HunterDouglas
Window Coverings

EOS™ Control System

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Window Coverings

⊖⊕⊖™ Control System

Contents

HUNTER DOUGLAS GROUP

Headquartered in Rotterdam, The Netherlands, Hunter Douglas was originally founded in 1919 in Düsseldorf, Germany and has developed into a worldwide operating group of companies that is publicly traded on the New York and Amsterdam stock exchange. The Group mainly engages in the manufacturing, marketing and service of window covering products and architectural products. Products are sold under different brand names, of which the best known are Hunter Douglas® ,LUXAFLEX®,Luxalon® and NBK Terracotta®. As of the end of 2017, Hunter Douglas was comprised of 130 subsidiaries and 50 production plants with and its products are sold in more than 100 countries. The Group manages its business units through five regional headquarters , in Europe, North America, Latin America, Asia and Australia.

Asia is a key market for the Hunter Douglas Group. Since 1979 when it started its first operation in Malaysia, Hunter Douglas successively established company-owned sales offices, assembly operations, as well as accredited licensees in more than 10 Asian countries and built a complete industrial layout and marketing network. The regional head office is now in Shanghai, China. Hunter Douglas Asia operates in two divisions. Architectural, covering metal ceilings, Techstyle ceilings, metal facades, architectural sun control and architectural terracotta. The Division of Window Covering Products offers a wide range of decorative blinds as well as solar protection products, catering both to the residential and commercial market. For more than 20 years now the advanced products, service systems and marketing philosophies introduced in Asia have led the development trends of industries. Products of Hunter Douglas are widely used in key projects, throughout the fields of transportation, commercial offices, government, public and industrial buildings.

In the future Hunter Douglas will expand its investments in the development of new products and production technologies throughout the Asian region .

Contribution of Sun Shading Systems in LEED™ Rating

U.S. LEED™ Certification for Green Building

LEED™ (Leadership in Energy and Environmental Design), is the most widely used green building rating system in the world and available for virtually all building, community and home project types. LEED™ certification is a globally recognized symbol of sustainability achievement. It stands for healthier, more productive spaces for us to live, learn, work and play, as well as less stress on the environment, by encouraging energy- and resource-efficient buildings. While project managers can pick and choose the credits they want to pursue, prerequisites set the minimum requirements that all buildings need to meet in order to achieve LEED™ certification.
Certified (40–49 points) Silver (50–59 points)Gold (60–79 points)Platinum (80+ points)

Certified
40-49 points earned

Silver
50-59 points earned

Gold
60-79 points earned

Platinum
80+ points earned

Intelligent dynamic shading system is related to 12 to 19 LEED™ rating scores, accounting for 10.9% - 17.2% of the total LEED™ rating scores. Including Integrative process credits as, Sustainable sites, Energy & atmosphere, Indoor environmental quality, Innovation.

I. Sustainable Sites:Maximum 2 points
a)Heat Island Reduction:Non-Roof (1 point)
   Shading solution: External shading, roof shading
b)Light Pollution Reduction (1 point)
   Shading solution: All shading products

II.Energy & Atmosphere Maximum 10 points
a)Optimize Energy Performance 1-10 pts
   Accordin to terms 3.1, 3.2 and 3.3, application of an intelligent shading system such as EOS™ control system, can help to obtain at least 3 points.

III.Indoor Environmental Quality Maximum 7 points（At least 4 points）*
a)Daylighting and Views: Daylight (Credit 8.1 & 8.2) 2 points
   Shading solution: Indoor and outdoor rolling shades, indoor and outdoor blinds, sunshade louvers, etc.
b)Daylighting and Views: Views (Credit 8.3 & 8.4) 2 points
   Shading solution: Indoor and outdoor rolling shades, indoor and outdoor blinds, sunshade louvers, etc.
c)Outdoor Air Delivery Monitoring 1points
   Shading solution: Indoor and outdoor rolling shades, indoor and outdoor blinds, sunshade louvers, shutters and window opener with EOS™ control system.
d)Increased Ventilation 1points
   Shading solution: Indoor and outdoor rolling shades, indoor and outdoor blinds, sunshade louvers, shutters and window opener with EOS™ control system.
e)Thermal Comfort: Compliance1 point
   Shading solution: Indoor and outdoor rolling shades, indoor and outdoor blinds, sunshade louvers, shutters and window opener with EOS™ control system.

Assessment Standard for Green Building

The Assessment Standard for Green Building is the new version of GB 50189- 2015, the Design Standard for Energy Efficiency of Public Buildings. In a further step, the reasonability of the range of performance improvement for energy efficiency, which serves as the basis of scoring and bonus of cooling energy efficiency in GB 50378- 2014.Standard Evaluation of residential and public buildings is carried out from six major perspectives, i.e. land-saving and outdoor environment, energy-saving and energy utilization, water-saving and water resources utilization, material-saving and material resources utilization, rooms, internal environmental quality and operation management system. Buildings are scored, in each of these six categories. The total score is obtained by using a weight coefficient for the score in each category.

The grade of green building design evaluation marks runs from low to high: one star, two stars and three stars.The Assessment Standard for Green Building divides into control items, general items and optimization items. On the basis of meeting all the control items, the general items and optimization items are judged to reach the standard.

| Grade	General Items（Total 43）						optimization items (Total 14)
	land-saving and outdoor environment (Total 6)	energy-saving and energy utilization (Total 10)	water-saving and water resources utilization (Total 6)	material-saving and material resources utilization (Total 3)	rooms, internal environmental quality (Total 6)	operation management system (Total 7)	
★	3	4	3	5	3	4	-
★★	4	6	4	6	4	5	6
★★★	5	8	5	7	5	6	10

I.General items
a)Use the natural conditions of the site to rationally design the building shape, orientation, floor space and window-wall area ratio, so that the house can get good sunshine, ventilation and lighting, and set up shading facilities as needed;
b)High-efficiency light sources, high-efficiency lamps, low-loss ballasts and other accessories are used for lighting in public places and locations, and other energy-saving control measures are adopted for setting natural lighting areas or photoelectric control;
c)Adopt adjustable external shading products to prevent solar radiation from entering the room directly through window glass in summer.

II.Optimization items
a)Use adjustable external shading to improve indoor thermal environment.

Intelligent Shading Energy-saving Effect
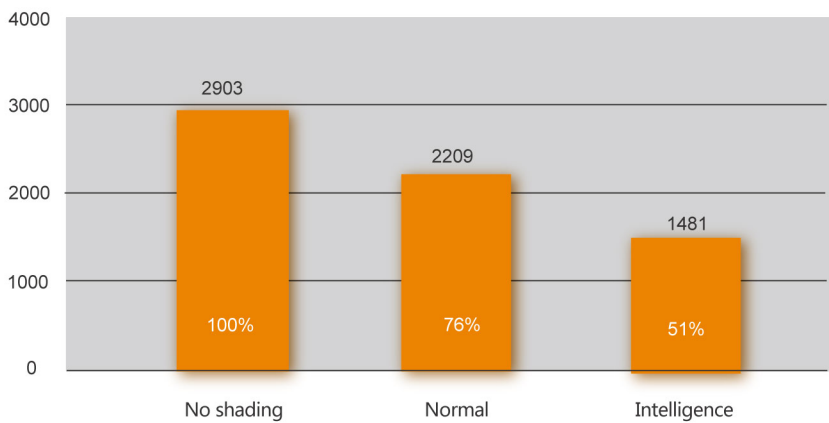
Unit（Kwh）,The data source:HunterDouglas-Energy Tool.
The calculating unit:Full glass curtain wall,office units 3.5M（W）x5.0M（D）x4.0M（H）,sunshade products：exterior venetian blinds.
For details please consult our Technical Department.
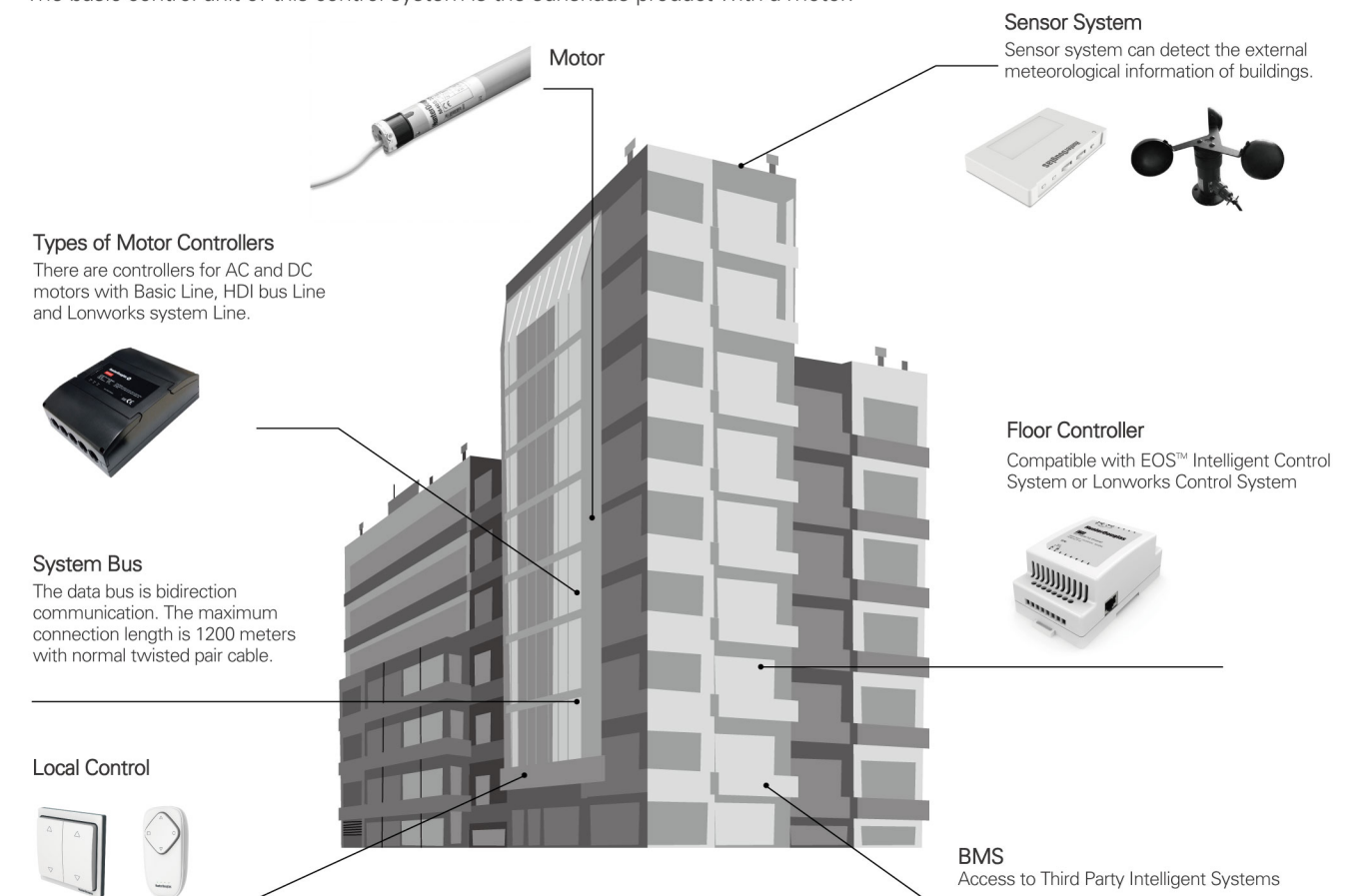
eos™ Control Systems

