

新產品與應用技術介紹 KNX & Building Automation

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MEAN WELL

▼ 什麼是KNX?

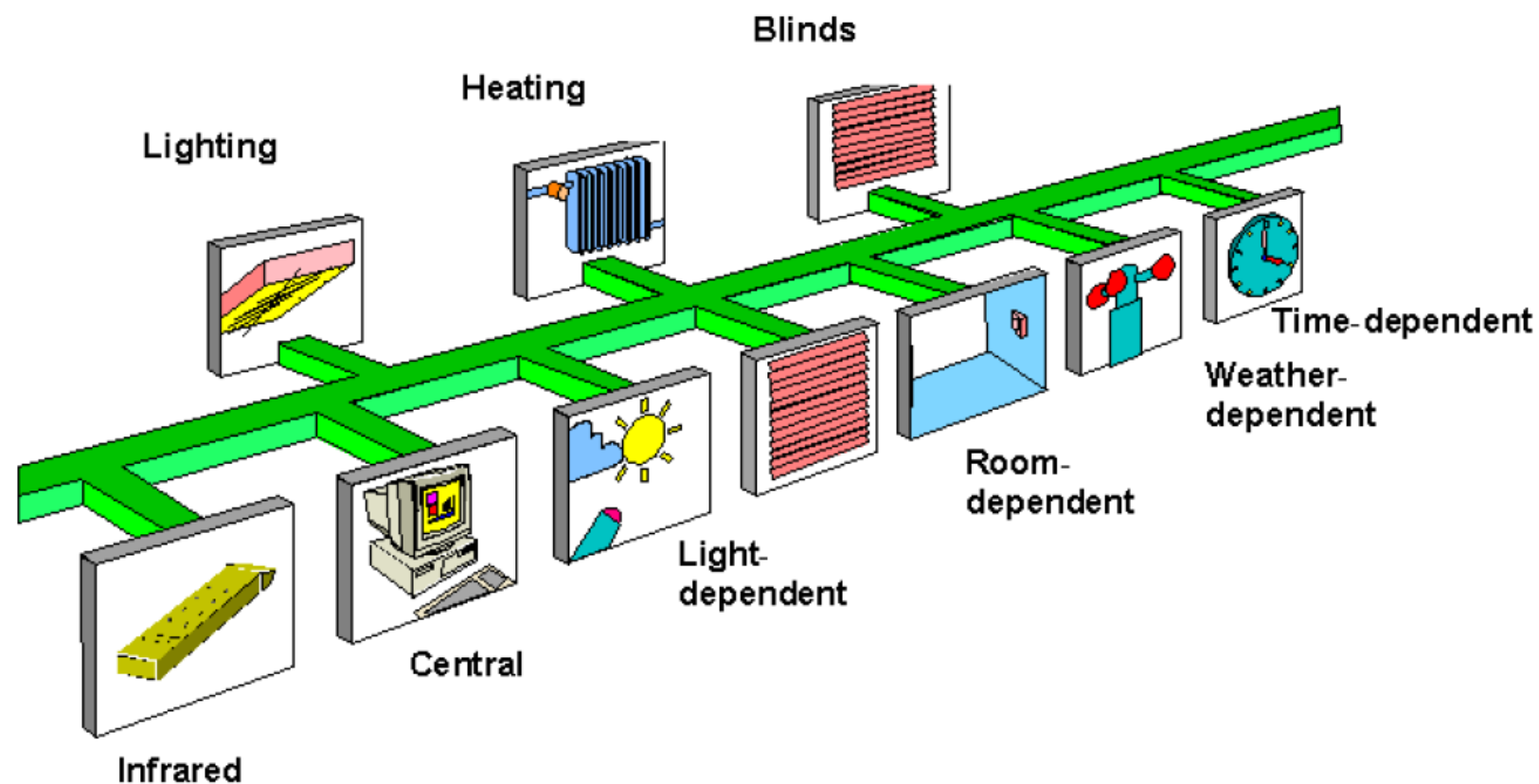
▼ KAA-4R4V-S 新增功能

▼ DLC-02 DT8版本差異

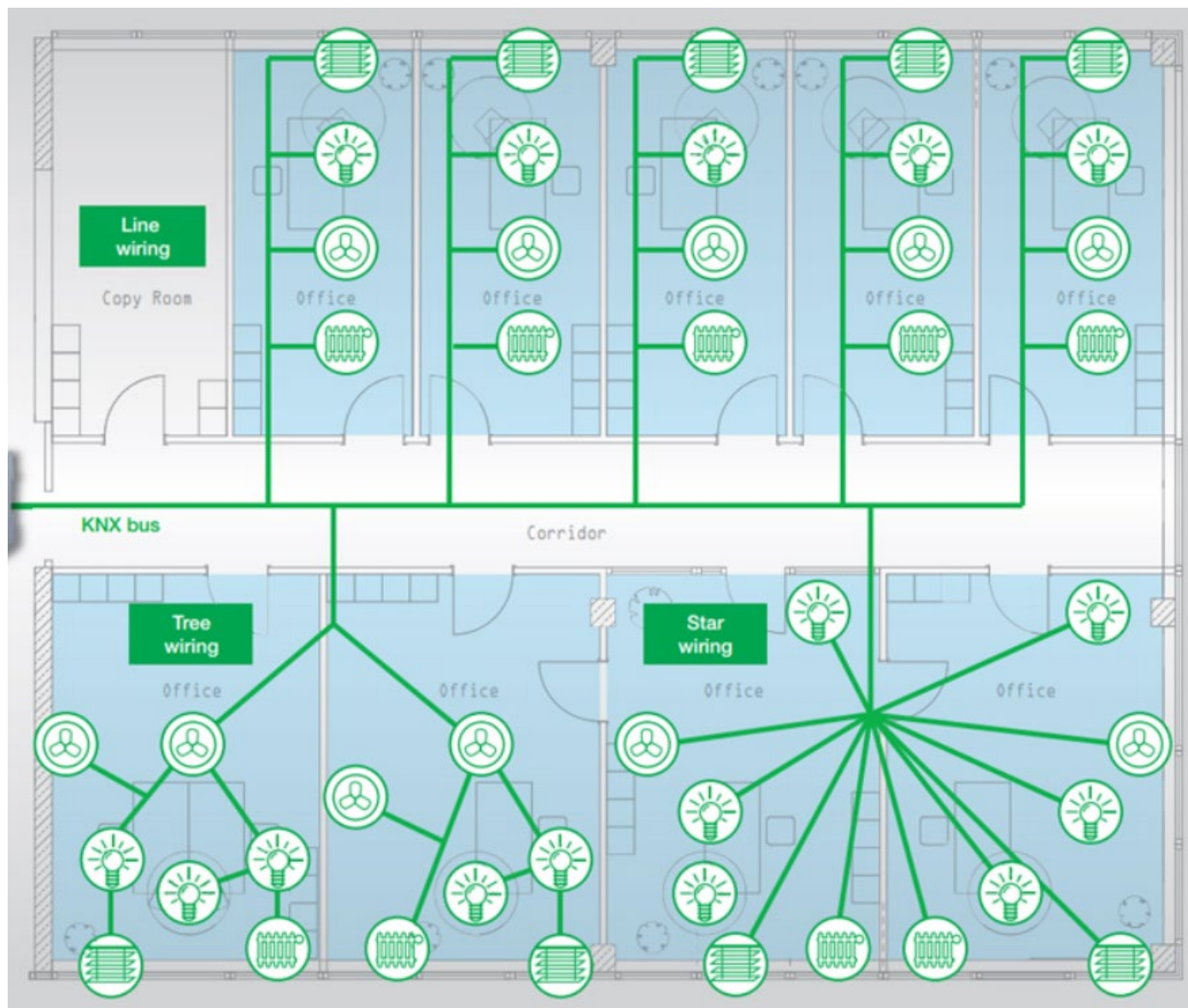
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KNX是全球性的基於住宅和樓宇控制協議的總線標準。
支援所有智能樓宇相關需求。



