



DeltaGrid® Lighting Street Light Control Solution

Features

- Compatible with major LED street lamps with NEMA sockets
- Advanced dimming control and central management for energy use optimization
- NB-IoT, RF Mesh, and LTE wireless connectivity
- Built-in light and G-sensor for automatic dimming and fall prediction
- Remote diagnosis and troubleshooting
- Highly integrated with major management systems



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More than illumination. Transform how municipalities manage cities while saving energy

As street lighting accounts for almost 40% of a city's electricity costs, many cities are seeking to reduce energy usage to lower costs. The DeltaGrid® street light control solution adds wireless connectivity and cloud management capabilities to street lights. With remote control, diagnosis, and monitoring of connected lights, operators can optimize their energy consumption and benefit from improved operational efficiency and service quality of city lighting infrastructure, and end up optimizing energy consumption.

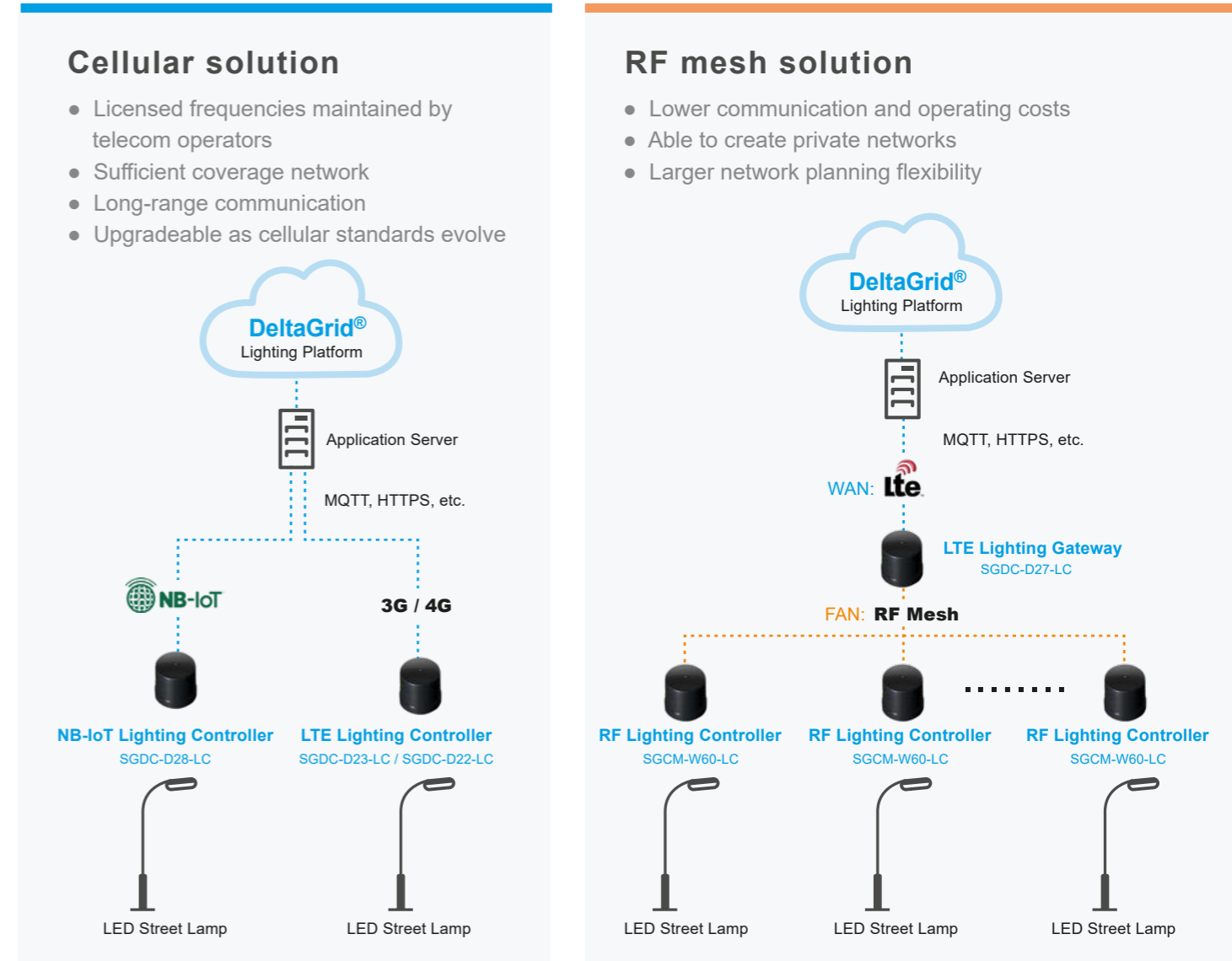
Manage, operate, and implement street light control with ease

