

SKOV Network LAN/WLAN

Technical Info



1 Product Description

Connection to house controller (e.g BlueControl, DOL 53X, DOL 63X, DOL 43X and DOL 2400/2300) is achieved through the local network of the farm (LAN, WLAN). Physically, the network may be established by means of:

- a **copper cable** (STP network cable) and / or
- a **wireless system**

In each individual case, local conditions decide which solution to choose for optimum operation.

It is possible to combine the solutions within the same network.

When choosing a network solution, consideration should primarily be given to the following factors:

- How large **distances** is the network to cover?
- What are the **physical conditions** for wireless transfer of data and cable routing, respectively? (E.g. building design, soil conditions and lightning).

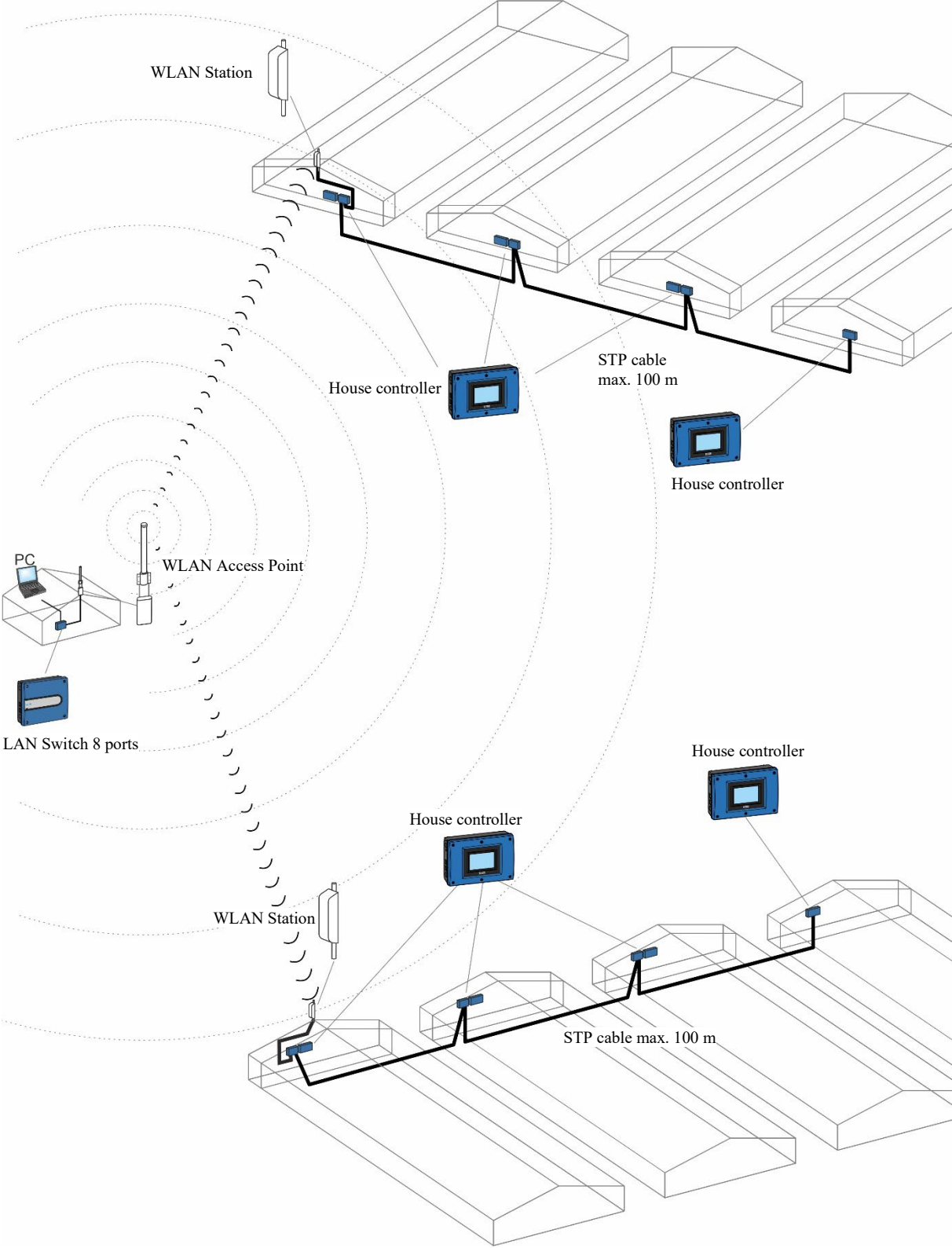


Figure 1: Houses with a copper cabled network connected via WLAN

1.1 Network via Copper Cable

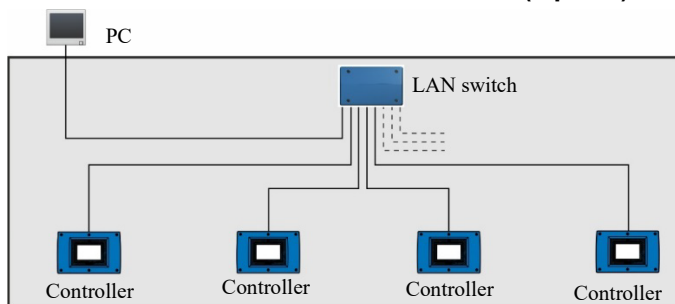
For house controllers and PCs, connection is achieved via STP network cables, which are connected by means of one or more switches.

