

CG401DM

ZIGBEE 3000W DIMMING MODULE

USER MANUAL



CG401DM
3000W Dimming Module

VERSION 1.1

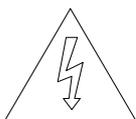
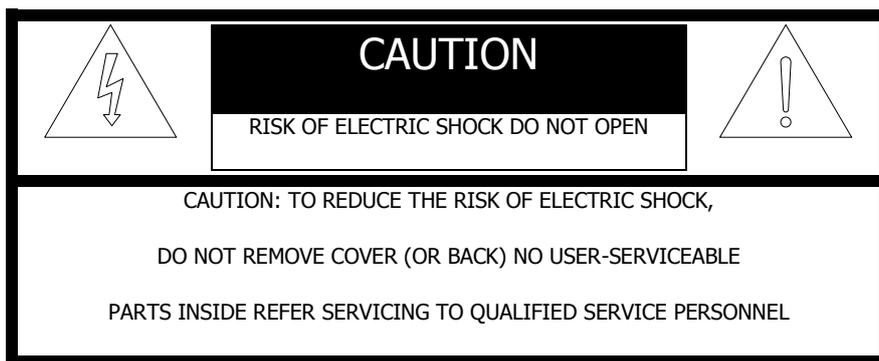
17 JANUARY, 2014



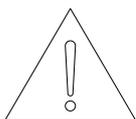
Disclaimers and Copyright

Nothing contained in this publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use in connection with any method, apparatus, or product covered by letters patent, or as insuring anyone against liability for infringement of letters patent.

Efforts have been made to ensure the accuracy and reliability of the data contained in this publication; however, Citygrow Energy Systems Limited. makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or from the use of any product or methodology described herein; for any violation of any federal, state, or municipal regulation with which this publication may conflict; or for the infringement of any patent from the use of this publication. Nothing contained in this publication should be viewed as an endorsement by Citygrow Energy Systems Limited. of any particular manufacturer's products.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT SAFETY INSTRUCTIONS

READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards.

There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. If the provided plug does not fit into your outlet, consult an electrician for replacement of the outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Table of content

1. Introduction	1
2. Understanding of the product	2
3. Dimensions	3
4. Wiring	4
5. Installation.....	5
6. Application notes.....	8
7. Adding the product to your Home Wireless ZigBee Network	9
8. Clear Memory.....	10
9. Specification.....	12

