animeo Connect

Connect Main Controller BACnet

Operating Manual

Ref. 1860304
Ref. 1860329

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Before beginning any operation, the safety instructions in these instructions must be taken into account.

SOMFY declines all responsibility for damage and defects caused by non-compliance with the instructions (incorrect installation, maintenance, repairs, etc.). The system may only be installed, checked and commissioned by an expert (in accordance with VDE 0100)! Switch off the voltage to all of the lines which are to be installed. Take all appropriate measures to avoid the system being switched on accidentally.

Somfy products must always be installed in easily accessible locations. If access is limited for maintenance and repair work (e.g. glued or extensively glued floors, installation behind lamps or panels), any additional costs incurred as a result shall not be borne by the seller.
Subject to technical modifications.

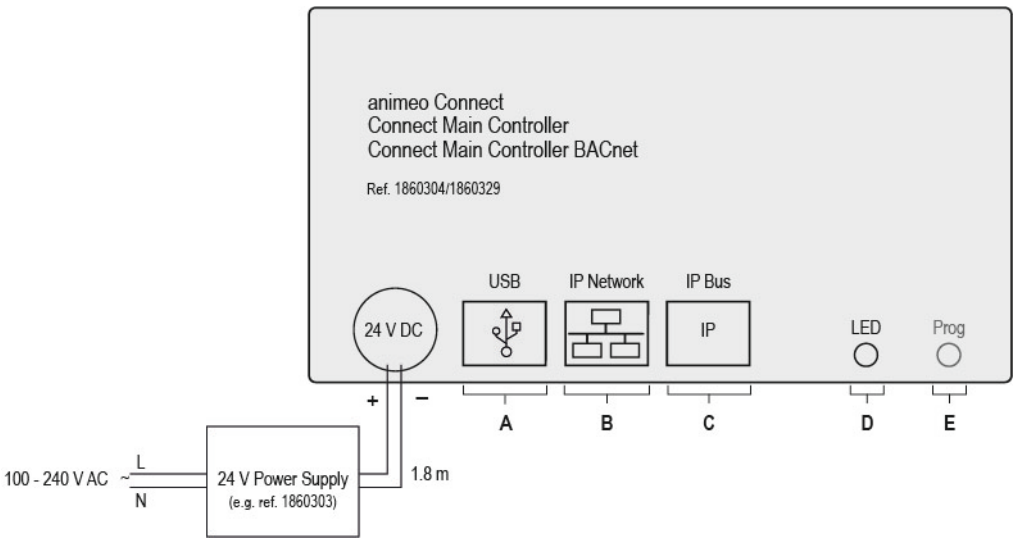
1 Introduction

The Connect Main Controller BACnet is an automated solution, conceived to control the solar protection systems in small to large buildings. It can be easily configured for each motor and for an unlimited number of zones. For each zone a dedicated scenario can be created.

Each motor can be operated with the desired level of priority. The status of each motor and sensor can be tracked, including wind, wind direction, snow, frost, ice, rain and timer status.

2 Technical information

2.1 Wiring diagram



A USB stick (input/output) max. 150 mA (for maintenance or remote access)

B LAN (input/output)

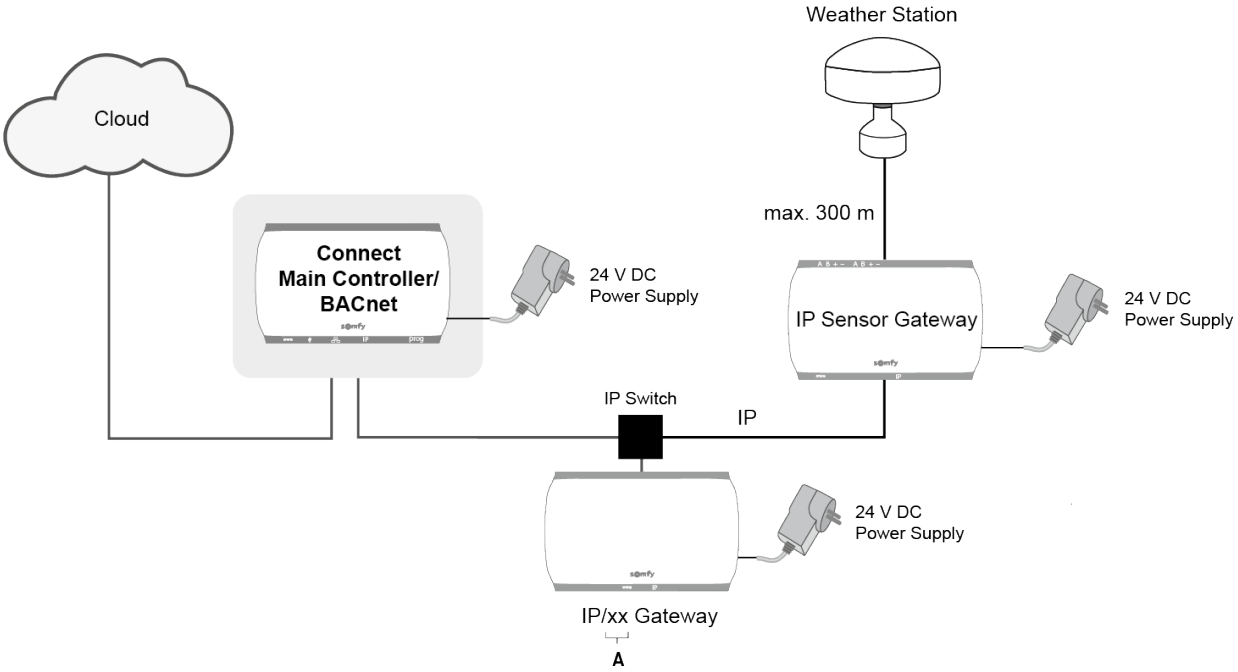
C IP Bus (input/output)

