

MINI ENERGY DIMMER

QUICK INSTALLATION GUIDE
v1.0

TRADEMARKS

Zipato and the Zipato logo are registered Trademarks. 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 liability for any error in this publication, and for damages, whether direct, indirect, incidental, and consequential or otherwise, that may result from such error, including, but not limited to loss of data or profits. Zipato provides this publication "as is" without warranty of any kind, either express or implied, including, but not limited to implied warranties of merchantability or fitness for a particular purpose. The published information in the manual is subject to change without notice. Zipato reserves the right to make changes in the product design, layout, and driver revisions without notification to its users. This version of the Installation guide supersedes all previous versions.

ELECTROMAGNETIC COMPATIBILITY

When operated according to manufacturer instructions, the product complies with all applicable CE harmonised standards from EMC Directive 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 follow manufacturer's instructions. Be careful when using hand and power tools and follow the manufacturer's guidelines when using them. Take care that the correct tools are used. Wear goggles or protective clothing where required.

DANGER

RISK OF ELECTROCUTION

All work on the device should only be carried out by trained and skilled electricians. Observe the country-specific regulations.

DANGER

RISK OF FATAL INJURY FROM ELECTRIC CURRENT.

The device has no basic insulation and must therefore be installed in a way that protects against accidental contact.

DANGER

RISK OF FATAL INJURY FROM ELECTRIC CURRENT.

When installing a wall plate, the distance between the cover's fixing brackets or screws and the connections of the flush-mounted MicroModule Switch Double must be at least 4 mm once installed. If the distance is less than 4 mm, a deeper installation box must be used. The fixing brackets or screws of the cover must not press against the housing. Only insulated tools may be used for operation on the device, e.g. an insulated phase tester.

CAUTION

The connected devices and the flush-mounted receiver can become damaged if devices are operated that do not correspond to the technical specifications (see technical data).

INTRODUCTION

Zipato Mini Energy Dimmer provides variable indoor lightning, creating pleasant ambience in your home. This Z-Wave enabled module can be set in most existing in-wall switches where it can be used to control connected appliances, with Zipato home automation controllers, Z-Wave remotes or module's built-in push button. It supports basic command class, which can report immediate voltage, current and watt values. It also can act as a repeater in the Z-Wave network. This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers.

OVERVIEW



PACKAGE CONTENT

1PC	Mini Energy Dimmer	1PC	Quick Installation Guide
-----	--------------------	-----	--------------------------

FEATURES

- Slim, compact Z-Wave incandescent dimmer provides variable indoor lightning, switches your lightning equipment
- Designed to dim most fluorescent, halogen, sodium and leading edge lights
- Fits into most existing in-wall switches
- Resistive load 1x500W @ 220VAC, 1x300W at 120VAC
- Zero-crossing switch
- Can act as a repeater in any Z-Wave network
- Very low power consumption
- Easy installation

SPECIFICATION

TECHNICAL SPECIFICATION

PROTOCOL	Z-Wave 400
LOAD TYPE	Incandescent
POWER SUPPLY (EU, AU, IN, RU)	85V - 260VAC, 50Hz
POWER SUPPLY (US)	85 - 260VAC, 60Hz
MAX OUTPUT	2A
OPERATION TEMPERATURE	0°C ~ 60°C
RANGE	Minimum 30m indoor / 70m outdoor
WEIGHT	54g
DIMENSIONS	50mm x 50mm x 20mm
PACKAGE WEIGHT	80g
PACKAGE DIMENSIONS	90mm x 80mm x 37mm
REGULATIONS	EMC 2004/108/EC, R&TTE 1995/5/EC, LVD 2006/95/EC, FCC Part 15
WARRANTY	1 year

MODELS AND FREQUENCIES

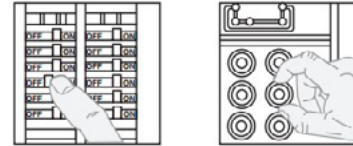
EUROPE mh-p220.eu / 868.40 MHz, 869.85 MHz

INSTALLATION AND OPERATION

PREPARING

Caution:

Cut off power supply at circuit breaker or fuse before installation to avoid fire, shock or death!

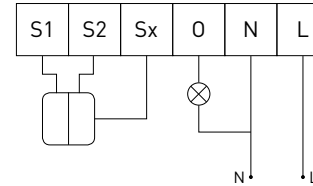


- 1) Remove the wall switch cover plate.
- 2) Disconnect both wires from the wall switch.

WIRING

- [standard strip length: 6-7mm]

- 1) Connect Hot Line to "L"
- 2) Connect Neutral Line to "N"
- 3) Connect "O" with load and then with "N"
- 4) Connect "S1", "S2" & "Sx" with external switch panel (optional)



MOUNTING IN-WALL BOX

Mount wall switch and cover plate back to the in-wall box.