什麼是KNX – KNX簡述



KNX設備配線

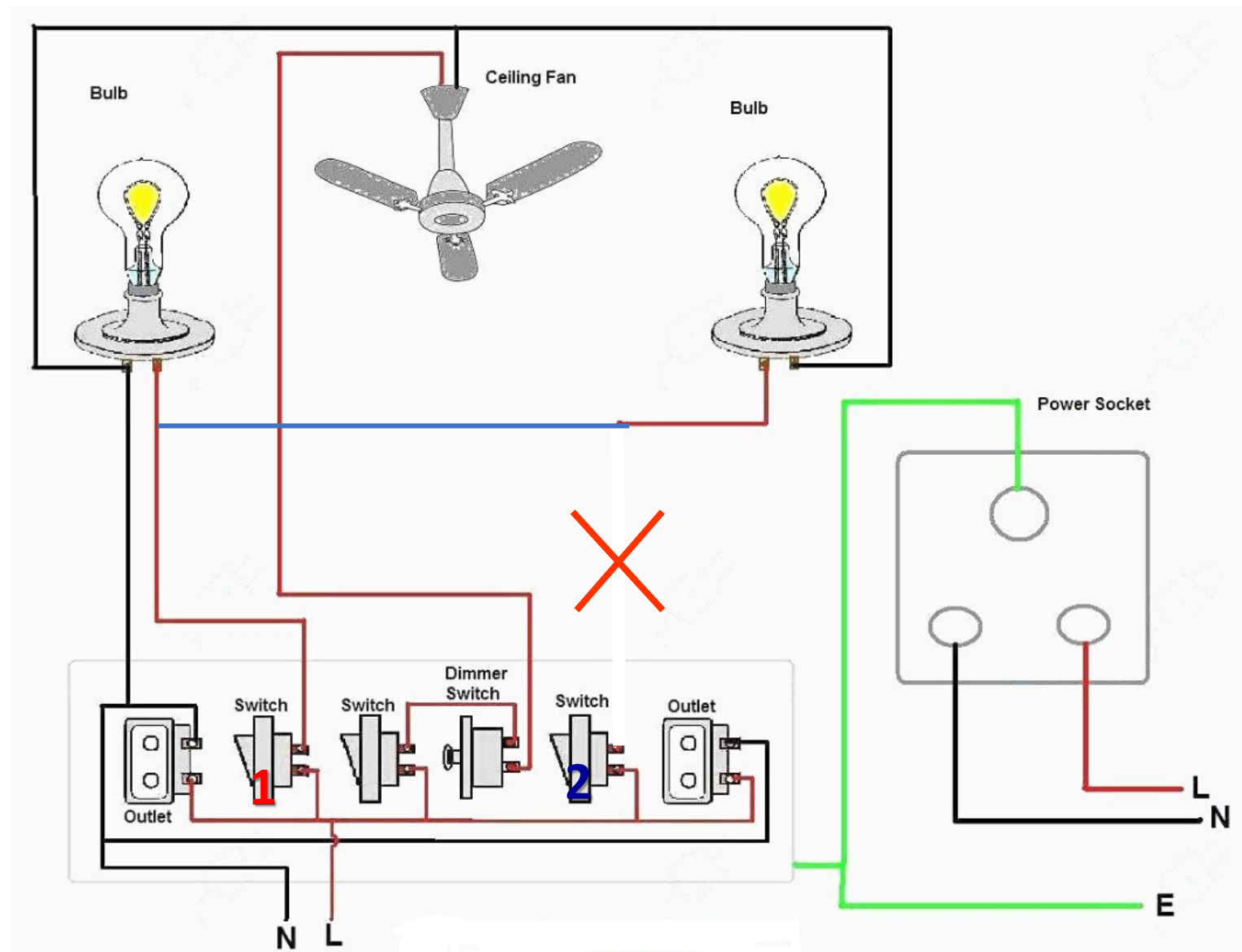
線形佈線 ✓

樹狀佈線 ✓

星形佈線 ✓

任何佈線 ✓

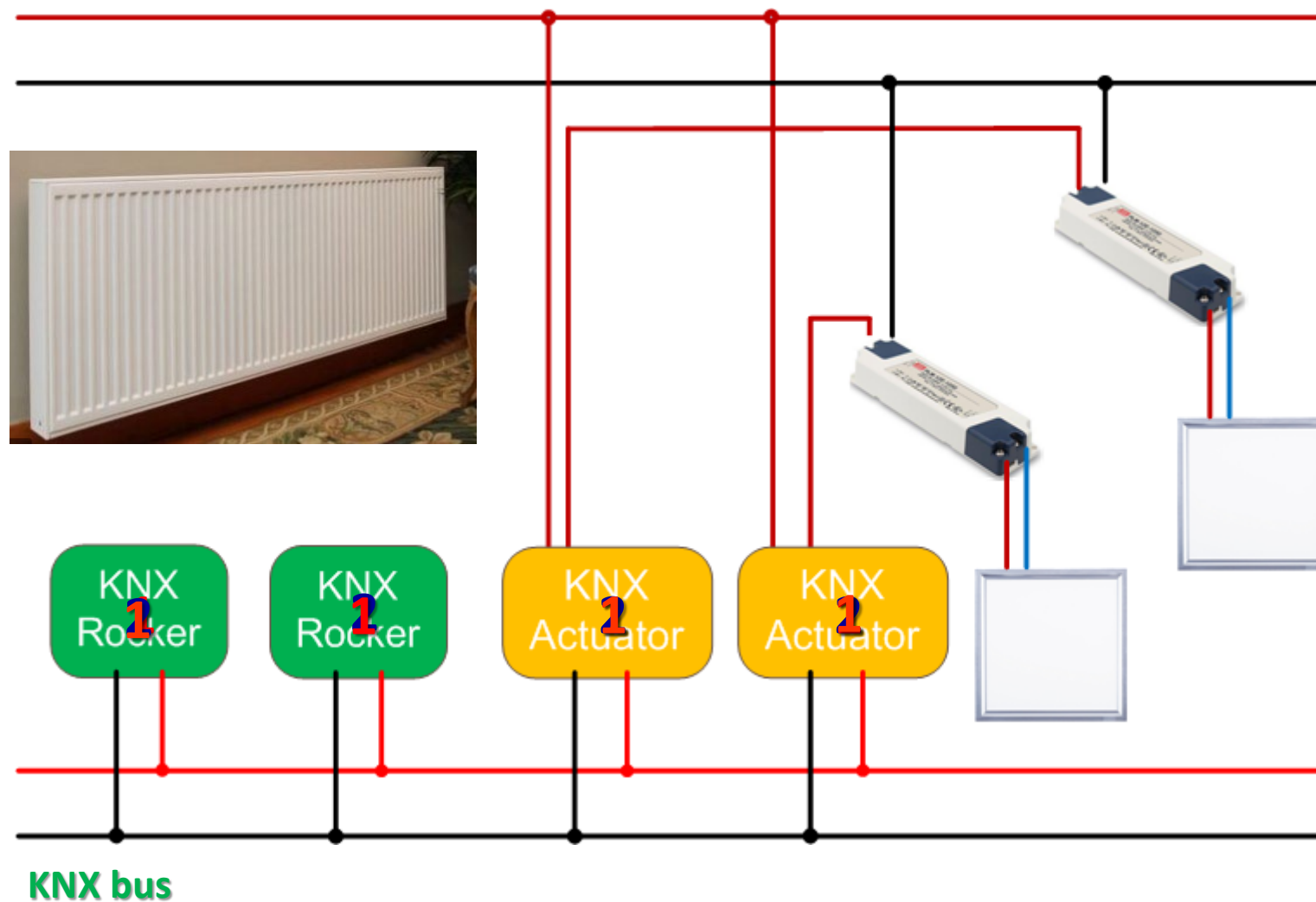
什麼是KNX – KNX簡述



傳統照明配置

優點：建置成本低
缺點：不易擴充及調整

