Somfy Digital Network

Cabling

SOLUTIONS FOR BIOCLIMATIC FAÇADES

- This document is the global guide line for SDN motors.

- In addition we recommend to read with attention the specific guide line and installation guide for SDN controller as:

  - KNX RS485 Motors controller WM

  - animeo IP RS485

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What is on the bus?

| Communication	Power (24VDC)

• Control
  • User Directed
  • Automated
• Status
  • Positioning Status
  • Motor Operating Status
  • Motor Fault Status
	• Keypads
	• Interfaces
	• Sensors
	• Accessories
	• Gateways
	• Not for motors !

SDN + SDN - SDN GND	SDN Power +24V SDN Power GND

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■ The standard Somfy Digital Network connector is RJ45.

- If for any reason the RJ45 connection is not possible directly in the SDN device, an adaptor should be proposed.
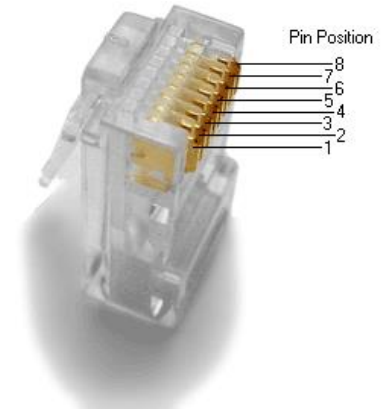
■ The RJ45 connector is wired to cable using the TIA T586B standard:

- Pin 1 - SDN +
- Pin 2 - SDN -
- Pin 3 - NA
- Pin 4 - SDN Power +24V
- Pin 5 - SDN Power +24V
- Pin 6 – NA
- Pin 7 - SDN Power GND
- Pin 8 - SDN Power GND & SDN GND

4
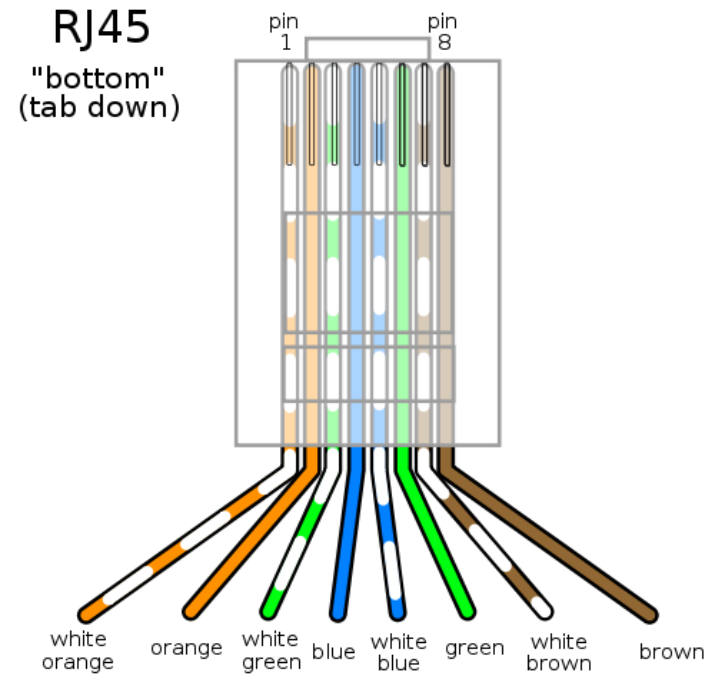
- The Somfy Digital Network uses twisted pair category wire.

- A Characteristic impedance of 100Ω (-10Ω +30Ω) is required.

- Four (4) pairs are required for full connection and maximum compatibility between devices.
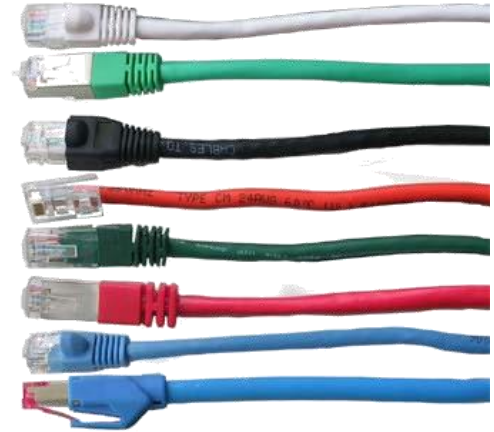
- Shields :

Old name	New name	cable screening	pair shielding	
UTP	U/UTP	none	none	✔
STP	U/FTP	none	foil	✔
FTP	F/UTP	foil	none	✔
S-STP	S/FTP	braiding	foil	✔
S-FTP	SF/UTP	foil, braiding	none	✔
SFTP		Foil	Shield	✔
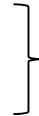
Accepted for stub cable only

- Recommended cables are:
  - CAT-5e
  - CAT-6

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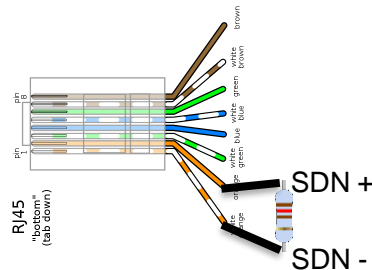*SOLUTIONS FOR BIOCLIMATIC FAÇADES*

- The Somfy Digital Network topology is a Bus topology. Even if in some case other topologies may work, Somfy doesn't warranty them.

