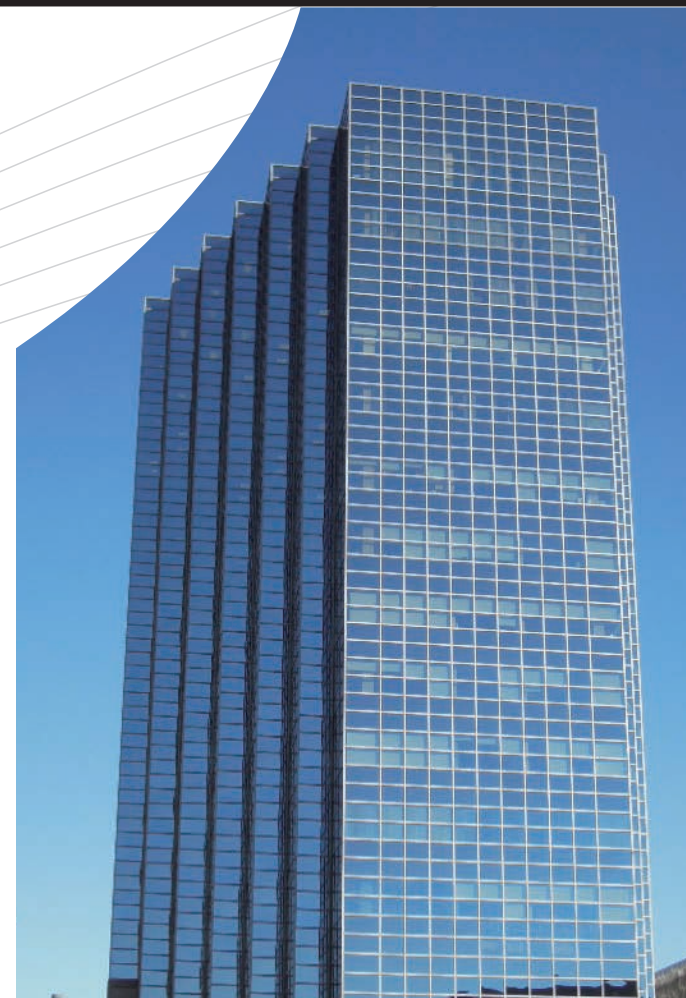
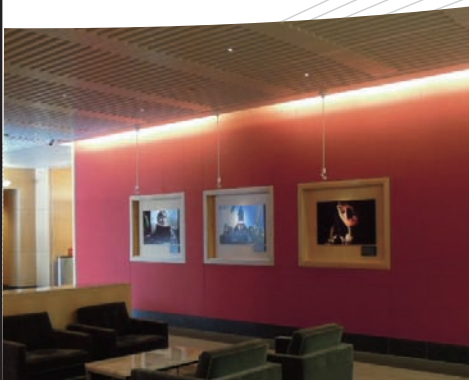




# 台科電公共照明控制系統

D-Bus Lighting Control System for Commercial Building



Smart Technology Leads Building Lively & Green  智慧讓建築生動節能

Smart for Greenlife !



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# 智慧科技讓建築更生動節能

Smart Technologies That Make Energy Savings For Buildings A Vivid Reality



公共建築面積廣，能耗大，在節能議題上一直是各方關注的焦點，空調與照明設備更需要利用資通信及控制技術使其在運作期間避免能源與人力的浪費。智慧科技不只是讓建築更人性，同時更要強化節能效益，這就是智慧綠建築的含意。

台科電公共照明節能控制系統兼顧建置、管理、使用、節能等各方面的需求，在這份資料中我們也提供了幾種簡易而實用的空間節能應用方案，可供規劃者直接套用，如此不但簡化許多規畫上經驗不足的缺失，同時讓後續實務運作更趨近於合理，以圓滿達成智慧綠建築的目的。

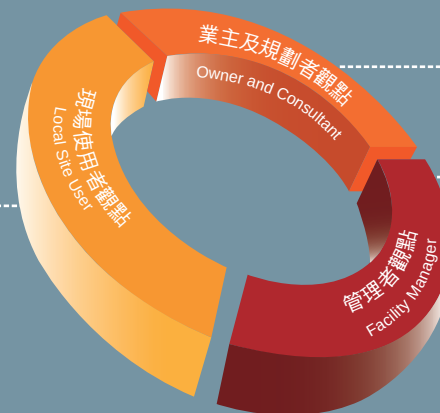


## 各方皆滿意的照明控制系統

A Lighting Control System That Satisfies All Stakeholders

Public buildings often occupy large areas and consumes large amounts of energy. Thus the subject of energy savings is always a great concern for all parties involved. The largest consumers of energy are the lighting and the air conditioning which needs information and control technology to make them operate more efficiently and reduce waste. Smart technologies benefits not only the building but also its occupants as well, this is the essence the true meaning of smart green buildings.

DAE's public lighting control system also takes into consideration the aspects of installation, management, operation into its design. With this in mind, it has standardized several types of energy saving solutions for different types of commonly encountered application scenarios, which greater reduces the trouble with having to plan and design a custom solution for each different location. In addition, it brings the energy saving ideal closer to its full potential for both those who will take over its eventual management and those who will actually operate it locally.



### 業主及規劃者 Owner and Consultant

節省  
Savings

1. 節能減碳、省電費  
Saves energy and reduces carbon footprint
2. 降低離峰期間管理人員成本  
Reduces administrative personnel costs during off peak time
3. 節省電力管線成本  
Investment savings on electrical conduit and wiring

彈性  
Flexibility

4. 彈性配線、可因應臨時改線路  
Flexible wiring layout, which allows for easy changes when rewiring
5. 後續擴充方便  
Flexible for future expansion

智慧綠建築  
Smart & Green

6. 符合ASHARE/IESNA 90.1、LEED、IECC等節能指標  
Compliant with ASHARE/IESNA 90.1, LEED, IECC, etc.

### 管理者 Facility Manager

中控  
Central Control

1. 中控觸控螢幕，中文操作，介面親和  
Touch panel with intuitive user interface
2. 時程調整介面簡易  
Easy to change control schedule

維護  
Maintenance

3. 具手動備援功能  
Manual switch for backup control
4. 採常規開關及感應器，減少維護成本  
Uses classic wall switches and sensors to reduce replacement costs

輕鬆  
Easy

5. 管理既輕鬆又有效  
Management is easy and effective

### 現場使用者 Local Site User

便利  
Convenience

1. 現場操作使用常規開關  
Local control using classic switches
2. 忘記關燈也不會造成浪費  
No more wasted energy from leaving the lights from neglect



# 節能對策

Energy Saving Solutions

## 照明節能控制的巨大潛力

The Enormous Potential To Save Energy Through Lighting Control

“ 依據美國加州能源部門(California Energy Department)在其分析報告中指出，室內外照明占用40%的能源支出，是節能減碳的重要改善對象。 ”

“ According to a report by the California Energy Department, the energy consumed by the lighting for both indoors and outdoors occupy 40% of overall energy consumption for most buildings, which makes it a significant contributor to potential reduction in the carbon footprint. ”



(參考右頁 來源依據DIN V18599 resp. EN1523標準)

Please refer to the page on the right, based on the DIN V18599 resp. EN1523 standard

## 照明節能控制常用手法

Common Methods for Energy Saving Through Lighting Control

照明節能的基礎在於將照明迴路配合使用的目的進行細分，避免統開統關，同時必須盡可能的利用戶外自然光線，減少電氣照明。

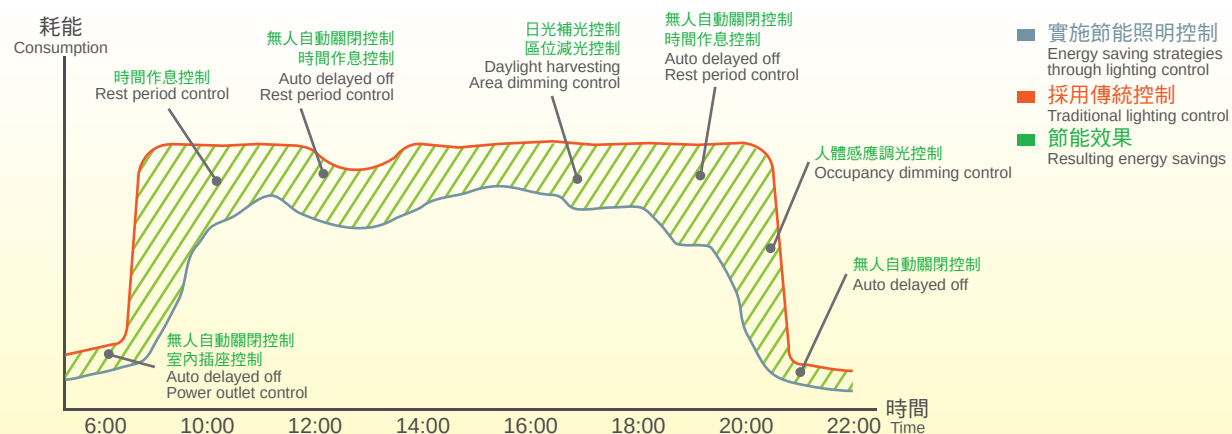
透過中控與現場的互動關係，配合聰明的現場節能控制模組、現場牆面開關以及感應器，達成簡單的節能機制。

The basis for being able to save energy through lighting control is in the way that the lighting circuits are laid out. By making finer divisions in the layout of the wiring, it would be possible to avoid having to turn the lights on and off in large groups. Another way to save energy is to make use of natural lighting to reduce the electricity needed for artificial lighting.

A simple form of energy saving can be achieved through the interaction between the central control and that of the local vicinity with its smart modules equipped with energy saving features, wall switches and sensors.

## 辦公大樓為例的節能趨勢變化

Sample Energy Saving Chart From An Office Building



## 節能直接效益

Direct Benefits

|                                |                                           |
|--------------------------------|-------------------------------------------|
| 時間作息控制<br>Scheduled Control    | 可節約10%—30%<br>Estimated savings 10 to 30% |
| 日光補光控制<br>Daylight Harvesting  | 可節約5%—50%<br>Estimated savings 5 to 50%   |
| 無人自動關閉控制<br>Automatic Shut off | 可節約20%—50%<br>Estimated savings 20 to 50% |
| 人體感應器調光<br>Occupancy Dimming   | 可節約30%—60%<br>Estimated savings 30 to 60% |
| 尖離峰授權控制<br>Authorizing Control | 可節約20%—60%<br>Estimated savings 20 to 60% |

## 節能間接效益

Indirect Benefits

照明節能控制不只可以節約照明用電，也可以因為減少照明所產生的熱負載而降低空調用電。

Energy savings through lighting control can accrue not only from the reduced electricity consumption from the lighting itself, but also by reducing the load on the air conditioners by producing less heat.

# 中控系統簡介

## Central Control System

### 中控系統角色功能

#### Role of the Central Control

在公共照明系統裡中控的角色定位主要為監視及控制照明狀態與時程控制

In a public lighting control system, the purpose of having a centralized control system is mainly to allow for the remote monitoring of the lighting status and to provide automated scheduled control.

- 依分層分區圖形化監視控制
- 具備權限管制功能
- 具備時程控制功能
- 各設備控制與事件紀錄可供查詢
- Graphical control interface divided into floors and areas
- User access control
- Scheduled control
- Device and event activity log

### 無主機架構

#### No Central Processor Architecture

台科電公共照明節能控制系統，無需CPU、MRS或系統電源

D-Bus lighting control system requires neither a central processor, an MRS or a system power source to operate.

- 無CPU或系統電源，不會因為關鍵設備故障導致全系統癱瘓
- 無需昂貴的CPU與系統電源，建置門檻低，從極小架構到複雜系統均可支援
- 可以容許同時安裝多組集中控制設備，同步運作，使管理工作更加彈性有效
- Since it doesn't have a central processor or a system power supply, there are no critical components whose failure can cause whole system collapse
- Without the need for an expensive central processor or system power supply, the barrier to entry is greatly lowered and can be adopted from the smallest minimalist system to very large and complex systems.
- Allows for the installation of multiple centralized control stations, all working in sync, to enable the administrator become even more versatile and effective at their job.

