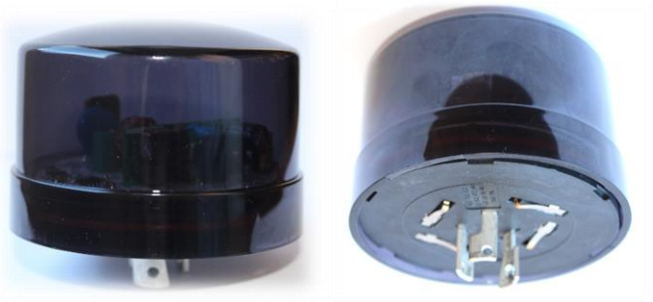


CASAMBI INSIDE

Description

CAS-UNI-NEMA-5P-81-DA control unit 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.

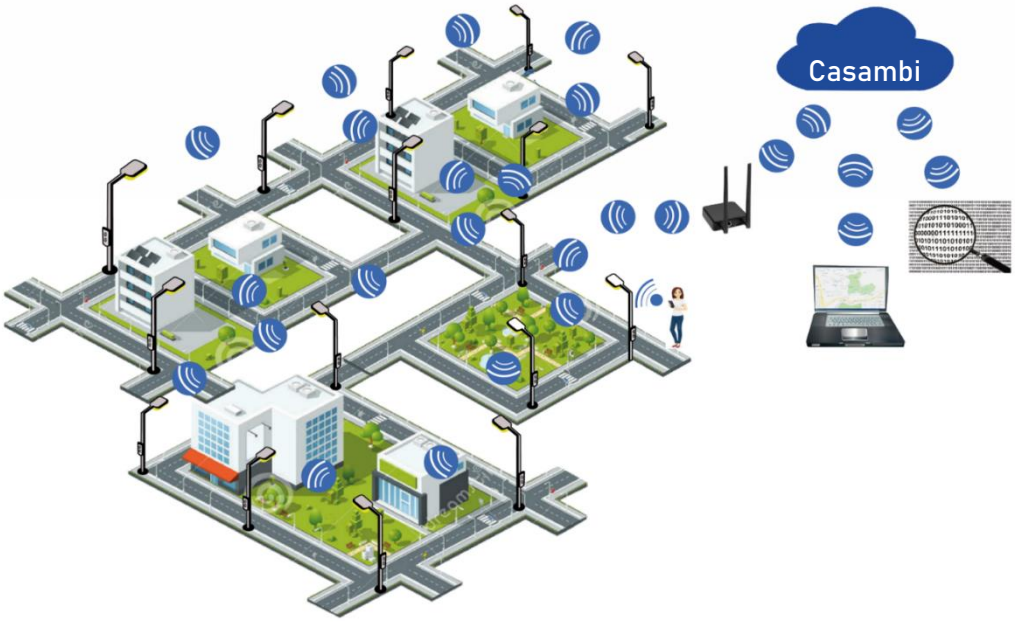
Communication is achieved by a meshed Bluetooth 4.0 or 5.0 network.

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 NEMA socket (ANSI 136.41) by twist and lock.



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 can be configured to match the driver/ballast requirements (see profiles list).

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

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

CAS-UNI-NEMA-5P-81-DA features smart switching capability. It is possible to activate preset scenes or modes by flicking the power supply off and on.

CAS-UNI-NEMA-5P-81-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-UNI-NEMA-5P-81-DA	
Nominal line voltage	110-277Vac
Input voltage range	85-305Vac
Input current	≤ 23mA
Frequency	47-60Hz
Power consumption standby	<0,8W@230Vac (DALI bus disconnected)
Power consumption	<1W @230Vac (one DALI device connected)
Output control interface	DALI
Integrated DALI BUS voltage source	16VDC (isolated from mains)
DALI output current	100mA max. (*)
Dimming range	0-100%
LOAD output current	5A max.
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 Casambi gateway or APP or by use of Timer-Casambi device, after power loss in all the net.
Protections	Line permanent overvoltage, line surge overvoltage, temperature.
Temperature monitoring	Internal temperature is displayed in Casambi App
Operating temperature range	-40C° to +80°C
Dimensions	Diameter 88mm. Height 63mm
Weight	150gr. (Carton box included)
Enclosure material	PC with anti-UV treatment
Enclosure isolation type	Reinforced isolation ◎
IP	66
IK	09
Connector	NEMA 5P (ANSI C136.41)
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, 102, 201, 203, 207, 250, 251, 252, 253
Directives	(LVD) 2014/35/UE, (EMC) 2014/30/UE, (RED) 2014/53/UE, (RoHS) 2011/65/UE, (REACH) 1907/2006.

