

## B&B HOME TEMPERATURE MODULE



### APPLICATION:

B&B Home Temperature module for measuring 16 temperatures, 4 x 0-5V inputs, 4 x 0-10V inputs, 2 wind sensors and 16 relays outputs.

**!!! Firmware update V2.5 → Connect unused temperature inputs to GND 5V !!!**

### TECHNICAL SPECIFICATIONS:

#### CONNECTIONS

- 16 x temperature inputs (CN3 -> 6)
- 16 x outputs for optional controlling relays (CN9 + CN10)
- 4 x 0-5V inputs (CN2)
- 4 x 0-10V inputs (CN7)
- 2 x wind sensor inputs (CN7)
- B&B bus connector (CN1)

#### POWER

- 5V 85mA
- 24V 40mA – 900mA

#### DIMENSIONS

- W19 \* H10

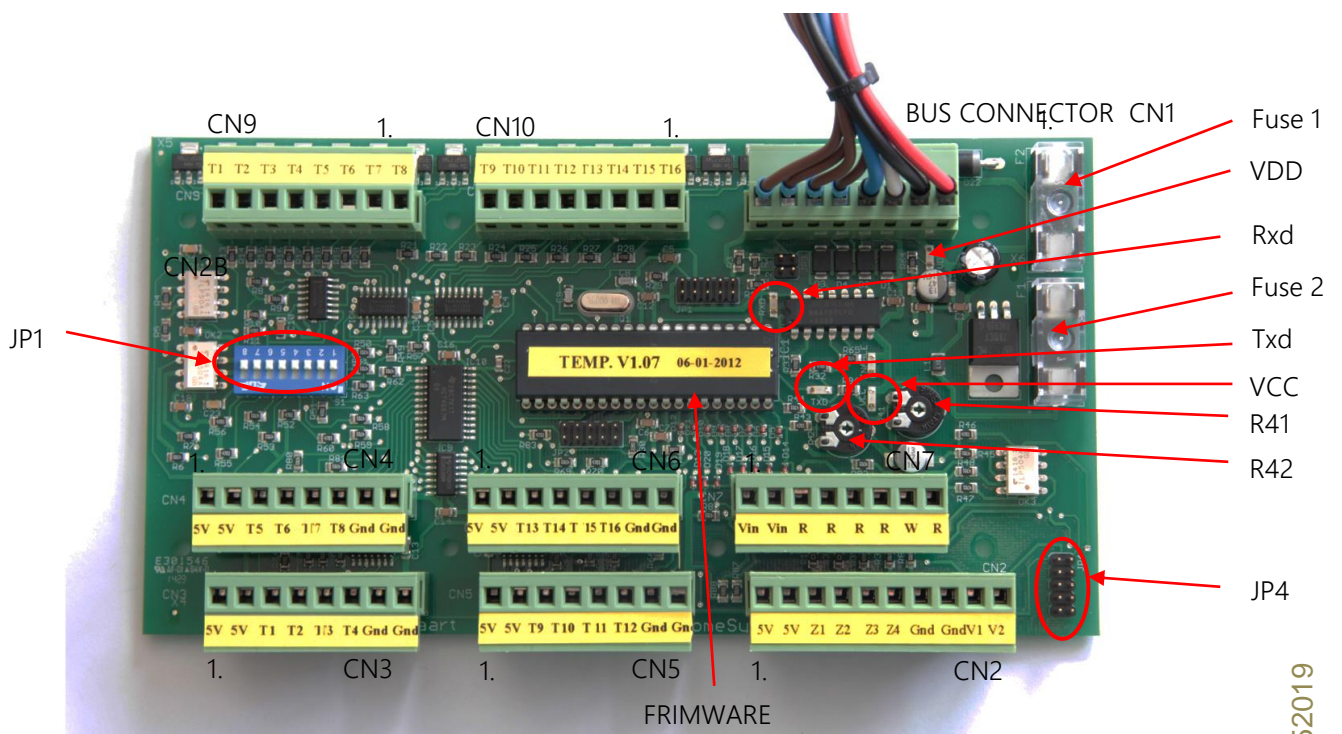


Figure 1

B&B 06052019



## PIN CONNECTIONS

## BUS CONNECTOR

On connector CN1 you can find all the signals and power connections for the B&B bus.  
Connection and set-up of the B&B bus, see document "BB Bus Connection and set-up".

**CN1**

1	+24V
2	GND 24V
3	+5V
4	GND 5V
4	T+
6	T-
7	R+
8	R-

## 16 TEMPERATURE INPUTS

On the connectors CN3, CN4, CN5 and CN6 16 temperature sensors can be connected.  
Each sensor has 3 connections 5V, GND and signal (T)  
The 5V and GND of the sensors can be connected together.

