

Introduction to Air Control

The Air Control system utilises a manufacturer integrated module within the luminaire, this uses 2.4GHz radio frequency technology. Remote modules are also available. Integration within the luminaires allows a simple, low risk, easy to design lighting control system with the onsite installation of only a mains 230V AC supply to the luminaires. Benefits; a less complex installation; ability to be simple or fully intelligent configurable wireless lighting control solution. The system comprises of a comprehensive range accessories such as sensor and switch modules as detailed in the table below, all designed to provide optimum lighting conditions, controllability and flexibility for projects of any size using a low power wireless mesh.

The 2.4GHz RF network communicates in a wireless mesh using standard Dali commands to send and receive messages peer-to-peer within the wireless network. The signal is sent from one peer to another in the fastest route possible, if a peer fails to communicate the system's intelligence will pass messages via a different route through the mesh. This allows them to share occupancy and control information; this gives greatly enhanced detection performance and facilitates a host of user friendly control features:

- Occupancy control, daylight control, scene control and manual control
- Corridor linking, time control, individual luminaire control, grouped luminaire control
- Control of none Dali luminaires available via additional modules
- Human Centric Lighting control (Circadian cycle). Bio-dynamic, diurnal, tunable white and general colour control
- Smart device app based control (iOS/Android)
- API Integration
- Optional gateway (see section in this document)

What sets an Air Control system apart from other hard wired Dali Bus based systems is the installation method combined, the end user has the ability to configure and re-configure groups of luminaires and create interaction between these groups with the simplicity of an app. This also allows optimisation and naming regime / addressing for location and identification to the system with the use of any smart device IOS and Android.

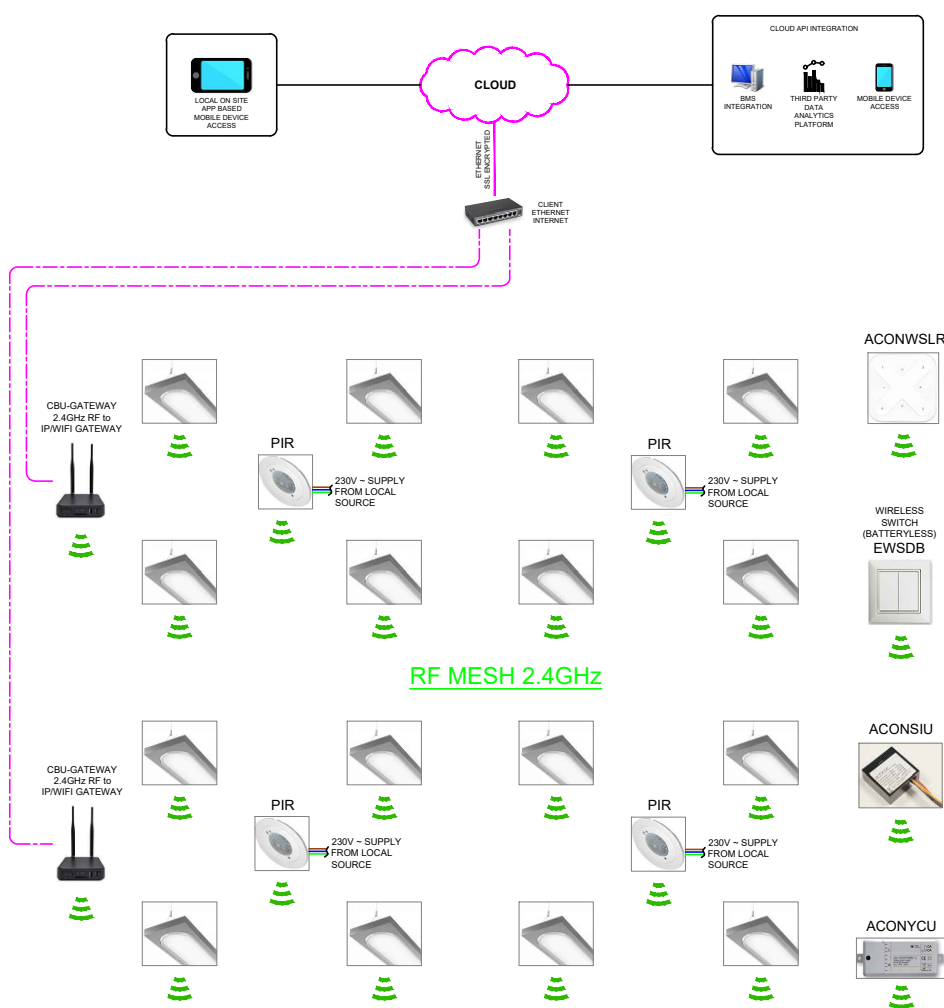
The Air Control system's 2.4GHz RF network can carry messages through the air within a 14 metre distance, when luminaire integrated.

Please note: The building's construction materials can vary transmission distances.

The maximum number of devices allowable on a wireless network follows one of two rules: Classic (127 no devices) or Evolution (254 no devices). The system includes a fully comprehensive range of wireless Classic or Evolution accessories such as sensors, switches, remote relays, Dali broadcast modules and integrated modules within the luminaires. Multiple networks can be linked together to allow a building wide solution which will require a smart device to act as a physical gateway and an option within the software application called Sites to be activated. The gateway has the ability to allow remote assistance from an external source i.e engineer to help with on site support. For this to be accessed it will need a smart device, Internet access WIFI or 4G/5G and the gateway function active within the app, as well as a username and password set by the administrator. It is security encrypted at the 128-BIT AES encryption.

