COGNEX

DataMan® 8700

Quick Reference Guide

Precautions

To reduce the risk of injury or equipment damage, observe the following precautions when you install the Cognex product:

- This product is intended for industrial use in automated manufacturing or similar applications.
- The safety of any system incorporating this product is the responsibility of the assembler of the system.
- This product does not contain user-serviceable parts. Do not make electrical or mechanical modifications to product components. Unauthorized modifications can void your warranty.
- Route cables and wires away from high-current wiring or high-voltage power sources to reduce the risk of damage or malfunction from the following causes: over-voltage, line noise, electrostatic discharge (ESD), power surges, or other irregularities in the power supply.
- Changes or modifications not expressly approved by the party responsible for regulatory compliance could void the user's authority to operate the equipment.
- Ensure that the cable bend radius begins at least six inches from the connector. Cable shielding can be degraded or cables can be damaged or wear out faster if a service loop or bend radius is tighter than 10X the cable diameter.
- This device should be used in accordance with the instructions in this manual.
- All specifications are for reference purposes only and can change without notice.

Symbols

The following symbols indicate safety precautions and supplemental information:

WARNING: This symbol indicates a hazard that could cause death, serious personal injury or electrical shock.

CAUTION: This symbol indicates a hazard that could result in property damage.

Note: This symbol indicates additional information about a subject.

Tip: This symbol indicates suggestions and shortcuts that might not otherwise be apparent.
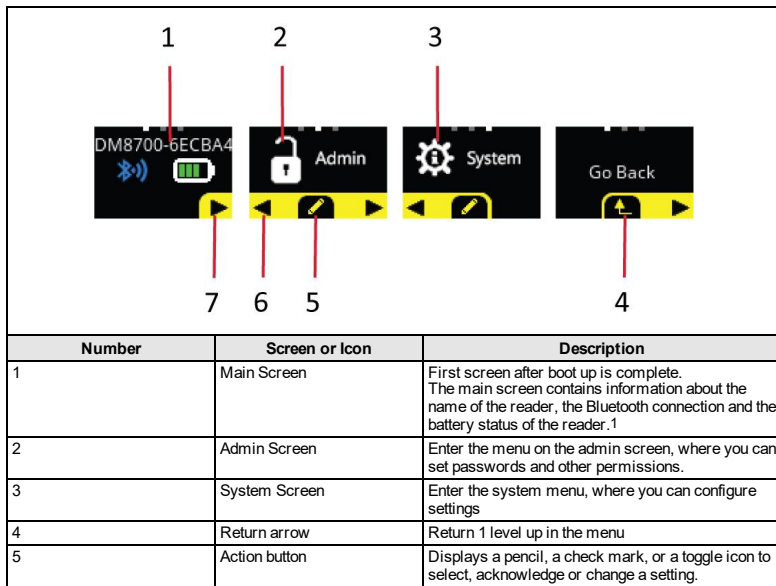
Product Overview

DataMan 8700 DX Reader	
1	LED aimer
2	Trigger (press and hold to read)
3	Cable insertion point
4	360° ring light indicator
5	Lanyard hook
6	OLED display
7	OLED input and configuration buttons
8	Diffused light
9	Polarized light
10	Direct light

OLED Display Layout
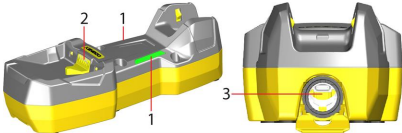
The OLED display is user interface where you can communicate with the DataMan 8700.

Number	Screen or Icon	Description
1	Main Screen	First screen after boot up is complete. The main screen contains information about the name of the reader, the Bluetooth connection and the battery status of the reader.1
2	Admin Screen	Enter the menu on the admin screen, where you can set passwords and other permissions.
3	System Screen	Enter the system menu, where you can configure settings
4	Return arrow	Return 1 level up in the menu
5	Action button	Displays a pencil, a check mark, or a toggle icon to select, acknowledge or change a setting.

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1 The Bluetooth connection and the battery status of the reader is only displayed on wireless readers.

| 6 | Left arrow | Move to previous screen. |
| 7 | Right arrow | Move to next screen |

Base Station Overview

DMB-8700-xxx[1] Base Station

1	Base station status indicators
2	Connection point with the reader:
	• pairing reader and base station
	• non-wireless communication
	• charging
3	Cable plug

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[1] xxx changes depending on the communication: -USB (USB) , -RS (RS-232), -E (Ethernet).

