

Introduction to Command Air

The Air-Control system allows a simple installation of a BLE (Bluetooth Low Energy) integrated module within the luminaire during manufacture. Remote modules are 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 luminaire. 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 BLE communicates in a wireless mesh using standard Dali commands to send and receive messages to all its neighboring devices within the wireless network as a master to master type solution. They share occupancy, daylight, scenes and time control information. This gives enhanced detection performance and facilitates a host of user friendly control features such as automatic corridor linking (i.e. corridor lighting can be sustained by occupancy in other areas) All modules are master modules and the signal is sent from one to another in the fastest route possible, meaning if a module fails on site the system is so intelligent it passes messages via a different route using the mesh.

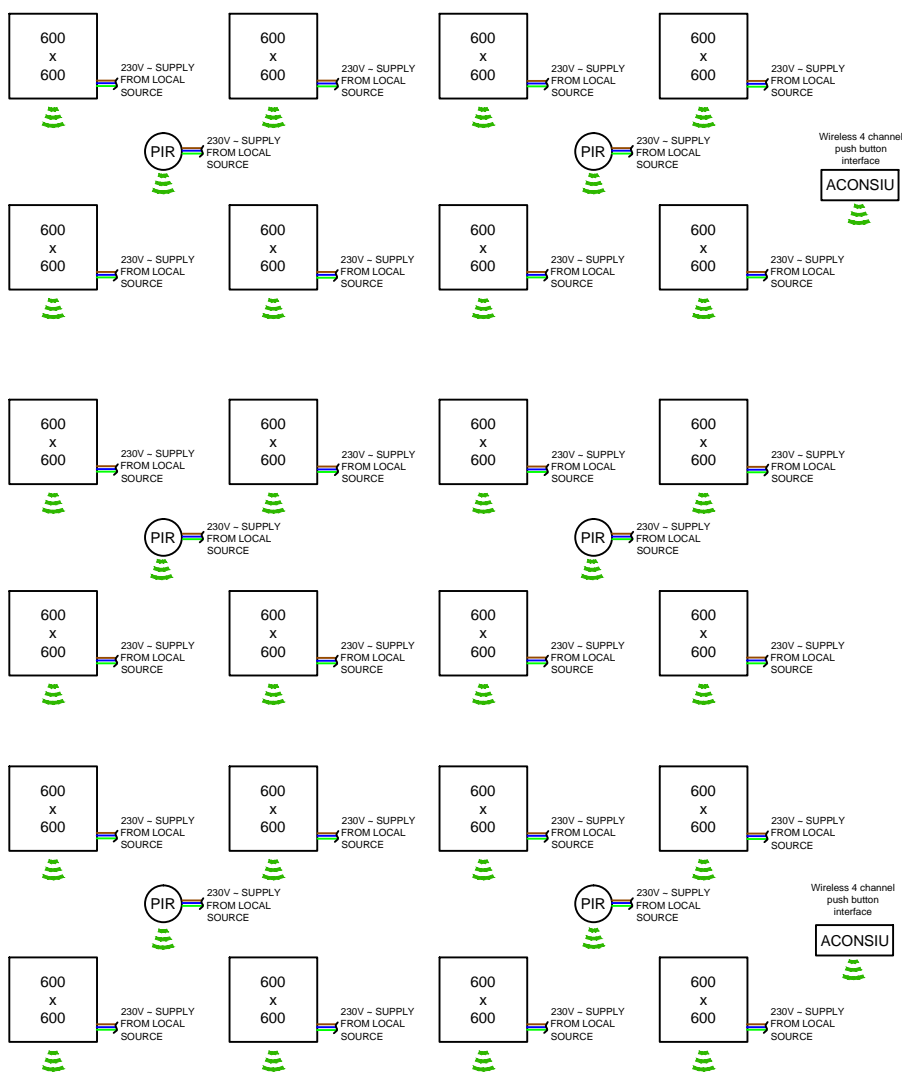
What sets an Air-Control system apart from other hard wired Dali Bus based systems is the installation method and ability to control individual luminaires and detectors and switches allowing the end user the ability to configure and re-configure groups of luminaires and create interaction between these groups with the simplicity of an app this also allows optimisation and naming regime / addressing for location and identifiable to the system with the use of any smart device IOS & android.

Another great advantage of the Air-Control system is that the BLE mesh can carry messages through the air within a 30 metre distance in doors and 50 metres in open air. The maximum number of devices allowable on a wireless network is 127 this includes sensors, switches, remote relays, Dali broadcast modules and integrated modules to 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 a solution called site to be active within the application. Another great benefit of a gateway is the ability to allow remote support 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 and the gateway function active within the app as well as a username and password set by the administrator and it is security encrypted at the 128-BIT AES encryption.

