

v. 1.0.0  
DATASHEET

# RFT0 MODULE



## Born to be smart

Urbana RFT0 Module is a Plug&Play control device for lighting control applications. The device incorporates the multifunctional control unit which is able to track power parameters and set operating values. This device is a plug-and-play solution for integrating any luminaire or group of DALI lamps into Urbana IoT Platform.

## Lamps are IoT end devices with some smartness inside

The device deploys LoRa® radio technology for last mile communication. This innovative

low-power and long-range technology is used by the local controller for communicating with any kind of DALI Lamps. It operates under LoRaWAN® 1.0.3 standard with coverage radius up to 5 Km for indoor scenarios and up to 15 Km for outdoor. LoRa® technology provides the best performances for radio communication in terms of reliability, scalability and obstacles penetration with low power consumption.

## Best in class for energy efficiency

Adapt current flow according

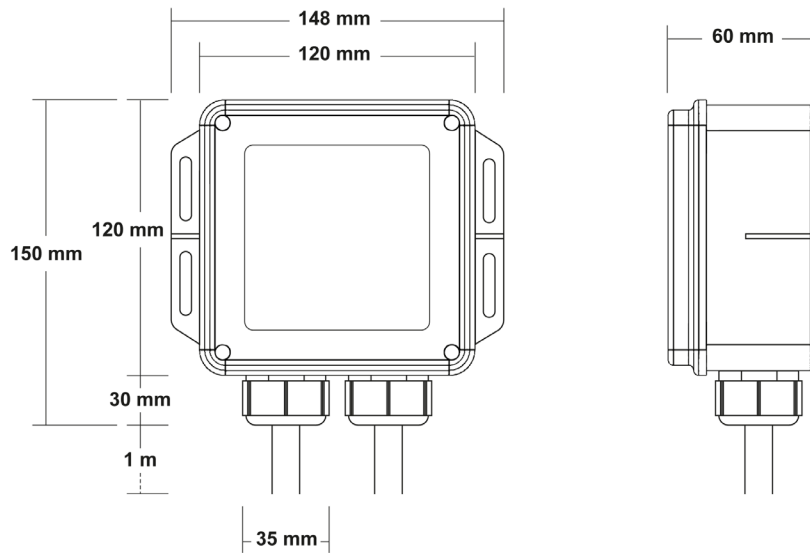
to physical parameters of the lamp.

Customize power and light level dynamically and in real-time to the preferred power level.

## Real-time optimization through Urbana IoT Platform

All lamps, thanks to Urbana RFT0 Module, can be programmed and reprogrammed whenever needed with a personalized lighting plan so the lamp will shine according to the requirements.

# DEVICE DIMENSION



# TECHNICAL SPECIFICATION

## MECHANICAL

<b>Housing:</b>	Enclosure
<b>Material:</b>	Thermoplastic
<b>Dimension:</b>	148 x 150 x 60 mm
<b>Antenna:</b>	Internal
<b>Color:</b>	Grey
<b>Connectors:</b>	Wires

## ELECTRICAL

<b>Input Voltage:</b>	110 ~ 265 VAC, 50/60 Hz
<b>Device Consumption (max):</b>	1,5W
<b>Load power output (max)</b>	1800W

## ENVIROMENTAL

<b>Operating Temperature:</b>	- 40°C ~ + 70°C
<b>Storage Temperature:</b>	- 50°C ~ + 80°C
<b>Operating Relative Humidity (max):</b>	100% non condensing
<b>IP Rating:</b>	IP65
<b>Certification:</b>	CE, RoHS

## AVERAGE LIFETIME

90.000 hr @ Ta=40°C
45.000 hr @ Ta=50°C

## INTERFACES AND PROTOCOLS

<b>Control Output Interface:</b>	DALI 1.0
<b>Radio Interface:</b>	LoRa®
<b>Protocol:</b>	LoRaWAN®

## FUNCTION AND MONITORING PARAMETERS

Power Consumption (internal meter)	Dimming (max 16 points)
Driver Status	Temporary Dimming
Astroclock	On/Off Cycles Counter
Internal RTC with Coin Battery	Controller Operating Hours
	Lamp Operating Hours

