

Smart Lighting Node Hybrid Zhaga version

Multi functional plug-and-play lighting controller unit compliant with Zhaga Book 18. Can control any luminaire powered by DALI-2/D4i LED drivers. Includes an embedded gateway to control and remotely manage high efficient, resilient and scalable smart city mesh network



FULLY FUNCTIONAL EMBEDDED GATEWAY

Includes narrowband radio controller designed to manage Sub 1-GHz mesh networks providing full remote management via CAT-1 / CAT-M1 interface and internal eSIM with worldwide Tier-1 carrier roaming

FULLY FUNCTIONAL DALI-2/D4i LIGHTING CONTROLLER DEVICE

Certified Zhaga-D4i control device supporting IEC 62386 Part 251 (Luminaire Data), Part 252 (Energy Data) and Part 253 (Diagnostic and Maintenance Data). Compliant to IEC62386 Part 150 (Aux power supply)

ADVANCED SMART LIGHTING WITH ADAPTATIVE CONTROL

Autonomous schedule profiles supporting dusk and dawn events in addition to fixed time events. Dynamic lighting based on environmental illuminance and motion sensors

IRONCLAD SECURITY

Robust, scalable and self healing mesh network secured through 128 bits data encryption by embedded hardware security module

EASY REMOTE MANAGEMENT

Managed via Smart CMS over an IPv6/6LoWPAN mesh network with simplified operations for monitoring and OTA updates

TECHNICAL SPECIFICATIONS

OPERATING CONDITIONS

Operating temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Relative humidity	0% to 93% without condensing

POWER

Power supply	Nominal: 24 VDC
Power consumption	1.2W typical
Appliance class	Class II
Power backup source	72 hours with internal super capacitor for RTC

NFC INTERFACE

Standard	ISO/IEC 15693
Forum type	5
Frequency	13.56MHz
Reader/Writer	Short range / Long range

NARROWBAND NETWORK INTERFACE

Radio protocol	802.15.4 g - 6LoWPAN
Frequency band	868MHz and 915MHz (subject to local regulations)
Data rate	100kbps
Max TX power	≤ 14dBm (subject to local regulations)
RX sensitivity	≤ -99 dBm
TX bandwidth	≤ 200kHz
RX bandwidth	260kHz
Data encryption	AES - 128bit Enhanced security with HW security module (Crypto Engine) support
Embedded Gateway to Nodes ratio	1 : 50
Antenna	Embedded PCB antenna

INPUT / OUTPUT CONTROL

Temperature sensor	Embedded – Temperature sensor
Light sensor	Embedded- Ambient Illuminance detection
Dimming control	Up to 8 DALI-1 or DALI-2 Control Gear
Tilt/Shock sensor	Embedded - impact detection, tilt angle changes

BROADBAND NETWORK INTERFACE

LTE	LTE CAT-1 / CAT-M1
Peak Download Data rate	CAT-1: 10 Mbps CAT-M1: 300 kbps
Peak Upload Data rate	CAT-1: 5 Mbps CAT-M1: 375 kbps
SIM	eSIM
Antenna	LTE chip antenna

BLUETOOTH LOW ENERGY

Bluetooth standard	BLE 5.2
Frequency band	2.4 GHz
Antenna	BLE chip antenna

GPS CAPABILITIES

Support for GPS, Galileo, BeiDou and GLONASS Supports concurrent reception
Position accuracy < 2m (CEP-50)

EUROPE: STANDARDS & CERTIFICATIONS

Directive	2014/53/EU (RED) 2011/65/EU (RoHS II) 2015/863/EU (RoHS III) 2017 No. 1206 (Radio)
Electrical and Telecommunication Standards	EN 62311:2008 EN IEC 55015:2019 + A11:2020 EN 61547:2009 ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-3 V2.3.2 ETSI EN 301 489-17 V3.2.4 ETSI EN 301 489-19 V2.1.0 ETSI EN 301 489-52 V1.2.1 ETSI EN 300 220-2 V3.1.1 ETSI EN 300 328 V2.2.2 EN 301 908-1 V15.1.1 EN 301 908-13 V13.2.1 ETSI EN 303 413 V1.2.1 IEC EN 61347-1:2015 + AMD1:2017 IEC EN 61347-2-11:2001 + AMD1:2017 EN IEC 63000:2018

ENVIRONMENTAL

Diameter	80mm
Height	49mm
Weight	100g
Case material	Polycarbonate, UV stabilized f1 rated
Case protection	IP66, IK09
Connector	Zhaga Book 18



KEY FEATURES

- » Embedded Gateway that seamlessly connects and communicates with other IoT devices in the vicinity, enabling a smart and interconnected urban environment
- » 4-pin Zhaga Book 18 connector twist-lock socket
- » ON/OFF and dimming functions, customized schedules, and dynamic sensor-based lighting
- » Alarm detection and accurate monitoring of key operating parameters
- » Ideal for long operations and reduced interference
- » Integrated tilt/shock sensor and GPS receiver
- » Data loss protection with power outage detection and event generation (Last Gasp feature)
- » Supports Over-the-Air (OTA) firmware updates via the Smart CMS

Information subject to change without prior notice. Technical specifications may vary according to Part No
Please check the datasheet for the exact specifications. **Do not reproduce, publish or share without permission.**

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