



What is a smart city?

A smart city is a city where there is a better quality of life and where public spaces can help citizens achieve their full potential and move more freely, while saving time and respecting the environment.

The intelligence of a «Smart City» is a distributed, shared, horizontal and social intelligence. It is an intelligence that promotes the participation of citizens and the organization of the city towards a greater optimization of resources and results. Energy consumption, public resource use and time are all optimized.

With the Web and the new technologies, access to services is easier and public spaces can be organized to favour mobility, save time and turn our cities smarter.

Remote management systems make objects more intelligent and recognizable, so that they can communicate data and provide access to aggregated information.

Thanks to a more efficient use of the Web, everything within a city (urban fittings, public buildings, monuments, etc.) can play an active role and become collectors and distributors of information about traffic, energy consumption, services and assistance to citizens, cultural and touristic attractions and much more.

The fixture can be equipped with a **control system which provides lighting managers with the ability to improve the performance of urban and street lighting** installations while saving costs by lowering energy usage, optimising operation and reducing CO₂ emissions. The system incorporates the latest technologies in power electronics, communications and IoT. This makes possible, among other features, an on/off scheduled switching, a dynamic programming of lighting levels, map-based visualizations, automatic alarm reports, real-time fixture monitoring and maintenance scheduling of every single luminaire of multiple installations at once.

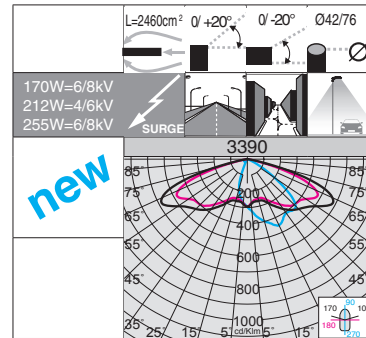
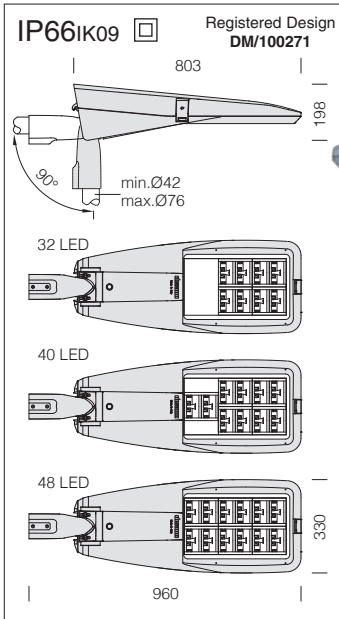
The system has a friendly and secure web-based user interface which can be operated anywhere and anytime from any web-connected device such as computers, smartphones and tablets providing real time and accurate control of the lighting infrastructure.

System Highlights

- Flexible solution
 - Valid for new installations as well as for lighting renovation
 - Autonomous system but integrable with other city services platforms
 - Valid worldwide
 - Compatible with most Smart City services platforms
- Values and revenues
 - Better lighting performance
 - Money savings
 - Energy costs reduction
 - Operation costs reduction
- Users
 - Municipalities and County Councils
 - Smart City platforms operators
 - Managers of large infrastructure
- Applications
 - Street and residential lighting (streets, roads)
 - Urban & architectural lighting (monuments, public spaces)
 - Large infrastructure lighting (airports, ports)
 - Large areas and sport lighting (car parks, stadiums)
 - Urban events lighting (celebrations, demonstrations)

System Architecture & Components

- System architecture
 - Smart power electronics: LED drivers
 - Wireless network hardware
 - RF Nodes and GSM Gateways
 - Cloud-based data acquisition and network management
 - Management software suite (Network & data management)
 - Web-based multi-device user friendly interface
- Technical aspects
 - Fully programmable electrical parameters and functionalities
 - Connectivity of sensors
 - Self-diagnosis, notification of alarms
 - Mains voltage and frequency monitoring
 - High efficiency
- Lighting network nodes
 - Multi-hop wireless mesh network
 - IP-based protocol, broad coverage
 - Automatic neighbour discovery, self-organization, ad hoc configuration
 - Extensibility, interoperability, open standards
 - Robust link, reliable and high-performance network
 - Additional sensor data acquisition (optional)
- Gateway
 - Mesh network concentrator
 - 2G/3G/LTE network gateway
 - Time and date precise synch
- Central host and database
 - Local or cloud hosting available
 - End-to-end secured system
 - Smart City and other horizontal management platforms integrability
 - Multi-level data interchange capabilities, app interfaces
 - Business Intelligence and data analytics
- Management Software Suite
 - Lighting configuration, management and maintenance
 - Easy installation, test capabilities
 - Data network management and configuration
 - Reports, statistics and data visualization tools
- Fast commissioning
 - Ease of installation
 - Assembling outside fitting
 - Remote configuration
 - Reliable, outdoor-proof
- Accuracy
 - GPS accurate location
 - Point-to-point management
 - Real-time operation



Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

		CLD CELL		W tot	LUMEN OUTPUT (tq= 25 °C)
wattage (700mA)	colour	weight	code		K - ølm 700mA - CRI
LED	grey		On request	170	4000K - 20634lm - CRI 70
	graphite		On request	170	3000K - 19190lm - CRI 70
LED	grey		On request	212	4000K - 25792lm - CRI 70
	graphite		On request	212	3000K - 23987lm - CRI 70
LED	grey		On request	255	4000K - 30950lm - CRI 70
	graphite		On request	255	3000K - 28784lm - CRI 70

On request: possibility to control each individual light point (see table on p. 343).

Smart City Lighting

- Flexible and avant-garde lighting
 - Programmable lighting
 - Dynamic lighting
 - Reactive to events
 - Makes possible a human centric lighting
 - Increases citizen satisfaction
 - Helps to improve safety on streets
 - Compatible with most existing Smart City & urban services management platforms and easily adaptable thanks to its open architecture
- Environmental sustainability
 - Energy savings
 - Reduction of CO₂ footprint
 - Lower lighting pollution
- Data-enabled lighting
 - IoT technology enables scalable, site-based or cloud-based street lights connectivity through a robust, self-healing, wireless mesh network

User Friendly Web-based Interface

- Main functionalities
 - Easy lighting levels & timing configuration
 - Creation of customised lighting schedules
 - Energy consumption monitoring
 - Power supply monitoring
 - Alarms and events reporting
 - Operation time recording
 - Geolocation and mapping of luminaires (multiple map choice)
 - Easy allocation of luminaires by town, street, coordinates, type
 - Maintenance planning
 - Multiple users administration
- Optimum lighting maintenance
 - Possibility of preventive maintenance
 - Optimization of reactive maintenance
- Privacy and security commitment
 - Encrypted communications
 - Safe communications exchange through highest encryption levels
 - Database access security
 - Secure hosting
 - Cloud protection and data confidentiality
 - Safe access with authentication
 - Highest protection against unauthorized access