## CONFIGURATION

Plug&Play using Urbana IoT Platform
-------------------------------------

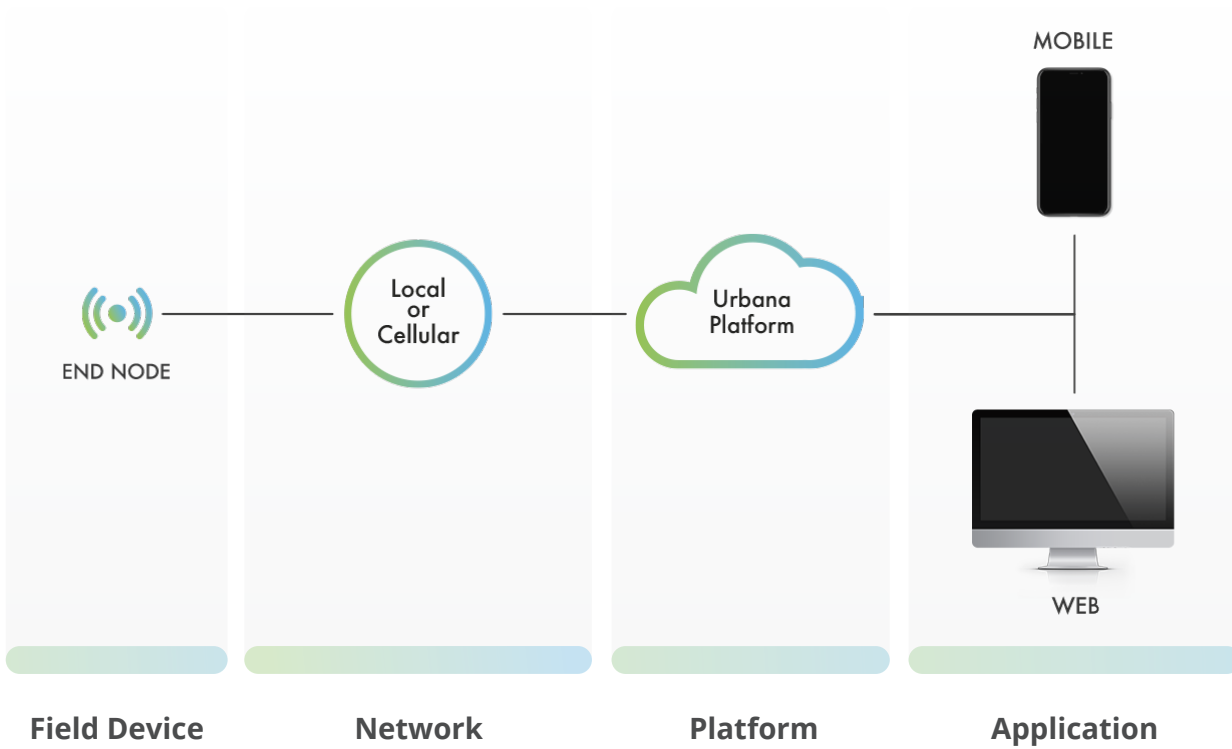
## COMPLIANCES

EN 55024: 2010-11	EN 62368-1:2014
EN 62479	EN 55024/A1: 2015-06
EN 62368-1/A11:2017	EN 55032: 2015-07
EN 62368-1/EC	EN 61000-3-3: 2013-08

LORA® INTERFACE	
<b>Frequency:</b>	LoRaWAN® 1.0.3 Regional Parameters
<b>Modulation:</b>	LoRa®
<b>Stack:</b>	LoRaWAN® 1.0.3
<b>Sensitivity:</b>	-135.5 dBm (SF 12; SB 125 kHz, CR 4/6) -133 dBm (SF 12; SB 250 kHz, CR 4/6)
<b>Output Power (Max):</b>	+18.5 dBm
<b>RF Data Rate:</b>	0.24 to 37.5 kbps
<b>RF Range:</b>	Up to 15000 m (line of sight)
<b>Trasmission Current:</b>	128 mA (18.5 dBm)
<b>Receive Current:</b>	21.5 mA (@125 kHz BW)
<b>Stand-by Current:</b>	<1.8 uA

