TRADEMARKS

Zipato Mini Keypad RFiD/Z-Wave is a trademark of Zipato, Inc. All other product names mentioned herein may be trademarks or registered trademarks of their respective companies.

NOTICE

Although Zipato has attempted to ensure the accuracy of the content of this manual, it is possible that this document may contain technical inaccuracies, typographical, or other errors. Zipato assumes no responsibility for any errors or omissions in this publication, nor for damages resulting therefrom. This document may not be copied or photostated without Zipato's written permission. This document contains information that may be protected by copyright law.

ELECTROMAGNETIC COMPATIBILITY

When operated according to manufacturer instructions, the product complies with all applicable CE Harmonised Standards from EMC Directives 2004/108/EC and Part 15 of the FCC Rules. The connections conducting HF signals must not be damaged or altered in any way by the user.

TAKE CARE OF YOUR SAFETY

Display extreme caution when using ladders or steps, please use proper tools. Wear gloves or protective clothing where required.

CAUTION

This device is using a radio signal that passes through walls, windows and doors. The range is strongly influenced by local conditions such as large metal objects, house wiring, concrete, furniture, refrigerators, microwaves and similar items. On average, the indoor range is approximately 30 meters.

Do not expose the Mini Keypad RFiD/Z-Wave to direct sunlight.

Do not attempt to repair this product. If the product is damaged or you are in doubt about the proper operation, take the product back to the place of purchase.

Do not clean the product with any liquid.

Z-WAVE COMPATIBILITY

Because this is a Z-Wave device, it means it can co-exist with other Z-Wave devices of other manufacturers. It can co-exist in a Z-Wave network existing with product from other manufacturers.

INTRODUCTION

Zipato Mini RFID Keypad combines RFID and Z-Wave protocol for access control purposes. The user can identify themselves either by using manual code buttons on the numeric keypad, or by using a RFID key fob. The keypad fully supports Zipato automated security systems but also works with other Z-Wave enabled networks. “Home” and “Away” buttons allow the arming and disarming of security system or running any automation scenario.

MINI KEYPAD RFiD/Z-WAVE

QUICK INSTALLATION GUIDE

v1.4

1 | Use a flat screwdriver at the inlets on the sides to gently unlock the back cover.
2 | Use the designated holes on the back cover to screw and mount the Mini Keypad RFiD/Z-Wave.
3 | Place two AA 1,5V batteries into the device.
4 | Mount the Mini Keypad RFiD/Z-Wave onto the back cover; be sure to close it on all sides, turn the back cover as shown in the picture in overview section. Be sure that the tamper is on the right spot on the back cover. Mini Keypad RFiD/Z-Wave (indication mode: Tamper pressed/release).
5 | After 1 seconds startup routine begins (indication mode: Ready for learn mode).
6 | After 3 more seconds (4 seconds in total) mounting is completed. (Indication mode: Mounting successful)
7 | The Mini Keypad RFiD/Z-Wave is now ready to use.

LED INDICATION

The indicator gives various statuses of the device as follows:
1 | Ready for learn mode: Indicator light blinks every second.
2 | Learn in progress (radio): Indicator light blinks 2 times per second.
3 | Learn in progress (RF): Indicator light blinks 3 times per second.
4 | Learn mode success: Indicator light is on for 1 second.
5 | Learn mode failed: Indicator light blinks 8 times fast.
6 | Tamper pressed/release: Indicator light blinks 3 times rapidly.
7 | Mounting successful indicator light is on for 1 second.
8 | Busy sending an RF message: Indicator light is blinking each second, while most of the time on.
9 | RF message sent failed: Indicator light blinks 6 times rapidly.

CONTROL

The Mini Keypad RFiD/Z-Wave operates as an access control device, using the combination of the USER_CODE command class and the ALARM_V2 command class. User Codes are to be stored in the Mini Keypad RFiD/Z-Wave, using the USER_CODE_SET command. When the User Codes are stored in the Mini Keypad RFiD/Z-Wave, the ALARM_REPORT_V2 will have the corresponding USER_ID with the used USER_CODE.

There are two types of Access Control with User Codes:

1 | Manually by using the Keypad Class is to configure the Mini Keypad RFiD/Z-Wave to accept certain RF Tags or codes. This is typically done by some kind of static controller or gateway. After sending a User Code Set, including a unique User Identifier (UID), the user can use this product to activate or disable Z-Wave devices. This other device can be configured using the Association Command Class and is typically the same controller or gateway. When a tag or code is not known to the Mini Keypad RFiD/Z-Wave, it will send an unsolicited report to the devices in its association group with the UID 0x00. The value in this message can be used to configure new tags.

