



## Bus Power and Repeater

**MA221RA2**

ARTILECT GREEN ARTILECT GREEN ARTILECT GREEN ARTILECT GREEN ARTILECT GREEN ARTILECT GREEN

### Features

- DALI bus power with physical repeater
- AC 100 ... 240V, 50/60Hz input
- One DALI bus power channel, DALI-B, 220mA
- One no powered DALI channel, DALI-A
- Cascadable with signal delay time less than 30uS
- Common ground DALI bus power design
- Global safety compliant, suitable for home and office.



Artilect Green Co., Ltd.

Tel: +886-2-2597-6188

6F., No. 34-1, Jiuquan St. Datong Dist., Taipei City 10367, Taiwan

<http://www.artilectgreen.com>

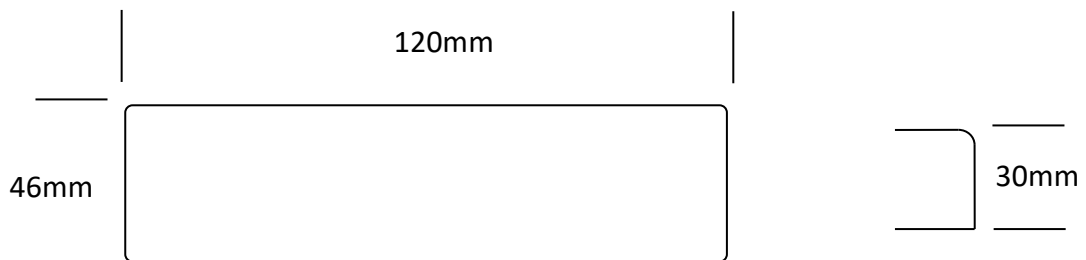
Email: [info@artilectgreen.com](mailto:info@artilectgreen.com)

## 2. Specification

### Technical Data

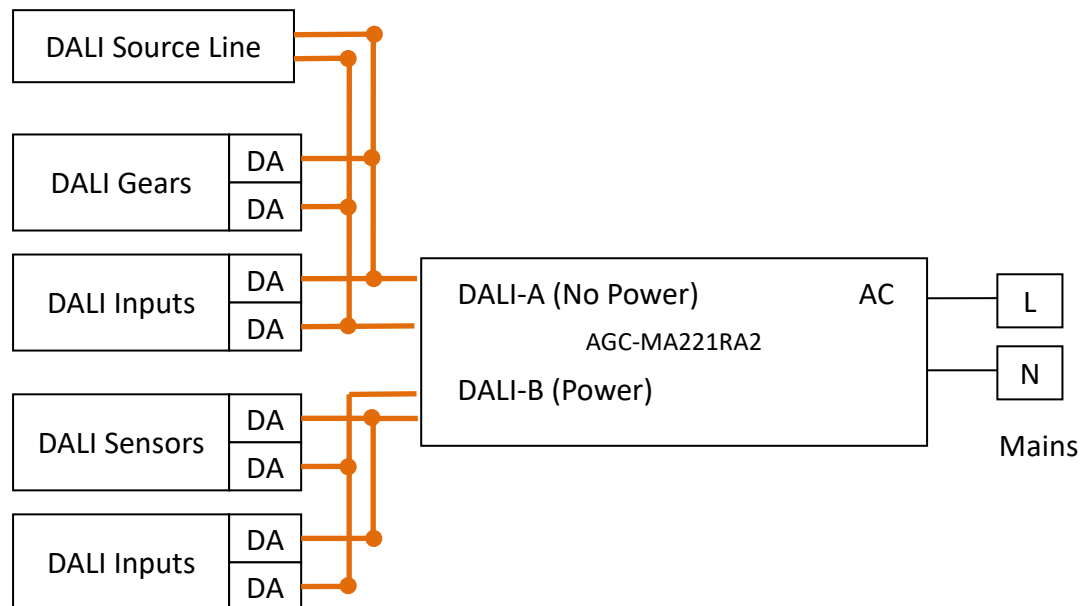
Model		AGC-MA221RA2
Input	Voltage/Hz	100...240V AC, 50...60Hz
	Standby W	< 0.5W
DALI-A No Power	Input Voltage	Max 22.5V
	Current Draw	1.6mA consumption
DALI-B DALI Power	Voltage	16V typical, Common ground design
	Current Source	Guarantee: 220mA, Max: 250mA
Protection	Surge capability	L/N-Ground 2kV, L-N 1kV
	Isolation	Main input/DALI SELV, DALI No Source/ DALI power FELV
Environment	Temperature	Ta: -30...+30°C , Tc: 70°C
	Storage	-40...+80°C , 10...95% Non-condensing
Others	Dimension	120*46*30mm
	Weight	98g
	DALI-2	Only DALI bus power supply is DALI-2 certified. Currently, there is no official certification for repeating function.

### Dimension



### 3. Installation

#### Wiring and circuit diagram



- DALI-A is a no-DALI-bus-power input, connect to a DALI master or a DALI bus power supply.
- DALI-B has a DALI bus power supply, it cannot be connected to any additional DALI bus power supply.
- For better EMC and touch sense, keep wires out of high inductive area to avoid high radiation interference.
- Isolation between DALI-A and DALI-B is cataloged FELV, and the isolation between AC mains and DALI-B is SELV.

#### Usage and install

This device has a physical layer repeating function; connect a sourced DALI to DALI-A and extended devices to DALI-B. This device repeats signal on both paths. This can also be used as a DALI bus power supply by disconnecting all cables on DALI-A.

This device may produce 2~5 watts of heats, and it require good ventilation. Please,

do not install this device in an electrical panel, or closed areas. Bad ventilation may cause the device to be over heated, and shutdown its bus output.

## 4. Functions

### DALI Bus Protection

This device has designed with short and overheat protection. If it detects a short circuit on its DALI output channel or overheated, it will turn off its DALI bus output. It will try to recover every 15 seconds and only when its temperature is lower than its protection point.

### DALI Bus Repeater

The DALI bus repeater function is an Arilect designed function, and it is designed with physical repeats on both sides (DALI-A and DALI-B). Its designed signal delay time is under 30uS, and its signal distortion is less than 2uS. Ideally, it can be cascaded up to 10 units.

The repeater will repeat messages on both directions. However, if a collision is detected while repeating to another direction, the device will cause collision to invalidate messages on both sides.

There are cases that collision cannot be detected by the repeater that when DALI devices on both sides send messages in almost the same time and almost identical waveforms, the repeater's internal repeating delay time will distort the messages on repeating side. The receiving side of repeaters may have valid message form, but the repeating side may have an invalid waveform.

## 5. Others

### Warning / Caution !!

- Risk of electrical shock and energy hazard. All failure should be examined by a qualified technician. Please do not remove the case of the power supply by yourself!
- The openings should be protected from foreign objects or dripping liquids.
- Please do not install this device in places with high ambient temperature or

close to fire source. Please refer to the specifications about the maximum ambient temperature limitations.

- Total working current must not exceed the DALI bus supply's limit.
- Any damage is advised to replace with a new unit. Fixing or repairing its case or components is not recommended.
- **Do not install this device in an electrical panel, small-closed area, or high temperature environment. They will trigger this device's over-heat protection and disable its DALI bus power.**