DRAWING_NO.

Introduction to Whitecroft Solo64

Solo64 is a fully featured standalone DALI lighting control system embedded into a state of the art intelligent sensor. Designed to DALI 2 open protocol, providing 64 DALI addresses (devices include sensors, switch inputs and scene plates). Solo64 offers sophisticated DALI addressable functionality without the typical complexity and high maintenance costs often associated with traditional DALI systems. With the intuitive smart device commissioning App many of the complications of traditional DALI systems are eliminated.

A great advantage with Whitecroft Solo64 is that the DALI subnet may be wired with a free topology, this means that any wiring configuration may be used so long as everything is connected, and it does not exceed the maximum subnet length of 300M or the maximum load capacity of each DALI subnet at 64 Devices or 150mA. Whitecroft recommended design levels are 135mA and 57 devices (typically a maximum of 12 controls devices) and per DALI subnet, Please note that a DALI subnet should be treated as polarity conscious unless otherwise stated in the installation instructions. See below table for details of typical components loadings.

System Overview

- A maximum of 64 DALI luminaires can be connected via a 2 core DALI network cable.
- A single primary sensor allows up to 8 detection zones to be created within the DALI network, a further intelligent satellite will increase this to up to a network maximum of 16 detection zones.
- A single Solo64 bus enables up to 16 scenes and groups to be created to match user needs.
- A single Solo64 bus allows up to 7 switch inputs and/or scene plates.

Scenes and groups can be controlled using:

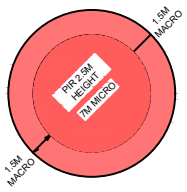
- A 230V AC mains retractive switch can be connected directly into sensor.
- Multiple DALI switch input modules can be added to allow retractive switches to control the DALI network. Providing up to 4 individual switch push functions that can be independently programmed.
- Multiple DALI scene plates can be added to enable simple and effective selection of scenes. Using our SL643SP (3 scene, raise, lower, on/off)

Control Features:

- Occupancy control, daylight control, scene control and manual control.
- Corridor linking, individual luminaire control, grouped luminaire control, tunable white.

PIR Macro and Micro Occupancy Detection Zones

Luminaires will be triggered by someone walking into the macro detection zone which is attuned to large movements. Once they are at their workstation then smaller movements will sustain illumination within the micro detection range. Typical mounting height of A PIR at 2.5m gives a micro range of 7m and a further macro range of 10m.



Whitecroft Solo64 Technical Data

- Mains Power Supply: 220-240vAC (Nominal), 50Hz-60Hz
- Power Consumption: 3W active, 0.5W static
- Power Circuit Protection: 16A MCB Maximum
- The SL64PYRIPS sensor provides 150mA to the DALI network
- Mains Supply Cable: Solid or Stranded 1.5 - 2.5mm²
- 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
- Mains Switch Input Cable: Solid or Stranded 1.5 - 2.5mm²
- Mains Switch Input Max Cable Length: 10m
- Note: to create surface mount sensor order a recessed with SLPSMK surface mount kit. To create a wall mount sensor order a recessed with SLMWMK2 wall mount kit.

Luminaires	Devices	mA
DALI Luminaire (Single Driver)	1	2
DALI Emergency Inverter (Stand Alone)	1	2
LED Colour Change Driver (RGBW)	4	2
Switch Input Module (SL64SIU)	1	4
Scene Plate (SL643SP)	1	10

Please note some luminaires may contain more than one driver

Easy Commissioning and Maintenance

Solo64 has been designed to simplify commissioning. We have removed much of the complexity associated with DALI addressable systems using a smart device.

Intuitive Programming

The smart device App allows you to connect to the DALI system via wireless 2.4GHz RF signal and begin a bus scan. Any luminaire or DALI device is visually presented in a carousel and can be dragged and dropped with a simple one finger action into a user defined map of the space. Once you have all your lights and devices positioned on your building map you can then set up groups and scenes with minimum fuss. Colour temperature can also be configured allowing circadian rhythms – optimising occupant wellbeing and productivity.

Solo64 Sensor Variants

Primary PIR with integral Dali PSU SL64PYRIPS

DALI addressable PIR with integral 150mA DALI PSU, mains powered. Tilting head sensor with 360° coverage with 7m diameter micro to 10m diameter macro detection range at 2.5m mounting height (Max height 3.5m). Up to 64 DALI devices can be connected to this primary sensor.