1.1.1 Local Cable Routing

One or more house controllers in a house can be connected to the network via a central switch, or via a local switch to each house controller, or through a combination of these two solutions.

The choice of solution depends on how easy it will be to route cables as well as the price of the different types of switches.

Network via cables with a central switch (8 ports)

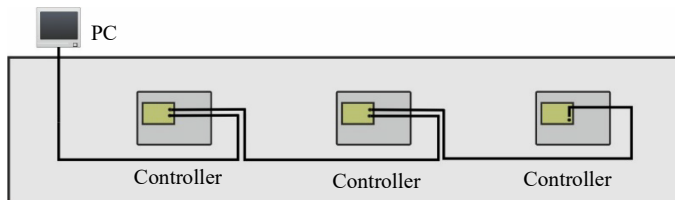


Switch to be placed centrally in the house in relation to the house controllers.

Requires more cable routing work.

Less risky cable routing. Easier troubleshooting.

Network via cable with serial connection



Serial connection can only be made with the following house controllers: BlueControl, DOL 53X, DOL 63X, DOL 43X, DOL 2400 and DOL 2300.

Up to 7 house controllers can be connected in series.

Do not, however, connect the controllers in series that may be switched off for periods - for example, in loading sections.

1.2 Wireless Network (WLAN, Wireless Local Area Network)

Wireless network (Wireless LAN – WLAN) consists of:

- An Access Point. Abbreviated as AP in this document.
- A number of stations (Client)

Each network includes at least one AP which communicates with the stations. The stations do not communicate with each other. The AP is normally mounted by the office facility and connected to the PC. The stations are mounted by the climate and production controllers.

Both the AP and the stations must be configured using an Internet browser. During configuration they are assigned an IP address, among other things.

1.1.1 WLAN

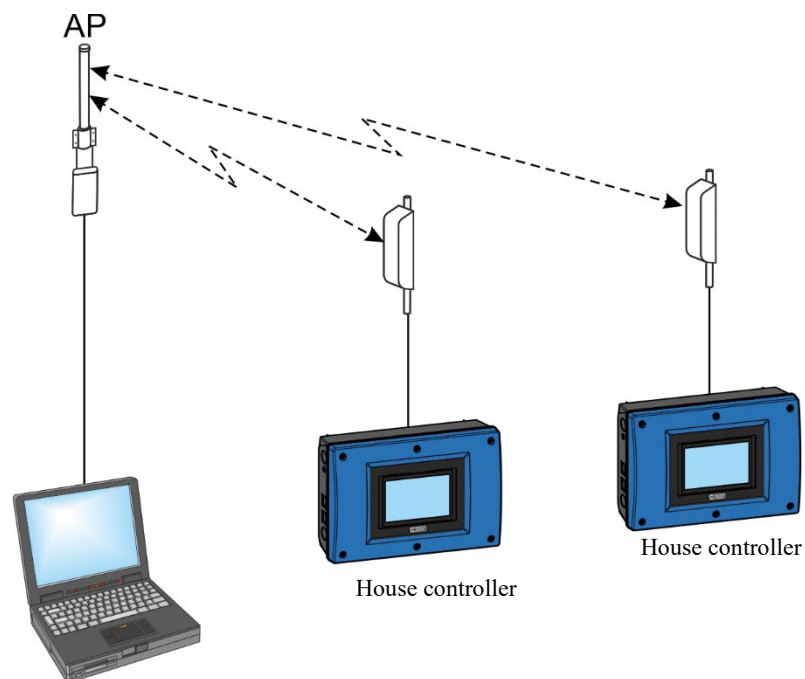


Figure 2: WLAN

2 Product Survey

Description

LAN components for cabled copper network



130631 LAN Switch 5 Ports

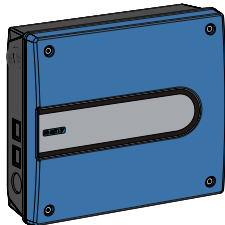
This switch allows consecutive cabling of house controllers (pearls on a string). Locate the switch immediately next to the house controller.

Max. one switch per house controller

Max. 100m STP network cable between each switch.

5 RJ45 ports.

The LAN switch is supplied with 24V DC from the house controller.



130632 LAN Switch 8 Ports

Switch for central location in the network. Connect each house controller directly to the 8-port switch, or via a 3-port switch with STP network cable.

Max. 100m STP network cable

Has its own 230 V AC power supply.

8 RJ45 ports.

Description

Components for wireless network stations

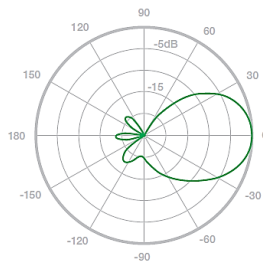


130657 WLAN NanoStation M5

Used as a station or AP – directional.

