

DCobi-NBIN

NB-IoT/LTE-M Internal outdoor lighting controller

Product description

DCobi-NBIN is a Low Power Wide Area Cellular Narrow Band DALI-2 outdoor lighting controller, powered directly from a D4i LED driver and is installed inside a luminaire, using minimum space. DCobi-NBIN works straight out of the box, connecting directly to the existing cellular network without the need for additional gateways, self-acquiring its GPS location and auto-commissioning into any TALQ compliant Central Management Software. Just like that, with no more complexity to the adoption of massive IoT technology in the urban environments.

Main Features

- Plug and Play auto commissioning
- Extremely low power consumption
- Onboard GPS for self- location and commissioning
- Extremely small dimensions, fitting inside any luminaire
- Asset management oriented, extended control and data exchange with the D4i Drivers
- Multi-driver management capabilities, allowing for efficient control of luminaires with up to 4 drivers
- Provides a robust and secure full, two-way wireless communications
- Over-the-air firmware upgrades
- Automatic identification of all lamp failures reducing on-site activities
- It runs onboard astronomical clock and lighting schedules with dimming profiles
- Accurate energy and electrical parameters metering suitable for supporting utility billing
- Digital input allows connection of other sensors
- Improved safety from the usage of an extra-low voltage power supply
- Very high reliability, with 5 years warranty from factory

Typical applications

Outdoor installations: streets, roads and highways, residential areas, road intersections, plazas, parks, outdoor industrial and logistics areas, parking lots, bridges, etc.

Ordering data

Model no.	Description	Installation	Wireless network	Power supply	Luminaire interface
DCobi-NBIN	LPWA NB-IoT/LTE-M Internal outdoor lighting controller	Flanged, internal	Works with standard LTE 3GPP cellular network NB-IoT/LTE-M	24VDC	DALI-2



Technical Data

Input

Supply voltage:	24VDC
Power consumption:	Average <0.3W

Interfaces

Luminaire:	DALI-2 according to IEC 62386 standard, compliant with D4i, up to 4 Drivers, individually addressed
Digital input:	Max. 24VDC, 20mA

Onboard GPS

GNSS automatic and precise self-location and commissioning of the smart device

Metering

Accuracy as per EN50470 or ANSI C136.52

Environmental

Operating temperature range:	-40 °C to +70 °C
Humidity:	95% RH, non-condensing
Storage temperature:	-40 °C to +85 °C

Mechanical

Dimensions:	L87.5mm (3.44") x W44.8mm (1.76") x H23.4mm (0.92")
Weight:	45g
Degree of protection:	IP20, higher when fitted inside the luminaire gear tray housing

Housing

Body:	ABS, black
Thermoplastic rating:	UL 94-HB

Mounting type

Flanged, gear tray mounting

Antenna connectors

Cellular:	SMA Female
GPS:	SMA Female

Warranty⁽¹⁾

5 years

Reliability data

654 FIT (@25°C, FIDES 2009)

NB-IoT/LTE-M Network

Modem:	700-2200MHz Band Support, CAT-M1: B1-B5; B8; B12-B14; B17-B20; B25-B26; B28 and B66, CAT-NB1/NB2: B1-B5; B8; B12-B13; B17; B19-B20; B25-B26; B28 and B66
Communications:	Data Throughput: NB-IoT: 30/60 kbps (DL/UL) LTE-M: 300/375 kbps (DL/UL), Rx Sensitivity LTE-M1: -108 dBm NB-IoT: -114 dBm GPS: -155dBm, Output Power: up to 23dBm
Protocols/Security:	LwM2M (OMA objects), IPv4/IPv6 Addressing, Secure Socket (DTLS), Root of Trust and Cryptographic Services to meet the latest requirements on internet security and authentication, TRNG and PRNG, RSA public key cryptography, Elliptic Curve Cryptography (ECC), Secure Remote Password Protocol (SRP), Hashing Functions (SHA-1, SHA-2), AES Symmetric Encryption

Certifications⁽²⁾

D4i Certified, TALQ, uCIFI ready

Approval marks⁽²⁾



Standards⁽²⁾

Safety:	EN 62311:2008, EN 62368-1:2014, EN 62368-1:2014 + AC:2015, EN 62368-1:2014 + AC:2015 + AC:2017 + A11:2017
Electromagnetic compatibility:	EN 301 489-1 V2.2.0, EN 301 489-19 V2.1.0, EN 301 489-52 V1.0.0, IEC 61000-4-2:2008, CISPR11:2015 + AMD1:2016 + AMD2:2019, ANSI C63.4:2004 + ANSI C63.4a:2017
Effective use of the spectrum:	EN 301 908-1 V11.1.1, EN 301 908-13 V13.0.1, EN 303 413 V1.1.1

Installation

Can be installed inside a luminaire, fixed to the gear tray plate

(1) Warranty subject to obiWAN Terms & Conditions

(2) Approval pending

Dimensions



Wiring diagram

