



Light sensor
incorporated



**CASAMBI
INSIDE**



■ Description

CAS-24V-ZHAGA-4P-80-DA-LX controller enables easy autonomous control and dimming of DALI devices (drivers, electronic ballasts, etc.). There is no need to use hubs, master devices or complex computer programs.

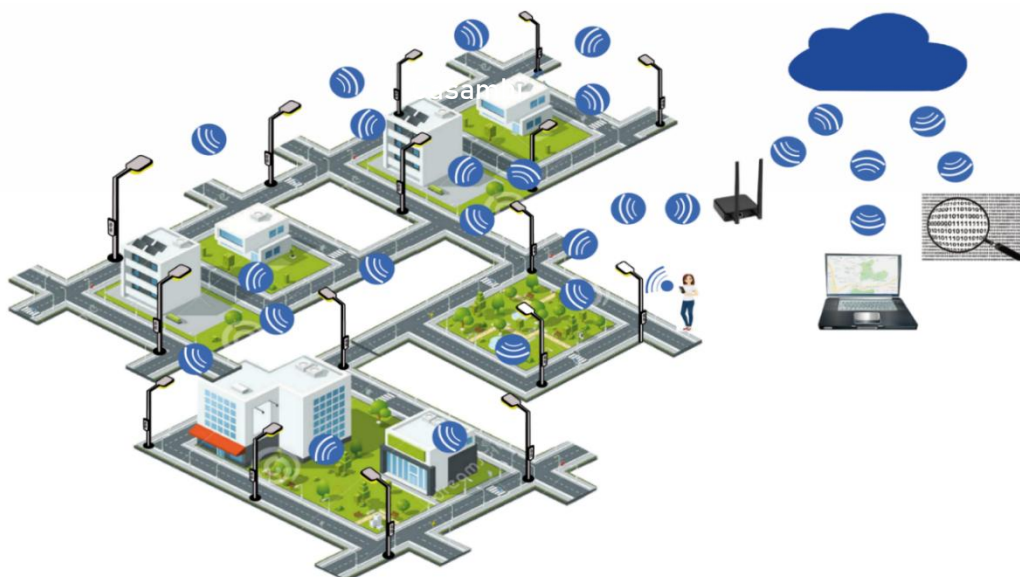
Communication is achieved by a meshed Bluetooth network.

Each control unit stores information about its own configuration and also the configuration of the rest of controls installed in the same network. This provides the system with a high robustness level and also simplifies replacement of control units as programming them is not required.

Configuration and control can be done from a mobile phone or tablet using the free CASAMBI APP (available for iOS and Android). The networks work autonomously once configured. Remote control of the installation is also possible through the cloud by use of an internet connected device with Casambi App set up as gateway.

Main use is control of outdoor lighting applications. It is provided with an IP66 UV resistant enclosure. Hydrophobic vent is incorporated to prevent condensation.

Electrical connection and mechanical fixing are done through a standard ZHAGA Book 18 compatible socket by twist and lock, without tools.



■ Operation

By use of CASAMBI APP it is possible to group the luminaries by streets or areas, set dimming levels based on the time, schedule special events for specific dates, etc.

Different types of nets can be selected (with different communication speeds and ranges). Range between controllers in outdoors without obstacles is up to 70m in Balanced BLE4 type nets, and can be over 200m in BLE5 Long range type nets. Adding the controllers to a net must be done with a mobile phone or tablet within range of each unit. For further installation setup and programming it is only necessary to be within the range of one of the controllers. Because it is a mesh type network, controllers communicate with each other until the information reaches the controller for which it is intended, even if it is located far away.

Up to 250 controllers (or other Casambi devices) can be supported per network. Depending on the network type (communication speed) and the required data traffic this number may have to be reduced to ensure a fluent behaviour. One installation can have unlimited number of networks which can be grouped together in one Site. Through the site we can control different networks simultaneously (for this each network must have access to Internet through a gateway and have gateway function enabled).

Communication security is provided by encrypted messages. It is possible to set different levels of access and configuration permissions. Network configuration information can optionally be stored in CASAMBI cloud and recovered if necessary. Several restoration points can be created. When a controller receives a firmware update, it will automatically be retransmitted to the other controllers.

Diverse operating modes are possible (on/off, dimming 0-100%, circadian control, tunable white, RGB, RGBW, etc.).