<b>CN3</b>		<b>CN4</b>		<b>CN5</b>		<b>CN6</b>	
1	5V	1	5V	1	5V	1	5V
2	5V	2	5V	2	5V	2	5V
3	Sensor T1	3	Sensor T5	3	Sensor T9	3	Sensor T13
4	Sensor T2	4	Sensor T6	4	Sensor T10	4	Sensor T14
4	Sensor T3	5	Sensor T7	5	Sensor T11	5	Sensor T15
6	Sensor T4	6	Sensor T8	6	Sensor T12	6	Sensor T16
7	GND	7	GND	7	GND	7	GND
8	GND	8	GND	8	GND	8	GND

## 16 OUTPUTS (Optional)

On the connector CN9 and CN10 there are 16 outputs.  
These outputs can be used to connect 24Vdc relays.  
The A1 connection of the relays coil is connected to the V1 power output on connector CN2 pin 9.  
The A2 connection of the relays coil is connected to the corresponding Tx Output.

<b>CN9</b>		<b>CN10</b>	
1	Output T8	1	Output T16
2	Output T7	2	Output T15
3	Output T6	3	Output T14
4	Output T5	4	Output T13
4	Output T4	5	Output T12
6	Output T3	6	Output T11
7	Output T2	7	Output T10
8	Output T1	8	Output T9

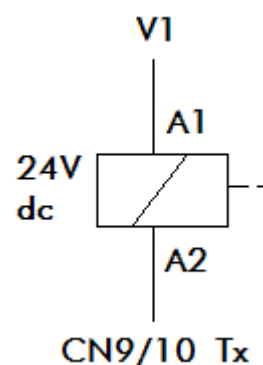


Figure 2 Output connection

4 0-5V inputs, 4 0-10V inputs + 2 wind inputs

On the connector CN2 and CN7 there are 4 0-5V inputs, 4 0-10V and 2 wind inputs. These inputs can be used to measure 0-5V signals, 0-10V signals and pulses of wind sensors.

<b>CN2</b>		<b>CN7</b>	
1	+5V out	1	Vin1
2	+5V out	2	Vin2
3	Z1 (0-5V input) figure 4	3	Z8 (0-10V input) figure 6
4	Z2 (0-5V input) figure 4	4	Z7 (0-10V input) figure 6
4	Z3 (0-5V input) figure 3	5	Z6 (0-10V input) figure 6
6	Z4 (0-5V input) figure 3	6	Z5 (0-10V input) figure 6
7	GND out	7	W1 (puls input wind sensor) figure 5
8	GND out	8	W2 (puls input wind sensor) figure 5
9	V1 out 24V 2A fuse 1		
10	V2 out 24V 315mA fuse 2		

#### CONNECT A SOLAR/WIND SENSOR

##### NOTES:

Solar- and wind sensor can only be connected to the first temperature module. In case there is just 1 temperature module, this should be setup with 16 sensors. In case of multiple temperature modules, the first module should be labelled with the label "zon-wind". In case there is more then one temperature module in use, you can connect just 15 sensors to this card. The 16th is lost because the address of the second card starts at 16. This way, maximum 31 sensors can be connected.

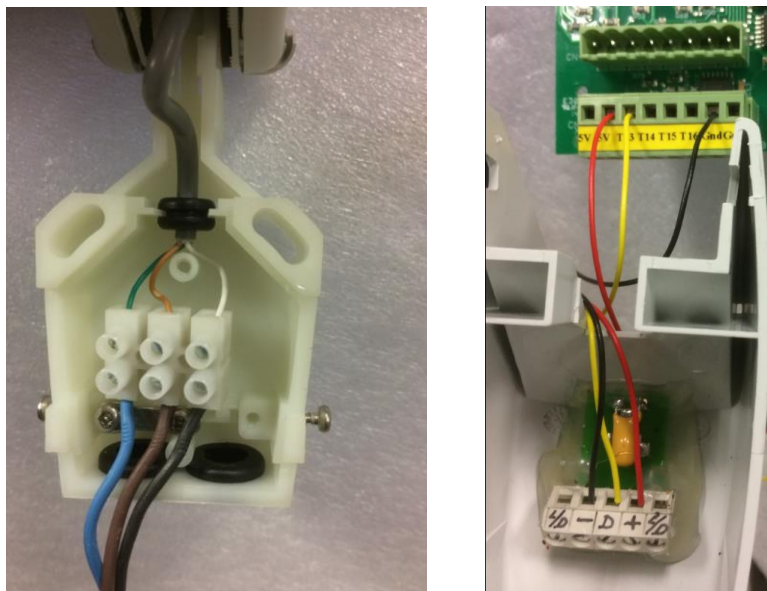
##### TYPE LEGRAND

Connect the solar sensor between the 5V and a "Z-input". It is possible to connect 2 solar sensors on the BBHome system.

