DATALOGIC

PowerScan™ PD9330

Industrial Corded Handheld Laser Bar Code Reader



Quick Reference Guide

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Patents

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

See the Regulatory Addendum included with your product for additional regulatory, safety and legal information.

Table of Contents

END USER SOFTWARE LICENSE AGREEMENT (EULA) iii
Software Product Policy vii
Customers Under Software Support vii
Description 1
General Features 1
Setting Up the Reader 1
Connecting the Cable 2
Using the PowerScan™ PD9330 3
Scan Line Position 3
Reading Angle 4
Selecting the Interface Type 5
Interface Selection 5
Configuring the Interface 5
Keyboard Interface 8
Country Mode 9
Caps Lock State 13
Numlock 14
Programming 15
Using Programming Bar Codes 15
Configure Other Settings 15
Resetting Product Defaults 15
Reading Parameters 16
Good Read Green Spot Duration 16
Aiming Pointer 17
Technical Specifications 18
LED and Beeper Indications 21
Cleaning 24
Datalogic Limited Factory Warranty 25
Ergonomic Recommendations 27
Support Through the Website 28

DATALOGIC IP TECH S.R.L.
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All rights, duties, and obligations are subject to the courts of the country in which End User obtained the license. For licenses granted by Licensee who operates in the countries specified below, the following terms applies.

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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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- END -

Software Product Policy

Datalogic reserves the right to ship its products with the latest version of software/firmware available. This provides our customers with the very latest in Datalogic software technology.

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.

Customers Under Software Support

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

NOTES



PowerScan™ PD9330

Description

The PowerScan™ 9330 is a feature-rich and rugged laser reader. It is offered in two models to better fit the different needs of each customer.

The table below shows the unique features of each model:

Model P/N	Optical feature
PD9330	Standard optic, standard and high density codes
PD9330-AR	Autorange optic, standard and low density code, long depth of field

General Features

Operating	To read a symbol, you simply aim the reader and pull the trigger.
Decoding	Thanks to powerful algorithms, PowerScan™ PD9330 reliably decodes all major 1D (linear) barcodes. The data stream — acquired from decoding a symbol — is rapidly sent to the host. The reader is immediately available to read another symbol.
Formatting and Concatenating	The string of a decoded code may be processed according to either a simple or advanced data formatting and be concatenated.

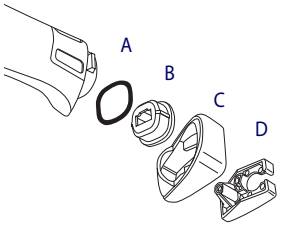
Setting Up the Reader

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, shown on page 2.
2. Configure the Interface (see page 5).
3. Configure the Reader starting on page 15 (optional, depends on settings needed).

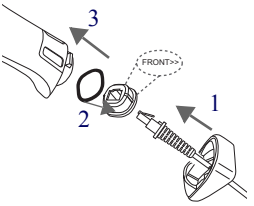
Connect the PowerScan by plugging directly into the host device as shown. The power can also be supplied through an external power supply via the Interface Cable supplied with a power jack.

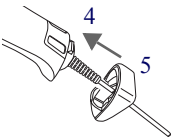
Connecting the Cable

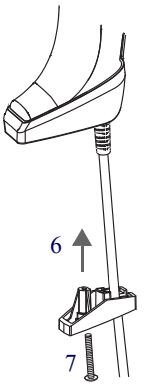


A. Rubber gasket
B. Cable Holder
C. Cover
D. Connector Holder

1. Slip the cable through the Cover.
2. Push the Rubber Gasket onto the Cable Holder.
3. Push the Cable Holder and gasket into the handle. Ensure that the 'Front" marking on the Cable Holder is facing out, with the arrow pointing towards the front of the scanner.
4. Insert the end of the cable into the socket of the Cable Holder.
5. Push the Cover along the cable towards the reader, and hook it over the yellow 'tooth" on the back of the handle.
6. Insert the cable through the Connector Holder, and push it up into the Cover.
7. Insert and tighten the screw to affix the cable assembly to the reader handle.







Using the PowerScan™ PD9330

The PowerScan™ PD9330 normally functions by capturing and decoding bar codes. The reader is equipped with an aiming system which helps to aim the target.

