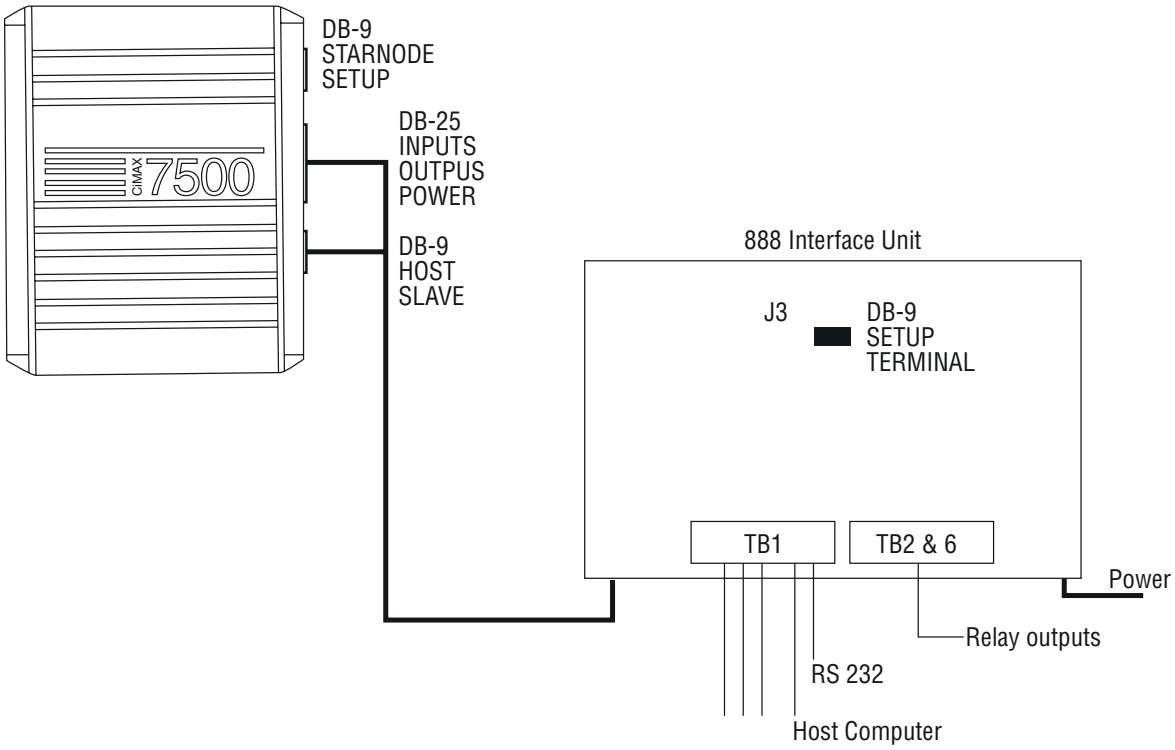


CiMAX® 7500A Series side emitting scanner



CiMAX® 7500A/7550A/7555A

CONNECTION DRAWINGS



CLV 450

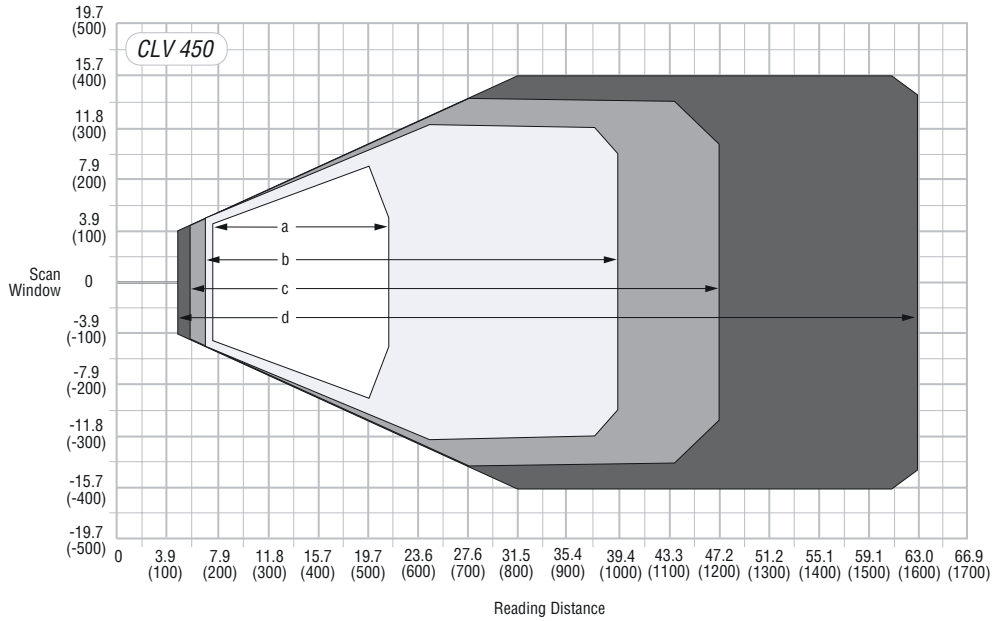
FEATURES

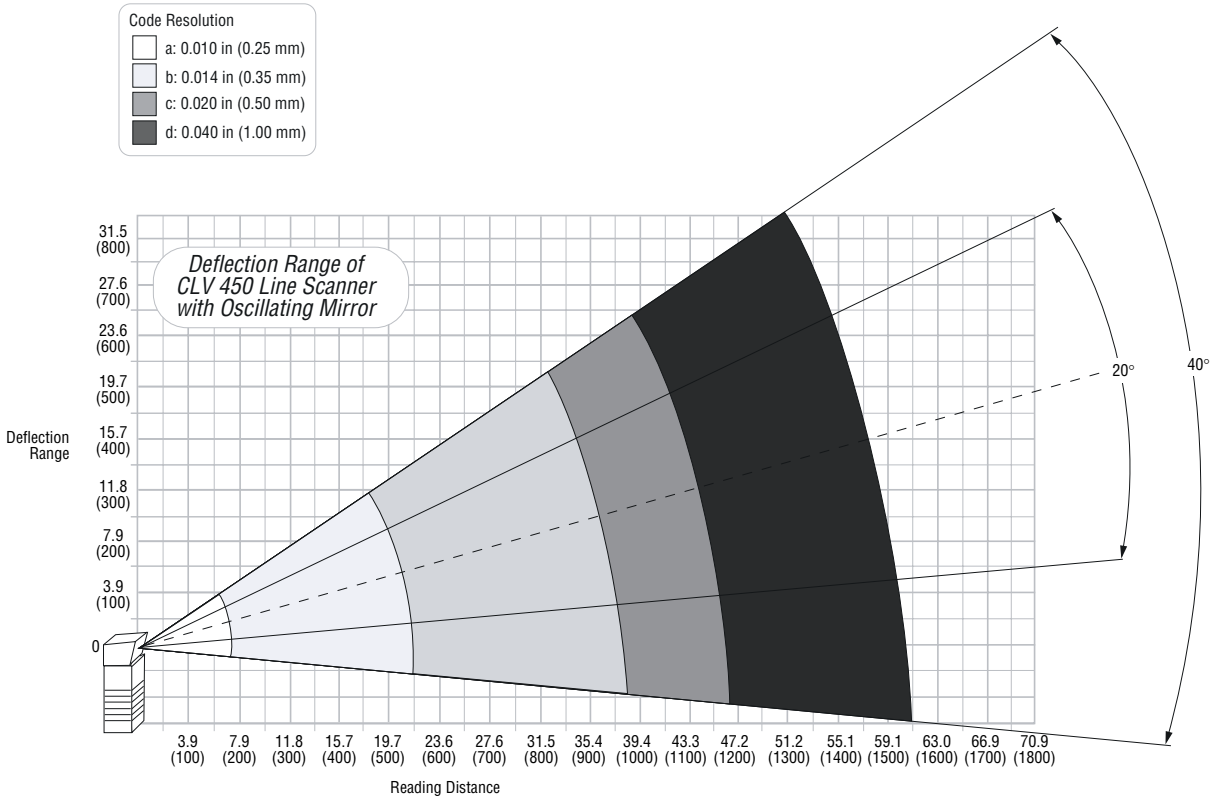
- Extremely large depth of field
- Compact design
- High speed (1000 Hz)
- Dynamic Focus Control
- Integrated CAN Bus network
- SMART technology
- Profile programming- automatic setup
- All parameters user selectable
- Automatic triggering

Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 450	Standard	6.2…62.9 in (160…1600 mm)	0.01…0.040 in (0.25…1.0 mm)	400…1000 Hz (software selectable)

Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	Fixed Focus	✓ Standard	✓ Front Emitting
Raster	Focus Control	PCX	Side Emitting
✓ Oscillating Mirror	✓ Dynamic Focus Control	✓ SMART	✓ Oscillating Mirror
*ordered separately		**user selectable	*ordered separately

READING RANGES *Dimensions in inches (mm)*





CLV 450

TECHNICAL SPECIFICATIONS

	CLV 450
Scanning Characteristics	
Scanning Method	8-sided polygon mirror wheel
Aperture Angle	Maximum 50°
Scanning Frequency	400…1000 Hz (software selectable)
Light Source	Visible laser diode (650 nm); CDRH Class II
Reading Distance (Bar Code Dependent)	6.2…62.9 in (160…1600 mm)
Resolution	0.010…0.040 in (0.25…1.0 mm)
Bar Code Types	
Bar Code Symbology	Code 39, Interleaved 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128, Pharmacode
