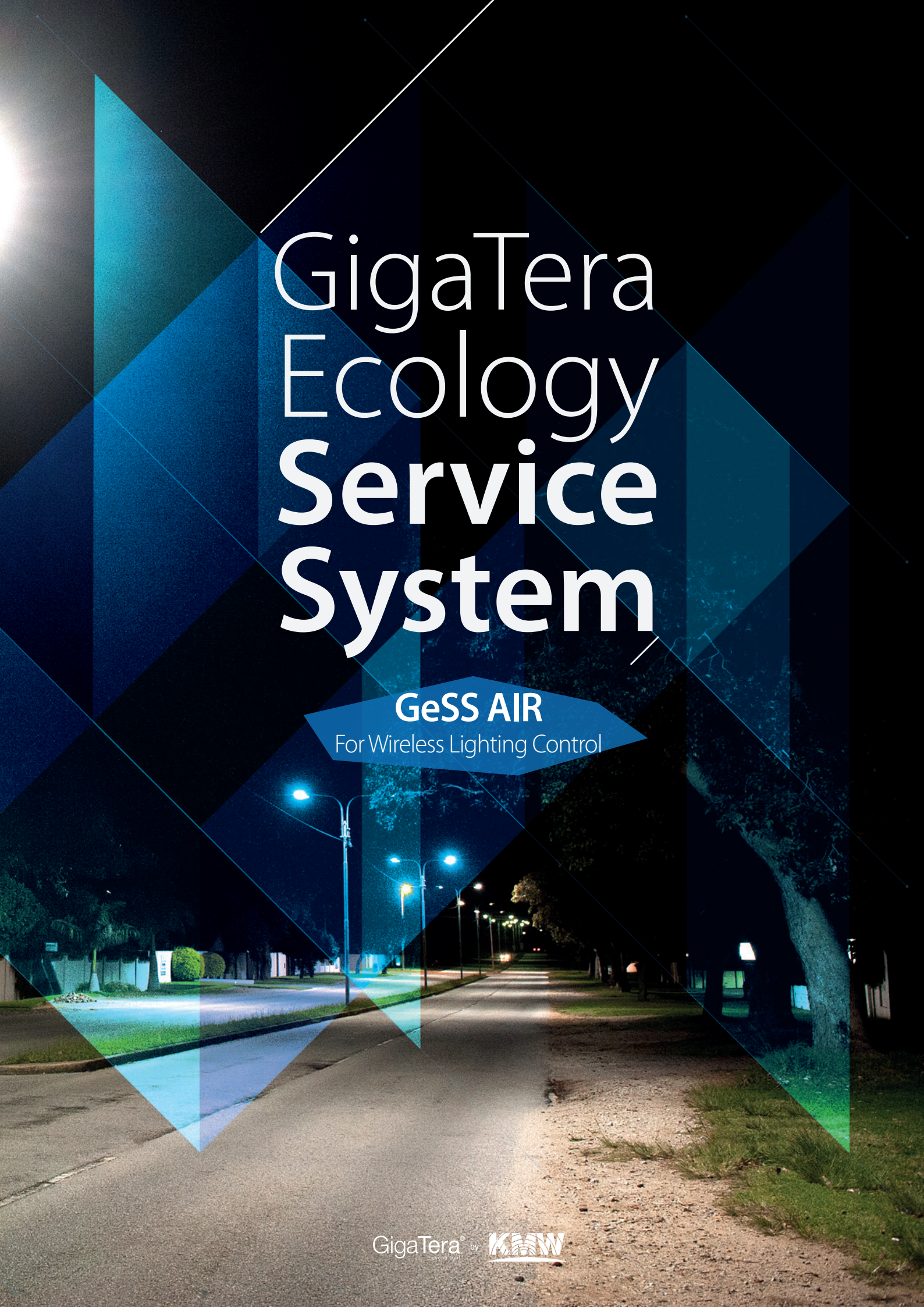