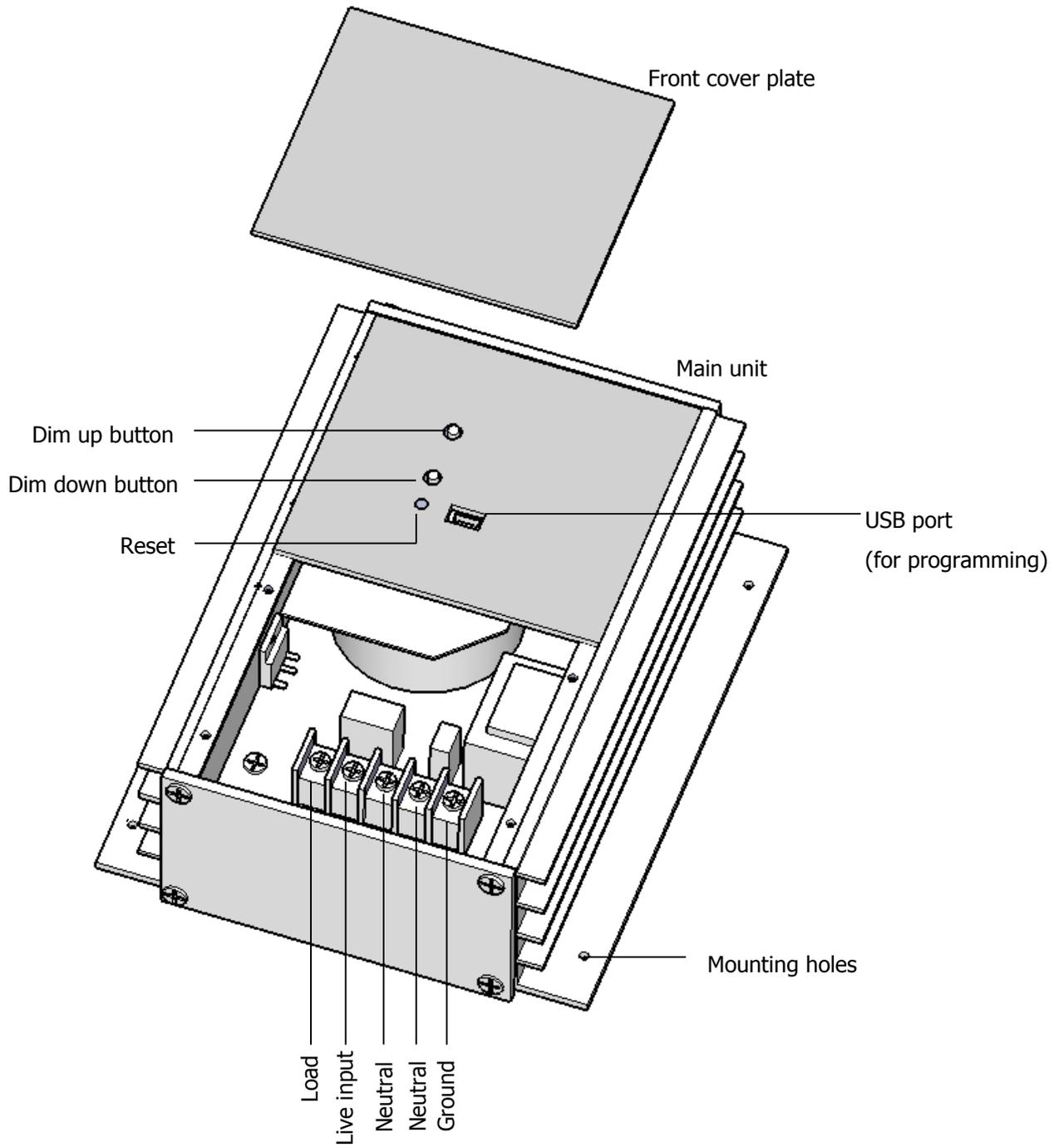
1. Introduction

Thank you for buying Citygrow's product. CG401DM is both powerful and easy to use and install. This product is specially designed for high power dimming control. Since the product is wireless device, the installation for it is extremely simple.