Readability	1 to 20 bar codes per reading gate (standard decoder); 1 to 6 (SMART)
Auto Discrimination	8 different symbologies per scan or reading gate
Communications / I/O / Indicators	
Host Interface	RS 232 and RS 422/485, variable data output format (software selectable)
Baud Rate	300…57,600 (software selectable)
Data Format	Data bits, stop bits, parity (software selectable)
Network Configuration	Pass-through; master/slave; RS 485 network; CAN Bus
LED Indicators	Device ready, result, laser on, data
Switching Inputs	2 x PNP, opto-decoupled / maximum 30 V DC
Switching Outputs	2 x PNP, maximum 100 mA
Trigger Methods	Sensor input (I/O interface) / Serial (host interface) / Free running / Reflector polling (automatic)
Mechanical / Electrical	
Supply Voltage	Operating voltage 10…30 V DC
Current Consumption	Line scanner: 250 mA at 24 V DC / 6.0 W; Osc mirror: 300 mA at 24 V DC / 7.2 W
Dimensions	Line scanner: 3.5 x 2.4 x 1.4 in (90 x 60 x 35.7 mm); Osc mirror: 3.9 x 3.6 x 1.5 in (99.8 x 92.2 x 37.8 mm)
Weight	Approx. 18.6 oz (530 g)
Housing / Enclosure Rating	Die cast zinc / IP 65
Connectivity	15-pin male D-Sub high density connector
Environmental	
Ambient Operating Temperature	32…104°F (0…40°C)
Storage Temperature	-4…158°F (-20…70°C)
Vibration	To IEC 68-2-6 test FC
Shock	To IEC 68-2-27 test EA
EMV	To IEC 801
Maximum Relative Humidity	90%, non-condensing
Programming	Windows™-based CLV Setup Software