Introduction

eos™ is the name of a new generation of intelligent shading control systems, developed by the Hunter Douglas group. The eos™ system is suitable for both window covering products or architectural shading products. It brings us personalized control of all kinds of sunshade products, and can help to create intelligent offices for commercial projects, as well as intelligent rooms for hospitality projects.

General Features of the eos™ Control System

· **Flexible**

Flexible grouping allows to change the control scope, function and authority level of a local switch at any time. This feature is especially useful in rented offices spaces. Local users can use a number of input devices, such as wall switch, touch pad, remote control etc.

· **Precise**

With high speed 32-bit MCU and advanced motor feedback technology, each motor can be accurately positioned to any of 10000 possible stops. The shading product can be used to adjust precisely, and provide a real-time feedback on the running state, position and angle of each shade or blind.

· **Powerful**

By making use of ethernet technology the entire control system can be applied to any size of project and be extended indefinitely. Upgrade and maintenance can be done remotely, through using fixed IP addresses.

· **Intelligent**

Dsitributed Intelligence Technology : Each controller and motor has a unit ID in a bus line. The system can control each motor or get real-time feedback on its status and position.Furthermore, solar tracking and shadow calculation functionalities can be applied, in order to create a complete sun/shade management system.

· **Open system**

The EOS™ control system can provide 2 standard integrated interface: OPC and BACnet/IP., can be seamless integrated to BMS system. Through bi-direction communication the system can check the status of each motor, and so determine the position and angle of the slats.

· **Personalized**

A variety of operation scenarios can be programmed and executed, either through a key trigger or automatic timer.

Structure of the eos™ Control System

The basic control unit of this control system is the sunshade product with a motor.

Sensor System
Sensor system can detect the external meteorological information of buildings.

Motor

Types of Motor Controllers
There are controllers for AC and DC motors with Basic Line, HDI bus Line and Lonworks system Line.

Floor Controller
Compatible with EOS™ Intelligent Control System or Lonworks Control System

System Bus
The data bus is bidirection communication. The maximum connection length is 1200 meters with normal twisted pair cable.

Local Control

BMS
Access to Third Party Intelligent Systems

EOS™ Control System

Wind and Sun Auto Control
Automation control, energy saving.

Flexible Grouping
Changing room divisions does not require change of hardware or wiring.

Schedule & Timer Control
An integrated timer allows for the scheduling of scenarios and assists in shadow calculation.

Fire Fighting Linkage
Shades can be made to automatically go up quickly in case of a fire alarm.

Precise Positioning
Position precisely, to make sure the blinds present a beautifully uniform view.

Control Feedback
Feedback
Each motor has an individual network address and feeds back status information to the system.

BMS Integration
EOS™ can interact with other BMS, to create an energy efficient and Green Building.
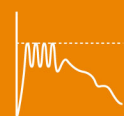
Off-peak Motor Start
Avoids an instantaneous peak charge on the power grid when a large group of shades is operated centrally at the same moment.

Central Control
Overall control and management of a large number of shades.

Scene Control
Scene
Customize control, preset scene.

Wind and Auto Sun Control

High Division ×4
Central Division ×4
Low Division ×4
> 200M
×4
Normal building   Skyscraper

Depending on the height of the building, it can be recommendable to add more sensors on different floors of each facade.

a) Auto Detect

The system continuously monitors the intensity of outdoor lighting through a number of sensors, positioned strategically on the top of the building;

b) Anti - Glare

The system calculates the azimuth and elevation angle of the sun, according to longitude and latitude of the building and a real-time clock, automatically adjusting the blind angle or the shade position to avoid direct glare for indoor user;

c) Natural Light Harvesting

While controlling glare, the system can adjust the position of shades in order to gather light and project it on the ceiling and further indoors. This helps to save energy, because the need for artificial lighting is reduced;

Noon
The sun hangs above the sky at its zenith

Morning
The sun gradually rises from the south-east and shines brightly

Afternoon
The sun begins to set in the west but still shines strongly

Dawn
The red sun appears across the horizon and shines tenderly

Evening
The red sun gradually sets in the western horizon and glows softly

d) Summer and Winter Mode

In winter mode, system can adjust the shade to gather more daylight in day and closed the shade at night to keep warm indoor.
In summer mode, system can adjust the shade to avoid daylight in day and open the shade at night to get heat dissipation indoor.
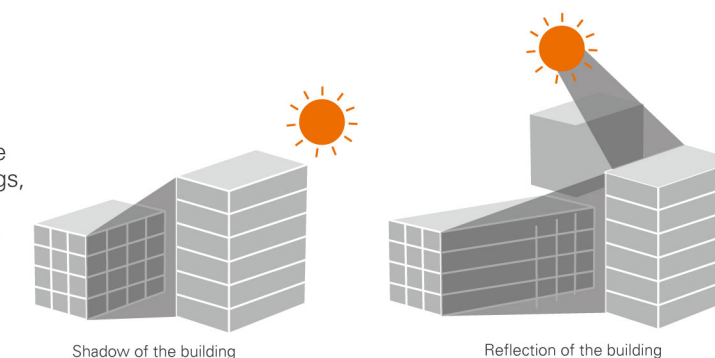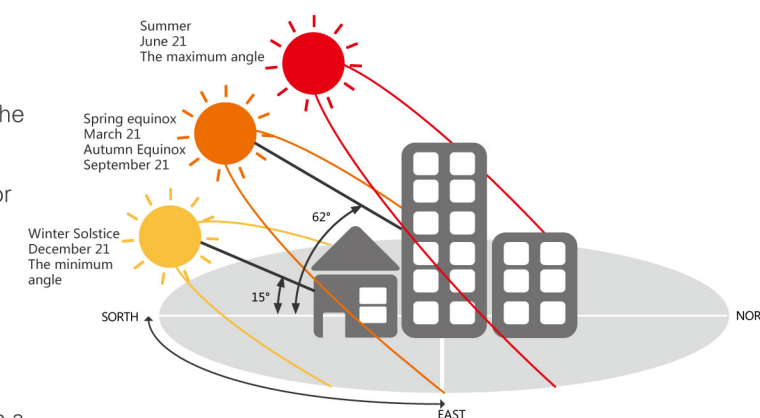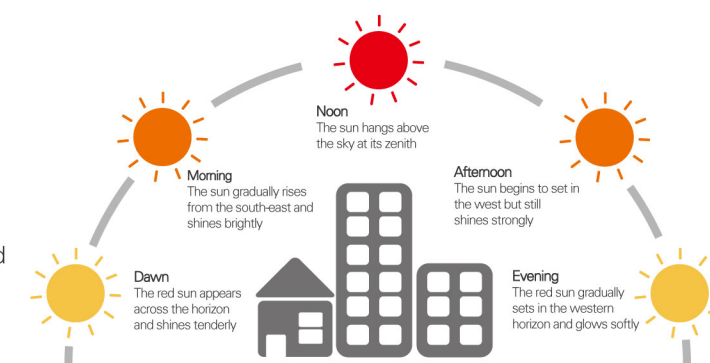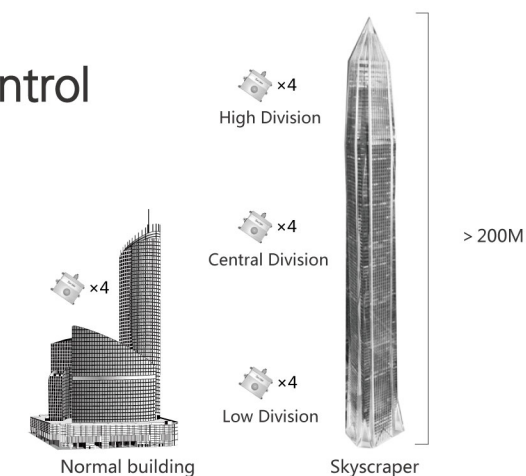As a result, energy consumption of indoor air conditioning is reduced;

Summer
June 21
The maximum angle

Spring equinox
March 21
Autumn Equinox
September 21

Winter Solstice
December 21
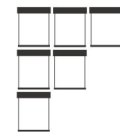The minimum angle