D 3 minutes after switching on the device, the green flashing LED indicates normal operation.

E PROG: Not active

Connection to …	Cable	Shielded	Twisted pair	Max. length
Power Supply			–	1.8 m
Ethernet	min. Cat. 6 STP	Required	Required	100 m

2.2 Topology



2.3 Profile:

- BACnet Smart Actuator (B-SA)
  BACnet IP
- Networking option:
  - BACnet Broadcast Management Device (BBMD)
  - BACnet device ID
  - The 4 last bytes of the MAC address converted in decimal.
  - IP settings requirement:
    - IPV4 DHCP
    - Port 47808 opened

2.4 Motor feedback

The motor feedback provides the current status of each motor. Through BACnet, dedicated objects give the feedback for each motor with the following information:

1. Current position (%) same object than command
2. Current angle (%) same object than command
3. Which function controls the motor and its priority
4. Status
5. Info reference, type, ID, label (alias entered via Connect OS)

2.4.1 Objects

n_ is the index of used motor, group, area, zone, ...

Feed-back	**Object name**	**Object type**	**Object ID**		**Description**
Priority Level	n_MOTOR_PRIORITY_LEVEL	Character String	CS	n00	Shows current highest active priority level ["security": "security", "wind": "p200", "security lock" : "p400", "lock" : "p900", "manual/timer": "p1000", "sun": "p2000", "default": "p3200"]
Info of the motor	n_MOTOR_INFO	Character String	CS	n01	Shows the Information from a motor. (Name – Node ID - Type)
Error of the motor	n_MOTOR_ERROR	Character String	CS	n02	Shows the error of the motor. [ERR_NO_ERROR = 0, ERR_NOT_SET, ERR_NOT_PAIRED, ERR_RF_IO, ERR_OBSTACLE, ERR_THERMAL]

2.5 Motor control

The motor control operates each motor individually with the desired level of priority.

1. UP + BACnet level
2. STOP + priority
3. DOWN + priority
4. Write a position to move to a specific position (%) + priority
5. Write an angle to move to a specific angle (°) + priority

2.5.1 Objects

n_ is the index of used motor, group, area, zone, ...

Control	**Object name**	**Object type**	**Object ID**		**Description**
Up	n_MOTOR_UP	BINARY VALUE	BV	n00	Write "1" to send motor to upper end limit + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Stop	n_MOTOR_STOP	BINARY VALUE	BV	n01	Write "1" to stop motor + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Down	n_MOTOR_DOWN	BINARY VALUE	BV	n02	Write "1" to send motor to lower end limit + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Position Motor	n_MOTOR_BLIND_POSITION	ANALOG VALUE	AV	n01	Get/Write a value between 0 % and 100 % to move the blinds to the desired position + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort
Angle Motor	n_MOTOR_BLIND_ANGLE	ANALOG VALUE	AV	n02	Get/Write a value between 0° and 90° or -90° and 90° to move the blinds to the desired angle + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort

2.6 Group control

The group control operates each group with the desired level of priority.

1. UP + BACnet level
2. STOP + priority
3. DOWN + priority
4. Write a position to move to a specific position (%) + priority
5. Write an angle to move to a specific angle (°) + priority

2.6.1 Objects

n_ is the index of used motor, group, area, zone, ...