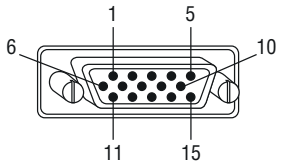


MODELS AND PART NUMBERS

	CLV 450
Front Emitting Line Scanner	
Model	CLV 450-0010
Part Number	1 018 556
Oscillating Mirror Scanner	
Model	CLV 450-6010
Part Number	1 019 218

PINOUTS

15-pin connector

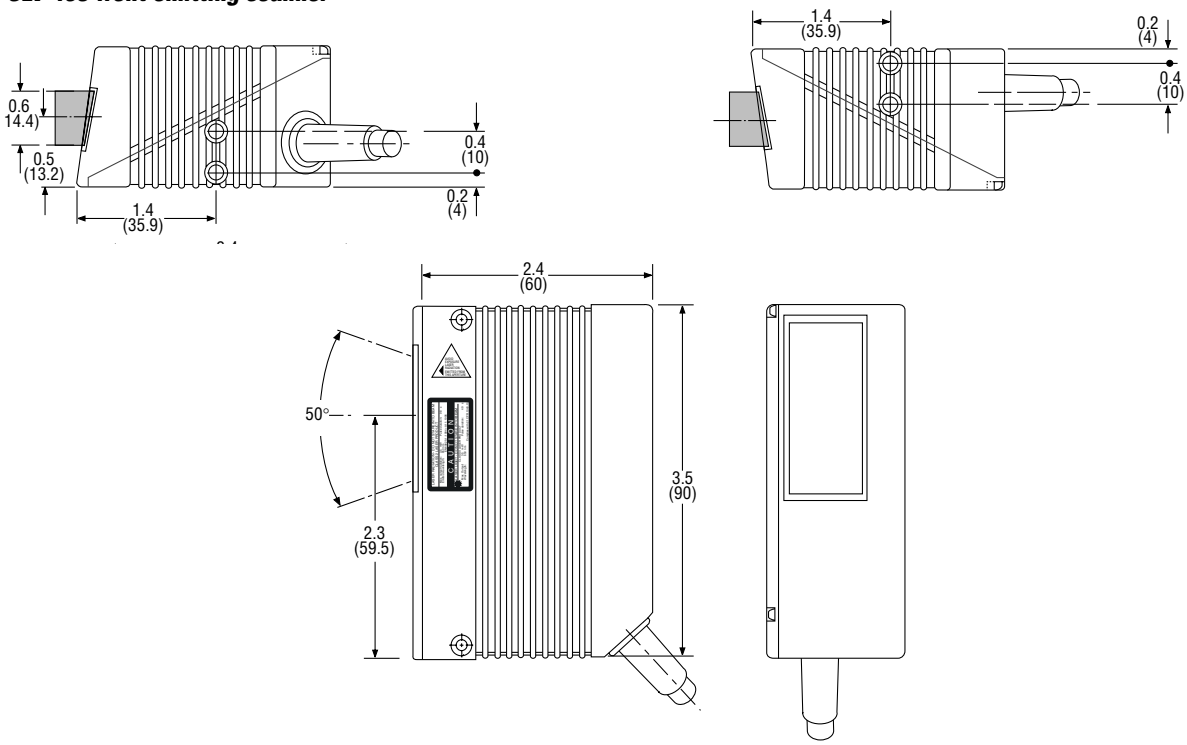


Pin	Signal	Function
1	10…30 V	Supply voltage
2	RxD (Terminal)	Data interface 2 (receiver)
3	TxD (Terminal)	Data interface 2 (transmitter)
4	Sensor 2	Switching input, variable function
5	GND	Ground
6	RD+ (RS 422/485)	Data interface 1 (receiver)
7	RD- (RS 422/485)	Data interface 1 (receiver)
	RxD (RS 232)	-
8	TD+ (RS 422/485)	Data interface 1 (transmitter)
9	TD- (RS 422/485)	Data interface 1 (transmitter)
	TxD (RS 232)	-
10	CAN H	CAN Bus (IN / OUT)
11	CAN L	CAN Bus (IN / OUT)
12	Result 1	Switching output, variable function
13	Result 2	Switching output, variable function
14	Sensor 1	Switching input for ext. reading pulse
15	Sensor GND	Common ground (all inputs)
-	-	Shield