# URBANA IoT PLATFORM

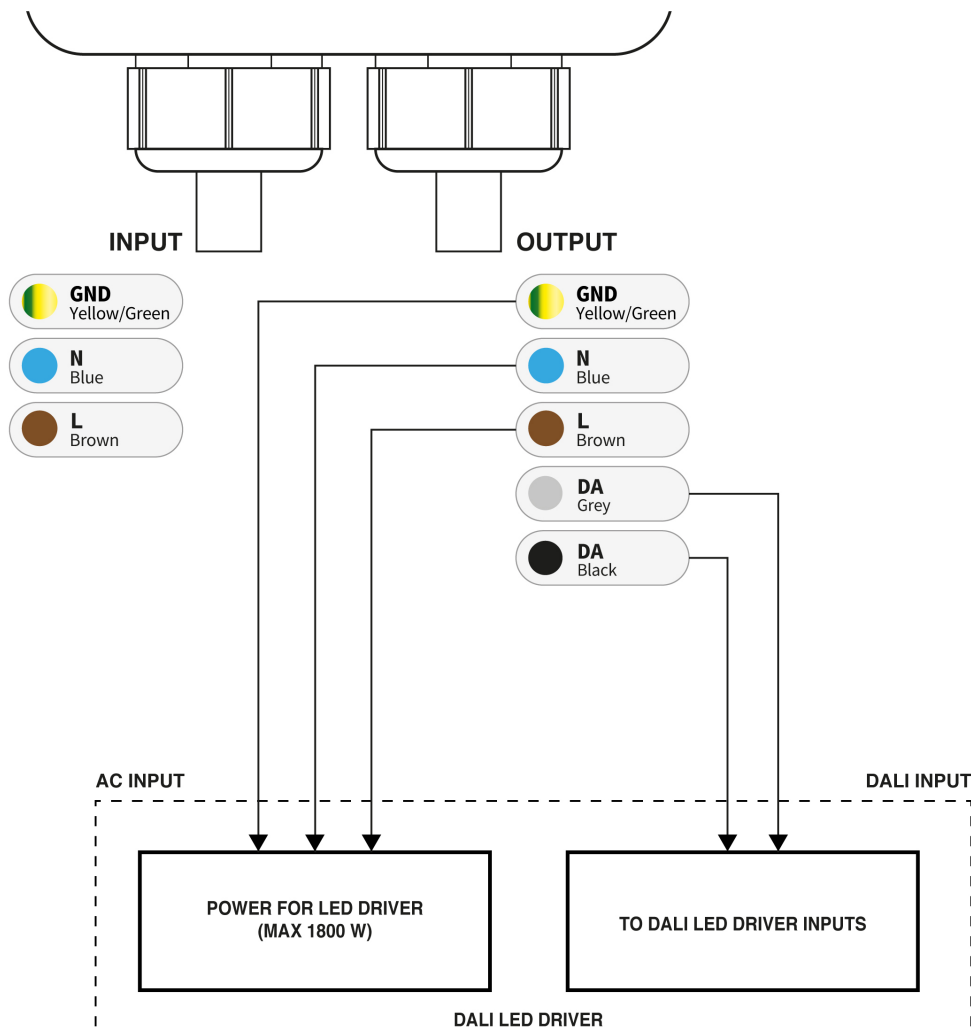
Urbana platform is designed to provide end-to-end IoT solutions from hardware to software. The core structure of the platform is based on a scalable distributed and containerised infrastructure maintaining the requirements of clients to scale up whenever needed. The tech stack used in Urbana allows us to have no restriction based on number of devices, features, users and availability. With use of these highly scalable and available databases, Urbana IoT Platform is able to provide advanced reporting and fallback mechanism to provide high level of reliability. One of the most important components of the Urbana IoT Platform is the MQTT broker (server). The MQTT layer is the gate that connects the cloud-based part of the infrastructure to the local field network of devices. It plays a critical role both in terms of security and scalability but also in terms of interoperability. Urbana infrastructure can interface with any device compliant with LoRaWAN® network protocol as standardized by the LoRa Alliance®. Urbana Smart Solutions, being an end-to-end provider, have in-house LoRaWAN® gateways readily for the clients if needed, which are plug and play compliant with all the Urbana devices.



- EFFICIENCY **PLATFORM**
- + EFFICIENCY **LIGHTING**
- + EFFICIENCY **MAINTENANCE**
- + APP **URBANA TOOLKIT**
- + APP **LOCAL CONTROL**

# CONNECTION SCHEME

## Input/Output



The power connection allows to control a load up to 1800W. The load is directly connected to the output-power terminals and is directly controlled via the DALI Interface. The RFT0 internal electrical values are collected by the internal metering circuit.

The DALI connection is used to control the connected devices.

