

DataMan[®] 8100 and 8500 Quick Reference Guide



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About DataMan 8100 and 8500

The DataMan 8100 and 8500 readers offer the industry's most advanced technology for reading 1D and 2D codes regardless of size, quality, printing method or surface, and belong to the only industrial handheld ID reader family that offers Industrial Ethernet communication.

The DataMan 8100 and 8500 readers are available with patented 1DMax+ with Hotbars, class-leading 2-D algorithms and future-proof modular communication slide-ins.



The **DataMan 8500** readers use Cognex's patented *UltraLight*® *technology* for superior image formation on any mark type and surface. UltraLight illumination provides dark field, bright field and diffuse lighting all in one electronically controlled light. The DataMan 8500 readers include liquid lens technology and Cognex's 2DMax+ algorithms for the most challenging barcodes of all types.



The **DataMan 8100** readers feature integrated bright field illumination ideal for applications that require superior reading performance with direct lighting. DataMan 8100 readers include liquid lens technology and Cognex's 2DMax+ algorithms.

The DataMan 8100 and 8500 readers are available with the following communication options:

	Ethernet	USB	RS-232	WiFi	
DataMan 8100	\checkmark	\checkmark	\checkmark	\checkmark	
DataMan 8500	\checkmark	\checkmark	\checkmark	\checkmark	_

An intelligent base station is also provided when the DataMan 8100 and 8500 readers use the wireless (WiFi) communication module. The base station acts as a router between the reader and your computer or network. Infrastructure Mode does not use the base station for communication (see page 34-35).



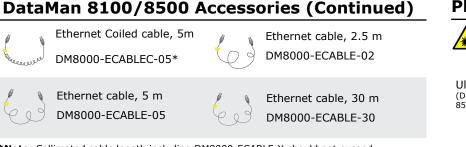
The DataMan 8100 and 8500 base stations are available with the following communication options:

	Base Station Communication		Wireless Protocol	
	Ethernet with Industrial Protocols	USB	RS-232	WiFi
DMA-IBASE-00	\checkmark	\checkmark	\checkmark	\checkmark
DMA-CBASE-00		\checkmark		

DataMan 8100/8500 Accessories



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*Note: Collimated cable length including DM8000-ECABLE-X should not exceed 50 m.

DataMan Base Station Cables

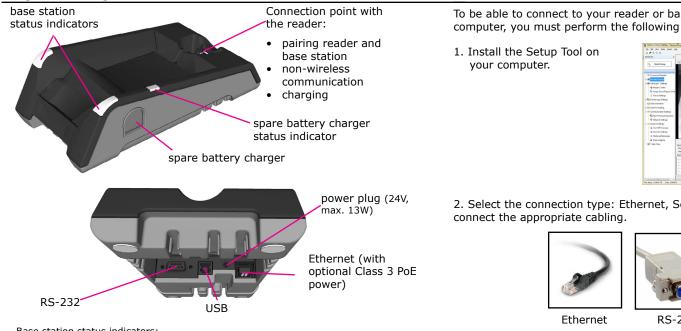


- RS-232 cable for base station, 5 m DMA-RS232-05
- USB cable for base station: Use any standard USB-A to USB-B 2.0 cable up to 3 meters
- Ethernet cable for base station: Use any standard CAT5/5e, SF/FTP or S/FTP cable

Physical Layout of the Reader



Physical Layout of the Base Station



Base station status indicators:

- Power: RED = base powered / BLINK = wrong reader in base
- Communication: BLUE = WiFi link / BLINK = WiFi communication
- Cradle connections: GREEN = reader properly inserted / BLINK = cradle USB interface communication

Overview of Setting Up the Reader

To be able to connect to your reader or base station on your computer, you must perform the following steps:



2. Select the connection type: Ethernet, Serial, or USB; and

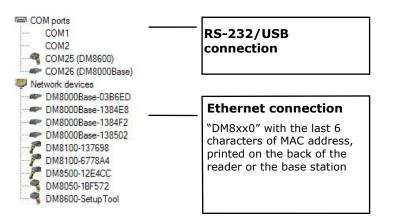


Alternatively, wireless connection modes can be used to connect to the reader directly (see page 34-35).

3. Power on your device(s).

Install DataMan 8000 Software

- 1. Check the DataMan Release Notes for a full list of system requirements.
- 2. Download the DataMan Setup Tool from http://www.cognex.com/ support/dataman and follow the on-screen steps.
- 3. Connect the DataMan 8100/8500 reader to your PC.
- 4. Launch Setup Tool and click **Refresh**. The reader or the base station appears under **COM ports** or **Network devices**.
- 5. Select a COM port or a Network device and click Connect.



Start the Setup Tool

Connect the reader to Setup Tool to configure it with the type of symbologies it will decode as well as other parameters, such as the type of trigger it will use and the format of the results it will generate.

Alternatively, configure your reader by scanning the appropriate reader configuration code from the *Reader Configuration Codes* document, available through the Windows Start menu or the Setup Tool Help menu.

Quick Setup

Configure your reader in a few basic steps.

Connect to Reader

Establish a connection to the reader.

Results Display

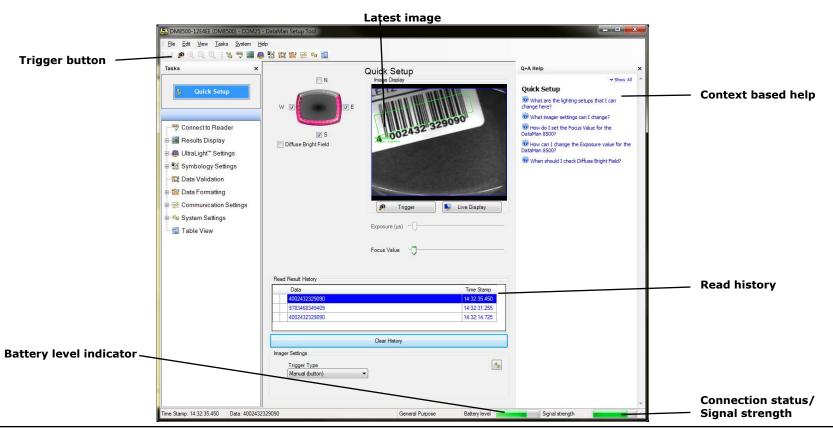
View the results.

