



PowerScan™ M8500 Readers

Industrial Handheld Area Imager Bar Code Reader
with Datalogic's STAR Cordless System™



Quick Reference Guide

Datalogic Scanning, Inc.

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

An Unpublished Work - All rights reserved. No part of the contents of this documentation or the procedures described therein may be reproduced or transmitted in any form or by any means without prior written permission of Datalogic Scanning, Inc. or its subsidiaries or affiliates ("Datalogic" or "Datalogic Scanning"). Owners of Datalogic products are hereby granted a non-exclusive, revocable license to reproduce and transmit this documentation for the purchaser's own internal business purposes. Purchaser shall not remove or alter any proprietary notices, including copyright notices, contained in this documentation and shall ensure that all notices appear on any reproductions of the documentation.

Should future revisions of this manual be published, you can acquire printed versions by contacting your Datalogic representative. Electronic versions may either be downloadable from the Datalogic website (www.scanning.datalogic.com) or provided on appropriate media. If you visit our website and would like to make comments or suggestions about this or other Datalogic publications, please let us know via the "Contact Datalogic" page.

Disclaimer

Datalogic has taken reasonable measures to provide information in this manual that is complete and accurate, however, Datalogic reserves the right to change any specification at any time without prior notice.

Datalogic and the Datalogic logo are registered trademarks of Datalogic S.p.A. in many countries, including the U.S.A and the E.U. All other brand and product names referred to herein may be trademarks of their respective owners.

PowerScan is a registered trademark of Datalogic Scanning, Inc. in many countries, including the U.S.A.

Patents

This product is covered by one or more of the following patents:

Design Pat. AU AU 310201; AU 310202; CN 693980; CN 735959; HK 0602013.5M001; HK 0602013.5M002; JP 1305693; KR 30-0460940; US D570,843 S.

US Pat. 6,478,226 B2; 6,512,218 B1; 6,808,114 B1; 6,877,664 B1; 6,997,385 B2; 7,053,954 B1; 7,102,116 B2; 7,282,688 B2; 7,387,246.

European Pat. 996,284 B1; 999,514 B1; 1,128,315 B1; 1,396,811 B1.

Additional patents pending.

Table of Contents

Table of Contents	1
Updates and Language Availability	3
PowerScan® M8500 Family	4
Description	4
Using the PowerScan® PM8500 Family	5
Indicators	6
LED Indicators	6
Beeper	6
Good Read Spot	6
Charging the Batteries	7
Setup	9
PowerScan® M8500 Configuration	10
PowerScan® M8500/BC-80X0 Point-to-Point Setup	10
PowerScan® M8500/BC-80X0 Stand Alone Setup	11
Using Multiple Readers with Same Cradle	14
PowerScan® M8500/STAR-MODEM™ Stand Alone Setup	14
PowerScan® M8500/STAR-SYSTEM™ Setup	15
Default Configuration	18
Operating Test	19
Technical Features	20
Services and Support	25
Information Request Form and Sales & Service Network	25
Warranty	25
Compliance	26
FCC Compliance	26
Radio Compliance	26
IC (Industry Canada)	26
Laser Safety	27
WEEE Compliance	31
Numeric Table	32

NOTES

Updates and Language Availability

UK/US

The latest drivers and documentation updates for this product are available on Internet.

Log on to : www.scanning.datalogic.com

I

Su Internet sono disponibili le versioni aggiornate di driver e documentazione di questo prodotto.

Collegarsi a : www.scanning.datalogic.com

F

Les versions mises à jour de drivers et documentation de ce produit sont disponibles sur Internet.

Cliquez sur : www.scanning.datalogic.com

D

Im Internet finden Sie die aktuellsten Versionen der Treiber und Dokumentation von diesem Produkt. Adresse : www.scanning.datalogic.com

E

En Internet están disponibles las versiones actualizadas de los drivers y documentación de este producto.

Dirección Internet : www.scanning.datalogic.com

PowerScan® M8500 Family

Description

The PowerScan® M8500 series readers can be used with either a BC-80X0 cradle or Stargate™ radio base station to build a Cordless Reading System for the collection, decoding and transmission of bar coded data. The M8500 series can be used in the same environment where M8300 series readers are already installed.

This manual includes just the commands required for the startup of the scanner and setting of the interface. For complete configuration of the scanner, refer to the PowerScan® PM8500 Reference Manual or the Datalogic Aladdin configuration program, both downloadable from the website and available on the included CD ROM.

The PowerScan® PM8500 Hand-Held Reader packs a lot of performance into an attractive, rugged, hand-held device. It operates in commercial and industrial environments, as well as the front office.

Omni-Directional Operating	To read a symbol or capture an image, you simply aim the reader and pull the trigger. Since the PowerScan® PM8500 is a powerful omni-directional reader, the orientation of the symbol is not important.
Decoding	Thanks to powerful algorithms, PowerScan® PM8500 reliably decodes all major 1D (linear) bar codes, 2D stacked codes (such as PDF417), 2D matrix symbols (such as DataMatrix), postal codes (such as POSTNET, PLANET). 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 to other codes (up to 4 different codes).
Autoscanning	An autoscan command causes the reader to scan continuously and to monitor the central zone of its reading area.
Flash Memory	Flash technology allows you to upgrade the PowerScan® PM8500 reader as new symbologies are supported or as improved decoding algorithms become available.
USA Driver License Parsing	The reader can be set up to select and output a subset of data elements from USA Driver License PDF417 bar codes. This feature can be enabled using either Datalogic Aladdin™ or the bar codes in the USA Driver License Parsing Quick Reference Guide (QRG), available on the Datalogic website.



