CBU-SKYTIME

User Manual

Made in Italy



CBU-SKYTIME-ZG



CBU-SKYTIME-IP

FEATURES

- CASAMBI GPS RTC (Real Time Clock) Timer
- Input voltage:
  - IP (Hensel) model: 230 Vac @50Hz
  - ZG (Zhaga) model: 12-24 Vdc
- GPS time clock to sync CASAMBI network
- Automatic time sync at startup, useful in case of black-out or temporarily missing of power supply
- No battery needed, time sync independent from power loss duration
- Transmit over Bluetooth the actual time on CASAMBI Network
- Internal GPS antenna
- Bluetooth Low Energy features
- Device configuration via CASAMBI mobile application
- IP67 enclosure
- Extended Temperature Range
- 100% Functional Test - 5 years warranty

PRODUCT DESCRIPTION

CBU-SKYTIME is a CASAMBI Bluetooth Unit (CBU) with a Real-Time Clock (RTC) that updates the CASAMBI network's time-date from the GPS (Global Positioning System) signal. This device allows to update the CASAMBI timers for programmed scenarios after a black-out or a temporarily missing of power supply, independently from the power loss duration. When the power supply is restored, the CBU-SKYTIME automatically synchronize the CASAMBI Network with the time-date received by satellites over the GPS signal. Only one CBU-SKYTIME device can be paired to the CASAMBI network. Therefore, to set the time on multiple CASAMBI networks, you will need multiple CBU-SKYTIME devices, one for each network.
CBU-SKYTIME is available in two different configurations depending on input supply voltage and enclosure: the unit can be powered from 230 Vac @50Hz mains voltage (IP model, Hensel enclosure) or from a SELV (12 ÷ 24) Vdc constant voltage power supply (ZG model, Zhaga enclosure).
Through the CASAMBI mobile application and smartphone equipped with Bluetooth technology, it's possible to pair/unpair the device to the network and set the local Time Zone. CASAMBI mobile application can be downloaded free of charge from the Apple App Store and Google Play Store.

⇢ For the most up-to-date manual, please visit our website www.dalcnet.com or scan the QR code on product label.

PRODUCT CODE

CODE	POWER SUPPLY	REMOTE CONTROL	CONFIG. APP
CBU-SKYTIME-IP	230 Vac @50Hz	Bluetooth Low Energy (BLE)	CASAMBI
CBU-SKYTIME-ZG	12-24 Vdc	Bluetooth Low Energy (BLE)	CASAMBI

Table 1: Product code

TECHNICAL SPECIFICATIONS

CBU-SKYTIME-IP MODEL

Description	Acronym	Values			Unit of Measure	Note
		Min		Max		
POWER SUPPLY (AC IN)						
Nominal Supply Voltage	V_{IN_AC}	230			Vac	-
Supply Voltage range	V_{IN_AC-RNG}	100	÷	240	Vac	-
Mains Frequency	F_{MAINS}	50			Hz	-
Efficiency at full load	E_{FF_AC}	> 95			%	-
Standby power absorption	P_{STBY_AC}	< 0.5			W	-
Rated power absorption	P_{ABS_AC}	< 4			W	-
ENVIRONMENTAL						
Operating Frequencies [1]	f_{OP}	2402	÷	2483	MHz	For CASAMBI BLE SoC
Maximum Emitted Power [1]	P_{BT-max}			7	dBm	Over Bluetooth transmission
Storage Temperature [2]	T_{STOCK}	-40	÷	+60	°C	Minimum values defined by design.
Working Ambient temperature [2]	T_A	-25	÷	+60	°C	Minimum values defined by design.
Connector Type	C_{PWR}	Screw Terminal			-	Power connector (internal)
Wiring Section	WS_{SOLID}	0.2	÷	1.5	mm^2	-
	WS_{STRAND}	24	÷	16	AWG	
Strip length	WS_{STRIP}	10			mm	-
Cable gland	C_{GLAND}	IP67 cable glands			-	-
Protection class	IP_{CODE}	IP67			-	-
Enclosure Material	M_{CASE}	Plastic			-	-
Packaging unit (pieces/units)	UP	1			pcs	-
Dimensions	-	L	A	P		
	MD	90	90	65	mm	Hensel Enclosure
	PD	120	160	70	mm	Packaging