 <h3>Municipality & Site Owners</h3> <ul style="list-style-type: none"> Minimize energy usage and human error Easy troubleshooting and quick response to errors Only invest in the lamps requiring replacement 	 <h3>System Integrators & Service Providers</h3> <ul style="list-style-type: none"> Complete solution with quick installation tools Customizable and integrable backend Abundant success experience for partner support 	 <h3>Street Lamp Manufacturers</h3> <ul style="list-style-type: none"> Add IoT to legacy street lamp product portfolios No extra hardware development or re-design effort Increase street lamp life via smart dimming
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Ready for interconnect with future IoT applications in smart cities

In the near future, smart street lighting will become a node for collecting city information. Besides street light control, DeltaGrid® street light control solution is also ready for integrating with, wireless communication technology and sensors to fulfill future IoT applications.

System Architecture



Successful Experience



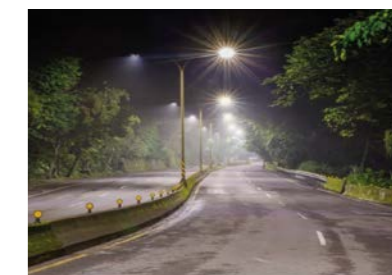
21,000
Smart street lights transform Jakarta, Indonesia

Save on electricity consumption by at least 48% when compared to traditional sodium lamps.



34,000
Smart street lights In Taoyuan, Taiwan

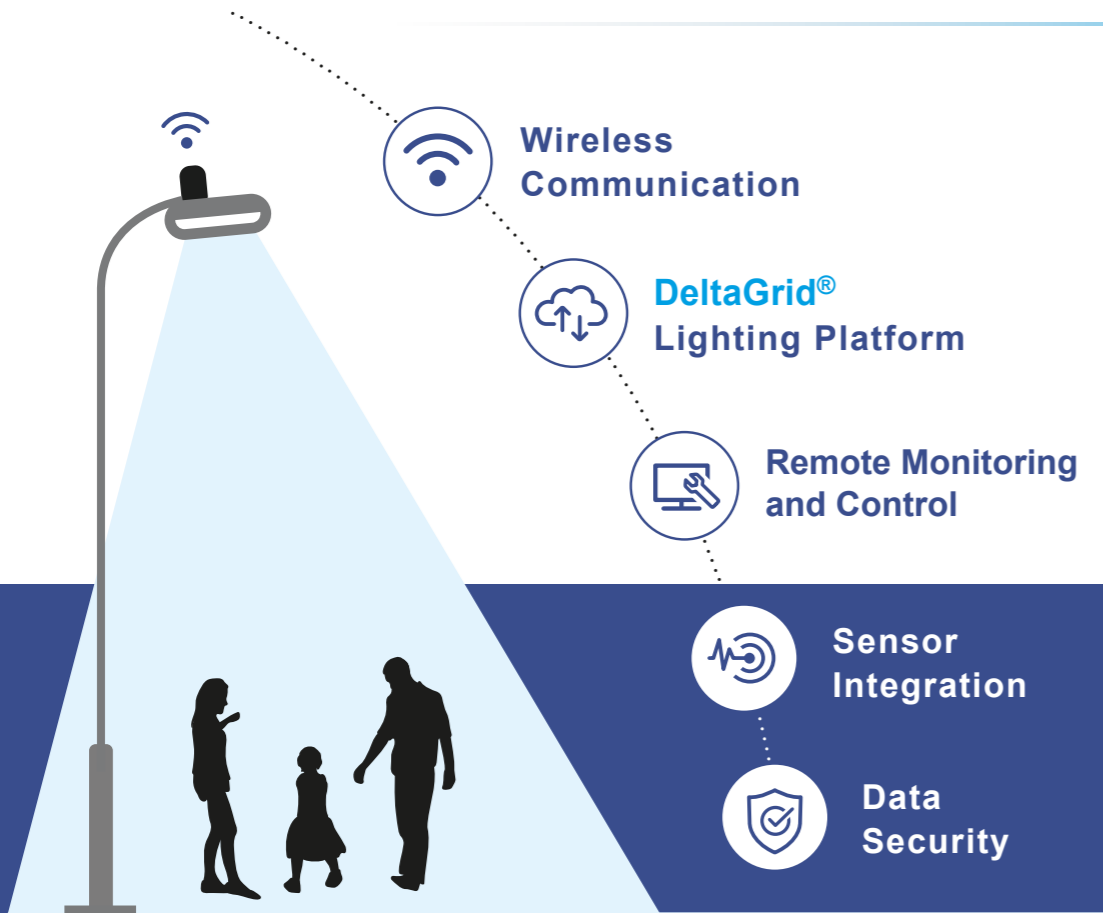
Save NT \$ 17+ million in urban electricity bills each year.