The Powerscan M8500 is compatible with BC80x0 v3.0.0.00 (available in the Aladdin Software on the CD included with this product) and later releases. If a previous firmware version is installed in your BC80x0, please upgrade to the latest version before installing the M8500.

Using the PowerScan® PM8500 Family

The PowerScan® PM8500 normally functions by capturing and decoding codes. The PowerScan® PM8500 reader uses an intelligent aiming system. By pulling the trigger, the aiming system indicates a field of view, which should be positioned over the code:

Aiming System



When you pull the trigger, a red beam illuminates the code. If the aiming system is centered and the entire symbology is within the aiming system, you will get a good read. The field of view changes size as you move the reader closer or farther away from the code.

Relative Size and Location of Aiming System Pattern



Linear bar code



2D Matrix symbol

Successful reading is signaled by an audible tone plus a good-read green LED.



The PowerScan® PM8500 handheld reader aiming system is designed for general reading and decoding of 1D and 2D symbols. Some variation in reading distance will occur due to narrow bar width and other factors.

If reading codes positioned on reflective surfaces, it may be necessary to tilt the reader with respect to the bar code and/or set the Camera Control parameters. For configuring the Camera Control parameters refer to the PowerScan® PM8500 Product Reference Guide (PRG) available on the website and the CD.

Indicators

LED Indicators

The PowerScan® PM8500 family uses green LED indicators to signal the following reader functions:

STATUS	BEHAVIOR
Power ON	At power-on, the LEDs blink briefly, then light up for 2 seconds to signal the power supply is present.
Normal Function	The LED lights up after a good decoding and will switch off only at the next trigger press.

Beeper

The PowerScan® PM8500 basic software provides beeper signals for good/wrong reading and for indicating errors. Its tone, volume and duration can be directly configured by using the codes given in the PowerScan® PM8500 Product Reference Guide (PRG) available on the website.

The application program can also manage the beeper (User Defined Beeper) when the reader is controlled by a Host PC. It is possible to activate the beeper by sending a command from the Host to the reader via the current communication interface.

Good Read Spot

A green good read spot will be projected in the field of view when the reading is successful.

Charging the Batteries

Once the BC-80X0/C-8000 is powered, you can charge the reader's batteries.

Place the PowerScan[®] M8500 into the BC-80X0 cradle or the C-8000 battery charger. The "Reader" LED on the cradle/battery charger turns red.

The battery is completely charged when the "Reader" LED on the cradle/battery charger turns green.



To change the battery, push the Release Button as indicated by Arrow 1 and extract the battery pack from the reader handle. Then, insert the new battery pack into the reader handle until a 'click' is heard and the Release Button moves back to its neutral position.





WARNING

Do not discharge the battery using any device except for the scanner. When the battery is used in devices other than the designated product, it may damage the battery or reduce its life expectancy. If the device causes an abnormal current to flow, it may cause the battery to become hot, explode or ignite and cause serious injury.

Lithium-ion battery packs may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed below:

- Do not place the battery pack in fire or heat.
- Do not connect the positive terminal and negative terminal of the battery pack to each other with any metal object (such as wire).
- Do not carry or store the battery pack together with metal objects.
- Do not pierce the battery pack with nails, strike it with a hammer, step on it or otherwise subject it to strong impacts or shocks.
- Do not solder directly onto the battery pack.
- Do not expose the battery pack to liquids, or allow the battery to get wet.
- Do not apply voltages to the battery pack contacts.

In the event the battery pack leaks and the fluid gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

Always charge the battery at 32° – 104°F (0° - 40°C) temperature range.

Use only the authorized power supplies, battery pack, chargers, and docks supplied by your Datalogic reseller. The use of any other power supplies can damage the device and void your warranty.

Do not disassemble or modify the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode or ignite.

Do not place the battery in or near fire, on stoves or other high temperature locations.

Do not place the battery in direct sunlight, or use or store the battery inside cars in hot weather. Doing so may cause the battery to generate heat, explode or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy. Do not place the battery in microwave ovens, high-pressure containers or on induction cookware.

Immediately discontinue use of the battery if, while using, charging or storing the battery, the battery emits an unusual smell, feels hot, changes color or shape, or appears abnormal in any other way.

Do not replace the battery pack when the device is turned on.

Do not remove or damage the battery pack's label.

Do not use the battery pack if it is damaged in any part.

Battery pack usage by children should be supervised.

As with other types of batteries, Lithium-Ion (LI) batteries will lose capacity over time. Capacity deterioration is noticeable after one year of service whether the battery is in use or not. It is difficult to precisely predict the finite life of a LI battery, but cell manufacturers rate them at 500 charge cycles. In other words, the batteries should be expected to take 500 full discharge/charge cycles before needing replacement. This number is higher if partial discharging / recharging is adhered to rather than full / deep discharging,

The typical manufacturer advertised useful life of LI batteries is one to three years, depending on usage and number of charges, etc., after which they should be removed from service, especially in mission critical applications. Do not continue to use a battery that is showing excessive loss of capacity, it should be properly recycled / disposed of and replaced. For most applications, batteries should be replaced after one year of service to maintain customer satisfaction and minimize safety concerns.