(*) The maximum bus power supply current provided by other components in the DALI bus shall be at most 150mA.

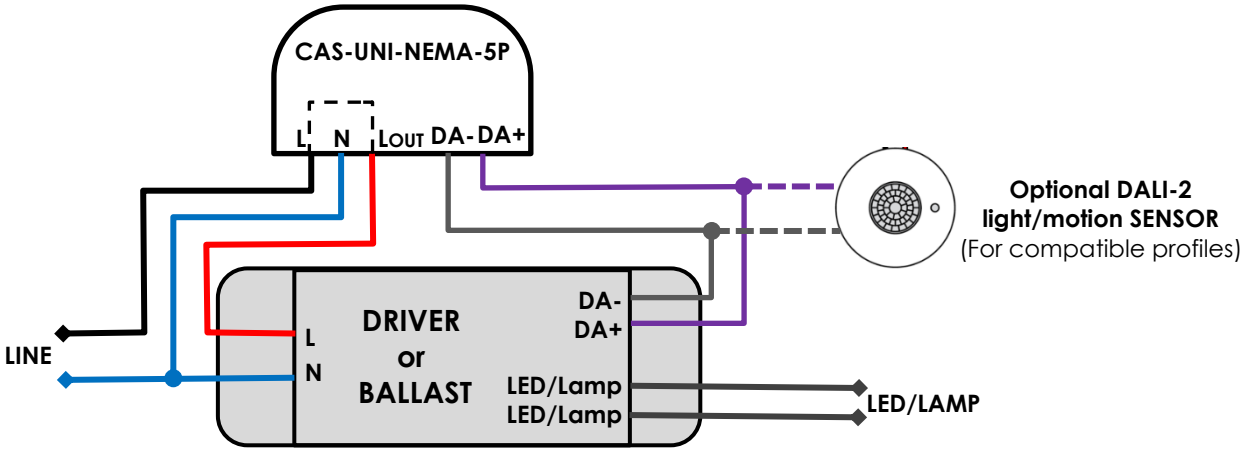
▪ Standard Profiles (fixtures)

PROFILE	DESCRIPTION
DALI Lin* Broadcast	**DALI Broadcast**. Linear dimming curve. **Factory default profile**. DALI power-on level 0%.
DALI Lin* Broadcast (New)	**DALI Broadcast**. Linear dimming curve. Driver memory power-on level.
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.
DALI Log Broadcast	**DALI Broadcast**. Logarithmic dimming curve. DALI power-on level 0%.
DALI Lin* (4xGroup)	**DALI Broadcast 4xGroup**. Linear dimming curve. Controls DALI groups G0-G3. Driver power-on level 0%.
DALI Lin* (6xGroup)	**DALI Broadcast 4xGroup**. Linear dimming curve. Controls DALI groups G0-G5. Driver memory power-on level.
DALI Log (4xGroup)	**DALI Broadcast 4xGroup**. Logarithmic dimming curve. Controls DALI groups G0-G3.
DALI Lin* DT6 TW 2.2-6K SA	**DALI DT6 Tunable white. 2200K-6000K**. Linear dimming curve. Uses addresses A0, A1. Automatic DALI addressing. Driver power-on level 100%.
DALI Lin* DT6 TW 2.2-3K SA	**DALI DT6 Tunable white. 2200K-3000K**. Linear dimming curve. Uses addresses A0, A1. Automatic DALI addressing. Driver power-on level 100%.
DALI Lin* DT6 RGB SA	**DALI DT6 RGB**. Linear dimming curve. Uses addresses A0-A2. Automatic DALI addressing. Driver power-on level 0%.
DALI Log DT6 RGB SA	**DALI DT6 RGB**. Logarithmic dimming curve. Uses addresses A0-A2. Automatic DALI addressing. Driver power-on level 0%.
DALI Lin* DT6 RGBW SA	**DALI DT6 RGBW**. Linear dimming curve. Uses addresses A0-A3. Dedicated slider for White colour. Automatic DALI addressing. Driver power-on level 0%.
DALI Lin* DT6 RGB/W+W SA	**DALI RGB/W+W** Short Address. Linear dimming curve. Uses addresses A0-A4. Colour/White1 balance slider. Additional slider for White2. Automatic DALI addressing. Driver memory power-on level.
DALI Lin* RGB (3xGroup)	**DALI DT6 RGB**. Linear dimming curve. Uses groups G0-G2. G0 is Red, G1 is Green, G2 is blue. Driver power-on level 0%.
DALI Log RGB (3xGroup)	**DALI DT6 RGB**. Logarithmic dimming curve. Uses groups G0-G2. G0 is Red, G1 is Green, G2 is blue. Driver power-on level 0%.
DALI Lin* DT6 2x(R,G,B,W) SA	**DALI DT6 RGB**. Linear dimming curve. Individual sliders for each colour of two RGBW sets. Uses addresses A0-A7. Automatic DALI addressing. Driver power-on level 0%.
DALI Lin* DT6 1xDIM SA	**DALI DT6 1xDimmer.** Linear dimming curve. Uses address A0. Automatic DALI addressing. Driver memory power-on level.
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. Driver memory power-on level.
DALI Lin* DT6 2xDIM SA+ Ext.Presence	**DALI DT6 2xDimmers.** Linear dimming curve. **External DALI-2 motion sensor** connected to the DALI bus will appear as a Casambi sensor in the App. Individual slider levels are overwritten when dimmed by sliding on the App icon. Uses addresses A0, A1. Automatic DALI addressing. Driver memory power-on level.
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. Driver memory power-on level.
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. Driver memory power-on level.
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. Driver memory power-on level.
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. Driver memory power-on level.
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. Driver memory power-on level.
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. Driver memory power-on level.
DALI lin* DT8 TW 1.8-3K BC	**DALI-2 DT8 Tunable white. 1800-3000K.** Broadcast. Linear dimming curve. Driver memory power-on level.
DALI lin* DT8 TW 2-3K B	**DALI-2 DT8 Tunable white. 2000-3000K**. Broadcast. Linear dimming curve. Driver memory power-on level.