Light and Imager Settings/UltraLight Settings

Choose a trigger type and other acquisition parameters.

System Settings

Configure visual and audio feedback, trigger and output actions.



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Use the Setup Tool Menu Bar

Each reader can store its current set of runtime parameters to a configuration (.cfg) file that contains information, such as the enabled symbologies and how any output data should be formatted.

The same configuration file can be loaded onto multiple readers, as the file does not contain identification information such as the IP address or device name of the reader used to create it.

A reader can also generate a Cognex device configuration (.cdc) file, which stores the set of runtime parameters plus any identification data, such as the name of the device, its IP address, subnet mask, and so on. Cognex recommends generating a device configuration file for each reader to allow you to restore a reader to its operating state with minimal effort.

Use the File menu of the Setup Tool to manage .cfg and .cdc files:

File Menu

File Menu	
Open Configuration	Open a saved .cfg configuration file.
Save Configuration	Create a .cfg configuration file of current runtime parameters.
Print Configuration Code	Generate a programming codes sheet representing your reader's configuration.
Restore Device	Load a saved device configuration .cdc file, with run- time parameters plus device-specific information for a particular DataMan 8100/8500 reader.
Backup Device	Create a device configuration .cdc file for a specific reader.
Print Device Backup Code	Generate a programming codes sheet representing your reader's .cdc configuration.
Export Parameters	Save (all or only the non-default) parameters of your device in a text file.

Use the Edit menu for standard Cut, Copy and Paste operations.

Use the **View** menu to view reader information (serial number, firmware version, and so on) and to enable and disable various elements of the Setup Tool, and the **Tasks** menu to switch between various Setup Tool options.

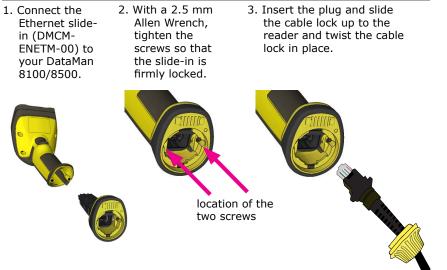
Use the **System** menu to manage the current settings on the reader and to upgrade the features it currently supports:

System Menu Save the current parameters to non-volatile Save Settings memory, which allows the reader to restore these settings each time vou reboot it. Reset Configuration Reset all configuration parameters in RAM (volatile memory) to the default settings except for communication settings. Update Firmware Update the reader software. Upload Feature Key Unlock additional features available in the reader software if you have the right key. Show Device Log Error and exception conditions, such as missed triggers and trigger overruns are logged. Delete Device Log Clear your device log.

Use the **Help** menu to display Setup Tool version information.

NOTE that Setup Tool does not allow you to update firmware if the battery is less than 30% charged. It is therefore recommended to place your device on the base station for charging before you update firmware.

Connecting a Handheld Through Ethernet



Use the DM8000-ECABLE-05 (5 meters) or the DM8000-ECABLE-30 (30 meters). You also need a Power Over Ethernet Adapter (CPS-AC-POE1A-xx).

WARNING



Disconnect DataMan from power before inserting/removing communication modules.

Troubleshooting an Ethernet Connection

If your reader does not appear in the Setup Tool's list of network devices, you may need to adjust your network settings.

First check your Ethernet connection and click **Refresh** in the Setup Tool. Next, scan the **Enable DHCP** code below (which you can also find in the *DataMan Reader Configuration Codes* document available from the Windows Start menu or the Setup Tool Help menu). This might allow the reader to acquire a suitable IP address from a DHCP server on your subnet.

If the reader still does not appear, you can use either the **Add Device** or **Force Network Settings** options in the Setup Tool.

If you know the IP address of the reader, use the **Add Device** option. If you do not know the IP address, use the **Force Network Settings** options. Either method should allow the DataMan 8100/8500 reader to appear in the list of **Network devices** so that you can connect to it through the Setup Tool and your Ethernet connection.

If none of the above helps, reset your reader to factory defaults by scanning the **Reser Scanner to Factory Defaults** code below.





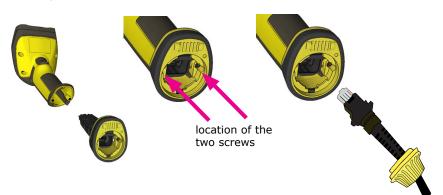
Enable DHCP

Reset Scanner to Factory Defaults

Connecting a Handheld Through RS-232

1. Connect the serial slidein (DMCM-SERIALM-00) to your DataMan 8100/8500.

- 2. With a 2.5 mm 3. I Allen Wrench, t tighten the screws r so that the slide-in is firmly locked.
 - 3. Insert the plug and slide the cable lock up to the reader and twist the cable lock in place.



Observe the following electrical requirements:

5 GND 9 Reserved N/C RTS 8 VCC RxD GND CTS 2 TxD N/C 6 VCC PWR 1 WARNING For proper RS-232 operation, do not apply any voltage to pin 9.

Use the DM8000-RS232-02 cable (2.5 meters) or the DM8000-RS232-05 cable (5 meters). For power supply, use the DataMan 8000 Power Supply (DM100-PWR-000).

WARNING



Disconnect DataMan from power before inserting/removing communication modules.

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- 1. 6VDC power supply (DM100-PWR-000), a 5.5mm x 2.1mm DC Power Plug
- 2. VCC = +4.75V up to +6.0V for 2.5 m cable
 - VCC = +5.5V up to +6.0V for 5.0 m cable

Power on the RS-232 cable can be supplied by either the DC Power Plug or Pin 1 of the D-SUB. **DO NOT** use both in parallel.