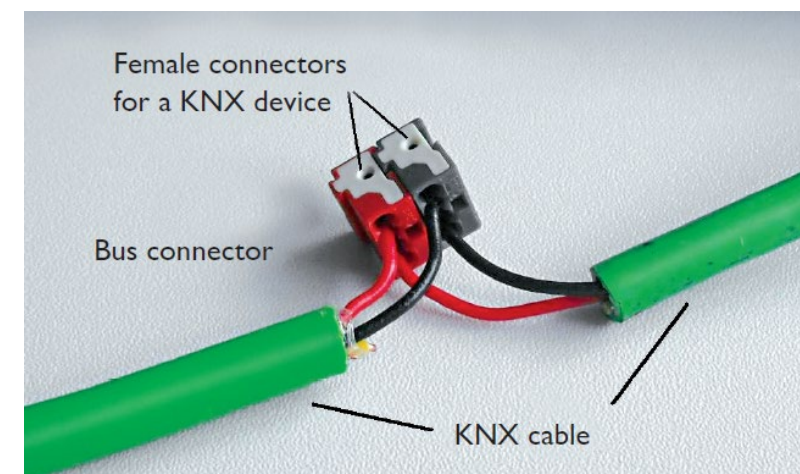
什麼是KNX – KNX簡述



KNX照明配置

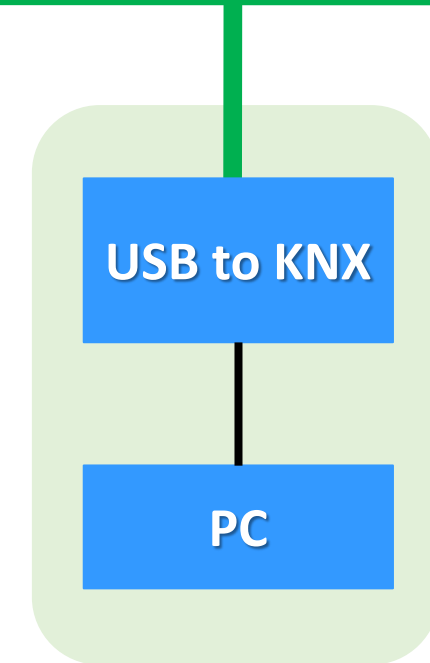
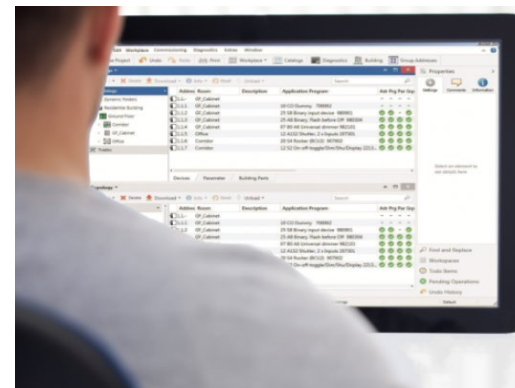
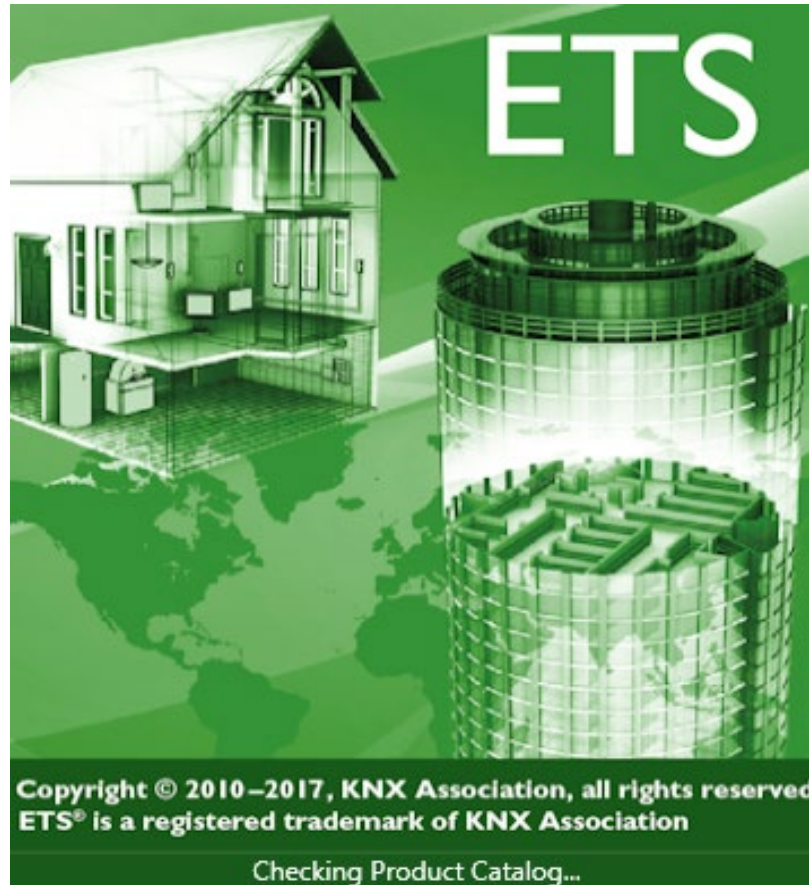
優點：易於擴充及新照明設置調整

