⊕DATALOGIC™

Dragon™ M131
READERS
QUICK REFERENCE GUIDE

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. Questo manuale è disponibile anche nella versione italiana.
Collegarsi a : www.scanning.datalogic.com

F

Les versions mises à jour de drivers et documentation de ce produit sont disponibles sur Internet. Ce manuel est aussi disponible en version française.
Cliquez sur : www.scanning.datalogic.com

D

Im Internet finden Sie die aktuellsten Versionen der Treiber und Dokumentation von diesem Produkt. Die deutschsprachige Version dieses Handbuches ist auch verfügbar.
Adresse : www.scanning.datalogic.com

E

En Internet están disponibles las versiones actualizadas de los drivers y documentación de este producto. También está disponible la versión en español de este manual.
Dirección Internet : www.scanning.datalogic.com

USING DRAGON™ M131

The Dragon™ M131 series readers can be used with either an OM-30X0 cradle or Stargate™ radio base station to build a Cordless Reading System for the collection, decoding and transmission of barcoded data.

Dragon™ M131 laser guns automatically scan barcodes **at a distance**. Simply aim and pull the trigger.

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:
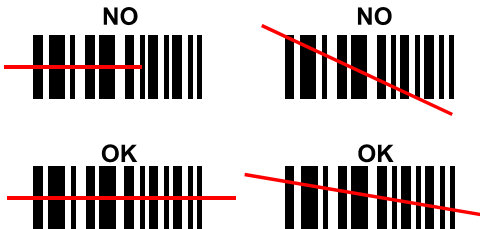
READING ANGLE

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.
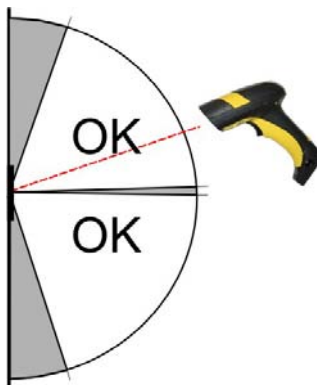
AIMING SYSTEM

Dragon™ M131 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 above, ①). By completely pressing the trigger the scan line appears to start the code scanning ②.

After setting up the reader, you can enable or disable the aiming system by reading the codes below:

Disable Aiming System (Default)

Enable Aiming System

CHARGING THE BATTERIES

Once the OM-30X0/C-3000 is powered, you can charge the reader's batteries.

Place the Dragon™ M131 into the OM-30X0 cradle or the C-3000 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 batteries, unscrew the retaining screw and extract the battery pack from the reader handle. Then, insert the new battery pack into the reader handle and tighten the screw. (See the following figures).
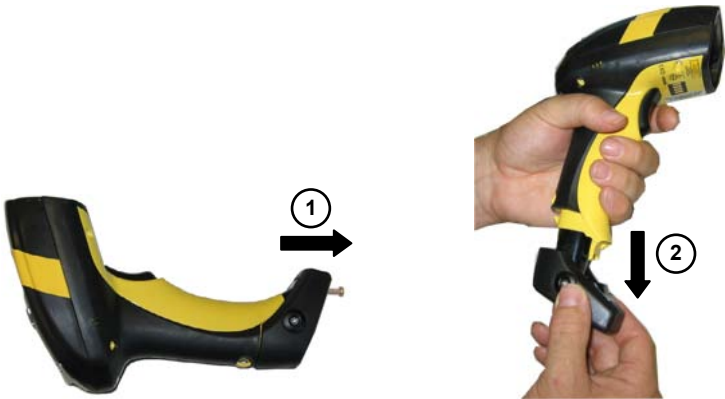

Figure 1 – Changing the Batteries

⚠️ **WARNING**	*Do not incinerate, disassemble, short terminals or expose to high temperature. Risk of fire, explosion. Use specified charger only. Risk of explosion if the battery is replaced by an incorrect type. Dispose of the batteries as required by the relevant laws in force.*

SETUP

Dragon™ M131/OM-30X0 Point-to Point Configuration

1. Connect an OM-30X0 cradle to the Host. For installation and connection information see the OM-30X0 Quick Reference Manual.

2. Charge the Dragon™ M131 battery using an OM-30X0 or the C-3000 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 - **Dragon™ M131/OM-30X0 Point-to-Point Setup**.

4. Configure the OM-30X0 cradle. See OM-30X0 Configuration in the OM-30X0 Quick Reference.

or

Dragon™ M131/OM-30X0 Stand Alone Configuration

1. Connect an OM-30X0 cradle to the Host. For installation and connection information see the OM-30X0 Quick Reference Manual.