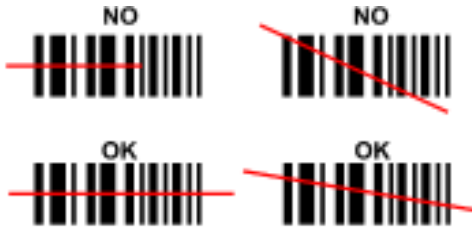
Table 1. Aiming System



PowerScan™ PD9330 provides an aiming system. If enabled, a partial trigger press produces a red spot, which should be aimed over the code center to get the best reading performance, see figure (1) above. By completely pressing the trigger the scan line appears to start the code scanning (2).

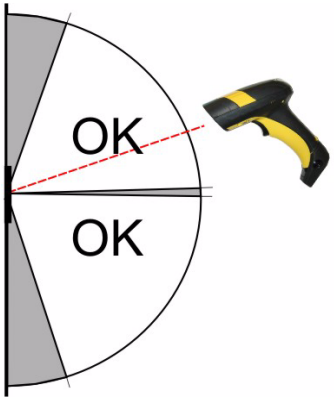
Scan Line Position

Code scanning is performed along the scan line emitted from the reading window. This line must cross the entire code. The best reading angles are indicated in the figure below:



Reading Angle

Successful scanning is obtained by tilting the reader with respect to the barcode to avoid direct reflections that impair the reading performance, see the figure below.



Symbologies with smaller bars or elements (mil size) should be read closer to the unit. Symbologies with larger bars or elements (mil size) should be read farther from the unit.

If the entire bar code is within the scan line, you will get a good read. Successful reading is signaled by an audible tone plus a good-read green spot LED indicator.

Reference the PowerScan PD9330 Product Reference Guide (PRG) for more information about this feature and other programmable 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

All models are multi-interface and support RS-232, USB and Keyboard Wedge.

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 PowerScan PD9330 PRG.

Configuring the Interface

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



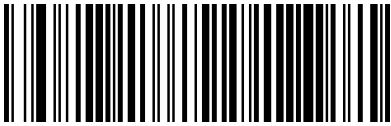
NOTE

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 scanning 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



RS-232

RS-232 Wincor-Nixdorf



RS232-WN

RS-232 for use with OPOS/UPOS/JavaPOS



RS-232 OPOS

USB

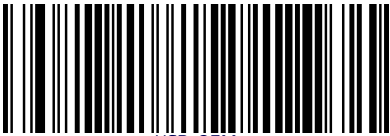
USB Com to simulate RS-232 standard interface



USB-COM[a]

USB (continued)

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



USB-OEM

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

USB Keyboard with standard key encoding



USB-KBD

USB Keyboard with alternate key encoding



USB-KBD-ALT

Keyboard Interface

KEYBOARD WEDGE

IBM AT or PS/2 PCs
Standard Key Encoding



KBD-AT

IBM AT or PS/2 PCs
Standard Key Encoding without external keyboard



KBD-AT-NK

IBM AT or PS/2 PCs
w/Alternate Key



KBD-AT-ALT

IBM AT or PS/2 PCs
Alternate Key Encoding without external keyboard



KBD-AT-ALT-NK

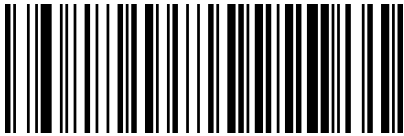
Country Mode

This feature specifies the country/language supported by the keyboard.

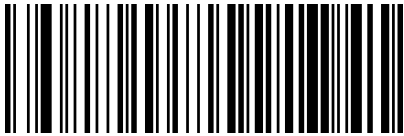
COUNTRY MODE



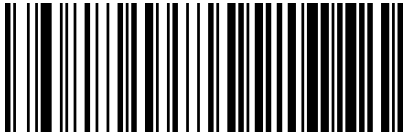
ENTER/EXIT PROGRAMMING MODE



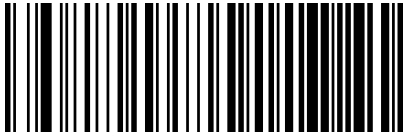
Country Mode = U.S.