缺點：初期建置成本比傳統高



什麼是KNX – KNX簡述

KNX bus



什麼是KNX – KNX簡述

1.1.5 PWM-60-KN 60W LED Driver with KNX interface > General setting

General setting

Block function

Automatic

Operating hours

Temperature setting

Dim speed for relative dimming s

Off via relative dimming ☒ not active ☐ active

ON via relative dimming ☐ not active ☒ active

Dim speed for absolute dimming(0=Jump) s

On speed

Off speed

Scenes ☒ not active ☐ active

Automatic function ☐ not active ☒ active

Maximum light

Minimum light

Send dim value after change ☐ not active ☒ at dim end

Send On/Off state ☐ no send, passive State object
☒ at change

Send Lamp Failure state1

Send Lamp Failure state2

Dimming curve

PWM Frequency Value Hz

Behavior after bus power up

ETS設定範例



■ 基本設定：

ON/OFF、Dimming控制、
調光速率、情境

■ 功能設定：

樓梯間照明、恆照度控制(CLO)、
調光曲線等

■ 特殊設定：

200 - 4KHz PWM輸出頻率

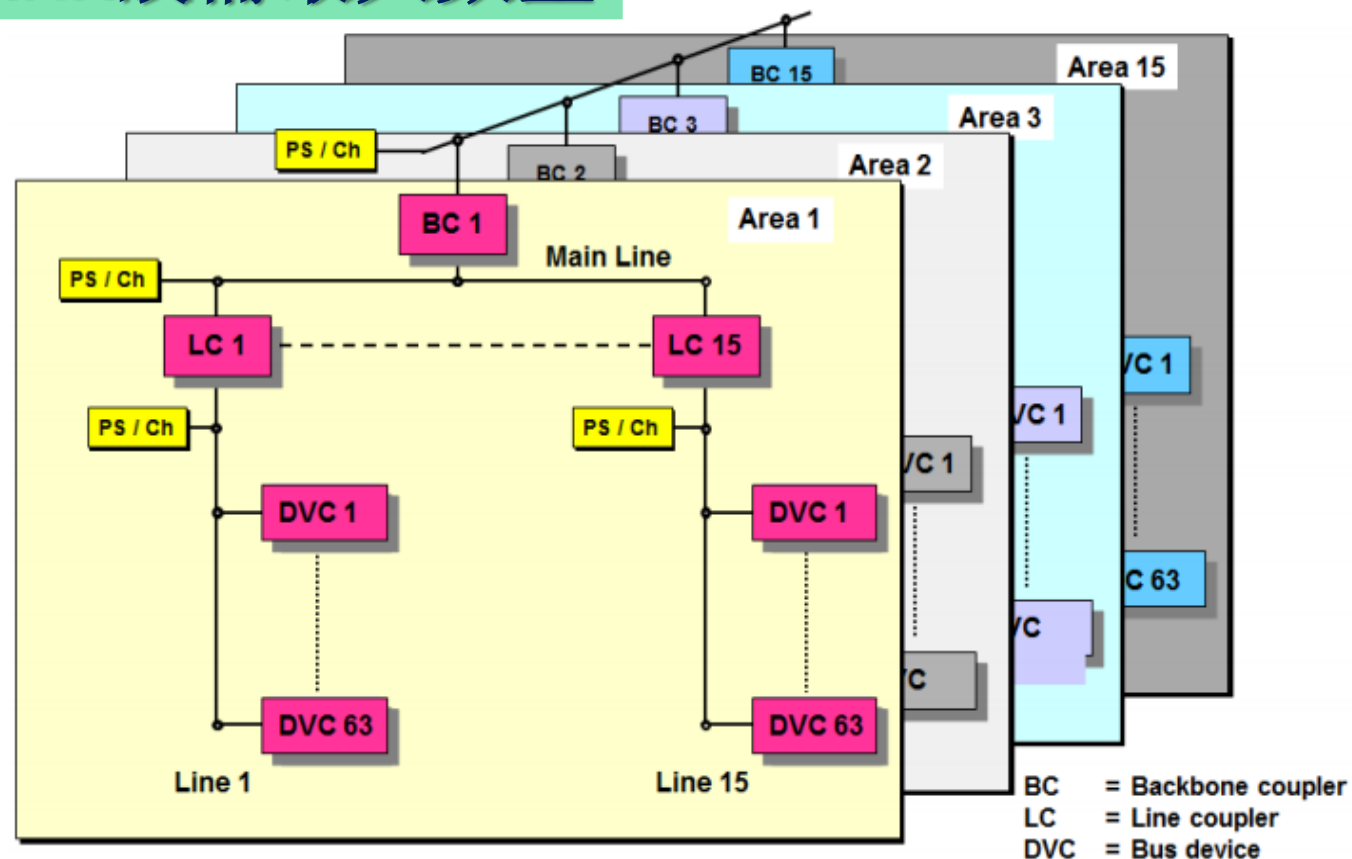
使用KNX的好處

1. 不同製造商或不同類型的產品都可一同工作
2. 匯流排拓樸：適合線形、星形或任何組合
3. 低擴充成本及省時
4. 彈性設定



什麼是KNX – KNX簡述

KNX設備最大數量



Line coupler = 255 devices



Backbone coupler = 15 lines



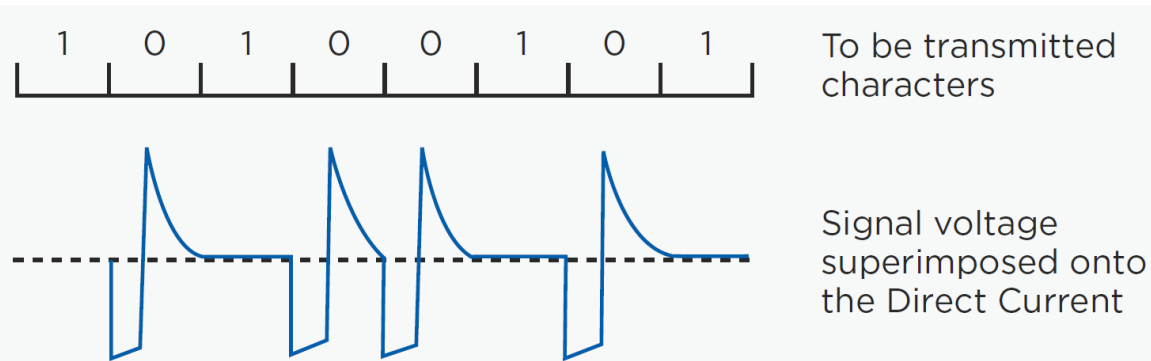
Several Areas = 15 backbones

最大可接61455個KNX設備

* ((支线设备和*域内支线数)+主线设备和)*区域数+ 干线设备和

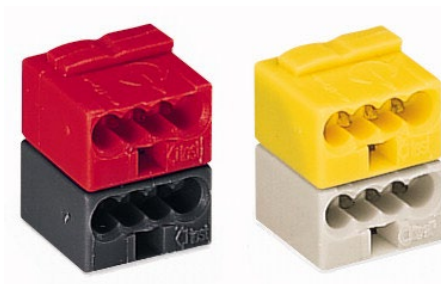
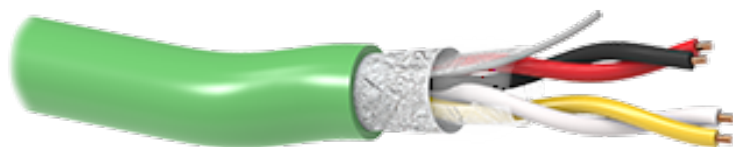
什麼是KNX – KNX簡述

KNX設備最長距離



Parameter	TP1-64/TP1-256
Bus current (at 20V - 32V)	max. 12 mA

- Distance from power supply to device: **max. 350 m**
- Distance between any two devices in a line: **max. 700 m**
- Length of a line segment: **max. 1,000 m**



紅黑：訊號線

黃白：30V AUX KNX設備供電用

什麼是KNX – KNX Data Secure

如何識別Data Secure產品?



