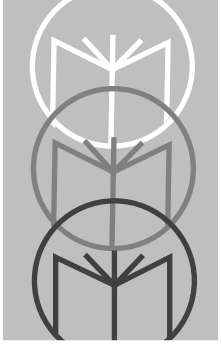


Chapter 1 User's Guide

Scanning Made Easy

The LS 3200ER is an extended range scanner that meets most industrial and warehouse scanning needs. In a receiving or picking application for example, you can scan a product or package code, then a storage location code. An initial pull of the two-position trigger produces a blinking aiming dot. Center the dot on the bar code you want to read and pull the trigger to the second detent. This activates the scanning beam and decode electronics.The scanner's ergonomic design ensures comfortable use for extended periods of time.

The LS 3200ER is compatible with the full range of SYMBOLLINK® and OmniLink™ interface controllers, as well as portable data terminals that support scanners. Because of the dual trigger operation, adapter cables may be required. See you Symbol representative for more information.

The LS 3200ER hand-held scanner is based on the visible laser diode (VLD). This state-of-the-art technology gives the scanner a large decode zone, wide depth of field, and a visible scan beam. This scanner reads color bar codes and symbols printed on all substrates

Set Up

Remove the LS 3200ER from its packing and inspect the scanner for evidence of physical damage. If the scanner was damaged in transit, call the *Symbol Support Center* at the phone number on page 1-9.

KEEP THE PACKING. It is the approved shipping container and should be used if you ever need to return your equipment for servicing.

Connecting the Cable to the Scanner

- Slide collar down over cable
- Plug in modular connector
- Slide collar up into keys
- Twist to snap in place

Connecting the Scanner...

to a Controller

Plug the 9-pin, D-type connector at the end of the scanner's coil cord into the **SCANNER** port on the interface controller. Some controllers may require an adapter cable. Refer to the interface controller user documentation for full details.

to a Portable Data Terminal

Refer to the appropriate **Operator's Guide** for set up instructions, including programming the terminal for scanner type.

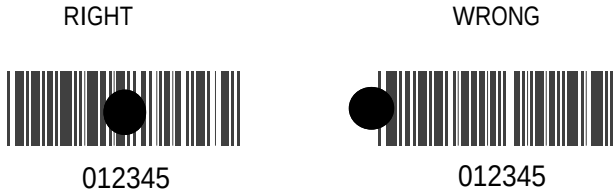
Ready, Test, Scan

1. Ready

   Make sure connections are secure.

2. Test

   The scanner has a two position trigger. Press the trigger to the first detent and center the blinking aiming dot on the target bar code. The dot helps to establish the correct scanning position. Press the trigger to the second detent, and a scan beam crosses all the bars and spaces on the bar code.



   The scan beam and red SCAN LED will light for about 3.0 seconds, or until a successful decode.

3. Scan

   Make sure the symbol you want to scan is within the scanning range. See the *LS 3200ER Decode Zone* diagram on page 1-6.

The scanner has read the symbol when:

- You hear a short, high tone beep (if the beeper is enabled).
- The green DECODE LED lights.

The DECODE LED stays lit until the next trigger pull, unless Low Power Mode is selected. In this case, the DECODE LED is extinguished following the decode beep.

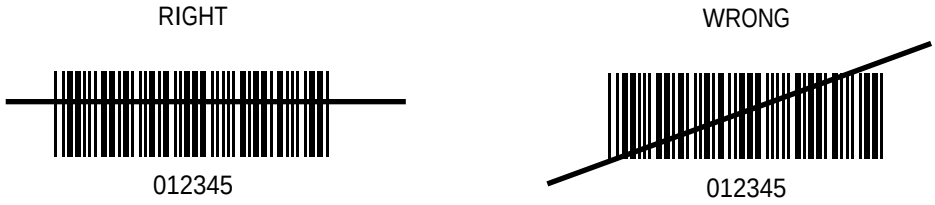
Aiming

Hold at an Angle

Do not hold the scanner directly over the bar code. In this position, light can bounce back into the scanner's exit window and prevent a successful decode.

Scan the Entire Symbol

- Your scan beam must cross every bar and space on the symbol.
- The larger the symbol, the farther away you should hold the scanner.
- Hold the scanner closer for symbols with bars that are close together.
- A short high-tone beep indicates a good decode.



What If...