Table 2: Technical specifications of IP model

CBU-SKYTIME-ZG MODEL

Description	Acronym	Values			Units of Measure	Note
		Min		Max		
INPUT (DC IN)						
Nominal Supply Voltage	V_{IN_DC}	12	÷	24	Vdc	-
Supply Voltage range	V_{IN_DC-RNG}	9	÷	36	Vdc	-
Efficiency at full load	E_{FF_DC}	> 95			%	-
Standby power absorption	P_{STBY_DC}	< 0.5			W	
Rated power absorption	P_{ABS_DC}	< 1			W	
ENVIRONMENTAL						
Operating Frequencies [1]	f_{OP}	2402	÷	2483	MHz	For CASAMBI BLE SoC
Maximum Emitted Power [1]	P_{BT-max}			7	dBm	Over Bluetooth transmission
Storage Temperature [2]	T_{STOCK}	-40	÷	+60	°C	Minimum values defined by design.
Working Ambient temperature [2]	T_A	-25	÷	+60	°C	Minimum values defined by design.
Connector Type	C_{PWR}	Zhaga			-	Power connector (external)
Protection class	IP_{CODE}	IP67			-	-
Enclosure Material	M_{CASE}	Plastic			-	-
Packaging unit (pieces/units)	UP	1			pcs	-
Dimensions	-	L	A	P		
	MD	80	80	38.5	mm	Zhaga Enclosure
	PD	124	85	71	mm	Packaging

Table 3: Technical specifications of ZG model

[1] The parameters are derived from the configuration of the Casambi module.
[2] Depends on the ventilation conditions.

INSTALLATION

WARNING! *Installation and maintenance must always be carried out in the absence of voltage. Before proceeding with the connection of the device to the power supply, make sure that the voltage of the power source is disconnected from the system.*

The device should only be connected and installed by qualified personnel. All applicable regulations, legislation, standards, and building codes must be adhered to. Incorrect installation of the device may cause irreparable damage to the device and connected loads.

The following paragraphs show the diagrams of the module power supply connection. It is recommended to follow these steps to install the product safely.

HOW TO INSTALL CBU-SKYTIME-IP



1. Safety first: ensure the Mains voltage is turned off to avoid any risk of electric shock.
2. Unlock and lift the cover: unlock the cover by turning the 4 pins at the corners of the case 90 degrees counterclockwise with a 5.5 mm flathead screwdriver. Once unlocked, gently lift the cover.
3. Access and wiring: after removing the cover, you will have access to the terminal inside the box.
    a. Insert the 230 Vac mains voltage cable(s) into the cable gland(s) and wire the Neutral (N) and Live (L) wires to the "N" and "L" terminals of the internal AC IN connector (refer to Figure 1). To tight the connector wires, use a 3 mm flathead or Phillips screwdriver.
    b. Tight the cable glands outside the case to ensure the IP protection. Fasten the Compression nut of the cable gland in such a way that the sealing gasket of the cable gland does not deform. Overtightening would risk damaging the seal.



4. Check the connections: before closing the box, ensure all connections are correct and secure.
5. Position and lock cover: place the cover on the box, aligning it properly with the edges. Lock the cover by turning the 4 pins at the corners' case clockwise. The screws will close very easily, do not force the closure. Make sure the pins are well-tightened to ensure a secure closure and the IP protection of the box.
6. Final check: verify that the cover is firmly attached and there are no gaps or openings.
Note: the installer is responsible for verifying the installation.