TP: Twisted Pair
S: System-mode
X: KNX Data Security



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AFRO04-HWZ3JO

K4YDZN-WTILLR

40BU7Y-3IVXYR

0162E770F6CE

device certificate

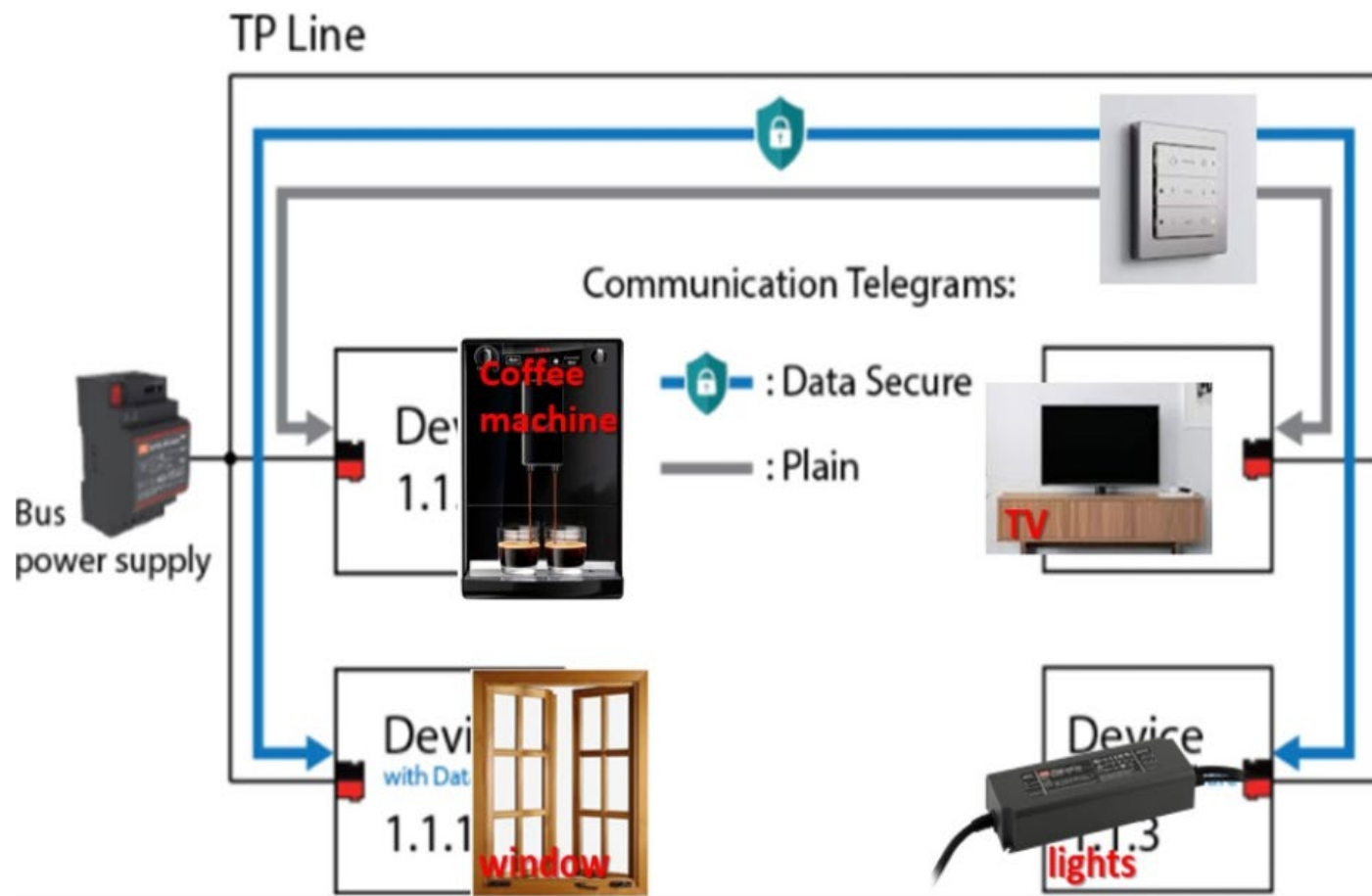
KNX serial number

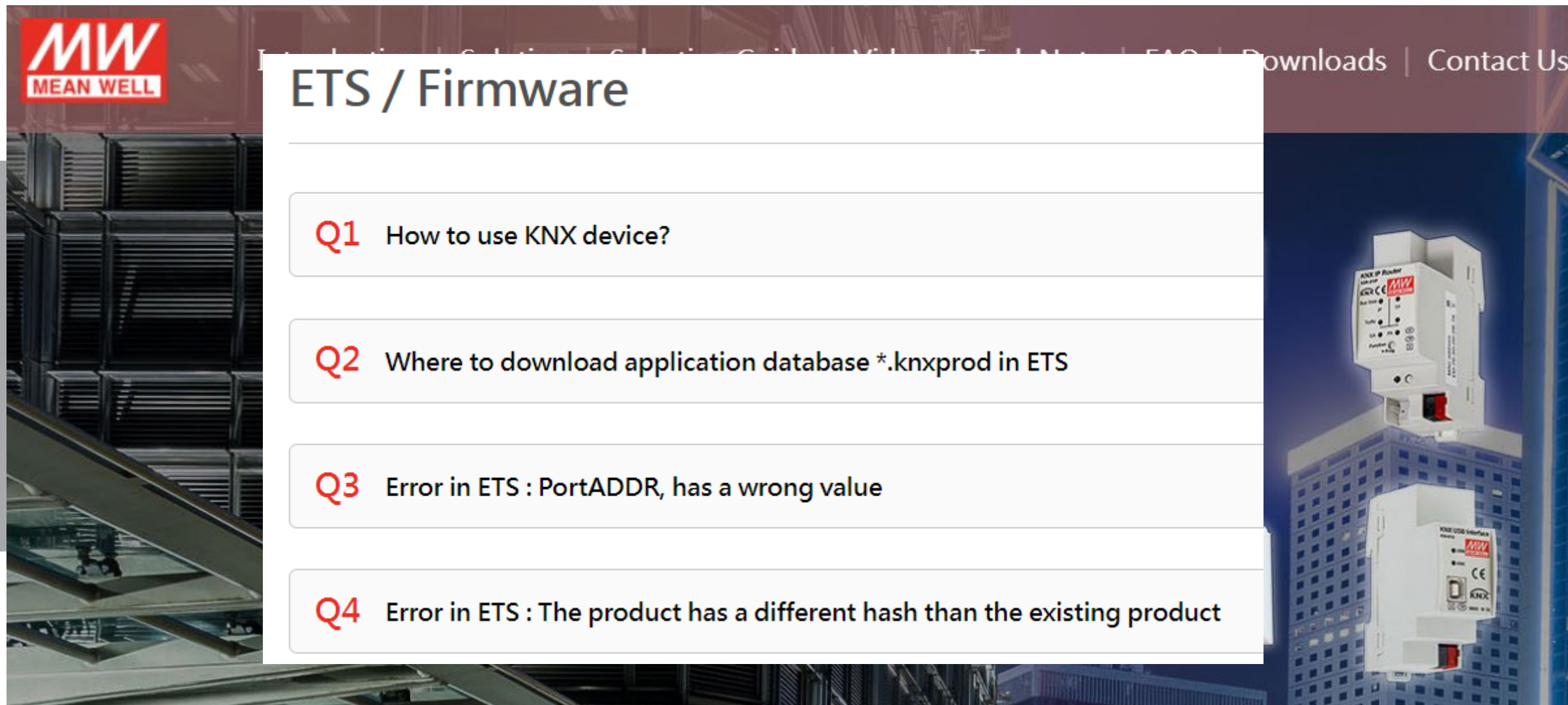


什麼是KNX – KNX Data Secure

Data Secure 可與 Plain(傳統式)搭配使用?

可以! 但不可共用communication object。





The screenshot shows the Mean Well website with a navigation bar at the top containing links: Products, Solutions, Certifications, Global, About Us, Test & Measurement, ETS, Downloads, and Contact Us. The main content area is titled "ETS / Firmware" and lists four common questions (Q1-Q4) related to KNX device usage and ETS errors. The background of the website features a large image of a modern building with a glass facade and a close-up of a KNX IP Router and KNX USB Interface device.

MW MEAN WELL

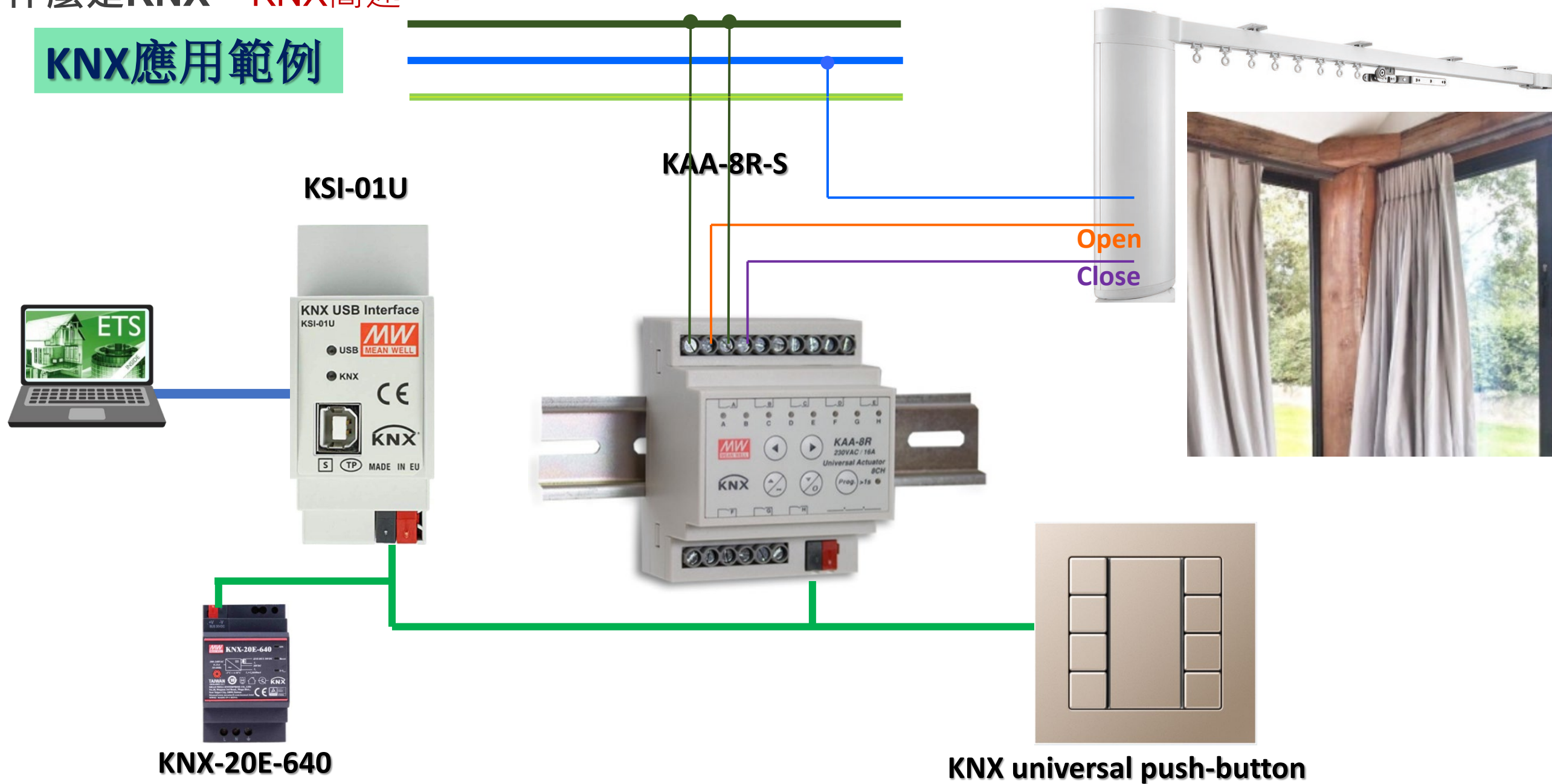
Products | Solutions | Certifications | Global | About Us | Test & Measurement | ETS | Downloads | Contact Us

ETS / Firmware

- Q1** How to use KNX device?
- Q2** Where to download application database *.knxprod in ETS
- Q3** Error in ETS : PortADDR, has a wrong value
- Q4** Error in ETS : The product has a different hash than the existing product

