IoT GATEWAY

TVILIGHT
EMPOWERING INTELLIGENCE

The Tvilight IoT Gateway is a state-of-the-art network interface device which synchronizes Tvilight outdoor lighting controllers and the street lighting management software (Tvilight CityManager or similar third-party software).

The IoT Gateway has an in-built radio module for wireless network configuration, commissioning, and maintenance. It can reliably communicate with a large number of devices spread across large distances. In-built smart monitoring tools notify users about the status of the lamps and the network (via CityManager or other software).

Several Internet connectivity options offer robustness and flexibility to the end-customer. Furthermore, it supports industry-standard protocols allowing for an easy integration with other systems and networks.

The Gateway encloses advanced industrial components for optimized performance worldwide

Designed in the Netherlands 　　Made in Europe

Technical Specifications

HARDWARE	
Integrated product	In-built power supply, 2.4 GHz wireless network communication, server communication (SIM-card, Ethernet, Wi-Fi). SIM-card provided by Tvilight with global coverage, or by customer (requires 1GB monthly data subscription)
Input voltage	Universal 100 – 240 VAC, 50/60 Hz.
Power Consumption	<8W (average)
Processor	High-performance industrial grade ARM Cortex-A9 CPU, 1 GHz
Data storage	Micro SD-card/On-board NAND flash
Electrical protection	Class II: overload, short-circuit and over-temperature protection
Electrical safety	Galvanic isolation between high-voltage and low-voltage terminals
Operating conditions	-20°C to +60°C operating; -40°C to +85°C Storage; 20% to 90%, Rh non-condensing
Antenna	Integrated internally for 2.4 GHz wireless, Wi-Fi and GSM
Connectors	1x Ethernet port (10/100, RJ45) 1x Micro-SD memory card slot (max. 32 GB) 1x Push insert Standard SIM-card bay (25mm x 15mm) 2x UfL Antenna connector (2.4 GHz wireless, WiFi) 1x SMA-F Antenna connector (2G/ 3G modem)
Product mounting options	Pole or wall mounting. Please observe installation manual and Tvilight installation guidelines with respect to radio connectivity.
Housing	IP65, UL94V0
Dimension	230 mm x 130 mm x 90 mm
Manufacturing	ISO 9001: 2008, Made in Europe
Compilance	CE, CB, EN61547, EN55015, EN60950-1, EN 301 489-1/17, EN 300 328, RoHS. RF transceiver compliant with US (FCC), Canadian (IC), European (ETSI), and Japanese (Telec) standards.

Keywords: Wireless IoT Gateway, Data Concentrator (DCU), Wireless Segment Controller (SC RF), Network Interface unit, Lighting Monitoring and Management Software

INTERNET COMMUNICATION

Server communication	Cat 4 (150 Mbit/s DL, 50 Mbit/s UL) 3GPP Release 9 FDD Bands 1, 3, 5, 7, 8, 20 UMTS/DC-HSPA+ 850/900/1900/2100 GSM 850/900/1800/1900 GPRS & EDGE Class 12
Network security	Additional Ports: Ethernet and WiFi 128 bit AES encryption between devices and IoT Gateway Certificate-based secure WebSocket and VPN connection between Gateway and Server
Functions	Real-time monitoring of devices and network Several Internet connectivity option using Ethernet, WiFi and GSM. SNTP time-sync between IoT Gateway and devices Regular logging of the system operation (selectable time interval) Real-time connection between Gateway and DigiHub Remote debugging of IoT Gateway and devices Over-the-air update for IoT Gateway and devices (software and firmware)
Remote monitoring	CityManager (or third-party software) enables remote management, monitoring, control, and configuration of lamps on individual and group level.

WIRELESS COMMUNICATION

Wireless network	2.4 GHz IEEE 802.15.4 self-healing and self-forming wireless network Depending on variant:+9.5 dBm max. transmit power, -96 dBm receiver sensitivity, up to 150 meter open field range or + 22 dBm transmit power, -100 dBm max. receiver sensitivity, up to 1 Km open field range Up to 250 kbps microcontroller RF data rate
Device to Gateway ratio	200:1
Product compatibility	Plug-and-play compatibility with SkyLite family, CitySense and CityManager
Warranty	Standard 2 years limited warranty. Extended warranty available. Warranty subject to proper use of installation- and application manuals. To protect the equipment from damage, over-voltage protector or surge protector must be used in case of voltages exceeding the rated voltages listed. See the protectors manual for installation guidelines.
Application	Outdoor street lighting. Area lighting

AVAILABLE VARIANTS

Order code	Description	Tvilight Serial Number
PR161834	Gateway V3.2 100-240V 22dBm external antenna	
PR172141	Gateway V3.2 100-240V 9.5dBm external antenna	

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