Range 10 km.

WLAN Access Point has a 43° horizontal / 41° vertical beam width.



Including: mast assembly kit, Power supply, 2- and 30-meter STP network cable.

Description

Components for wireless network stations



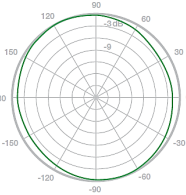
130655 WLAN Rocket Omni M5/ Wlan Rocket AC

If there is a need for an omni-directional (non-directional) beam at the office, this should be used as an AP with 130657 WLAN NanoStation M5 as the station.

Range 5 km.

With external aerial.

WLAN Access Point has a 630° horizontal / 12° vertical beam width.



Including: mast assembly kit, Power supply, 2- and 30-meter STP network cable.

Pipe Ø40-Ø60 and wall bracket not supplied by SKOV A/S.

Components for the Internet



136222 Multifunctional Router

Router for Internet connection. Built-in VPN server.

Internet connection: WAN (ADSL) and 3G (USB). Option: 2 x WAN.

Also includes WLAN 802.11 b/g/n, 2.4 GHz, firewall and VLAN (VirtualLAN) for logical separation of networks. Four LAN ports.

Max. range: Cabled: 100m.
Wireless: 50m.

3 Technical Data

3.1 LAN Switch

LAN Switch 8 Ports

Electrical Design

Supply voltage	230 V L-N-PE
Power consumption	10 W
Input/output terminals	8

Mechanical Design

LAN cable	Max. 100m STP (shielded twisted pair)
Cable knock-out pieces	20 Ø25.5mm for M25 cable gland Two Ø40mm in each side for the socket

Environment

Ambient temperature, operation	0 to +55°C (+32 to 134°F)
Ambient temperature, storage	-40 to +80°C (-40 to +176°F)
Ambient humidity, operation	0 – 95% RH
Protection class	Splash proof IP54 It is a condition that the base is level, i.e. a height difference of ≤ 1.5 mm, and that the front panel screws can be tightened by min. 2 Nm.

Shipping

Dimensions	H × W × D: 120 x 380 x 400
Packing dimensions	H × W × D: 270 x 390 x 415
Shipping weight	5,700 g

LAN Switch 5 Ports

Electrical Design

Supply voltage	10 – 48 V DC
Power consumption	3.8 W (max.)
Input/output terminals	5

Mechanical Design

Cable	Max. 100m STP (shielded twisted pair)
Cable knock-out pieces	Seven Ø25.5mm for M25 cable gland Two Ø40mm in each side for the socket

Environment

Ambient temperature, operation	0 to +55°C (+32 to 134°F)
Ambient temperature, storage	-40 to +80°C (-40 to +176°F)
Ambient humidity, operation	0 – 95% RH
Protection class	Splash proof IP54 It is a condition that the base is level, i.e. a height difference of ≤ 1.5 mm, and that the front panel screws can be tightened by min. 2 Nm.

Shipping

Dimensions	H × W × D: 120 × 162 × 261 mm
Packing dimensions	H x W x D: 165 x 230 x 310
Shipping weight	1,400 g



3.2 WLAN Stations

WLAN stations			
Electrical Setup	130657 WLAN NanoStation M5	130655 WLAN Rocket Omni M5	130655 WLAN Rocket Omni AC
Supply voltage [VAC]	120-240	120-240	120-240
Power consumption [W]	8	8	8,5
Supply [VDC]	24	24	24
Supply POE [A]	0,5	1	0,5
Mechanics			
Network interface	2 x 10/100 BASE-TX (STP) Cable	1 x 10/100 BASE-TX (STP) Cable	1 x 10/100 BASE-TX (STP) Cable
RF plug (waterproof)		2 x RP-SMA	2 x RP-SMA
Beam width directional [°]	43		
Beam width Including external aerial [°]		360	360
Frequency band [MHz]	5470-5825*	5470-5825*	5470-5825*
Range [km]	10	5	5
Including mast mounting set	X	X	X
Technology			
Specification)		EN 302 326 DN2	EN 302 326 DN2
Compliance)	RoHS	RoHS	RoHS
Wireless approvals	FCC Part 15.247, IC RS210, CE	FCC Part 15.247, IC RS210, CE	FCC Part 15.247, IC RS210, CE
Enviroment			
Ambient temperature, operation [°C]	-30 - +75	-30 -+75	-40 - +80
Humidity, operation [%]	5 - 95	5 - 95	5 - 95
Shock and Vibration Test	ETSI300-019-1.4	ETSI300-019-1.4	ETSI300-019-1.4
Shipment			
Dimension L x B x H [mm]	294 x 31 x 80	158 x 98 x 579 (aerial) 170 x 80 x 30 (AP)	158 x 98 x 579 (aerial) 170 x 80 x 30 (AP)
Shipping weight [g]	400	680 (aerial) 500 (AP)	680 (aerial) 500 (AP)

*Only 5745-5825 MHz is supported in the USA.



