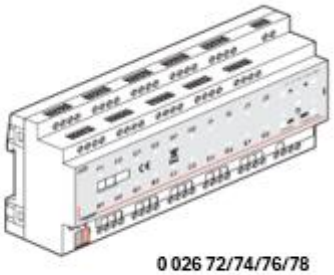
2-pipes temperature control
1-ON/OFF valve 3 points with manual change over
3-ON/OFF speed ventilation

Cat. No(s): 281027BB
0 026 72/74/76/78

281027BB



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1. USAGE SCENARIO

Meeting room, hotel, home

2.Description

The thermostat combined with an RCU actuator is used to control a fan coil equipped with 2 pipes, 1-ON/OFF valve3 points and 3 - ON/OFF fan.

Manual change over to switch between Heating/Cooling mode.

The system will regulate the temperature of an office around the set

Using the thermostat's touch-sensitive buttons, the user can:
- Change the temperature setpoint.
- Adjust the fan speed.
- Change the mode (Comfort, Eco, Standby and protection).

Using the thermostat's push buttons, the user can:
- Send Lighting commands (Switching, Dimming, Blind and value
- Launch scenario (i.e.: Welcome, Exit , Master OFF ...).

Here is a table of compatible Malia thermostats.

LG-281027MW	KNX-Mallia Senses command 4 push with thermostat white
LG-281028MW	KNX-Mallia Senses command 6 push with thermostat white
LG-281029MW	KNX-Mallia Senses command 8 push with thermostat white
LG-281027DS	KNX-Mallia Senses command 4 push with thermostat silver
LG-281028DS	KNX-Mallia Senses command 6 push with thermostat silver
LG-281029DS	KNX-Mallia Senses command 8 push with thermostat silver
LG-281027BB	KNX-Mallia Senses command 4 push with thermostat black
LG-281028BB	KNX-Mallia Senses command 6 push with thermostat black
LG-281029BB	KNX-Mallia Senses command 8 push with thermostat black

2-pipes temperature control
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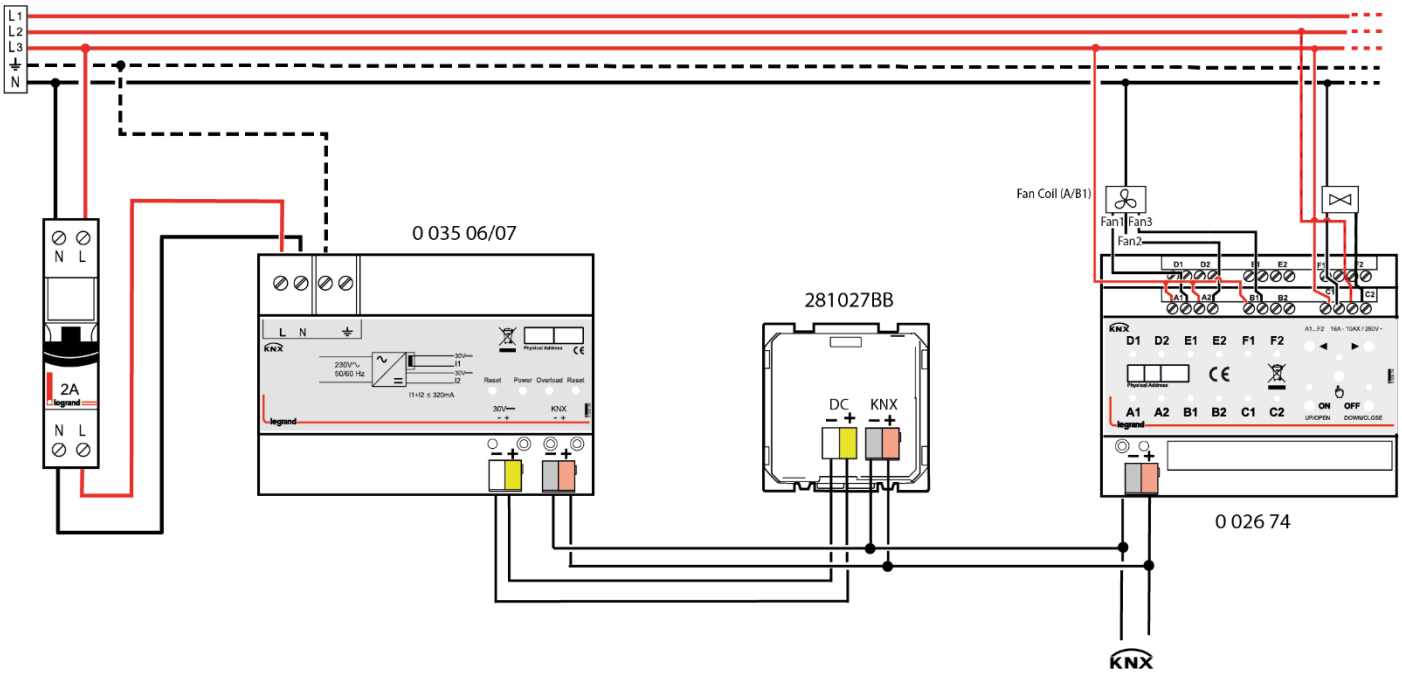
3. WIRING DIAGRAM



