

 **DATALOGIC**

QuickScan™ QD2131

General Purpose Coded
Handheld Linear Imager
Bar Code Reader



Quick Reference Guide

Datalogic USA, Inc.

959 Terry Street

Eugene, OR 97402

USA

Telephone: (541) 683-5700

Fax: (541) 345-7140

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See www.patents.datalogic.com for patent list.

**See the Regulatory Addendum
included with your product for
additional regulatory, safety and
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NOTES

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This Agreement is governed by the laws of Italy. This Agreement and the rights of the parties hereunder shall be governed by and construed in accordance with the laws of Italy, without regard to the rules governing conflicts of law. Italian Court of Bologna shall have exclusive jurisdiction over all matters regarding this Agreement, except that Datalogic shall have the right, at its absolute discretion, to initiate proceedings in the courts of any other state, country, or territory in which End User resides, or in which any of End User's assets are located. In the event an action is brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, both at trial and on appeal.

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The validity, interpretation and construction of the Agreement shall be governed by and construed in accordance with Laws of the Republic of Singapore. Parties expressly disclaim the application of the United Nations Convention for International Sale of Goods.

Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre ("SIAC") in accordance with the Arbitration Rules of the Singapore International Arbitration Centre ("SIAC Rules") for the time being in force, which rules are deemed to be incorporated by reference in this clause.

The seat of the arbitration shall be Singapore.

The number of arbitrators will be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties will appoint a third arbitrator who will act as chairman of the proceedings. Vacancies in the post of chairman will be filled by the president of the SIAC. Other vacancies will be filled by the respective nominating party. Proceedings will continue from the stage they were at when the vacancy occurred. If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator will be the sole arbitrator, provided that the arbitrator was validly and properly appointed. All proceedings will be conducted, including all documents presented in such proceedings, in the English language. The English language version of these terms and conditions prevails over any other language version.

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- END -

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The only exception to this policy is when the buyer has a signed contract with Datalogic that clearly defines the terms and conditions for making software/firmware changes in products shipped to the buyer.

To arrange for a Software Maintenance and Support Agreement please contact your Datalogic sales person.



QuickScan™ QD2131

Description

With rich feature sets and extensive options, the QuickScan™ product series from Datalogic represents the premium level of data collection equipment for general purpose applications.

Omni-Directional Operating	To read a symbol simply aim the reader and pull the trigger. The QuickScan™ QD2131 reader is a versatile linear imager, featuring a wide scanning angle with an extended scanning line which is perfect for reading long and truncated bar codes. Datalogic's exclusive patented 'Green Spot' for good-read feedback helps to improve productivity in noisy environments or in situations where silence is required.
Decoding	Reliably decodes all standard 1D (linear) bar codes, including GS1 DataBar™ linear codes. The data stream — acquired from decoding a symbol — is rapidly sent to the host. The reader is immediately available to read another symbol.

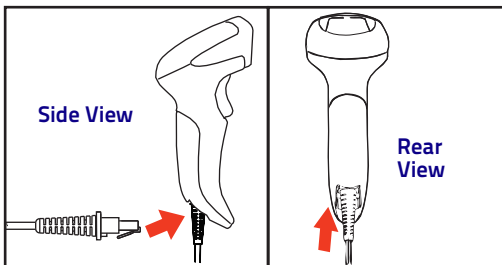
Setting Up the Reader

Follow the steps below to connect and get your reader up and communicating with its host.

1. Connect the Cable to the reader and the Host (see "Connect/Disconnect Cable to Reader" on page 2 and "Connect Host Interface" on page 3).
2. Configure the Interface (see "Configuring the Interface" on page 6).
3. Configure the Reader starting on "Programming" on page 5 (optional, depends on settings needed).

Connect/Disconnect Cable to Reader

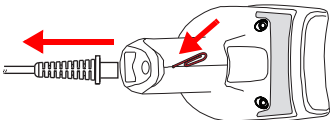
Figure 1. Connecting to the Reader



Host Connection — The QuickScan imager plugs directly into the host device as shown in Figure 3. The power can also be supplied through an external power supply via the Interface Cable supplied with a power jack.