62°
15°
SORTH   NORTH
EAST

e) Anti - Clouds Effect

In cloudy weather, in order to avoid the shade adjust frequently, the system have a anti-cloud effect function, so as to avoid excessive shade adjust operation which might make user feel uncomfortable;
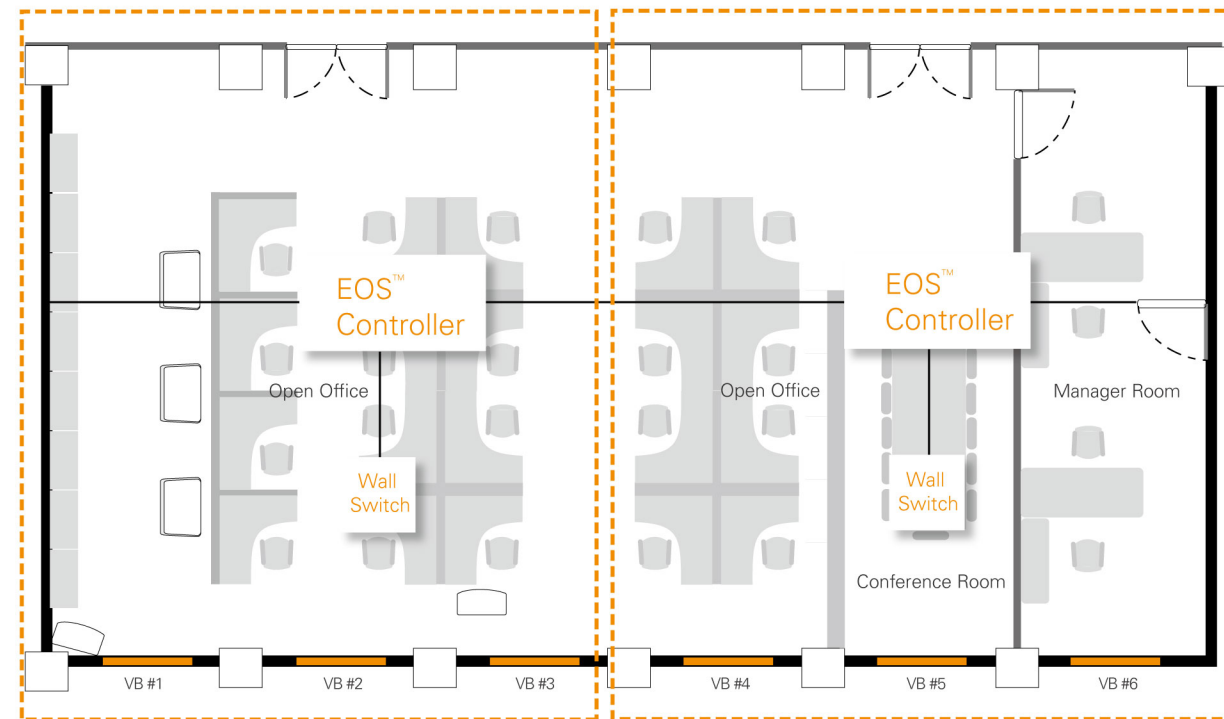
f) Shadow Calculation

Considering the area of the facade will be shadows cast by the surrounding buildings, some area in the same facade appears bright side and dark side, the system can closes the blade in bright side, and open the shade in dark side by real-time computing a shadow area.
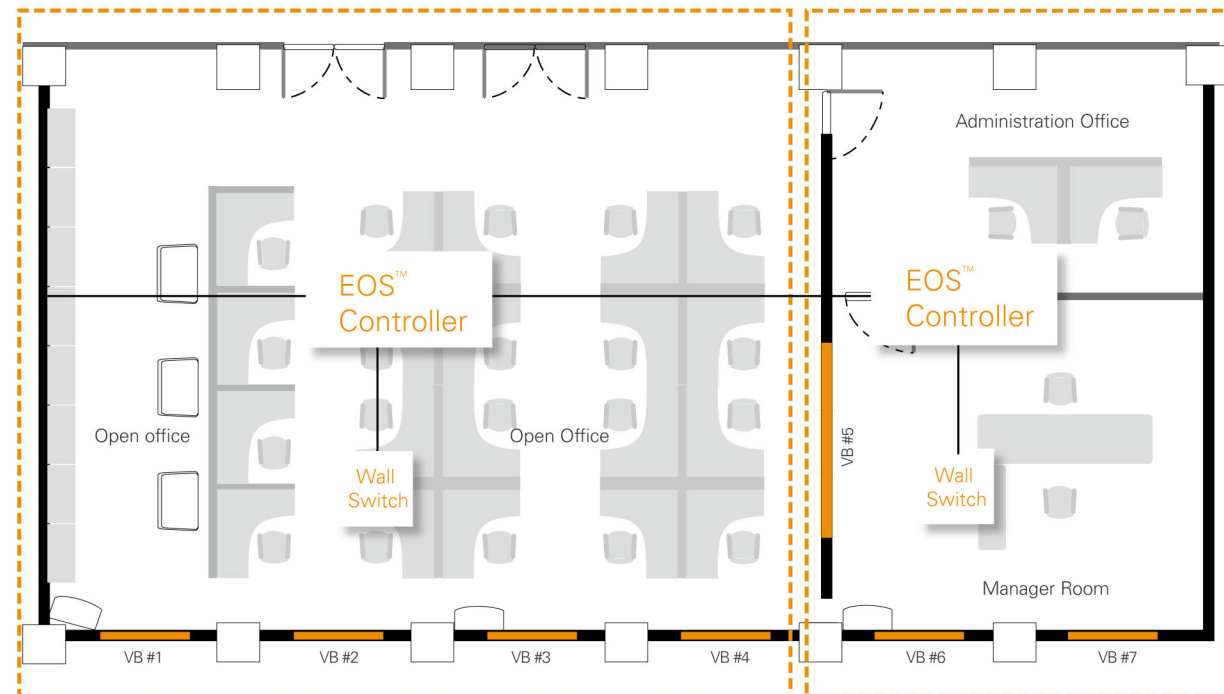

Shadow of the building   Reflection of the building

Flexible Grouping

Room 1

- Open Office
- EOS™ Controller
- Wall Switch
- VB #1 VB #2 VB #3

Room 2

- Open Office
- EOS™ Controller
- Manager Room
- Wall Switch
- Conference Room
- VB #4 VB #5 VB #6

Room 1

- Open office
- EOS™ Controller
- Open Office
- Wall Switch
- VB #1 VB #2 VB #3 VB #4

Room 2

- Administration Office
- EOS™ Controller
- VB #5
- Wall Switch
- Manager Room
- VB #6 VB #7

In case division of office spaces changes while the building is already in use, the EOS™ system ensures that no adjustment of the wiring circuit nor hardware changes are required. It is sufficient to reprogram the controllers.

a) Local Switch Limitation Control

19:00-8:00
Disable local user control

8:00-19:00
Office hour, enable local user control
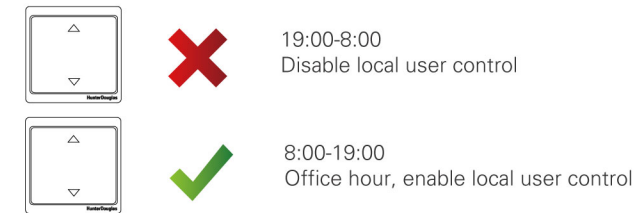
Application: Floodlighting effect,Building outdoor advertising,Fire alarm,Glass cleaning mode

b) Local Switch Authorization

Reversal   Up/Down
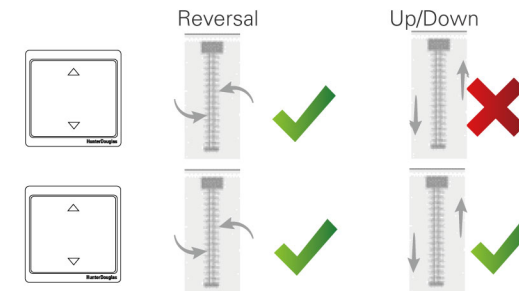
Application: Building outdoor advertising,Energy saving,Unique appearance
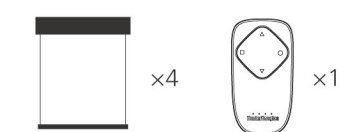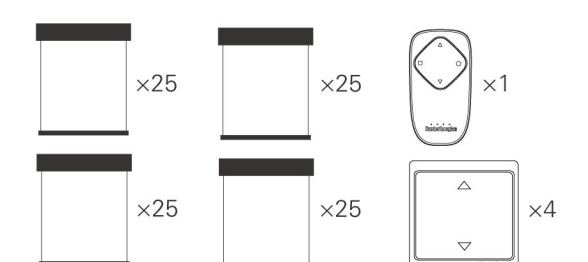
c) Wireless Group Control

Unit

Facade

Floor

Unti Control
×4   ×1

Facade Control
×25   ×1

Floor Control
×25   ×25   ×1
×25   ×25   ×4

Controllers need bus line connected

Maximun 100 units for single channel wireless control

Schedule & Timer Control

a) The Role of Timing Control
Timing control can be applied to the whole building or only the assigned area;

b) Scene Mode
For multiple shade you can have a unique position and slat angle or even a custom position for each shade. One-key-press will trigger a preset scene;

c) Timer Control
A certain time control can be set repeatedly such as daily, weekly, monthly, yearly cycle and so on;

d) Work Days Settings
You can customize you own workday on calendar, to arrange a workday plan and a holiday plan.