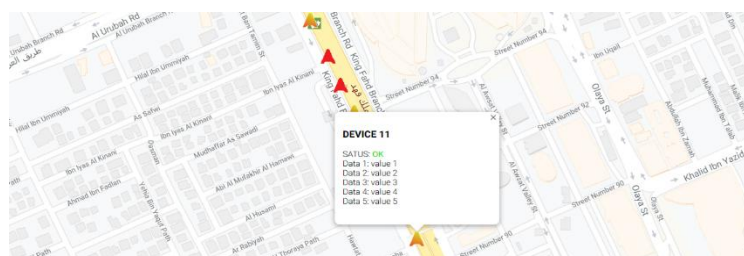
Different DALI profiles are available to match the driver and luminaire requirements (see profile list).

It is compatible with any other devices from other manufacturers which also incorporate CASAMBI inside and CASAMBI Ready products like luminaires, motion sensors, relays, actuators, push buttons, etc.


CAS-24V-ZHAGA-4P-80-DA-LX features a light sensor which can be configured in Casambi App to set specific illuminance levels for energy saving, or used in daylight controlled basic scenes for switching the lights on/off. Also an external DALI-2 motion/light sensor can be connected to the DALI bus and will appear as a Casambi sensor in the App (with some specific profiles). Internal temperature can also be monitored.

It is possible to use the power on of the unit to start scenes by use of the Smartswitching function (other smartswitching actions requiring ON-OFF-ON power sequences may not be possible due to the hold up, rise and fall times of the 24V external power supply).

CAS-24V-ZHAGA-4P-80-DA-LX is IoT ready. It can receive information provided by a DALI D4i driver or ballast (power consumption, working hours, accumulated energy consumption, temperature, etc.) which can be sent to Casambi cloud through a Gateway device with internet connection and Casambi App set up as gateway. Access to this big data to exploit this information is possible through API and JSON protocol.



■ Technical data

CAS-24V-ZHAGA-4P-80-DA-LX	
Nominal input voltage	24 VDC SELV
Input voltage range	18-30 VDC SELV
Input current consumption standby	25mA + DALI output Current
Input current consumption pulsed (*)	75mA@24VDC
Power consumption standby	<0,6W@24VDC (One DALI device connected)
Power consumption Pulsed (*)	<1,8W@24VDC
Output control signal	DALI
Integrated DALI BUS voltage source	16VDC
DALI guaranteed output current	45mA
DALI maximum output current (**)	60mA
Dimming range	0-100%
Light sensor range	20-1500Lx
RF communication interface	Bluetooth 4.0 or 5.0 Low energy (BLE)
RF communication protocol	Casambi
RF spectrum	2402–2483 MHz
RF network	Self-healing, frequency-hopping, spread spectrum mesh technology
Maximum transmission power	+7 dBm
Wireless class	Class 2
Data security	AES128 bit encryption + elliptical cryptography
Firmware update	OTA (Over the air)
Time/date update	Internal counter. Updatable from APP or through Casambi gateway or by use of external timer Casambi device after power disconnection of all net devices.
Protections	Over temperature.
Temperature monitoring	Internal temperature is displayed in Casambi App
Operating temperature range	-40°C to +80°C
Dimensions	Diameter 80mm. Height 50mm
Weight	110gr
Single box	9.5 x 9.5 x 4.2cm / 0.09kg
Packing	36 Units per box. 34 x 31.5 x 23cm / 3.8kg
Enclosure material	PC with anti-UV treatment
Enclosure isolation type	Reinforced isolation 
IP	66
IK	09
Connector	ZHAGA Book 18
Standards	EN 61347-1:2016, EN 61347-2-11:2003, EN 55015:2013, EN 61547:2011, EN 61000-3-2, EN 61000-3-3, EN 301489-1, EN 301489-17.
DALI standards	IEC 62386 part 101, 103, 351
Directives	(LVD) 2014/35/UE, (EMC) 2014/30/UE, (RED) 2014/53/UE, (RoHS) 2011/65/UE, (REACH) 1907/2006.

(*) DALI communication causes a pulsed type input current and power consumption. Data provided for dimensioning of the 24VDC power supply.

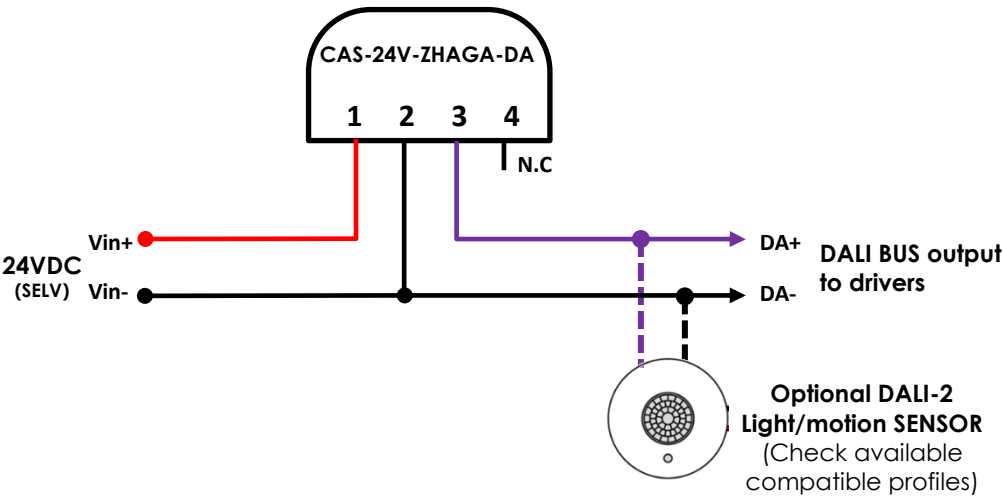
(**) The maximum bus power supply current provided by other components in the DALI bus shall be at most 190mA.