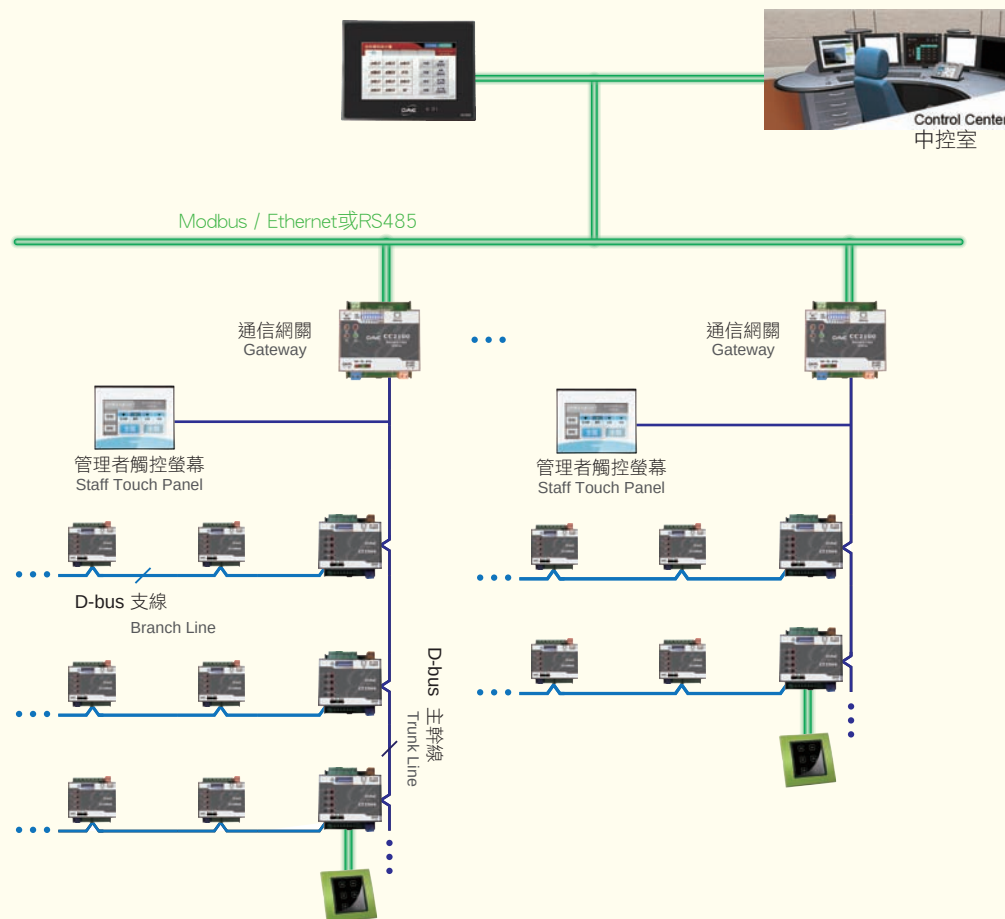
### 照明控制策略效益參考資料來源

#### Reference Documents For The Benefits Of Lighting Control

- 時間作息控制：美國勞倫斯伯克利國家實驗室 (LBNL) 2011年9月發佈之「A Meta-Analysis of Energy Savings from Lighting Controls in Commercial Buildings」
- 室外照明控制：西北能源效率聯盟 (NEEA) 2011年6月發佈之「Technology and Market Assessment of Networked Outdoor Lighting Controls」
- 日光補光控制：美國威斯康辛州能源中心 (ECW) 2013年2月發佈之「Commissioning for Optimal Savings from Day/Light Controls」
- 區位減光控制：美國勞倫斯伯克利國家實驗室 (LBNL) 2011年9月發佈之「A Meta-Analysis of Energy Savings from Lighting Controls in Commercial Buildings」
- 人體感應器調光：美國華盛頓州立大學 (WSU) 拓展能源項目之「Bi-Level Office Lighting with Occupancy Sensors」
- 無人自動關閉控制：美國加州照明中心 (CLTC) 2008年對美國加州大學之研究報告
- 室內插座控制：加州能源委員會 (CEC) 2011年「Commercial office plug load savings assessment」
- 各類照明控制節能方法：美國Lighting Control association 網頁之white paper

### 電腦中控系統層級架構

#### Architecture With A Central Host PC



### 系統容量

#### System Capacity

- |                                                                    |                                      |
|--------------------------------------------------------------------|--------------------------------------|
| • 單個通信網關容量：<br>Capacity of Each Gateway                            | 512個迴路<br>512 Circuits               |
| • 中控可控制通信網關數量：<br>Number of Gateways Supported by the Central Host | 最多16個<br>16 MAX.                     |
| • 中控容量上限：<br>Central Host Capacity                                 | 超過8192個迴路<br>More than 8192 Circuits |

# 由配電延展至裝修的系統

## From Initial Power Distribution to the Final Room Wiring

配合建築過程不同階段需要，由基礎電氣配電到室內裝修分段建設一體整合。

從中控到樓層配電再延伸至區域控制盤，界定配電箱為配電階段，照明控制箱為室內裝修，彼此間無縫整合。

Seamless support for the needs of all phases of the building development, starting from the initial power distribution all the way to the final wiring for each individual room, and everything in between.

### A類 公共空間(無現場開關)

Type A: Open Spaces (Without Local Control)

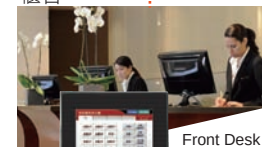


行政辦公室



Administration Office

櫃台



Front Desk

中控室



Control Center

D-BUS (二心對絞線 Twisted Pair Wire)

時程控制器

Schedule Controller

區域網路

LAN

TCP/IP

網頁瀏覽器

Web browser

第三方系統

3rd party software

Modbus網關

Modbus Gateway

區域網路

LAN

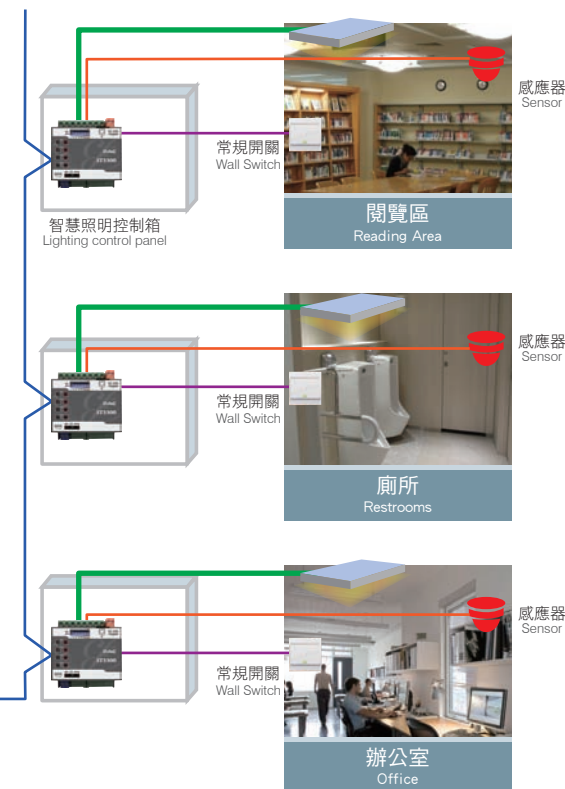
TCP/IP

Modbus網關

Modbus Gateway

### B類 區域空間(有現場開關)

Type B: Local Areas (With Local Control)



系統架構圖  
System Architecture

# DAE系統五大特色

5 Unique Features of DAE's System

## 三種類型開關各有定位

3 Types of Control Interfaces, Each With Its Own Position

- 集中管理區：彩色觸控管控易並可供網路連線
- 管理者開關：有名牌及反饋指示燈
- 壁面使用者開關：可使用常規開關
- Central control station: with aggregated switches on a touch panel for centralized management control and can also be linked to the LAN.
- Staff use digital switches: with labeled buttons and status feedback
- Local wall switch: for use by users in the local vicinity and makes use of classic switches

## 系統整合優勢

System Integration

- 採Modbus開放協定，便於外部系統整合，反應快速
- 容許多系統同步連線整合
- 強化中控冗餘備援，增加安全性
- Makes use of open Modbus standard protocol for ease of integration with third party systems, fast response.
- Allows for multiple control stations which are all synchronized
- Increased backup control redundancy for greater system safety and reliability

## 各類空間各有對應

Standardized Solutions For Every Type of Space

### A類：公共區域類型

Type A: Public Spaces

- 繼電器內置或外置、接觸器均可配合
- 緩啟動可應付高衝擊電流燈具
- 迴路數量配置彈性高、不浪費
- Models available for either built-in or external relays or contactor
- Soft switching to compensate for the inrush current of certain lamp types(such as LED light or Gas-Discharge Lamp)
- Minimal wasted channels from versatility to mix and match components

### B類：區域互動類型

Type B: Discrete Spaces

- 內置節能控制程序、無需特殊軟體編程
- 具授權控制概念
- 會議廳、宴會廳情境控制
- Built-in energy saving control logic, no need for external support nor custom software
- With authorizing control capability
- Scene selection for conference halls and banquet halls

## 高層建築及多房間應用

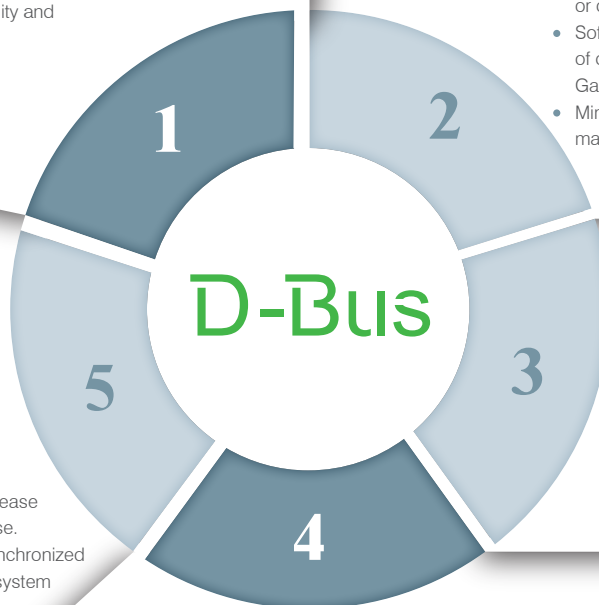
Application for Buildings with Multiple Stories and Many Rooms

- 各樓層：梯廳、走道具備本地感應場景
- 如教室辦公室等：在房內可自由控制
- 燈控、空調與安防可以統合成一體
- On each floor: Elevator lobbies, hallways have local sensors for pattern control
- Classrooms and Offices: Local controls available at all times
- A single unified system for the lighting controls, HVAC and security

## 易用、彈性、可靠

Easy to Use, Versatile, Reliable

- 規模彈性高：大中小型建築均可適用
- 高可靠性：無需主機及MRS等不擔心故障引發全面癱瘓
- 簡易實用：配盤、調試、維護階段、不依賴複雜軟體或工具
- 備援功能：即使系統故障、仍可維持基本操作
- Highly scalable: Equally suitable for small, medium and large buildings
- Highly reliable: Without a central processor or MRS, there is no need to worry that the entire system will collapse from a critical component failure
- Simple and practical: No complicated software or setting device needed during installation, reconfiguration or maintenance
- Backup capability: Basic operations can still be performed even with a component or system failure.