Collect and recycle waste batteries separately from the device in compliance with European Directive 2006/66/EC, 2002/95/EC, 2002/96/EC and subsequent modifications, US and China regulatory and others laws and regulations about the environment.

Setup

PowerScan® M8500/BC-80X0 Point-to-Point Configuration

1. Connect a BC-80X0 cradle to the Host. For installation and connection information see the BC-80X0 Quick Reference Manual.
2. Charge the PowerScan® M8500 battery using an BC-80X0 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
3. Configure the reader as described in this Quick Reference - **PowerScan® M8500/BC-80X0 Point-to-Point Setup.**
4. Configure the BC-80X0 cradle. See BC-80X0 Configuration in the BC-80X0 Quick Reference.

or

PowerScan® M8500/BC-80X0 Stand Alone Configuration

1. Connect an BC-80X0 cradle to the Host. For installation and connection information see the BC-80X0 Quick Reference Manual.
2. Charge the PowerScan® M8500 battery using an BC-80X0 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
3. Configure the reader as described in this Quick Reference - **PowerScan® M8500/BC-80X0 Stand Alone Setup.**
4. Configure the BC-80X0 cradle. See BC-80X0 Configuration in the BC-80X0 Quick Reference.

or

PowerScan® M8500/STAR-System™ Configuration

1. Charge the PowerScan® M8500 battery using an BC-8000 or the C-8000 charger as described in this Quick Reference manual. A full charge takes 4 hours if using an external power supply; while it takes up to 10 hours if supplying power through the USB port.
2. Configure the reader as described in this Quick Reference - **PowerScan® M8500/STAR-System™ Setup.**

PowerScan® M8500 Configuration

PowerScan® M8500/BC-80X0 Point-to-Point Setup

A rapid configuration procedure has been devised for point-to-point applications where a single reader is associated exclusively with its own BC-80X0 base station and where it is not necessary to set the Date and Time parameters.

A special pre-printed bind-address label provided in the BC-80X0 base station package can be used to bind the PowerScan® M8500 reader to the base station with the address coded on the label. The address is also written numerically on the label to be easily recognized. Valid addresses are in the range from 0000 to 1999. Make sure that all cradles used in the same area have different addresses.

To rapidly configure your point-to-point application:

1. Apply the bind-address label onto the BC-80X0 base station as indicated in the BC-80X0 Quick Reference Manual.
2. When the BC-80X0 cradle is connected and powered, read the Bind-Address label to pair the PowerScan® M8500 to the BC-80X0 cradle. The green LED on the PowerScan® M8500 will blink: the reader is ready to be positioned onto the cradle.
3. Firmly position the reader onto the cradle within 10 seconds, a beep will be emitted, signaling that the BC-80X0 cradle has been paired to the PowerScan® M8500, and the green LED on the reader will go off.



If it ever becomes necessary to change the reader, just read the bind-address label applied to the cradle and position the new reader onto the cradle.

Do not use multiple readers with this configuration method.

4. Configure the BC-80X0 cradle, refer to the “BC-80X0 Quick Reference”.

END of procedure. YOUR READER IS NOW READY TO READ CODES.

PowerScan® M8500/BC-80X0 Stand Alone Setup

When the BC-80X0 cradle is connected and powered, configure the PowerScan® M8500 by reading the following codes in the given sequence and follow the instructions.



For the numeric code selection of steps 3, 4, and 5 use the table at the end of this Quick Reference

1. Restore PowerScan® M8500 Default



2. Enter Configuration



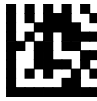
3. Set Date



+

six digits for Day, Month and Year (DDMMYY).

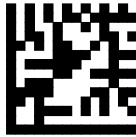
4. Set Time



+

four digits for Hours and Minutes (HHMM).

5. Set Radio Address

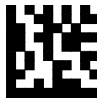


+

four digits for the PowerScan® M8500 Address
(from 0000 to 1999).

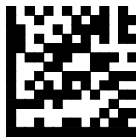
All readers used in the same area must have different addresses.

6. Exit and Save Configuration



7. Read the **Bind** code to pair the PowerScan® M8500 to the BC-80X0 cradle. The reader is dedicated to the cradle. Any previously **bound** reader will be excluded. To connect several readers to the same cradle see the following section "Using Multiple Readers with Same Cradle".

Bind



The green LED on the PowerScan® M8500 will blink: the reader is ready to be positioned onto the cradle.

8. Firmly position the reader onto the cradle within 10 seconds, a beep will be emitted, signaling that the BC-80X0 cradle has been paired to the PowerScan M8500, and the green LED on the reader will go off.



9. Configure the BC-80X0 cradle, refer to the "BC-80X0 Quick Reference".

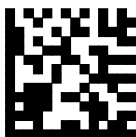
END of procedure. YOUR READER IS NOW READY TO READ CODES.

Using Multiple Readers with Same Cradle

If you want to use several readers associated with the same cradle, you must first Bind the cradle with one of the readers (see previously described configuration procedure).

Successive readers can be associated with the same cradle by following the configuration procedure substituting the Bind command with Join.