To disconnect, insert a paper clip into the hole in the front of the scanner, as shown:

Figure 2. Disconnecting the cable



Connect Host Interface

Figure 3. Connecting to the Host

USB



Keyboard Wedge



RS-232



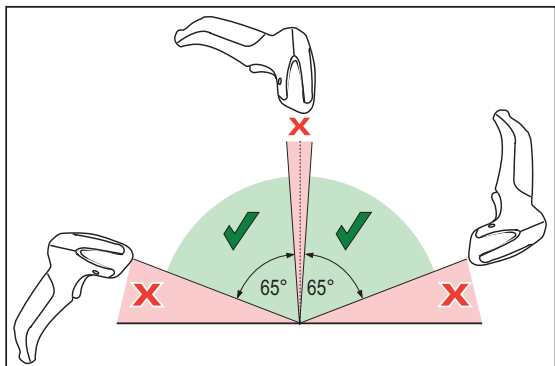
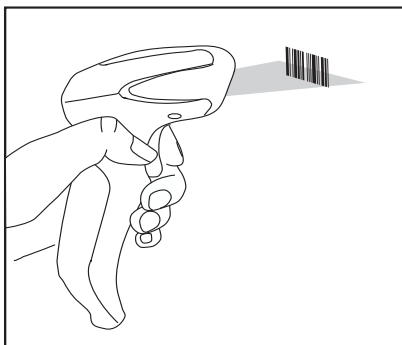
Using the Quickscan™ QD2131 Reader

Bar Code Reading

Point the reader at the target and pull the trigger to enable the illuminator (red beam) to decode the bar code label. The illuminator will remain on until the trigger is released, or a label is read, or the "maximum scan on time" is reached.

When scanning a bar code label, you can adjust the distance or angle to the label to help facilitate reading.

Aim and Scan



Programming

The reader is factory-configured with a set of standard default features. After scanning the interface bar code from the Interfaces section, select other options and customize your reader through use of the programming bar codes available in the QuickScan QD2131 PRG. Check the corresponding features section for your interface, and also the Data Editing and Symbologies chapters of the PRG.

Using Programming Bar Codes

This manual contains bar codes which allow you to reconfigure your reader. Some programming bar code labels, like the [Reset Default Settings on page 5](#), require only the scan of that single label to enact the change.

Other bar codes require the reader to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT bar code once to enter Programming Mode; scan the desired parameter settings; scan the ENTER/EXIT bar code again to accept your changes, which exits Programming Mode and returns the reader to normal operation.

Configure Other Settings

Additional programming bar codes are available in the PRG to allow for customizing programming features. If your installation requires different programming than the standard factory default settings, refer to the PRG.

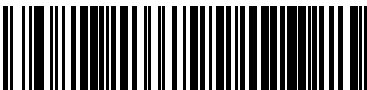
Resetting Product Defaults

If you aren't sure what programming options are in your reader, or you've changed some options and want your custom factory settings restored, scan the bar code below to reset the reader to its initial configuration. Reference the PRG for other options, and a listing of standard factory settings.



NOTE

Factory defaults are based on the interface type. Be sure your reader is configured for the correct interface before scanning this label. See ["Selecting the Interface Type" on page 6](#) for more information.



Reset Default Settings

Selecting the Interface Type

Upon completing the physical connection between the reader and its host, proceed directly to Interface Selection below for information and programming for the interface type the reader is connected to (for example: RS-232, Keyboard Wedge, USB, etc.) and scan the appropriate bar code to select your system's correct interface type.

Interface Selection

The reader model will support one of the following sets of host interfaces:

General Purpose/ Retail Point of Sale Model — RS-232, USB OEM, Keyboard.

Information and programming options for each interface type are provided in this section. For defaults and additional information associated with each interface, proceed to the corresponding chapter in the QuickScan QD2131 PRG.

Configuring the Interface

Scan the appropriate programming bar code to select the interface type for your system.



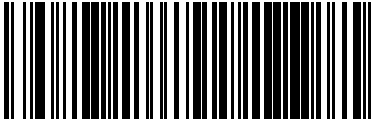
NOTE

Unlike some other programming features and options, interface selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scan an interface selection bar code.

Some interfaces require the scanner to start in the disabled state when powered up. If additional scanner configuration is desired while in this state, pull the trigger and hold for 5 seconds. The scanner will change to a state that allows programming with bar codes.