Devices	Wireless Devices Type	Coverage
ACONYCU	Dali module	20 Dali Drivers
ACONHCU	Fixed output relay	10 Amp res load
ACONRECPPIR	PIR 360 Degree Recessed	5-7@ 2.4 - 5M
ACONSURPIR	PIR 360 Degree Surface	5-7@ 2.4 - 5M
ACONHBWPIR	PIR Highbay Widebeam	28 @ 14M
ACONHBSPPIR	PIR Highbay Spot	5 @ 20M
ACONLRPIR	PIR LongRange (directional)	upto 25@ 2.2 - 3M
ACONSOCKPIR	PIR mains socket (ACONLRPIR)	
ACONSIU	Switch Input Module 4 x PTM type.	
ACONWS	Scene plate 4 x scenes Dim +/- Colour Tune or cycle up or down	

Typical Command Air Wireless Topology

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



Command Air Cable Type

The wiring of the Command Air product requires a mains rated PVC insulated cable with a CSA of 1.5mm as 2 core and earth to current BS 7671 wiring standards. We would also recommend that a Belden 8471 Paired High Conductivity Cable for ACONYCU as a Dali Radial output (as this is the Dali communication pair mains rated PVC insulated cable with a CSA of 1.5mm as 2 core and earth to current BS 7671 wiring standards may also be used as a substitute to belden if required).

Specification of Belden 8471

Number of Pairs 1
Total Number of Conductors 2
AWG = 16
Stranding 19x29
Conductor material TC - Tinned Copper
Insulation Material PVC - Polyvinyl Chloride
Nom. Insulation Wall Thickness .023 in.
Lay Length 2 in.
Twists/ft. 6

Please note that the maximum length of any ACONYCU Dali pair is max 300m as a radial. All wiring is to be supplied and installed by the customer. Prefabricated wiring solutions which include Dali "pair" are available from Whitecroft through the Command Fast Link range of products.

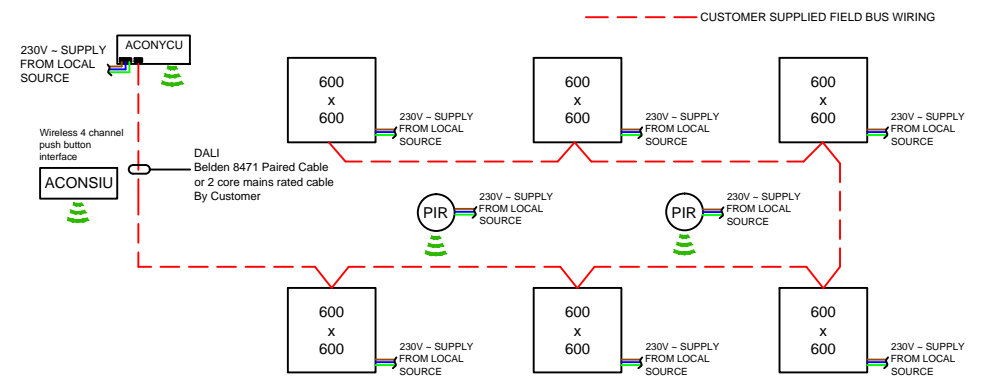
Voltage Rating

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

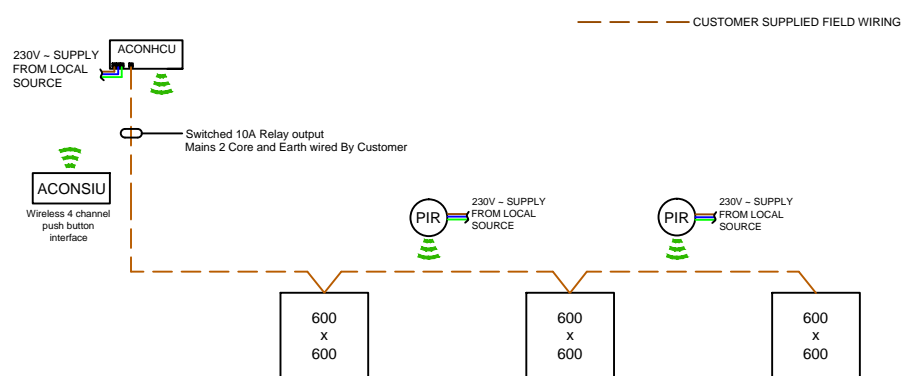
Wifi or 4G Network

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

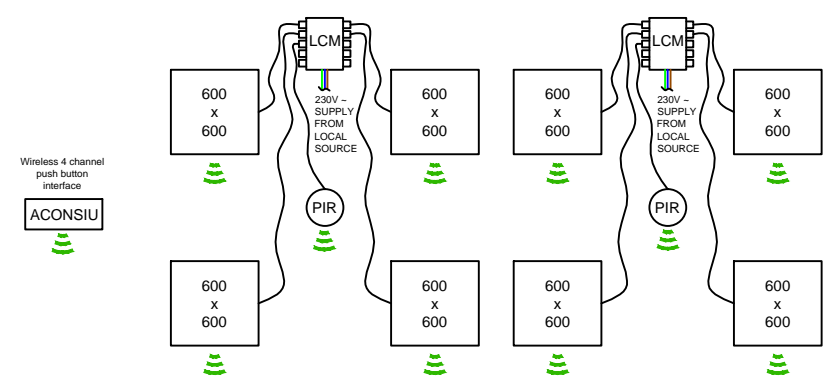
Typical Command Air Dali Broadcast (ACONYCU) Wiring Topology



Typical Command Air Relay (ACONHCU) Wiring Topology



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



Command Air Typical Wiring Application Notes

Rev 1. - 20/11/2018

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.