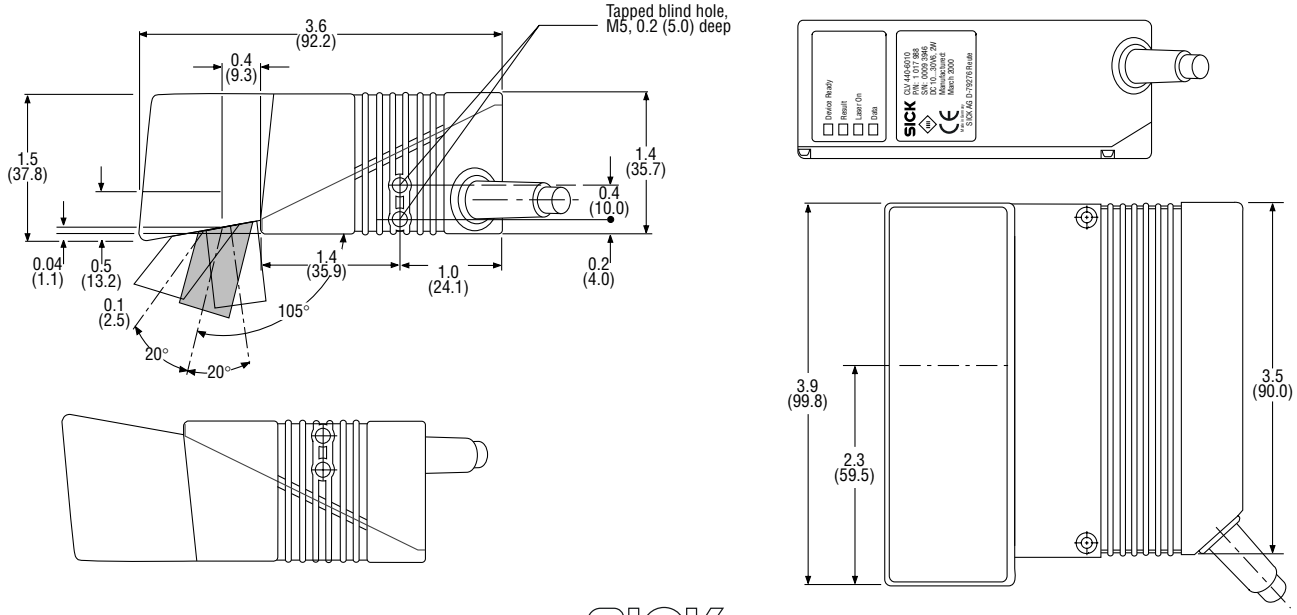
CLV 450

DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

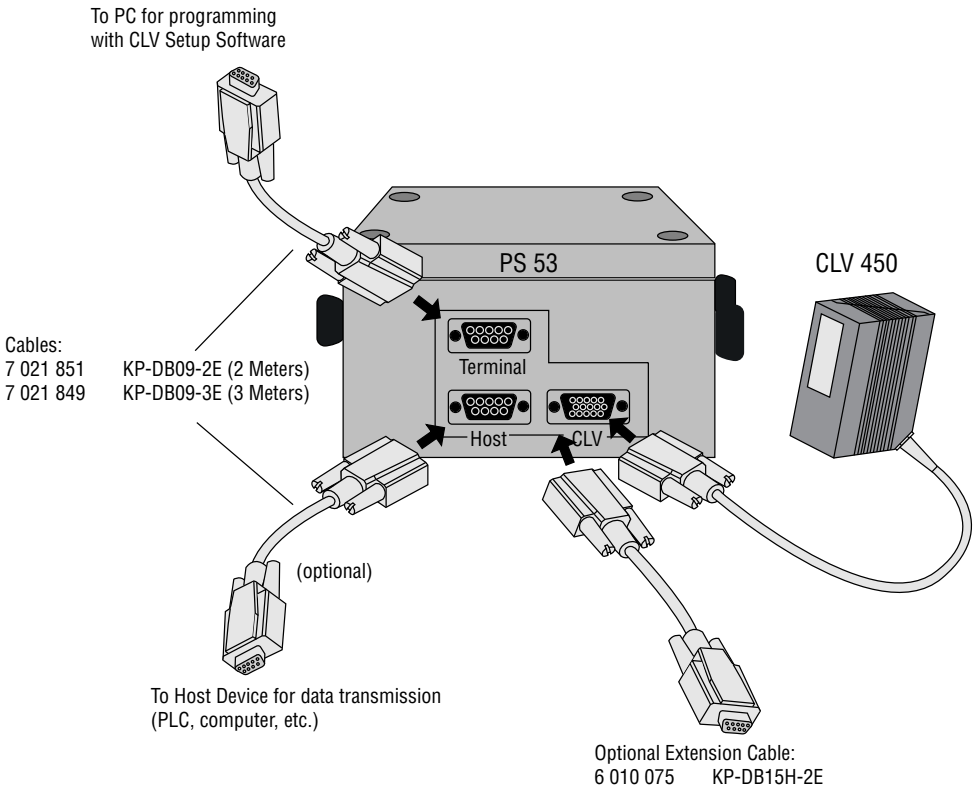
CLV 450 front emitting scanner



CLV 450 oscillating mirror scanner



CONNECTION DRAWINGS



CLV 490

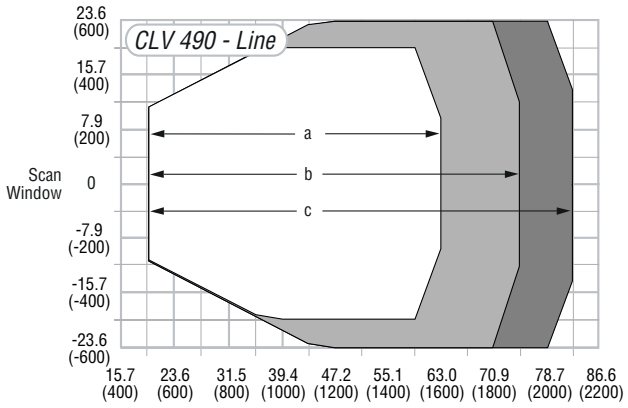
FEATURES

- High speed (1200 Hz)
- Auto Focus Control
- SMART technology
- Extremely large depth of field
- Integrated CAN Bus network
- Optically designed for high tilt angles (45°)
- Automatic scanner setup (cloning module)
- Real time decoding and diagnostics
- All parameters user selectable