NB:
For more information about wiring each device, refer to the instructions on site.

www.legrand.com

2-pipes temperature control
1-ON/OFF valve 3 points with manual change over
3-ON/OFF speed ventilation

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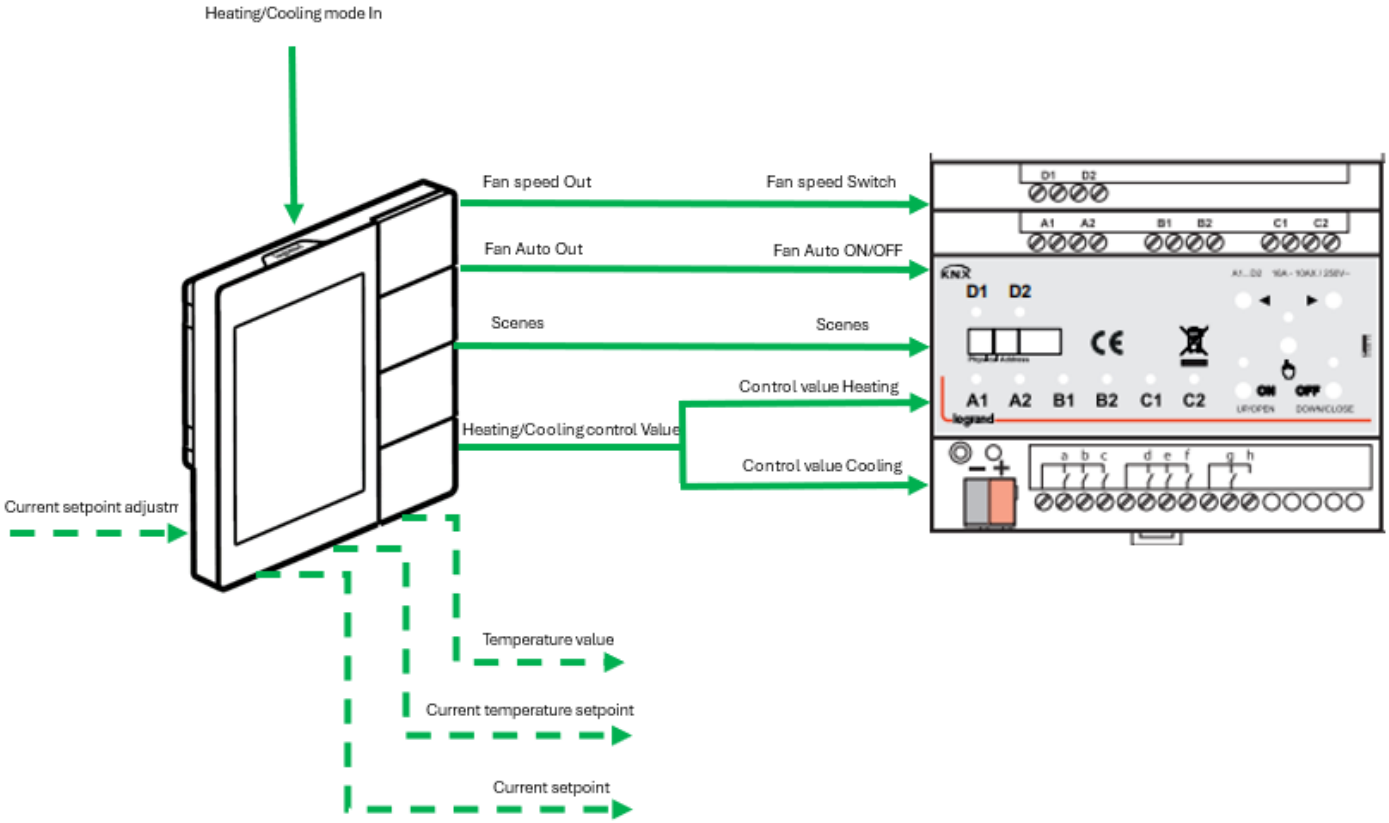
4. KNX DIAGRAM