Country Mode = Belgium



Country Mode = Britain



Country Mode = Croatia

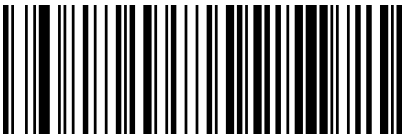
COUNTRY MODE (continued)



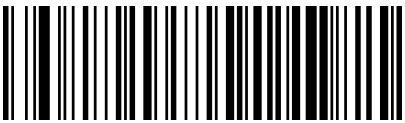
Country Mode = Czech



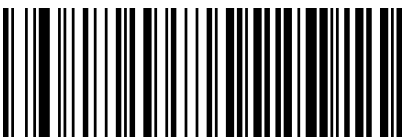
Country Mode = Denmark



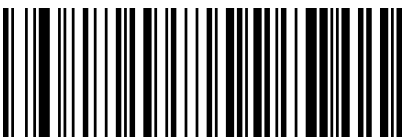
Country Mode = France



Country Mode = French Canadian

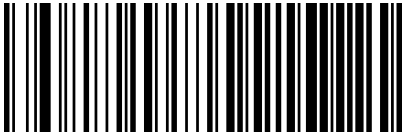


Country Mode = Germany

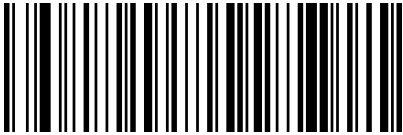


Country Mode = Hungary

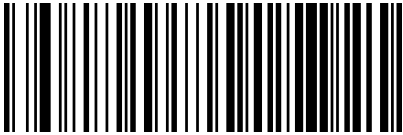
COUNTRY MODE (continued)



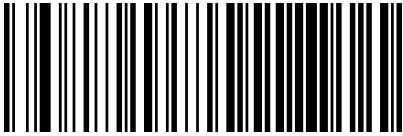
Country Mode = Italy



Country Mode = Japanese 106-key



Country Mode = Lithuanian



Country Mode = Norway

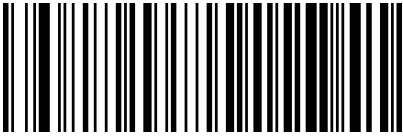


Country Mode = Poland

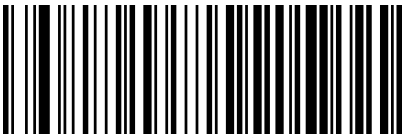


Country Mode = Portugal

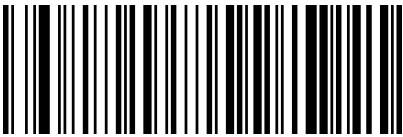
COUNTRY MODE (continued)



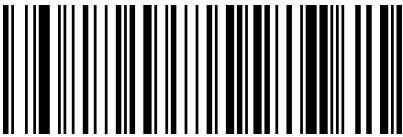
Country Mode = Romania



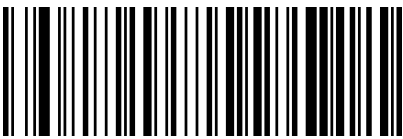
Country Mode = Spain



Country Mode = Sweden



Country Mode = Slovakia



Country Mode = Switzerland

Caps Lock State

This option specifies the format in which the reader sends character data. This applies to keyboard wedge interfaces. This does not apply when an alternate key encoding keyboard is selected. It does not apply to USB keyboard.



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.



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 PowerScan PD9330. 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 16, 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 5 for more information.



Reset Default Settings

Reading Parameters

Move the reader toward the target and center the aiming spot, then pull the trigger to capture and decode the bar-code. See Using the PowerScan™ PD9330 on page 3 for more information.

The aiming system will switch off after the acquisition time.

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.



ENTER/EXIT PROGRAMMING MODE



Disabled



♦ Short (300 ms)



Medium (500 ms)



Long (800 ms

Aiming Pointer

Enables / disables the aiming pointer.



Aiming pointer = disable



♦ Aiming pointer = enable

Technical Specifications

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

Physical Characteristics		
Dimensions	Height: 212 mm Length: 110 mm Width: 74 mm	
Weight (without cable)	PD9330 340 g	PD9330-AR 375 g
Electrical Characteristics		
Voltage & Current	**PD9330**	**PD9330-AR**
Input Voltage	4.5 / 30 VDC	4.5 / 30 VDC
Input Current		
Operating (typical, scanning)	110 mA @ 4.5 V 105 mA @ 5 V 45 mA @ 12V 25 mA @ 30 V	180 mA @ 4.5 V 170 mA @ 5 V 70 mA @ 12 V 40 mA @ 30 V
Operating (max, reading)	420 mA @ 4.5 V 360 mA @ 5 V 140 mA @ 12 V 65 mA @ 30 V	480 mA @ 4.5 V 420 mA @ 5 V 160 mA @ 12 V 80 mA @ 30 V
Idle/Standby (typical)	45 mA @ 4.5 V 40 mA @ 5 V 20 mA @ 12 V 12 mA @ 30 V	45 mA @ 4.5 V 40 mA @ 5 V 20 mA @ 12 V 12 mA @ 30 V