# 中控系統優勢

Advantage of Center Control

“台科電公共照明控制系統無論在中控系統整合、現場智慧節能控制、現場開關操作，易於設定、可靠性、維護性、反應速度、第三方系統整合性、任一方面都有傑出的表現。”

“With DAE's lighting control system, the various aspects of central system integration - local energy saving control mechanisms, local switch operation, ease of set up and maintenance, its responsiveness, and ability to integrate with third party systems - all are notable and outstanding in their performance.”

## 彩色觸控螢幕

Touch Panel

- 中控或區域管理者使用
- 時間表控制
- 多套觸控螢幕可同步運作，彼此相互備援
- 支援遠端電腦網路連線以便同步操控
- 支援Android手機或平板APP同步連線

- For use as the central control or as area supervisory control
- Scheduled control
- Multiple touch panels can be used at the same time, and each can backup the others for redundant operation.
- Supports remote PC mirroring through Internet
- Supports Android APP mirroring through Internet



| 系列     | 螢幕尺寸          | 最大控制點數           | 時程控制              | 平日/假日排程         |
|--------|---------------|------------------|-------------------|-----------------|
| Series | Panel Size    | Max. Control Key | Scheduled Control | Workday/Weekend |
| ACS40  | 4.3"          | 32 / 44          | 8群                | 有               |
| ACS50  | 7" / 8" / 10" | 100 / 240 / 576  | 8 / 16 / 32群      | 有               |

## 無主機架構、支援多組中控

No Central Processor Architecture, Multiple Access Control

- 無主機架構、支援多組中控
- 任一故障不影響其他作業
- No central processor, supports multiple control units
- Access points are mutually redundant, the failure of any one will not affect the operation of the system or the other access points.

B. 中控室



A. 警衛區



C. 接待台

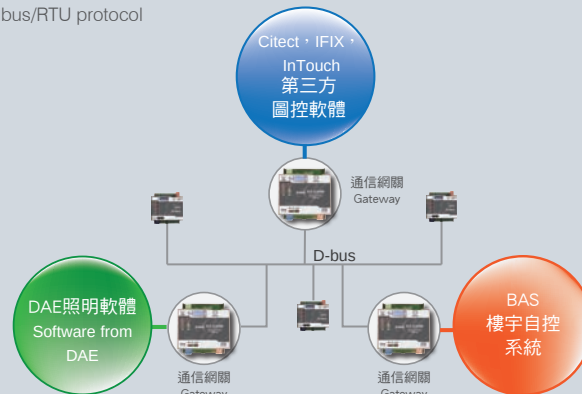


互為備援  
Redundancy

## 第三方系統整合

3rd Party System Integration

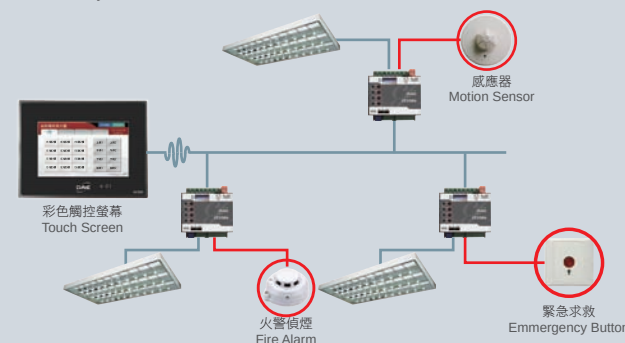
- 中控反應迅速
- 通信網關支援RS485或TCP/IP，並採用Modbus RTU開放式協定
- Fast System Response
- The gateway supports either RS485 or Ethernet and uses the open and industry standard Modbus/RTU protocol



## 整合安防功能

Integration With Security

- 透過控制器內建之安防介面，達到監控的效果
- 支援緊急求救、紅外感應器、火警偵煙等各種安防感應器
- Central control can monitor the security through the sensor interface built into the lighting controller.
- Supports emergency button, motion sensor, fire alarm and other types security sensors



# 照明開關三種類型

3 Types of Control Interfaces for Lighting Control

## 中控集中開關

Central Control Station



彩色觸控螢幕  
Touch Screen



中控電腦  
Host PC

- 集中分層分區分頁圖形化監視控制
- 只時間表控制功能
- 多套中控設備可以同時並存，互為備援
- 可進行中控與授權模式切換
- Centralized control through a graphical interface for each floor or section by pages
- Scheduled control
- Multiple central control can be used at the same time, and each can backup the others for redundant operation
- Authorize or de-authorize control for the local site



## 管理者開關

Staff Use Digital Switches



小型彩色觸控螢幕  
Touch Screen



數位開關  
Digital Switch

- 管理者控制專用
- 單點、群組狀態回饋顯示
- 任一按鈕開關可經由設定器設為單點、群組或場景
- 不佔用D-Bus通信地址
- 設定容易，利於後續擴充及維護
- For use by the building staff
- Feedback status display for single or group mode of operation
- Any button can be set as single, group or pattern function
- Digital switch does not require address on the D-Bus network
- Simple to setup, beneficial for future expansion and maintenance



## 使用者開關

Local User Switch



常規機械開關  
Classic Wall Switch



常規感應器  
Occupancy Sensor/LUX Sensor

- 可整合常規開關與感應器連結至系統
- 使用者無需學習即可適應現場之操作
- 傳統開關與常規感應器，選擇多樣，從平價品至高級品均可自由選購，後續維護簡便
- Integration of classic switches and regular motion sensor
- Intuitive to use, classic switches do not require any training to use
- Wide variety of classic wall switches and sensors can be choiced from fairly priced to high end switches. This makes for ease of future replacement and maintenance

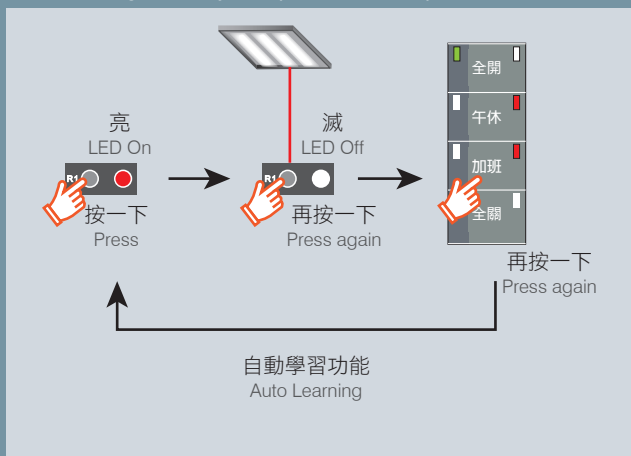


# 工程、維護、安全性

Installation, Maintenance and Protection

## 群組場景設定，無需工具

Auto Learning For Easy Setup, No Tools Required



## 無CPU主機、無須MRS或系統電源

No Central Process, No MRS and No System Power Supply



- 不因關鍵設備故障導致全系統癱瘓
- 任意控制器故障僅會影響該控制器所控制的局部迴路，不會影響整個系統及其他控制器功能
- 通信線距離可延伸更長，無需頻繁增設放大設備
- No critical components to fail that will cause the entire system to collapse
- When any given controller fails, only that controller and the circuits under its controls are affected, the remaining system and other controllers will continue to function as normal.
- The bus cable can be extended for long distances without having to use a bevy of signal boosters

## 多中控強化備援

Multiple Control for Redundancy



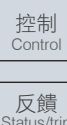
## 專用驅動控制

Special Purpose Driver or Controller



LED燈或氣體燈  
LED or Gas-Discharge Lamp

- 智慧軟啟動功能，適用於高啟動電流之燈具
- 30A大容量迴路負載開關控制
- Smart soft switching, suitable for use with high inrush current light fixture
- Controls up to a 30A heavy load circuit on/off

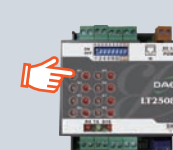


外按電磁接觸器  
Magnetic Contactor

- 接觸器專用控制器，適用大面積負載與動力設備負載控制
- 中控可反饋接觸器實際動作狀態
- 具備手動及過載跳脫信號回饋功能
- Specifically designed for use with magnetic contactors (MC), suitable for the control of high power or motorized equipment
- View the actual feed back MC on/off status from central
- Can show the auxiliary feedback for the local/remote and trip overload status

## 手動備援

Manual Backup Mechanism



- 控制器面板備援控制按鍵，毋需依賴通信軟體，亦有利於用於施工配盤獨立測試
- 外接式繼電器具備手動備援撥桿
- With the on-board manual control button, there is no need to rely on the central control software for testing during commissioning
- External relay is equipped with a manual control switch for direct relay control