什麼是KNX – KNX簡述

KNX應用範例



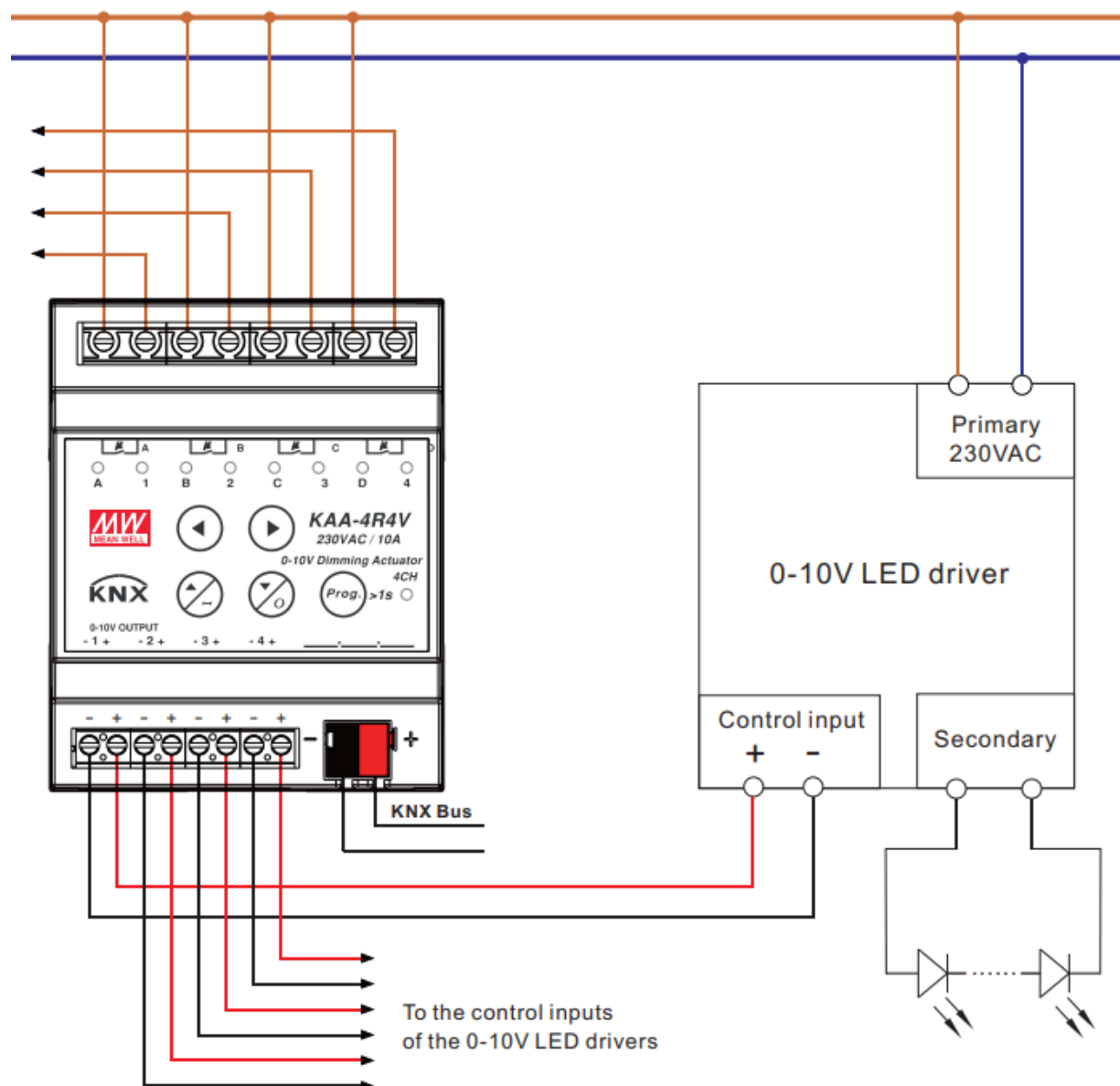
什麼是KNX – KNX簡述

窗簾應用分享



https://www.youtube.com/watch?v=8mFI_cQDWwU

KAA-4R4V-S新增功能



KAA-4R4V 為一款執行器含4組 relays及4組0-10V DC outputs。此次新增Data secure及賦予relay 更多功能。



KAA-4R4V-S新增功能

- Blinds (百葉窗) -

Function Channel A/B ☒ Blinds ☐ Shutter

Time for Up/Down movement ☒ same ☐ different

Movement time s

Extension of movement time

Step time for slats adjustment ms

Slat adjustment time ms

Pause on reverse ms

Switch-On delay motor ms

Switch-Off delay motor ms



KAA-4R4V-S新增功能

- Shutter -

Function Channel A/B ☐ Blinds ☒ Shutter

Time for Up/Down movement ☒ same ☐ different

Movement time s

Extension of movement time

Short term operation ☐ not active ☒ active

Movement time for short term operation ms

Up/Down movement can stop (single object control) ☒ not active ☐ active

Pause on reverse ms

Switch-On delay motor ms

Switch-Off delay motor ms



KAA-4R4V-S新增功能

- Automatic -

Automatic position 1	☐ not active ☒ active
Height position	20% ▼
Position of slats	0% ▼
Move to position(value=1)	always ▼
Action at withdrawal of automatic position(value=0)	not active ▼

Automatic position 2	☐ not active ☒ active
Height position	45% ▼
Position of slats	0% ▼
Move to position(value=1)	always ▼
Action at withdrawal of automatic position(value=0)	not active ▼

Automatic position 3	☐ not active ☒ active
Height position	70% ▼
Position of slats	0% ▼
Move to position(value=1)	always ▼
Action at withdrawal of automatic position(value=0)	not active ▼



KAA-4R4V-S新增功能

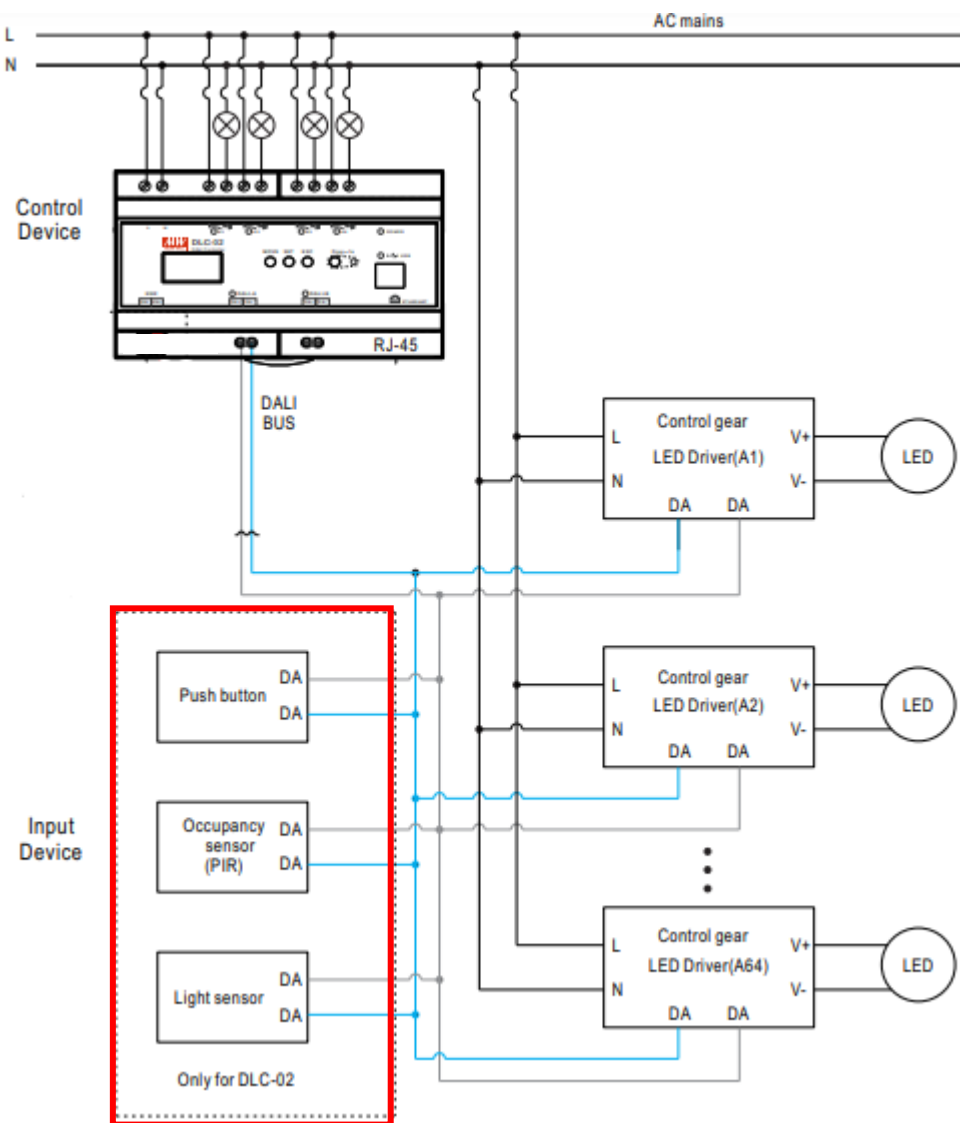
- Automatic control -

Channel A/B	Absolute Position in automatic control
Channel A/B	Absolute Slat in automatic control
Channel A/B	Short Term in automatic control
Channel A/B	Up/Down in automatic control