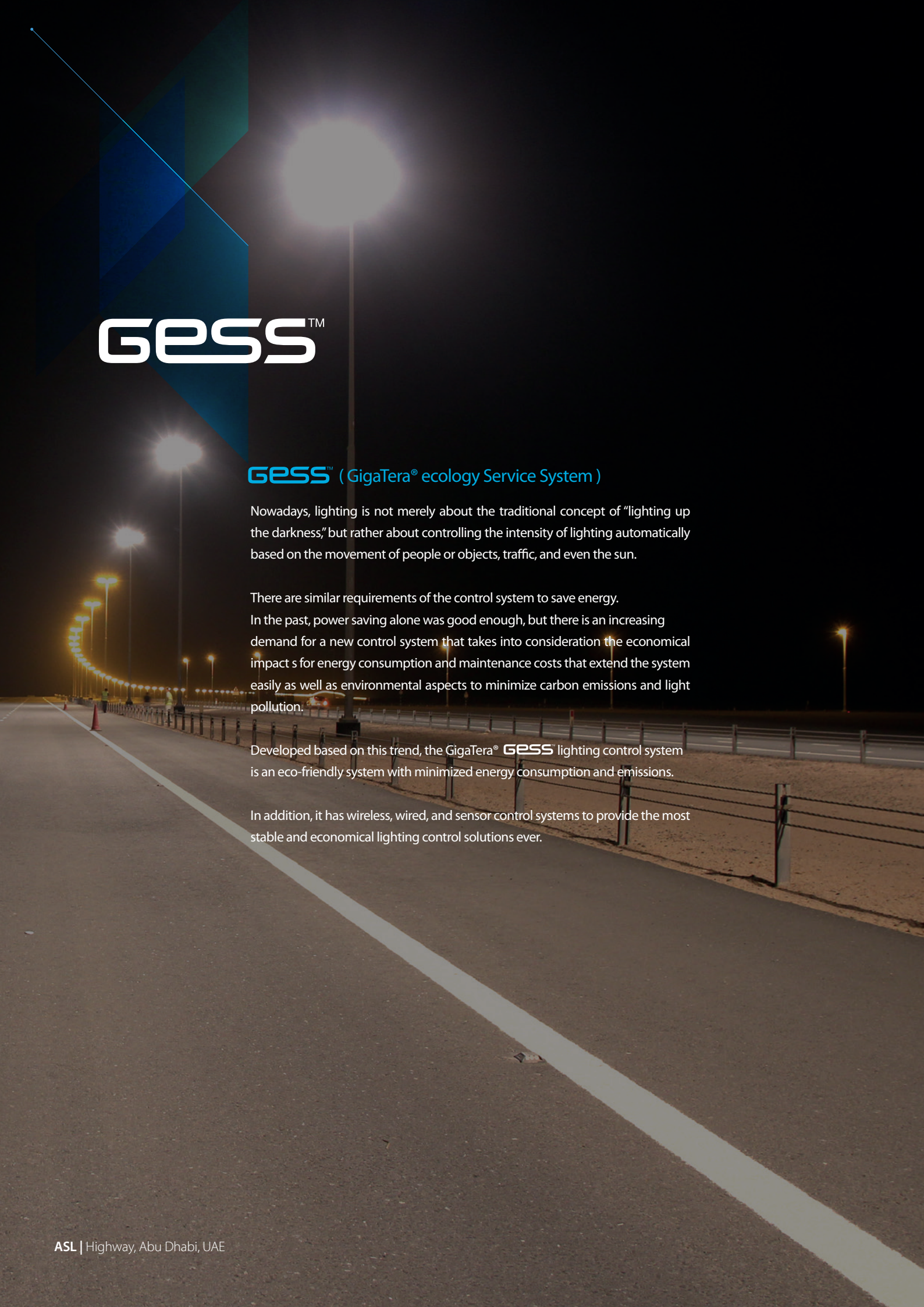