❌ Ring   ❌ Mesh   ❌ Star   ❌ Fully Connected

❌ Line   ❌ Tree   ✅ Bus

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Lengths & Limits

SDN Device

Stub

SDN Bus

Connection Point
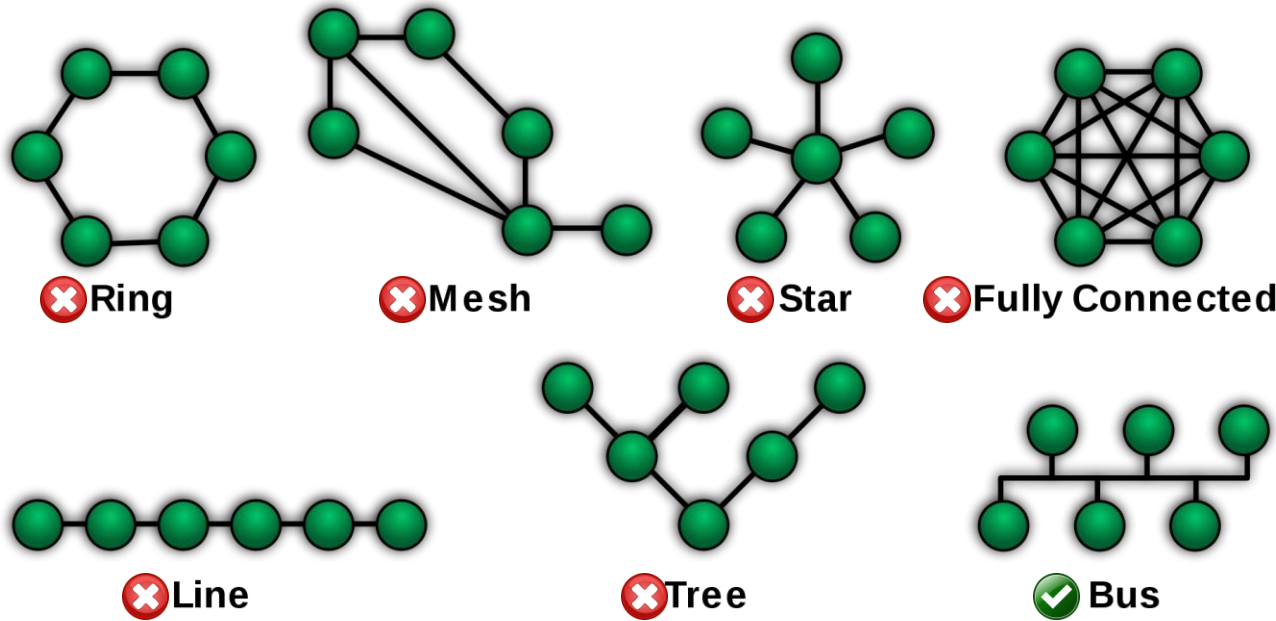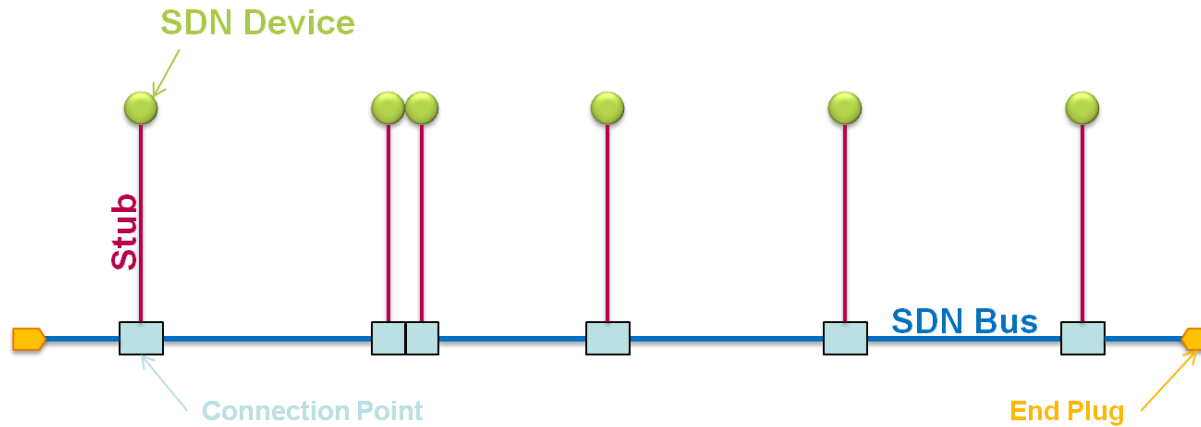
End Plug

- **Stubs :** The maximum length of a stub **is 10 meters (≈ 33 feet).**

- **SDN Bus :** The maximum length of the Bus **is 1000 meters* (3280 feet).**
  - * Please refer to the controller's datasheet.

- **SDN Devices :** A maximum of **200 devices/nodes** can be connected to the same SDN Bus.

- **End Plug :** The two ends of the SDN Bus must be terminated by a 120Ω termination resistor between lines SDN + and SDN -.

SDN +

SDN -

RJ45 "bottom" (tab down)

or

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