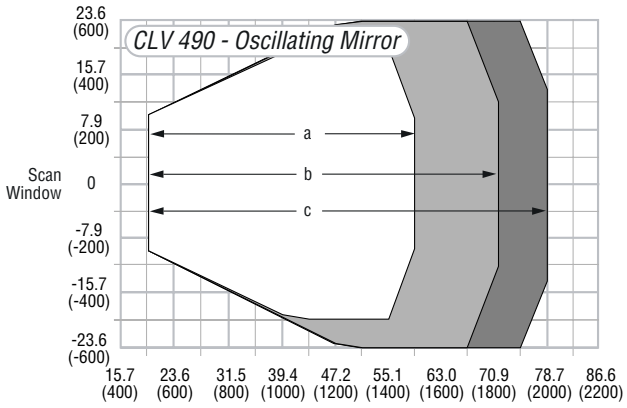
Model	Optics Type	Reading Range	Bar Code Resolution	Scan Frequency
CLV 490	Standard	19.7…82.7 in (500…2100 mm)	0.012…0.075 in (0.30…2.0 mm)	600…1200 Hz (software selectable)
CLV 490 LD	Low Density	19.7…86.6 in (500…2200 mm)	0.014…0.047 in (0.35…1.2 mm)	600…1200 Hz (software selectable)
CLV 490 HD	High Density	15.7…63.0 in (400…1600 mm)	0.008…0.016 in (0.2…0.4 mm)	600…1200 Hz (software selectable)

Scan Options*	Focus Type	Decoding Method**	Housing/Enclosure*
✓ Line	Fixed Focus	✓ Standard	✓ Front Emitting
Raster	Focus Control	PCX	Side Emitting
✓ Oscillating Mirror	Dynamic Focus Control	✓ SMART	✓ Oscillating Mirror
*ordered separately	✓ Automatic Focus	**user selectable	*ordered separately

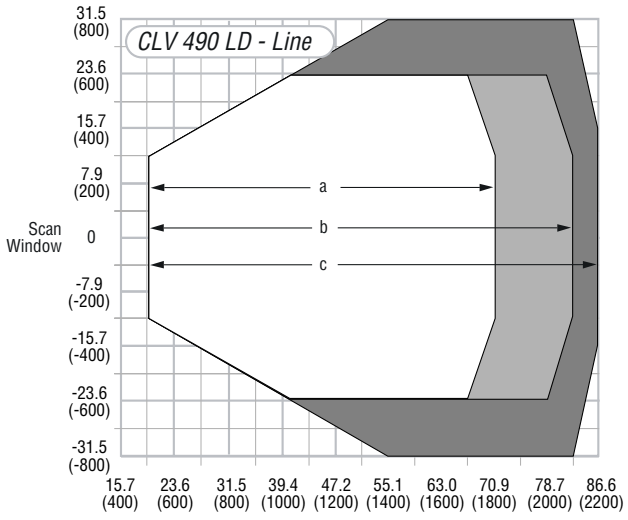
READING RANGES *Dimensions in inches (mm)*



Code Resolution
- a: 0.011 in (0.30 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)

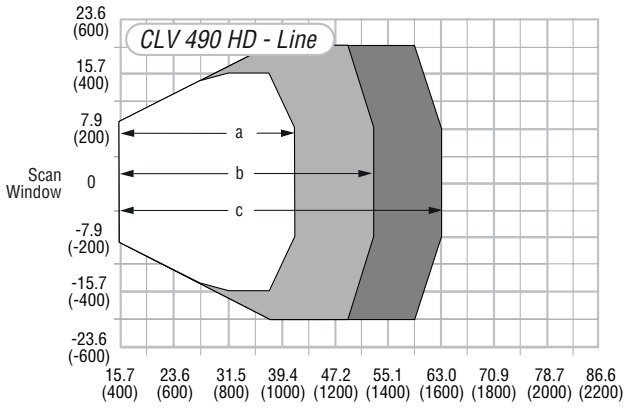


Code Resolution
- a: 0.011 in (0.30 mm)
- b: 0.013 in (0.35 mm)
- c: 0.020 in (0.50 mm)



Tilt
- a: -45°…+45°
- b: -30°…+30°
- c: -15°…+15°

Code resolution:
0.020 in (0.5 mm)



Code Resolution
- a: 0.008 in (0.20 mm)
- b: 0.010 in (0.25 mm)
- c: 0.011 in (0.30 mm)

