OLFER
The Power Supply Company

CASAMBI INSIDE

▪ Description

CAS-24V-ZHAGA-4P-40-DA 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 BLE network.

Each controller 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 controllers 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.

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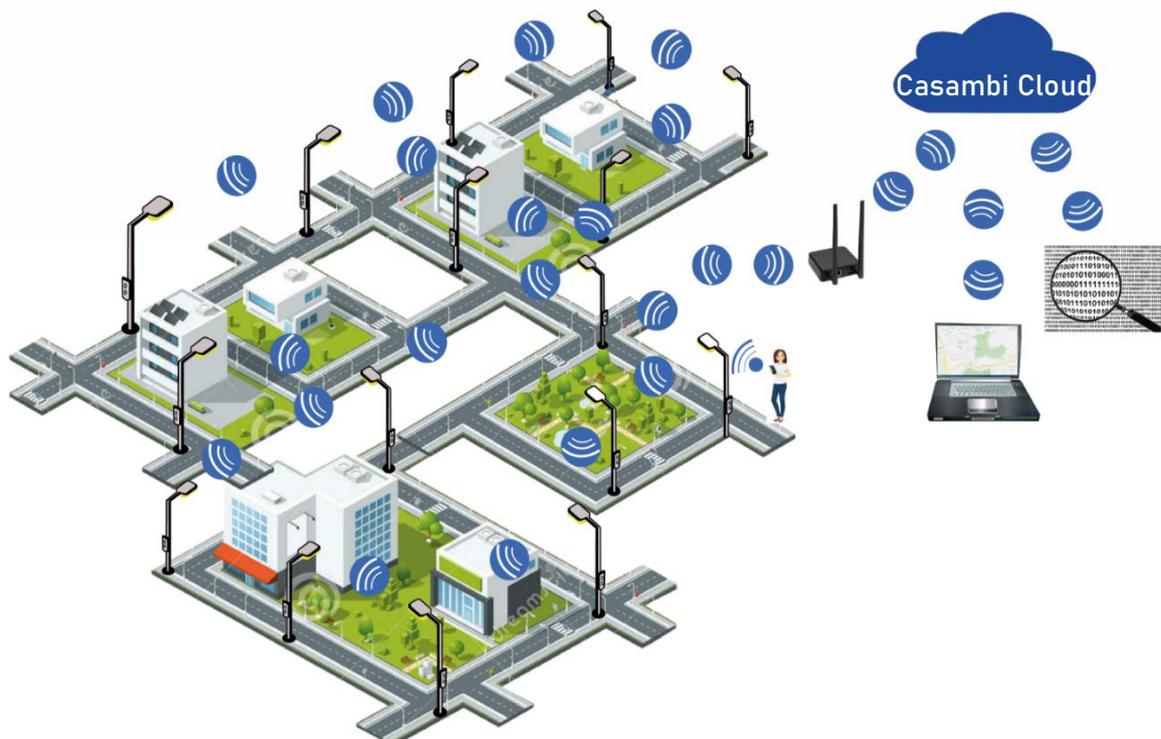
▪ Operation

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 luminary requirements (see profile list).

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

Controller internal temperature is displayed in the App.

CAS-24V-ZHAGA-4P-40-DA 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.
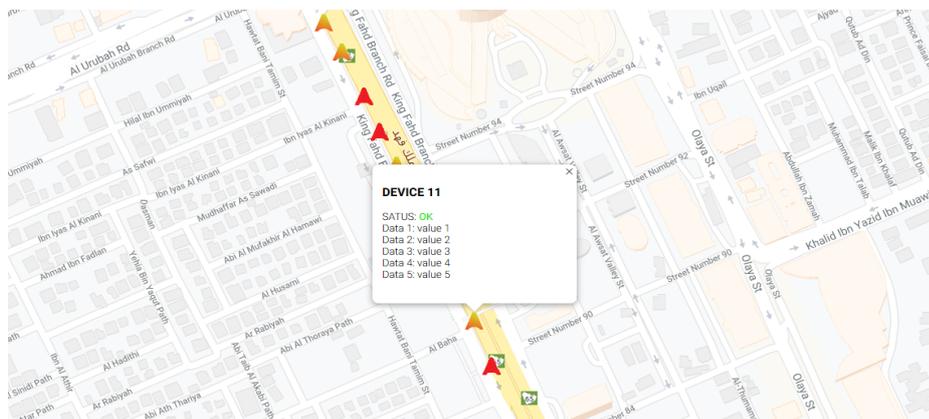
▪ **Technical data**