■ Standard Profiles (fixtures)

PROFILE	DESCRIPTION
DALI Lin* Broadcast	DALI Broadcast. Linear dimming curve. Factory default profile.
DALI Log Broadcast	DALI Broadcast. Logarithmic dimming curve.
DALI Lin* (4xGroup)	Control of 4 DALI Groups. Linear dimming curve. Controls DALI groups G0-G3.
DALI Lin* (6xGroup)	Control of 6 DALI Groups. Linear dimming curve. Controls DALI groups G0-G5.
DALI Lin* BC +Ext. Sensors	DALI Broadcast. Linear dimming curve. External DALI-2 motion and light sensor connected to the DALI bus will appear as a Casambi sensor in the App. The Internal light sensor of the node is disabled.
DALI Lin* BC +Ext. Presence	DALI Broadcast. Linear dimming curve. A compatible External DALI-2 motion sensor connected to the DALI bus will appear as a Casambi sensor in the App.
DALI Lin* DT6 TW Warm-Cool SA +Ext. Presence	DALI DT6 Tunable white. Generic Warm-Cool slider (no CCT value data). Linear dimming curve. Uses addresses A0, A1. Automatic DALI addressing. A compatible External DALI-2 motion sensor connected to the DALI bus will appear as a Casambi sensor in the App
DALI Lin* DT6 TW 3-5K SA	DALI DT6 Tunable white. 3000K-5000K. Linear dimming curve. Uses addresses A0, A1. Automatic DALI addressing.
DALI Lin* DT6 RGB SA	DALI DT6 RGB. Linear dimming curve. Uses addresses A0-A2. Automatic DALI addressing.
DALI Lin* DT6 RGB/W SA	DALI DT6 RGB/W. Linear dimming curve. White/Colour balance control. Uses addresses A0-A3. Automatic DALI addressing.
DALI Lin* DT6 RGB/W+W SA	DALI DT6 RGB/W with additional White2 channel. Linear dimming curve. White1/Colour balance slider + Dedicated slider for additional White2 channel. Uses addresses A0-A4. Automatic DALI addressing.
DALI Lin* DT6 1xDIM SA	DALI DT6 1xDimmer. Linear dimming curve. Uses address A0. Automatic DALI addressing.
DALI Lin* DT6 2xDIM SA	DALI DT6 2xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0, A1. Automatic DALI addressing.
DALI Lin* DT6 3xDIM SA	DALI DT6 3xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A2. Automatic DALI addressing.
DALI Lin* DT6 4xDIM SA	DALI DT6 4xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A3. Automatic DALI addressing.
DALI Lin* DT6 5xDIM SA	DALI DT6 5xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A4. Automatic DALI addressing.
DALI Lin* DT6 6xDIM SA	DALI DT6 6xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A5. Automatic DALI addressing.
DALI Lin* DT6 7xDIM SA	DALI DT6 7xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A6. Automatic DALI addressing.
DALI Lin* DT6 8xDIM SA	DALI DT6 8xDimmers. Linear dimming curve. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0-A7. Automatic DALI addressing.
DALI Lin* DT8 TW 3-5K BC	DALI-2 DT8 Tunable white. 3000K-5000K. Broadcast. Linear dimming curve.
DALI Lin* DT8 TW 2.7-6K BC	DALI-2 DT8 Tunable white. 2700K-6000K. Broadcast. Linear dimming curve.
DALI Lin* DT8 TW 2.2-7K BC	DALI-2 DT8 Tunable white. 2200K-7000K. Broadcast. Linear dimming curve.
DALI Lin* DT8 RGB/W BC	DALI-2 DT8 RGB/W. Broadcast. Linear dimming curve. White/Colour balance slider.

Other profiles available on request.

■ **Wiring diagram**



Bottom view

1	Vin+ (24VDC)
2	Vin- and DA- (shared connection)
3	DA+
4	Not connected

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