DataMan 8700 Accessories

Accessory Name	Product ID	Illustration
DM8700 slide-in communication conversion kits	DM8700-USB-KIT DM8700-RS-KIT DM8700-ENET-KIT	
Intelligent Bluetooth / WiFi Base Station	DMB-8700-xxx[1]	
Power Supply for reader and base station	DM8700-PWR-00	
4500 mAh Battery for the wireless reader	DMA-BATTERY-5000	
Holster	DMA-HOLSTER-8700	
POE adapter	CPS-24V-POE1	
POE adapter	CPS-24V-POE4	
POE adapter	CPS-AC-POE1A-xx[2]	
Wall Mount Bracket	DMA-WALL-8700	
Presentation Stand, can be used with wall mount bracket (DMA-WALL-8700)	DM-STAND-00	

[1] xxx changes depending on the communication: -USB (USB) , -RS (RS-232), -E (Ethernet).

[2] xx can be US, EN, UK, or JP.

Cables

Accessory Name	Product ID	Illustration
RS-232 coiled cable for Reader, 2.5 m with Dsub-9 connector, power over pin 9	DMC-HH-RS232P-02C	
RS-232 coiled cable for Reader, 2.5 m with Dsub-9 connector	DMC-HH-RS232-02C	
RS-232 coiled cable for Reader, 4 m with Dsub-9 connector	DMC-HH-RS232-05C	
RS-232 Firmware update cable, RS-232 to USB converter	DMC-HH-RS232-USB	
USB straight cable, 2.5 m with USB type-A connector	DMC-HH-USBA-02	
USB coiled cable, 2.5 m with USB type-A connector	DMC-HH-USBA-02C	
USB cable, type C connector, straight, 2.5 m	DMC-HH-USBC-02	
USB cable, type C connector, coiled, 2.5 m	DMC-HH-USBC-02C	
Ethernet coiled cable with RJ45 connector, 5 m	DMC-HH-ENET-05C[1]	
Ethernet straight cable with RJ45 connector, 2.5 m	DMC-HH-ENET-02[1]	
Ethernet straight cable with RJ45 connector, 5 m	DMC-HH-ENET-05	
Ethernet straight cable with RJ45 connector, 30 m	DMC-HH-ENET-30	
Ethernet coiled cable, 5 m with M12 X-coded connector	DMC-HH-ENETM12-05C	

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[1] Collimated cable length including DM8700-ECABLE-X should not exceed 50 m.

Field of View and Reading Distances
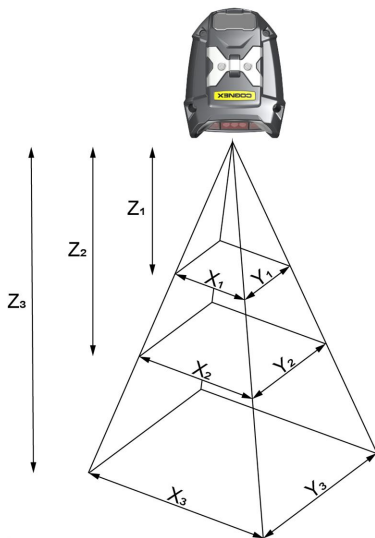
Working Distance	Horizontal Values	Vertical Values
Z_1 = 40 mm (1.5 in)	X_1 = 63 mm (2.5 in)	Y_1 = 47 mm (1.8 in)
Z_2 = 140 mm (5.5 in)	X_2 = 126 mm (5 in)	Y_2 = 95 mm (3.7 in)
Z_3 = 300 mm (11.8 in)	X_3 = 2288 mm (11.3 in)	Y_3 = 171 mm (6.7 in)

Depth of Field values

Note: All values beginning with 0 denote the minimum distance where the Field of View is able to see the entire code.

Distances in mm / 1D min code		Distances in mm / 2D min code	
18-58	3 MIL	10-71	5 MIL
10-175	10 MIL	10-155	10 MIL
0-650	50 MIL	0-650	50 MIL
0-1000	100 MIL	0-1000	100 MIL

Connecting the Reader
Readers

1. Pull out metal tab to open the end cap.
2. Insert the battery.
3. Close the end cap by pressing the metal tab.

1. Use a small screwdriver or a pencil to press in the gray tab by the cable insertion.
2. Turn the cable insertion mechanism to an open position.
3. Insert the cable.
4. Lock the cable.

(i) **Note**: Disconnect the DataMan 8700 from power before inserting the communication modules.

Installation

Installation procedures are detailed in the *DataManDM8700 Reference Manual*, which is installed with the DataMan Setup Tool. The DataMan Setup Tool is available from the DataMan support site: http://www.cognex.com/support/dataman.