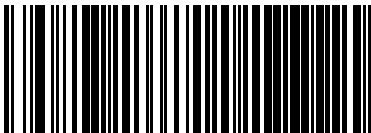
RS-232

RS-232 standard interface



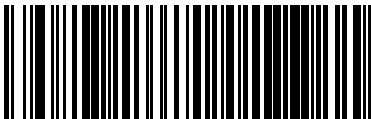
Select RS232-STD

RS-232 Wincor-Nixdorf



Select RS232-WN

RS-232 for use with OPOS/UPOS/JavaPOS



Select RS-232 OPOS

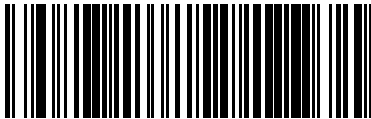
USB COM to simulate RS-232 standard interface



Select USB-COM-STD^a

USB-OEM

USB-OEM
(can be used for OPOS/UPOS/JavaPOS)



Select USB-OEM

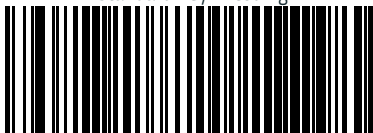
a. Download the correct USB Com driver from www.datalogic.com.

Keyboard Interface

Use the programming bar codes to select options for USB Keyboard and Wedge Interfaces.

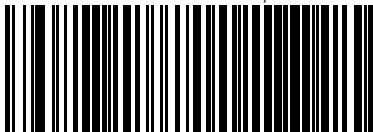
KEYBOARD

AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/
Standard Key Encoding



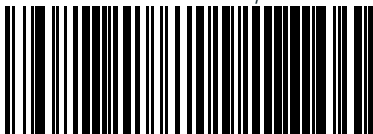
Select KBD-AT

Keyboard Wedge for IBM AT PS2 with standard key encoding
but without external keyboard



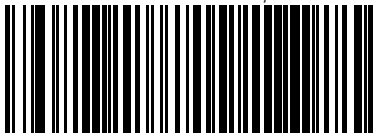
Select KBD-AT-NK

AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95
w/Alternate Key



Select KBD-AT-ALT

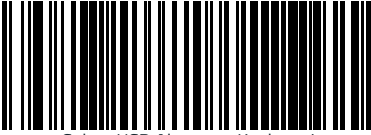
Keyboard Wedge for IBM AT PS2 with alternate key encoding
but without external keyboard



Select KBD-AT-ALT-NK

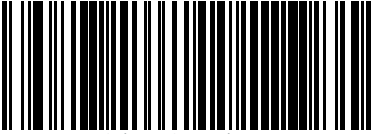
KEYBOARD (continued)

USB Keyboard with alternate key encoding



Select USB Alternate Keyboard

USB Keyboard with standard key encoding



Select USB Keyboard

Scancode Tables

Reference the QuickScan QD2131 PRG for information about control character emulation for keyboard interfaces.

Country Mode

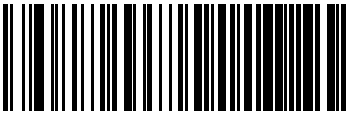
This feature specifies the country/language supported by the keyboard. Only these interfaces support ALL Country Modes:

- USB Keyboard (without alternate key encoding)
- AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/ Std Key Encoding
- Keyboard Wedge for IBM AT PS2 with standard key encoding but without external keyboard
- AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 without Alternate Key
- Keyboard Wedge for IBM AT PS2 without alternate key encoding but without external keyboard

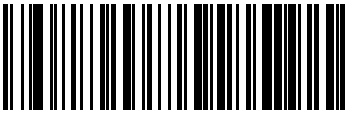
All other interfaces support ONLY the following Country Modes: U.S., Belgium, Britain, France, Germany, Italy, Spain, Sweden.