HOPS & RETRIES

The Z-Wave range has a range of up to 30 meters in line of sight. This signal is not limited to the 30 meter range due to routing the Z-Wave message to other nodes in the network. This way the range of the Z-Wave network can be expanded to 150 meters indoors (limit of 4 hops).

CLASS: 0x63 Command Class User Code

This Command Class is used to configure the Mini Keypad RFiD/Z-Wave to accept certain RF Tags or codes. This is typically done by some kind of static controller or gateway. After sending a User Code Set, including a unique User Identifier (UID), the user can use this product to activate or disable Z-Wave devices. This other device can be configured using the Association Command Class and is typically the same controller or gateway. When a tag or code is not known to the Mini Keypad RFiD/Z-Wave, it will send an unsolicited report to the devices in its association group with the UID 0x00. The value in this message can be used to configure new tags.

CLASS: 0x68 Command Class Version

This Command Class is used to obtain information about the Mini Keypad RFiD/Z-Wave. The Z-Wave library version, the Z-Wave protocol version and the application version will be reported.

CLASS: 0x72 Command Class Manufacturer Specific V2

This command class is used to obtain information about the Mini Keypad RFiD/Z-Wave. The Z-Wave library type, the Z-Wave protocol version and the application version will be reported.

NOTE: Code length must be 4 to 10 ASCII digits.

NOT LISTENING ROUTING SLAVE

This Z-Wave product will be used as routing slave. Slave nodes are nodes in a Z-Wave network that receive commands and perform actions based on the command. This device will always be in sleep mode because it works on batteries. In sleep mode the device is not active, the device will wake up according to the wake-up command class.

INCLUDE INITIATOR

The include initiator is the node when Primary and Inclusion Controllers include nodes into the network. When both include initiators have been activated simultaneously the new node will be included to the network (if the node was not included previously).

EXCLUDE INITIATOR

The exclude initiator is used by Primary and Inclusion Controllers to exclude nodes from the network. When the exclude initiator and a slave node are activated simultaneously, it will result in the slave being excluded from the network (and reset to Node ID zero). Even if the slave was not part of the network it will still be reset by this action.

INSTALLATION AND OPERATION

PACKAGE CONTENTS

1PC Mini Keypad RFiD/Z-Wave
1PC RFID tag
2PC AA 1,5V batteries

FEATURES

- Arms or disarms security system
- User identification over numeric keypad or RFID key fobs (2 included)
- Can be used with any Z-Wave network/controller, regardless of the manufacturer
- Very low power consumption
- Low power indication
- Low battery auto report
- Easy installation and relocation

TECHNICAL SPECIFICATION

PROTOCOL
- Z-Wave, wireless, 915MHz, 0x31
- 908MHz, 0x32

POWER
- Minimum 320mW (12mW outdoor)
- 5mW

STORAGE TEMPERATURE
- -5°C - 45°C

STORAGE HUMIDITY
- 10% to 70%

OPERATING TEMPERATURE
- 0°C - 40°C

OPERATING HUMIDITY
- 30% to 80%

WEIGHT
- 45g

DIMENSIONS
- 117mm x 62mm x 6.2mm

PACKAGE WEIGHT
- 150g

PACKAGE DIMENSIONS
- 121mm x 95mm x 38mm

REGULATIONS

WARRANTY
- 1 year

This means, this code was previously SET using the USER_CODE_SET command. Then the Mini Keypad RFiD/Z-Wave will respond with a ALARM_REPORT_V2 with Type 6 and Event 0x06 or 0x04. When the user presses Home, event 0x06 (Keypad Unlock) will be used.

For use with manual code buttons on the numeric keypad, or by using a RFID key fob. The keypad fully supports Zipato automated security systems but also works with other Z-Wave enabled networks. “Home” and “Away” buttons allow the arming and disarming of security system or running any automation scenario.

MODELS AND FREQUENCIES

EUROPEAN UNION - EU version
- wt-rfid.eu / 868.42 MHz

UNITED STATES - US version
- wt-rfid.us / 908.32 MHz
- wt-rfid.is / 916.02 MHz
- wt-rfid.ru / 869.02 MHz

ISRAEL - IS version
- wt-rfid.is / 916.02 MHz

AUSTRALIA - AU version
- wt-rfid.au / 921.62 MHz

INDIA - IN version
- wt-rfid.in / 868.02 MHz

MAKES YOUR HOME SMART
The basic command class only has a supporting role and is mapped to the Switch Binary Command Class.