Control	**Object name**	**Object type**	**Object ID**		**Description**
Up	n_GROUP_UP	BINARY VALUE	BV	n03	Write "1" to send group to upper end limit + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Stop	n_GROUP_UP	BINARY VALUE	BV	n04	Write "1" to stop group + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Down	n_GROUP_DOWN	BINARY VALUE	BV	n05	Write "1" to send group to lower end limit + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Position Group	n_GROUP_BLIND_POSITION	ANALOG VALUE	AV	n04	Write a value between 0 % and 100 % to move the group to the desired position + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)
Angle Group	n_GROUP_BLIND_ANGLE	ANALOG VALUE	AV	n05	Write a value between 0° and 90° or -90° and 90° to move the group to the desired angle + (BACnet level: Maintenance 1-4, Security 5-7, Manual 8-12, Comfort 13-16)

2.7 Sensor values

The sensor values are read with the appropriate unit for each available sensor. Several Weather Stations can be connected.

1. Outside temperature in °C, °F, °K
2. Wind speed in m/s, mile/h, km/h
3. Wind direction
4. Sun
5. Global radiation
6. Vertical radiation
7. Twilight
8. Humidity
9. Inside temperature in °C, °F, °K
10. Rain

2.7.1 Objects

n_ = Weather Station index

Sensors	**Object name**	**Object type**	**Object ID**		**Description**
Wind	n_WIND_SPEED_	ANALOG INPUT	AI	n00	Shows current wind speed value
Wind Direction	n_WIND_DIRECTION_	ANALOG INPUT	AI	n01	Shows current wind direction value
Sun 1	n_SUN_1_	ANALOG INPUT	AI	n02	Shows current brightness value
Sun 2	n_SUN_2_	ANALOG INPUT	AI	n03	
Sun 3	n_SUN_3_	ANALOG INPUT	AI	n04	
Sun 4	n_SUN_4_	ANALOG INPUT	AI	n05	
Sun 5	n_SUN_5_	ANALOG INPUT	AI	n06	
Sun 6	n_SUN_6_	ANALOG INPUT	AI	n07	
Sun 7	n_SUN_7_	ANALOG INPUT	AI	n08	
Sun 8	n_SUN_8_	ANALOG INPUT	AI	n09	
Global radiation	n_GLOBAL_RADIATION_	ANALOG INPUT	AI	n10	Shows current global radiation value
Vertical radiation 1	n_VERTICAL_RADIATION_1_	ANALOG INPUT	AI	n11	Shows current vertical radiation value
Vertical radiation 2	n_VERTICAL_RADIATION_2_	ANALOG INPUT	AI	n12	

Sensors	Object name	Object type	Object ID		Description
Vertical radiation 3	n_VERTICAL_RADIATION_3_	ANALOG INPUT	AI	n13	
Vertical radiation 4	n_VERTICAL_RADIATION_4_	ANALOG INPUT	AI	n14	
Vertical radiation 5	n_VERTICAL_RADIATION_5_	ANALOG INPUT	AI	n15	
Vertical radiation 6	n_VERTICAL_RADIATION_6_	ANALOG INPUT	AI	n16	
Vertical radiation 7	n_VERTICAL_RADIATION_7_	ANALOG INPUT	AI	n17	
Vertical radiation 8	n_VERTICAL_RADIATION_8_	ANALOG INPUT	AI	n18	
Twilight	n_TWILIGHT_	ANALOG INPUT	AI	n19	Shows current twilight radiation value
Outside Temp.	n_OUTSIDE_TEMPERATURE_	ANALOG INPUT	AI	n20	Shows current outside temperature value
Humidiy	n_OUTSIDE_HUMIDITY_	ANALOG INPUT	AI	n21	Shows current outside humidity value
Inside Temp.	n_INSIDE_TEMPERATURE_	ANALOG INPUT	AI	n22	Shows current inside temperature value
Rain	n_PRECIPITATION_	BINARY INPUT	BI	n00	Shows current precipitation value; 1= precipitation; 0= no precipitation

2.8 System defect

The system defect informs about the Connect system status.

Sensors	Object name	Object type	Object ID		Description
System Defect		BINARY VALUE	BV	n0&	Shows that we have a system defect 0=no defect, 1=defect

2.9 Characteristics

Supply voltage	24 V DC +/- 10 % SELV/1 A max.
Power Supply	Mandatory use of certified power supply with limited power (certified according to the relevant version of 60950-1 or 62368-1, EN/IEC or UL as needed in the country of use). Limited power classified as LPS, PS2 or UL class II (according to standard).
Minimum current	50 mA
Max. current	360 mA@24 V
Minimum power	1.2 W
RTC	+/- 3 min/year
USB	2 x USB 2.0, each 5 V/500 mA
Current with 1 x USB, 2 x Ethernet *	90 mA@24 V (* USB stick = 2 GB Kingston)
Operating temperature	- 5° C...+ 50° C
Relative humidity	85 % at 30 ° C
Material of housing	ABS
Housing dimensions (w x h x d)	133 x 86 x 44 mm
Weight	138 g
Protection class	III
Degree of protection	IP20
Conformity	www.somfy.com/ce

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