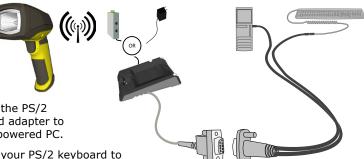
- 1. Connect the PS/2 keyboard adapter to your unpowered PC.
- 2. Connect your PS/2 keyboard to the PS/2 keyboard adapter, and start up your PC.
- 3. Connect your reader to an RS-232 cable and power up your reader.
- 4. Scan the PS/2 Keyboard Emulation Disable Configuration Code (from the *Reader Configuration Codes* document, available through the Windows Start menu or the Setup Tool Help menu).
- 5. Connect the RS-232 cable to the PS/2 keyboard adapter.
- 6. Start reading codes.
- You can change your reader's configuration by switching back to the serial interface and connecting to the Setup Tool.



- 1. Scan the PS/2 Keyboard Emulation Enable Configuration Code (from the *Reader Configuration Codes* document, available though the Windows Start menu or the Setup Tool Help menu.)
- 2. Power down your PC and unplug your device from power.
- 3. Connect the PS/2 keyboard adapter to your PC.
- 4. Connect your reader's serial cable to the PS/2 keyboard adapter and plug in your device to power. Wait until the device boots up.
- 5. Power up your PC and start reading codes.

You can change your device's configuration by scanning the appropriate Configuration Codes.

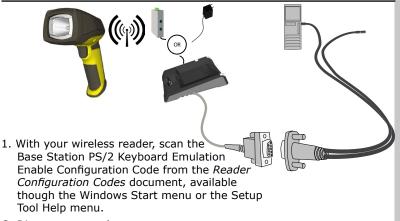
Keyboard Emulation With WiFi Reader Using Keyboard



- 1. Connect the PS/2 keyboard adapter to vour unpowered PC.
- 2. Connect your PS/2 keyboard to the PS/2 keyboard adapter.
- 3. Start up vour PC.
- 4. Power up your base station.
- 5. With your wireless reader, scan the Base Station PS/2 Keyboard Emulation Disable Configuration Code from the *Reader Configuration Codes* document, available through the Windows Start menu or the Setup Tool Help menu.
- 6. Connect the base station to an RS-232 cable, and plug it in to the PS/2 keyboard adapter.
- 7. Start reading codes.

You can change the configuration of your device by switching back to the serial interface and connecting to Setup Tool.

Keyboard Emulation With WiFi Reader Without Keyboard



- 2. Disconnect your base station's serial cable from your PC.
- 3. Power down your PC and unplug your device from power.
- 4. Connect your base station's serial cable to the PS/2 keyboard adapter and plug in your device to power.
- 5. Connect the PS/2 keyboard adapter to your PC.
- 6. Power up your PC and start reading codes.

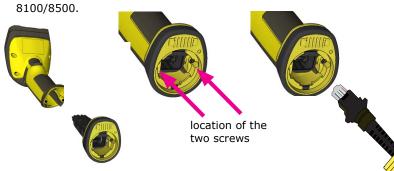
You can change the configuration of your device by scanning the appropriate Configuration Codes.

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Connecting a DataMan 8100/8500 Through USB

1. Connect the serial slidein (DMCM-SERIALM-00) to your DataMan 8100/8500.

- 2. With a 2.5 mm 3. Allen Wrench, tighten the screws so that the slide-in is firmly locked.
 - 3. Insert the plug and slide the cable lock up to the reader and twist the cable lock in place.



Use the DM8500-USB-00 cable (2.5 meters) or the DM8500-USBC-02 cable (2.5 meters). For DataMan 8500, use an external power supply: DataMan 8000 Power Supply (DM100-PWR-000).

NOTE: DataMan 8100 does not require an external power supply.

WARNING



Disconnect DataMan from power before inserting/removing communication modules.

If you connect your reader with the coiled USB cable, you must use your device in USB 1.1 mode. With a straight USB cable, you can use your device in both modes.

Change the USB Connection in the *Serial* tab of the *Communication Settings* pane in Setup Tool, or scan the appropriate code from the *DataMan Configuration Codes* document.

USB Connection

USB Driver Compatibility Mode

USB 1.1 mode 💿 🔘 USB 2.0 mode

You can also switch the USB mode (CDC or HID) of both the reader and the base station with a pair of RP codes. Perform the following steps:



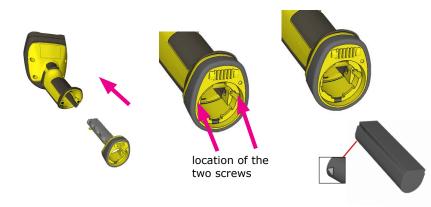
- 1. Disconnect from Setup Tool if you are connected.
- 2. Scan the "USB Keyboard" code from the *DataMan Configuration Codes* document.
- 3. Start scanning codes with your corded reader.



- 1. Disconnect from Setup Tool if you are connected.
- 2. Scan the "Enable USB Keyboard for the base station" code from the DataMan Configuration Codes document.
- 3. Start scanning codes with your wireless reader.

Connecting to a Wireless DataMan 8100/8500 Through a Base Station

- 1. Connect the wireless slidein (DMCM-WLESSM-00) to your DataMan 8100/8500.
- 2. With a 2.5 mm Allen Wrench, tighten the screws so that the slide-in is firmly locked.
- 3. Insert the battery.



WARNING

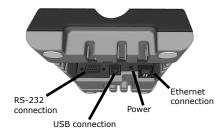
Remove battery from your DataMan before inserting/removing the communication module.

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4. Insert the plug and twist it in place.

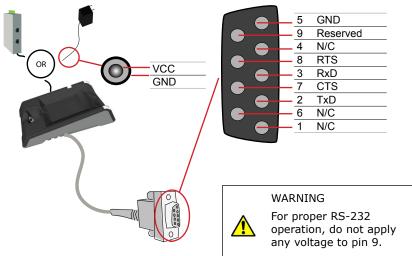


- 5. Power up the base station using either a 24V power supply, or a Class 3 Power Over Ethernet adapter.
- 6. Connect your base station to your PC using either serial, USB or Ethernet communication.



Wireless Connections (Continued)

Observe the following electrical requirements when connecting the base station through RS-232:



Power to the base station can be supplied by either the DC Power Plug or a Power over Ethernet device. **DO NOT** use both in parallel.

The DC power plug is a 24VDC power supply (DMA-24VPWR-xx), 3.5mm x 1.3mm.