CLASS 0x25 COMMAND_CLASS_SWITCH_BINARY
The Switch Binary Command Class is used to enable or disable the notification sound. This sound is typically used to notify a user when the alarm system is being activated. See also the "Sound Notification" section.

CLASS 0x80 COMMAND_CLASS_BATTERY
This class is used to report and request battery levels for a given device. When a battery level value is lower than 20%, the Mini Keypad RFID/Z-Wave will send a battery warning (value 255) after every wake up notification. A battery get will report the actual value even if below 20%.

CLASS 0x85 COMMAND_CLASS_ASSOCIATION
The Association Command Class is used to associate the Mini Keypad RFID/Z-Wave to other devices. When a tag or code is read, the Mini Keypad RFID/Z-Wave will send a notification to the Z-Wave devices in its association group. It will also report the state of the tamper alarm to the devices in this association group:
- Number of groupings: 1
- Maximum supported nodes per group: 5

CLASS 0x84 COMMAND_CLASS_WAKE_UP
The Wake Up Command Class is used at battery-operated devices. This class allows the Mini Keypad RFID/Z-Wave to wake up occasionally to notify other devices, that the Mini Keypad RFID/Z-Wave is ready to receive commands. The receiving the commands the Mini Keypad RFID/Z-Wave will go into sleep mode again. The wake up interval can be set using the WAKE_UP_INTERNAL_SET command.

The default value is 0x1200 = 7200 sec = 2 hour
The default mode is OFF = 255 (broadcast)

It is possible to send a wake up notification on user interaction. Besides sending a Wake Up Notification automatically every 2 hours (or any other time that is configured using the Wake Up Interval Set command), the Mini Keypad RFID/Z-Wave also sends a Wake Up Notification when:
- The tamper alarm state changes (Mini Keypad RFID/Z-Wave is mounted or removed from the wall)
- A tag read
- A code is entered using the keypad

When the wake up time is set to 0 a wake up notification is never send periodically, only on user interaction.

CLASS 0x70 COMMAND_CLASS_CONFIGURATION_V1

CONFIGURE PARAMETERS:
1 | Set to default
2 | DESCRIPTION:
Set all configuration values to default values (factory settings).
Read more in Chapter Configuration Reset.
3 | SIZE: 1 byte
PARAM1: 0x00 then set to default
PARAM2,3,4: not used

2 | Feedback time
DESCRIPTION:
To configure the time the beep is automatically turned off in seconds.
DEFAULT: 0xFF
PARAM1: if OFF then set to default
PARAM2,3,4: not used
SIZE: 1 byte

3 | Feedback timeout
DESCRIPTION:
To configure the timeout to wait for a

WAKEUP_NO_MORE_INFORMATION before the error beep is automatically sound.
The error beeps are fixed 8 beeps shortly after each other.
- DEFAULT: 0x55
- PARAM1: 0x00 means disabled
- PARAM2,3,4: not used
- SIZE: 1 byte*
- 4 | Feedback beeps per second
- DEFAULT: 0x01
- PARAM1: if OFF then set to default
- PARAM2,3,4: not used
- SIZE: 1 byte
- 5 | The mode
DESCRIPTION:
To configure the operating mode.
DEFAULT: 0x05
PARAM1: 0x00
- SIZE: 1 byte*
- 6 | DESCRIPTION:
To configure the number of beeps per second.
Every beep is fixed about 10ms.
PARAM1: in range 0-9
PARAM2,3,4: not used
SIZE: 1 byte
- 7 | Description
PARAM1: 0x00 means disabled
PARAM2,3,4: not used
- SIZE: 1 byte
- 8 | The mode
DESCRIPTION:
To configure the operating mode.
DEFAULT: 0x01
PARAM1: 0x00
- SIZE: 1 byte
- 9 | Notification sound and acknowledgement
CONFIGURATION_SET
PARAMETER: 0x01
SIZE: 0x01 (can’t be different from 1)
VALUE: 0x03 (mode 3)
- 10 | Description
The LED of the device will toggle on and off every second to notify you that it is functioning in always awake mode.
The always awake mode can be deactivated by:
- DEFAULT: 0x00
- PARAM1: 0x05
- SIZE: 0x01 (can’t be different from 1)
- VALUE: Any value except 3

A second option to deactivate mode 3 is:
1 | Remove batteries
2 | Wait approximately 10 seconds
3 | Replace batteries

The always awake mode is used to request different values from the device e.g. version and manufacturer specific.
NOTE: in always awake mode the batteries will be drain very fast, we do not recommend to use this mode for a longer period. Always awake mode should only be used in order to configure the device.