60,000
Smart street lights light up Kaohsiung, Taiwan

Dispatch personnel immediately to handle alerts from faulty street lights.

Open, reliable, and future-ready street light control solution



Optimize operational and energy efficiency of a group of connected street lights

Wireless Communication

Easy deployment in various environments

- NB-IoT / LTE solution: suitable when street lights are far apart or distributed over an extensive area
- RF Mesh solution: reserves network flexibility and saves on operating costs

3G / 4G

RF Mesh



DeltaGrid® Lighting Platform

Open architecture for system integration

- Easy integration with existing or upper systems via a web API
- Mobile app for quick commissioning and operation
- Firmware Over-The-Air (FOTA) remote update
- Secure web-based platform allows for access via any connected device



Remote Monitoring and Control

Real-time management for quick response

- Remote on/off, dimming, and scheduling
- Power consumption monitoring identifies abnormal conditions
- Real-time monitoring and event log for effective troubleshooting
- Automatic failure alert ensures responsiveness and quick repair



Sensor Integration

Built-in sensors add intelligence to street lighting

- Light sensor: automatic dimming and autonomous response to environmental changes
- G-sensor: fall prediction and detection increases safety

Data Security

Protect public service from hackers

- Firewall and user validation in cloud platform
- Data encryption by AES128, MQTT TLS (SSL), and MDVP

Specifications

Cellular solution

	 	 	 
Model Name	SGDC-L38	SGDC-D28-LC	SGDC-D23-LC
Description	NB-IoT Lighting Controller with Photo and G Sensors	NB-IoT Lighting Controller	LTE Lighting Controller
Communication			
Network Interface	NB-IoT	NB-IoT	LTE cat. 1
FDD Bands	3, 8, 28		
Antenna	PIFA		
SIM	Micro SIM card, Chip SIM		
Connector	7-pin NEMA socket		
General			
Power Input	AC 100 – 277V		
Enclosure	Semi-transparent	Black	Black
Dimension (W x D x H)	89.7 × 89.7 × 100.7 mm		
Operating Temperature	-30 to 70 °C		
Function			
Street Light Control	<ul style="list-style-type: none"> • ON / OFF • Dimming (range: 0– 10V) 		
Sensor	<ul style="list-style-type: none"> • Light sensor for sensing light • G sensor for fall-detection 	-	-
System Management	<ul style="list-style-type: none"> • FOTA • Network management • Band selection 	<ul style="list-style-type: none"> • FOTA • Network management • Band selection 	<ul style="list-style-type: none"> • FOTA • Network management
Certificate and Protection			
IP	IP66		
Compliant	RoHS	RoHS / EN 55015 (2013), EN 61000-3-2 (2014), EN 61547 (2009), EN 60068-2-1 (2007), EN 60068-2-2 (2007), ANSI C136.41	RoHS
Certificate	NCC PLMN 11	<ul style="list-style-type: none"> • CE IEC 61347-2-11, IEC 62493 • NCC PLMN 11 • BSMI CNS 14336-1, CNS 13438, CNS 14115 	<ul style="list-style-type: none"> • NCC PLMN 10 • BSMI CNS 14336-1, CNS 13438

RF mesh solution

	 	RF Mesh 
Model Name	SGDC-D27-LC	SGCM-W60-LC
Description	LTE Lighting Gateway	RF Lighting Controller
Communication		
Network Interface	LTE cat. 1	920 MHz RF
FAN	920 MHz RF	920-950 MHz <ul style="list-style-type: none"> • TX power: 23dBm • RX sensitivity: -95dBm
Antenna	PIFA (WAN) / PCB (FAN)	PCB
SIM	Micro SIM card, Chip SIM	N/A
Connector	7-pin NEMA socket	
General		
Power Input	AC 100 – 277V	
Enclosure	Black	
Dimension (W x D x H)	89.7 × 89.7 × 100.7 mm	
Operating Temperature	-30 to 70 °C	
Function		
Street Light Control	<ul style="list-style-type: none"> • ON / OFF • Dimming (range: 0– 10V) 	
System Management	<ul style="list-style-type: none"> • FOTA • Network management 	
Certificate and Protection		
IP	IP66	
Compliant	RoHS	
Certificate	<ul style="list-style-type: none"> • NCC PLMN 10, LP0002 • BSMI CNS 14336-1, CNS 13438 	<ul style="list-style-type: none"> • NCC LP0002