- 7. When the base station is powered up, place your reader into the base station. They become automatically paired. The base station's status indicator becomes green. When the wireless reader is removed from the base, a wireless connection is established. The status indicator of both the base station and the reader become blue and you can hear a beep. Blue lights indicate that the reader and the base have successfully paired and are communicating.
- 8. Connect to your base station or to the wireless reader. You have the following connection options:

Base Station Connection Type	Connect to Reader in the Setup Tool	Connection Channels
RS-232	Wireless reader appears: COM port (Base Station does not appear)	terminal program Setup Tool
USB	Base Station appears: COM port 1 Wireless reader appears: COM port 2	terminal program Setup Tool
Ethernet	Base station appears: Network device 1 Wireless reader appears: Network device 2	terminal program Setup Tool

Wireless Connections (Continued)

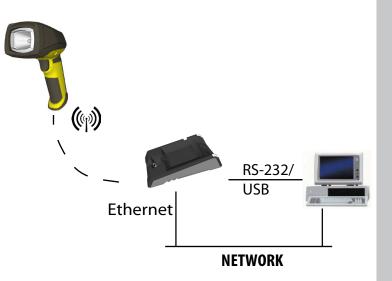
9. Lift your reader up from the base station and start reading codes.

NOTES

- When the reader is on the base station, communication is established by means of cradle contacts. Wireless communication is disabled.
- Configure wireless communication settings by connecting to the base station. In order for the changed settings to be synchronized between the DataMan 8100/8500 wireless reader and the base station, place your reader in the base station after your changes are saved. To assign a static IP address to the base station or the reader when communicating via Ethernet, connect to the base station in Setup Tool. The base station, however, auto-assigns the IP address to the reader when they become paired.
- When you connect with the base station to a terminal program, your wireless reader sends decode results to the terminal, but you cannot send commands to the reader.
- If you want to unpair your reader from the base station, you can either click **Unassign** in the **Wireless** tab of the *Communication Settings* pane of Setup Tool (when you are connected either with the reader or the base station), or scan the "Unassign Reader" reader configuration code.
- If you place the wrong reader (that is, a reader that is not associated with the base station) into the base station, the base station status indicator flashes red and a long beep can be heard.

Base Station Routing Capabilities

The base station is visible as connected through either RS-232, USB or Ethernet, but it routes data through the wireless interface to the reader.



Ad-hoc Mode

It is possible to connect to the reader wirelessly with the computer in ad-hoc mode (using a reader-created Wifi connection). Reset the reader to factory defaults (this configures the device to ad-hoc mode), and after the device appears under Wifi connections, connect to it with Setup Tool and then use the **Wireless** tab under **Communication Settings** to configure authentication and encryption (which are not configured by default). For more information, see the *Communications and Programming Guide.*

NOTE:

- The base station is only used for charging the reader in this setup. If an intelligent
 base station is used, the reader has to be unassigned in Setup Tool (connected to
 the base station) under Communication Settings > Wireless tab if the reader
 has already been placed in the base station.
- Also note that placing the reader in the intelligent base station automatically reassigns it to the base station unless the base station is unplugged from the network first.

Ad-hoc Mode



Infrastructure Mode



Infrastructure Mode

It is possible to connect to the reader in infrastructure mode using Wifi connection. You need to reset the reader to factory defaults, connect to the device in ad-hoc mode, and then use the **Wireless** tab under **Communication Settings** to activate and configure infrastructure mode.

Infrastructure mode requires a router as an access point. Encryption and authentication are available as seen in the table below. See the *Communications and Programming Guide* for detailed information.

Authentication mode	Encryption	Requirements
Open System	WEP-40, WEP-104	passphrase
WPA-PSK, WPA2-PSK	TKIP, AES, TKIP/AES	passphrase
EAP-TLS	TKIP, AES, TKIP/AES	 Client's certificate CA's certificate Client's private key Client's username
PEAP-MSCHAPV2	TKIP, AES, TKIP/AES	 CA's certificate Client's username Client's password

NOTE:

- The base station is only used for charging the reader in this setup. If an intelligent base station is used, the reader has to be unassigned in Setup Tool (connected to the base station) under **Communication Settings > Wireless** tab if the reader has already been placed in the base station.
- Also note that placing the reader in the intelligent base station automatically re-assigns it to the base station unless it is unplugged from the network first.

Wireless Reader: Buffering Data

When you are within the wireless range of the base station, your wireless reader sends decoded data to your PC through the base station, just as if you used a tethered reader. You can also see the decoded images in Setup Tool, if it is running and is connected to the reader.

When you leave the wireless range, however, you lose connection to your PC, but you can still keep reading codes. The decoded data is saved in the buffer of the reader.

This buffered data appears on your PC again when you come back within the wireless range, but **ONLY IF** you were connected to a terminal program when you left the wireless range.

Buffered read results on the reader are not displayed in Setup Tool; they are only transmitted over an existing keyboard emulation, RS-232 Serial or TCP/IP Telnet connection. **NOTE** that the images acquired by the reader when it is out of the wireless range are *never* saved, and cannot be retrieved.

Open a connection with the reader in a terminal program so that you gain the buffered data when wireless connection is established again.

See the following table for connection options according to communication type:

Base Station Con- nection Type	How to Connect
RS-232	Connect to the COM port of the base station.
USB	Connect to the COM port of the wireless reader.

Base Station Con- nection Type	How to Connect
Ethernet	Connect to the terminal program using the IP address of the reader. To find out the IP address, go to the <i>Connect</i> <i>to Reader</i> pane in Setup Tool and hover your mouse over the reader. The IP address appears.
PS/2 Keyboard or USB Keyboard	Open the text editor or your program of choice to use keyboard emulation. When you return to the wireless range, keyboard emulation continues, starting with the buffered data.

While you are still within the wireless range, the reader occasionally blinks blue to indicate that the wireless connection is established.

When the reader leaves the wireless range, the base station's signal becomes red.



Blinking blue status indicator: wireless connection is alive.