手動備援撥桿及狀態  
Manual Backup Switch and Status

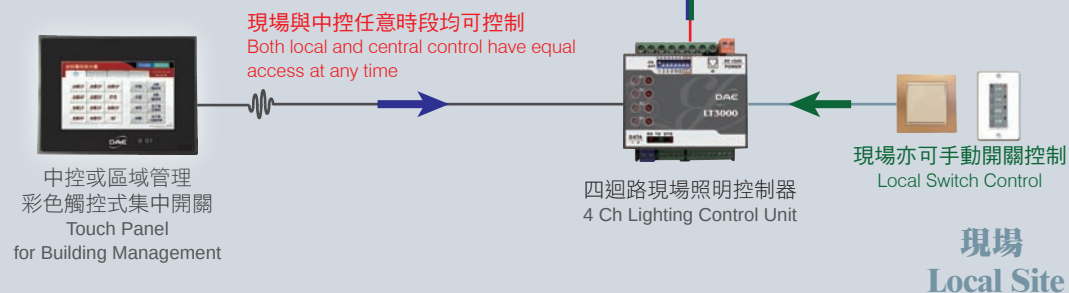
# 中控與現場之關係

Interaction Between the Local Vicinity and Central Control

## 平權控制

Equal Priority Access

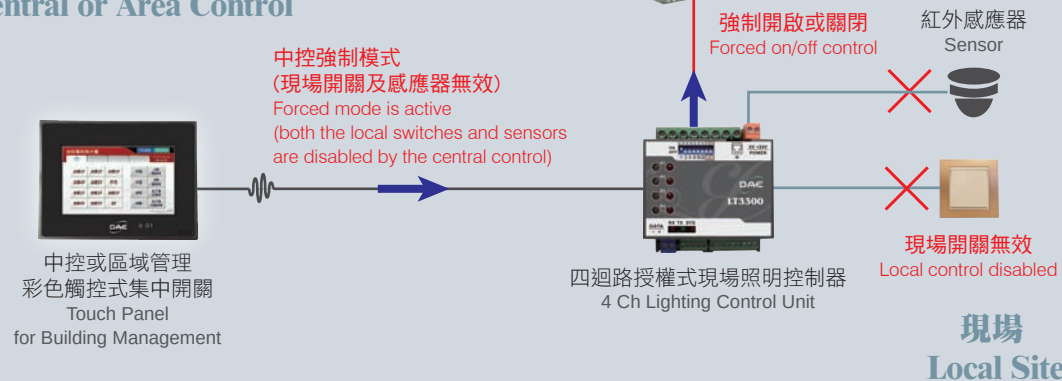
### 中控或區域管理 Central or Area Control



## 強制控制

Forced Control

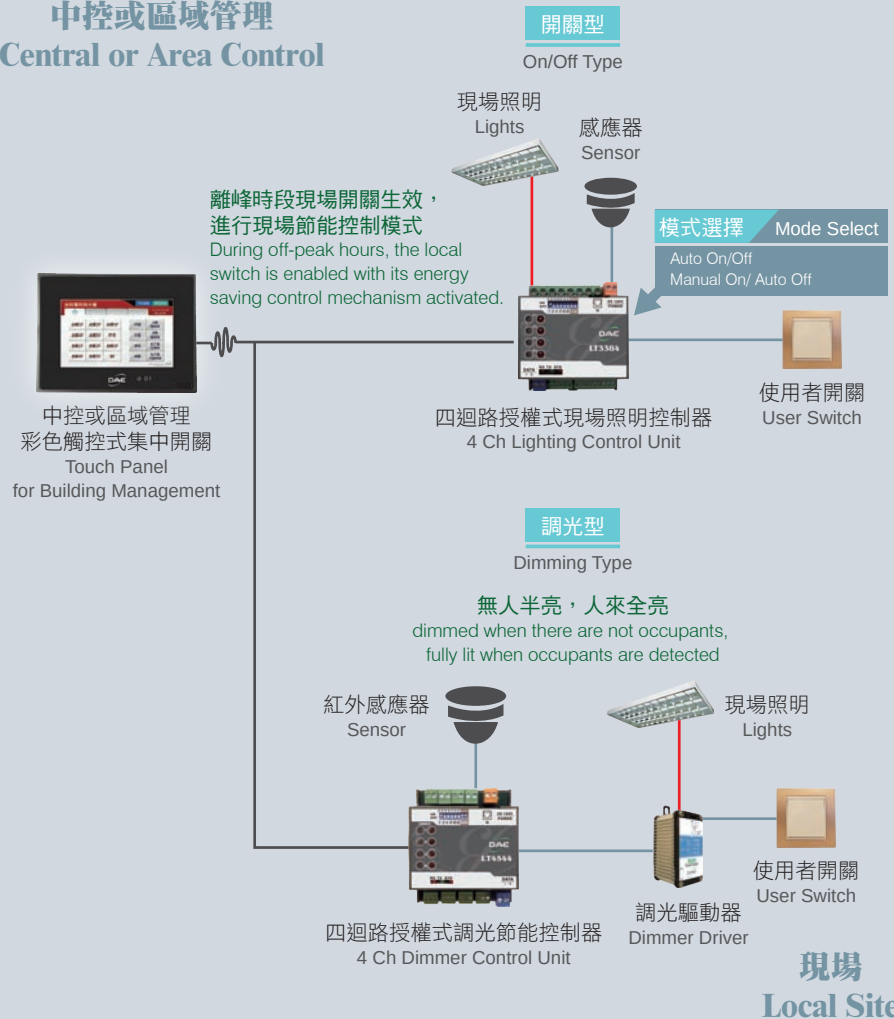
### 中控或區域管理 Central or Area Control



## 授權控制

Authorizing Control

### 中控或區域管理 Central or Area Control



# 常用節能控制模式

Typical Energy Saving Control Methods

## A類

### 開放公共空間

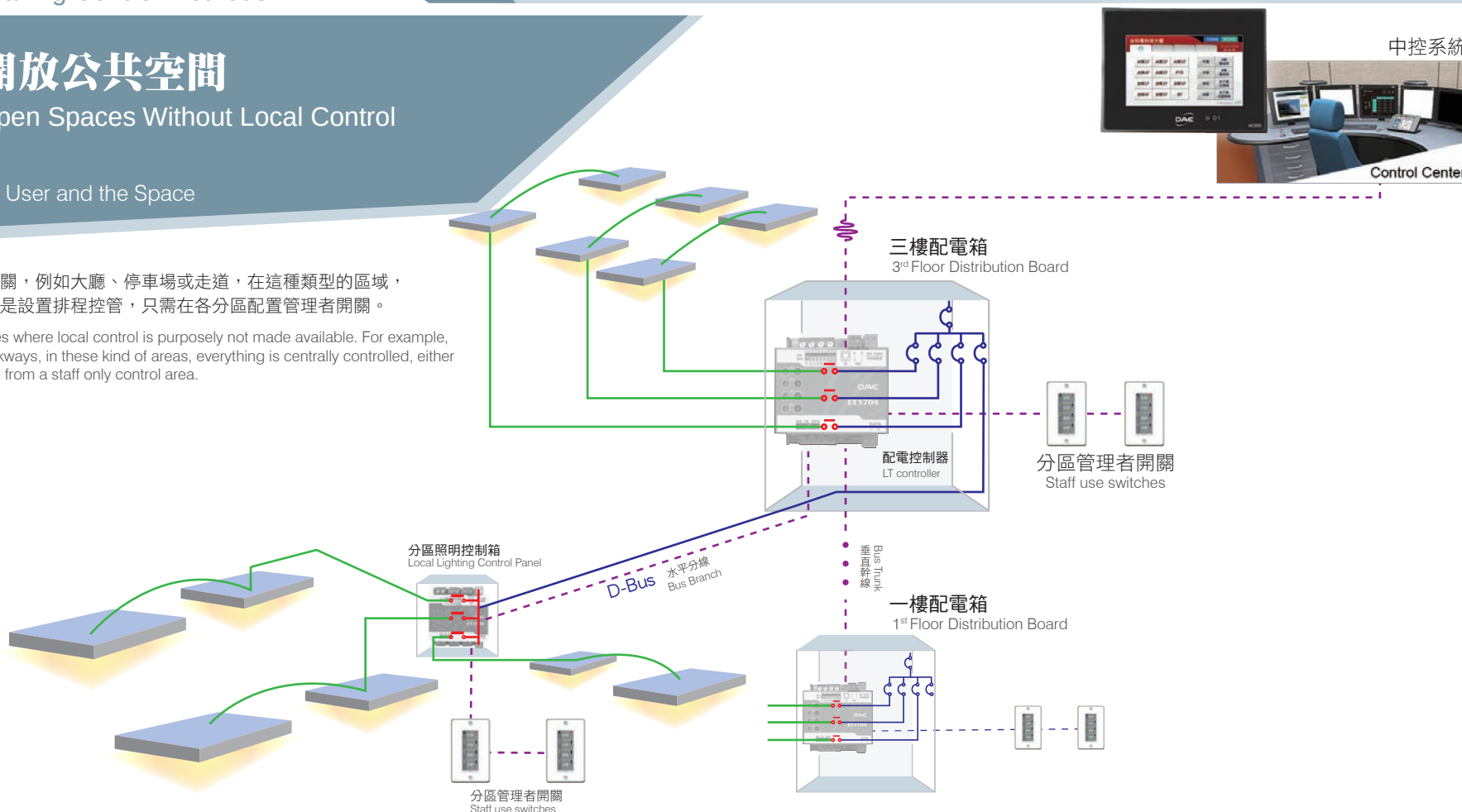
Open Spaces Without Local Control

#### 集中管理

Interaction Between the User and the Space

許多開放公共空間無需現場開關，例如大廳、停車場或走道，在這種類型的區域，通常都是由中控統一管理，或是設置排程控管，只需在各分區配置管理者開關。

There are many public open spaces where local control is purposely not made available. For example, in large halls, parking areas or walkways, in these kind of areas, everything is centrally controlled, either through an automated schedule or from a staff only control area.



#### 分離式

Terminal Unit



繼電器  
Relay Unit

- 控制器與繼電器分離
- 可單獨替換繼電器
- 可選配盤面按鈕開關介面

- The relay is separate from controller
- The relay can be replaced independently
- Optional with push button input interface

#### 內置式

Compact Actuator



- 控制器與繼電器一體式
- 所需盤體空間小

- The relay is integrated into the controller
- Requires less panel space

#### 接觸器控制器

Contactor Controller



可外接電磁接觸器  
Used with Magnetic Contactor

- 專用於搭配接觸器控制之應用
- 中控可反應接觸器實際狀態，包含過載跳脫

- Specifically made for controlling contactors
- The remote host can control the contactor and monitor its auxiliary feedback status including the trip overload condition

#### 調光控制器

Dimmer Controller



調光驅動器  
Dimmer Driver

- 調光專用驅動控制
- 以迴路為單位之調光驅動控制器

- Specifically made for controlling dimmers
- Each controller channel can use a different type of dimmer driver that is appropriate for the lamp type
- Each dimmer driver may drive circuit load consisting of many lamps and not just a single lamp

## 時程控制/時段調光

Scheduled Control and Scheduled Dimming

適用空間：公共走道、大廳、外牆、賣場等

Applications : Hallways, lobbies, building exteriors, shopping centers



## 戶外光感連控(須搭配戶外用光感應器)

Daylight Harvesting (Requires Lux Sensor)

適用空間：臨外區域如公共走道、大廳、樓梯間等

Applications : Daylit areas such as walkways, halls, stairways, etc.



|                     |                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------|
| 應用說明<br>Description | 依現場使用狀況需求，定時調整現場照明開關或亮度<br>The lights and dimming are adjusted as needed by a scheduler    |
| 控制器<br>Controller   | 開關型 (On/Off Type) : LT2504, LT2544, LT2508, LT3604, LT3704,<br>調光型 (Dimming Type) : LT4504 |

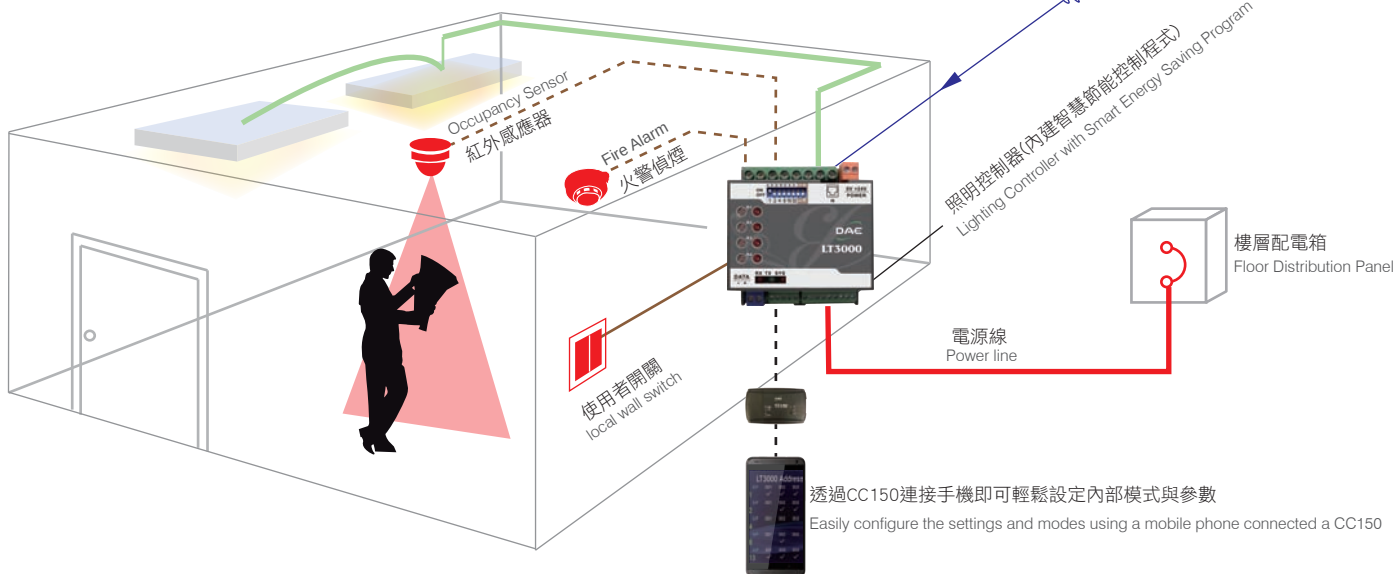
|                     |                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 應用說明<br>Description | 依戶外自然光亮度自動調整現場照明開關或亮度<br>Lights are automatically turned on, off or dimmed as required to compensate for the natural light. |
| 控制器<br>Controller   | 開關型 (On/Off Type) : LT2504, LT2544, LT2508, LT3604, LT3704<br>調光型 (Dimming Type) : LT4504                                   |

# B類 | 區域節能互動控制

## Local Areas With Interactive Control

人與空間之間的互動控制  
Interaction Between the User and the Space

此類型的區域均設置現場使用者開關，使用者可在現場依需要自行操作，亦可由中控進行監管與控制。  
For these types of places, there are switches on site which the local user can operate as needed, but at the same time, a central host would be able to remotely monitor and control as well.