2. Charge the Dragon™ M131 battery using an OM-30X0 or the C-3000 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 - **Dragon™ M131/OM-30X0 Stand Alone Setup**.

4. Configure the OM-30X0 cradle. See OM-30X0 Configuration in the OM-30X0 Quick Reference.

or

Dragon™ M131/STAR-System™ Configuration

1. Charge the Dragon™ M131 battery using an OM-3000 or the C-3000 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 **Dragon™ M131/STAR-System™ Setup**.

DRAGON™ M131 CONFIGURATION

DRAGON™ M131/OM-30X0 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 OM-30X0 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 OM-30X0 base station package can be used to bind the Dragon™ M131 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 OM-30X0 base station as indicated in the OM-30X0 Quick Reference Manual.

2. When the OM-30X0 cradle is connected and powered, read the **Bind-Address** label to pair the Dragon™ M131 to the OM-30X0 cradle.

   The green LED on the Dragon™ M131 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 OM-30X0 cradle has been paired to the Dragon™ M131, and the green LED on the reader will go off.

Green LED

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 guns with this configuration method.

4. Configure the OM-30X0 cradle, refer to the "OM-30X0 Quick Reference".

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

DRAGON™ M131/OM-30X0 STAND ALONE SETUP

When the OM-30X0 cradle is connected and powered, configure the Dragon™ M131 by reading the following codes in the given sequence and follow the instructions.

Note: for the numeric code selection of steps 3, 4, and 5 use the table at the end of this Quick Reference.

1.
Restore Dragon™ M131 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 Dragon™ M131 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 Dragon™ M131 to the OM-30X0 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 Dragon™ M131 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 OM-30X0 cradle has been paired to the Dragon™ M131, and the green LED on the reader will go off.

Green LED

9. Configure the OM-30X0 cradle, refer to the "OM-30X0 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 Dragon™ M131 will blink: the reader is ready to be positioned onto the cradle. **Complete step 8.**

END of procedure.

> **⚠ CAUTION**
>
> *All readers associated with the same cradle must have different addresses.*

DRAGON™M/STAR-MODEM™ STAND ALONE SETUP

To configure a Dragon™ M131 reader to communicate with STAR-Modem™ in Stand Alone Mode, follow the "Dragon™ M131/OM-30X0 Stand Alone Setup" procedure substituting steps 6 and 7 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.

DRAGON™M131/STAR-SYSTEM™ SETUP

The following procedure allows configuring a Dragon™ M131 reader to communicate with various STAR-System™ devices such as Stargate™ RF base stations:

1.
Restore Dragon™ M131 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 ≤240 Characters

Code Length >240 Characters
(not for systems with OM-30X0 as Master)

6.
Set Radio Address

||| | ||| ||||||| |||

+

four digits from the Numeric Table for the Dragon™ M131 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

NOTE

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.

DRAGON™ M131 DEFAULT CONFIGURATION

DATA FORMAT

code identifier disabled, field adjustment disabled, code length not transmitted, character replacement disabled

CODE SELECTION

enabled codes

- EAN 8/EAN 13 / UPC A/UPC E without ADD ON
  check digit transmitted, no conversions
- Interleaved 2/5
  check digit control and transmission, variable length code; 4-99 characters
- Standard Code 39
  no check digit control, variable length code; 1-99 characters
- Code 128
  variable length code; 1-99 characters

disabled codes

EAN 128, ISBT128, Code 93, Codabar, pharmaceutical codes, RSS codes, MSI, Code 11, Code 16K, Code 49

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

TECHNICAL 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)	60,000 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**	
Laser Features	**M131**	**M131-LR**
Power (max) in mW	0.9 mW	1.4 mW
Light Source	VLD in the range between 630~680 nm	
Scan Rate	35 ± 5 scans/sec	
Reading Field Width (typical)	see reading diagram	
Max. Resolution	0.076 mm (3 mils)	0.25 mm (10 mils)
PCS minimum (Datalogic Test Chart)	15%	40%
Scan Angle	42°	23°
Laser Safety Class	2 (EN 60825-1 / CDRH)	
Radio Features	**European Models**	**USA Models**
Working Frequency	433.92 MHz	910 MHz
Bit rate	19200 baud	36800 baud
Range (in open air)	50 m	30 m
System Configuration	**OM-30X0**	**STARGATE™**
Max. number of devices per base station	32	255
Max. number of devices in the same reading area	2000	
Environmental Features		
Working Temperature	-20° to +50 °C / -4 to +122 °F	
Storage Temperature	-20° to +70 °C / -4 to +158 °F	
Humidity	90% non condensing	
Drop resistance (on concrete)	2 m	
Protection Class	IP64	
Mechanical Features		
Weight (with batteries)	about 400 g (14.10 oz)	
Dimensions	212 x 109 x 71 mm (8.34 x 4.29 x 2.79 in)	
Material	Polycarbonate molded with rubber	