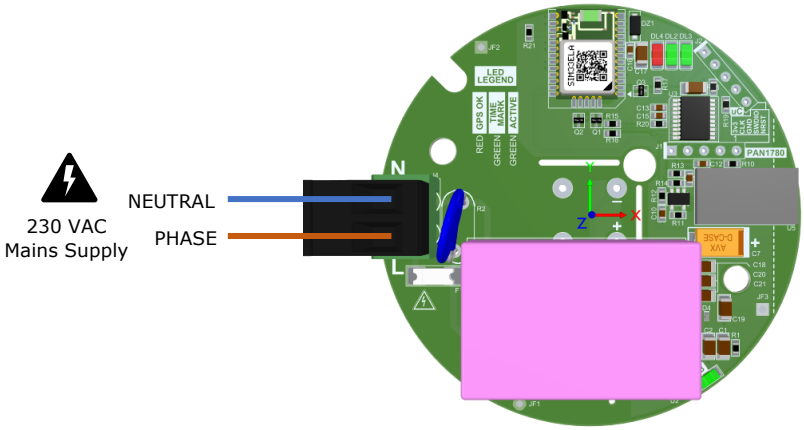


Figure 1: CBU-SKYTIME-IP Power Supply wiring

HOW TO INSTALL CBU-SKYTIME-ZG

Zhaga connectors are typically a standardized interfaces designed for plug-and-play connections, making it easy to add or replace components like sensors or communication modules.

1. Safety first: ensure the DC voltage is turned off to avoid any risk of electric shock.
2. Identify the socket: locate the Zhaga socket.
3. Align the enclosure: align the CBU larger locking pin with the larger locking slot of the Zhaga socket, lightly rotating the CBU until you feel the alignment pins align to the proper location.
4. Fit the enclosure: after alignment, push downward until the CBU is all the way down on the socket. It should fit snugly without forcing.
5. Secure the enclosure: while pressing down, rotate the CBU housing clockwise until it locks into place.
6. Final check: pull the CBU housing to check if it is locked to the socket and verify there are no gaps or openings.
Note: the installer is responsible for verifying the installation.

TECHNICAL NOTES

INSTALLATION

WARNING! Installation and maintenance should always be carried out in the absence of AC/DC voltage.
Before proceeding with the installation, adjustment, and connection of the device to the power supply, make sure that the voltage is disconnected from the system.

The device should only be connected and installed by qualified personnel. All applicable regulations, legislation, standards, and building codes in force in the respective countries must be adhered to. Incorrect installation of the device may cause irreparable damage to the device and connected loads.

Maintenance must only be carried out by qualified personnel in compliance with current regulations.

Outdoor installation is recommended. For indoor installation, it is recommended to place the device near an outward-facing window with a clear view of the sky.

The external power supply must be protected. The product must be protected by a properly sized circuit breaker with overcurrent protection.

Keep 230 Vac (LV) circuits and non-SELV circuits separate from SELV safety ultra-low voltage circuits and any product connections.

The product must be installed in a vertical or horizontal position, i.e. with the antenna facing upwards or laterally. No other positions are allowed. The bottom position, i.e. with the antenna facing downwards, is not allowed.

During installation, it is recommended to reserve adequate space around the device to facilitate its accessibility in case of future maintenance.

Use in thermally harsh environments may limit the functionality of the product.

For devices embedded within luminaires, the T_A ambient temperature range is a guideline to be carefully observed for the optimal operating environment. However, the integration of the device within the luminaire must always ensure proper thermal management (e.g. correct mounting of the device, proper ventilation, etc.) so that the temperature at the T_C point does not exceed its maximum limit under any circumstances. Proper operation and durability are only guaranteed if the maximum temperature of the T_C point is not exceeded under the conditions of use.

POWER SUPPLY

The CBU-SKYTIME-IP must be powered only with Mains AC power source, short-circuit protection and suitably sized power according to the specifications indicated in the product data sheet. No other types of power supply are permitted.

The CBU-SKYTIME-ZG must be powered only with SELV type power supplies with limited current at constant voltage, short circuit protection and power suitably sized according to the specifications indicated in the product data sheet. No other types of power are allowed.

Connecting to an unsuitable power supply may cause the device to operate outside of the specified design limits, voiding its warranty.