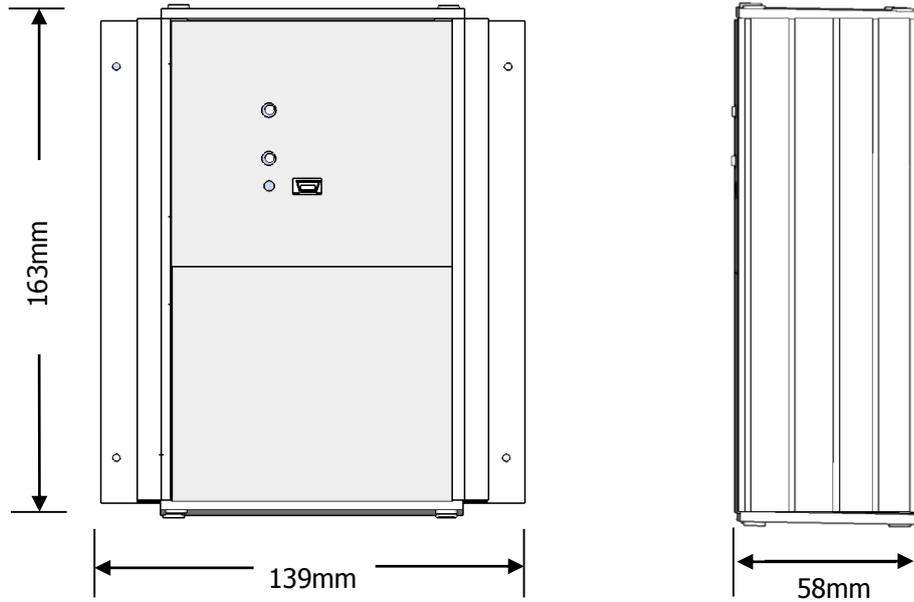
Description

1. ZigBee wireless remote control.
2. Based on IEEE 802.15.4.
3. 2.4GHz radio frequency.
4. LED indicator for status indication.
5. Local Dim UP/Down Test button.
6. Local Reset button.
7. Leading edge 3000W Dimmer.
8. Aluminum design, good for heat dissipation.
9. Easily accessible high power connection terminal.
10. Direct AC 220V input.
11. Support remote controlled by Citygrow's ZigBee devices/ panels.
12. iPhone/ iPad/ Android mobile control is supported if CG100BS Base Station is purchased.

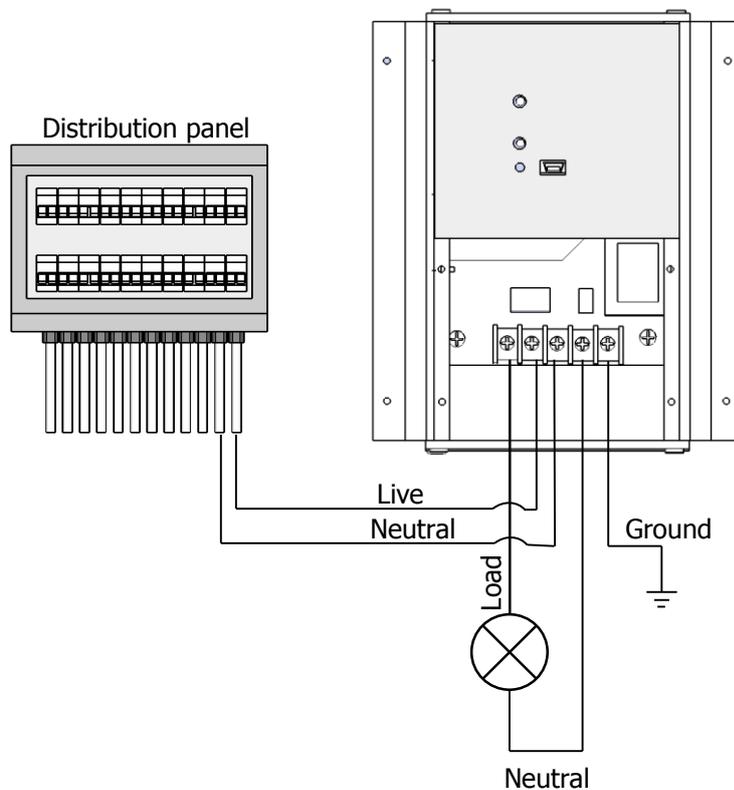
2. Understanding of the product



3. Dimensions



4. Wiring



Before getting started



WARNING! It must be installed by a qualified electrician in accordance with all applicable regulations and building codes. Improper wiring can result in personal injury or damage to control units or other equipment. Always turn off circuit breaker or remove main fuse from power line before doing any work. To avoid overheating and possible damage to equipment.



WARNING! Do not operate when any lamps removed or burned out; replace any burned out lamps immediately; use only transformers that incorporate thermal protection or fused primary windings. ! This product is designed for residential and commercial use, for indoor use only.



WARNING! Install in accordance with all national and local electrical codes.



IMPORTANT! Citygrow® is not liable for any damage incurred with the misuse of this product.

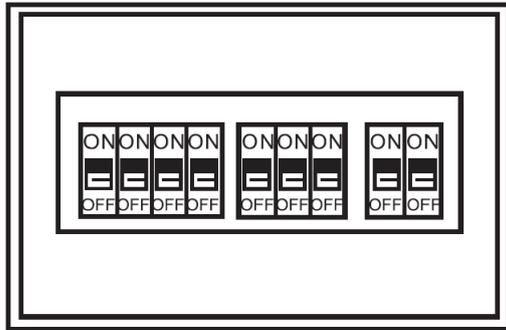


IMPORTANT! Pre-setup can only be done by a professional worker or manufacturer agent.