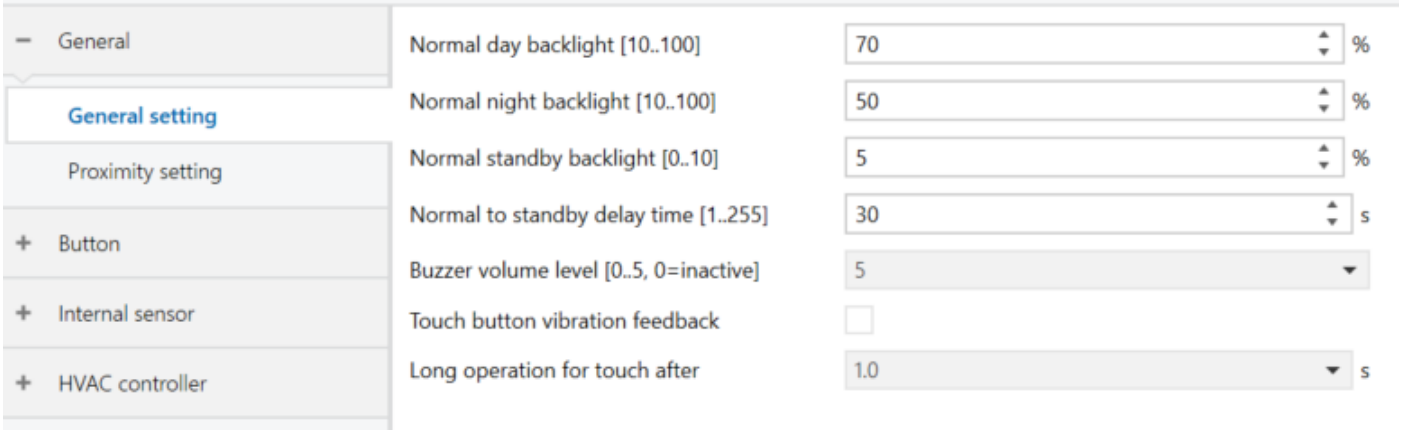
5. KNX PROJECT

This project **002674-Malia_Thermoregulation 2P ON-OFF 3 points** is available on www.legrand.com and can be imported into ETS5.