CLV 490

TECHNICAL SPECIFICATIONS

	CLV 490	CLV 490 LD	CLV 490 HD
Scanning Characteristics			
Scanning Method	8-sided polygon mirror wheel		
Aperture Angle	Line scanner: maximum 60°; osc mirror scanner:maximum 50°		
Scanning Frequency	600…1200 Hz (software selectable)		
Light Source	Visible laser diode (650 nm); CDRH Class II		
Reading Distance (Bar Code Dependent)	19.7…82.7 in (500…2100 mm)	19.7…86.6 in (500…2200 mm)	15.7…63.0 in (400…1600 mm)
Resolution	0.012…0.078 in (0.30…2.0 mm)	0.014…0.047 in (0.35…1.2 mm)	0.008…0.016 in (0.2…0.4 mm)
Bar Code Types			
Bar Code Symbology	Code 39, Interleaved 2/5, Industrial 2/5, Codabar, Code 93, EAN/EAN 128, UPC, Code 128		
Readability	1 to 40 bar codes per reading gate (standard decoder); 1 to 6 (SMART)		
Auto Discrimination	8 different symbologies per reading gate		
Communications / I/O / Indicators			
Host Interface	RS 232 or RS 422/485 variable data output (software selectable)		
Baud Rate	300…57,600 (software selectable)		
Data Format	Data bits, stop bits, parity (software selectable)		
Network Configuration	Pass-through; master/slave; RS 485 network		
LED Indicators	Device ready, result, sensor, data		
Switching Inputs	6 x PNP, opto-decoupled / maximum 30 V DC		
Switching Outputs	4 x PNP, maximum 100 mA / 24 V DC		
Trigger Methods	Sensor input (I/O interface) / Serial (host interface) / Free running		
Mechanical / Electrical			
Supply Voltage	Operating voltage 18…30 V DC		
Current Consumption	375 mA at 24 V DC / typical 9.0 W; maximum 13.0 W		
Dimensions	Line scanner: 4.6 x 4.6 x 3.7 in (117 x 117 x 94 mm); osc mirror scanner: 7.2 x 5.02 x 3.7 in (183 x 127.5 x 94 mm)		
Weight	Approx. 3.3 lb (1.5 kg); with osc mirror: approx. 4.9 lb (2.2 kg)		
Housing / Enclosure Rating	Die cast aluminum / IP 65		
Connectivity	2 15-pin D-Sub high density connectors (1 male / 1 female)		
Environmental			
Ambient Operating Temperature	32…104°F (0…40°C)		
Storage Temperature	-4…158°F (-20…70°C)		
Vibration	To IEC 68-2-6 test FC		
Shock	To IEC 68-2-27 test EA		
EMV	To IEC 801		
Maximum Relative Humidity	90%, non-condensing		
Programming	Windows™-based CLV Setup Software		

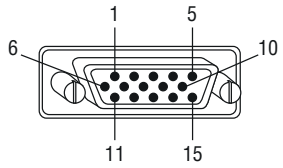
MODELS AND PART NUMBERS

	CLV 490	CLV 490 (with heater)	CLV 490 Low Density	CLV 490 LD (with heater)	CLV 490 High Density
Line Scanner					
Model	CLV 490-0010	CLV 490-0011	CLV 490-6010	CLV 490-6011	CLV 490-2010
Part Number	1 016 958	1 016 960	1 018 872	1 019 095	1 019 311
Oscillating Mirror Scanner					
Model	CLV 490-1010	CLV 490-1011	CLV 490-7010	CLV 490-7011	CLV 490-3010
Part Number	1 016 959	1 016 961	1 019 094	1 019 096	1 019 313

PINOUTS

Term/Host Port

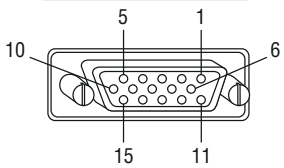
15-pin male connector



Pin	Terminal/ Host Port	Host Communications RS 232	Host Communications RS 422/485
1	24 V DC	-	-
2	RxD	-	-
3	TxD	-	-
4	-	-	Term 422
5	GND	GND	GND
6	-	-	RD+
7	-	RxD	RD-
8	-	-	TD+
9	-	TxD	TD-
10	CAN H	-	-
11	BUS RT-	-	-
12	BUS RT+	-	-
13	BUS R-	-	-
14	BUS R+	-	-
15	CAN L	-	-

I/O Port

15-pin female connector

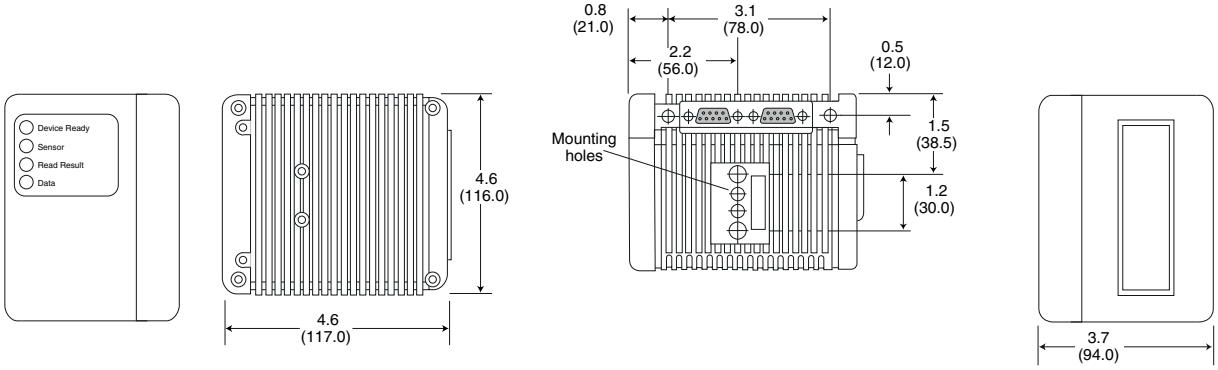


Pin	Signal	Function
1	24 V DC	Supply voltage
2	IN 1	Switching input (Focus Control)
3	Sensor Input	Switching input (Trigger)
4	Result 1	Switching output
5	GND	Ground
6	IN 0	Switching input (Focus Control)
7	IN 2	Switching input (Focus Control)
8	Result 2	Switching output
9	IN GND	Common ground
10	Result 3	Switching output
11	IN 3	Switching input (Focus Control)
12	IN 4	Switching input (Focus Control)
13	I2C SDA	I2C Bus
14	I2C SCL	I2C Bus
15	Result 4	Switching output