Intelligent Secondary PIR SL64PYR

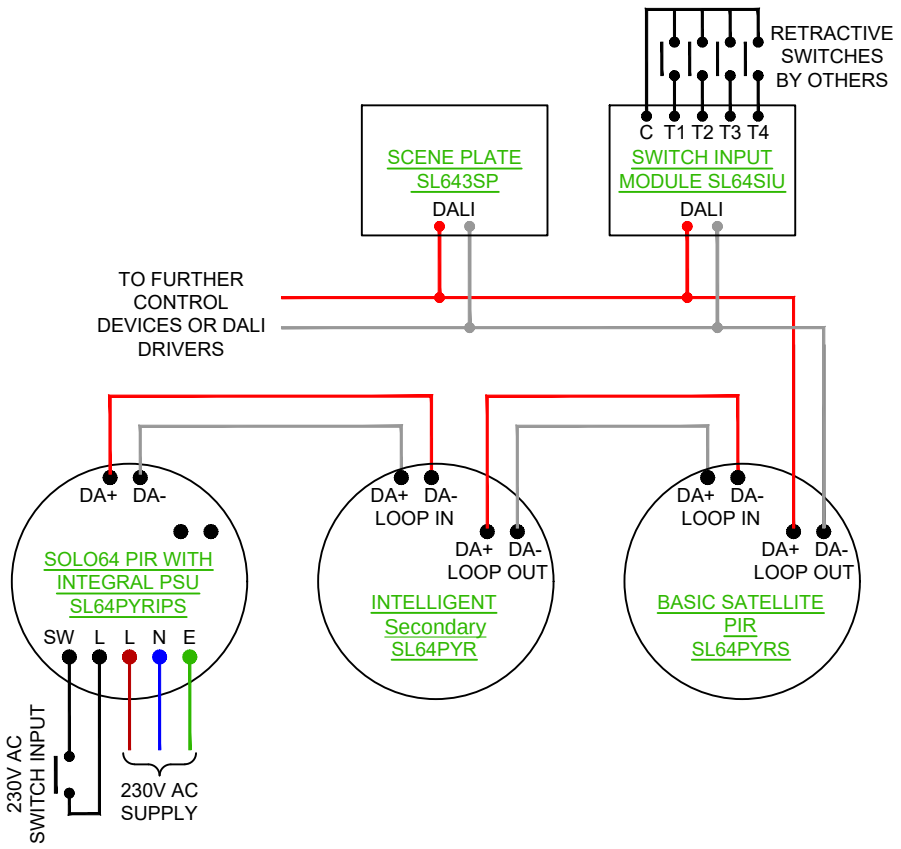
Intelligent Secondary PIR sensor, powered by primary sensor's DALI subnet, can share occupancy and daylight information with Primary. 360° coverage with 7m diameter micro to 10m diameter macro detection range at 2.5m mounting height (Max height 3.5m).

Satellite PIR SL64PYRS

Satellite PIR sensor, powered by Primary sensor, must share occupancy and daylight information with either Primary or Intelligent Satellite. 360° coverage with 7m diameter micro to 10m diameter macro detection range at 2.5m mounting height (Max height 3.5m).

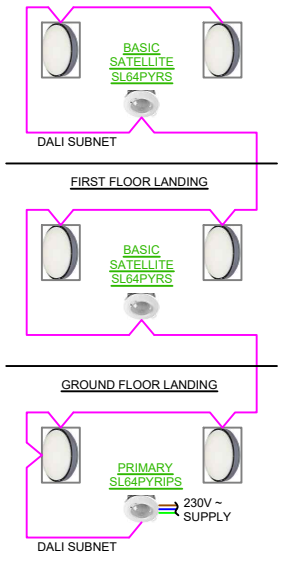
DALI Subnet Design

Each DALI subnet is derived from a single primary sensor. Additional intelligent and Satellites can then be added to its subnet. Satellites must be connected to either a primary or an intelligent secondary, they will then transmit occupancy and daylight to the controlling sensor. All DALI commands are derived by the primary sensor and only a single primary can be connected to a subnet.

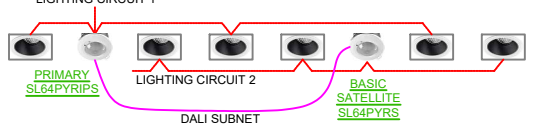


NOTE: Primary and Secondary sensor cannot be located in the same space of the physical room

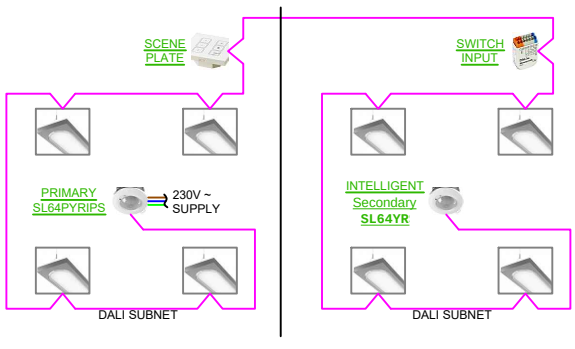
STAIR CORE EXAMPLE



TWO CIRCUIT CORRIDOR



2 SMALL OFFICES



Whitecroft Solo64 Technical Wiring Application Note

Rev 4 - 09/02/2024

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.

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