GigaTera
Ecology
Service
System
GeSS AIR
For Wireless Lighting Control
GigaTera® by KMW



GESS™

GESS™ (GigaTera® ecology Service System)

Nowadays, lighting is not merely about the traditional concept of "lighting up the darkness," but rather about controlling the intensity of lighting automatically based on the movement of people or objects, traffic, and even the sun.

There are similar requirements of the control system to save energy.
In the past, power saving alone was good enough, but there is an increasing demand for a new control system that takes into consideration the economical impact s for energy consumption and maintenance costs that extend the system easily as well as environmental aspects to minimize carbon emissions and light pollution.

Developed based on this trend, the GigaTera® GESS™ lighting control system is an eco-friendly system with minimized energy consumption and emissions.

In addition, it has wireless, wired, and sensor control systems to provide the most stable and economical lighting control solutions ever.

ASL | Highway, Abu Dhabi, UAE

Support for different controls

The GESS™ control system provides different support, including support for roadway lighting as well as wireless, wired, and sensor controls where even hybrid controls can be implemented through a combination of any of the above upon the customer's request.
With this hybrid control, a customized control system can be implemented based on usage conditions with the obvious advantage of energy savings and services.

Application of the standard lighting control protocol

The GESS™ control system supports wireless and wired standard protocols.

From individual to group controls

The GESS™ control system provides individual and group controls.
With this functionality, the user can set different on/off times and intensities in different areas for optimal energy savings and automatically or manually control the lighting with a GUI or central console without visiting the site.

Reliable system

The GESS™ control system is a solution dedicated to GigaTera® LED lighting, making it more reliable than other control systems. The main GigaTera® roadway lighting products, META and HERA, have a wireless node system (ZB Node). Indoor lighting products, such as Bela, Verona, and Galaxy, have the 1-10V, DMX-512, DALI control board, and indoor ceiling lighting products, including the IBL, NANA, and SORA, detects the sensors.
Different GigaTera® lighting products are perfectly controlled by the GESS™ system.

Energy and maintenance cost savings

The GESS™ control system can reduce energy consumption and maintenance costs.

GeSS AIR

Wireless Lighting Control

Wireless control solution

A wireless control function can be implemented by connecting the built-in wireless node (ZB Node) and the local wall-mounting switch (IPC controller) or a master unit.
The wireless control solution is based on the ISM Band 2.4 GHz and can be implemented in central and local controls. The wall-mounting switch (IPC controller) can be used for either one, while the master unit can be used for the central control configuration. The central control requires an operation PC for the GUI program.