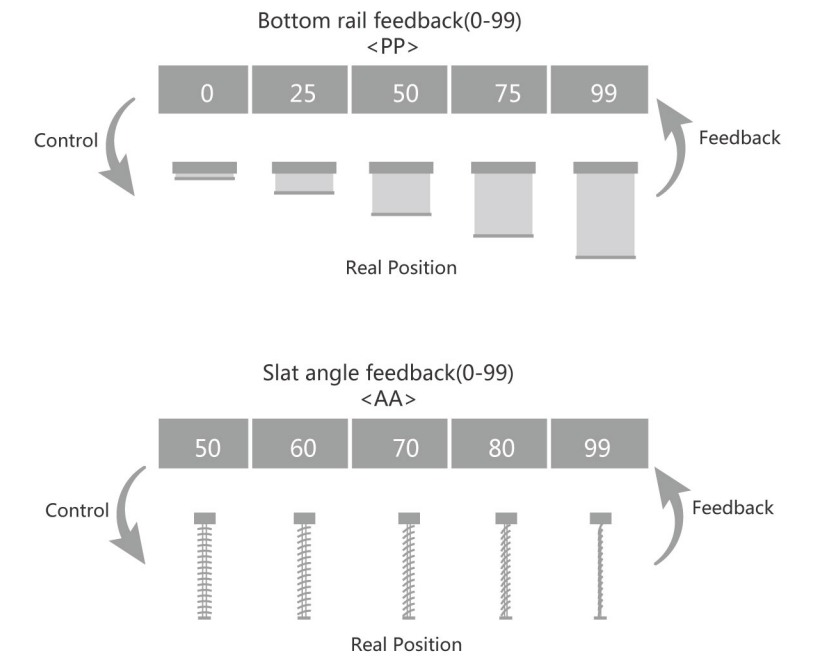| 7:00AM-10:00PM	10:00AM-3:00PM	3:00AM-8:00PM
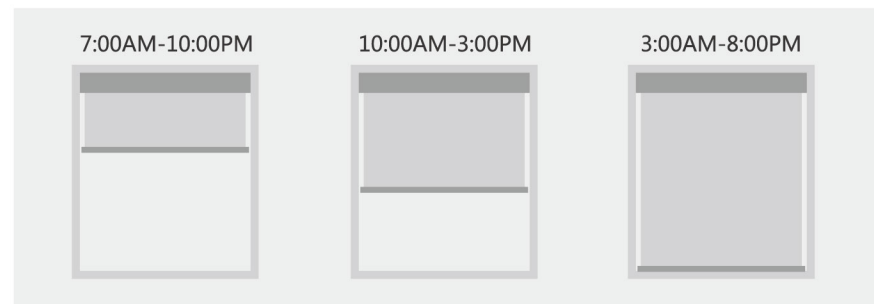
Fire Fighting Linkage

Purpose of the fire control linkage function is to open the shade, ensure the smoke and user to escape from the building, especially in the area where the emergency exit window is installed.
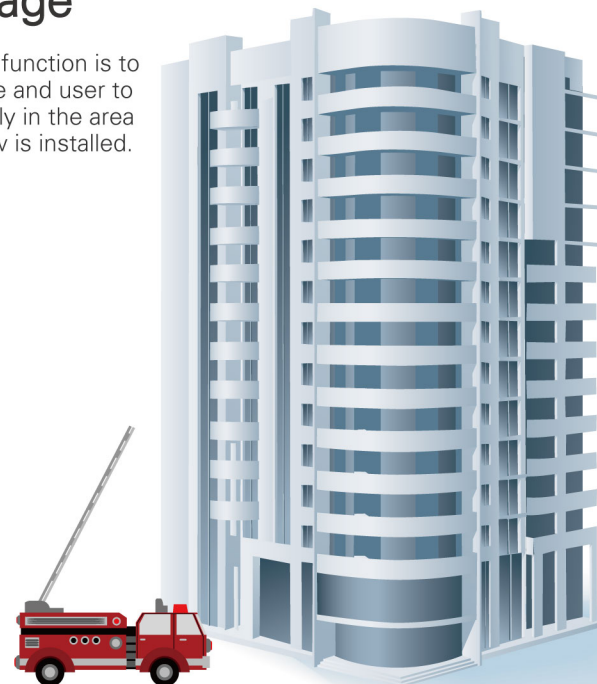
Precise Positioning

a) Slow Tilt
Slow tilt means while the blind is tilting, the speed of the motor will drop to 10% of normal speed;

b) Precise Control
We can have more precise control the slat with slow tilt, user can stop at the angle as he likes;

c) Silent Tilting
Indoor users will feel much comfortable while slow tilt is acting.

Bottom rail feedback(0-99)
<PP>

0	25	50	75	99

Control   Feedback

Real Position

Slat angle feedback(0-99)
<AA>

50	60	70	80	99

Control   Feedback

Real Position

Control Feedback

a) Motor Feedback
The bottom rail and the slat angle of each motor, controller connection status, etc, all the feedback can be checked through the central control software on the centralized computer. This feature enables the building maintenance department to more effectively and quickly diagnose thousands of motorized shades.

MA400   MA100   STB   RTB   ETB

Data speed 125 message/second

b) Floor Plan on GUI
According to electronic map, the floor plan and digital numbers of each shade on GUI can quickly identify and diagnose motorized shades. The floor plan in the GUI can be customize by project.
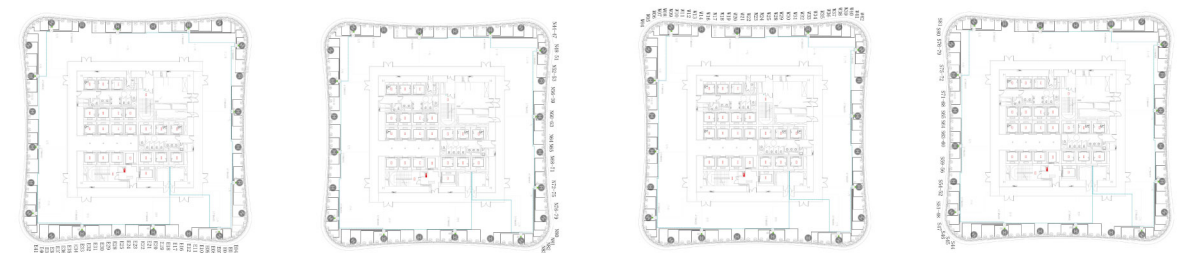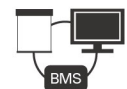
BMS Integration

a) EOS™- HDi bus system provides three access modes of building intelligent control

A. RS232 interface, which can connect the controllers of each bus line to the third-party building control system. (Request customize protocol from our company)

B. OPC universal protocol access interface, only need a network connection between EOS™ control system and building intelligent control system,bi-direction data communication can be carried out via OPC system, and both detection and control of the whole building shading equipment can be achieved.

C. BACnet universal protocol access interface, only need a network connection between EOS™ control system and building intelligent control system,bi-direction data communication can be carried out via BacNet/IP protocol, and both detection and control of the whole building shading equipment can be achieved.
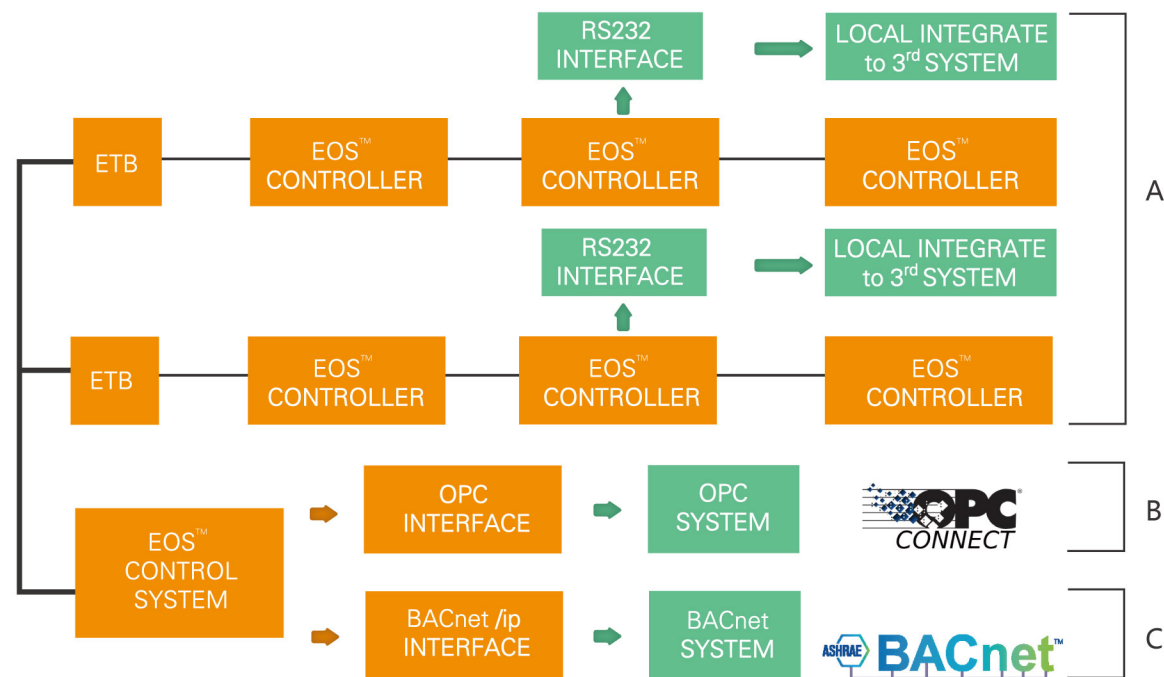
b) EOS™-Lonworks system