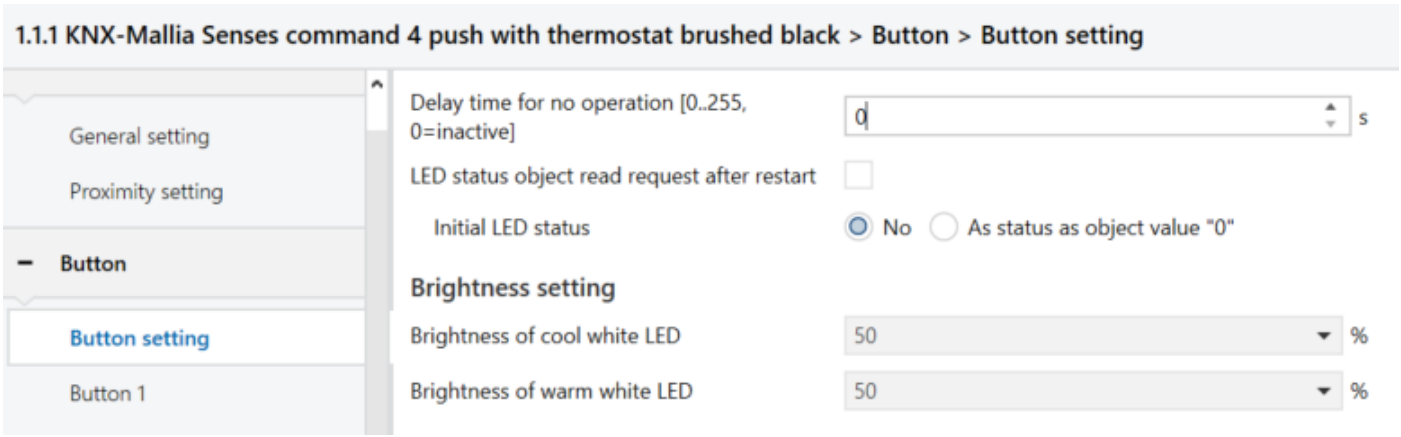
6. DEVICE PARAMETERS WITH ETS5

6.1 Thermostat 281027BB

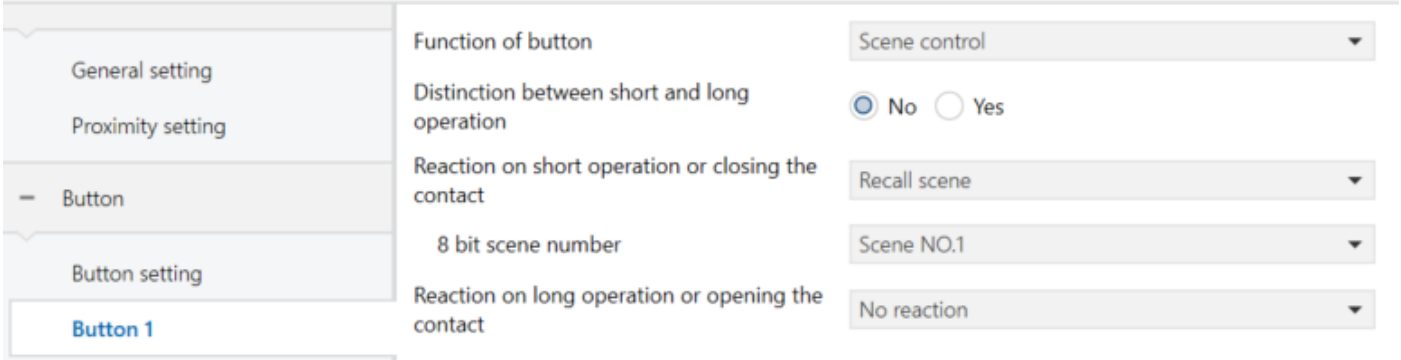
1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > General > General setting



1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > Button > Button setting



1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > Button > Button 1



6. DEVICE PARAMETERS WITH ETS5 (continued)

6.1 Thermostat 281027BB (continued)

1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > HVAC controller > Controller setting

- General
  - General setting
  - Proximity setting

Room temperature control function as	FCU control
Ventilation function	☐
Floor heating function	☐

1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > HVAC controller > FCU setting

- General
  - General setting
  - Proximity setting
- Button
  - Button setting
  - **Button 1**
  - Button 2
  - Button 3
  - Button 4
  - LED function
- + Internal sensor
- HVAC controller
  - Controller setting
  - FCU setting
    - Setpoint
    - Heating/Cooling control
    - Fan

Control value after temp. error [0..100] (if 2-point control, set value '0'=0, set value '>0'=1)	0 %
Interface display temperature	○ Setpoint temperature ◉ Actual temperature
Setpoint temperature adjustment step	◉ 0.5K ○ 1K
Min. setpoint temperature [5..37]	16 °C
Max. setpoint temperature [5..37]	32 °C
Power on/off status after download	◉ OFF ○ ON
Power on/off status after voltage recovery	As before voltage failure
Low temperature protection when power off	☐
Room temperature control mode	Heating and Cooling
Heating/Cooling switchover	◉ Only via object ○ Automatic changeover
Heating/Cooling status after download	○ Heating ◉ Cooling
Heating/Cooling status after voltage recovery	As before voltage failure
Room temperature control system	◉ 2 pipes system ○ 4 pipes system
Room temperature operation mode	☑
Controller status after download	Standby mode
Controller status after voltage recovery	As before voltage failure
Extended comfort mode [0..255,0=inactive]	0 min

6. DEVICE PARAMETERS WITH ETS5 (continued)

6.1 Thermostat 281027BB (continued)

1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > HVAC controller > FCU setting > Setpoint