7. Join



The green LED on the PowerScan® M8500 will blink: the reader is ready to be positioned onto the cradle. **Complete step 8.**

END of procedure.



All readers associated with the same cradle must have different addresses.

PowerScan® M8500/STAR-MODEM™ Stand Alone Setup

To configure a PowerScan® M8500 reader to communicate with STAR-Modem™ in Stand Alone Mode, follow the "PowerScan® M8500/BC-80X0 Stand Alone Setup" procedure substituting steps 5 and 6 with those below:

6. STAR-Modem™ Address



Read the code above and the four-digit address of the STAR-Modem™.

7. Exit and Save Configuration

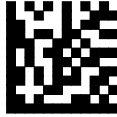


END of procedure. YOUR READER IS NOW READY TO READ CODES.

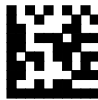
PowerScan® M8500/STAR-SYSTEM™ Setup

The following procedure allows configuring a PowerScan® M8500 reader to communicate with various STAR-System™ devices such as Stargate™ RF base stations:

1. Restore PowerScan® M8500 Default



2. Enter Configuration



3. Set Date



+

six digits for Day, Month and Year (DDMMYY).

4. Set Time



+

four digits for Hours and Minutes (HHMM).

5. Set the connection according to the length of the codes to be read:
Code Length \leq 240 Characters



Code Length $>$ 240 Characters
(not for systems with BC-80X0 as Master)



6. Set Radio Address



+

four digits from the Numeric Table for the PowerScan® M8500 Address
(from 0000 to 1999).

All readers used in the same area must have different addresses.

7. Set First STAR-System™ Address



+

four digits from the Numeric Table in the range 0000 to 1999

8. Set Last STAR-System™ Address



+

four digits from the Numeric Table in the range 0000 to 1999



Whenever the system is composed of a single base station, the first and last base station addresses (steps 7 and 8) must have the same value.

9. Exit and Save Configuration



END of procedure. YOUR READER IS NOW READY TO READ CODES.

Default Configuration

DATA FORMAT – Symbology Dependent Parameters

symbology specific format = select all, no headers, no terminators, symbology character substitution disabled, symbology character deletion disabled

DATA FORMAT – Concatenation

Concatenation disabled, 2 EAN/UPC codes concatenated, Set First Concatenated Code Length 000 = any length, Set Second Concatenated Code Length 000 = any length, Set Third Concatenated Code Length 000 = any length, Set Fourth Concatenated Code Length 000 = any length, Concatenation with Intercode Delay disabled, Concatenation Timeout 10 seconds, Concatenation Failure Transmission = Tx codes causing failure, Transmission after Timeout = No code transmission, Concatenation Result Code ID = No code Identifier

ADVANCED FORMATTING PARAMETERS

format disabled

CAMERA CONTROL

exposure mode = automatic, based on entire image

CODE SELECTION

issue identical codes = enable

enabled codes

Standard Code 39: no check digit control, variable code length;

EAN 8/EAN 13 / UPC A/UPC E without ADD ON: UPCE expansion disabled

Code 128: variable code length

PDF417

Datamatrix: rectangular, normal and inverted, variable code length

QR

disabled codes

Code 32, Interleaved 2/5, Codabar, Code 93, EAN 128, GS1 DataBar™, Micro PDF417, Postal Codes, Maxicode, Composite Codes, Aztec, microQR, IMB.

READING PARAMETERS

trigger type normal, trigger level mode, flash on = 2 sec, flash off = 2 sec, beeper tone = tone 1, beeper volume = high, beeper duration = 50 ms, user defined beeper = tone 1, user defined beeper volume = high, user defined beeper duration = 100 ms, code per scan = one code per scan, read per cycle = one read per cycle, scan timeout = 5 sec, central code transmission = disabled, order by code length = disabled, order by code symbology = disabled, autoscanner mode = disabled, autoscanner aiming system = enabled, autoscanner hardware trigger = enabled, autoscanner illumination system = disabled, stand autoscanner mode = normal, aiming system delay = disabled, good read spot = short, safety time = 500 ms

RADIO PARAMETERS

radio protocol timeout = 2 seconds, power-off timeout = 4 hours, transmission mode = one-way, beeper control for radio response = normal, single store = disabled, batch mode = disabled, find me = enabled, radio RX timeout = disabled

Operating Test

EAN-13



Code 39 (Standard)



Code 128



PDF417



QR



Data Matrix (Normal)



Technical Features

PowerScan® M8500 Family Common Features

Electrical Features		
Battery Type	2150 Li-Ion battery pack	
Time of recharge	max. 4 hours with external power supply max. 10 hours with Host power	
Operating autonomy (continuous reading)	30,000 reads (typical)	
Display (Only available with some models)	LCD 4 lines x 16 chars Programmable font and backlight	
Indicators	Good Read LED green Good Read Spot green Beeper	
Radio Features	European Models	USA Models
Radio Frequency	433.92 MHz	910 MHz
Bit rate	19200 baud	36800 baud
Range (in open air)	50 m	30 m
System Configuration	BC-80X0 STARGATE™	
Max. number of devices per base station	32	
Max. number of devices in the same reading area	2000	
Environmental Features		
Operating Temperature	-10° to +50° C (+14° to +122° F)	
Storage Temperature	-20° to +70° C (-4° to +158° F)	
Humidity	0 to 95% NC	
Drop Resistance	2 m / 6.6 ft (over 50 drops to concrete)	
IP Sealing	IP65 (IP64 for models with display)	
Mechanical Features		
Weight (with batteries)	about 360 g (12.70 oz)	
Dimensions	212 x 109 x 71 mm (8.34 x 4.29 x 2.79 in)	
Material	Polycarbonate molded with rubber	
Decoding Capability		
1D	Interleaved 2 of 5, Code 39, Code 32, Code 128, EAN 128, Code93, UPC/EAN/JAN, Codabar, GS1 DataBar™	
2D	Aztec, PDF417, Micro PDF417, Macro PDF417, Maxicode, DataMatrix (ECC200), QR, Composite Codes	
Postal Codes	PLANET, Japan Post, Australia Post, KIX Code, Royal Mail Code (RM4SCC)	

