

## ACobi-NBNM

NB-IoT/LTE-M NEMA outdoor lighting controller

### Product description

ACobi-NBNM is a Low Power Wide Area Cellular outdoor lighting controller, installed on a luminaire using a standard NEMA street lighting connector.

ACobi-NBNM 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 Smart City Platform. 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
- Very low power consumption
- Onboard GPS for self- location and commissioning
- External wireless module that plugs in standard 3-pin, 5-pin and 7-pin NEMA twist-lock sockets (ANSI C136.10 and C136.41)
- Dual-dimming node with 0-10V (analog) and DALI (digital) dimming auto-detect function
- Asset management oriented, extended control and data exchange with DALI 2.0 LED Drivers, supporting ANSI C137.4
- 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
- Default Auto-photocell mode prevents day burning
- ANSI C12.20 accurate energy and electrical parameters metering supporting utility billing
- Designed for the most demanding outdoor conditions with IP66 and -40 °C to +70 °C operating temperature range
- Very high reliability, with 10 years warranty from factory
- ANSI C136.10 20kV/10kA extended surge protection
- Robust inrush protection with zero-crossing 10A relay switching
- Also suitable for luminaire bottom installation

### Typical applications

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



## Technical Data

### Input

|                       |                                                                            |
|-----------------------|----------------------------------------------------------------------------|
| Supply voltage range: | 100-277VAC, 50/60Hz (85-305VAC operational range)                          |
| Power consumption:    | Average <1.5W                                                              |
| Surge protection:     | ANSI C136.10 high peak surge current rating and high-energy absorption MOV |

### Output Control

Power relay zero-crossing switching  
Rated load current 10A @ 277VAC

### Interfaces

|                           |                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------|
| Luminaire:                | Dimming auto-detect 0-10VDC and DALI-2 according to IEC 62386 standard, up to 4 drivers |
| (Optional) Digital input: | Max. 24VDC, 20mA                                                                        |
| (Optional) Analog input:  | 0-10VDC                                                                                 |

### Onboard GPS

GNSS automatic with precision better than 5m for self-location and commissioning

### Metering

0.5% accuracy as per ANSI C12.20

### Environmental

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

### Mechanical

|                       |                                    |
|-----------------------|------------------------------------|
| Dimensions:           | H82.19mm (3.24") x D86.7mm (3.41") |
| Weight:               | 190g                               |
| Degree of protection: | IK09, IP66, when fitted            |

### Housing

|                       |                            |
|-----------------------|----------------------------|
| Base:                 | PBT, black                 |
| Cap:                  | PC, transparent smoke grey |
| Thermoplastic rating: | UL 94V-0 and UL UV-f1      |

### Mounting type

ANSI C136.10 and ANSI C136.41 NEMA twist-lock receptacles

### Warranty<sup>(1)</sup>

10 years

### Reliability data

>1300 FIT (@25°C, FIDES 2022)

### 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, 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 |

### Compliance

DALI-2, TALQ

### Approval marks



### Installation

Can be installed on the top or bottom of a lighting fixture. It supports 3-pin, 5-pin and 7-pin NEMA Twist-Lock sockets based on ANSI C136.10 and ANSI C136.41 standards

(1) Warranty subject to obiWAN Terms & Conditions