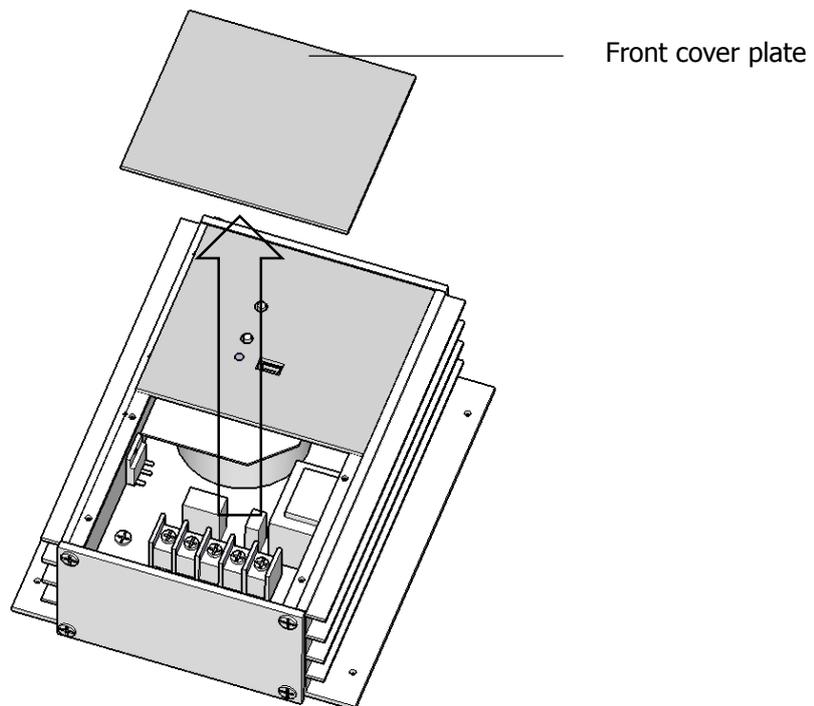
5. Installation

In order to install the product correctly, please follow the below steps:

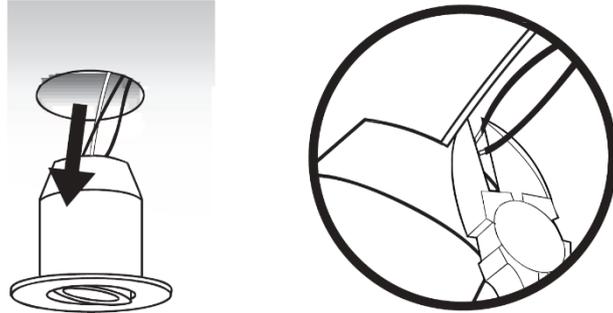
STEP 1: IMPORTANT! Turn off main power at the main switch board.



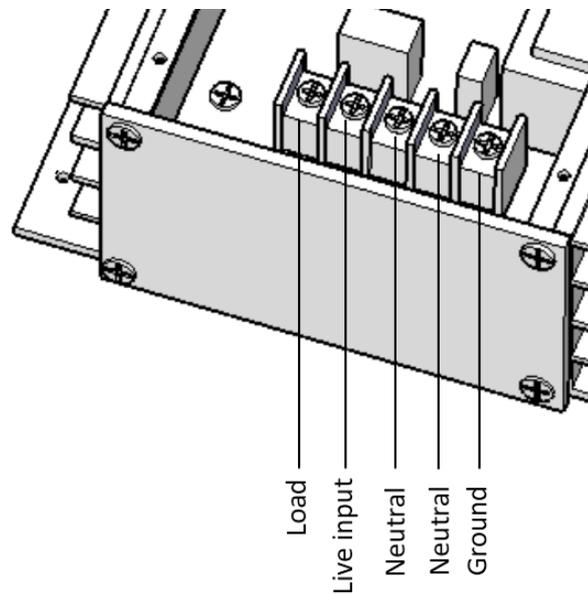
STEP 2: With a torx 1mm screw driver, remove the front cover plate by loosen the screw on the top of the module and remove the front cover plate as shown on figure below.