To access documentation open the Windows Start menu, select the following to access the manual: *All Programs > Cognex > DataMan Software vx.x.x > Documentation*.

> **Note**:
> ⓘ
> - Cables are sold separately.
> - If a standard component is missing or damaged, immediately contact your Cognex Authorized Service Provider (ASP) or Cognex Technical Support.

⚠️ **CAUTION**: All cable connectors are "keyed" to fit the connectors on the DataMan system; do not force the connectors or damage may occur.

1. After installing the software, connect the DataMan 8700 to your PC.
2. Launch the DataMan Setup Tool and click **Refresh**.
3. Select your DataMan 8700 Series reader from the list and click **Connect**.

DataMan 8700 Specifications

Specification	DataMan 8700 Reader
Weight	Wireless: 530 g (18.70 oz) (battery included) Corded: 450 g (15.90 oz) + ~130 g (4.59 oz) cables
Operating Temperature	0 ºC — 40 ºC (32 ºF — 104 ºF)
Storage Temperature	-40 ºC — 60 ºC (-40 ºF — 140 ºF)
Maximum Humidity	< 95% (non-condensing)
Environmental	Compliant with latest EU RoHS and China RoHS For indoor use only
Symbologies	**1-D barcodes**: Codabar, Code 39, Code 128, and Code 93, Interleaved 2 of 5, Postal, UPC/JAN, POSTNET, PLANET Code, GS1 IMB **2-D barcodes**: MaxiCode, Aztec Code, Data Matrix™; QR Code and microQR Code, PDF 417
Power Supply Requirements	Serial/USB: 5.5 V DC, 6.0 W maximum LPS or NEC Class 2 power supply Ethernet: PoE Class 2 power supply Wireless: 3.6 V, 4500 mAh Li-ion battery
Battery life for wireless reader (typical use case)	The expected life time of the battery is 5 years. Charging time through PoE: 10-11 hours Charging time through USB with external power: 6.2 hours
Ethernet	10/100 Base-T FULL/HALF DUPLEX, IEEE 802.3
Bluetooth	Bluetooth 4.2, Classic, 2.4~2.4835 GHz
Protection	ISO 16750-5 IP67 Endures multiple drops from 2.5 m height on concrete

DataMan DataMan 8700 Base Station Specifications

Specification	DMB-8700-xx (depending on the communication type)
Weight	500 g (17.63 oz)
Operating Temperature	0 ºC — 40 ºC (32 ºF — 113 ºF)
Storage Temperature	-40 ºC — 60 ºC (-40 ºF — 140 ºF)
Maximum Humidity	95% (non-condensing)

Specification	DMB-8700-xx (depending on the communication type)
Power Supply Requirements	5.5 V DC, 6 W maximum LPS or NEC Class 2 power supply or PoE Class 2 power supply
Protection	IP65
Ethernet	10/100 Base-T FULL/HALF DUPLEX, IEEE 802.3
Bluetooth	Bluetooth 4.2, Classic, 2.4~2.4835 GHz

LED Wavelengths for DataMan 8700 DX Reader

ⓘ **Note**: The data below refer to the LED Illumination accessory of the reader, not to the LED indicators.

The following table shows LED types and the related wavelengths:

LED	λ [nm]
RED	660

Regulations and Conformity

The corded DataMan 8700 DX has Regulatory Model R00083, the wireless DataMan 8700 DX has Regulatory Model R00085 and meets or exceeds the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow. Please read these guidelines carefully before using your device.

Note: For the most current CE declaration and regulatory conformity information, see the Cognex support site: cognex.com/support.

The following specifications apply to the corded DataMan 8700 DX readers:

Regulator	Specification
USA	FCC Part 15B, Class A
Canada	ICES-003
European Community	EN 61010-1 EN 61326-1

The following table shows Safety and Regulatory Information for corded readers:

Safety and Regulatory	
Manufacturer	Cognex Corporation One Vision Drive Natick, MA 01760 USA
CE	Corded DataMan 8700 DX: Regulatory Model R00083 This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take immediate measures. This equipment complies with the essential requirements of the EU Directive 2014/30/EU. Declarations are available from your local representative.
EU RoHS	Compliant to the most recent applicable directive.

Safety and Regulatory	
FCC	FCC Part 15, Class A This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Canadian Compliance	This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.
TÜV	Corded DataMan 8700: Regulatory Model R00083 NRTL: TÜV SÜD SCC/NRTL OSHA Scheme for UL/CAN 61010-1. CB report available upon request.TÜV SÜD IEC/EN 61010-1.