READING DIAGRAMS

Dragon™ M131

Dragon™ M131 Long Range
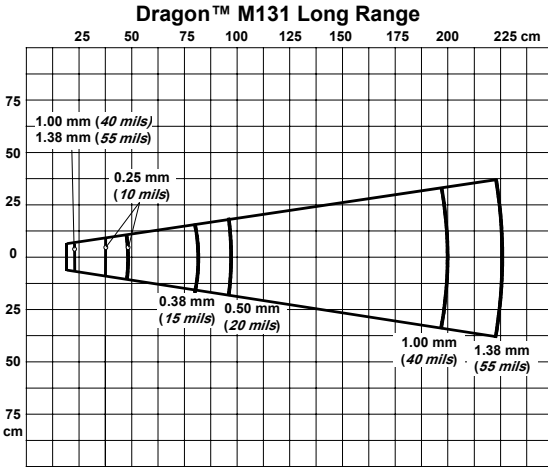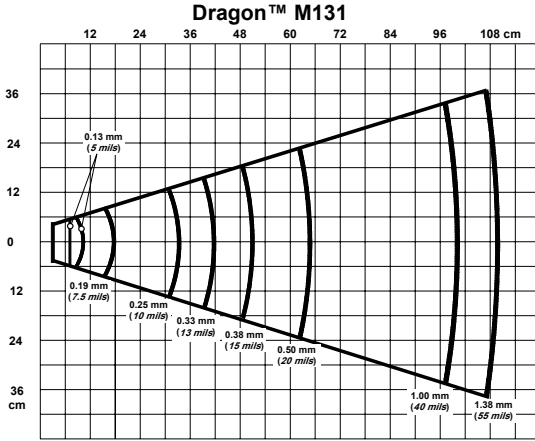
WARRANTY

Datalogic warranties 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.

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 RS232/USB-COM interface configuration as well as configuration barcode printing.

- **SERVICES & SUPPORT**
   - **Datalogic Services -** Warranty Extensions and Maintenance Agreements
   - **Authorised Repair Centres**

- **CONTACT US**

   E-mail form and listing of Datalogic Subsidiaries

PATENTS

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

U.S. patents 5,992,740; 6,305,606 B1; 6,442,180 B1; 6,808,114 B1; and 6,997,385 B2

European patents 789,315 B1; 895,175 B1; and 1,128,315 B1

Additional Patents and Design Patents pending.

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 expressed 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/rtte/spectr.htm for further information.

CE ①

LASER SAFETY COMPLIANCE

The laser scanner conforms to the applicable requirements of both CDRH 21 CFR 1040 and EN60825-1 at the date of manufacture.

The laser light is visible to the human eye and is emitted from the output window ①.

Laser warning and classification label ②.

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

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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.

The following information is shown on the laser scanner device class label:
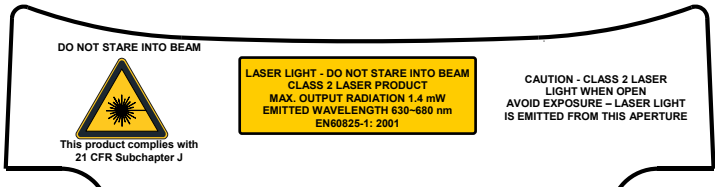
ITALIANO
Classe 2:   LUCE LASER
              NON FISSARE IL RAGGIO
              APPARECCHIO LASER DI CLASSE 2

DEUTSCH
Klasse 2:   LASERSTRAHLUNG
              NICHT IN DEN STRAHL
              PRODUKT DER LASERKLASSE 2

FRANÇAIS
Classe 2:   RAYON LASER
              EVITER DE REGARDER LE RAYON
              APPAREIL LASER DE CLASSE 2

ESPAÑOL
Clase 2:   RAYO LÁSER
              NO MIRAR FIJO EL RAYO
              APARATO LÁSER DE CLASE 2

LED CLASS

Class 1 LED product.

This product conforms to EN60825-1:2001.

WEEE COMPLIANCE

NUMERIC TABLE

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DRAGON Mxxx

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/EEC 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 la 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*

March 1st, 2007