



Bus Power and Repeater (Extreme)

MA221RA3

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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
- Dedicated for panel usages with cooling fan inside.
- Common ground DALI bus power design
- Global safety compliant, suitable for home and office.



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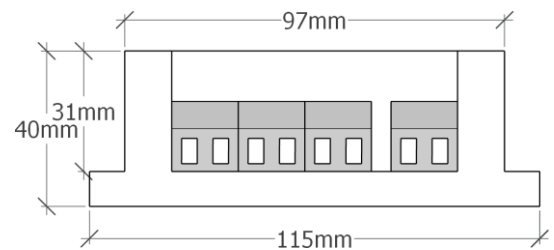
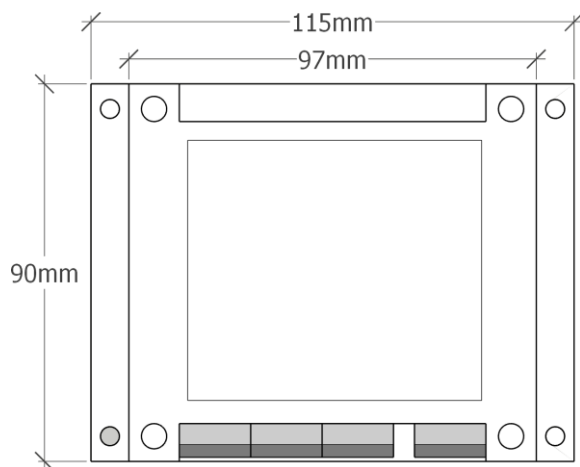
Email: info@artilectgreen.com

2. Specification

Technical Data

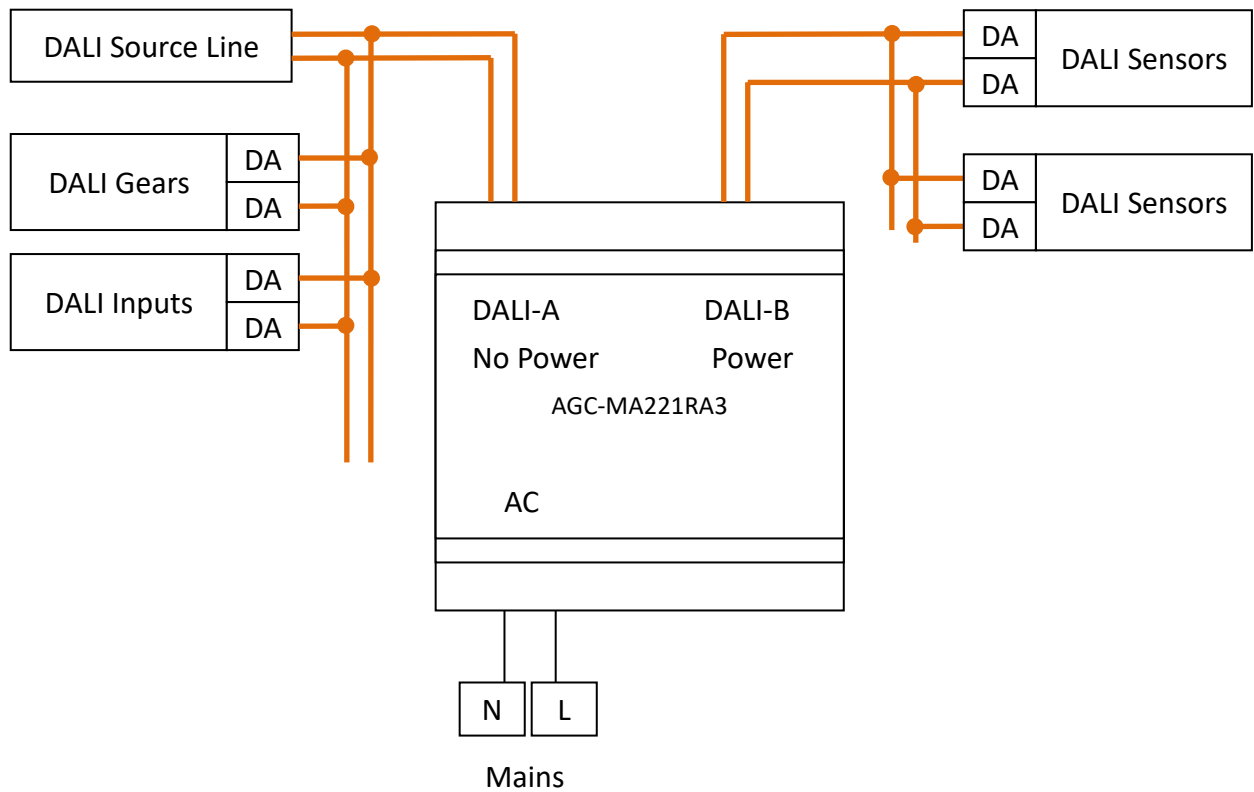
Model		AGC-MA221RA3
Input	Voltage/Hz	100...240V AC, 50...60Hz
	Standby W	< 0.5W
DALI-A No Power	Input Voltage	Max 22.5V
	Current Draw	1.6mA consumption
DALI-B DALI Power	Voltage	16V typical, Common ground design
	Current Source	Guarantee: 220mA, Max: 250mA
Protection	Surge capability	L/N-Ground 2kV, L-N 1kV
	Isolation	Main input/DALI SELV, DALI No Source/ DALI power FELV
Connector	AC	AWG30 to AWG12 solid or stranded wire
	DALI-A/DALI-B	AWG30 to AWG12 solid or stranded wire
Environment	Temperature	Ta: -30...+40°C, Tc: 70°C
	Storage	-40...+80°C, 10...95% Non-condensing
Others	Dimension	115x90x40 mm
	Weight	
	Cooling fan	Yes, Bearing cooling fan
	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 SELF.

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.

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.

Cooling Fan

This has equipped a cooling fan, and it will be activated when its temperature has reached its threshold (usually 60C). If the temperature is continuously raising to its shutdown threshold (usually 90C), it will turn off its output. The bus power will be recovered when its temperature is low(usually is under 60C).

This mechanism is designed for panel installation.

DALI Bus Repeater

The DALI bus repeater function is an Artilect 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.