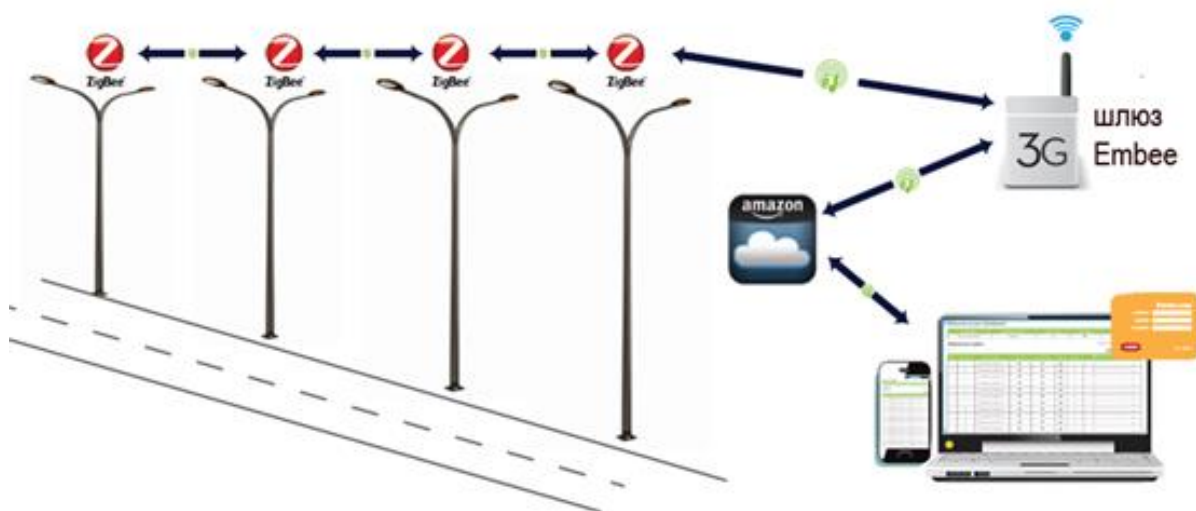




Embee® Smart street lighting system

Features & Benefits:



The Embee street lighting system consists:

- from **LED street lights fixtures** with a built-in Embee lighting controller inside or through the NEMO(ANSI C136.41) connector on the outside of Lamps.
- one **Gateway** Embee/GSM/3G/Ethernet for 1000 – 4000 pcs lamps per one NAN cluster. **No additional routers, extenders, ets!!!**
- **Smart meters** with 15-30 minutes power consumption with a built-in Embee modems. Smart meters from Ecosystem partners.
- Software **UCon** with 127 groups with day lighting profiles, year profile, and it allows users to manage their street lighting assets with real-time visibility and control.

It is reliable, secure, and scalable system, with dimming capabilities, tracks and report voltage, current, power consumption of lamp and group of lamps. The Embee system allows tracks and reports energy savings, can be load shifting and balancing tool for curltament service providers.