COUNTRY MODE
 ENTER/EXIT PROGRAMMING MODE
 Country Mode = U.S.
 Country Mode = Belgium
 Country Mode = Britain

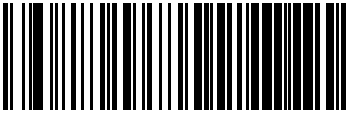
COUNTRY MODE (continued)



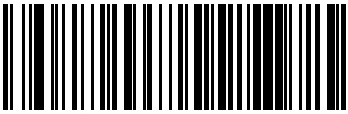
Country Mode = Croatia*



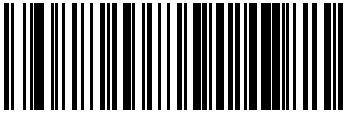
Country Mode = Czech Republic*



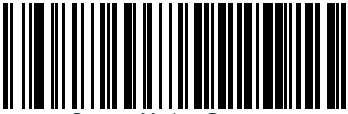
Country Mode = Denmark*



Country Mode = France



Country Mode = French Canadian



Country Mode = Germany



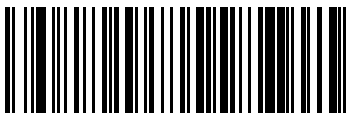
Country Mode = Hungarian

* Supports only the interfaces listed in the Country Mode feature description

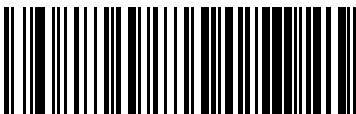
COUNTRY MODE (continued)



Country Mode = Italy



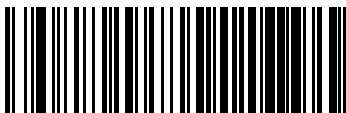
Country Mode = Japanese 106-key*



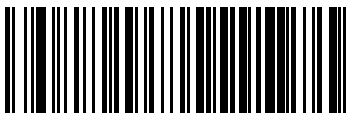
Country Mode = Lithuanian



Country Mode = Norway*

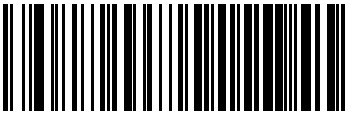


Country Mode = Poland*

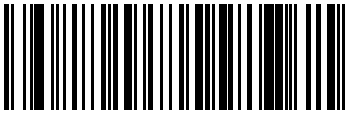


Country Mode = Portugal*

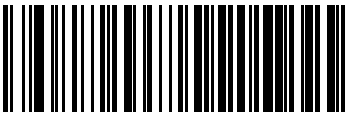
* Supports only the interfaces listed in the Country Mode feature description

COUNTRY MODE (continued)

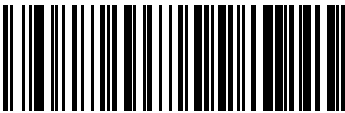
Country Mode = Romania*



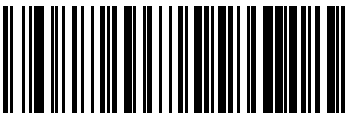
Country Mode = Slovakia*



Country Mode = Spain



Country Mode = Sweden



Country Mode = Switzerland*

* Supports only the interfaces listed in the Country Mode feature description


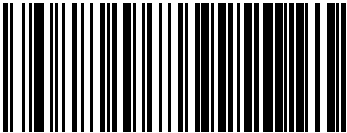
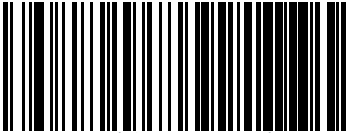
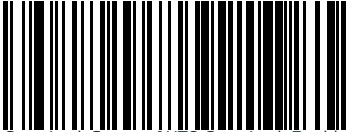
Caps Lock State

This option specifies the format in which the reader sends character data. This is used by the keyboard wedge and USB keyboard interfaces.

00 = CAPS LOCK Off, send character data in normal format.


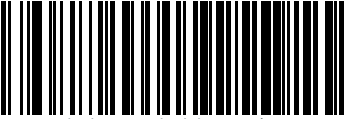
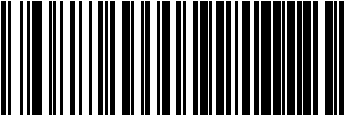
01 = CAPS LOCK ON, send character data in reverse case.

02 = Auto CAPS LOCK. This applies to USB keyboard, and Wedge E (AT) interfaces. For other interfaces this setting defaults to CAPS LOCK Off functionality.

CAPS LOCK STATE
 ENTER/EXIT PROGRAMMING MODE
 Caps Lock State = Caps Lock OFF
 Caps Lock State = Caps Lock ON
 Caps Lock State = AUTO Caps Lock Enable

Numlock

This option specifies the setting of the Numbers Lock (Numlock) key while in keyboard wedge interface. This only applies to alternate key encoding interfaces. It does not apply to USB keyboard.