When you leave the wireless range, you can still keep reading codes. The reader going offline is indicated by a long beep and the status indicator flashes magenta.

status indicator blinks magenta: your reader is offline



When the reader is offline, good reads are indicated with 2 short beeps and the selected good read status indicator color (green by deafult).

status indicator beeps twice: your reader is offline while decoding symbols



When the buffer is full, no more codes are read. The reader does not discard the oldest read.

when the buffer is full, the reader beeps and the status indicator becomes white



Summary of Wireless Buffering Indicators

Condition	Status Indicator: Reader	Status Indicator: Base Station	Sounds
Reader in wire- less range of base station	When the reader is awake, blinking blue indicates wireless connection with base. When the reader is offline, no indicator. Pull the trigger to wake it up and it will blink blue. Good read: green, single beep (default) No read: red, no beep (default)	Reader out of the base station and reader is awake: steady blue. Reader out of the base station and reader is offline: steady red. Paired reader in the base station: steady green. Base station is receiving data or images from reader: flashing blue.	Good read: 1 beep (default) No read: no beep (default)
Reader out of wireless range of base station	Offline: When the reader wakes up out of the wireless range, there is no indicator. Good read: green (default) No read: red (default)	Reader offline: steady red.	Long beep when you leave the wireless range. Good read: 2 beeps No read: no beep
Reader out of wireless range, buffer is full	Good read: green and then white. No read: red (default)	Reader offline: steady red	Good read: long beep No read: no beep

Wireless Reader: Charging

When you are reading codes with your wireless reader, blinking red status indicators will indicate a low battery. As the battery discharges, the blink frequency increases.

Blinking red status indicator indicates low battery or thermal shutdown mode.



Place the reader on the base station for charging. Make sure that the pins at the end of the handle make contact with the pins in the base station.



You can also check the status of the battery in Setup Tool.





Paired Reader Charging

Paired Reader Fully Charged

Refer to the following table for a summary of indicators regarding charging.

Condition	Status Indicator: Reader	Status Indicator: Base Station
Battery low	flashing red indicators	 steady blue, indicating wireless connection flashing blue, indicating data transfer
Reader is charging in the base station	steady red indicators	 steady green, indicating wireless connection flashing green, indicating data transfer
Reader is fully charged in the base station	steady green indicators	 steady green, indicating wireless connection flashing green, indicating data transfer

To change batteries, perform the following steps:

1. Twist the reader's end cap, and take it off.





2. Hold the reader in an upright position and the battery will slide out of the handle. NOTE that you may need to shake the reader slightly.

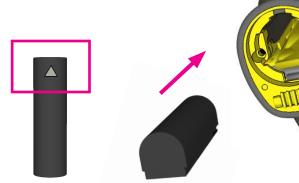


CAUTION

The battery used in these devices may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 60°C (140°F), or incinerate. Replace battery with Cognex DMA-HHBATTERY-00 or DMA-HHBATTERY-01 only. The use of another battery may present a risk of fire or explosion.

Wireless Reader: Changing Batteries (Continued)

3. Put the replacement battery into the slot. The battery has a small triangle on one side. Make sure that you insert the battery in a way that the triangle end goes into the slot first.



4. Put the end cap back on and twist it.



Make sure that the triangle aligns with the circle when the cover is locked.



5. Place the battery in the spare battery charger in the direction of the small triangle of the battery.



When you are charging the auxilliary battery, the base station's spare battery status indicator displays either charging in progress (red) or fully charged (green).



6. Dispose of used battery promptly. Keep it away from children. Do not disassemble and do not burn it. Use the appropriate separate take-back systems for battery disposal.

Trigger Types

The DataMan 8100/8500 trigger mode determines when the reader attempts to read a code. Use Setup Tool or the appropriate reader configuration codes to change trigger types.

The following trigger types are supported:

- Presentation: The laser aimer is always on. When motion is detected in front of the reader, the reader will turn on and scan for a symbol. The reader relies on an internal timing mechanism to acquire images.
- Manual (default): Begins acquiring images when you press the trigger button on the reader, and continues acquiring images until a symbol is found and decoded or you release the button.

Field of View and Reading Distances

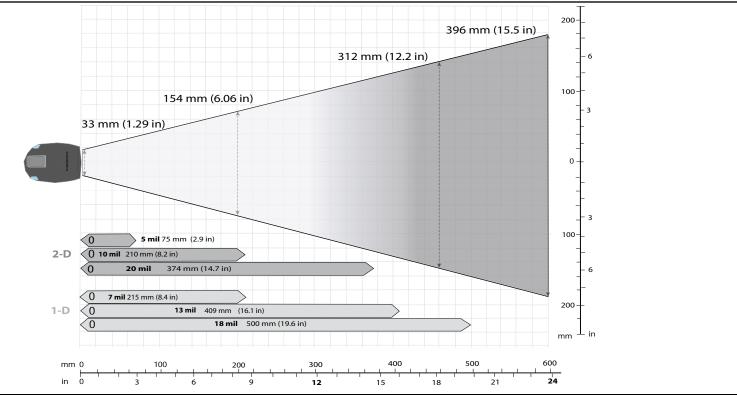
There is a range of reading distances available for different code sizes and focus positions. Select a focus position that allows you to read the desired code sizes at the desired working distance.

- If your application has a consistent reading range, set the focus range to a limited depth of field with no steps (for example, set it to 20) or with limited steps (for example, set it to 2 steps between 0 and 30). This way you can achieve fast performance.
- If your application has a variety of code types and sizes, set the focus range to a wider depth of field with increased number of steps (for example, set it to 6 steps between 0 and 200). This way you can get better coverage.

DataMan 8100/8500 Imager Specifications

Specification	DataMan 8100/8500 Imager
Image Sensor	1/2 inch CMOS
Image Sensor Properties	5.2 µm square pixels
Image Resolution (Pixels)	1280 x 1024

Map of Field of View and Reading Distances



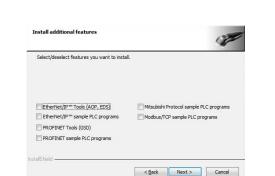
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Industrial Protocols

The DataMan 8100/8500 readers support the following industrial protocols:

- EtherNet/IP™
- PROFINET
- MC Protocol
- Modbus TCP

Select the industrial protocol tools and sample programs when installing the Setup Tool.



