Modular Waiter Lock

Reader

User Manual
We would like to know your opinion on this publication.

Please send us a copy of this page if you have any constructive criticism. We would like to thank you in advance for your comments.

With kind regards.

Your Opinion:

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Order-No.: 01750276702 D
Modular Waiter Lock
Reader

User Manual

Edition September 2018
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Manufacturer’s Declaration And Approval

General Authorization

This device complies with the requirements of the directive 2014/30/EU with regard to “Electro-magnetic Compatibility” and 2014/35/EU "Low Voltage Directive" and RoHS directive 2011/65/EU.

Therefore, you will find the CE mark on the device or packaging.

FCC-Class A Declaration

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.

Modifications not authorized by the manufacturer may void users authority to operate this device.

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, including interference that may cause undesired operation.

CAN ICES-3 (A)/NMB-3(A)
Supplier’s Declaration of Conformity

Product Description: I-Button
Model: BA9x WL

Party issuing Supplier’s Declaration of Conformity
Diebold Nixdorf Singapore PTE. LTD.
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Responsible Party – U.S. Contact Information
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5995 Mayfair Road
N. Canton, OH 44720 / USA

Phone: +1 330 490 5049

FCC Compliance Statement (for products subject to Part 15)

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 that may cause undesired operation.
Warranty

Diebold Nixdorf guarantees generally a warranty engagement for 12 months beginning with the date of delivery. This warranty engagement covers all those damages which occur despite a normal use of the product.

Damages because of

- improper or insufficient maintenance,
- improper use of the product or unauthorized modifications of the product,
- inadequate location or surroundings

will not be covered by the warranty.

For further information of the stipulation look at your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement.

Please order spare parts at the Diebold Nixdorf customer service.
About This Manual

This manual informs you about everything you might need to know how to use the Modular Waiter Lock Reader.

Notes in the manual are marked by this symbol.

This symbol is used for warnings.
About the Device

The Modular Waiter Lock is a magnetic reader for the reading of magnetic ID-type iButton®. One common application is as an access control device to POS terminal where each operator is assigned an ID iButton® with a unique 64-bit ID. The strong magnetic receptacle of the device pulls the iButton® into position and quickly establishes electrical contact with the probe. Setting up of the device is easy. Simply connect to any standard USB port of the system and secure the device to the counter-top by either the adhesive fasteners or using screws.
# The parts in the kit

The kit contains the following:

<table>
<thead>
<tr>
<th>Parts</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiter lock reader</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fasteners</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Note: © 1-Wire and iButton are registered trademarks of Maxim Integrated
Software installation

The Modular Waiter Lock reader is a HID class device and therefore does not require the installation of device driver for normal operation. However, for firmware updates it is necessary to install a DFU device driver if the user system OS is not the OEM OS image from Diebold Nixdorf.

User has the following choices for application interface with the device:

- **JavaPOS 1.13 with OPOS UDM adapter (ProBASE/POS)**
  The installer for this middleware can be found in the Retail\Software folder.
  The logical device name is “WN_iButton_USB”

- **VirtualCOM driver**
  The installer for this driver can be found in Retail\Software folder

- **Programming the device directly**. For this option the user can refer to the chapter “Programmer guide” for the supported commands and sample codes.
Programming guide

The Waiter Lock reads 64-bit ID type electronic key only. When enabled, the reader reads the key and detects the presence and transmits the ID to the host. On removal of the Electronic Key the reader will also report to the host with a status packet asynchronously.

Commands

Enable
Enable the detection of electronic keys. A detection of an electronic key will trigger an asynchronous event.

| Command: 11h, 00h, “Option” |
| Response: 00h, 04h, “Status byte 1”, “Status byte 2”, “Status byte 3” |

Option

<table>
<thead>
<tr>
<th>Bit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>enable/disable Electronic Key (1 = enabled / 0 = disabled)</td>
</tr>
<tr>
<td>5-8</td>
<td>reserved</td>
</tr>
</tbody>
</table>

Disable

Disable the detection of electronic keys. The asynchronous event is suppressed.

| Command: 12h, 00h |
| Response: 00h, 04h, “Status byte 1”, “Status byte 2”, “Status byte 3” |
Read Key ID
Return the key identifier which is a unique number.

<table>
<thead>
<tr>
<th>Command:</th>
<th>13h, 00h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response:</td>
<td>00h, XXh, “Status byte 1”, “Status byte 2”, “Status byte 3”, “Key ID”</td>
</tr>
</tbody>
</table>

Key ID

<table>
<thead>
<tr>
<th>Data</th>
<th>Key state</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x2D (&quot;-&quot; ASCII)</td>
<td>Disabled</td>
</tr>
<tr>
<td>0x21 (&quot;!&quot; ASCII)</td>
<td>None key present</td>
</tr>
<tr>
<td>Key ID bytes</td>
<td>Key present</td>
</tr>
</tbody>
</table>

Read Config
Return the current connection state of the key interface (not the key itself).