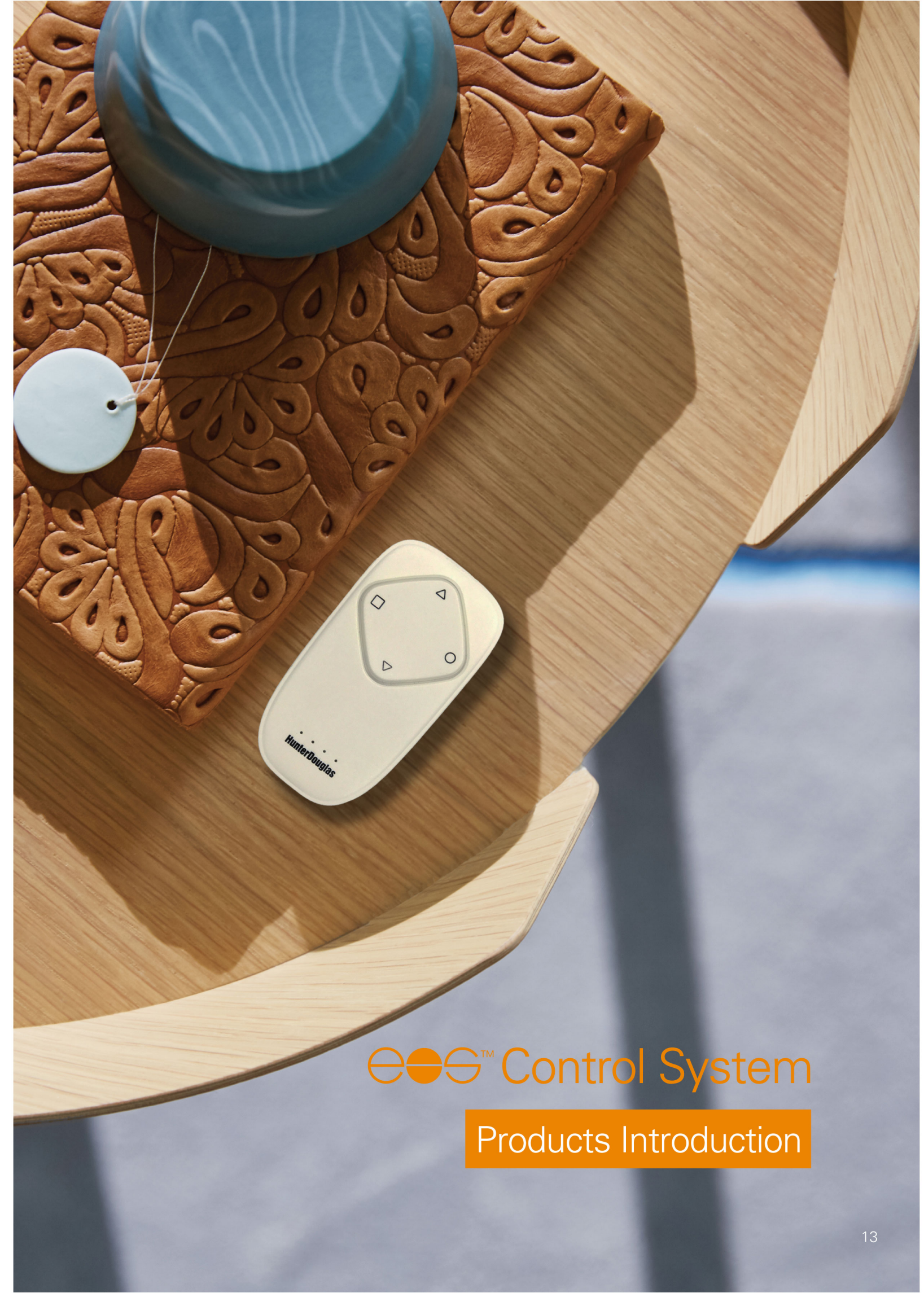Each controllers communicate via Lonworks protocol,with the LONMARK INTERNATIONAL standard.
Each shading controller can be connect/merge into Lonworks FT(twisted-pair) bus line directly or by connecting the whole shading system into Lonworks control network system.
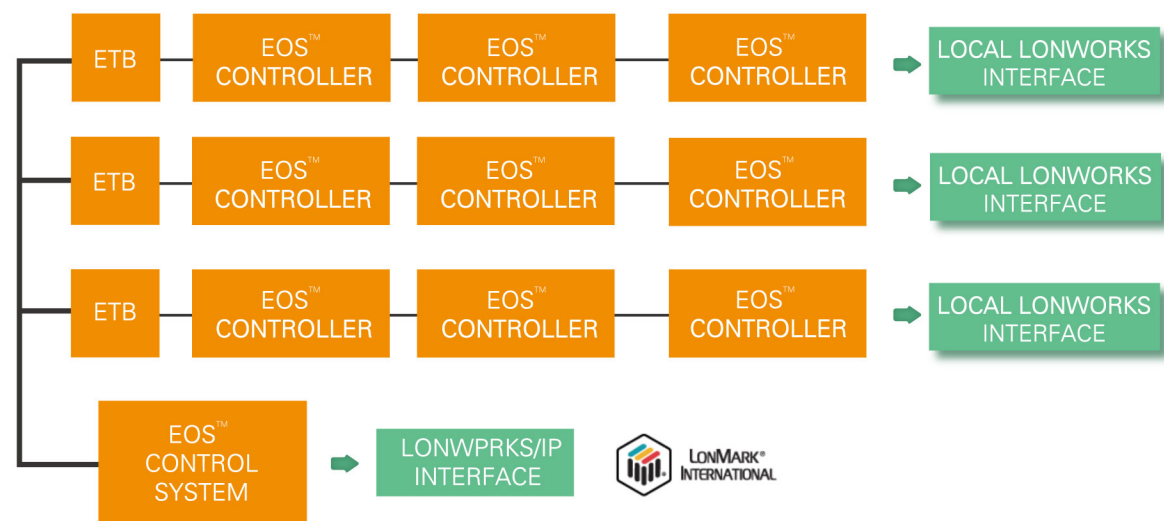
EOS™ Shading Control System

BMS/BAS（Building Managment System/Building Automatic System）

eos™ Control System

Products Introduction

Four AC Motors Controller

Intelligent Four AC motors controller. It is suitable for the intelligent control of all kinds of motorized roller shades and EVB.

Feature：

- 32-bits high speed CPU, precise timing control, 10 times faster than traditional;
- Bi-direction protocol, real-time feed back for dump motors, capable of advanced intelligent system integration;
- Slow tilt for EVB, provides a smooth, silent and more precise tilting control;
- HDi bus control; Addressable motor ID; 4 direct input switches; 2 programmable switches(as group switch or scene switch);
- Direct 3RD party HA integration ; RF control extension.

MA400 Four AC Motors Controller

Function

- Non-Bus Linkage

Individual Application- Wireless Control

TQ-4 Four-Channel Transmitter User Manual

MA400-SD

- Bus Linkage

Bus Control-DMS System

Control Bus

Other Models

- MA400-N   Four AC motors controller(Non slow tilt)
- MA400-SE   Four AC motors controller (Slow tilt Elero)
- MA400-SD   Four AC motors controller (Slow tilt for Dunker)

ETB Ethernet Gateway

ETB is a gateway between HDi network and Ethernet network;Apply for GUI control such as touch pad,Mobile phone control or remote PC control.

Feature:

- Establish a Ethernet network to connect at most 100 HDi nodes;
- Establish a large control system of multiple HDi networks by Ethernet network;
- Establish a wifi connection to control HDi network;
- Integration for 3RD party HA integration or BMS system.
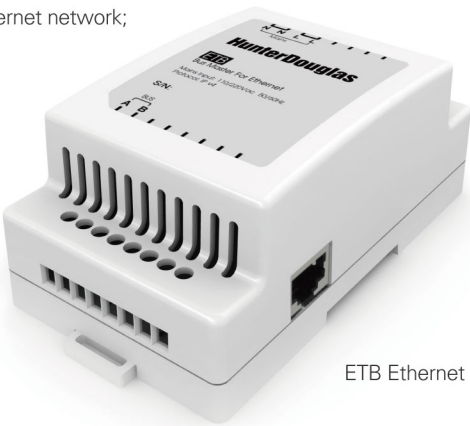
Ethernet to Bus Gateway

- ETB is a gateway between HDi network and Ethernet network;
- Apply for GUI control such as mobile phone control,tablet PC or remote PC control.

ETB Ethernet Gateway

Application

Control multiple kinds of devices via Ethernet-HDi bus network: such as motors light and other electric appliance.

- Mobile Phone Control /Tablet PC Control

Control Bus

Mobile phone   Tablet PC   Wireless   ETB

- BMS Control

LAN   Control Bus

OPC   ETB

- Centralized Control

LAN   Control Bus

iServer   ETB

Other Motors Controller

MA100 AC Motors Controller

Intelligent AC motor controller.It is suitable for the intelligent control of all kinds of motorized roller shade and EVB.

Feature:
- 1 Programmable switch,HDi bus control; Addressable motor ID;
- Current sensing, auto stop protection;
- Bi-direction protocol, real-time feed back for dump motors;
- Direct 3RD party HA integration;
- RF control extension.

MD100 DC Motors Controller

Intelligent DC motor controller. It is suitable for the intelligent control of all kinds of motorized DC EVB.

Feature:
- 1 Programmable switch,HDi Bus control; Addressable Motor ID;
- Current sensing, auto stop protection;
- Bi-direction protocol, real-time feed back for dump motors;
- Direct 3RD party HA integration ;
- RF control extension.

iSensor_V2 Decoder for Wind and Sun Sensor

This product is a functional module responsible for the logical processing of the wind and light intensity of the natural environment in the HDi system. Through the external wind and sun sensor, the product will send the preset scene to the whole HDi bus according to the current weather information.

Feature:
- Be able to connect a wind and sun sensor, solar control feature can be added to the whole bus line via one iSensor_V2;
- Up to 3 levels for different sensitive can be chosen either for sun or wind auto control;
- Anti-dark clouds function.Eliminate the vibration of the illumination arise from the dark cloud;
- Scene output while the strong wind signal last for 6 seconds or illumination last for 4minutes.

MK100 Dry Contact Controller

Intelligent dry contact controller. It is suitable for the intelligent control for dry contact input device.

Feature:
- 1 Programmable switch,HDi bus control;
- Addressable control ID;
- Direct 3RD party HA integration;
- RF control extension.

MD100P DC Motor Controller for Louver

Intelligent controller for Louver with 2 extern limit switches. Adapt to centralize installation.

Feature:
- Capable for both N.O. or N.C. limit switches;
- 1 Programmable switch,HDi bus control; Addressable Motor ID;
- Current sensing, auto stop protection; Bi-direction protocol, real-time feed back for dump motors;
- Direct 3RD party HA integration ;
- RF control extension.

Control Terminal

TQ-4 Four Channel Transmitter

This product is a wireless hand-held transmitter. It needs to cooperate with other receiver such as the following models:
QA200,QD200,Q-Box,QK200,QF-Plugin,HD60D-Q,HD60F-Q.

Feature:
- Each transmitter can pair individually or in group with four receiving channels;
- Paired with QF-plugin, you can trigger a middle-stop as a MA400 preset scene;
- Battery free, every time you press, you make a contribution to the cause of environmental protection.