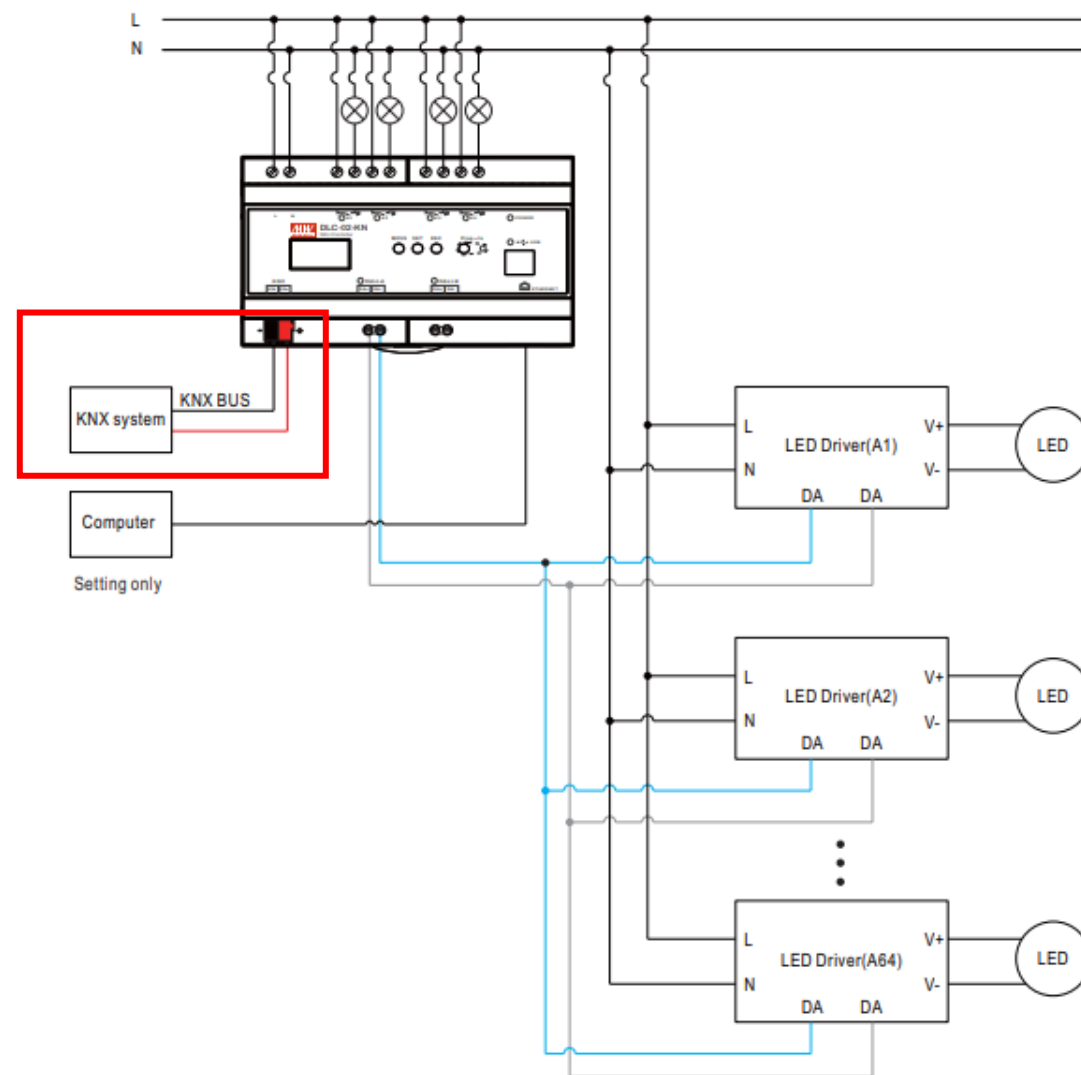


DLC-02 DT8版本差異

DLC-02為一款DALI 控制器(controller)



DLC-02KN為一款KNX to DALI網關(gateway)



NOTE: DLC-02及DLC-02KN不支援blinds及shutter設定功能

DLC-02 DT8版本差異

DALI 法規

	DLC-02	DLC-02KN
相同	207/209	207/209
差異	301/302/303/304	201/202/203/204/205/206/208

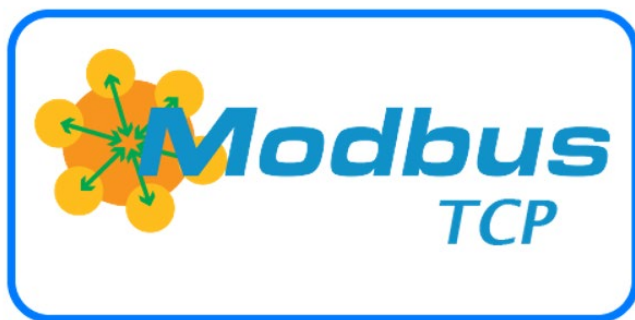
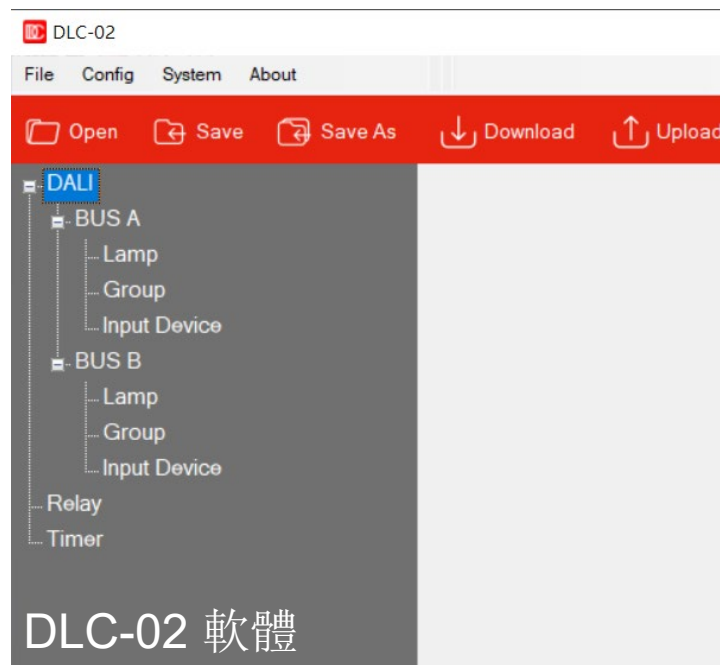
Part	Type of control gear	Device type number
201	Fluorescent lamp control gear	Device Type 0 (DT0)
202	Self-contained emergency control gear	Device Type 1 (DT1)
203	Discharge (HID) lamp control gear	Device Type 2 (DT2)
204	Low-voltage halogen lamp control gear	Device Type 3 (DT3)
205	Incandescent lamp dimmer	Device Type 4 (DT4)
206	Conversion to D.C. voltage (1-10V, 0-10V converter)	Device Type 5 (DT5)
207	LED lamp control gear	Device Type 6 (DT6)
208	Switching (relay) control gear	Device Type 7 (DT7)
209	Color control gear	Device Type 8 (DT8)