NUMLOCK
 <p>ENTER/EXIT PROGRAMMING MODE</p>
 <p>Numlock = Numlock key unchanged</p>
 <p>Numlock = Numlock key toggled</p>

Reading Parameters

Move the reader toward the target and center the aiming pattern and illumination system to capture and decode the image. See "Using the Quickscan™ QD2131 Reader" on page 4 for more information.

The aiming system will briefly switch off after the acquisition time, and if no code is decoded will switch on again before the next acquisition. The illuminator will remain on until the symbol is decoded.

As you read code symbols, adjust the distance at which you are holding the reader.

Good Read Green Spot Duration

Successful reading can be signaled by a good read green spot. Use the bar codes that follow to specify the duration of the good read pointer beam after a good read.

GOOD READ GREEN SPOT DURATION
 <p data-bbox="275 637 729 665">ENTER/EXIT PROGRAMMING MODE</p>
 <p data-bbox="195 880 807 915">Green Spot Duration = Disable (Green Spot is Off)</p>
 <p data-bbox="242 1128 760 1163">◆ Green Spot Duration = Short (300 msec)</p>
 <p data-bbox="237 1375 765 1411">Green Spot Duration = Medium (500 msec)</p>
 <p data-bbox="257 1645 744 1681">Green Spot Duration = Long (800 msec)</p>

Operating Modes

Scan Mode

The imager can operate in one of several scanning modes.

Trigger Single — When the trigger is pulled, scanning is activated until one of the following occurs:

- a programmable duration¹ has elapsed
- a label has been read
- the trigger is released
- "maximum scan on time" is reached

This mode is associated with typical handheld reader operation.

Trigger Hold Multiple — When the trigger is pulled, scanning starts and the product scans until the trigger is released, a programmable duration¹ has elapsed or the "maximum scan on time" is reached to make scanner off. Reading a label does not disable scanning. "Double read"¹ time-out prevents undesired multiple reads while in this mode.

Trigger Pulse Multiple — Scanning begins when the trigger is pulled and continues after the trigger is released until the trigger is pulled again or until the "maximum scan on time" is reached or a programmable duration¹ has elapsed. Reading a label does not disable scanning. "Double read"¹ time-out prevents undesired multiple reads.

Flashing — The reader flashes¹ on and off regardless of the trigger status. Code reading takes place only during the flash on time. "Double read"¹ time-out prevents undesired multiple reads.

Always On — The illuminator is always ON regardless of the trigger status and the reader is always ready for code reading. "Double read"¹ time-out prevents undesired multiple reads.

Object Detection — In this mode the scanner looks for scene changes within its field-of-view to initiate read attempts. The Green Spot can be configured to be on, to help the user to find the position of the reading line. When an object's presence is detected in the scene the illuminator turns on and turns off the green spot. Scanning continues until the Object Gone Timeout expires after last read. "Double read" timeout¹ prevents undesired multiple reads while in this mode.

Trigger Object Sense — It is similar to Object Detection. A trigger pull is required to activate the decoder.

1. See the Product Reference Guide (PRG) for more information

SCAN MODE



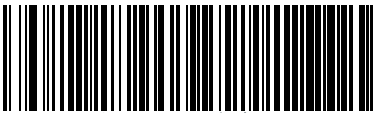
◆ Scan Mode = Trigger Single



Scan Mode = Trigger Hold Multiple



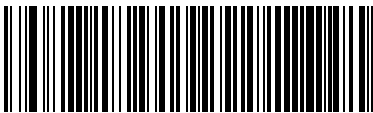
Scan Mode = Trigger Pulse Multiple



Scan Mode = Flashing



Scan Mode = Always On



Scan Mode = Object Detection



Scan Mode = Trigger Object Sense

Technical Specifications

The following table contains Physical and Performance Characteristics, User Environment and Regulatory information.