RESTORING POWER

Restore power at circuit breaker or fuse. Installation is complete.

OPERATION

INCLUDING THE MINI ENERGY DIMMER INTO YOUR NETWORK

- 1 Set the controller into INCLUSION mode. Follow the instructions provided by the controller manufacturer.
- 2 Press the momentary button on the Mini Energy Dimmer, or connected external button S1 3 times in quick succession

Note: If the inclusion is successful, the INDICATION LED will be solid on or off depending on switch's state. If not, INDICATION LED will blink slowly.

EXCLUDING THE MINI ENERGY DIMMER INTO YOUR NETWORK

- 1 Set the controller into EXCLUSION mode. Follow the instructions provided by the controller manufacturer.
- 2 Press the momentary button on the Mini Energy Dimmer, or the connected S1 button 3 times in quick succession.

Note: If the exclusion is successful, the INDICATION LED will blink slowly. If not, INDICATION LED will be solid on or off depending on switch's state.

DIMMING

This device can be controlled by:

- Pressing external button.
- Sending commands through controller or gateway. [the command which support this function are Basic_Command_Class, Multi_Level_Switch_Command_Class]

ASSOCIATION GROUP

The device supports 4 association groups [AG]:

1st [AG]: reports device's dimming state. It supports only one Node ID. A controller / gateway SHOULD be associated to this AG.

2nd [AG]: to control the associated devices synchronously. When S1's state changes, it will send "Basic Set Command" to these devices. It supports upto 5 Node ID's.

3rd [AG]: to control the associated devices synchronously. When S1's state changes, it will send "Multi-level Set Command" to these devices. It supports upto 5 Node ID's.

4th [AG]: to control the associated devices synchronously. When S2's state changes, it will send "Basic Set Command" to these devices. It supports upto 5 Node ID's.

Note: Please refer to table "Scene Settings" for the detail configuration for association groups.

SCENE FUNCTION

As a Scene device, it supports "Scene Activation CC" and "Scene Actuator Conf CC", which make the device can be added into any scene, and supports 255 Scene ID. Meanwhile, it can work as a scene controller to activate Scenes. By configuring the parameters of S2, 3 different scenarios can be realized. The "Scene Activation CC" can be sent to AG1 (gateway) by "one click", "double click" or "hold" external button S2. Pls refer to the following table items 19, 20&21 for more details in configuration.

PARAMETER SETTINGS

Add	Function	Byte	Options	Default	Remark
1	Dimmer state saved or not when power is down	1	0x00 not saved, Dimmer will be off when powered again 0x01 saved, Dimmer will keep the same state when powered again	0x01	
2	External type switch	1	0x00 Button (Momentary buttons) 0x01 Toggle (2-state Switches) 0x02 S1 dim up, S2 dim down	0x00	
3	2-state switches	1	0x00 for the toggle Dimmer without specified on/off position 0x01 for the toggle Dimmer with specified on/off position	0x01	
4	ALL ON / ALL OFF	1	0x00 forbid ALL ON, forbid ALL OFF 0x01 forbid ALL ON, allow ALL OFF 0x02 allow ALL ON, forbid ALL OFF 0xFF allow ALL ON, allow ALL OFF	0xFF	3
5	Minimum brightness level	1	0-98 percentage brightness level	0x01	The max level should always higher than min level
6	Maximum brightness level	1	2-99 percentage brightness level	0x63	
7	Single dimming step time (Manual)	2	Max 2.55s, in 10ms steps	0x03 (30ms)	Manual control realized by holding external button
8	Single dimming step size (Manual)	1	1-99 percentage value (modification isn't recommended)	0x01	