STEP 3: Remove the light fixture from the ceiling and cut the original wiring going to the light, approximately 10 to 15 cm from the light fixture. (Load and Neutral).



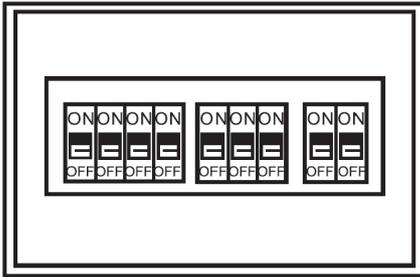
Step 4: Connect the main power cable to the Live and Neutral terminals and the load cable to the Load terminal and then connect the Ground terminal to earth.



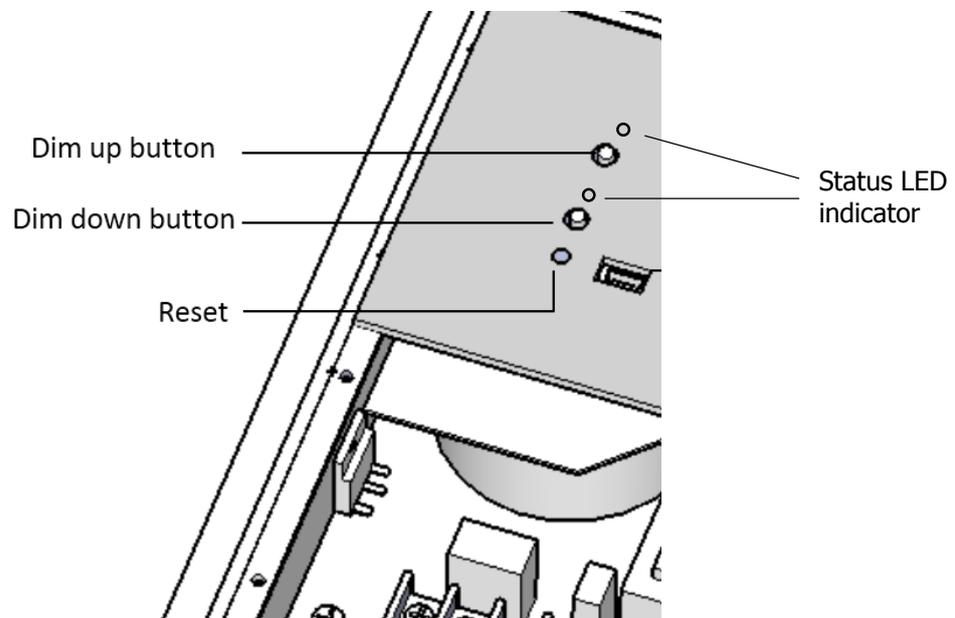
Step 5: Fasten the screws of all wire connectors and ensure that the in and out wires are properly secured.

Make sure to respect the marking on the module and do not switch around the Loads and Neutrals. Then, place the front cover plate back to the top of the main unit and fix it with the screws.

Step 6: Make sure once more that all connections are secure and turn the main power on at the main switch board.



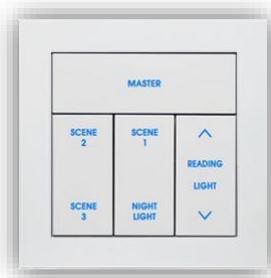
The module is now powered up and the orange LED will blink. Test the main module by pushing the Dim up and Dim down button.



6. Application notes

CG401DM is designed for high power dimming and to be used in combination with other Citygrow's product. For example....

- Using CG100H4-MD as remote control panel mounted on the wall, the remote control signal will be wirelessly sent to CG401DM to drive the load on/ off / dim. CG401DM will be directly connected to the lamp. The CG401DM can be located inside the false ceiling of your house or located nearby the main switch board.