SQ-1 Wall Switch Transmitter

This product is a wireless switch transmitter. It needs to cooperate with other receiver such as the following models:
QA200,QD200,Q-Box,QK200,QF-Plugin,HD60D-Q,HD60F-Q.

Feature:
- Battery free, every time you press,you make a contribution to the cause of environmental protection;
- SQ-1 can control one channel-receiver;
- Wall stick,No wiring,No wall-drilling,Maintenance free.

SQ-2 Wall Switch Transmitter

This product is a wireless switch transmitter. It needs to cooperate with other receiver such as the following models:
QA200,QD200,Q-Box,QK200,QF-Plugin,HD60D-Q,HD60F-Q.

Feature:
- Battery free, every time you press,you make a contribution to the cause of environmental protection;
- SQ-2 can control two channel-receiver;
- Wall stick,No wiring,No wall-drilling,Maintenance free.

Sensor Solar Energy Wireless Sun Sensor

This product is a wireless solar sensor. It needs to cooperate with QRF receivers. This product applies the following types of controller:
QA200, QD200, Q-Box, QK200, QF-Plugin, HD60D-Q, HD60F-Q.

Feature:
- Without any wiring, auto sun control can be applied to a motorized shade;
- Maximum support for 7 automatic sun level control;
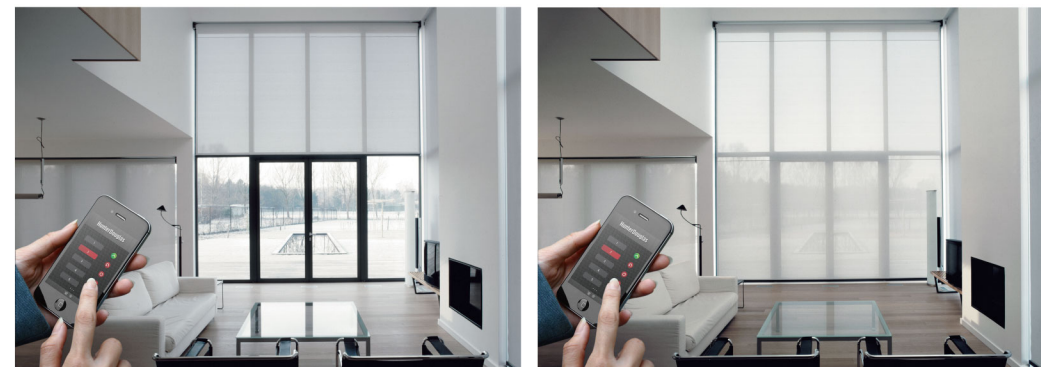- Maximum 10 sunlight threshold can be adjusted.

GUI Control

- Using mobile APP to control office equipment;
- Can control 8 shades,10 lights, and achieve a key scene mode such as Working,Meeting,Leaving and so on.

Mobli phone

Tablet pc

Open Roller Blinds

Close Roller Blinds

iServer Centralized Control Software for Sunshade Products

- Compatible with any windows operating system;
- It is suitable for total control and management of all kinds of sunshade products, as well as timing and sunlight automatic control function.

iServer Web Building Sun Shading Control Webpage

- Base on HTML, compatible with any kinds of browser;
- It is suitable for the total control and management of all kinds of sunshade products, as well as timing and sunlight automatic control functions.
- Especially suitable for multi-user control.

OPC Software Interface Program for Building Sunshade Products

- It can be compatible with any windows operating system.
- The standard protocol OPC interface is provided to facilitate the monitoring of sun shading system by the a third party intelligent system.

Wind and Sun Control

MA400   MA400   iSener   Sun sensor   Wind sensor
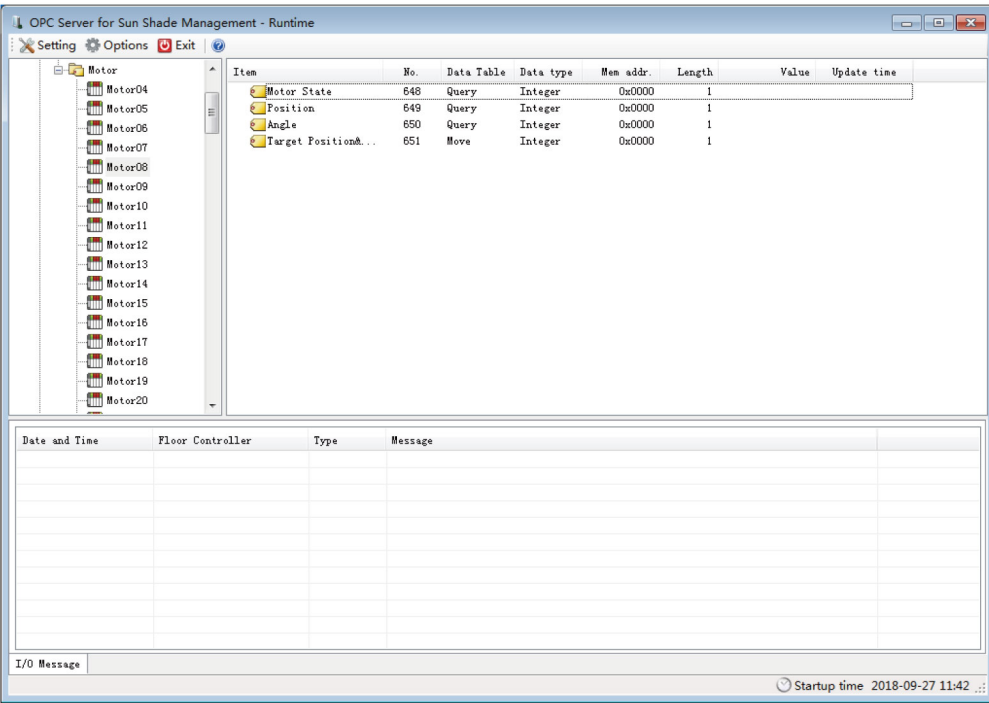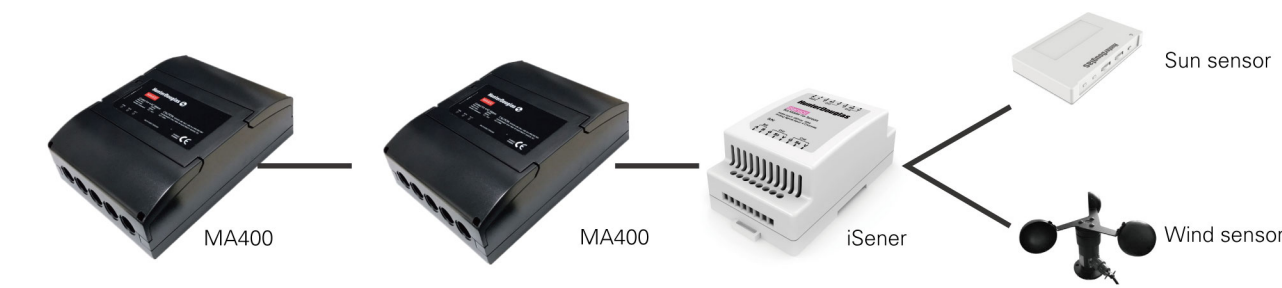
Daylight Intensity					
Venetian Blinds Position					
Roller Blind Position					

· Offers at least 3 light intermediate states. The intermediate stop can be the slat angle or bottom rail position of the blind;
· The middle position can be carefully controlled as a percentage;
· Provide 3 different threshold for sun and wind sensor control.

Window Shade Control for the Whole Building

Network Switch

HDi Bus

MA400   ETB   Ethernet   iServer Application

HDi Bus

MA400   ETB   Ethernet   iServer Web server

Unlimited

HDi Bus

MA400   ETB   Ethernet   BMS system 3rd Party system

eOs™ Control System

Project Solutions
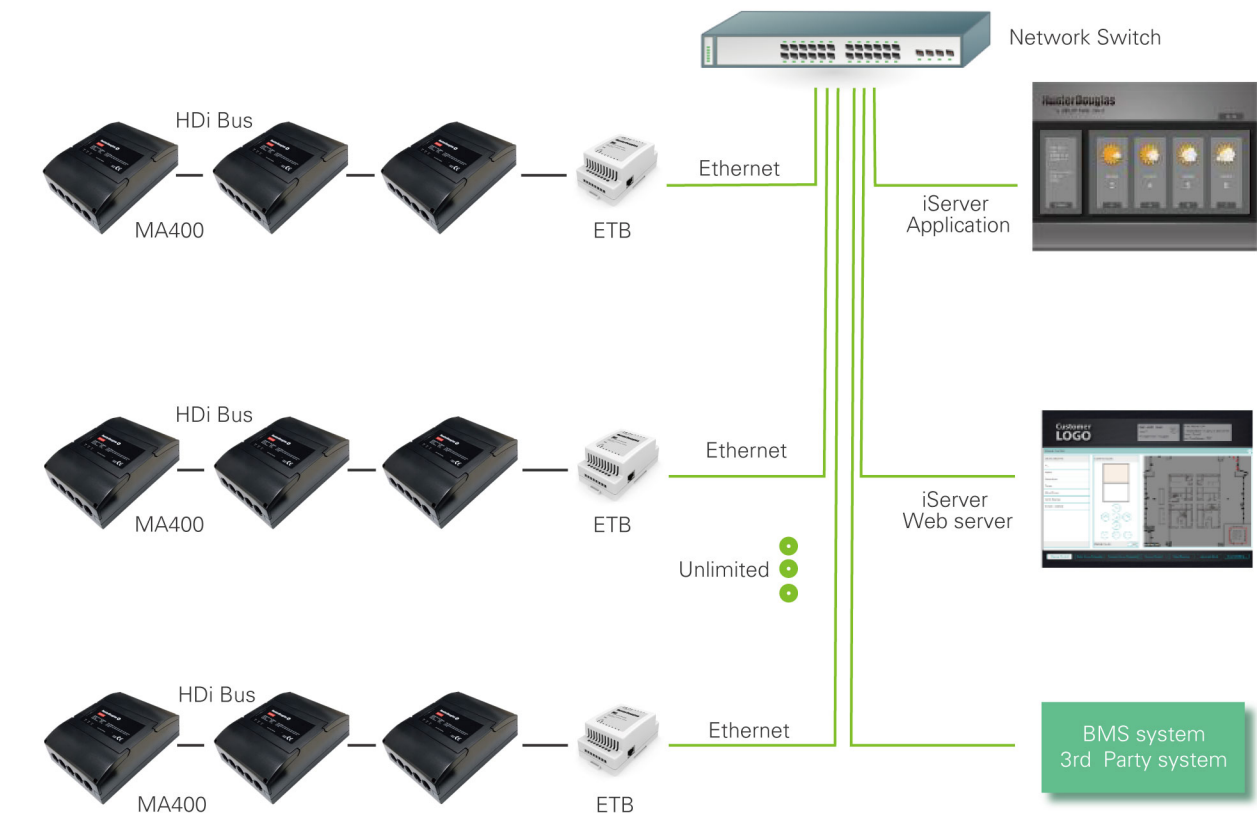
Multiple Devices Integration

| Wireless switch | Transmitter | Wall switch | Q-sensor | Wind sensor | | HDi iServer | Phone | Pad |