PowerScan® M8500 Family Common Features (continued)

Optical Features	
Sensor	1280 x 1024 pixel element, 2D CMOS Array
Illuminator	LED array
Wavelength	In the range 630 ~ 670 nm
LED Safety Class	Class 1 to EN 60825-1
Aiming System	Visible Laser Diode
Wavelength	650 nm
Laser Safety Class	Class 2 - EN 60825-1; Class II CDRH
Ambient light	0 - 100000 lux

PowerScan® M8500™

Optical Features			
Focus distance	140 mm		
Field of view	28°(H) x 23°(V)		
Horizontal field of view at distance (d) in mm	0.52 d + 15		
Vertical field of view at distance (d) in mm	0.42 d + 12		
Max Resolution	Linear codes - mm (mils)	PDF417 - mm (mils)	Datamatrix - mm (mils)
	0.10 (4)	0.10 (4)	0.17 (6.6)
Depth of field*			
1D (linear):	X-dimension mm (mils)	DOF cm (in)	
Code39	0.13 (5)	7.5 to 15.5 (2.95 to 6.10)	
	0.5 (20)	5.5 to 36.5 (2.17 to 14.37)	
EAN13	0.33 (13)	5.0 to 27 (1.97 to 10.63)	
2D:	X-dimension mm (mils)	DOF cm (in)	
PDF417	0.13 (5)	8.0 to 18.5 (3.15 to 7.28)	
	0.25 (10)	4.0 to 25.5 (1.57 to 10.04)	
QR	0.19 (7.5)	8.0 to 16.5 (3.15 to 6.5)	
	0.25 (10)	7.0 to 19.5 (2.76 to 7.68)	
DataMatrix	0.19 (7.5)	8.0 to 16.5 (3.15 to 6.5)	
	0.25 (10)	7.0 to 19.5 (2.76 to 7.68)	
Skew	±40°		
Pitch	±35°		
Rotation	360°		
Print Contrast (Min.)	15%		

* Reading distances are measured from the nose of the reader.

NOTE: Typical performance at 20°C / 68°F on high quality bar codes.

PowerScan® M8500™ HD

Optical Features			
Focus distance	65 mm		
Field of view	27° (H) x 22° (V)		
Horizontal field of view at distance (d) in mm	0.50 d + 13		
Vertical field of view at distance (d) in mm	0.40 d + 10		
Max Resolution	Linear codes - mm (mils)	PDF 417 – mm (mils)	Datamatrix – mm (mils)
	0.05 (2 mils)	0.08 (3 mils)	0.10 (4 mils)
Depth of field*			
1D (linear):	X-dimension mm (mils)	DOF cm (in)	
Code39	0.08 (3)	4.5 to 8.0 (1.77 to 3.15)	
	0.13 (5)	3.5 to 9.5 (1.38 to 3.74)	
	0.51 (20)	6.0 to 18.5 (2.36 to 7.28)	
EAN13	0.33 (13)	5.0 to 14 (1.97 to 5.51)	
2D:	X-dimension mm (mils)	DOF cm (in)	
PDF417	0.08 (3)	5.0 to 8.5 (1.97 to 3.35)	
	0.13 (5)	4.5 to 9.5 (1.77 to 3.74)	
	0.25 (10)	3.0 to 13.0 (1.18 to 5.12)	
QR	0.10 (4)	5.5 to 7.5 (2.17 to 2.95)	
	0.19 (7.5)	5.0 to 8.0 (1.97 to 3.15)	
	0.25 (10)	4.5 to 9.5 (1.77 to 3.74)	
DataMatrix	0.10 (4)	5.5 to 7.5 (2.17 to 2.95)	
	0.19 (7.5)	5.0 to 8.0 (1.97 to 3.15)	
	0.25 (10)	4.5 to 9.5 (1.77 to 3.74)	
Skew	±40°		
Pitch	±35°		
Rotation	360°		
Print Contrast (Min.)	23%		

Reading distances are measured from the nose of the reader.

NOTE: Typical performance at 20°C / 68°F on high quality bar codes.