CG100H4-MD
4 Button Mood Control Panel



CG401DM
3000W Dimming Module

- Using iPhone to control the lamp. Since iPhone is a WiFi device that you will need to add a CG102BS ZigBee Base station to convert the WiFi signal to ZigBee signal and so CG401DM can receive the commands from iPhone. The iPhone should be pre-installed with Citygrow's HomeNET App.



iPhone



HomeNET
App



CG102
Base
Station



CG400SW
One Gang
Switch
module

7. Adding the product to your Home Wireless

ZigBee Network

<p>The diagram illustrates the connection process in two steps. Step 1 shows a cable being plugged into the USB program port of a device. Step 2 shows the cable being plugged into the USB port of a laptop.</p>	<p>STEP 1</p> <p>Plug the CG101UTU cable into the USB program port of the product, and then plug the other end of the CG101UTU cable into the mini USB end of the CG101UTC cable.</p> <p>STEP 2</p> <p>Plug the CG101UTC cable into the USB port of a PC that is installed with Citygrow's HomeNET Planner Software.</p> <p>STEP 3</p> <p>Refer to the user manual of "HomeNET Planner" Software to program and set the address of the product.</p>
---	--

8. Clear Memory

Clearing the memory inside of the product will result in:

1. The product will no longer reply to any Panels that it had previously bound to.
2. The product will no longer reply to any Remotes that it had previously bound to.

In order to perform the Clear Memory function, please follow the below steps:

	<p>STEP 1</p> <ul style="list-style-type: none"> - Press and HOLD the Dim Up or Dim Down Button.
	<p>STEP 2</p> <ul style="list-style-type: none"> - CONTINUE holding onto the Dim Up or Dim Down Button. - Press and release the Reset Button once.
	<p>STEP 3</p> <ul style="list-style-type: none"> - Wait until the LED Indicator begins BLINKING. - Release the Dim Up or Dim Down Button.

	<p>STEP 4</p> <ul style="list-style-type: none">- Press and release the Dim Up or Dim Down Button again to stop blinking.
	<p>STEP 5</p> <ul style="list-style-type: none">- Press and release the Reset Button.- The memory inside of the CG401DM has now been cleared.

9. Specification

Description	ZigBee 3000W Dimming Module (Leading Edge Dimming)
Function	<ol style="list-style-type: none"> 1. Dimming of light. 2. Support wireless remote control by Cityrow's ZigBee control panels/ devices
Supported load types	<ol style="list-style-type: none"> 1. Incandescent, Halogen, Magnetic (Iron core, Inductive) Low Voltage (MLV) Transformers, 2. Leading Edge Dimmable Fluorescents, Compact Fluorescents and LEDs, see remarks**.
Supply voltage	AC 220 to 240V, 50Hz
Control communications	ZigBee, IEEE 802.15.4
Radio frequency	2.4 GHz, 15 channel
Radio reception range	100M (line of sight)
Operational temperature	0 deg C to 40 deg C
Humidity	5% to 95% non-condensing
Storage	-20 deg C to 70 deg C
Dimension L X W x D (mm)	163x139x58

****Remarks:**

1. The maximum load requirements for fluorescent, CFL and LED loads can vary greatly depending upon the specific fixture and /or bulb being used.

When dimming transformer is connected to CG401DM, make sure "dimnable" and "leading edge" type is used. Furthermore, the dimming performance varies greatly from manufacturer to manufacturer of the bulb and the dimming transformer. It is recommended to test the matching performance before mass deployment.

Description	ZigBee 3000W Dimming Module (Leading Edge Dimming)
Resistive load 1. Incandescent 2. Halogen 3. Electronic low voltage – ELV transformer	3000W
Inductive load 1. Magnetic low voltage – MLV transformer. 2. Iron core / Inductive transformer	3000VA
Compact fluorescent - CFL	2000W Dimmable CFL Max. 100 pcs CFL**
LED – GU10	300W
LED – MR16, MR11 With electronic low voltage LED driver	600W
Minimum Load	10W