The always awake mode can be activated by:
- DEFAULT: 0x00
- PARAMETER: 0x05
- SIZE: 0x01 (can’t be different from 1)
- VALUE: 0x03 (mode 3)
The Mini Keypad RFID/Z-Wave will send a Wake Up Notification while it is operating in always awake mode.

The following diagrams show the user action that is required and the messages which are being sent from/to the Mini Keypad RFID/Z-Wave for several basic operations, including optional functionality as the sound notification and UID acknowledgement.

TYPICAL OPERATION DIAGRAMS

The initial parameter is a tag/code (to start the normal notification sound) or off (to silently acknowledge the code).

CONFIGURE A NEW TAG
(For configuring new codes, you can skip directly to the WAKE_UP_NOTIFICATION).

SOFTWARE LICENSE

This software is licensed under GPL version 2 or later. See the LICENSE file for details.

The Mini Keypad RFID/Z-Wave is capable of playing a notification sound. This feature is typically used to notify a user that an alarm system is being activated. Since the Mini Keypad RFID/Z-Wave is a non-communicative device, the feature can not be activated at all times.

The Mini Keypad RFID/Z-Wave can only disarm the alarm system at certain times. In this case, the user can be notified whether or not its code or tag is accepted.

The following diagrams show the user action that is required and the messages which are being sent from/to the Mini Keypad RFID/Z-Wave for several basic operations, including optional functionality as the sound notification and UID acknowledgement.

TYPICAL OPERATION DIAGRAMS

The initial parameter is a tag/code (to start the normal notification sound) or off (to silently acknowledge the code).

CONFIGURE A NEW TAG
(For configuring new codes, you can skip directly to the WAKE_UP_NOTIFICATION).

SOFTWARE LICENSE

This software is licensed under GPL version 2 or later. See the LICENSE file for details.

The Mini Keypad RFID/Z-Wave is capable of playing a notification sound. This feature is typically used to notify a user that an alarm system is being activated. Since the Mini Keypad RFID/Z-Wave is a non-communicative device, the feature can not be activated at all times.

The Mini Keypad RFID/Z-Wave can only disarm the alarm system at certain times. In this case, the user can be notified whether or not its code or tag is accepted.

The following diagrams show the user action that is required and the messages which are being sent from/to the Mini Keypad RFID/Z-Wave for several basic operations, including optional functionality as the sound notification and UID acknowledgement.

TYPICAL OPERATION DIAGRAMS

The initial parameter is a tag/code (to start the normal notification sound) or off (to silently acknowledge the code).

CONFIGURE A NEW TAG
(For configuring new codes, you can skip directly to the WAKE_UP_NOTIFICATION).

SOFTWARE LICENSE
**TRoubleshooting**

** Frequently asked questions **

Q: Why do the Mini Keypad RFID/Z-Wave read tags?
A: 1. The device is not [correctly] included in a Z-Wave network. Include the device and try it again.
2. Are you using the right tags? The supported protocols are ISO15693, ISO18000-3, Tag-it™.
3. The batteries are so empty that the device cannot startup, try putting new ones in.
4. The tamper switch is not fully or properly pressed. You should hear a clicking sound when the Tamper switch is pressed in completely.

Q: The buttons don’t work, even when the batteries are in.
A: 1. The number is not configured correctly in the Z-Wave network. Include the device and try it again.
2. The batteries could be empty. Put new batteries in and try it again.
3. The Mini Keypad RFID/Z-Wave is not associated and operate correctly and can be mounted again.

Q: What Mini Keypad RFID/Z-Wave read tags?
A: The Mini Keypad RFID/Z-Wave can read tags of the following protocols:
- ISO15693
- ISO18000-3
- Tag-it™

Q: Why does my Mini Keypad RFID/Z-Wave have limits of what it can do, and how do I check the limit?
A: Some configuration parameters have limits of what they can do, and there is a parameter; go to the documentation about configuration to check if the value of the configured parameter is out of limit.

Q: When I mount the Mini Keypad RFID/Z-Wave it performs its standard mounting routine but after 8 seconds the indicator light doesn’t go on for 1 second but blinks 6 times.
A: Blinking 6 times can mean:
- 1 Mini Keypad RFID/Z-Wave is not included.
- 2 Mini Keypad RFID/Z-Wave is not associated.
- 3 Mini Keypad RFID/Z-Wave is not configured in its destination.
- 4 All three options are corrected, the Mini Keypad RFID/Z-Wave is working correctly and can be mounted again.