PowerScan® M8500™ WA

Optical Features			
Focus distance	110 mm		
Field of view	57° x 46°		
Horizontal field of view at distance (d) in mm	1.09 d + 38		
Vertical field of view at distance (d) in mm	0.85 d + 30		
Max Resolution	Linear codes - mm (mils)	PDF 417 – mm (mils)	Datamatrix – mm (mils)
	0.13 (5 mils)	0.13 (5 mils)	0.19 (7.5 mils)
Depth of field*			
1D (linear):	X-dimension mm (mils)	DOF cm (in)	
Code39	0.13 (5)	2.5 to 10.0 (0.98 to 3.94)	
	0.51 (20)	1.5 to 32 (0.59 to 12.60)	
EAN 13	0.33 (13)	1.5 to 26.0 (0.59 to 10.24)	
2D:	X-dimension mm (mils)	DOF cm (in)	
PDF417	0.13 (5)	3.0 to 10.5 (1.18 to 4.13)	
	0.25 (10)	1.5 to 21.5 (0.59 to 8.46)	
QR	0.19 (7.5)	5.5 to 8.5 (2.17 to 3.35)	
	0.25 (10)	3.0 to 12.5 (1.18 to 4.92)	
DataMatrix	0.19 (7.5)	5.5 to 8.5 (2.17 to 3.35)	
	0.25 (10)	3.0 to 12.5 (1.18 to 4.92)	
Skew	±40°		
Pitch	±35°		
Rotation	360°		
Print Contrast (Min.)	15%		

Reading distances are measured from the nose of the reader.

NOTE: Typical performance at 20°C / 68°F on high quality bar codes.

Services and Support

Datalogic provides several services as well as technical support through its website. Log on to **www.scanning.datalogic.com** and click on the links indicated for further information including:

Products

Search through the links to arrive at your product page where you can download specific **Manuals** and **Software & Utilities** including:

- **Datalogic Aladdin™**, a multi-platform utility program that allows device configuration using a PC. It provides RS-232 interface configuration as well as configuration bar code printing.

Service & Support

- **Technical Support** - Product documentation and programming guides and Technical Support Department in the world
- **Service Programs** - Warranty Extensions and Maintenance Agreements
- **Repair Services** - Flat Rate Repairs and Return Material Authorization (RMA) Repairs.
- **Downloads** – Manuals & Documentation, Data Sheets, Product Catalogues, etc.

Contact Us

Information Request Form and Sales & Service Network

Warranty

Datalogic warrants this product against defects in workmanship and materials, for a period of 3 years from the date of shipment, provided that the product is operated under normal and proper conditions.

Datalogic has the faculty to repair or replace the product; these provisions do not prolong the original warranty term. The warranty does not apply to any product that has been subject to misuse, accidental damage, unauthorized repair or tampering.

Compliance

**This device must be opened by qualified personnel only.
The batteries must be removed before opening the device.**

FCC Compliance

Modifications or changes to this equipment without the express written approval of Datalogic could void the authority to use the equipment.

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.

FCC ID U4F0015.

Radio Compliance

Contact the competent authority responsible for the management of radio frequency devices of your country to verify any possible restrictions or licenses required.

Refer to the web site <http://europa.eu.int/comm/enterprise/rf/spectr.htm> for further information.



IC (Industry Canada)

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.



Laser Safety

The PowerScan® PM8500 handheld reader is a Class 1 LED product regarding its Illuminator and a Class 2 laser product regarding its Aiming System.

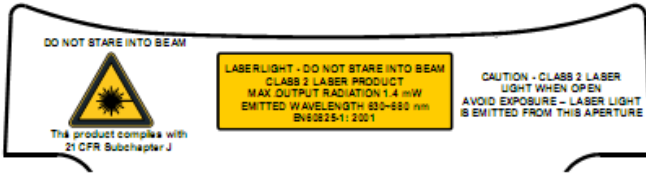
LED Illuminator

The use of an illuminator in the PowerScan® PM8500 handheld reader is a Class 1 LED product:

ILLUMINATORE LED CLASSE 1
 AUSLEUCHTER LED KLASSE 1
 ILLUMINATEUR A LED DE CLASSE 1
 ILUMINADOR LED DE CLASE 1

Aiming System

The PowerScan® PM8500 aiming system meets the Class 2 requirements for laser safety.



I	D	F	E
LA LUCE LASER È VISIBILE ALL'OCCHIO UMANO E VIENE EMESSA DALLA FINESTRA INDICATA NELLA FIGURA.	DIE LASER-STRAHLUNG IST FÜR DAS MENSCHLICHE AUGE SICHTBAR UND WIRD AM STRAHLAUS TRITTSFENSTER AUSGESENDET (SIEHE BILD)	LE RAYON LASER EST VISIBLE À L'OEIL NU ET IL EST ÉMIS PAR LA FENÊTRE DÉSIGNÉE SUR L'ILLUSTRATION DANS LA FIGURE	A LUZ LÁSER ES VISIBLE AL OJO HUMANO Y ES EMITIDA POR LA VENTANA INDICADA EN LA FIGURA.
LUCE LASER NON FISSARE IL FASCIO APPARECCHIO LASER DI CLASSE 2 MASSIMA POTENZA D'USCITA: LUNGHEZZA D'ONDA EMESSA: CONFORME A EN 60825-1 (2001)	LASERSTRAHLUNG NICHT IN DEN STRAHL BLICKEN PRODUKT DER LASERKLASSE 2 MAXIMALE AUSGANGSLEISTUNG: WELLENLÄGE: ENTSPR. EN 60825-1 (2001)	RAYON LASER EVITER DE REGARDER LE RAYON APPAREIL LASER DE CLASSE 2 PUISSANCE DE SORTIE: LONGUEUR D'ONDE EMISE: CONFORME A EN 60825-1 (2001)	RAYO LÁSER NO MIRAR FIJO EL RAYO APARATO LÁSER DE CLASE 2 MÁXIMA POTENCIA DE SALIDA: LONGITUD DE ONDA EMITIDA: CONFORME A EN 60825-1 (2001)

ENGLISH

The following information is provided to comply with the rules imposed by international authorities and refers to the correct use of your terminal.