Typical Air Control Wireless Topology

Note All Luminaires With Integral Wireless Module to Create a Wireless Mesh



Air Control Gateway

The CBU-GATEWAY enables remote access for an Air Control network. Remote connection via Ethernet or WIFI. It can be used for remote diagnostics, network monitoring and remote control for the network. In the event of a power outage the gateway will automatically restore network control settings and provide a time backup (synchronisation of clocks) for the connected network.

CBU-GATEWAY

Wireless Comms: 2.4GHz RF network up to 30M
 Dimensions: 108x104x28mm Weight: 180g
 Operating Temp: 0° to 50°C
 Operating Relative Humidity: 10% to 95%
 WIFI: IEEE 802.11 b/g/n, 2.4G
 LAN RJ45 10/100M Ethernet interface
 100 - 240V AC 50/60Hz

Air Control Cable Type

DALI Cable: 2 Core 1.5mm² radial. Maximum length = 300m.

When DALI and mains cable share containment, DALI cable to be rated at same potential voltage as mains (although the DALI cable operates at ELV potential it is not classified as SELV). All wiring and connections are the responsibility of the customer

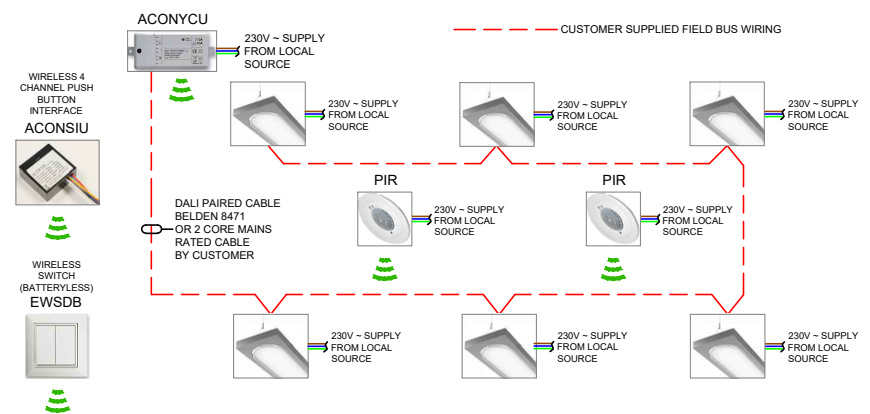
Voltage Rating

Wiring regulations state that cable should be rated to the same voltage as that appearing on any other cable sharing the same containment. The Air Control Dali pair may be run with mains cable on different phases, provided suitably rated cable is used.

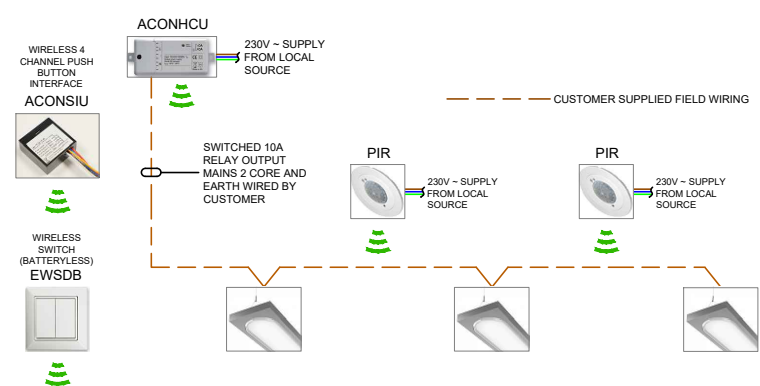
Wifi or 4G/5G Network

A Wifi or 4G/5G network can be used to access the clients Air Control system only via a smart device and App (IOS/Android) within the building using the gateway function within should the system require remote support.

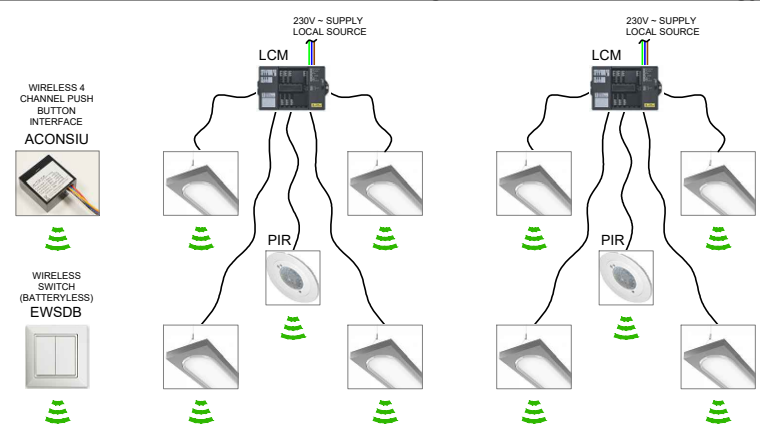
Typical Air Control Dali Broadcast (ACONYCU) Wiring Topology



Typical Air Control Relay (ACONHCU) Wiring Topology



Typical Air Control Prefabricated Wiring (CFL) and LCM's Topology



Air Control Typical Wiring Application Notes Rev 7 19.09.23

Note :- All information detailed in this document is **not** project specific, and is provided as a typical example only. Whitecroft Lighting reserve the right to make changes to Equipment and Specification as required. It is the customers responsibility to verify the required specification on a project by project basis.

Whitecroft Lighting Ltd
 Burlington Street
 Ashton - under - Lyne
 Lancashire
 OL7 0AX
 United Kingdom

Telephone: +44 (0) 330 6811
 Facsimile: +44 (0) 331 5855
 email@whitecroflight.com
 www.whitecroflighting.com

Whitecroft
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