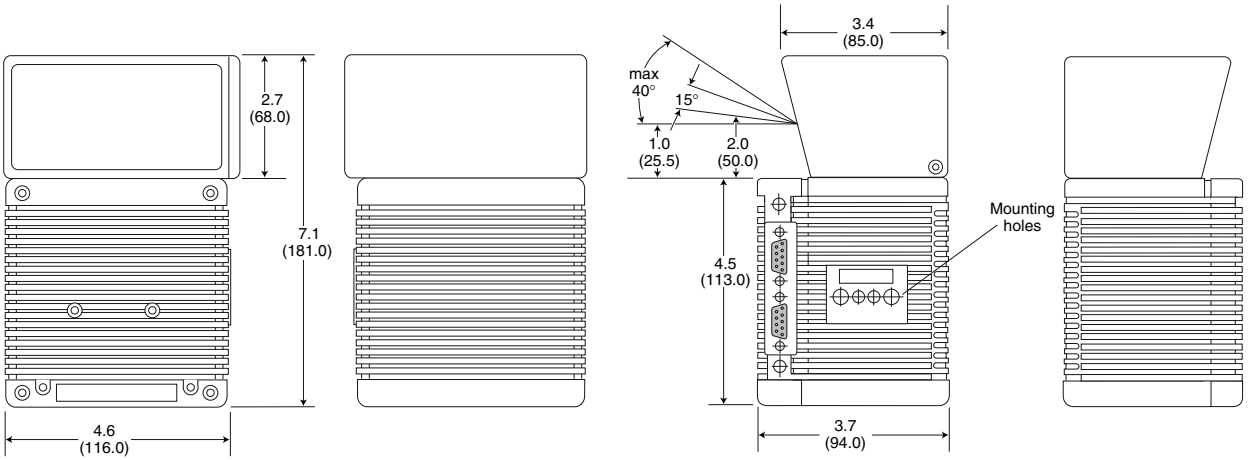
CLV 490

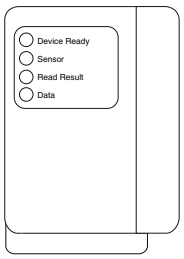
DIMENSIONAL DRAWINGS *Dimensions in inches (mm)*