### 平權式

Equal Access



- 中控與現場均可控制
- Both central and local can both take control

### 授權式

Authorizing Control



- 可搭配常規開關及感應器，進行人開自動關之功能
- 尖峰時段管制現場開關不能操作
- 離峰時段則授權現場進行互動節能控制
- Can be used with either classic wall switches or with sensors for use as manual on, auto off control
- During peak hours, the local switches are de-authorized from operating
- During off-peak hours, the local switches are allowed to operate and both it and central control have equal access

## 多處控制(搭配現場開關)

Multiple Access (Requires Wall Switches)

適用空間：公共走道、樓梯間、廁所、倉庫、閱覽室、圖書館等

Applications : Hallways, stairways, restrooms, storerooms, reading rooms, libraries, etc.



公共走道  
Hallways

應用說明  
Description

可在公共區域的牆面上多處設置開關，對同一迴路的照明進行多處控制，亦可依需求設定手動開自動關之節能機制。

Switches can be placed in multiple locations that control the same set of lighting. A form of manual on and auto off mechanism can be added if needed.

控制器  
Controller

開關型 (On/Off Type) : LT3084

## 尖離峰授權控制(搭配現場傳統開關或感應器)

Authorizing Control (Requires Wall Switches or Sensors)

適用空間：公共走道、樓梯間、廁所、倉庫、管制區域、開放辦公室等

Applications：Hallways, stairways, restrooms, storerooms, restricted areas, open offices, etc.



離席控制



入席控制

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 尖峰模式              | 強制現場照明開燈或關燈，或維持一定的亮度，此時現場開關與感應器無效                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 離峰模式              | 此時現場開關與感應器生效，利用現場節能機制進行互動式節能控制 <ul style="list-style-type: none"> <li>- 模式一（開關型）：離席控制<br/>搭配傳統牆面開關與常規紅外感應器，使用者需要時利用牆面開關開燈，離開後若未關燈，紅外感應器感應無人後延遲一段時間自動關閉</li> <li>- 模式二（開關型）：入席控制<br/>搭配常規紅外感應器，人來燈亮、人走燈滅</li> <li>- 模式三（調光型）：無人時半亮，感應有人時緩緩變至全亮<br/>搭配常規紅外感應器，無人時現場保持一定亮度，例如30%，當紅外感應器感應有人時，現場照明緩緩變至全亮，人離開後再緩緩變回半亮</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Peak hours        | The central host takes control during peak hours, forcing the lights on, off or at a certain dimness level as needed, at this time, local switches and sensors are disabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Off Peak Hours    | During off peak hours, control reverts to the local switches and sensors which act in conjunction with certain local energy saving mechanism. <ul style="list-style-type: none"> <li>- Method 1 (On/Off Type): Vacancy<br/>This works in conjunction with classic wall switches or with commonly available infrared sensors. The user turns on the lights when needed, but if they forget to turn off the lights when they leave, the infrared sensor will detect their absence and will automatically turn off the lights as a certain time delay.</li> <li>- Method 2 (On/Off Type): Occupancy<br/>This makes use of commonly available infrared sensors, the lights turn on when the user is detected and turned off when they leave.</li> <li>- Method 3 (Dimming Type): Dimly Lit During Standby, Full Lit When On<br/>This makes use of commonly available infrared sensors, when on one is present, the lights are dimly lit (for example at 30%), but when the IR sensor detects an occupant, the lights are gradually brought to full brightness, when the occupant leaves, the lights are gradually brought back down again.</li> </ul> |
| 控制器<br>Controller | 開關型 (On/Off Type)：LT3384<br>調光型 (Dimming Type)：LT4544                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 情境/模式控制(搭配情境控制面板)

Scene Selection (Using Pattern Touch Switch)

適用空間：會議室、演藝廳、宴會廳、中大型階梯教室、開放辦公室等

Applications：Conference halls, performance halls, banquet halls, lecture halls, open offices.



大型會議室  
Conference Halls



小型彩色觸控螢幕  
Touch Screen

|                     |                                                                                                                                                                                                                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 應用說明<br>Description | 中大型空間迴路較多，依靠傳統開關不易調整到需求(例如演講模式)且場面混亂，應該利用情境開關進行情境變換<br><br>Large event venues have a large number of lighting. A lighting control system allows ease of control by presetting scenes for all types of events and activities, such as lectures, concerts and so on, allowing simplicity and convenience of control. |
| 控制器<br>Controller   | 開關型 (On/Off Type)：LT3606, LT3084<br>布幕 (Curtain)：LT3070<br>調光型 (Dimming Type)：LT4504                                                                                                                                                                                                                               |

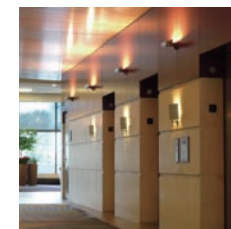
# 企業總部、 廠房

Corporate Headquarters/ Warehouse Building

### 典型案例

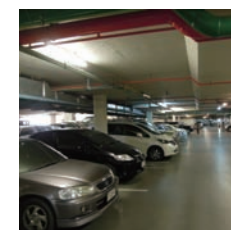
監察院  
三立電視台  
新莊副都心客委會大樓  
龍巖企業總部  
中華積體電路  
交通部運研所  
台北遠東通訊園區  
國防部海軍司令部  
富邦人壽信義區A10  
福州和格信息廣場  
東風德納車輛有限公司

海基會  
新竹地檢署  
高雄市政府  
萬華區公所  
軍備局202廠  
金門太武電廠  
蘇州國家電網大廈  
中山科學研究院  
晟田科技廠房  
蘇州獨墅湖供熱供暖中心  
台灣電力公司林口訓練中心



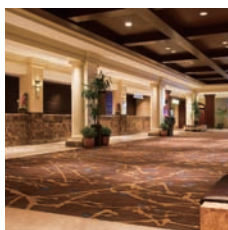
梯廳  
Elevator Lobbies

- 尖離峰授權控制 (調光型)
  - 尖峰時段保持80%亮度
  - 離峰時段開放現場紅外感應控制，無人時維持40%亮度，感應有人則漸亮至100%
- Authorizing Control (Dimming Type)
  - During peak hours, the lights are kept at 80% brightness
  - But during off peak hours, control reverts to the local IR sensors, when vacant, the lights are kept at 40%, but if occupied, the lights are brought up to 100% brightness.



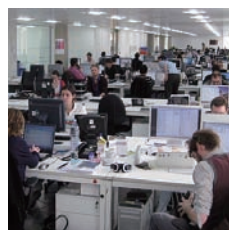
地下停車場  
Basement Parking

- 尖離峰授權控制 (調光型)
  - 亦可控制排風機等設備之開關
- Authorizing Control (Dimming Type)
  - Portion: Scheduled control which can also include the ventilation and other equipment



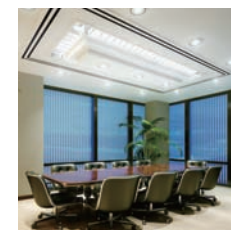
大廳  
Main Lobby

- 時段調光
  - 戶外光感連控 (開關型)
- Scheduled dimming
  - Daylight compensation with a lux sensor (on/off type)



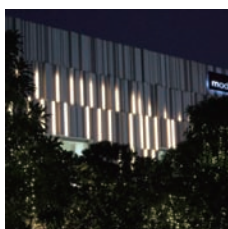
開放辦公室  
Open Offices

- 分區數位開關
- 無人時，分區自動關燈
- Digital switch control
- local digital switch control



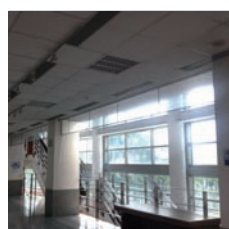
會議室  
Meeting Rooms

- 情境照明控制
  - 一鍵式控制進行模式切換
- Scene Lighting Control
  - One button scene change



外牆  
Building Exterior

- 時程控制
  - 依日出、日落及深夜時段設定外牆照明的開關時程
- Scheduled Control
  - The lighting on the building exterior is controlled from a schedule according to the time of day



公共走道  
Hallways

- 臨外
  - 戶外光感連控 (調光型)
- 無臨外
  - 尖離峰授權控制 (開關型)
- Daylit Area
  - Daylight compensation (dimming type)
- Non-daylit Area
  - Authorizing control (on/off type)



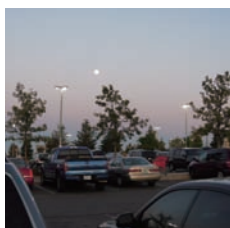
會議廳  
Conference Halls

- 情境照明控制
  - 一鍵式控制進行模式切換
- Scene Lighting Control
  - One button scene change



梯廳  
Elevator Lobbies

- 尖離峰授權控制 (調光型)
  - 尖峰時段保持80%亮度
  - 離峰時段開放現場紅外感應控制，無人時維持40%亮度，感應有人則漸亮至100%
- Authorizing Control (Dimming Type)
  - During peak hours, the lights are kept at 80% brightness
  - While during off peak hours, control reverts to the IR sensors on site, when on one is present, the lights are kept at 40%, but if someone is present, the lights are brought to 100% brightness.



戶外停車場、校園路燈  
Outdoor Parking, Campus Lighting

- 時程控制
  - 戶外光感連控
- Scheduled control
  - Daylight compensation



# 校園

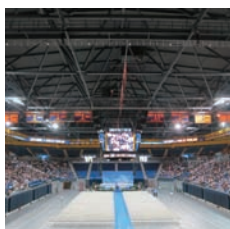
School Campus

## 典型案例

成功大學  
東海大學  
交通大學  
淡江大學  
啟聰學校  
美國學校  
中山女中  
台南一中  
台灣科技大學

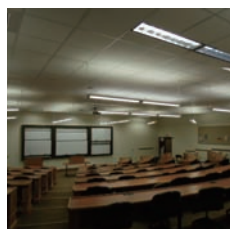
高雄中學  
金華國中  
百齡高中  
空中大學  
稻江商職  
南港高工  
麗山國中  
台南護校  
台北信義國小

台中一中  
仁愛國中  
天母國中  
新莊高中  
景文科技大學  
台北教育大學  
台北海洋技術學院  
國立雲林科技大學  
國立彰化師範大學



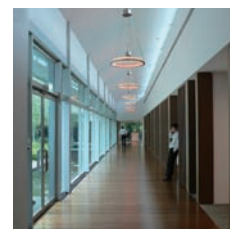
體育館  
Gyms

- 會議室、階梯教室、演藝廳、體育館
- 情境照明控制
    - 一鍵式控制進行模式切換
- Meeting Rooms, Lecture Halls, Performance Halls, Gyms
- Scene Lighting Control
    - One button scene change



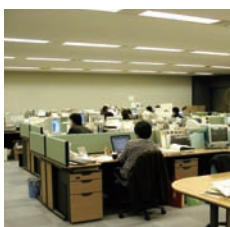
教室  
Classrooms

- 尖離峰授權節能控制
  - 上課時段現場節能模式
  - 下課時段中控強制關閉
- Authorizing Control
  - Local energy saving modes are active during classes
  - After classes the lights are forced off from the central control



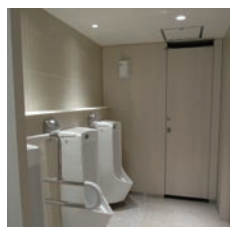
公共走道、樓梯間  
Hallways and Stairways

- 臨外
  - 戶外光感連控 (調光型)
- 無臨外
  - 尖離峰授權控制 (開關型)
- Daylit Area
  - Daylight compensation (dimming type)
- Non-daylit Area
  - Authorizing control (on/off type)



教師辦公室  
Teacher Offices

- 模式控制
- 尖峰期間中控控制
- 離峰期間授權控制
- Scene Control
- Peak Time:Central control
- Off Peak Time:Authorizing control



廁所  
Restrooms

- 尖離峰授權節能控制
  - 部分迴路：時程控制定時開關
- Authorizing Control
  - A portion of the circuits would be schedule controlled



圖書館  
Libraries

- 臨外
  - 戶外光感連控 (開關型)
- 無臨外
  - 尖離峰授權控制 (開關型)
- 部分迴路:時程控制定時開關
- Daylit Area
  - Daylight compensation (on/off type)
- Non-daylit Area
  - Authorizing control (on/off type)
- Portion:Scheduled control

# 建築之應用

## Application Guide

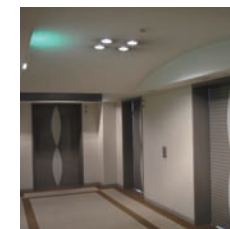
### 住宅、辦公大樓

#### Residential / Office Buildings

##### 典型案例

潭美59號  
京格首席  
宏泰建設  
台北矽谷  
漢亞開發  
台中金融大樓  
忠泰長虹明日博  
北市圓環新天地  
上海日月光伯爵居  
衡水交通局大樓  
行政院食品衛生管理局

玖原建設  
林口透天建築  
林口行政園區  
太麻里消防隊  
台灣電力公司綜合研究所  
興洋科比邑大樓  
金門酒廠福利大樓  
嘉義東營區電力改善  
上海流水園別墅  
上海翠湖新天地  
關稅總局緝毒犬培訓中心



梯廳  
Elevator Lobbies

- 尖離峰授權控制 (調光型)
  - 尖峰時段保持80%亮度
  - 離峰時段開放現場紅外感應控制，無人時維持40%亮度，感應有人則漸亮至100%
- Authorizing Control (Dimming Type)
  - During peak hours, the lights are kept at 80% brightness
  - While during off peak hours, control reverts to the IR sensors on site, when on one is present, the lights are kept at 40%, but if someone is present, the lights are brought to 100% brightness.