- General
  - General setting
  - **Proximity setting**
- Button
  - Button setting
  - Button 1
  - Button 2
  - Button 3
  - Button 4
  - LED function
- Internal sensor
- HVAC controller
  - Controller setting
  - FCU setting
    - Setpoint

Setpoint method for operating mode	Relative / Absolute
Heating	
Setpoint temperature in comfort mode [5..37]	21 °C
Setpoint temperature in standby mode [5..37]	19 °C
Setpoint temperature in economy mode [5..37]	17 °C
Setpoint temperature in frost protection [5..10]	7 °C
Cooling	
Setpoint temperature in comfort mode [5..37]	23 °C
Setpoint temperature in standby mode [5..37]	25 °C
Setpoint temperature in economy mode [5..37]	27 °C
Setpoint temperature in heat protection [30..37]	35 °C

Note: The heating setpoint must be always less than the cooling setpoint.

1.1.1 KNX-Mallia Senses command 4 push with thermostat brushed black > HVAC controller > FCU setting > Heating/Cooling control

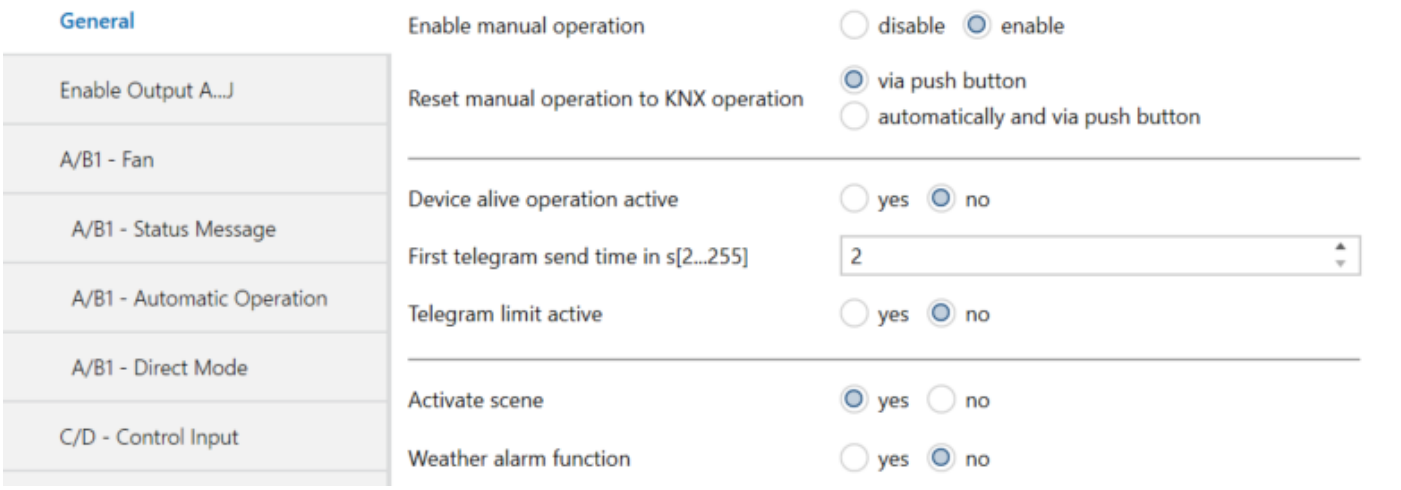
- General
  - General setting
  - Proximity setting
- Button
  - Button setting
  - Button 1
  - Button 2

Type of heating/cooling control	Continuous control(use PI control)
Invert control value	☐
Heating speed	Hot water heating(5K/150min)
Cooling speed	Cooling ceiling(5K/240min)
Send control value on change by [0..100,0=inactive]	4 %
Cyclically send control value[0..255]	0 min