<table>
<thead>
<tr>
<th>Command:</th>
<th>21h, 00h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response:</td>
<td>00h, 05h, “Status byte 1”, “Status byte 2”, “Status byte 3”, “Electronic key interface presence”</td>
</tr>
</tbody>
</table>

Electronic Key Presence

<table>
<thead>
<tr>
<th>Value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x00</td>
<td>Electronic key interface is not present</td>
</tr>
<tr>
<td>0x01</td>
<td>Electronic key interface is present</td>
</tr>
<tr>
<td>0x02...0xFF</td>
<td>reserved</td>
</tr>
</tbody>
</table>
**Status**

Return the current connection state of the key interface (not the key itself).

| Command: | 20h, 00h |
| Response: | 00h, 04h, “Status byte 1”, “Status byte 2”, “Status byte 3” |

**Asynchronous Events**

If a key is attached successfully or detached, an IN report with the key id is sent to the host. See “Read Key ID” response above for more details.

**Command/Response Formats**

**Command Format**

<table>
<thead>
<tr>
<th>Byte</th>
<th>Name</th>
<th>Number of bytes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Report ID</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Command byte 1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Command byte 2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3 to n</td>
<td>Data / Pad bytes</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Response

<table>
<thead>
<tr>
<th>Byte</th>
<th>Name</th>
<th>Number of bytes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Report ID</td>
<td>1</td>
<td>Report ID</td>
</tr>
<tr>
<td>1</td>
<td>Response Length</td>
<td>1</td>
<td>length of this report w/o pad bytes</td>
</tr>
<tr>
<td>2</td>
<td>Status byte 1</td>
<td>1</td>
<td>see status byte 1 description below</td>
</tr>
<tr>
<td>3</td>
<td>Status byte 2</td>
<td>1</td>
<td>see status byte 2 description below</td>
</tr>
<tr>
<td>4</td>
<td>Status byte 3</td>
<td>1</td>
<td>see status byte 3 description below</td>
</tr>
<tr>
<td>5 to n</td>
<td>Data / Pad bytes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Status definition**

**Status Byte 1**

<table>
<thead>
<tr>
<th>Bit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flash in Progress</td>
</tr>
<tr>
<td>2-5</td>
<td>reserved</td>
</tr>
<tr>
<td>6</td>
<td>Hardware error</td>
</tr>
<tr>
<td>7</td>
<td>reserved</td>
</tr>
<tr>
<td>8</td>
<td>Device not ready to receive commands</td>
</tr>
</tbody>
</table>
## Status Byte 2

<table>
<thead>
<tr>
<th>Bit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7</td>
<td>reserved</td>
</tr>
<tr>
<td>8</td>
<td>Undefined command received (command reject)</td>
</tr>
</tbody>
</table>

## Status Byte 3

<table>
<thead>
<tr>
<th>Bit</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>reserved</td>
</tr>
</tbody>
</table>
Using the Modular Waiter Lock Reader

Installation of the reader

Via fasteners (provided)

1. Remove the sticker backing paper from the back of one of the fasteners.

2. Stick it to the back of the reader (within the space provided) with the mounting surface exposed.

3. Get the second fastener and stick them (hook sides matching) together. The second fastener should have the sticker side up.

4. Pull out the sticker backing paper and stick the reader on the desired location.

Note: ® 1-Wire and iButton are registered trademarks of Maxim Integrated
Via screws

You will need 2 pieces of M3 Plastite screws (not provided) of suitable length to secure the module.

Determine the suitable screw length by calculating the thickness of the mounting surface and the recommended engagement length (minimum of 5.5 mm, maximum of 9mm).

1. Determine the location to fix the reader.
2. Prepare a module footprint on the surface.
3. Drill two through holes of diameter 3.5 mm on the mounting surface. Refer to the details in the illustration below.
4. Tighten the screws from the other side of the surface through the reader.
Connect and use

Connect the reader to your system via the USB cable.

Place the security key over the magnetic probe. The key is held magnetically to the probe and transmits the data by an electrical USB interface.

The readout of the data may be integrated easily in a software application.

Cleaning instructions

In order to guarantee good reading results, the magnetic probe should be cleaned from time to time with a soft cloth to remove dust.
Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>WL-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>5V +/- 5%</td>
</tr>
<tr>
<td>Rated Current</td>
<td>80mA</td>
</tr>
<tr>
<td>Host Interface</td>
<td>USB 2.0, HID</td>
</tr>
<tr>
<td>Cable Length</td>
<td>2.5m</td>
</tr>
<tr>
<td>Magnetic Key interface</td>
<td>1-Wire®</td>
</tr>
<tr>
<td>Magnetic Key supported</td>
<td>99-L-01 (DS1990A), Olitronic GmbH</td>
</tr>
<tr>
<td>Operating Systems supported</td>
<td>Windows 7, 8.1, WNLPOS 3</td>
</tr>
<tr>
<td>Software options</td>
<td>JavaPOS 1.13/OPOS UDM (ProBASE/POS) VirtualCOM</td>
</tr>
<tr>
<td>Firmware</td>
<td>Upgradeable via USB DFU</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 125 g</td>
</tr>
<tr>
<td>External dimensions</td>
<td>Refer to the illustration below</td>
</tr>
</tbody>
</table>

External dimensions (in mm)
Abbreviations

CE  European symbol of Conformity
EC  European Community
EEC European Economic Community
FCC Federal Communications Commission
HID Human Interface Device
ICES Interference-Causing Equipment Standard
IEC International Electrotechnical Commission
ISO International Organization for Standardization
PC  Personal Computer
POS Point-Of-Sales
RF  Radio Frequency
RoHS Restriction of Hazardous Substances
UID Unique Identifier
USB Universal Serial Bus
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