**AC POWER INPUT WIRING:** connect the AC input to the mains.

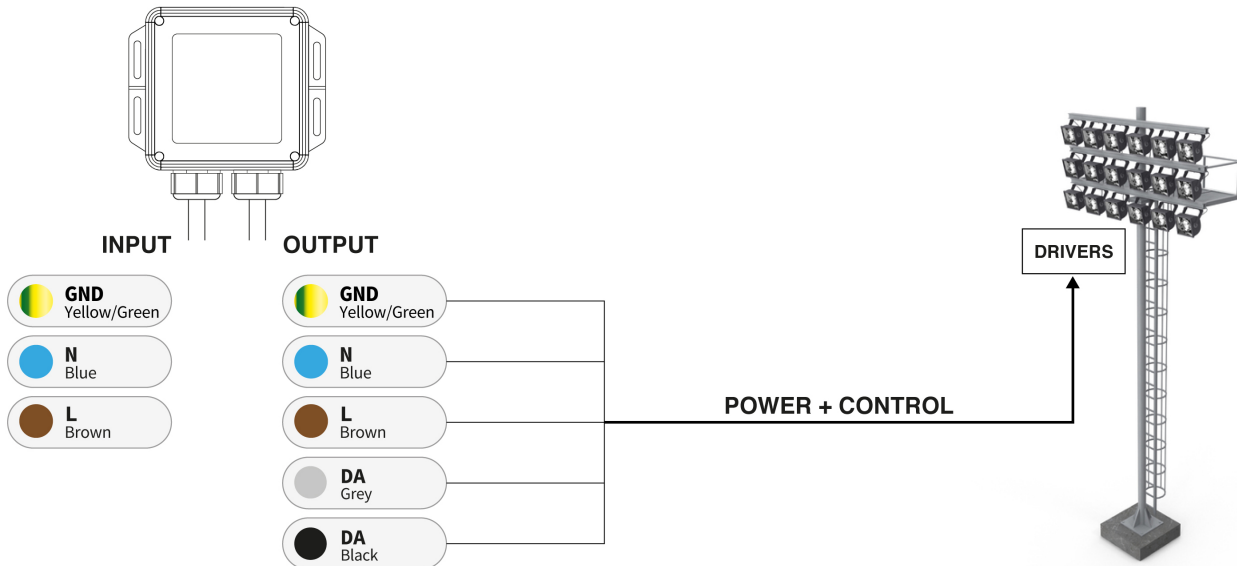
**DA+/DA- WIRING:** connect the DA+/DA- interface to the DALI input of the LED driver.

**POWER OUTPUT WIRING:** connect the power output to the power input of the LED driver.

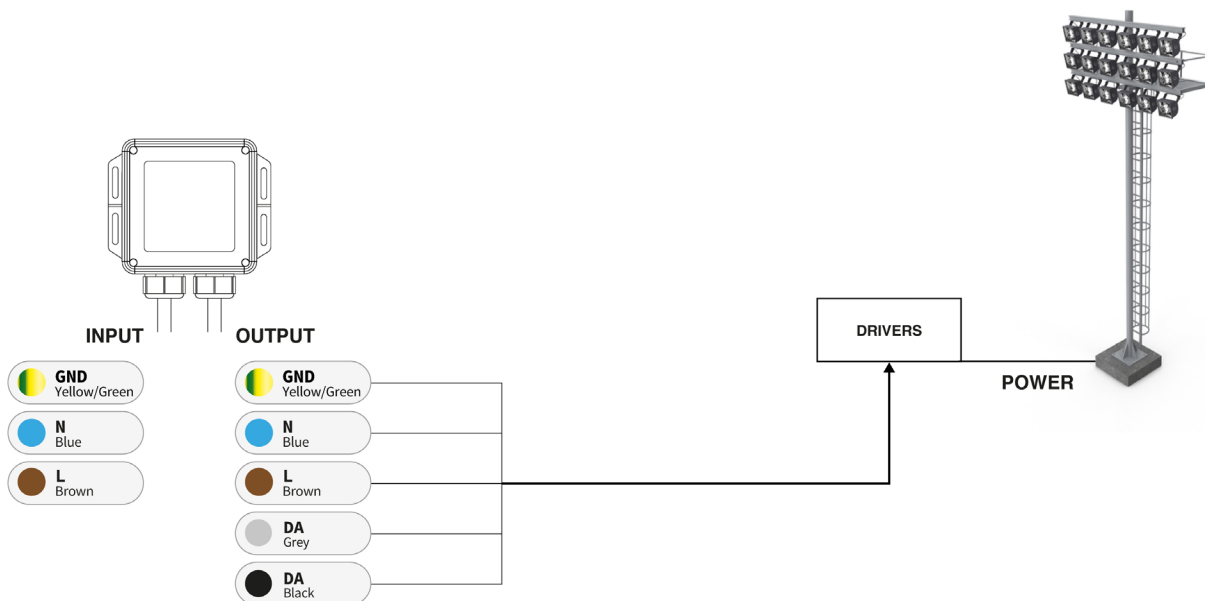
The device is able to automatically detect the DALI Bus power supply. In case there is an external DALI power supply, the RFT0 will not power the bus, otherwise it will activate the internal DALI bus power supply.

# APPLICATION NOTE

Power gear on the lamp:



Power gear in the base:





RFTO Module  
Datasheet

## CONTACT US

[info@urbanasmart.com](mailto:info@urbanasmart.com)

[urbanasmart.com](http://urbanasmart.com)



---

### EUROPE

#### Italy

Via Bruno Maderna 7  
30174 Mestre  
Venice - Italy  
Tel. +39 041 2689294

#### Germany

Wilhelm-Wagenfeld-Str. 16  
80807 Monaco  
Germany  
Tel. +49 089 90 421 50 60

### ASIA

#### Singapore

6 Shenton Way # 22-00 OUE  
Downtown 068809  
Tel : (+65) 6562255055  
Fax : (+65) 6562255303