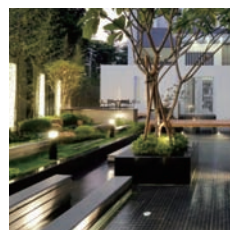
地下停車場  
Basement Parking

- 尖離峰授權控制 (調光型)
  - 亦可控制排風機等設備之開關
- Authorizing Control (Dimming Type)
  - Portion: Scheduled control which can also include the ventilation and other equipment



大廳  
Main Lobby

- 時段調光
  - 戶外光感連控 (開關型)
- Scheduled dimming
  - Daylight compensation with a lux sensor (on/off type)



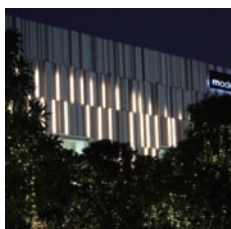
中庭  
Main Hall

- 時程控制
- 模式控制
- Scheduled control
- Scene Control



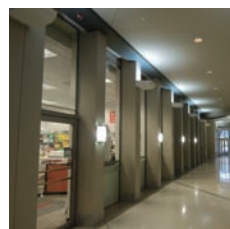
接待區  
Reception Lobby

- 手動開、自動關
- 無人自動關燈
- Manual on, auto off
- Auto off when vacant



外牆  
Building Exterior

- 時程控制
  - 依日出、日落及深夜時段設定外牆照明的開關時程
- Scheduled Control
  - The building facade lighting is controlled from a schedule according to the time of day.



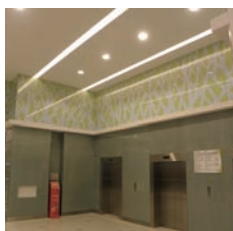
公共走道  
Hallways

- 臨外
  - 戶外光感連控 (調光型)
- 無臨外
  - 尖離峰授權控制 (開關型)
- Daylit Area
  - Daylight compensation (dimming type)
- Non-daylit Area
  - Authorizing control (on/off type)



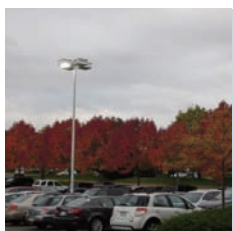
廁所  
Restrooms

- 樓梯間、洗手間、茶水間、工具間
- 臨外
    - 戶外光感連控 (開關型)
  - 尖離峰授權控制 (開關型)
  - 多處開延時控制
- Stairways, Restrooms, Pantries, Tool Storage
- Daylit Area
    - Daylight compensation (on/off type)
  - Authorizing Control (on/off type)
  - Multiple access with delayed auto off



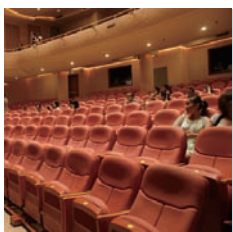
梯廳  
Elevator Lobbies

- 時程控制
- Scheduled Control



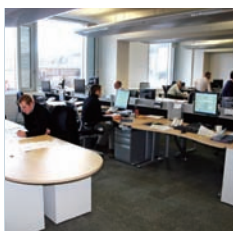
戶外停車場、路燈  
Outdoor Parking, Street Lighting

- 時程控制
- 戶外光感連控
- Scheduled control
- Daylight compensation



演藝廳  
Performance Halls

- 情境照明控制
- 一鍵式控制進行模式切換
- Scene Lighting Control
- One button scene change



員工辦公室  
Employee Offices

- 模式控制
- 尖峰期間中控控制
- 離峰期間授權控制
- Scene Control
- Peak Time:Control control
- Off Peak Time:Authorizing control



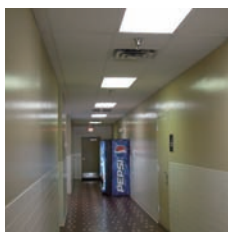
# 商業建築

## Commercial Centers

### 典型案例

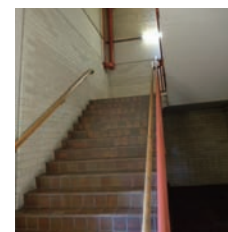
板橋大遠百  
台中遠東百貨  
桃園台茂購物中心  
重慶第一百貨商場  
板橋生命追思館  
新竹遠東巨城購物中心  
江西新余經濟開發區智慧城市  
台北海洋技術學院淡水圖資大樓

義大世界  
松山菸廠  
馬航航空中心  
台北亞洲廣場  
蘇州港龍廣場  
市定古蹟淡水海關碼頭



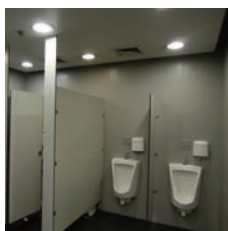
工作區專用走道  
Staff Hallways

- 尖離峰授權節能控制
- 上班時段現場節能模式
- 下班時段中控強制關閉
- Authorizing Control
- Local energy saving modes are active during work hours
- After work the lights are forced off from the central control



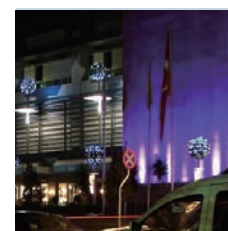
公共走道、樓梯間  
Hallways and Stairways

- 臨外
- 戶外光感連控 (調光型)
- 無臨外
- 尖離峰授權控制 (開關型)
- 部分迴路:時程控制定時開關
- Daylit Area
- Daylight compensation (dimming type)
- Non-daylit Area
- Authorizing control (on/off type)
- Portion: Scheduled control



廁所  
Restrooms

- 尖離峰授權節能控制
- 部分迴路: 時程控制定時開關
- Authorizing Control
- A portion of the circuits would be schedule controlled



外牆  
Building Exterior

- 時程控制
- 依日出、日落及深夜時段設定外牆照明的開關時程
- Scheduled Control
- The lighting on the building exterior is controlled from a schedule according to the time of day

# 建築之應用

Application Guide

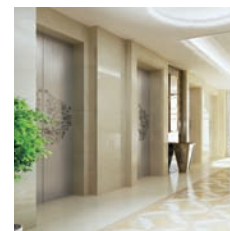
## 酒店、旅遊設施

Hotels / Recreations / Tourism

### 典型案例

林鳳營牧場  
文河休閒農場  
北門遊客中心  
花蓮海洋度假村  
台東金聯世紀酒店  
溫州香格里拉大酒店  
中信昌休閑度假旅館  
大板根森林溫泉度假村  
觀光局東海岸國家風景區  
竹山地震生態園展示中心  
宜蘭羅東調色盤築夢會館

太平山莊  
宜蘭運動中心  
台北中泰賓館  
矽谷溫泉會館  
Madison 西餐廳  
佳里金牌宴會廳  
台北東區參和院  
澎湖西嶼西台遊憩區  
金門擎天水廠  
上海吳江路日式宴會廳  
羅山管理站暨遊客中心



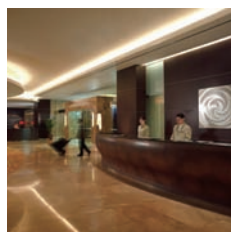
梯廳  
Elevator Lobbies

- 尖離峰授權控制 (調光型)
  - 部分迴路：時程控制定時開關
- Authorizing Control (Dimming type)
  - Portion: Scheduled Control



地下停車場  
Basement Parking

- 尖離峰授權控制 (調光型)
  - 部分迴路：時程控制定時開關
  - 亦可控制排風機等設備之開關
- Authorizing Control (Dimming Type)
  - Portion: Scheduled control which can also include the ventilation and other equipment



大廳  
Main Lobby

- 時段調光
- 戶外光感連控 (開關型)
- 模式控制
- Scheduled dimming
- Daylight compensation with a lux sensor (on/off type)
- Scene control



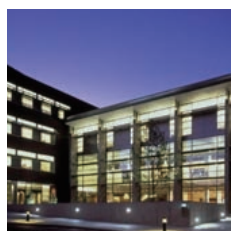
餐廳  
Restaurants

- 時程控制
- 模式控制
- Scheduled control
- Scene Control



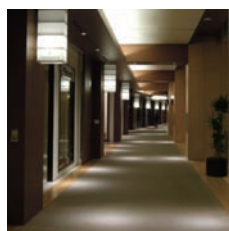
多功能廳  
Multifunction Rooms

- 情境照明控制
  - 一鍵式控制進行模式切換
- Scene Lighting Control
  - One button scene change



外牆  
Building Exterior

- 時程控制
  - 依日出、日落及深夜時段設定外牆照明的開關時程
- Scheduled Control
  - The lighting on the building exterior is controlled from a schedule according to the time of day



公共走道  
Hallways

- 臨外
  - 戶外光感連控 (調光型)
- 無臨外
  - 尖離峰授權控制 (開關型)
  - 部分迴路:時程控制定時開關
- Daylit Area
  - Daylight compensation (dimming type)
- Non-daylit Area
  - Authorizing control (on/off type)
- Portion: Scheduled control



樓梯間  
Stairways

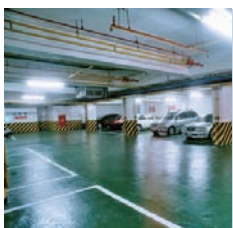
- 樓梯間、洗手間、茶水間、工具間
- 臨外
    - 戶外光感連控 (開關型)
  - 尖離峰授權控制 (開關型)
  - 多處開延時控制
  - Stairways, Washrooms, Pantries, Tool
    - Daylit Area
      - Daylight compensation (on/off type)
    - Authorizing Control (on/off type)
    - Portion: Scheduled Control



病房  
Patient Wards

- 尖離峰授權控制
- 部分迴路：時程控制定時開關

- Authorizing control
- Portion: Scheduled control



地下停車場  
Basement Parking

- 尖離峰授權控制 (調光型)
- 部分迴路：時程控制定時開關
- 亦可控制排風機等設備之開關

- Authorizing Control (Dimming Type)
- Portion: Scheduled control which can also include the ventilation and other equipment



演講廳、會議廳  
Lecture Halls, Conference Rooms

- 情境照明控制
- 一鍵式控制進行模式切換

- Scene Lighting Control
- One button scene change



職工辦公室、護理站  
Staff Offices, Nurse Stations

- 模式控制
- 尖峰期間中控控制
- 離峰期間授權控制

- Scene Control
- Peak Time: Control control
- Off Peak Time: Authorizing control