In the case of power supplies equipped with earth terminals, it is mandatory to connect ALL the protection earth points (PE= Protection Earth) to a state-of-the-art and certified earthing system.

The power cables of CBU-SKYTIME-IP must be correctly sized with reference to the connected load and must be isolated from any wiring or equal to SELV voltage. Use double-insulated cables.

The power cables of CBU-SKYTIME-ZG must be correctly sized with reference to the connected load and must be isolated from any wiring or equal to non-SELV voltage. It is recommended not to exceed 10m of connection between the power source and the product. Use double-insulated cables. If you want to use connection cables between the power source and the product longer than 10m, the installer must ensure the correct operation of the system. In any case, the connection between the power supply and the product must not exceed 30m.

BLUETOOTH LOW ENERGY (BLE) AND GPS WARNINGS

The BLE antenna is located inside the device, near the bottom of case.

BLE typically has a range of about 10 to 50 meters, depending on the environment and obstacles. Ensure your devices are within this range for reliable communication.

Walls, floors, and other physical barriers can significantly reduce the effective range and signal strength of BLE devices. Position devices to minimize these obstacles.

Other electronic devices, especially those operating on the 2.4 GHz frequency (like Wi-Fi routers), can interfere with BLE signals. Keep BLE devices away from such sources of interference.

Ensure that all devices in your BLE network are compatible with each other and support the same BLE version. Incompatibilities can lead to communication issues.

BLE is designed for low power consumption, but the battery life of your control devices (smartphone or tablet) can still be affected by factors like transmission frequency and data volume. Monitor and manage power settings to optimize battery life.

BLE technology works optimally with non-metallic materials. Therefore, it is not recommended to sourround the device by metal objects or reflective surfaces when using BLE communication.

For reliable communication, make sure that the top surface is not covered or that it is free of metal objects, wiring, or other electronic devices. Any impediments could affect the quality of communication.

The device performs optimally in outdoor environments. However, it can also be used indoors, provided it is placed near openings such as windows or other areas with a clear view of the sky. Depending on the installation conditions, indoor satellite connections might take a few minutes longer than outdoor installations.

The connection time with the GPS signal (and consequently the time needed to update the date-time on the network) may vary depending on the quality of the GPS signal.

The GPS signal can be affected by tall buildings, adverse weather conditions, and other obstacles. Ensure that the device is positioned in an area with good signal coverage and avoid obstacles like thick walls or metallic objects that could attenuate the signal.

Avoid placing the device near other electronic equipment or sources of interference (such as microwave ovens or cordless phones). Interference can degrade signal quality.

Avoid exposing the device to extreme temperatures, excessive humidity, or violent shocks. Clean the device regularly following the manufacturer's instructions.

Periodically check if firmware or software updates are available for the device. Updates often improve stability and security.

LEGAL NOTES

TERMS OF USE

Digimax Srl (hereinafter referred to as "the Company") reserves the right to make changes to this device, in whole or in part, without prior notice to the customer. Such changes may affect technical aspects, functionality, design, or any other element of the device. The company is not required to notify you of such changes and that your continued use of the device will constitute your acceptance of the changes.

The company is committed to ensuring that any changes do not compromise the essential functionality of the device and that they comply with applicable laws and regulations. In the event of substantial changes, the company undertakes to provide clear and timely information on the same.

The customer is advised to periodically consult the www.dalcnet.com website or other official sources to check for any updates or changes to the device.

SYMBOLS

CE	All products are manufactured in compliance with European Regulations, as reported in the Declaration of Conformity.
UKCA	All products are manufactured in compliance with UK Regulations and conform to UK safety, health, and environmental requirements for products sold in the UK, as reported in the UK Conformity Assessed.
	Independent lamp Controlgear: lamp controlgear consisting of one or more separate elements so designed that it can be mounted separately outside a luminaire, with protection according to the marking of the lamp controlgear and without any additional enclosure.
	At the end of its useful life, the product described in this data sheet is classified as waste from electronic equipment and cannot be disposed of as unsorted municipal solid waste. **Warning!** Improper disposal of the product may cause serious harm to the environment and human health. For proper disposal, inquire about the collection and treatment methods provided by the local authorities.