STANDARD LASER SAFETY REGULATIONS

This product conforms to the applicable requirements of both CDRH 21 CFR 1040 and EN 60825-1 at the date of manufacture.

For installation, use and maintenance, it is not necessary to open the device.



Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous visible laser light.

WARNING

The product utilizes a low-power laser diode. Although staring directly at the laser beam momentarily causes no known biological damage, avoid staring at the beam as one would with any very strong light source, such as the sun. Avoid that the laser beam hits the eye of an observer, even through reflective surfaces such as mirrors, etc.

ITALIANO

Le seguenti informazioni vengono fornite dietro direttive delle autorità internazionali e si riferiscono all'uso corretto del terminale.

NORMATIVE STANDARD PER LA SICUREZZA LASER

Questo prodotto risulta conforme alle normative vigenti sulla sicurezza laser alla data di produzione: CDRH 21 CFR 1040 e EN 60825-1.

Non si rende mai necessario aprire l'apparecchio per motivi di installazione, utilizzo o manutenzione.



L'utilizzo di procedure o regolazioni differenti da quelle descritte nella documentazione può provocare un'esposizione pericolosa a luce laser visibile.

ATTENZIONE

Il prodotto utilizza un diodo laser a bassa potenza. Sebbene non siano noti danni riportati dall'occhio umano in seguito ad una esposizione di breve durata, evitare di fissare il raggio laser così come si eviterebbe qualsiasi altra sorgente di luminosità intensa, ad esempio il sole. Evitare inoltre di dirigere il raggio laser negli occhi di un osservatore, anche attraverso superfici riflettenti come gli specchi.

DEUTSCH

Die folgenden Informationen stimmen mit den Sicherheitshinweisen überein, die von internationalen Behörden auferlegt wurden, und sie beziehen sich auf den korrekten Gebrauch vom Terminal.

NORM FÜR DIE LASERSICHERHEIT

Dies Produkt entspricht am Tag der Herstellung den gültigen EN 60825-1 und CDRH 21 CFR 1040 Normen für die Lasersicherheit.

Es ist nicht notwendig, das Gerät wegen Betrieb oder Installations-, und Wartungs-Arbeiten zu öffnen.



Jegliche Änderungen am Gerät sowie Vorgehensweisen, die nicht in dieser Betriebsanleitung beschreiben werden, können ein gefährliches Laserlicht verursachen.

ACHTUNG

Der Produkt benutzt eine Laserdiode. Obwohl zur Zeit keine Augenschäden von kurzen Einstrahlungen bekannt sind, sollten Sie es vermeiden für längere Zeit in den Laserstrahl zu schauen, genauso wenig wie in starke Lichtquellen (z.B. die Sonne). Vermeiden Sie es, den Laserstrahl weder gegen die Augen eines Beobachters, noch gegen reflektierende Oberflächen zu richten.

FRANÇAIS

Les informations suivantes sont fournies selon les règles fixées par les autorités internationales et se réfèrent à une correcte utilisation du terminal.

NORMES DE SECURITE LASER

Ce produit est conforme aux normes de sécurité laser en vigueur à sa date de fabrication: CDRH 21 CFR 1040 et EN 60825-1.

Il n'est pas nécessaire d'ouvrir l'appareil pour l'installation, l'utilisation ou l'entretien.



L'utilisation de procédures ou réglages différents de ceux donnés ici peut entraîner une dangereuse exposition à lumière laser visible.

ATTENTION

Le produit utilise une diode laser. Aucun dommage aux yeux humains n'a été constaté à la suite d'une exposition au rayon laser. Eviter de regarder fixement le rayon, comme toute autre source lumineuse intense telle que le soleil. Eviter aussi de diriger le rayon vers les yeux d'un observateur, même à travers des surfaces réfléchissantes (miroirs, par exemple).

ESPAÑOL

Las informaciones siguientes son presentadas en conformidad con las disposiciones de las autoridades internacionales y se refieren al uso correcto del terminal.

NORMATIVAS ESTÁNDAR PARA LA SEGURIDAD LÁSER

Este aparato resulta conforme a las normativas vigentes de seguridad láser a la fecha de producción: CDRH 21 CFR 1040 y EN 60825-1.

No es necesario abrir el aparato para la instalación, la utilización o la manutención.



La utilización de procedimientos o regulaciones diferentes de aquellas descritas en la documentación puede causar una exposición peligrosa a la luz láser visible.

ATENCIÓN

El aparato utiliza un diodo láser a baja potencia. No son notorios daños a los ojos humanos a consecuencia de una exposición de corta duración. Eviten de mirar fijo el rayo láser así como evitarían cualquiera otra fuente de luminosidad intensa, por ejemplo el sol. Además, eviten de dirigir el rayo láser hacia los ojos de un observador, también a través de superficies reflectantes como los espejos.



The PowerScan® PM8500 HandHeld Reader is not user-serviceable. Opening the case of the unit can cause internal damage and will void the warranty.