# 醫院

Hospitals

## 典型案例

基隆醫院  
大千綜合醫院  
童綜合醫院  
丹絨醫專中心 (馬來西亞)



梯廳  
Elevator Lobbies

- 尖離峰授權控制 (調光型)
- 部分迴路：時程控制定時開關

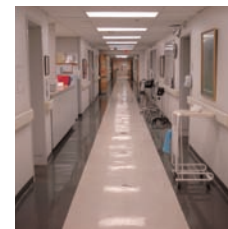
- Authorizing control (dimming type)
- Portion: Schedule control



廁所  
Restrooms

- 尖離峰授權節能控制
- 部分迴路：時程控制定時開關

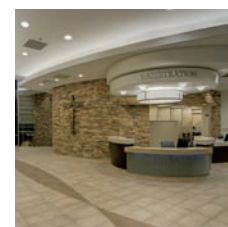
- Authorizing Control
- A portion of the circuits would be schedule controlled



公共走道、樓梯間  
Hallways, Stairways

- 臨外
- 戶外光感連控 (調光型)
- 無臨外
- 尖離峰授權控制 (開關型)
- 部分迴路: 時程控制定時開關

- Daylit Area
- Daylight compensation (dimming type)
- Non-daylit Area
- Authorizing control (on/off type)
- Portion: Scheduled control



大廳  
Main Lobby

- 大廳、候診室、餐廳
- 時程控制
- 時段調光

- Main Lobby, Waiting Rooms, Dining Hall
- Scheduled control
- Dimming by time period

# 建築之應用

Application Guide

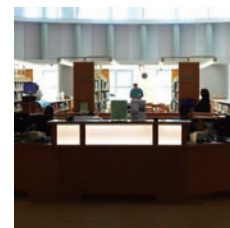
## 活動中心、 圖書館、展覽館

Activity Center / Libraries / Museum

### 典型案例

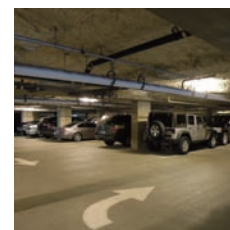
故宮南院區  
中壢文化中心  
新北市立圖書館  
東海大學圖書館  
蘭州濕地博物館  
台南永康社教中心  
基隆市信義區圖書館  
國立科學工藝博物館  
南海學園科學教育館  
台北孔廟

北京故宮博物院  
海洋大學演講廳  
新竹高商活動中心  
松山高農活動中心  
成功大學活動中心  
救國團中山運動中心  
蘇州市吳門藝術會館  
新疆絲綢文化博物館  
高雄市政府大東文化藝術中心  
Monash University (Sunway)



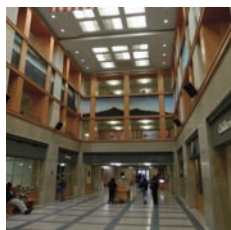
服務台  
Librarian Station

- 臨外區域
  - 戶外光感連控
- 非臨外區域
  - 時程控制
- Daylit areas
  - daylight compensation
- Non-daylit areas
  - Scheduled control



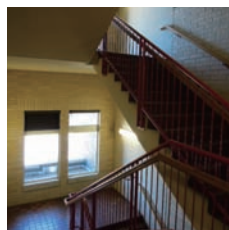
地下停車場  
Basement Parking

- 尖離峰授權控制 (調光型)
  - 部分迴路：時程控制定時開關
  - 亦可控制排風機等設備之開關
- Authorizing Control (Dimming Type)
  - Portion: Scheduled control which can also include the ventilation and other equipment



大廳  
Main Hall

- 時段調光
- 戶外光感連控 (開關型)
- 模式控制
- Scheduled dimming
- Daylight compensation with a lux sensor (on/off type)
- Scene control



樓梯間  
Stairways

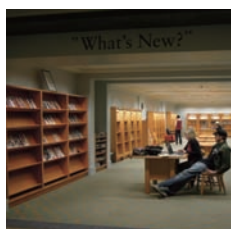
### 樓梯間、洗手間、工具間

- 臨外
  - 戶外光感連控 (開關型)
- 尖離峰授權控制 (開關型)
- 部分迴路：時程控制定時開關
- Daylit Areas
  - Daylight compensation (on/off type)
- Non-daylit Areas: Authorizing control (on/off type)
- Portion: Scheduled control



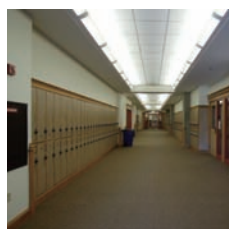
閱覽區  
Reading Area

- 尖離峰授權控制
  - 部分迴路：時程控制定時開關
- Authorizing control
  - Portion: Scheduled control



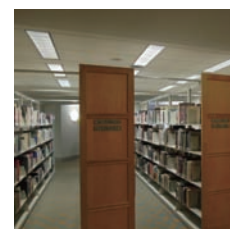
期刊閱覽區  
Periodicals Area

- 臨外區域：戶外光感連控
- 非臨外區域：時程控制
- Daylit Areas: Daylight compensation
- Non-daylit Areas: Scheduled control



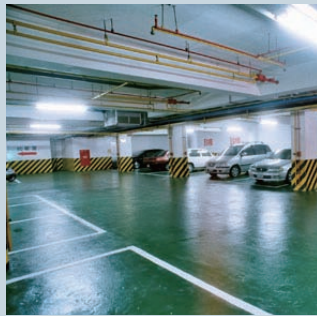
公共走道  
Hallways

- 臨外
  - 戶外光感連控 (調光型)
- 無臨外
  - 尖離峰授權控制 (開關型)
- 部分迴路：時程控制定時開關
- Daylit Area
  - Daylight compensation (dimming type)
- Non-daylit Area
  - Authorizing control (on/off type)
- Portion: Scheduled control



圖書陳列區  
Book Stacks

- 尖離峰授權控制
- Authorizing control



地下停車場  
Basement Parking



# 其他 公共建築

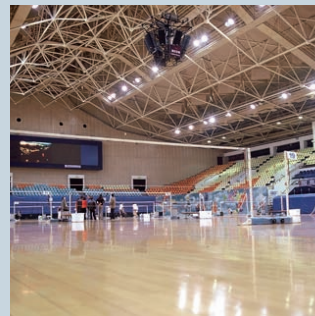
Other Public Buildings

## 典型案例

|               |             |
|---------------|-------------|
| 金門金城廠         | 楊梅稻穗所       |
| 金門尚義機場        | 樹林市公所       |
| 高雄旗津消防局       | 路竹納骨塔       |
| 網溪國小停車場       | 南榮殯儀館       |
| 興隆地下停車場       | 台灣固網機房      |
| 板橋高中地下停車場     | 北京通州區開心農場   |
| 基隆信義國中停車場     | 鎮江高鐵站站前廣場   |
| 台灣科技大學體育館     | 生產製造中心第203場 |
| 基隆警察局第四分局     | 行政院食品衛生管理局  |
| 市定古蹟淡水海關碼頭    | 關稅總局緝毒犬培訓中心 |
| 江西新余經濟開發區智慧城市 |             |



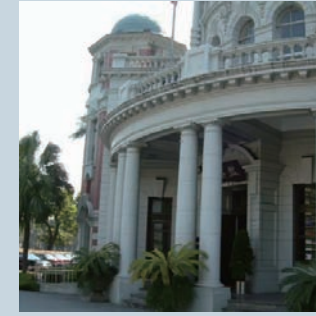
車站  
Transport Hubs



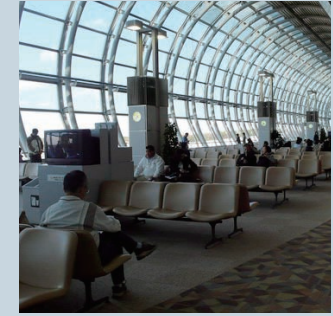
體育館  
Gyms



消防隊、派出所  
Fire and Police Stations



公家機關  
Government Buildings



機場  
Airports

# 中控軟體介紹

## Central Control System Software

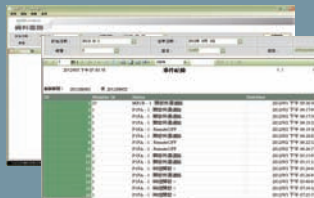
### 照明圖控軟體 eLiteview1000

Graphical Control Software for Lighting



主畫面與登錄畫面  
Startup and Login Screens

- 權限管制
- 透過Ethernet TCP/IP連線
- 系統最大容量可達4000迴路。
- Access control
- Supports TCP/IP connections
- Supports up to 4000 circuits



記錄查詢畫面  
Record Logs Screen

- 可依日期區間查詢所有設備事件，或依設備查詢此日期區間之所有控制記錄。
- Search by date and time for device event or control activities



圖控畫面  
Graphical Control Screen

- 選擇想觀看(操控)之樓層，可顯示該樓層平面圖以及迴路狀態。
- 滑鼠點選迴路可標籤顯示該迴路之各種資訊。
- Select by floor to show the floor diagram and the status of the circuit loads
- Clicking on the circuit load will show its detailed information



時程控制畫面  
Schedule Control Screen

- 分為平日與假日，亦可以設定特別節日之排程。
- 可新增排程，納入控制之迴路可自由選擇。
- Different schedules for weekdays and weekends, and can also set a separate schedule for special days.
- New schedules can be created, which can be assigned as desired for each controlled circuit.

### 彩色觸控螢幕 ACS Series

Touch Panel



照明控制操作畫面  
Lighting Control Screen



時程控制畫面  
Schedule Control Screen

### 遠端同步控制

Synced Remote Control Thru Mirroring



遠端電腦同步控制(群組為控制單位)  
Remote Mirroring With a PC by group operation



手機平板連線畫面  
Screen mirrored on Android phone or tablet

- 遠端電腦或手機平板安卓系統可透過網路與彩色觸控螢幕進行同步控制
- The touch panel and Android APP can mirror its display and share control with a PC through a network connection

# 照明控制設備

Products For Lighting Control System



(7", 8", 10")

## 彩色觸控式螢幕(中控集中開關) Touch Panel (for centralized control)

- 分區分頁中文操作顯示，易於操作
- 擴充彈性佳，不佔空間
- 簡易時程控制功能，平日/假日不同時程
- 可控點位最大容量：最多576按鍵數
- 可擴充網路連線功能
- Each area organized into pages for ease of navigation
- Easily expandable and occupies little space
- Simplified schedule control with separate regular and holiday schedules
- Up to 576 control button
- Ethernet option feature



## 彩色觸控螢幕(區域樓層管理) Touch Panel (for area control)

- 分區分頁中文操作顯示，易於操作
- 擴充彈性佳，不佔空間
- 採用USB檔案上傳方式更新畫面
- 4.3吋彩色觸控螢幕，最多44按鍵數
- Each area organized into pages for ease of navigation
- Easily expandable and occupies little space
- Upload new screens using the USB interface
- 4.3 inch touch screen
- Up to 44 control points



## 第三方連線 通信網關 Gateway for Third Party Interfacing

- Modbus 通信協定供系統整合之用
- RS485/Ethernet介面與第三方系統設備連線
- 快速回應中控系統
- 最大容量64個連續控制器容量
- System integration through the Modbus protocol
- RS485/Ethernet for interfacing with third party devices
- Fast system response
- Supports up to 64 controllers



(日規)



(美規)

## 數位開關 (四鍵式) Digital Switch (4 buttons)

- 可安裝於牆面，亦可使用於配電盤安裝方式
- 具備負載指示燈、可更換內嵌名牌
- 指撥設定或軟體設定功能，維護時指撥後直接替換
- 按鍵可設為群組、場景或個別模式
- Can be wall or panel mounted
- With load indicator LEDs and customer labeling
- Can be set using DIP switches or software
- During maintenance, simply replace the unit and copy the DIP settings
- Can be set for group, pattern or single mode of operation