Table 4: Device's symbols

CASAMBI

CASAMBI is the official application through which it is possible to configure, in addition to the functions of the CBU-SKYTIME, also all the different CASAMBI products equipped with BLE technology.

CASAMBI mobile app can be downloaded free of charge from the Apple App Store and Google Play Store.

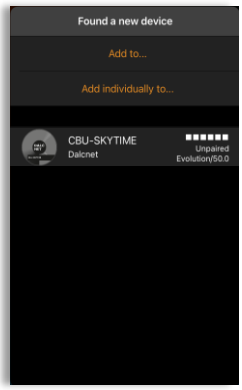
GET IT ON Google Play

Available on the App Store

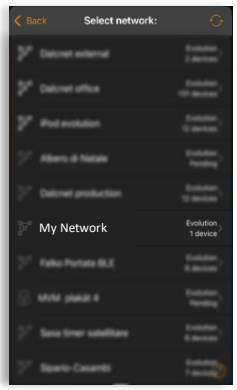
DEVICE SETTINGS

PAIR DEVICE TO CASAMBI NETWORK AND TIME ZONE SET

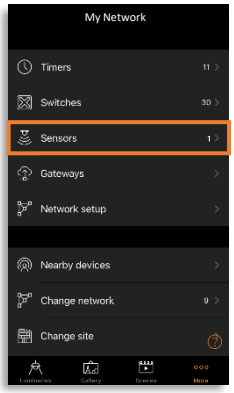
⚠ The first time you turn ON a CBU-SKYTIME device, you must pair it to a CASAMBI Network and configure the local Time Zone (no automatic Time Zone detection). The device will appear in the *Found a new device* section with the default profile preloaded. Perform the following procedure to pair the device to a CASAMBI Network and set the local Time Zone.



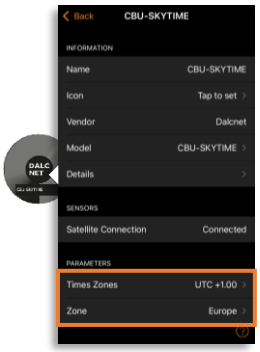
1. Open the CASAMBI mobile app and Power ON the device. The device to be paired will appear.
2. Select *Add to…* to open the list of available networks.



3. Select the network to pair the device with.



4. Once the device has been inserted in the Network, tap the *More* page, the sensor will be visible in the *Sensors* section.



5. Tap on the profile icon to show the device configuration. Set the local Time Zone in the *Parameters* section.

UNPAIR DEVICE FROM CASAMBI NETWORK

If CBU-SKYTIME is already connected to a known network and/or you wish to associate it with a new network, you need to unpair the device from the current Network first: please tap the device icon from *Nearby Devices* section, select *Unpair*, and confirm. The unpair process will be started. After the unpairing, the device can be paired to a new Network by following the instructions on §Pair device to CASAMBI Network section.

To unpair a device already connected to an unknown Network (for which you don't have the credentials), please follow these steps:

1. Tap the device icon from *Nearby Devices* section, select *Unpair*, and confirm.
1. During the unpairing process, turn OFF the CBU-SKYTIME by turning OFF the power supply.
2. Wait 1-2 seconds, then turn the power supply back ON.
3. On *Nearby Devices* section the device will be shown as unpaired.

Note: if the power supply is switched OFF and ON again quickly, unpair may not be done properly. Repeat the unpair sequence by allowing 1 or 2 more seconds to elapse between the moment you turn OFF and re-turn ON the Power Supply.

PROFILE MAPPING: FIXTURES

PROFILE NAME	# PROFILE ID	DESCRIPTION
CBU-SKYTIME	48545 (Default)	Once the time zone is set (chosen from the 38 time zones available worldwide), it provides the local date and time to the CASAMBI network. The device will be recognized as a sensor.

Table 5: Profile list