CLV 490 line scanner

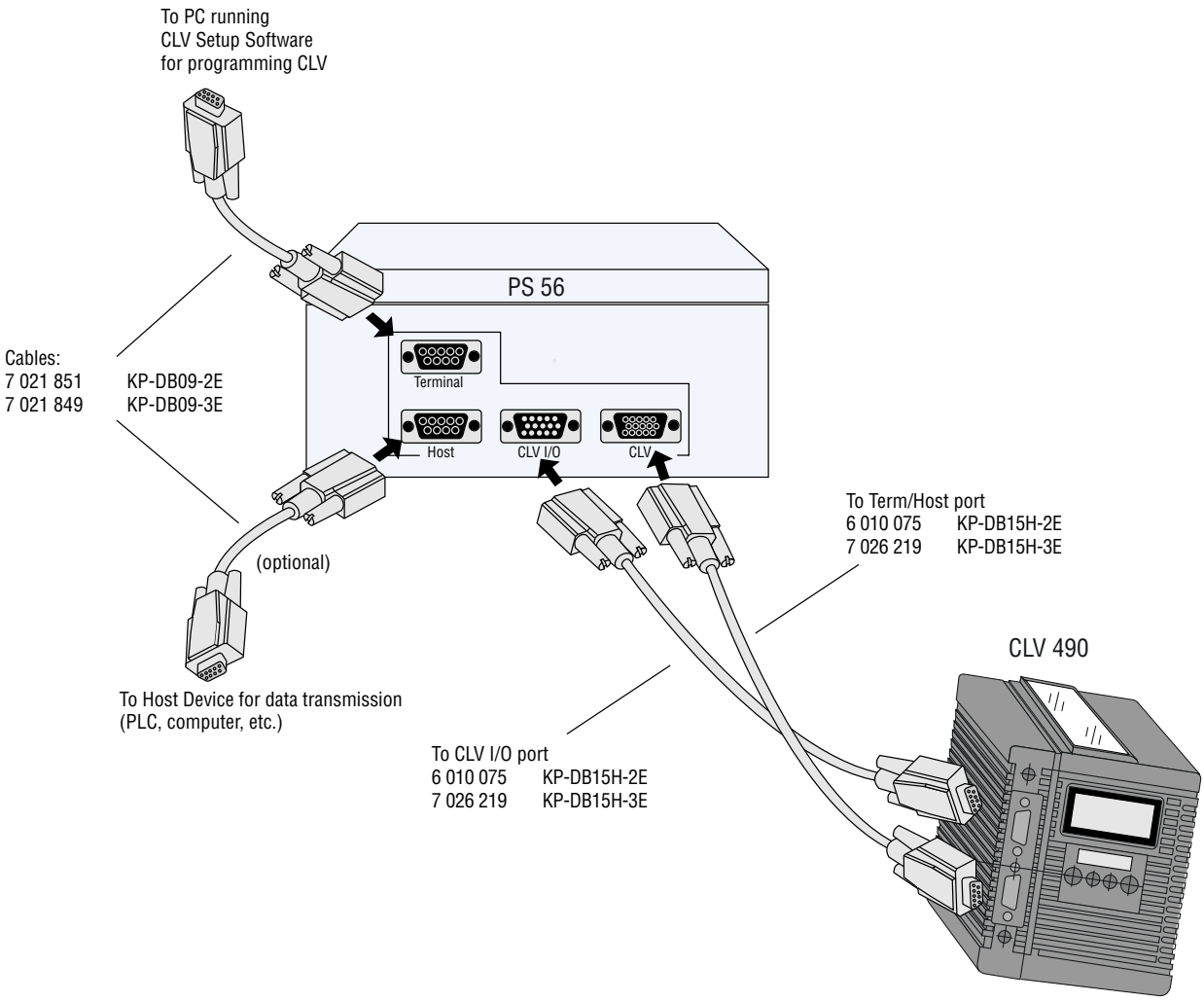


CLV 490 oscillating mirror scanner





CONNECTION DRAWINGS

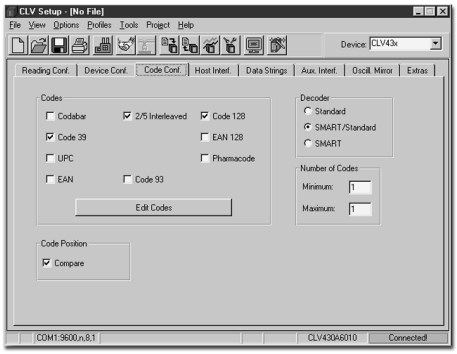


Setup Software

CLV Setup Software

FEATURES

- Unique scanner configuration software
- Windows™-based, user-friendly format
- Stand-alone operation
- Direct file transfer to/from all CLV scanners
- Long term file storage on disk

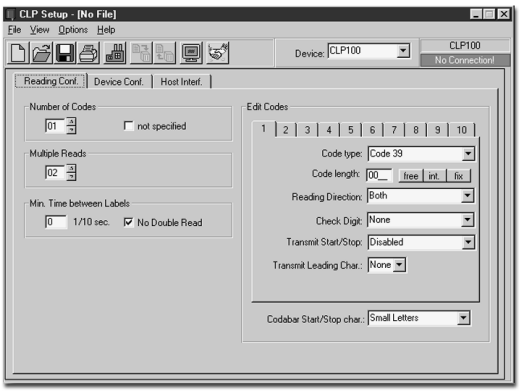


	CLV Setup Software
Part Number	2 020 455 (diskette); 7 026 126 (CD)
Computer	Minimum IBM 486, or true 486 IBM compatible
Hard Disk Space	10 MB of available disk space
Disk Drive	One 3.5" high density drive / one CD ROM drive
Memory Requirements	Recommended 8 MB RAM
System Software	Windows™ 95, 98, NT or 2000
Mouse	Optional but recommended
CLV Scanner Interface / Compatibility	CLV 210, 212, 214, 220, 230, 250, 265, 280, 295, 410, 412, 414, 420, 421, 422, 430, 431, 432, 440, 442, 450, 490, CLX 490, ICR 850 or OPS 400

CLP Setup Software

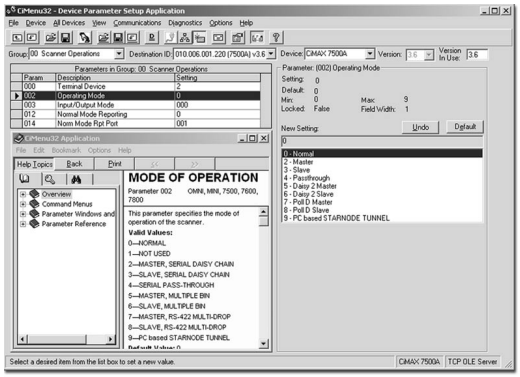
FEATURES

- Unique scanner configuration software
- Windows™-based, user-friendly format
- Stand-alone operation
- Direct file transfer to/from CLP scanner
- Long term file storage on disk



	CLP Setup Software
Part Number	2 021 674
Computer	Minimum IBM 486, or true 486 IBM compatible
Hard Disk Space	5 MB of available disk space
Disk Drive	One 3.5" high density drive / one CD ROM drive
Memory Requirements	Recommended 8 MB RAM
System Software	Windows™ 95, 98, NT or 2000
Mouse	Optional but recommended
CLV Scanner Interface / Compatibility	CLP 100

CiMenu32™ Software



FEATURES

- Unique scanner configuration software
- Supports serial, Starnode and Ethernet communications
- Windows™-based, user-friendly format
- Terminal emulator built in
- Easily change a single parameter on multiple devices
- Compare scanner configurations
- Easily restore from one device to another
- Automated Help display

	CiMenu32™ Software
Computer	Pentium™-class CPU
System Software	Windows™ 95, 98, NT or 2000
Scanner Interface / Compatibility	CiMAX® 7500/7500A/7600 Series, OMNI-L Slim X, CiMAX® 6000, Scanstar 2421, OMNI-2000, OMNI-2110, MHI-2000