(美規及歐規)

## 數位開關 (八鍵式) Digital Switch (8 buttons)

- 可安裝於牆面
- 具備負載指示燈
- 指撥設定或軟體設定功能，維護時指撥後直接替換
- 按鍵可設為群組、場景或個別模式
- Can be wall mounting
- With load indicator LEDs
- Can be set using DIP switches or software
- During maintenance, simply replace the unit and copy the DIP settings
- Can be set for group, pattern or single mode of operation

## 數位開關面板外蓋選購配件 Digital Switch Faceplates (Optional Accessories)



日規或美規蓋板  
1-6鍵可供選擇

Japanese or US standard faceplate



美規蓋板  
American standard



歐規蓋板  
European standard

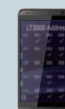


## 六鍵式歐風觸控場景開關 Pattern Touch Switch (6 buttons)

- 提供指撥設定或軟體設定功能
- 按鍵可設為群組、場景或個別模式
- 指撥設定或軟體設定功能，維護時指撥後直接替換
- 強化玻璃面板
- Can be set using DIP switches or software
- Can be set for group, pattern or single mode of operation
- During maintenance, simply replace the unit and copy the DIP settings
- Hardened glass panel



D-bus adapter



APP安裝於手機  
(手機不含)

## 設定介面器 D-Bus Interface Adapter

- 用於設定D-Bus線上之LT控制器及IS開關參數
- 提供D-Bus與USB通信介面轉換
- 附專用設定軟體使用
- 無需外接電源，由USB提供
- For use in setting up LT modules and other devices on the D-Bus
- Converts from USB to D-Bus and vice versa
- Includes set up software
- USB powered, no separate power supply needed



## 網頁式時程控制 Web Based Schedule Controller

- 網頁連線設定，修改簡易
- 可獨立運作，無需依賴電腦及網路
- 平日/假日兩種排程
- Easy to change schedule through a web browser
- Built in web server, works standalone and does not require a PC
- Set separate schedules for regular days and holidays

### 配電控制器

#### Power Distribution Panel Controllers



LT3604

#### 四迴路照明控制器

##### 4 Ch Switch Actuator

- 智慧型自動學習功能
- 最大容量：220V/20A
- 具備手動按鈕操作及指撥地址設定
- Auto-learning capability
- Rated capacity: 20A @ 220v
- Equipped with manual control switch and
- DIP switch for setting address



LT3704

#### 四迴路耐衝擊電流照明控制器

##### 4 Ch Soft Switch Actuator

- 智慧型自動學習功能
- 最大容量：220V/30A
- 緩啟動功能，適用於高衝擊電流燈具
- Auto-learning capability
- Rated capacity: 30A @ 220v
- Soft switching on power up, suitable for high current surge lighting



LT3506

#### 六迴路照明控制器

##### 6 Ch Switch Actuator

- 智慧型自動學習功能
- 最大容量：220V/10A
- Auto-learning capability
- Rated capacity: 10A @ 220v



LT3100

#### 四迴路接觸器設備控制器

##### 4 Ch Contactor Controller

- 智慧型自動學習功能
- 可外接電磁接觸器，用於通風設備或大型照明（如體育館或戶外照明）
- 具備接觸器輔助接點狀態偵測功能（含運作狀態及跳脫）
- 搭配中控或區域管理介面可顯示接觸器狀態
- Auto-learning capability
- Connects to external MCs, for use in controlling ventilation fans and large power lighting (for gyms and outdoor lighting)
- Support for feedback from MC auxiliary contacts (including MC on/off and trip overload status)
- Auxiliary feedback can be shown on both the central control interface and staff use switches



外接電磁接觸器  
(非本公司產品)  
Magnetic Contactor  
(non DAE product)



LT2504



LT2508

#### 四、八迴路分離式驅動介面

##### 4 Ch and 8 Ch Terminal Unit

- 智慧型自動學習功能
- 具備手動按鈕操作及指撥地址設定
- 可外接LR02保持式繼電器
- Auto-learning capability
- Equipped with manual control switch and DIP switch for setting address
- Connects to external LR02 latching relays



LT2544

#### 四迴路分離式驅動介面(附開關介面)

##### 4 Ch Lighting Control Unit

- 智慧型自動學習功能
- 具備手動按鈕操作及指撥地址設定
- 可外接LR02保持式繼電器
- 具備傳統開關介面與安防功能，支援現地節能機制功能
- Auto-learning capability
- Equipped with manual control switch and DIP switch for setting address
- Connects to external LR02 latching relays
- Can connect with classic wall switches and has built-in energy saving control logic for the local vicinity

### 智慧型區域控制器

#### Area Panel Smart Controllers



LT3084

#### 四迴路現場照明控制器

##### 4 Ch Lighting Control Unit

- 智慧型自動學習功能
- 最大容量：220V/10A
- 具備傳統開關介面，支援現地節能機制功能
- 具備乾接點輸入可供連接感應器進行群組連動控制
- 具備乾接點輸入可供連接感應器進行安防功能
- Auto-learning capability
- Rated capacity: 10A @ 220v
- Can connect with classic wall switches and has built-in energy saving control logic for the local vicinity
- With contact input to connect sensor for group control
- With contact input to connect security sensor for control alert



LT3384

#### 四迴路授權式現場照明控制器

##### 4 Ch Lighting Control Unit

- 智慧型自動學習功能
- 最大容量：220V/10A
- 具備授權與安防功能
- 可搭配傳統開關與紅外感應器進行現地節能機制功能
- 具備乾接點輸入可供連接感應器進行安防功能
- Auto-learning capability
- Rated capacity: 10A @ 220v
- With authorizing mode and security capabilities
- Can interface with classic wall switches and occupancy sensors for actuating its energy saving capabilities for the local vicinity
- With contact input to connect security sensor for control alert



LT4544

#### 四迴路授權式調光節能控制器

##### 4 Ch Dimmer Control Unit

- 提供4組DC 0~10V調光控制信號輸出，可搭配日光燈調光安定器或K80、K73進行調光應用
- 具備授權功能
- 可搭配紅外感應器進行現地節能機制功能
- 4 channels of DC 0 to 10V output signal for controlling dimmer drivers, can be used for dimmable fluorescent ballasts or with the K80 and K73
- With authorizing mode
- Can interface with occupancy sensors for actuating its energy saving capabilities for the local vicinity

## 情境調光控制器 Scene With Dimming Modules



LT4500

### 調光控制器

#### 4 Ch Dimmer Controller

- 智慧型自動學習功能
  - 提供4組DC 0-10V調光控制信號輸出，可搭配日光燈調光安定器或K80、K73進行調光應用
  - 可外接旋鈕(可變電阻)進行手動調光
- Auto-learning capability
  - 4 channels of DC 0 to 10V output signal for controlling dimmer drivers, can be used for dimmable fluorescent ballasts or with the K80 and K73
  - Can connect with external dimming knobs (variable resistors)



LT3070

### 窗簾布幕控制器

#### 2 Ch Curtain Control Unit

- 可連接2套電動窗簾或投影幕進行控制
  - 具備防呆控制功能，自動互鎖控制機制
  - 提供4組開關介面可與其他LT模組形成雙控
  - 提供8組開關介面，供現場模式設定控制
- 2 channels for controlling motorized curtains or projectors screens
  - Open/close mutual exclusion capability
  - 4 switch inputs for use as toggle pair with other LT modules
  - 8 switch inputs for local setup and control

## 電源供應器 Power Supply



K80

### 交流調光驅動器

#### AC Dimmer Driver

- 可搭配調光控制器進行交流調光功能
  - 直接使用220V或110V交流電源(以標示為主)
  - 最大容量：3A / 5A (以迴路為單位)
  - 適用鎢絲燈、白熾燈、鹵素燈、AC可調LED燈
- Soft switching on power up, suitable for high current surge lighting
  - Connect directly with AC 220V or 110V (depends on model)
  - Rated Capacity: 3A / 5A (depends on model) per circuit not per lamp
  - Suitable for tungsten lamp, incandescent lamp, halogen lamp and AC dimmable LED lamps



TRD220

### 變壓器

#### Transformer

- 可支援四台LT系列控制器之工作電源
  - 輸入電源：可選購220V或110Vac 直接取自市電
  - 輸出規格：AC 24V
- Can supply power for up to 4 LT modules
  - Input Power: 220V or 110V AC mains
  - Output Power: AC 24V



LD120

### 交流調光驅動器

#### AC Dimmer Driver

- 可搭配調光控制器進行交流調光功能
  - 直接使用220V或110V交流電源
  - 最大容量：10A / 20A (以迴路為單位)
  - 適用鎢絲燈、白熾燈、鹵素燈、AC可調LED燈
- Can be used with dimmer controllers for AC dimming
  - Connect directly with AC 220V or 110V (depends on model)
  - Rated Capacity: 10A / 20A (depends on model) per circuit not per lamp
  - Suitable for tungsten lamp, incandescent lamp, halogen lamp and AC dimmable LED lamps



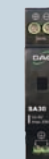
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### 軌道式電源供應器

#### DIN Rail Type Power Supply

- 可支援三台LT系列控制器之工作電源
  - 輸入電源：100-240Vac 直接取自市電
  - 輸出規格：DC 24V
- Can supply power for up to 3 LT modules
  - Input Power: 100 to 240V AC mains
  - Output Power: DC 24V

## 周邊器材 Accessories



信號  
Signal

SA30



電源  
Power

TC1010

### 防雷端子

#### Lightning Surge Protection

- 專用於突波防護應用
  - 具信號型與電源型可供選購
- Specially made to protect signal cables from current surges
  - Available in signal or power models



LR02

### 保持式繼電器

#### Latching Relay

- 搭配LT2504/LT2508使用
  - 最大容量：220V/20A
  - 具備手動備援撥桿
- For use with the LT2504 and LT2508
  - Rated capacity: 20A @ 220V
  - Manual control switch



吸頂式紅外感應器  
Ceiling Type Occupancy IR Sensor



光照度感應器  
Lux Sensor



超音波感應器  
Ultrasonic Sensor



插卡節能開關  
Key Card Switch

各類型控制器種類繁多詳情請參閱DAE網頁之公共照明控制系統  
Please see the lighting control section of the DAE website for the details and models available for each type of controller



台科電科技股份有限公司  
DAE Instrument Corp.

**台北總公司**

11494 台北市內湖區新湖一路157號5樓  
info@daeinstrument.com.tw  
TEL : +886-2-2793-6123 FAX : +886-2-2793-6150

**台中分公司**

40356 台中市西區向上二街9號  
info@daeinstrument.com.tw  
TEL : 04-2471-7073 MOBILE : 0933-767-980

**台南分公司**

70968 台南市安南區工明二路57號  
info@daeinstrument.com.tw  
TEL : 06-2469-832 FAX : 06-2469-085

**中國大陸地區**

蘇州台科電智能科技有限公司  
江蘇省蘇州工業園區九華路海尚壹品112號606  
TEL : +86-512-6956-2996  
info@daechina.com  
www.dae.cn

[www.daeinstrument.com.tw](http://www.daeinstrument.com.tw)

**東南亞區域**

DAE Instrument SDN BHD  
13-1Jalan PUJ 3/12,Taman Puncak Jalil, Bandar Putra  
Permai,43300 Seri Kembangan, Selangor, Malaysia.  
TEL : +60-3-8070-9318 FAX : +60-3-8070-9319  
dae.malaysia@gmail.com

**美洲區域**

Advanced Power Access Inc.  
10803 Minette Drive, Cupertino, CA 95014, U.S.A.  
TEL : +1-408-916-1368 FAX : +1-408-583-4388  
mihuang@ap-access.com

[www.daeinstrument.com](http://www.daeinstrument.com)

經銷商

規格如有變更，恕不另行通知。

DAE D-Bus-2.11ce