*ISM band means bandwidth available for industry, science, and medicine

Applications

Industrial high bay
Sports lighting
High mast
Floodlight

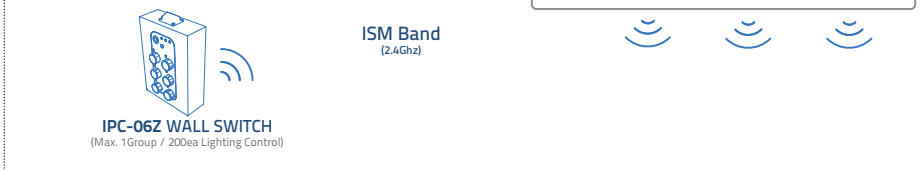
Applicable Product

Product	JETA	SETA	META	MEGA	HERA
GeSS Air	X	O	O	O	O

Product	SEGA	IBL	WAPA	SUFA	MAHA
GeSS Air	O	O	O	O	O

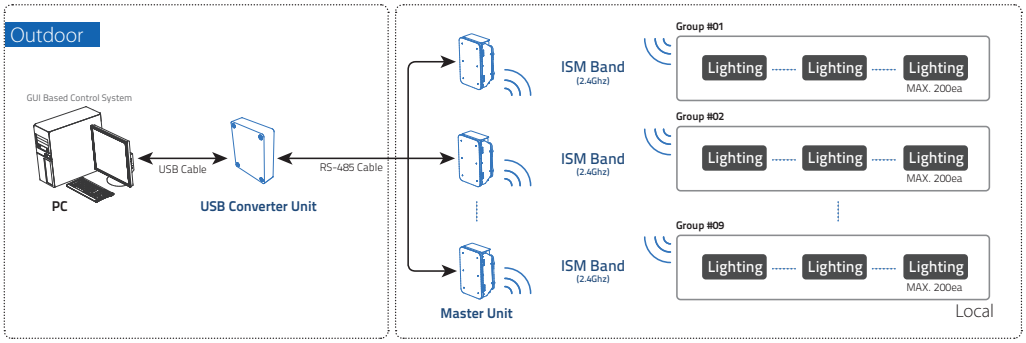
System configuration

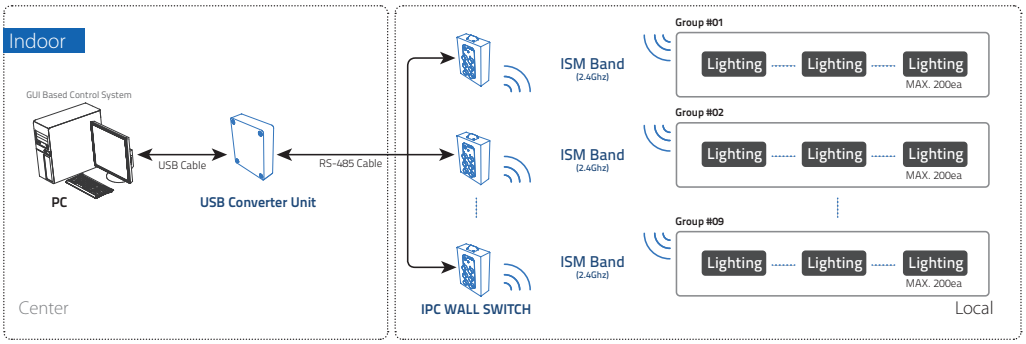
Case1- Local control (Indoor)



*Wireless repeater is recommended for areas with poor signal reception

Case2- Central control





*Wireless repeater is recommended for areas with poor signal reception

***GeSS supports a portable over the air control (POC) system.**

Important equipment

1/ Lighting





Product	JETA	SETA	META	MEGA	HERA
Wattage		60W, 80W, 100W	100W, 130W, 150W, 180W	240W	80W, 150W, 250W





Product	SEGA	IBL	WAPA	SUFA	MAHA
Wattage	80W, 100W, 130W, 160W, 350W, 500W	130W, 170W, 200W, 400W, 500W	50W, 75W, 100W	50W, 80W, 100W, 200W, 400W, 500W, 600W, 800W, 1000W, 1200W	200W, 300W, 400W, 600W

2/ Node

Node is basically built within a luminaire and receives a control signal from the control system through the gateway and transfers it to the luminaire.

A node supports the PWM/1–10 V intensity control, power on/off, monitoring for power consumption by the unit time / voltage / current, and *OTA updates.

* OTA (over-the-air): Wireless data exchange method

GeSS AIR

Wireless Lighting Control

Applications

Industrial high bay
Sports lighting
High mast
Floodlight

3/ USB Converter Unit

It is connected to a USB port and converts a received control signal to the RS-485 communication signal before transferring it to the master unit.

4/ Wall-mounting switch - IPC (Intelligent Power Controller)

The wall-mounting switch controls each product through communication with the built-in wireless node (ZB Node) and can support both local and central controls.

- 1–10 V brightness control
- On/off control for each zone and group
- Wireless sensor network control
- Easy group and zone settings using a remote controller
- Scheduler through the central control
- Power controller reception function for maximum power load
- Connected control of power controller (brightness control scenario)
- Real-time monitoring with LED indicator

5/ Master unit - Wireless (Master Unit-W : Wireless Lighting Control Unit)

This is a unit intended for the transfer of the control command of the GUI operation program to a node unit, and the unit only supports a central control. A master unit can control and monitor up to 200 node units.

6/ Serer (GeSS AIR) Wireless lighting Control Interface S/W

This is a PC operation program used to facilitate lighting controls and settings for the central control system of luminaires.

*Features	Lighting state monitoring On/off control Brightness control

Required HW Server SPEC

Item	Description
CPU	Intel Core(TM) i3 2.5GHz or higher
CORE	Dual core or higher
Memory (RAM)	2GB
HDD	500GB SATA 2.5" HDD

IPC - 6Z Specification

Item	Description
Input Voltage	AC 220V / 60Hz
Power Consumption	200mA @DC 5V
Communication Method	RS-485 / Wireless
Data rate	38400[bps], 8-N-1 / Wireless 250kbps
Dimension (W x L x H)	180 x 305 x 100 (mm)
Operating Temp.	-30℃ ~ + 70℃

USB Converter Unit Specification

Item	Description
Input Voltage	DC 5V
Power Consumption	20mA @DC 5V
Communication Method	USB, RS-485
Data rate	38400[bps], 8-N-1
Dimension (W x L x H)	125 x 175 x 75 (mm)
Operating Temp.	-30℃ ~ + 70℃

MASTER-W Specification

Item	Description
Input Voltage	AC 220V / 60Hz
Power Consumption	100mA @DC 12V
Communication Method	RS-485 / Wireless
Data rate	38400[bps], 8-N-1 / 250kbps
Dimension (W x L x H)	209 x 280 x 130 (mm)
Operating Temp.	-30℃ ~ + 70℃

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