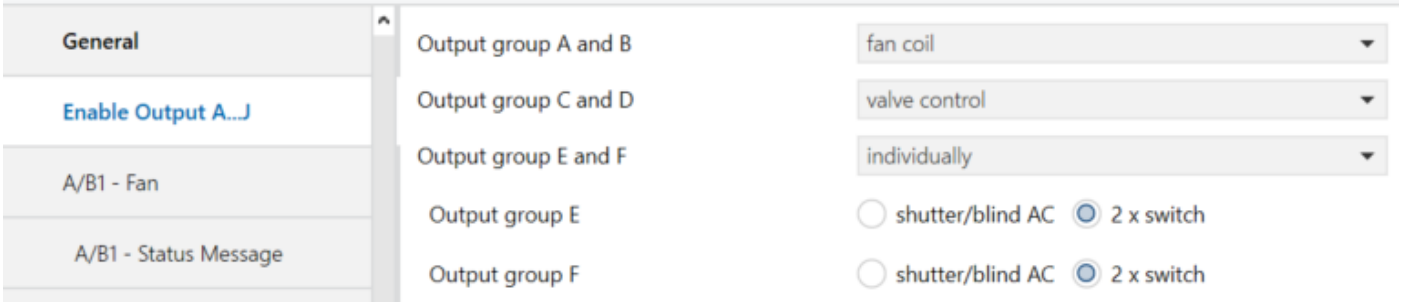
6. DEVICE PARAMETERS WITH ETS5 (continued)

6.2 Actuator 0 026 74

1.1.2 LG-002674 Room Control Unit, 12 Output > General



1.1.2 LG-002674 Room Control Unit, 12 Output > Enable Output A...J



6. DEVICE PARAMETERS WITH ETS5 (continued)

6.2 Actuator 0 026 74

1.1.2 LG-002674 Room Control Unit, 12 Output > A/B1 - Fan

- General
- Enable Output A...J
- A/B1 - Fan
- A/B1 - Status Message
- A/B1 - Automatic Operation
- A/B1 - Direct Mode
- C/D - Control Input
- C - Valve General
- C - Function
- D - Valve General
- D - Function
- E1 - General

Select valve with working	valve C/D
Number of fan levels	3
Controlling the fan levels	only one fan output / fan hierarchically
Fan operation mode	changeover switch / step switch
Delay between fan speed switching in ms[50...5000]	500
Fan speed on bus voltage failure	fan off
Fan speed on bus voltage recovery	fan off
Enable forced operation	yes / no
Forced operation on object value	0 / 1
Limitation on forced operation	3, 2, 1, OFF
Enable automatic operation	yes / no
Enable direct operation	yes / no
Starting characteristic of fan	yes / no

1.1.2 LG-002674 Room Control Unit, 12 Output > A/B1 - Direct Mode

- General
- Enable Output A...J
- A/B1 - Fan
- A/B1 - Status Message
- A/B1 - Automatic Operation
- A/B1 - Direct Mode

Enable communication object "Switch speed "Â 1 bit	yes / no
Enable communication object "Fan speed UP/DOWN"Â 1 bit	yes / no
Enable communication object "Fan speed switch"Â 1 byte	yes / no

6. DEVICE PARAMETERS WITH ETS5 (continued)

6.2 Actuator 0 026 74

1.1.2 LG-002674 Room Control Unit, 12 Output > C/D - Control Input

- General
- Enable Output A...J
- A/B1 - Fan
- A/B1 - Status Message
- A/B1 - Automatic Operation
- A/B1 - Direct Mode
- C/D - Control Input

HVAC system	two control two pipe with switch
Operation HEATING/COOLING after bus voltage recovery	unchanged bus return
Object value for HEATING the object "Toggle HEATING/COOLING"	0 / 1
Monitoring control valves	yes / no

1.1.2 LG-002674 Room Control Unit, 12 Output > C - Valve General

- General
- Enable Output A...J
- A/B1 - Fan
- A/B1 - Status Message
- A/B1 - Automatic Operation
- A/B1 - Direct Mode
- C/D - Control Input
- C - Valve General

Valve control	two point on/off / three point open/close
Observe reversing time	500ms
Valve position after bus voltage return	unchanged / selected
Value control duration from 0...100% in s [10...6000]	180
Automatically adjust valve position	yes / no
Valve limitation	yes / no

1.1.2 LG-002674 Room Control Unit, 12 Output > E1 - Scene

- General
- Enable Output A...J
- A/B1 - Fan
- A/B1 - Status Message
- A/B1 - Automatic Operation
- A/B1 - Direct Mode
- C/D - Control Input

Overwrite scene on download	yes / no
1...64 scene number (0 = no assignment)	1
Value	OFF / ON
1...64 scene number (0 = no assignment)	2
Value	OFF / ON
1...64 scene number (0 = no assignment)	3
Value	OFF / ON
1...64 scene number (0 = no assignment)	4