Part	Particular requirements – Input devices
301	Push buttons
302	Absolute input devices
303	Occupancy sensor
304	Light sensor

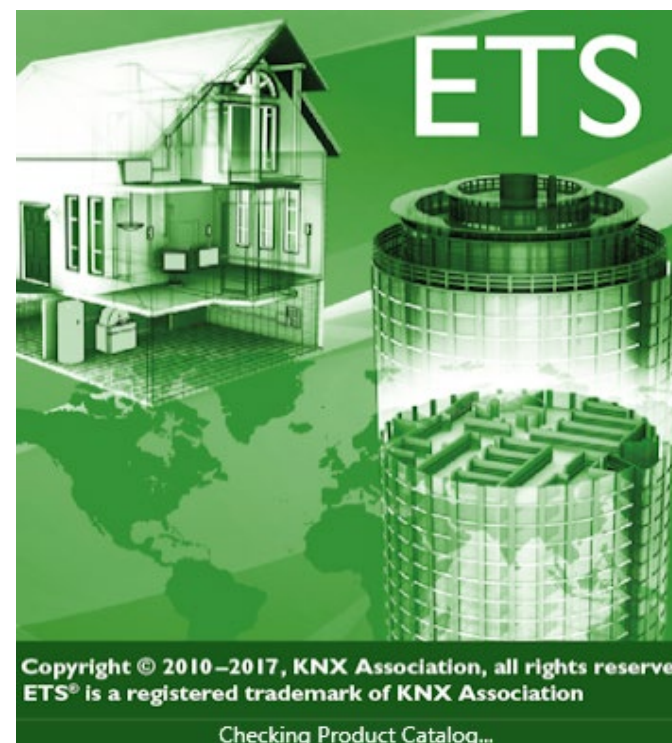
DLC-02 DT8版本差異

設定介面

DLC-02



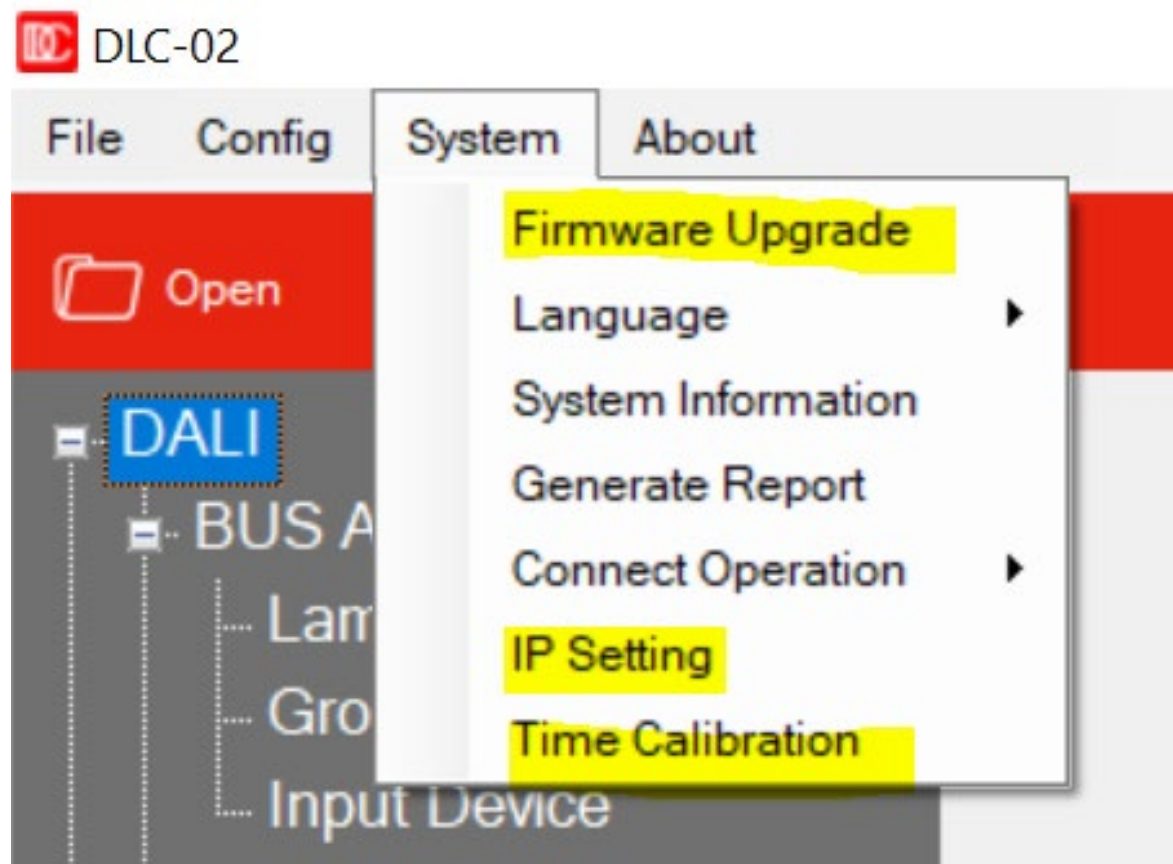
DLC-02KN



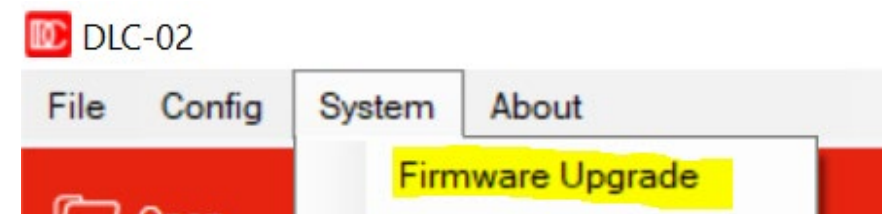
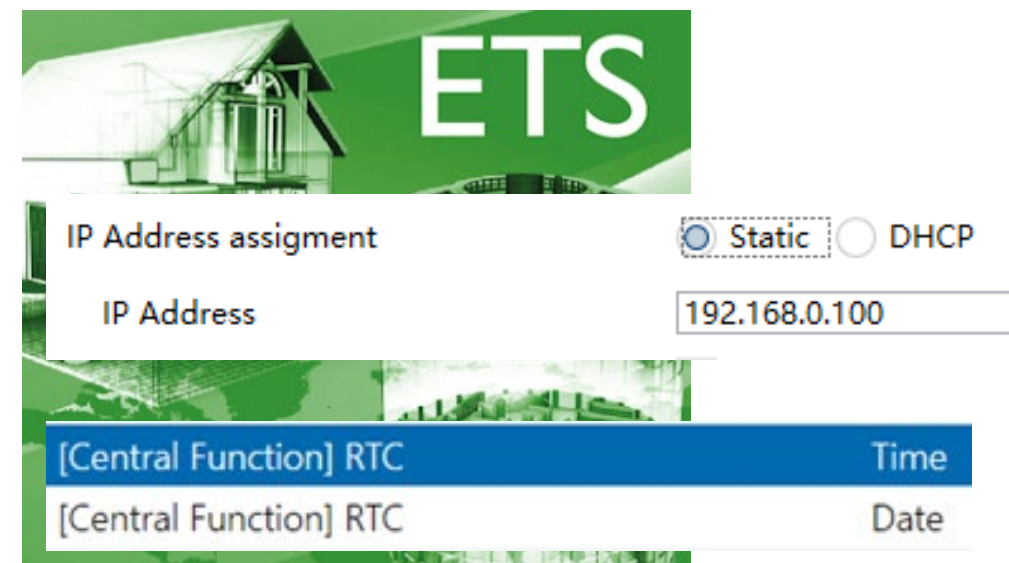
DLC-02 DT8版本差異

韌體升級

DLC-02



DLC-02KN



DLC-02 DT8版本差異

DLC-02KN演示

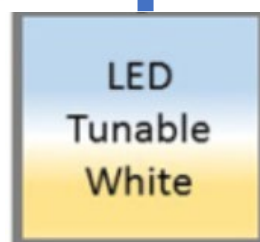
KNX Tunable White 面板



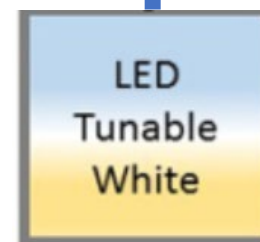
KNX-20E-640



LCM-40TW



LCM-40TW



DLC-02-KN





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