There are three ways to enable or disable Industrial Protocols. Using either method, a reboot is required for the changes to come into effect.

- Enable the protocols using the **Industrial Protocols** pane of the Setup Tool (under Communication Settings).
- Scan the appropriate **Reader Configuration codes** (see *Reader Configuration Codes* available through the Windows Start menu or the Setup Tool Help menu).
- Send the appropriate **DMCC** (see *Command Reference* available through the Windows Start menu or the Setup Tool Help menu).

For more information on using the industrial protocols, read the *DataMan Communications and Programming Guide* available through the Windows Start menu or the Setup Tool Help menu.

DataMan 8100/8500 Specifications

Weight	326 g
Operating Temperature	0°C - 40°C (32°F - 104°F)
Storage Temperature	-40°C — 60°C (-40°F — 140°F)
Maximum Humidity	95% (non-condensing)
Codes	Data Matrix™; QR Code and microQR Code; UPC/EAN/JAN; Codabar, Interleaved 2 of 5, Code 39, Code 128, and Code 93, Pharma, Postal, RSS/CS, PDF 417, MicroPDF 417
Power Supply Requirements	 DataMan 8100: USB: USB BUS powered (optionally: external 2.5 W maximum LPS or NEC class 2 power supply: +5V - +6V DC)
	 RS232 external 2.5Wmax LPS or NEC class 2 power supply +5V - +6V DC
	ETH: Class 2 PoE supply IEEE 802.3af*
	 DataMan 8500: USB: external 5.0 W maximum LPS or NEC class 2 power supply: +5V - +6V DC
	RS232 external 5.0Wmax LPS or NEC class 2 power supply
	 +5.50V - +6.0V DC (5.0m RS-232 cable) +4.75V - +6.0V DC (2.5m RS-232 cable) ETH: Class 2 PoE supply IEEE 802.3af* * connect only to PoE networks without routing to the outside plant
Inrush current peak	5A maximum Duration: approx. 30μs Electrical charge: 60μAs at 6V
Battery life for wireless reader (typical use case)	ca. 2900 triggers can be operated within a 10 hour working shift
WiFi	802.11 b/g, 2.4 GHz, User Selectable channels 1-11
Ethernet	10/100 Base-T FULL/HALF DUPLEX, IEEE 802.3

DataMan Base Station Specifications

	DMA-IBASE-00
Weight	328 g
Operating Temperature	0°C - 40°C (32°F - 104°F)
Storage Temperature	-40°C — 60°C (-40°F — 140°F)
Maximum Humidity	95% (non-condensing)
Power Supply Requirements	24V -+ 10%, 13 W maximum LPS or NEC class 2 power supply, or PoE class 3 (connect only to PoE networks without routing to the outside plant)

Laser Information



LASER LIGHT, DO NOT STARE INTO BEAM: CLASS 2 LASER PRODUCT

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE SERIOUS INJURY

- **CAUTION**: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- Do not attempt to service or repair this product -- return it to Cognex for service.
- Do not permit anyone other than Cognex Corporation to service, repair, or adjust this product.
- Do not attempt to open or modify this device except as described in this document.
- Do not direct or reflect laser light toward people or reflective objects.
- Do not operate this device if it is damaged or if the covers or seals are missing or damaged.

This Laser Product is designated as Class 2 during all procedures of operation.

Wavelength	650 nm
Laser Power for classification	< 1 mW
Beam Diameter	< 3mm at aperture
Divergence	< 5 mrad

For assistance contact Cognex Corporation at http://support.cognex.com

Agency Compliance Statements

The DataMan 8000 series device 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.

The following specifications apply to the DataMan 8100/8500 corded readers:

Regulator	Specification
USA	FCC Part 15B, Class A
	FCC Part 15.247
	FDA/CDRH Laser Notice No 50
Canada	ICES-003
European Community	EN55022, Class A
	EN55024
	EN60950
	EN60825-1
Australia	C-TICK, AS/NZS CISPR 22 / EN 55022 for Class A
	Equipment
Japan	J55022, Class A

The following specifications apply to the DataMan 8000 wireless readers:

Regulator	Specification
USA	FCC Part 15B, Class A
	FCC Part 15.247
	FDA/CDRH Laser Notice No 50
Canada	ICES-003
	RSS 210

Regulator	Specification
European Community	EN301 489-1 / -17
	EN300 328-2
	EN60950
	EN60825-1
Australia	C-TICK
Japan	ARIB STD-T66

FCC Class A Compliance Statement

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.

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada.

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 made to this equipment not expressly approved by Cognex may void the FCC authorization to operate this equipment.

Radiofrequency radiation exposure information:

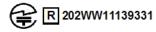
For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when worn in hand or close to the body. Use of any accessory may not ensure compliance with FCC RF exposure guidelines.

Agency Compliance Statements (Continued)

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.

Japanese Compliance



These devices have been granted a designation number by the Ministry of Internal Affairs and Communications according to the Ordinance concerning the Technical Regulations Conformity Certification etc. of Specified Radio Equipment

(特定無線設備の技術基準適合証明等に関する規則).

Article 2 clause 1 item 19

Approval nº: 202WW11139331

These devices should not be modified (otherwise the granted designation number will become invalid).

C-Tick Statement



Conforms to AS/NZS CISPR 22/ EN 55022 for Class A Equipment.

Cofetel Notice

La operacion de este equipo esta sujeta a las siguientes dos condiciones:

(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operacion no deseada. COFETEL ID: RCPCODM12-0654

European Compliance

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This equipment complies with the essential requirements of EU Directives 1999/5/ EC, 2004/108/EC and 2006/95/EC, as applicable. Declarations are available from your local representative.

Където е приложимо, оборудването е съобразено с основните изисквания наЕвропейските директиви 1999/5/ЕС, 2004/108/ЕС и 2006/95/ЕС. Декларации са налични от местния представител.

Toto zařízení splňuje základní požadavky směrnic EU 1999/5/ES, 2004/108/ES a 2006/95/ES, vždy dle konkrétního způsobu použití. Příslušná prohlášení jsou k dispozici u vašeho lokálního distributora.