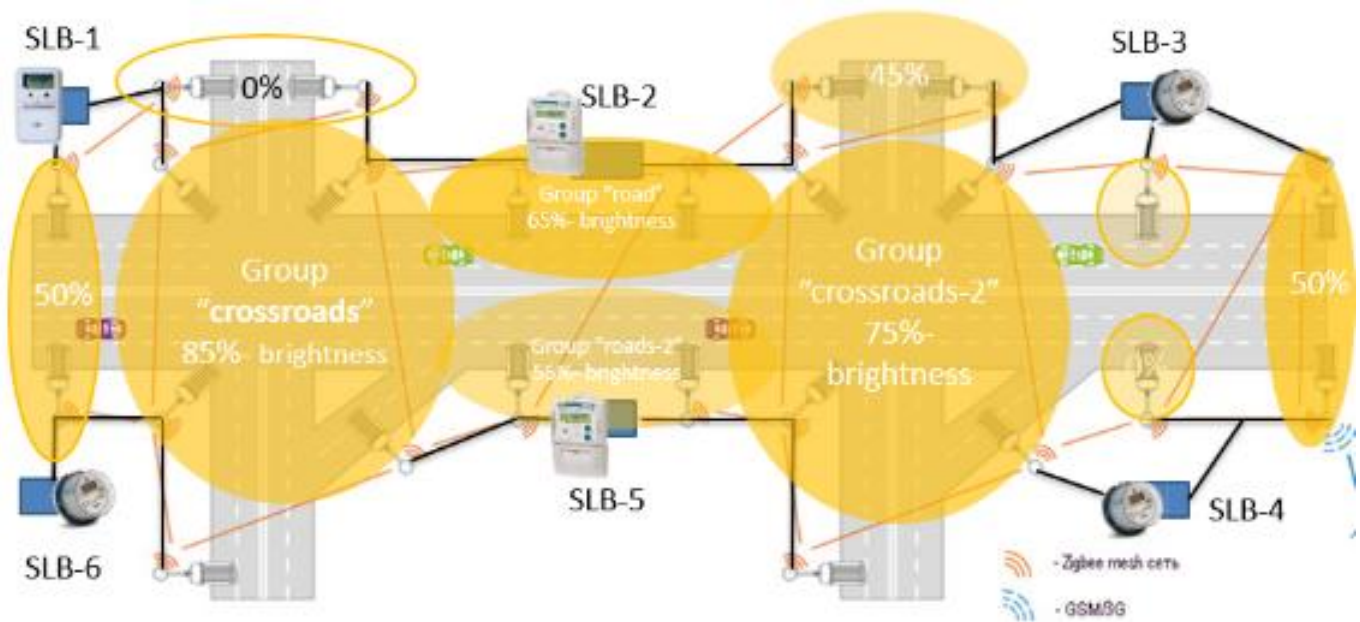
Contacts: KTS-INTEK Ltd

str., Borispolska 7, city Kyiv, Ukraine, 02099
tel: +38(068) 358 91 49

e-mail: info@kts-intek.com
<https://kts-intek.com>

Why Embee Smart street lighting system has more energy savings then competitors?

- 1) Because it is one biggest Embee wireless IoT cluster of up to 1000-4000 lamps without any additional routers!
- 2) It is 127 groups luminaries with dimming daily profiles for each group. More groups – more total energy savings.
- 3) Embee system controls and dimming each lamp in real time. **We do not operate street cabinets (SLB) like others.**



Our Embee NAN is a standards-based technology that provides you a secure, scalable solution. It is a standard 2.4 GHz radio IEEE802.15.4. Our NAN solution offers low cost end points, because we deploy biggest clusters and provides the security and reliability for luminaries, smart meters, sensors, water meters, EV charges, PV inverters, and is built to support coverage of both dense urban and sparse rural areas.

Hardware components of Embee street lighting system

Technical details of luminaire controllers:



Technology / RF spectrum/ Output Power	IEEE802.15.4 / 2.4 GHz /100 mW
License	No for all countries of the world
Security	encrypted communication, AES 128 keys
Control interface	0-10V/ 1-10V, DALI
Communication protocol	Embee
Power supply	85 – 260VAC / 50Hz-60Hz
Power consumption	0.3W
Surge protection	10kA
Dimming range	10%-100%
Maximum lamp power	300W
Functions / Operation mode	ON/ OFF / Dimming
IP rating	IP66, IP67
External interface	NFC
Connection	Wire, NEMA socket (ANSI C136.41)
Operating temperature range	-40°C to +65°C
Dimensions (length x width x height)	145x33x25mm, 70x50x25mm, 76 x 96 mm, , 62 x 33 x22 mm
Network interface	Embee NAN
Compliant standards	RoHS, EN 61000-3-2(2014), EN 61547(2009), EN 60068-2-1(2007), EN 60068-2-2(2007),
Certifications	CE

Contacts: KTS-INTEK Ltd

str., Borispolska 7, city Kyiv, Ukraine, 02099
tel: +38(068) 358 91 49

e-mail: info@kts-intek.com
<https://kts-intek.com>

Gateway Embee/GSM/3G/Ethernet

Technical details of gateway:

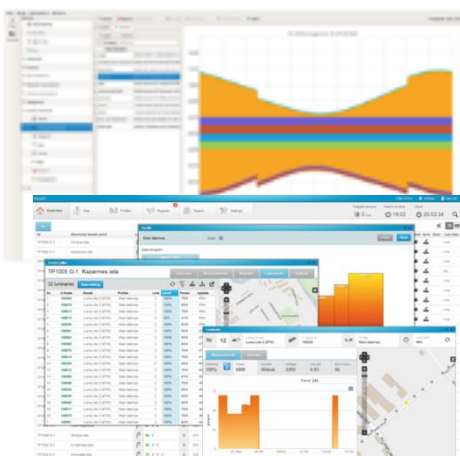


Input voltage	9-27V
Power consumption	15W
Operating temperature range	-30°C to +65°C
Embee modem	EMB-250-100UI-003, external connector SMA-F.
Communication protocol	Embee/ "transparent" for any protocols
Power supply	85 – 260VAC / 50Hz-60Hz
Security	encrypted communication, AES 128 keys/VPN
GSM модем	Sierra Wireless HL8518 (HSPA/EDGE/GPRS)
External interface	USB host, Mini USB (USB client),
Ethernet	10/100 Mbit/s
Max quantity support devices	5000
IP rating	IP54
Type of devices	Electricity meters, water meters, Embee street lamp controllers, sensors
Memory	1 Gb
Network interface	Embee NAN
Dimensions (length x width x height)	155x80x45mm,
Storage for data from 5000 pcs	~3-5 years



Smart meters with Embee modems

We implement our Embee modem in any smart meters with any protocols (DLMS/COSEM, MEC, etc). All meters communicate in one Embee NAN IoT cluster 1000 – 4000 nodes per gateway.



Software

UCon software for PC Windows, Linux, Android phones, and tablets. It supports 127 groups of brightness. Each group is individually configured with lights located according to the map. Beyond street lighting, our Embee communications platform can also manage smart meters (water, gas), grid automation, electric vehicle charging stations, and Load shifting and balancing.

Embee smart street lighting can also provide support for future applications such as microinverter, storage interter for EV charging infrastructure.