Item	Description
Physical Characteristics	
Color	Black & white
Dimensions	Height 6.4"/163 mm Length 3.6"/91 mm Width 1.6"/41 mm
Weight (without cable)	Approximately 5.3 ounces/150 g
Electrical Characteristics	
Voltage & Current ^a	Input Voltage: 4.5 - 14.0VDC Operating (typical): 140mA Operating (max): 400mA Idle/standby (typical): 50mA
Performance Characteristics	
Light Source	LEDs
Roll (Tilt) Tolerance ^b	Up to $\pm 45^\circ$
Pitch Tolerance ^b	$\pm 65^\circ$
Skew (Yaw) Tolerance ^b	$\pm 70^\circ$
Field of View ^b	$56 \pm 2^\circ$
Print Contrast Minimum	25% minimum reflectance

- a. Typical input current measured @5V under factory default configuration.
- b. Based on ISO 15423 specifications.

Depth of Field (Guaranteed)^a	
Symbology	
Code 39	5mils: 0.8" - 7" (2 - 18cm) 7.5mils: 0.8"- 12" (2 - 30cm) 10mils: 0.8" - 17" (2 - 44cm) 20mils: up to 29.5" (75cm)
EAN	13mils: 0.8" - 23" (2 - 58cm)
Minimum Element Width	Max Resolution = 4 mils

- a. 13 mils DOF based on EAN. All other 1D codes are Code 39. All labels grade A, typical environmental light, 20°C, label inclination 10°

Decode Capability	
1D Bar Codes UPC/EAN/JAN (A, E, 13, 8); UPC/EAN/JAN (including P2 /P5); UPC/EAN/JAN (including; ISBN / Bookland & ISSN); UPC/EAN Coupons; Code 39 (including full ASCII); Code 39 Trioptic; Code39 CIP (French Pharmaceutical); LOGMARS (Code 39 w/ standard check digit enabled); Code 32 (Italian Pharmacode 39); Code 128; Code 128 ISBT; Interleaved 2 of 5; Standard 2 of 5; Interleaved 2 of 5 CIP (HR); Industrial 2 of 5; IATA 2 of 5 Air cargo code; Datalogic 2 of 5, Code 4, Code 5, Follet 2 of 5, BC412, Code 11; Codabar; Cod- abar (NW7); ABC Codabar; EAN 128; Code 93 ; MSI; PZN; Plessey; Anker Plessey; GS1 DataBar Omnidirectional; GS1 DataBar Lim- ited; GS1 DataBar Expanded; GS1 DataBar Truncated; DATABAR Expanded Coupon.	
Interfaces Supported	RS-232, Keyboard Wedge, USB Com Std., USB Keyboard, USB OEM
User Environment	
Operating Tempera- ture	0° to 50° C (32° to 122° F)
Storage Temperature	-40° to 70 °C (-40° to 158° F)
Humidity	Operating: 0% to 95% relative humidity, non-condensing
Drop Specifications	Scanner withstands 18 drops from 1.5 meters (5.0 feet) to concrete
Ambient Light Immunity	Up to 120,000 Lux
Contaminants Spray/rain Dust/ particulates	IEC 529-IP42

LED and Beeper Indications

The reader's beeper sounds and its top multi-colour LED illuminates to indicate various functions or errors on the reader. An optional 'Green Spot' also performs useful functions. The following tables list these indications. One exception to the behaviors listed in the tables is that the reader's functions are programmable, and so may or may not be turned on. For example, certain indications such as the power-up beep can be disabled using programming bar code labels.

Indicator	Description	LED	Beeper
Power-up Beep	The reader is in the process of power-ing-up.		Reader beeps four times at highest frequency and volume upon power-up.
Good Read Beep	A label has been successfully scanned by the reader.	LED behavior for this indication is configurable via the feature 'Good Read: When to Indicate' (see the PRG for information.)	The reader will beep once at current frequency, volume, mono/bi-tonal setting and duration upon a successful label scan.
ROM Failure	There is an error in the reader's software/programming	Flashes	Reader sounds one error beep at highest volume.
Limited Scanning Label Read	Indicates that a host connection is not established.	N/A	Reader 'chirps' six times at the highest frequency and current volume.
Reader Active Mode	The reader is active and ready to scan.	The LED is lit steadily ^a	N/A
Reader Disabled	The reader has been disabled by the host.	The LED blinks continuously	N/A
Green Spot ^a flashes momentarily	Upon successful read of a label, the software shall turn the green spot on for the time specified by the configured value.	N/A	N/A

^a Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

Programming Mode - The following indications ONLY occur when the reader is in Programming Mode.