Network switch

| MA400 | MA100 | MD100/MD100P | MK100 | ETB |

EOS™-Lonworks

Meteorological station

Ethernet

HDi Bus

| MA400-LON | MA400-LON | | MA400-LON |

TCP/IP

HDi Bus

iLon smart Server

| MA400-LON | MA400-LON | | MA400-LON |
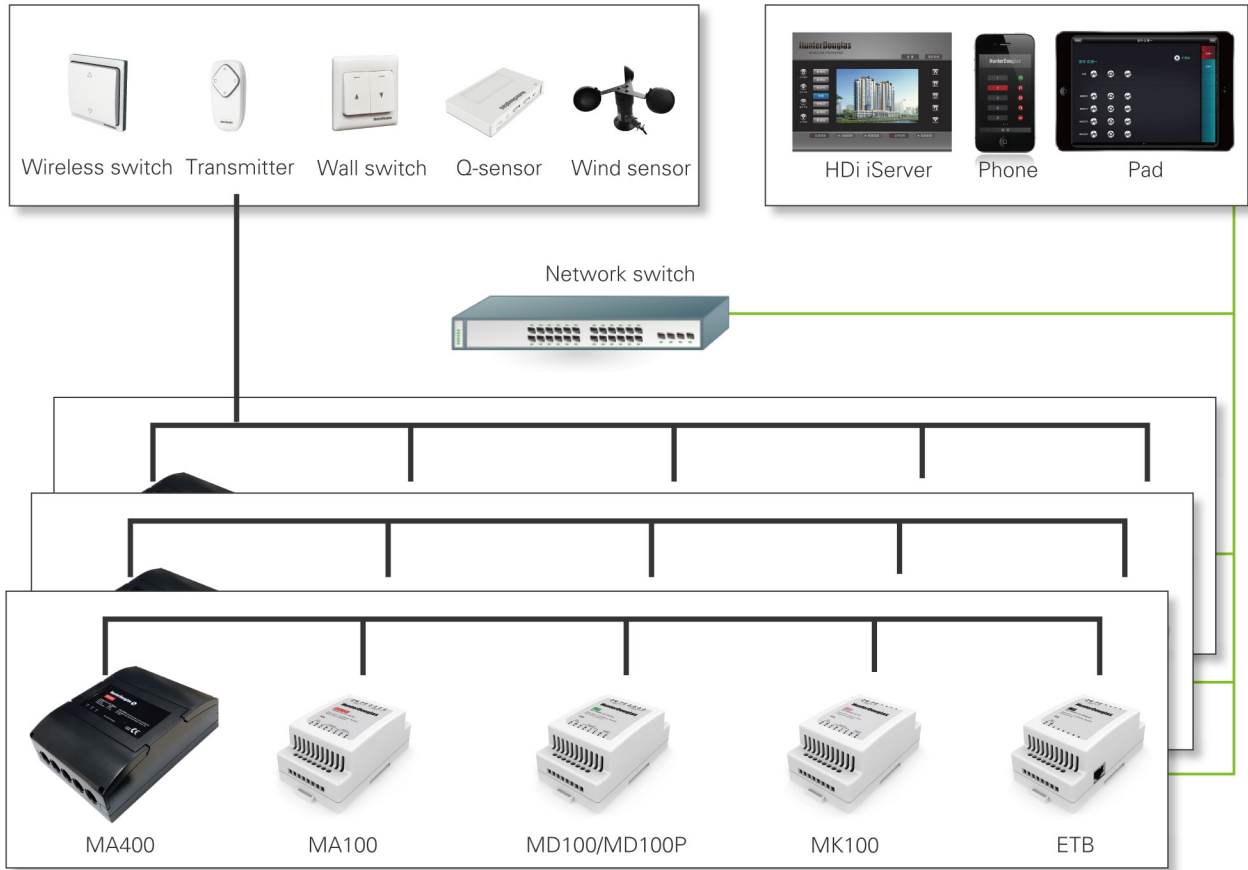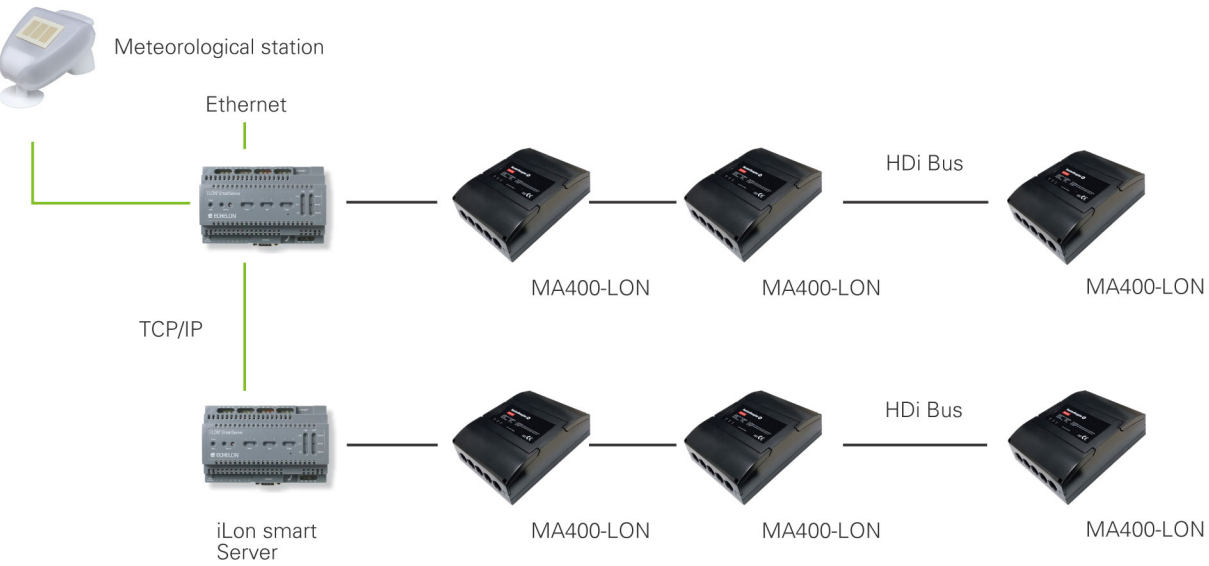
eos™ Control System

Typical Applications

22   23

HIGH-RISE COMMERCIAL BUILDINGS

- Remote control can operate each motorised blind independently;Each room needs to be equipped with a wall-mounted switch to control all the blinds within the room;

- The control radius of the remote control and wall switch can be changed without re-wiring works and adjusted to suit the requirements of the room;

- Centralised control can be implemented on all sun shade products in the whole building. However, this system requires a solar control function in order to achieve energy-efficiency;

- Centralised control interface is user-friendly and convenient to use. It has multiple features which include individually operating each shade, real-time control monitoring, regional control, schedule control, fire control linkage and staggered peak start up so as to achieve comprehensive management over all the sun shades in the building.

- ELECTRICAL PRODUCTS
  Motorised 50mm Venetian Blinds×4000
  Motorised Roller Blinds×500

- CONTROLS
  MA400×1200
  QF-Plugin x300
  Four-channel Remote Control×320
  ETB×85
  iSensor×4
  iServer×1
  Opc Server×1

CONFERENCE AND MEETING ROOM

- Equipped with a touch control terminal that can individually control each blind in the conference hall;

- A wall-mounted switch is used to control up to four preset scenes: general meeting, important meeting, use of overhead projector and end of meeting. Each preset scene can be initiated by a single touch;

- An-Ethernet-Gateway ensures the integration of the motorised Roller Blinds in a higher level automations system, managing daylight entry, artificial lighting, projector screen and LCD TV.

- ELECTRICAL PRODUCTS
  Motorised Blackout Roller Blinds×8
  Ceiling Lights×12
  Projection Screen×1
  Projector×1
  LCD TV×1

- CONTROLS
  MA100×2
  LA400×3
  KA400×1
  ETB×1
  Touch Control Terminal×1

GLASS ATRIUM

- Utilizing 4-channel remote to control four groups of motorised screen roller blinds;
- The roller blinds can be programmed with multiple intermediate stop positions and within a tolerance of 5mm, to ensure optimal alignment between the bottom rails;
- Scene programming by means of a touch screen, operable by wall switch.

- ELECTRICAL PRODUCTS
  6m Motorised Roller Blinds×12

- CONTROLS
  MA400×3
  QF-Plugin×1
  Four-channel Remote Control×1
  Wall-mounted Switch×1

HOTEL ROOMS

- The hotel room key card has to be inserted in a slot to give guests control over lighting and curtains;

- 3 wall-mounted switches control 2 curtains, 4 lights and 4 preset scenes: welcome, good night, good morning and good bye;

- When the smoke detectors are triggered, all devices in the room enter automatically in fire emergency mode,with all curtains open and all lights and air-conditioning turned off.