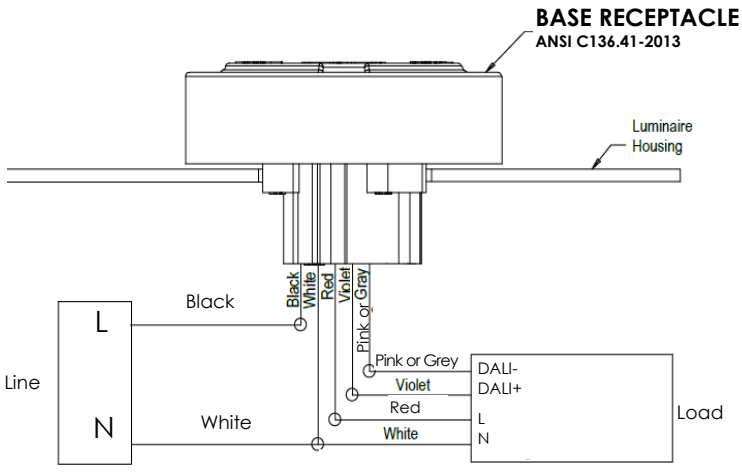
DALI Lin* DT8 TW 2.7-6K BC	**DALI-2 DT8 Tunable white. 2700K-6000K**. Broadcast. Linear dimming curve. Driver power-on level 0%.
DALI Log DT8 TW 1.5-7.9K BC	**DALI-2 DT8 Tunable white. 1500K-7900K**. Broadcast. Logarithmic dimming curve. Driver power-on level 0%.
DALI Lin* DT8 2xTW 2.7-6K BC	**DALI-2 DT8 Tunable white. 2700K-6000K**. Broadcast. Linear dimming curve. One CCT control. Two brightness controls. Driver power-on level 0%.
DALI Lin* DT8 RGB BC	**DALI-2 DT8 RGB Broadcast.** Linear dimming curve. Driver power-on level 0%.
DALI Log DT8 RGB BC	**DALI-2 DT8 RGB Broadcast.** Logarithmic dimming curve. Driver power-on level 0%.
DALI Lin* DT8 RGB SA	**DALI-2 DT8 RGB Short address.** Linear dimming curve. Controls address A0. Driver power-on level 0%.
DALI Log DT8 RGB SA	**DALI-2 DT8 RGB Short address.** Logarithmic dimming curve. Controls address A0. Driver power-on level 0%.
DALI Lin* DT8 RGBW BC	**DALI-2 DT8 RGBW**. Linear dimming curve. Dedicated slider for White colour. Driver memory power-on level.
DALI Lin* DT8 RGB/W BC	**DALI-2 DT8 RGB/W**. Linear dimming curve. Colour/White balance control. Driver memory power-on level.

Other profiles available on request.

▪ Wiring diagram



Note: LOUT is permanentlyconnected to L through an internal link



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