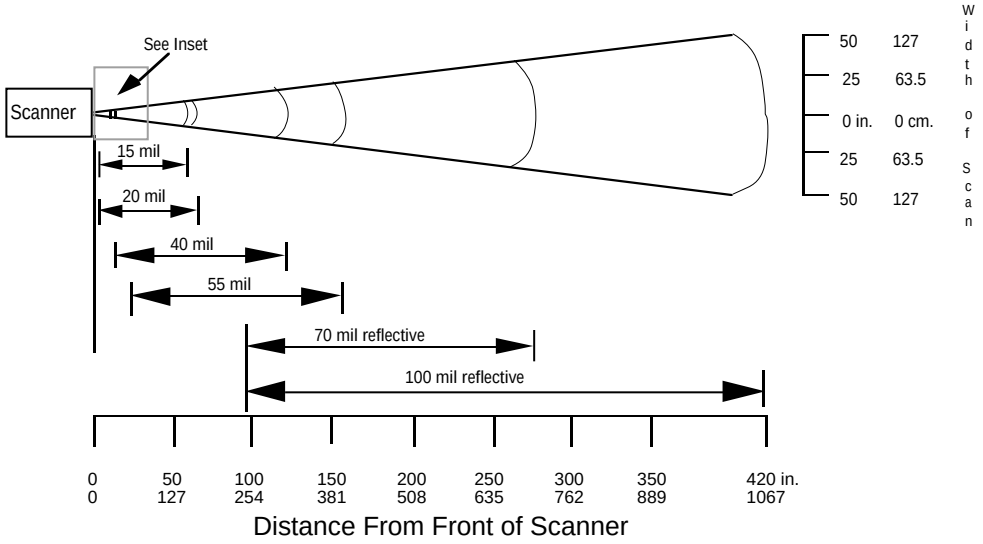
Nothing happens when you follow the operating instructions.

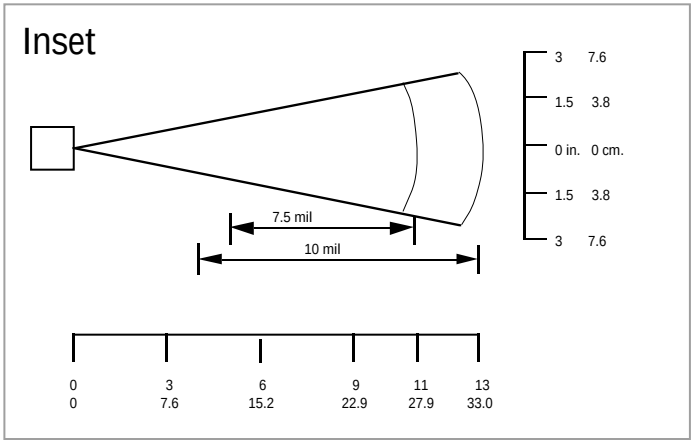
You Should

- Check the system power.
- Check for loose cable connections.
- Make sure the controller is programmed to read the type of bar code you want to scan.
- Check the symbol to make sure it is not defaced.
- Try scanning similar symbols of the same code type.
- Be sure you're within the proper scanning range.
- Be sure your terminal is set up to accept a laser scanner.

Note: If after performing these checks the symbol still does not scan, contact your distributor or call the *Symbol Support Center*. See page 1-9 for the telephone number.

LS 3200ER Decode Zone





Maintenance

Cleaning the exit window is the only maintenance required. A dirty window may affect scanning accuracy.

- Do not allow any abrasive material to touch the window.
- Remove any dirt particles with a damp cloth.
- Wipe the window using a damp cloth, and if necessary, a non-ammonia based detergent.
- Do not spray water or other cleaning liquids directly into the window.

Factory Service

If you have a problem, contact the *Symbol Support Center* at the telephone number on page 1-9.

Before calling, have the model number and several of your bar code symbols at hand.

Call the Support Center from a phone near the scanning equipment so that the service person can try to talk you through your problem. If the equipment is found to be working properly and the problem is symbol readability, Support will request samples of your bar codes for analysis at our plant.

If your problem cannot be solved over the phone, you may need to return your equipment for servicing. If that is necessary, you will be given specific directions.

Note: Symbol Technologies is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty. If the original shipping container was not kept, contact Symbol to have another sent to you.

Symbol Support Center

In the U.S.A., for service information, warranty information or technical assistance call:

SYMBOL SUPPORT CENTER

1-800-653-5350

If you purchased your Symbol product from a Symbol Business Partner, contact that Business Partner for service.