INDICATION	DESCRIPTION	LED	BEEPER
Label Programming Mode Entry	A valid programming label has been scanned.	LED blinks continuously	Reader sounds four low frequency beeps.
Label Programming Mode Rejection of Label	A label has been rejected.	N/A	Reader sounds three times at lowest frequency and current volume.
Label Programming Mode Acceptance of Partial Label	In cases where multiple labels must be scanned to program one feature, this indication acknowledges each portion as it is successfully scanned.	N/A	Reader sounds one short beep at highest frequency and current volume.
Label Programming Mode Acceptance of Programming	Configuration option(s) have been successfully programmed via labels and the reader has exited Programming Mode.	N/A	Reader sounds one high frequency beep and 4 low frequency beeps followed by reset beeps.
Label Programming Mode Cancel Item Entry	Cancel label has been scanned.	N/A	Reader sounds two times at low frequency and current volume.

Error Codes

Upon startup, if the reader sounds a long tone, this means the reader has not passed its automatic Selftest and has entered FRU (Field Replaceable Unit) isolation mode. If the reader is reset, the sequence will be repeated. Press and release the trigger to hear the FRU indication code.

The following table describes the LED flashes/beep codes associated with an error found.

Number of LED Flashes/Beeps	Error	Corrective Action
1	Configuration	Contact Helpdesk for assistance
2	Interface PCB	
6	Digital PCB	
11	Imager	

Datalogic Limited Factory Warranty

Datalogic warrants that the Products shall be free from defects in materials and workmanship under normal and proper use during the Warranty Period. Products are sold on the basis of specifications applicable at the time of manufacture and Datalogic has no obligation to modify or update Products once sold. The Warranty Period shall be **five years** from the date of shipment by Datalogic, unless otherwise agreed in an applicable writing by Datalogic.

Datalogic will not be liable under the warranty if the Product has been exposed or subjected to any: (1) maintenance, repair, installation, handling, packaging, transportation, storage, operation or use that is improper or otherwise not in compliance with Datalogic's instruction; (2) Product alteration, modification or repair by anyone other than Datalogic or those specifically authorized by Datalogic; (3) accident, contamination, foreign object damage, abuse, neglect or negligence after shipment to Buyer; (4) damage caused by failure of a Datalogic-supplied product not under warranty or by any hardware or software not supplied by Datalogic; (5) any device on which the warranty void seal has been altered, tampered with, or is missing; (6) any defect or damage caused by natural or man-made disaster such as but not limited to fire, water damage, floods, other natural disasters, vandalism or abusive events that would cause internal and external component damage or destruction of the whole unit, consumable items; (7) use of counterfeit or replacement parts that are neither manufactured nor approved by Datalogic for use in Datalogic-manufactured Products; (8) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.; (9) loss of data; (10) any consumable or equivalent (e.g. cables, power supply, batteries, etc.); or (11) any device on which the serial number is missing or not recognizable.

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Ergonomic Recommendations



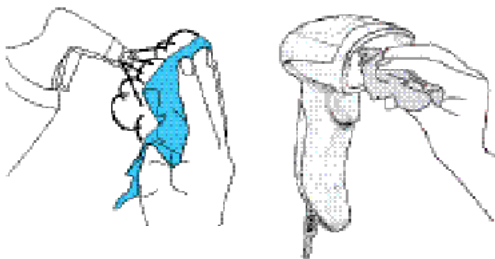
CAUTION

In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

Cleaning

Exterior surfaces and scan windows exposed to spills, smudges or debris require periodic cleaning to ensure best performance during scanning.



Use a soft, dry cloth to clean the product. If the product is very soiled, clean it with a soft cloth moistened with a diluted non-aggressive cleaning solution or diluted ethyl alcohol.




CAUTION

Do not use abrasive or aggressive cleansing agents or abrasive pads to clean scan windows or plastics.
Do not spray or pour liquids directly onto the unit.

Technical Support

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to (www.datalogic.com). For quick access, from the home page click on the search icon , and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings.

Hover over the Support & Service menu for access to Services and Technical Support.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

NOTES



www.datalogic.com

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Datalogic USA, Inc.

959 Terry Street | Eugene, OR 97402 | USA
Telephone: (541) 683-5700 | Fax: (541) 345-7140



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