CAUTION



La utilización de procedimientos o regulaciones diferentes de aquellas descritas en la documentación puede causar una exposición peligrosa a la luz láser visible.

CAUTION

The laser scanner utilizes a low-power laser diode. Although staring directly at the laser beam momentarily causes no known biological damage, avoid staring at the beam as one would with any very strong light source, such as the sun. Avoid that the laser beam hits the eye of an observer, even through reflective surfaces such as mirrors, etc.

WEEE Compliance



Waste Electrical and Electronic Equipment (WEEE) Statement

English

For information about the disposal of Waste Electrical and Electronic Equipment (WEEE), please refer to the website at www.scanning.datalogic.com.

Italian

Per informazioni sullo smaltimento delle apparecchiature elettriche ed elettroniche consultare il sito Web www.scanning.datalogic.com.

French

Pour toute information relative à l'élimination des déchets électroniques (WEEE), veuillez consulter le site Internet www.scanning.datalogic.com.

German

Informationen zur Entsorgung von Elektro- und Elektronik- Altgeräten (WEEE) erhalten Sie auf der Webseite www.scanning.datalogic.com.

Spanish

Si desea información acerca de los procedimientos para el desecho de los residuos del equipo eléctrico y electrónico (WEEE), visite la página Web www.scanning.datalogic.com.

Portuguese

Para informações sobre a disposição de Sucatagem de Equipamentos Eléctricos e Eletrônicos (WEEE - Waste Electrical and Electronic Equipment), consultar o site web www.scanning.datalogic.com.

Chinese

有关处理废弃电气电子设备 (WEEE) 的信息, 请参考 Datalogic 公司的网站: <http://www.scanning.datalogic.com/>。

Japanese

廃電気電子機器 (WEEE) の処理についての関連事項は **Data-logic** のサイト www.scanning.datalogic.com, をご参照下さい。

Numeric Table

0



1



2



3



4



5**6****7****8****9**

NOTES

NOTES

NOTES

DECLARATION OF CONFORMITY



Datalogic Scanning Group Srl
Via S. Vitalino, 13
Lippo di Calderara di Reno (BO)
40012 Italy

*dichiara che
declares that the
déclare que le
bescheinigt, daß das Gerät
declare que el*

PowerScan Mxxx; Cordless Bar Code Reader

*e tutti i suoi modelli
and all its models
et tous ses modèles
und seine Modelle
y todos sus modelos*

*sono conformi alle Direttive del Consiglio Europeo sottoelencate:
are in conformity with the requirements of the European Council Directives listed below:
sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:
den nachstehenden angeführten Direktiven des Europäischen Rats:
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:*

1999/5/EC R&TTE

*Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:
This declaration is based upon compliance of the products to the following standards:
Cette déclaration repose sur la conformité des produits aux normes suivantes:
Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:*

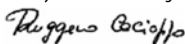
ETSI EN 301 489-3 v1.4.1, August 2002 :ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM);
ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT AND
SERVICES; PART 3: SPECIFIC CONDITIONS FOR SHORT-RANGE DEVICES (SRD)
OPERATING ON FREQUENCIES BETWEEN 9KHZ AND 40GHZ

ETSI EN 300 220-3 v1.1.1, September 2000 : ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); SHORT
RANGE DEVICES (SRD); RADIO EQUIPMENT TO BE USED IN THE 25MHZ TO
1000MHZ FREQUENCY RANGE WITH POWER LEVELS RANGING UP TO 500MW; PART
3: HARMONIZED EN COVERING ESSENTIAL REQUIREMENTS UNDER ARTICLE 3.2 OF THE
R&TTE DIRECTIVE

EN 60950-1, December 2001 : INFORMATION TECHNOLOGY EQUIPMENT - SAFETY -
PART 1 : GENERAL REQUIREMENTS

Lippo di Calderara, April 20th, 2009

Ruggero Cacioppo
Quality Assurance Manager



Australia

Datalogic Scanning Pty Ltd
Telephone: [61] (2) 9870 3200
australia.scanning@datalogic.com

France and Benelux

Datalogic Scanning Sarl
Telephone: [33].01.64.86.71.00
france.scanning@datalogic.com

Germany

Datalogic Scanning GmbH
Telephone: 49 (0) 61 51/93 58-0
germany.scanning@datalogic.com

India

Datalogic Scanning India
Telephone: 91- 22 - 64504739
india.scanning@datalogic.com

Italy

Datalogic Scanning SpA
Telephone: [39] (0) 39/62903.1
italy.scanning@datalogic.com

Japan

Datalogic Scanning KK
Telephone: 81 (0)3 3491 6761
japan.scanning@datalogic.com

Latin America

Datalogic Scanning, Inc
Telephone: (305) 591-3222
latinamerica.scanning@datalogic.com

Singapore

Datalogic Scanning Singapore PTE LTD
Telephone: (65) 6435-1311
singapore.scanning@datalogic.com

Spain and Portugal

Datalogic Scanning Sarl Sucursal en España
Telephone: 34 91 746 28 60
spain.scanning@datalogic.com

United Kingdom

Datalogic Scanning LTD
Telephone: 44 (0) 1923 809500
uk.scanning@datalogic.com



www.scanning.datalogic.com

Datalogic Scanning, Inc.

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