Dette udstyr overholder de væsentlige krav i EU-direktiv 1999/5/EF, 2004/108/EF og 2006/95/EF, som er relevant. Erklæringerne kan fås hos din lokale repræsentant.

Tämä laitteisto täyttää seuraavat EU Direktiivien olennaiset vaatimukset 1999/5/ EY, 2004/108/EY ja 2006/95/EY, soveltuen. Vaatimusten-mukaisuusvakuutukset ovat saatavilla paikalliselta edustajalta.

Dit produkt voldoet aan de voorschriften van de richtlijnen van de EG Raad (1999/5/EC, 2004/108/EC en 2006/95/EC), indien van toepassing. Declaraties zijn beschikbaar bij uw locale vertegenwoordiger.

Cet appareil est conforme aux exigences essentielles des Directives de l'Union Européenne 1999/5/CE, 2004/108/CE et/ou 2006/95/CE. Veuillez consulter votre représentant local pour les déclarations applicables.

Ezen készülék technikai jellemzői megfelelnek a vonatkozó 1999/5/ EC, 2004/108/ EC és 2006/95/EC EU rendeletekben foglalt követelményeknek. A megfelelőségi dokumentáció a gyártó helyi partnereinél áll az Ön rendelkezésére. Questo prodotto, ove applicabile, risponde alle direttive Europee 1999/5/EC, 2004/108/EC e 2006/95/EC. Dichiarazioni sono disponibili presso il vostro rap-

2004/108/EC e 2006/95/EC. Dichlarazioni sono disponibili presso il vostro ra presentante locale.

Ten sprzęt jest zgodny z ogólnymi wymaganiami Dyrektyw UE nr 1999/5/EC, 2004/108/EC i 2006/95/EC, na ile znajdują zastosow-anie. Oświadczenia są

Agency Compliance Statements (Continued)

dostępne u lokalnych przedstawicieli.

Acest echipament este in conformitate cu cerintele esentiale ale Directivelor EU 1999/5/ EC, 2004/108/EC si 2006/95/EC. Certifi-catele sunt disponibile la reprezentanta locala. Toto zariadenie spĺňa základné požiadavky smerníc EÚ 1999/5/ES,2004/108/ES a 2006/95/ES, vždy podľa konkrétneho spôsobu použitia. Príslušné vyhlásenia sú k dispozícii u vášho lokálneho dis-tributora.

Das Gerät erfüllt die wesentlichen Anforderungen der EU-Direktiven 1999/5/EC, 2004/108/ EC und 2006/95/EC, soweit anwendbar. Eine entsprechende Bescheinigung kann bei Ihrem zuständigen Vertriebspartner angefordert werden.

Ta oprema je skladna in izpolnjuje nujne zahteve direktiv EU 1999/5/ES, 2004/108/ES in 2006/95/ES. Deklaracije so na voljo pri vašemkrajevnem predstavniku.

Αυτός ο εξοπλισμός συμμορφώνεται με τις βασικές απαιτήσεις των εφαρμοσμένων οδηγιών 1999/5/EC, 2004/108/EC kai 2006/95/ECτης Ευρωπαικής Ένωσης. Οι επίσημες δηλώσεις είναι διαθέσιμες από τον τοπικό σας αντιπρόσωπο.

Dan l-apparat huwa konformi mar-regolamenti stipulati mid-Direttivi Ewropej 1999/5/EC, 2004/108/EC u 2006/95/EC skond kif inhu likabbli. Kopji ta' dawn id-dikjarazjonijiet huma accessibbli minghand ir-rapprezentant locali tieghek.

Este equipo cumple com las condiçãos vigorantes de la EU diretivas 1999/5/EC, 2004/108/ EC e 2006/95/EC, com é pertinente. Las normativas estão disponível com su representado local.

Este equipo cumple con los requerimientos esenciales de las direc-tivas de la EU 1999/5/ EC, 2004/108/EC y 2006/95/EC, si es aplica-ble. Dichas declaraciones están en poder de sus representanteslocales.

Ši iranga atitinka esminius ES direktyvu 1999/5/EC, 2004/108/EC ir 2006/95/EC reikalavimus. Deklaracijas galima gauti iš Jusu vietinio atstovo.

Šis iekartas atbilst ES direktivu 1999/5/EC, 2004/108/EC un 2006/95/EC prasibam. Deklaracijas ir pieejamas regionalajasparstavniecibas. See seadmed vastavad olulistele nõuetele ELi direktiivide 1999/5/EC, 2004/108/EC ja 2006/95/EC, mida kohaldatakse. Deklarat-sioonid on saadaval Teie kohaliku esindaja.

Laser Safety Statement



Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. This device has been tested in accordance with IEC60825-1 2nd ed., and has been certified to be under the limits of a Class 2 Laser device.

UL and cUL Statement



UL and cUL listed: UL60950-1 1st ed. and CSA C22.2 No.60950-1 1st ed.

For European Union Users

Cognex complies with Directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 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.

Brazilian Compliance

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados.

Para maiores informações, consulte o site de ANATEL www.anatel.gov.br



(01)07898579800076

Este equipamento opera em caráter secundário, isto é, não tem diretio a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário

Agency Compliance Statements: DataMan Base Station

The DataMan Base Station 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.

Regulator	Specification
USA	FCC Part 15B, Class A
	FCC Part 15.247
	FDA/CDRH Laser Notice No 50
Canada	ICES-003
	RSS 210
European Community	EN301 489-1 / -17
	EN300 328-2
	EN60950
Australia	C-TICK, AS/NZS CISPR 22 / EN 55022 for Class A Equipment
Japan	J55022, Class A
	ARIB STD-T66

FCC Class A Compliance Statement for the DataMan Base Station

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.

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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 made to this equipment not expressly approved by Cognex may void the FCC authorization to operate this equipment.

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.

Japanese Compliance



These devices have been granted a designation number by the Ministry of Internal Affairs and Communications according to the Ordinance concerning the Technical Regulations Conformity Certification etc. of Specified Radio Equipment (特定無線設備の技術基準適合証明等に関する規則).

