

T-Light™ SMART LIGHTING SYSTEM



T-Light DCU Data Communication Unit

Using robust and encrypted two-way communications, the DCU manages the information traffic and commands for each member or group of lights: it stores all the status information and energy consumption of the light pole and communicates with the management application; and transmits all control commands to the individual light poles or group of lights.

3 types of DCU are available, each utilizing different communication technique – wireless mesh (DCU-M), wide area wireless star, point to multipoint (DCU-S) or Power Line Communication (DCU-P). Depending on optimal topology chosen for specific environment, one of three DCU models is used. DCU-M or DCU-P is usually installed within a distribution cabinet and serves as a communication gateway and can control up to 250 light poles using RF Mesh. DCU-S is installed on remote site with high antenna and can control up to 50,000 light poles in 10 kilometers radius. DCU provides monitoring status of each luminaire including aggregative energy, active power consumption, and various luminaire parameters such as voltage, current, power factor and temperature values.

DCU-M AND DCU-P KEY FEATURES

- **Supports two operation modes:**
 - Independent Mode** - Manages the light pole network locally - in this mode electricians can use external Laptop/PDA to alter configuration and network setups, without requiring a remote BackOffice application
 - Remote Mode** - Manages the light pole network remotely using advanced management software – customer's software, Telematics Wireless BackOffice T-Light CMS or a 3rd party standard management application
- **Built-in Cellular modem**
- **Occupancy sensor interface**
- **Configurable alerts** provided by SMS or EMAIL
- **Optional** - battery Backup for supporting alert submission in case of DCU electricity shutdown
- **Can act as smart street light controller** – replaces the traditional street light programmable logic controllers with advanced scheduling properties

- **Ethernet or Cellular** communication for remote management
- Light poles can be managed using **wired cabinet control**
- Supports **over the air firmware upgrade**

DCU-S KEY FEATURES

- **Licensed Frequency band**
- Long communication range enabling **wide area coverage**
- **Single DCU** communicates directly with up to **50,000 LCUs** thus significantly simplifying deployment
- If needed, communication range is augmented using **relay units**
- Supports **over the air firmware upgrade**
- Manages the light pole network remotely using advanced management software – customer's software, Telematics Wireless BackOffice T-Light CMS or a 3rd party standard management application
- **Configurable alerts** provided by SMS or EMAIL
- **Back-up option**

T-Light DCU

Data Communication Unit



DCU-M and DCU-P CONFIGURATION

RF SPECIFICATION (DCU-M)

Frequency:	868-869.5 MHz - EU ISM band
	902-926 MHz - US ISM band
Receiver Sensitivity:	-102dBm@38.4kbps
Output Transmit Power:	Up to +27dBm / 500 mW max
Compliance with FCC CFR47 PART 15	
Compliance with ETSI EN 300 220-1	

PLC SPECIFICATIONS (DCU-P)

Frequency operating band	100 – 400kHz FCC/ARIB
	9 – 95kHz CENELEC A
	95 – 120kHz CENELEC B
Receiver Sensitivity	1mV PTP
Dynamic Range	85dB
Compliance with EN50065-1, FCC, CENELEC, ARIB	

EXTERNAL INTERFACE

Ethernet, RS232, USB PORTS
Isolated I/Os
MODBUS interface

Built-In Cellular Modem

GSM / GPRS / WCDMA
External antenna
SIM card

ELECTRICAL SPECIFICATIONS

External AC/DC power supply	
External Input Voltage	110V/230VAC @50-60Hz
Operating Temperature:	-40°C to +85°C

MECHANICAL SPECIFICATION

Physical Dimensions:s	174 x 268 x 44 mm
DCU enclosure is based on LEC-7105	
Optional Installations:	DIN Rail EN-50022
Optional:	DCU in IP67 enclosure (per customer request)

DCU-S CONFIGURATION

RF SPECIFICATION

Frequency:	450-470 MHz - Licensed band
Bandwidth:	6.25kHz
Receiver Sensitivity:	-120dBm@4.8kbps
Output Transmit Power:	Up to +43dBm / 20Watt max
FCC Part 90.210 Certification (Spectrum mask E)	

EXTERNAL INTERFACE

Ethernet, RS232/RS485
USB PORTS
I/Os

External Cellular Modem

GSM / GPRS / WCDMA
External antenna
SIM card

ELECTRICAL SPECIFICATIONS

AC Input Voltage:	110/230 VAC @50-60Hz
Operating Temperature:	-40°C to +70°C

MECHANICAL SPECIFICATION

DCU enclosure:	Rack-mount 19-inch
Optional:	DCU in IP65 enclosure (per customer request)

T-Light™ is a trademark of Telematics Wireless. Other company and product names mentioned in this document may be trademarks or registered trademarks of their respective owners. Telematics Wireless reserves the right to make changes to the materials and products mentioned in this document without prior notice.

* Specifications subject to change without prior notice



www.telematics-wireless.com
sales@tlmw.com

Telematics Wireless Ltd.
 26 Hamelacha St.
 POB 1911 Holon 5811801, ISRAEL
 Tel: +972-3-557 5700
 Fax: +972-3-557 5703

Telematics Wireless USA Corp.
 2929 Custer Road, #307-65
 Plano, TX 75075
 Tel: (214) 865 6194