2-pipes temperature control
1-ON/OFF valve 3 points with manual change over
3-ON/OFF speed ventilation

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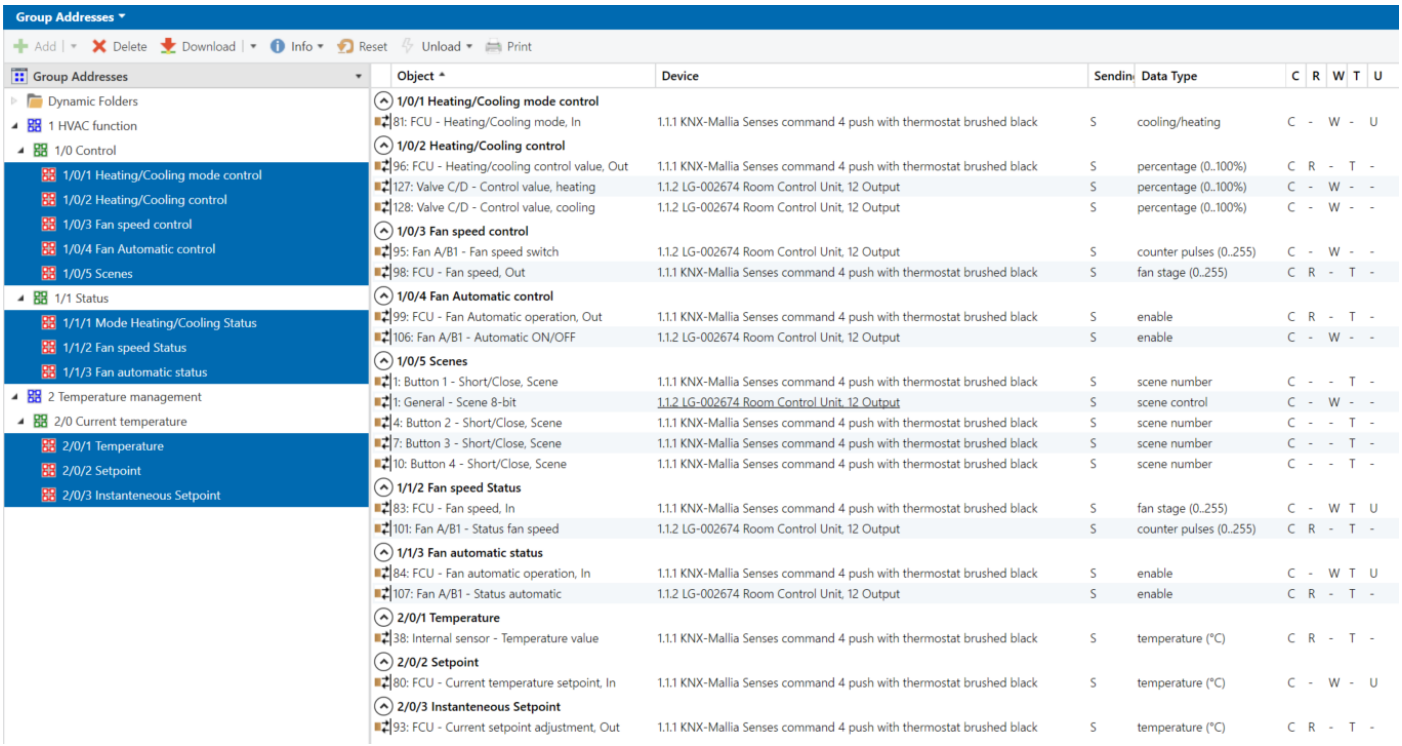
7. GROUP ADDRESSES



8. NOTES

The whole HVAC system is managed by thermostat 281027BB (heating/cooling regulation, setpoint mode and automatic ventilation).

When the customer arrives in the room, can set the temperature to comfort mode, and when they leave the temperature returns t o economy mode or standby mode. (**touch “M” button on the thermostat 281027BB to switch each mode**)

The HVAC and FAN valve is connected to controller 0 026 74 (A, B1 and C connector), The room controller 0 026 74 provide ON/OFF to switch or shut valve.

The setpoint value can be altered on thermostat 281027BB by touching the buttons “+” and “-”.

The fan speed can be altered by touching the button on the bottom of the thermostat. There are 3 manual fan speed levels and an automatic mode run by the thermostat.