The following specifications apply to the DataMan 8700 DX wireless readers:

Regulator	Specification
USA	FCC Part 15B, Class B FCC Part 15C contains FCC ID: TXH-50164
Canada	ICES-003 RSS 247 contains IC: 6315A-50164
European Community	For Bluetooth EN61010-1 EN ETSI 301 489-1/-17 EN ETSI 300 328

The following table shows Safety and Regulatory Information for wireless readers:

Safety and Regulatory	
Manufacturer	Cognex Corporation One Vision Drive Natick, MA 01760 USA
CE	Wireless DataMan 8700 DX: Regulatory Model R00085 This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take immediate measures. This equipment complies with the essential requirements of the EU Directive 2014/53/EU. Declarations are available from your local representative.

Safety and Regulatory	
EU RoHS	Compliant to the most recent applicable directive.
FCC	FCC Part 15 This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). 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 that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Canadian Compliance	This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). 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 that may cause undesired operation. Le présent appareil est conforme aux Innovation, Science and Economic Development Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
TÜV	Wireless DataMan 8700: Regulatory Model R00085 NRTL: TÜV SÜD SCC/NRTL OSHA Scheme for UL/CAN 61010-1. CB report available upon request.TÜV SÜD IEC/EN 61010-1.

For European Community Users

Cognex complies with Directive 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE).

This product has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment, if not properly disposed.

In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems for product disposal. Those systems will reuse or recycle most of the materials of the product you are disposing in a sound way.

The crossed out wheeled bin symbol informs you that the product should not be disposed of along with municipal waste and invites you to use the appropriate separate take-back systems for product disposal.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You may also contact your supplier for more information on the environmental performance of this product.

Compliance Statements: DataMan Base Station

The DMB-8700-XXX DataMan Base Stations have the Regulatory model R00087 and meet or exceed the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow.

> **Note**: For the most current CE declaration and regulatory conformity information, see the Cognex support site: cognex.com/support.

Please read these guidelines carefully before using your device.

Regulator	Specification
USA	FCC Part 15B, Class B FCC Part 15C contains FCC ID: TXH-50164
Canada	ICES-003 RSS 247 contains IC: 6315A-50164
European Community	For Bluetooth EN61010-1 EN ETSI 301 489-1/-17 EN ETSI 300 328

Safety and Regulatory		
Manufacturer	Cognex Corporation One Vision Drive Natick, MA 01760 USA	
CE	DMB-8700-XXX DataMan Base Station: Regulatory Model R00087 This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take immediate measures. This equipment complies with the essential requirements of EU Directive 2014/53/EU. Declarations are available from your local representative.	
EU RoHS	Compliant to the most recent applicable directive.	

Safety and Regulatory	
FCC	FCC Part 15 This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). 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 that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Canadian Compliance	This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). 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 that may cause undesired operation. Le présent appareil est conforme aux Innovation, Science and Economic Development Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
TÜV	DataMan 8700 Base Station Regulatory Model R00087 NRTL: TÜV SÜD SCC/NRTL OSHA Scheme for UL/CAN 61010-1. CB report available upon request.TÜV SÜD IEC/EN 61010-1.

中国大陆 **RoHS (Information for China RoHS Compliance)**

根据中国大陆《电子信息产品污染控制管理办法》(也称为中国大陆RoHS)，以下部份列出了本产品中可能包含的有毒有害物质或元素的名称和含量。

Table of toxic and hazardous substances/elements and their content, as required by China's management methods for controlling pollution by electronic information products.

Part Name 部件名称	Lead (Pb) 铅	Mercury (Hg) 汞	Cadmium (Cd) 镉	Hexavalent Chromium (Cr (VI)) 六价铬	Polybrominated biphenyls (PBB) 多溴联苯	Polybrominated diphenyl ethers (PBDE) 多溴二苯醚
	Hazardous Substances 有害物质					
Regulatory Model R00083 Regulatory Model R00085 Regulatory Model R00087	X	O	O	O	O	O

This table is prepared in accordance with the provisions of SJ/T 11364.
这个标签是根据SJ／T 11364 的规定准备的。
O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB / T26572 - 2011.
表示本部件所有均质材料中含有的有毒物质低于GB／T26572 - 2011 的限量要求。

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB / T26572 - 2011.
表示用于本部件的至少一种均质材料中所含的危害物质超过GB／T26572 - 2011 的限制要求。