Canada

Mississauga, Ontario
Canadian Headquarters
(905) 629-7226

Europe

Wokingham, England
European Headquarters
01734-771-222 (Inside UK)
+44-1734-771222 (Outside UK)

Asia

Singapore
Symbol Technologies Asia, Inc.
337-6588 (Inside Singapore)
+65-337-6588 (Outside Singapore)

Accessories

Required Accessories

Certain accessories, such as host cables, are required to set up your scanning system. These are listed in the *Product Ordering Guide*. Optional accessories are available at extra cost.

Optional Accessories

Optional accessories, listed in the *Product Ordering Guide*, include various stands and holders, which are supplied at extra cost. Additional units of required accessories may also be purchased at extra cost.

Technical Specifications

Table 1-1. Technical Specifications

Item	Description	
Power Requirements	4.8 to 14.0 VDC; 110 mA @ 5 VDC Typical	
Scan Repetition Rate	36 (± 3) scans / sec (bidirectional)	
Roll (Skew)	± 10˚ from normal	
Pitch	± 45˚ from normal	
Yaw	± 45˚ from normal	
Decode Depth of Field	See Decode Zone	
Print Contrast Minimum	50% absolute dark / light differential, measured at 675 nm.	
Ambient Light Immunity		
Incandescent	350 ft. candles	3766 lux
Fluorescent	450 ft. candles	4844 lux
Sodium Vapor	350 ft. candles	3766 lux
Mercury Vapor	450 ft. candles	4844 lux
Operating Temperature	-22° to 122°F	-30° to 50°C
Storage Temperature	-40° to 140°F	-40° to 60°C
Humidity	5% to 95% (non-condensing)	
Coil Cable Length	9-12 ft.	274-365 cm (depending on host)
Durability	6-ft. drop to concrete	1.8 m
Dimensions		
Height	6.3 in.	16 cm
Length	5 in.	12.7 cm
Width	2.8 in.	7.1 cm
Weight	8.5 oz.	240 g
Laser Classifications	CDRH Class II IEC 825 Class 2	

Pin-outs

Table 1-2. Pin-outs

Pin-out at Scanner End	Pin-out at Cable End	Signal Name	Function
1, 2	**9**	Power	These pins connect to the 4.8 to 14 VDC power supply. When pin 4 is high, current to operate the scanner is supplied by pins 1, 2 (110 mA @ 5 VDC typ.). When pin 4 is at ground potential, current into pins 1,2 is less than 50 µA. Sufficient power must be available to support dual trigger operation.
3	**7, 8**	Ground	Power Supply and signal ground return line.
4	**6**	Enable	When the decode logic senses that the trigger has been pulled, this input must be driven high (+2.4 to +14 V into a 10 kilohm load) to power-up the scanner electronics and turn on the laser and scanning motor. As soon as a decode is successfully completed, if no decode occurs after about 1.5 seconds, or when the trigger is released, this input should float or be driven to ground (less than .4 V) to power-down the scanner
5	**1**	Start of Scan	This output synchronizes the decode logic with the scanner. The output is high when the beam sweeps in one direction and low when it sweeps in the opposite direction. This open collector signal is capable of sinking 25 mA. An external pullup resistor may be connected to any voltage up to 20 V. The frequency of scans is 36 scans / sec.
6	**5**	Trigger Switch	This output is grounded when the trigger is pulled and floating when the trigger is released. The decode logic uses this switch to signal that the operator wishes to read a bar code.

Table 1-2. Pin-outs

Pin-out at Scanner End	Pin-out at Cable End	Signal Name	Function
7	**3**	Decode LED	This input to the scanner controls the green decode indicator LED on the back of the scanner. Applying a voltage of 2.5 V or greater will light the LED. Maximum voltage that can be applied to this input is 15 V, at which time the input will draw about 25 mA. This current decreases as the voltage is lowered. The decode LED can be activated with this input even when the scanner is not operating, providing power is present at pin 1.
8	**2**	Digitized Bar Pattern	Output from the scanner is electrically identical to pin 5 (Start of Scan), providing a series of pulses with widths proportional to the widths of the bar code being scanned. A low output represents a bar, and a high output represents a space. The frequency of the pulses depends on the density of the symbol being scanned.
9	**4**	Motor Fail	A high (3.5 - 5 V) on this output pin signals a motor fail condition. This powers down the laser while maintaining power to the scanner.
10	**10**		Not Used