Performance Characteristics		
Light Source	Laser	
	PD9330	**PD9330-AR**
Roll (Tilt) Tolerance	± 35°	± 10°
Pitch Tolerance	± 40°	± 60°
Skew (Yaw) Tolerance	± 65°	± 65°
Print Contrast Minimum	25% minimum reflectance	
Maximum Resolution	3 mils	7.5 mils
Scan Rate	104 (± 12) scans/sec	35 (± 5) scans/sec
Scan Angle	47° max	13.5° ± 0.7°
Depth of Field (Typical)		
Symbology Code 39	PD9330	
5 mils	1.5 - 28 cm / 0.6 - 11"	
7.5 mils	1.5 - 42 cm / 0.6 - 16.5'	
10 mils	2 - 50 cm / 0.8 - 19.7'	
20 mils	2 - 110 cm / 0.8 - 43.3'	
40 mils	2 - 160 cm / 0.8 - 63'	
EAN 13	2.5 - 65 cm / 1 - 25.6"	
Symbology Code 39	PD9330-AR	
7.5 mils	9 - 50 cm / 3.5 - 19.7"	
10 mils	14 - 85 cm / 5.5 - 33.5"	
15 mils	15 - 155 cm / 5.9 - 61"	
20 mils	15 - 220 cm / 5.9 - 86.6"	
40 mils	20 - 340 cm / 7.9 - 133.9"	
55 mils	25 - 420 cm / 9.8 - 165.4"	
Reflective Label Code 39		
70 mils	Up to 9 m / 29 ft	
100 mils	Up to 11.5 m / 37 ft	

Note: the reading performances may change with different

Decode Capability

PD9330
GS1 Databar linear codes, UPC/EAN, UPC/EAN P2/P5 Addons, UPC/EAN Coupons, ISBN, Code128, EAN128, Code39, Code39 Full ASCII, Code39 CIP, Code 32, Codabar, Interleaved 2 of 5, IATA, Industrial 2 of 5, Standard 2 of 5, Code11, MSI, Plessey, Code 93, Follet 2/5, Code 4, Code 5, Datalogic 2 of 5, Codablock F

PD9330-AR
GS1 Databar linear codes, UPC/EAN, UPC/EAN P2/P5 Addons, UPC/EAN Coupons, ISBN, Code128, EAN128, Code39, Code39 Full ASCII, Code 32, Codabar, Interleaved 2 of 5, Standard 2 of 5, MSI, Code 93

Interfaces Supported	RS-232, Keyboard Wedge, and USB. See page 5 for a listing of available interface options.	

User Environment

Operating Temperature	-4° to 122° F (-20° to +50° C)	
Storage Temperature	-40° to 158° F (-40° to 70° C)	
Humidity	0 to 95% non-condensing	
Drop Specifications	Scanner withstands >50 times 6.5' (2 m) drops to concrete	
Ambient Light Immunity	PD9330 100,000 Lux	PD9330-AR 43,000 Lux
Contaminants: Spray/rain, Dust/particulates	IP65	
ESD Level	20 KV	

Regulatory

See the Regulatory Addendum for details.

LED and Beeper Indications

The reader's beeper sounds and its 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 powering-up.	N/A	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

Indicator	Description	LED	Beeper
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

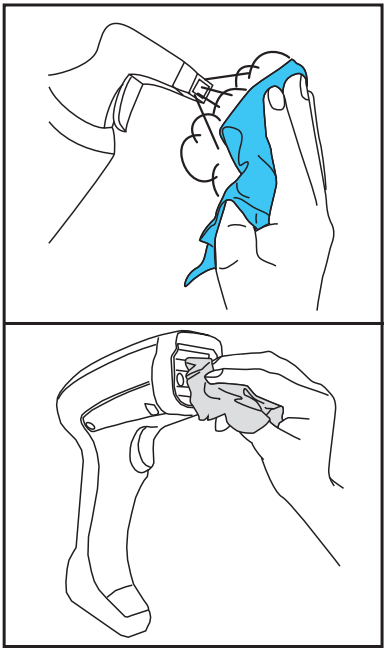
[a]Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

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.

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.

Datalogic Limited Factory Warranty

Warranty Coverage

Datalogic warrants to Customer that Datalogic's products will be free from defects in materials and workmanship for a period of one year from product shipment. Datalogic ('Datalogic") hardware products are warranted against defects in material and workmanship under normal and proper use. The liability of Datalogic under this warranty is limited to furnishing the labor and parts necessary to remedy any defect covered by this warranty and restore the product to its normal operating condition. Repair or replacement of product during the warranty does not extend the original warranty term. 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.