9	Single dimming step time (Auto)	2	Max 2.55s, in 10ms steps	0x03 [30ms]	Auto control realized by: - one click; - double click of external button; - send Z-Wave CC
10	Single dimming step size (Auto)	1	1-99 percentage value (modification isn't recommended)	0x01	
11	Timer function (Auto-off)	2	0x00 function disabled 0x0001-0x00FF 1s-255s	0x00	9
12	Reversed	0	0	0	0
13	One click of S1	1	0x00 switch between Off and last saved brightness level 1-99 percentage value switch between Off and the set value	99 [0x63]	
14	Double click of S1	1	0x00 function disabled 0x01 reach max brightness level	0x01	
15	Operation report from Switch1 to Association Group 2 & 3	1	bit 6:0 0x00 report all operation to AG2&3 0x01 only report Basic Set ON 0x02 only report Basic Set OFF bit7 0 report Change Dimming Level 1 not report Change Dimming Level	0x00	Dimming level report only valid when holding external button
16	Operation report from Switch1 to Association Group 2	1	0x00 When sent Basic Set On, carried Value is 0x0F 0x01 When sent Basic Set On, carried Value is Current Dimmer Value	0x01	
17	Switch 2 function	1	0x00 Enable S2 switch 0x01 enable Scene Activation, and send Basic Set ON/OFF to AG4 0x02 Scene Activation only 0x03 send Basic ON/OFF only 0xFF disable S2 Function	0x01	
18	Operation report from Switch2 to Association Group 4	1	0x00 send Basic ON or Basic OFF to AG4 when turn on/off S2 0x01 only send Basic ON 0x02 only send Basic OFF 0xFF no report to AG 4	0x00	
19	Scene ID sent to AG1 when one click of S2	1	0 Scene Activation disabled 1-255 send Activation CC to AG1 with specified Scene ID	0x00	
20	Scene ID sent to AG1 when double click of S2	1	0 Scene Activation disabled 1-255 send Activation CC to AG1 with specified Scene ID	0x00	For momentary button only
21	Scene ID sent to AG1 when hold S2	1	0 Scene Activation disabled 1-255 send Activation CC to AG1 with specified Scene ID	0x00	For momentary button only
255	Factory setting	21	0x55 restore factory setting		write only

⌕ RESTORING FACTORY SETTINGS

The default configuration can be restored by:

- Sending commands through controller or gateway (the command classes which support this function is Configuration Command Class). The parameter are as follows:

PARAMETER NUMBER	0xFF
SIZE	1 byte
DEFAULT VALUE	N/A
CONFIGURATION VALUE	0x55

Set 0xFF as 0x55 will restore Factory Settings.

- Pressing and Holding the momentary button for 15s.

Note: If the Factory Settings is restored successfully, INDICATION LED will blink quickly and then become slower.

TROUBLESHOOTING

Having trouble installing your new product?

Zipato's website contains the latest user documentation and software updates for Zipato products and services:
www.zipato.com

You can also find answers in the Zipato Community at:
community.zipato.com

Zipato Support: support@zipato.com

LIMITED PRODUCT WARRANTY

⌕ GENERAL TERMS

Nothing in this Limited Product Warranty affects your statutory rights as a consumer.

The Limited Product Warranty set forth below is given by Tri plus grupa d.o.o. (Europe) [herein referred to as "ZIPATO"]. This Limited Product Warranty is only effective upon presentation of the proof of purchase. Upon further request by ZIPATO, this warranty card has to be presented, too.

EXCEPT AS EXPRESSLY SET FORTH IN THIS LIMITED WARRANTY, ZIPATO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ZIPATO EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED IN THIS LIMITED WARRANTY, ANY IMPLIED WARRANTIES THAT MAY BE IMPOSED BY LAW ARE LIMITED IN DURATION TO THE LIMITED WARRANTY PERIOD. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES AGAINST ZIPATO. THEY DO NOT, HOWEVER, AFFECT OR RESTRICT THE RIGHTS YOU HAVE AGAINST THE BUSINESS YOU BOUGHT A ZIPATO PRODUCT FROM. IN NO EVENT WILL ZIPATO BE LIABLE FOR LOSS OF DATA OR FOR INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. HOWEVER, NOTHING IN THIS AGREEMENT LIMITS ZIPATO'S LIABILITY TO YOU (I) IN THE EVENT OF DEATH OR PERSONAL INJURY TO THE EXTENT RESULTING FROM ZIPATO'S NEGLIGENCE, OR (II) TO THE EXTENT RESULTING FROM ANY FRAUDULENT MISREPRESENTATION ON THE PART OF ZIPATO, OR (III) TO THE EXTENT ARISING UNDER PART 1 OF THE CONSUMER PROTECTION ACT 1987 OF THE UNITED KINGDOM. SOME STATES OR COUNTRIES DO NOT ALLOW: (1) A DISCLAIMER OF IMPLIED WARRANTIES; (2) A LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION; OR (3) LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS. IN SUCH STATES OR COUNTRIES, SOME EXCLUSIONS OR LIMITATIONS OF THIS LIMITED WARRANTY MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS THAT MAY VARY FROM STATE TO STATE OR FROM COUNTRY TO COUNTRY. YOU ARE ADVISED TO CONSULT APPLICABLE STATE OR COUNTRY LAWS FOR A FULL DETERMINATION OF YOUR RIGHTS. This Limited Product Warranty applies to ZIPATO branded hardware

products (collectively referred to as "ZIPATO Hardware Products") sold by ZIPATO (Europe), its European subsidiaries, affiliates, authorized resellers, or country distributors (collectively referred to as "ZIPATO Resellers") with this Limited Product Warranty.

The term "ZIPATO Hardware Product" is limited to the hardware components and all its internal components including firmware. The term "ZIPATO Hardware Product" DOES NOT include any software applications or programs.