- ELECTRICAL PRODUCTS
  Zipped Motorized Roller Blinds×800

- CONTROLS
  MA400×200
  QF-PLUGIN×200
  SQ-2×400

Product List

NO	Picture	Product Name	Item	Size	Functions
1		MA400-N AC Motors Controller(New)	0440027300000	550g 161x211x64mm	HDi bus, Wind & Sun control, central control, new housing
2		MA400-SD AC Motors Controller with Slow Motion(New)	0440028800000	600g 161x211x64mm	HDi bus, Wind & Sun control, central control, slow tilt Dunker
3		MA400-SE AC Motors Controller with Slow Motion(New)	0440028900000	600g 161x211x64mm	HDi bus, Wind & Sun control, central control, slow tilt Elero
4		QF-Plugin Receiver	0440028200000	20g 50x30x25mm	Receiver plugin with MA400, 4 channels separate control
5		TQ-4 Four-Channnel Remote	0440028400000	90g 90x48x20mm	Hand-held remote, Magnetic stick, Battery free,4 channels separate control
6		SQ-1 Singel-Channel Wireless Wall Switch	0440028500000	107g 86 Standard	Battery free，Maintenance free, Easy install
7		SQ-2 Double-Channel Wireless Wall Switch	0440027100000	107g 86 Standard	Battery free，Maintenance free, Easy install
8		QA200 Receiver for 2 AC Motors	0440028300000	205g 180x60x44mm	QRF wireless Receiver; 2x AC motors control
9		QD200 Receiver for 2 DC Motors	0440029900000	134g 180x60x44mm	QRF wireless Receiver; 2x DC motors control
10		QK200 Dry Contact Receiver	0440030000000	205g 180x60x44mm	QRF wireless Receiver; 2x Dry contact control
11		Q-Box Dry Contact Receiver	0440030100000	25g 48x55x20mm	QRF wireless Receiver; Dry contact control, 5-12 VDC input
12		MA100 Intelligent AC Motor Controller with Slow Tilt	0440023500000	120x70x50mm	HDi bus, Wind & Sun control, central control, AC motor
13		MD100 Intelligent DC Motor Controller	0440018400000	120x70x50mm	HDi bus, Wind & Sun control, central control, DC motor
14		MK100 Intelligent Dry Contact Controller	0440018300000	120x70x50mm	HDi bus, Wind & Sun control, central control, Dry contact
15		MD100-P Intelligent DC Motor Controller for Louver	0440025400000	120x70x50mm	Intelligent controller for Louver with 2 extern limit switches.
16		ETB Ethernet HDi Gateway	0440023300000	120x70x50mm	Gateway between Hdi network and Ethernet network
17		iSensor V2 Controller	0440022800000	120x70x50mm	Sensor decoder for 1x wind and 1x sun
18		Sun Sensor Indoor	0440022900000	107x86x56mm	Indoor sun sensor within 15 Klux
19		Sun Sensor Outdoor	0440027600000	107x86x56mm	Indoor sun sensor within 150 Klux
20		Wind Sensor	0440022300000	600g 200x200x125mm	Wind protection
21		KA400 4motor isolator	0440007900000	120x70x50mm	For 4xAC motors group control

Function Option Table

No.	Function Moudule	KA400	QA200	QK200	QD200	Q-BOX	QF-Plugin	MA100	MA400-N	MA400-Sx	MD100	MK100	ETB	iSensor	Sun Sensor / Wind Sensor	OPC Server	BacNet Server	iServer
1	Wired Local Control		2	2	2			1	6	6	1	1						
2	AC Motor Control	4	2					1	4	4								
3	DC Motor Control				2						1							
4	Dry Output Control			2		1						1						
5	Control Priority		2	2	2			256	256	256	256	256	256	256				
6	Q-RF Radio Control		√	√	√	√	√	○	○	○	○	○						
7	Fire Alarm Linkage		√	√	√			√	√	√	√	√						
8	Universal Power Range							√	√	√	√	√	√					
9	Bi-direction Communicate							√	√	√	√	√	√	√				
10	Motors State Detection							√	√	√	√							
11	Flexible Group Control							√	√	√	√	√	√					
12	Loacal Control Authorize							√	√	√	√	√	√					
13	One-Key Scene Control							√	√	√	√	√						
14	Pricise Positioning							√	√	√	√							
15	Slow-Tilt							√		√								
16	Sun and Wind Control													√				
17	Serial Control							√	√	√	√	√						
18	Network/WiFi Control												√					
19	BMS Interoperability															√	√	
20	Integrated Software *																	√

﹡ The integrated software includes the following functional modules:
Timer Control, Schedule Control,Multi Sensor Access,Winter and Summer Sensor Mode, Device Management & Diagnosis, Start Peak Staggering, Zone Control (elevation), User Management, History Record.

HUNTER DOUGLAS ASIA DISTRIBUTION NETWORK

HUNTER DOUGLAS ASIA OPERATION OFFICE

Lot 493, Persiaran Kuala Selangor,Section 26,
40400 Shah Alam,Selangor Darul Ehsan, Malaysia.
TEL : 60-3-5191 2020
FAX : 60-3-5192 3900
E-MAIL : customercare@hunterdouglas.com.my
www.hunterdouglas.asia

HUNTER DOUGLAS JAPAN

MFPR Roppongi Azabudai Building 6F
1-8-7, Roppongi, Minato-ku, Tokyo 106 0032
TEL : 81-3-3560 9870
FAX : 81-3-3560 9872
E-MAIL : wcp@hdj.co.jp
www.hunterdouglas.asia/jp

HUNTER DOUGLAS KOREA

216 Dongjack-daero, Seocho-gu, Bangbae-dong
764-19 Dongyang Bldg., 6Fl. Seoul 06554
TEL : 82-2-518 3663
FAX : 82-2-518 3664
E-MAIL : yj.kim@hunterdouglas.co.kr
www.hunterdouglas.co.kr

HUNTER DOUGLAS WINDOW COVERING PRODUCTS(CHINA)CO.,LTD

No.2805, Zhongchun Road, Shanghai, China
TEL : 86-21-6442 9999
FAX : 86-21-6442 8006
www.hunterdouglas.com.cn

HUNTER DOUGLAS CHINA/HONGKONG LTD.

Unit 8-12, 6/F, Topsail Plaza,
No.11, On Sum Street, Shatin, Hong Kong
TEL : 852-2637 8111
FAX : 852-2637 8611
E-MAIL : info@hunterdouglas.com.hk
www.hunterdouglas.com.hk

HUNTER DOUGLAS MALAYSIA SDN BHD(6929-M)

Lot 493, Persiaran Kuala Selangor, Section 26,
40400 Shah Alam, Selangor Darul Ehsan, Malaysia
TEL : 60-3-5191 2020
FAX : 60-3-5192 3900
E-MAIL : customercare@hunterdouglas.com.my
www.hunterdouglas.com.my

HUNTER DOUGLAS SINGAPORE PTE LTD

60 Benoi Road #02-02 Singapore 629906
TEL : 65-6862 4466
FAX : 65-6861 6595
E-MAIL : wfs@hunterdouglas.com.sg
www.hunterdouglas.asia/sg

SHANGHAI

No.2805, Zhongchun Road, Shanghai, China
TEL : 86-21-6442 9999
FAX : 86-21-6442 8006
E-MAIL : wcpsh@hunterdouglas.com.cn

HUNTER DOUGLAS TAIWAN

10F., No.172 Section 2, Nanjing East Road,
Zhongshan District, Taipei City 10489
TEL : 866-2-2504 8777
FAX : 866-2-4504 0555
E-MAIL : service@hunterdouglas.com.tw
www.hunterdouglas.com.tw

HUNTER DOUGLAS WINDOWS FASHIONS THAILAND LICENSEE - INFINITE DECOR CO.,LTD

957 Wangdek Building 5, 6th Floor, Unit 61, 62, 63,
Srinakarin Road, Suanluang, Bangkok 10250, Thailand
TEL : 66-2-721 2772
E-MAIL : info@infinitedecor.net
www.hunterdouglas.co.th

HUNTER DOUGLAS WINDOW FASHIONS PHILIPPINES LICENSEE - FOCUS GLOBAL INC.

15/F Twenty-four Seven Mckinley, 24th Street cor. 7th Avenue,
McKinley Parkway Bonifacio Global City, Taguig 1634, Philippines
TEL : 63-2-705 9999
FAX : 63-2-833 6377
E-MAIL : hdwcp@focusglobalinc.com
www.hunterdouglas.asia/ph

SHENZHEN

No. 3014, East Area, Great China International Trade Square, No.
1 Building, Fuhua 1st Road, Futian District, Shenzhen, China
TEL : 86-755-6186 8600
FAX : 86-755-6186 8699
EMAIL : wcpsz@hunterdouglas.com.cn

HUNTER DOUGLAS INDIA PVT LTD.

C102 Mangalya, Behind Sangeet Plaza, Marol Maroshi Road,
Andheri East, Mumbai - India 400 059
TEL : 91-22-6761 7500
E-MAIL : contact@hunterdouglas.in
www.hunterdouglas.in

HUNTER DOUGLAS VIETNAM

Lot A1, Street 1, Binh Chieu Industrial Zone, Binh Chieu Ward
Thu Duc District, Ho Chi Minh City, Vietnam
TEL : 84-28-3897 5556
FAX : 84-28-3897 5188
E-MAIL : infovn@hunterdouglas.asia
www.hunterdouglas.asia/vn

BEIJING

Add:12B05,12B06A, 12B Floor, No.40 Software Park of Beijing
University Of Technology, No.1, North DiSheng Road, Beijing
Economic and Technology Development Zone, China
TEL : 86-10-8721 6118
FAX : 86-10-8721 6178
E-MAIL : wcpbj@hunterdouglas.com.cn

P.T. HUNTER DOUGLAS INDONESIA

Wisma 77, Tower 2, Lt. 16, Jl. S. Parman Kav. 77
Jakarta Barat 11410, Indonesia
TEL : 62-21-2967 6001
FAX : 62-21-2967 6002
E-MAIL : customer_service@hunterdouglas.co.id
www.hunterdouglas.co.id