Article 2 clause 1 item 19

Approval nº: 202WW11139332

These devices should not be modified (otherwise the granted designation number will become invalid).

C-Tick Statement



Conforms to AS/NZS CISPR 22/ EN 55022 for Class A Equipment.

Cofetel Notice

La operacion de este equipo esta sujeta a las siguientes dos condiciones:

Agency Compliance Statements: DataMan Base Station (Continued)

(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operacion no deseada. COFETEL ID: RCPCODM12-0655

UL and cUL Statement



UL and cUL listed: UL60950-1 2nd ed. and CSA C22.2 No.60950-1 2nd ed.

European Compliance

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This equipment complies with the essential requirements of EU Directives 1999/5/EC, 2004/108/EC and 2006/95/EC, as applicable. Declarations are available from your local representative.

Където е приложимо, оборудването е съобразено с основните изисквания наЕвропейските директиви 1999/5/ЕС, 2004/108/ЕС и 2006/95/ЕС. Декларации са налични от местния представител.

Toto zařízení splňuje základní požadavky směrnic EU 1999/5/ES, 2004/108/ES a 2006/95/ ES, vždy dle konkrétního způsobu použití. Příslušná prohlášení jsou k dispozici u vašeho lokálního distributora.

Dette udstyr overholder de væsentlige krav i EU-direktiv 1999/5/EF, 2004/108/EF og 2006/95/EF, som er relevant. Erklæringerne kan fås hos din lokale repræsentant. Tämä laitteisto täyttää seuraavat EU Direktiivien olennaiset vaatimukset 1999/5/EY, 2004/108/EY ja 2006/95/EY, soveltuen. Vaatimusten-mukaisuusvakuutukset ovat saatavilla paikalliselta edustajalta.

Dit produkt voldoet aan de voorschriften van de richtlijnen van de EG Raad (1999/5/EC, 2004/108/EC en 2006/95/EC), indien van toepassing. Declaraties zijn beschikbaar bij uw locale vertegenwoordiger.

Cet appareil est conforme aux exigences essentielles des Directives de l'Union Européenne

1999/5/CE, 2004/108/CE et/ou 2006/95/CE. Veuillez consulter votre représentant local pour les déclarations applicables.

Ezen készülék technikai jellemzői megfelelnek a vonatkozó 1999/5/ EC, 2004/108/ EC és 2006/95/EC EU rendeletekben foglalt követelményeknek. A megfelelőségi dokumentáció a gyártó helyi partnereinél áll az Ön rendelkezésére. Questo prodotto, ove applicabile, risponde alle direttive Europee 1999/5/EC, 2004/108/EC e 2006/95/EC. Dichiarazioni sono disponibili presso il vostro rappresentante locale.

. Ten sprzęt jest zgodny z ogólnymi wymaganiami Dyrektyw UE nr 1999/5/EC, 2004/108/EC i 2006/95/EC, na ile znajdują zastosow-anie. Oświadczenia są dostępne u lokalnych przedstawicieli.

Acest echipament este in conformitate cu cerintele esentiale ale Directivelor EU 1999/5/EC, 2004/108/EC si 2006/95/EC. Certifi-catele sunt disponibile la reprezentanta locala. Toto zariadenie splňa základné požiadavky smerníc EÚ 1999/5/ES,2004/108/ES a 2006/95/ES, vždy podľa konkrétneho spôsobu použitia. Príslušné vyhlásenia sú k dispozícii u vášho lokálneho dis-tributora. Das Gerät erfüllt die wesentlichen Anforderungen der EU-Direktiven 1999/5/EC, 2004/108/EC und 2006/95/EC, soweit anwendbar. Eine entsprechende Bescheinigung kann bei Ihrem zuständigen Vertriebspartner angefordert werden. Ta oprema je skladna in izpolnjuje nujne zahteve direktiv EU 1999/5/ES, 2004/108/ES in 2006/95/ES. Deklaracije so na voljo pri vašemkrajevnem predstavniku.

Autóc o εξοπλισμός συμμορφώνεται με τις βασικές απαιτήσεις των εφαρμοσμένων οδηγιών 1999/5/EC, 2004/108/EC kai 2006/95/ECτης Ευρωπαικής Ένωσης. Οι επίσημες δηλώσεις είναι διαθέσιμες από τον τοπικό σας αντιπρόσωπο. Dan I-apparat huwa konformi mar-regolamenti stipulati mid-Direttivi Ewropej 1999/5/EC, 2004/108/EC u 2006/95/EC skond kif inhu likabbli. Kopji ta' dawn iddikjarazjonijiet huma accessibbli minghand ir-rapprezentant locali tiegħek. Este equipo cumple com las condiçãos vigorantes de la EU diretivas 1999/5/EC, 2004/108/EC e 2006/95/EC, com é pertinente. Las normativas estão disponível com su representado local.

Este equipo cumple con los requerimientos esenciales de las direc-tivas de la EU 1999/5/EC, 2004/108/EC y 2006/95/EC, si es aplica-ble. Dichas declaraciones están en poder de sus representanteslocales.

Agency Compliance Statements: DataMan Base Station (Continued)

Ši iranga atitinka esminius ES direktyvu 1999/5/EC, 2004/108/EC ir 2006/95/EC reikalavimus. Deklaracijas galima gauti iš Jusu vietinio atstovo.

Šis iekartas atbilst ES direktivu 1999/5/EC, 2004/108/EC un 2006/95/EC prasibam. Deklaracijas ir pieejamas regionalajasparstavniecibas. See seadmed vastavad olulistele nõuetele ELi direktiivide 1999/5/EC, 2004/108/EC ja 2006/95/EC, mida kohaldatakse. Deklarat-sioonid on saadaval Teie kohaliku esindaja.

Brazilian Compliance

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados.

Para maiores informações, consulte o site de ANATEL www.anatel.gov.br



Este producto possui módulo integrado ao mesmo que opera em caráter secundário, isto é não tem diretio a proteção contra interferência prejudical, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

For European Union Users

Cognex complies with Directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 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.

Reader Control Codes





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