If Datalogic determines that a product has defects in material or workmanship, Datalogic shall, at its sole option repair or replace the product without additional charge for parts and labor, or credit or refund the defective products duly returned to Datalogic. To perform repairs, Datalogic may use new or reconditioned parts, components, subassemblies or products that have been tested as meeting applicable specifications for equivalent new material and products. Customer will allow Datalogic to scrap all parts removed from the repaired product. The warranty period shall extend from the date of shipment from Datalogic for the duration published by Datalogic for the product at the time of purchase (Warranty period). Datalogic warrants repaired hardware devices against defects in workmanship and materials on the repaired assembly for a 90 day period starting from the date of shipment of the repaired product from Datalogic or until the expiration of the original warranty period, whichever is longer. Datalogic does not guarantee, and it is not responsible for, the maintenance of, damage to, or loss of configurations, data, and applications on the repaired units and at its sole discretion can return the units in the 'factory default" configuration or with any software or firmware update available at the time of the repair (other than the firmware or software installed during the manufacture of the product). Customer accepts responsibility to maintain a back up copy of its software and data.

Warranty Claims Process

In order to obtain service under the Factory Warranty, Customer must notify Datalogic of the claimed defect before the expiration of the applicable Warranty period and obtain from Datalogic a return authorization number (RMA) for return of the product to a designated Datalogic service center. If Datalogic determines Customer's claim is valid, Datalogic will repair or replace product without additional charge for parts and labor. Customer shall be responsible for packaging and shipping the product to the designated Datalogic service center, with shipping charges prepaid. Datalogic shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Da-

talogic service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations. Failure to follow the applicable RMA policy, may result in a processing fee. Customer shall be responsible for return shipment expenses for products which Datalogic, at its sole discretion, determines are not defective or eligible for warranty repair.

Warranty Exclusions

The Datalogic Factory Warranty shall not apply to:

(i) any product which has been damaged, modified, altered, repaired or upgraded by other than Datalogic service personnel or its authorized representatives;

(ii) any claimed defect, failure or damage which Datalogic determines was caused by faulty operations, improper use, abuse, misuse, wear and tear, negligence, improper storage or use of parts or accessories not approved or supplied by Datalogic;

(iii) any claimed defect or damage caused by the use of product with any other instrument, equipment or apparatus;

(iv) any claimed defect or damage caused by the failure to provide proper maintenance, including but not limited to cleaning the upper window in accordance with product manual;

(v) 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;

(vi) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.;

(vii) the replacement of upper window/cartridge due to scratching, stains or other degradation and/or

(viii) any consumable or equivalent (e.g., cables, power supply, batteries, keypads, touch screen, triggers etc.).

No Assignment

Customer may not assign or otherwise transfer its rights or obligations under this warranty except to a purchaser or transferee of product. No attempted assignment or transfer in violation of this provision shall be valid or binding upon Datalogic.

DATALOGIC'S LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. DATALOGIC SHALL NOT BE LIABLE FOR ANY DAMAGES SUSTAINED BY CUSTOMER ARISING FROM DELAYS IN THE REPLACEMENT OR REPAIR OF PRODUCTS UNDER THE ABOVE. THE REMEDY SET FORTH IN THIS WARRANTY STATEMENT IS THE CUSTOMER'S

SOLE AND EXCLUSIVE REMEDY FOR WARRANTY CLAIMS. UNDER NO CIRCUMSTANCES WILL DATALOGIC BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR ANY LOST PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL IN-DIRECT, SPECIAL OR CONTINGENT DAMAGES REGARDLESS OF WHETHER DATALOGIC HAD ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

Risk of Loss

Customer shall bear risk of loss or damage for product in transit to Datalogic. Datalogic shall assume risk of loss or damage for product in Datalogic's possession. In the absence of specific written instructions for the return of product to Customer, Datalogic will select the carrier, but Datalogic shall not thereby assume any liability in connection with the return shipment.

Ergonomic Recommendations



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.

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to www.datalogic.com and click on the **SUPPORT** > **Industrial Handheld Scanners** category link. From this page you can select your product model from the dropdown list which gives you access to:

Downloads including Data Sheets, Manuals, Software & Utilities, and Drawings;

Repair Program for On-Line Return Material Authorizations (RMAs) plus Repair Center contact information;

Service Program containing details about Maintenance Agreements;

Technical Support through email or phone.



DATALOGIC

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