DLC Gateway IoT LX9

for Datek Light Control System

The Datek GW IoT LX9 is a component in the comprehensive Datek control and management solution for outdoor public lighting. Together with field based ZigBee RF Light Control Units (LCU's) and a cloud based server, optimization for energy use, maintenance, and light pollution is greatly simplified with substantial cost savings.

Technical Description
The device can be ordered pre-configured for controlling lighting fixtures with a wireless Zigbee control node. If Zigbee radio functionality is not activated, this can be ordered via support and remotely upgraded.
An optimal solution for a city, municipality or other manager of outdoor lighting systems who wants to optimize energy use, streamline operation and maintenance and minimize unwanted light pollution.

DLC Gateway IoT LX9 forms the basis for all our installations. It forwards local information up to the central cloud-based server, over communication interfaces for LTE cat1 EMEA and LAN. In systems where there is individual control of fixtures, the device can manage up to 1000 luminaire units (LCU's). Software supports DALI 2.0/D4i.

The device is equipped with digital and analog I/Os that are used for monitoring and controlling locally connected third-party equipment. Integrated relay switches can control up to 4 independent lighting circuits.

In-house developed robust software collects and logs all events. Detected errors are immediately notified in the web application, via email or SMS. The gateway is designed for fail-safe operation and has local software to prevent lighting disruptions in the event of a loss of communication.

Applications include; DALI control , LUX meter, S0 power metering, tunnel controller, motion detection, water level sensing and generic analog sensors. With a hardened IP enclosure, the Gateway can be installed directly on a pole or in a streetlight cabinet. Integrated relay switches may also directly control up to 4 independent lighting circuits. MODBUS IO extenders are available with many configurations for expanded functionality.

With Datek Gateways installed as part of an established infrastructure in an outdoor lighting system, a state-of-the-art SmartCity core network is in place. With OTA (Over-The-Air) software updates of the devices, the customer is always assured of an up-to-date solution with the latest features and at the same time provides the possibility for future customized applications.

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Ordering information
101340 - DLC Gateway IoT LX9
101420 - Software update luminaire control

Digital I/O Interface

- 4 x relay output.
  Max 5 A @ 250 VAC / 30 VDC
- 5 x digital inputs. Logic high: 8 to 40 VDC. Logic low: -5 to 3 VDC. Impedance: 13.8 kΩ @ 12 V.
- 4 x IEC62053-31 Class A input.
- I/O expansion Modbus modules.

Analog I/O Interface

- 2 x analog inputs.
  Range is 0..10 VDC or 0..20 mA
  Resolution: 12 bit Accuracy:
  Typ. ±0.08% FSR(V) @ 25°C
  Impedance: 40 kΩ (V)/500 ohm (C).
- Protected against transients and low-pass filtered.
- I/O expansion Modbus modules.

Electrical

- Supply operating range:
  8 to 36 VDC. 100 to 260 VAC.
- Short and reverse power protected.
- 12/24 VDC-out @ 500/250 mA.

Battery and Charger

- On-board 1 Ah (nominal) Li-Ion battery.
- Intelligent charger with temperature throttle and sub-zero degrees support.
- On-board temperature sensor.

Power Management

- Low-power modes.
- Wait for Event: Timer, Digital input, RS232/RS485, Cellular, Power change.
- Power consumption: down to 0.2 mA@12 V.
- Supervision of supply voltage / type.

Internal Interfaces

- Plug-compatible with the NX-910.
- Micro SD-Card slot with presence detection.
- Mini SIM-card slot.
- Service-port (Mini USB-B).
- Screw-terminals for: Power, I/O and DC-out.
- Angled screw-terminals for: RS232, RS485, 1-Wire and DC-out.
- Jumpers for RS485, I/O and DC-out operating modes.
- Internal BLE Antenna.

External Interfaces

- 3 x M20 cable glands.
- SMA female connector for Cellular, GNSS, and ZigBee.

Physical Characteristics

- Encapsulation: Durable Polycarbonate plastic.
- TPE gasket.
- Color: RAL 7035—light grey.
- Approx. 700 gram without accessories.
- W 130 x H 180 x D 60 mm. (wihout external connectors)

Environmental Specification

- Operating temperature:
  -40 to 60 °C.
- Battery charge temperature:
  -10 to 45 °C
- Recommended storage temperature: 0 to 45 °C.
- Humidity: 5..90 %
  (non condensing).
- Impact resistance: IK08 (EN62262)
- UV resistance: UL 508.
- Flammabiliy Rating: UL746C 5”
- Ingress Protection: IP66 (EN60529).

Approvals

- 2014/53/EU Radio Equipment Directive.
- 2014/30/EU EMC Directive
- 2011/65/EU RoHS Directive.
- Cellular: GCF/CE/FCC/PTCRB/IC/ Anatel/SRRC/NAL/CCC/KC/ NCC/JATE/ TELEC/RCM/ IFETEL/FAC/NBTC/ICASA.

EPD

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