CAS-24V-ZHAGA-4P-40-DA	
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/DALI2
Integrated DALI BUS voltage source	16VDC
DALI guaranteed output current	45mA
DALI maximum output current (**)	60mA
Dimming range	0-100%
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° to +70°C
Dimensions	Diameter 48mm. Height 44mm
Weight	100gr. (Carton box included)
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.
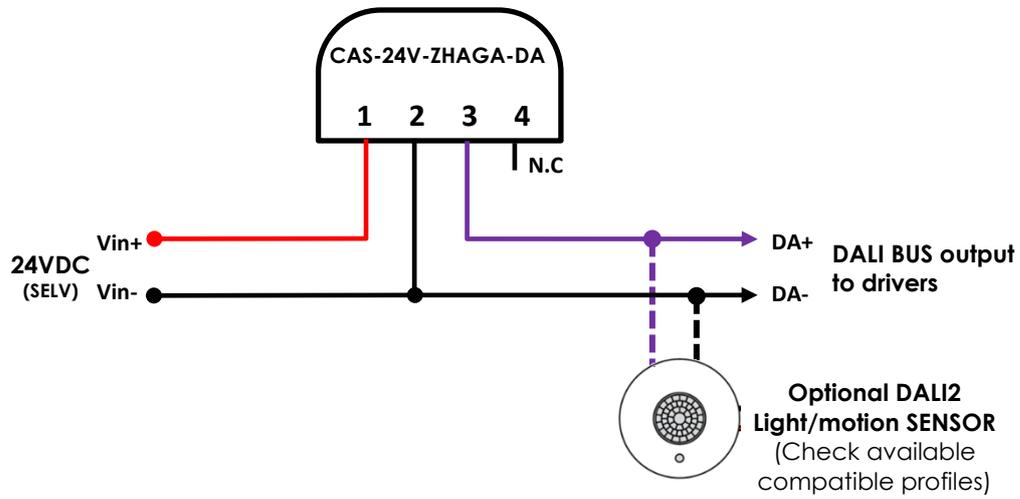
(∗∗) The maximum bus power supply current provided by other components in the DALI bus shall be at most 190mA.

▪ 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∗ BC +Ext. Sensors	**DALI Broadcast**. Linear dimming curve. A compatible **External DALI2 motion and light sensor** connected to the DALI bus will appear as a Casambi sensor in the App
DALI Lin∗ BC +Ext. Presence	**DALI Broadcast**. Linear dimming curve. A compatible **External DALI2 motion sensor** connected to the DALI bus will appear as a Casambi sensor in the App.
DALI lin∗ (4xGroup)	**DALI 4xGroup.** Linear dimming curve. Controls DALI Groups G0-G3.
DALI Log (4xGroup)	**DALI 4xGroup.** Logarithmic dimming curve. Controls DALI Groups G0-G3.
DALI Lin∗ DT6 TW Warm-Cool SA	**DALI DT6 Tunable white.** Generic **Warm-Cool** slider (no CCT value data). Linear dimming curve. Uses addresses A0, A1. Automatic DALI addressing.
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, A1, A2. Automatic DALI addressing.
DALI Lin∗ DT6 RGB/W SA	**DALI DT6 RGB/W.** Linear dimming curve. White/Colour balance slider. Uses addresses A0-A3. Automatic DALI addressing.
DALI Lin∗ DT6 RGB/W+W SA	**DALI DT6 RGB/W+W.** Linear dimming curve. First White channel/Colour balance slider + Dedicated slider for additional white channel. Uses addresses A0-A4. Automatic DALI addressing.
DALI Lin∗ DT6 RGB/W+iW SA	**DALI DT6 RGB/W+iW.** Linear dimming curve. First White channel/Colour balance slider + Dedicated slider for additional white channel (independent of main dimmer). Uses addresses A0-A4. 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 Log DT8 TW 1.5-7.9K BC	**DALI DT8 Tunable white 1500-7900K.** Broadcast. Logarithmic dimming curve.
DALI Lin∗ DT8 TW 2.7-6K BC	**DALI DT8 Tunable white 2700-6000K.** Broadcast. Linear dimming curve.
DALI Lin∗ DT8 TW 3-5K BC	**DALI DT8 Tunable white 3000-5000K.** Broadcast. Linear dimming curve.
DALI Lin∗ DT8 XY/W BC	**DALI2 DT8 XY/W.** Broadcast. Linear dimming curve. X Y coordinates colour control.
DALI Lin∗ DT8 RGB/W BC	**DALI DT8 RGB/W.** Broadcast. Linear dimming curve. White/Colour balance slider.

Other profiles available on request.

▪ Wiring diagram

CAS-24V-ZHAGA-DA

1 2 3 4

N.C

24VDC (SELV) Vin+

Vin-

DA+ DALI BUS output to drivers

DA-

Optional DALI2 Light/motion SENSOR (Check available compatible profiles)

Bottom view

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