⌕ GEOGRAPHICAL SCOPE OF THE LIMITED PRODUCT WARRANTY

This Limited Product Warranty is applicable to Hardware Products sold by Zipato Resellers in all countries listed at the beginning of this document under the heading "Countries in which this ZIPATO Limited Product Warranty applies". The Limited Product Warranty will be honored in any country where ZIPATO or its authorized service providers offer warranty service subject to the terms and conditions set forth in this Limited Product Warranty. However, warranty service availability and response times may vary from country to country and may also be subject to registration requirements.

⌕ LIMITATION OF PRODUCT WARRANTY

ZIPATO warrants that the products described below under normal use are free from material defects in materials and workmanship during the Limited Product Warranty Period set forth below ("Limited Product Warranty Period"), if the product is used and serviced in accordance with the user manual and other documentation provided to the purchaser at the time of purchase (or as amended from time to time).

ZIPATO does not warrant that the products will operate uninterrupted or error-free or that all deficiencies, errors, defects or non-conformities will be corrected.

This warranty shall not apply to problems resulting from: (a) unauthorized alterations or attachments; (b) negligence, abuse or misuse, including failure to operate the product in accordance with specifications or interface requirements; (c) improper handling; (d) failure of goods or services not obtained from ZIPATO or not subject to a then-effective ZIPATO warranty or maintenance agreement; (e) improper use or storage; or (f) fire, water, acts of God or other catastrophic events. This warranty shall also not apply to any particular product if any ZIPATO serial number has been removed or defaced in any way.

ZIPATO IS NOT RESPONSIBLE FOR DAMAGE THAT OCCURS AS A RESULT OF YOUR FAILURE TO FOLLOW THE INSTRUCTIONS FOR THE ZIPATO HARDWARE PRODUCT.

⌕ LIMITED PRODUCT WARRANTY PERIOD

The Limited Product Warranty Period starts on the date of purchase from ZIPATO. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of the purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. You are entitled to warranty service according to the terms and conditions of this document if a repair to your ZIPATO branded hardware is required within the Limited Product Warranty Period.

[Other than in respect of products for domestic use [in particular those listed in the first and last boxes in the table below], this Limited Product Warranty extends only to the original end user purchaser of this ZIPATO Hardware Product and is not transferable to anyone who obtains ownership of the ZIPATO Hardware Product from the original end-user purchaser.

⌕ PRODUCT WARRANTY PERIOD TABLE

PRODUCT TYPE	Mini Energy Dimmer
PRODUCT WARRANTY PERIOD	One (1) year

IMPORTANT

The content of "Product Type" listed above is subject to change; please refer to the **www.zipato.com** for latest update.

⌕ PERFORMANCE OF THE LIMITED PRODUCT WARRANTY

If a product defect occurs, ZIPATO's sole obligation shall be to repair or replace any defective Zipato Hardware Product free of charge provided it is returned to an Authorized ZIPATO Service Centre during the Limited Warranty Period. Such repair or replacement will be rendered by ZIPATO at an Authorized ZIPATO Service Centre. All component parts or hardware products that are replaced under this Limited Product Warranty become the property of ZIPATO. The replacement part or product takes on the remaining Limited Warranty Period of the replaced part or product. The replacement product need not be new or of an identical make, model or part; ZIPATO may in its discretion replace the defective product (or any part thereof) with any reconditioned equivalent (or superior) product in all material respects to the defective product.

WARRANTOR

Tri plus grupa d.o.o.
Banjaveciva 11
10 000 Zagreb
CROATIA

TEL +385 (0)1 4004 404
FAX +385 (0)1 4004 405

DECLARATION OF CONFORMITY



The manufacturer Tri plus grupa d.o.o declares under our sole responsibility that the product:

Marketing model: Mini Energy Dimmer
Regulatory model: mh-p220
Trade/Brand name: Zipato

is in conformity with the Low Voltage Directive 2006/95/EC, EMC Directive 2004/108/ECand R&TTE Directive 1995/5/EC and carries the CE marking accordingly.

The following harmonized standards were applied:

R&TTE (1995/5/EC)
EN 300 220-1: V2.4.1
EN 300 220-2: V2.4.1

EMC (2004/108/EC)
EN 301 489-1: V1.9.2
EN 301 489-3: V1.6.1

LVD (2006/95/EC)
EN 60669-2-1:2004 + A1:2009 + A12:2010 used in conjunction with
EN 60669-1:1999 + A1:2002 + A2:2008

Changes or modifications not expressly approved by Tri plus grupa d.o.o. for compliance could void the user's authority to operate the equipment.



THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

Operation is subject to the following two conditions:
1 | this device may not cause harmful interference, and
2 | this device must accept any interference received, including interference 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 encouraged 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.



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 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.

➔ 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.