Q: The buttons don’t work, even when the batteries are in.
A: 1. The tamper switch is not fully or properly pressed. You should hear a clicking sound when the tamper switch is pressed in completely.
2. The batteries could be empty. Put new batteries in and try it again.
3. The batteries are so empty that the device cannot startup, try putting new ones in.
4. The tamper switch is not fully or properly pressed. You should hear a clicking sound when the tamper switch is pressed in completely.

Q: I have configured a value but when I request it, it is not changed?
A: If it is mandatory that the correct size is used while configuring a parameter, go to the documentation about the configuration command class to check if the right size is used during configuration.

Q: I have configured a new value and when I request it the correct value is returned but the behavior is still the same?
A: Some configuration parameters have limits of what they can do, go to the documentation about configuration to check if the value of the configured parameter is out of limit.

Q: Why do the Mini Keypad RFID/Z-Wave have limits of what it can do, and how do I check the limit?
A: Some configuration parameters have limits of what they can do, and there is a parameter; go to the documentation about configuration to check if the value of the configured parameter is out of limit.

Q: When I mount the Mini Keypad RFID/Z-Wave it performs its standard mounting routine but after 8 seconds the indicator light doesn’t go on for 1 second but blinks 6 times.
A: Blinking 6 times can mean:
- 1 Mini Keypad RFID/Z-Wave is not included.
- 2 Mini Keypad RFID/Z-Wave is not associated.
- 3 Mini Keypad RFID/Z-Wave is not configured in its destination.
- 4 All three options are corrected, the Mini Keypad RFID/Z-Wave is working correctly and can be mounted again.

Q: The buttons don’t work, even when the batteries are in.
A: 1. The tamper switch is not fully or properly pressed. You should hear a clicking sound when the Tamper switch is pressed in completely.
2. The batteries could be empty. Put new batteries in and try it again.
3. The batteries are so empty that the device cannot startup, try putting new ones in.
4. The tamper switch is not fully or properly pressed. You should hear a clicking sound when the tamper switch is pressed in completely.

Q: I have configured a value but when I request it, it is not changed?
A: If it is mandatory that the correct size is used while configuring a parameter, go to the documentation about the configuration command class to check if the right size is used during configuration.

Q: I have configured a new value and when I request it the correct value is returned but the behavior is still the same?
A: Some configuration parameters have limits of what they can do, go to the documentation about configuration to check if the value of the configured parameter is out of limit.
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.

NOTE: Changes or modifications not expressly approved by Zipato
for compliance could void the user’s authority to operate the
equipment.

This equipment has been tested and found to comply with
the limits for a Class B digital device, pursuant to Part 15 of the FCC
Rules. These limits are designed to provide reasonable protection
against harmful interference in a residential installation. This
equipment generates, uses and can radiate radio frequency energy
and, if not installed and used in accordance with the instructions, may
cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in
a particular installation. If this equipment does cause harmful
interference to radio or television reception, which can be
determined by turning the equipment off and on, the user is
couraged to try to correct the interference by one or more of the
following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from
  that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

© DISPOSING AND RECYCLING YOUR PRODUCT
When it reaches end of life, dispose of the product according to
your local environmental laws, guidelines and regulations.

BATTERY DISPOSAL
Dispose of batteries according to your local environmental laws,
guidelines and regulations.

This symbol on the product or packaging means that according
to local laws and regulations needs to be disposed of separately
from household waste. Once this product has reached the end
of its life, please take it to a collection point (recycle facilities)
designated by your local authorities, some will accept your
product for free or simply drop it off at your Zipato re-seller store.
By recycling the product and its packaging in this manner you
can help to conserve the environment and protect human health.
At Zipato, we understand and are committed to reducing any impact
our operations and products may have on the environment. To
minimize this impact Zipato designs and builds its products to be
as environmentally friendly as possible, by using recyclable, low
toxic materials in both products and packaging.

© ZIPATO AND THE ENVIRONMENT
At Zipato, we understand and are committed to reducing any impact
our operations and products may have on the environment.
To minimize this impact Zipato designs and builds its products to
be as environmentally friendly as possible, by using recyclable, low
toxic materials in both products and packaging.

© COPYRIGHT
© 2015 Tri plus grupa d.o.o. All Rights Reserved.

No part of this manual may be reproduced or transmitted in any form
without the expressed, written permission of Tri plus grupa d.o.o.