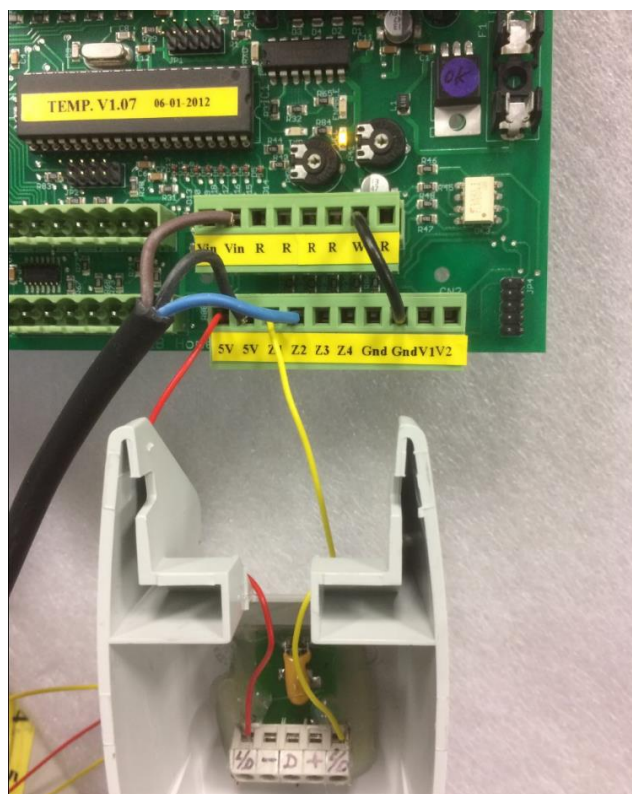
The wind sensor should be connected to a "W-input", GND, and 5V. The second "Vin-input" of CN7 should be connected to a 5V on CN2.

TYPE SOMFY INTEO

With this new type is the solar- and wind sensor integrated in one case. This is why there are just 3 connections. 1 common, 1 for the solar sensor and 1 for the wind sensor. The common connection is connected to a 5V and the solar sensor on a “Z-input”. In this case the wind sensor should **not** be connected to a “W-input” but on a “Vin-input”. To make this sensor work, a bridge should be placed between the GND and “W-input”. If there is a temperature sensor, this should be connected on 5V, a “T-input” and GND.



Figuur 3: Wind and temperature sensor connections



Figuur 4: solar and wind connections

## CONFIGURATION DIP SWITCH JP1

DIP SWITCH JP1 is used to set the start address of the temperature module and the amount of connected temperature sensors. After setting/changing the address the module has to be restarted. This is done by disconnecting the bus connector CN1 (right corner) for 10 seconds.

**Address**

The address of the temperature module is set with SW-1 to SW-4.

See table 1 for correct addressing. Maximum available temperature sensors 31.

	SW-4	SW-3	SW-2	SW-1
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	OFF	ON	OFF
4	OFF	OFF	ON	ON
5	OFF	ON	OFF	OFF
6	OFF	ON	OFF	ON
7	OFF	ON	ON	OFF
8	OFF	ON	ON	ON
9	ON	OFF	OFF	OFF
10	ON	OFF	OFF	ON
11	ON	OFF	ON	OFF
12	ON	OFF	ON	ON
13	ON	ON	OFF	OFF
14	ON	ON	OFF	ON
15	ON	ON	ON	OFF
16	ON	ON	ON	ON

**Table 1** Address DIP switch settings

From Firmware version 1.07 and higher it is possible to increase the start address of the temperature module with 16. This is done by placing a jumper on JP4 "ON" position.

See table 2 for correct addressing with the use of jumper "ON" (JP4).

Maximum available temperature sensors 47.

	SW-4	SW-3	SW-2	SW-1
17	OFF	OFF	OFF	OFF
18	OFF	OFF	OFF	ON
19	OFF	OFF	ON	OFF
20	OFF	OFF	ON	ON
21	OFF	ON	OFF	OFF
22	OFF	ON	OFF	ON
23	OFF	ON	ON	OFF
24	OFF	ON	ON	ON
25	ON	OFF	OFF	OFF
26	ON	OFF	OFF	ON
27	ON	OFF	ON	OFF
28	ON	OFF	ON	ON
29	ON	ON	OFF	OFF
30	ON	ON	OFF	ON
31	ON	ON	ON	OFF
32	ON	ON	ON	ON

**Table 2** Address DIP switch settings with extra jumper ON (JP4)

### Amount of temperature sensors

The amount of temperature sensors is set with SW-5 to SW-8. See table 3 for correct settings.

	SW-8	SW-7	SW-6	SW-5
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	OFF	ON	OFF
4	OFF	OFF	ON	ON
5	OFF	ON	OFF	OFF
6	OFF	ON	OFF	ON
7	OFF	ON	ON	OFF
8	OFF	ON	ON	ON
9	ON	OFF	OFF	OFF
10	ON	OFF	OFF	ON
11	ON	OFF	ON	OFF
12	ON	OFF	ON	ON
13	ON	ON	OFF	OFF
14	ON	ON	OFF	ON
15	ON	ON	ON	OFF
16	ON	ON	ON	ON

**Table 3** Amount of temperature sensors DIP switch settings

### CONFIGURATION JP4

JP4 is used to set the address of the digital outputs.

These outputs are treated like a digital output module.

After setting/changing the address the module has to be restarted. This is done by disconnecting the bus connector CN1 (right corner) for 10 seconds.

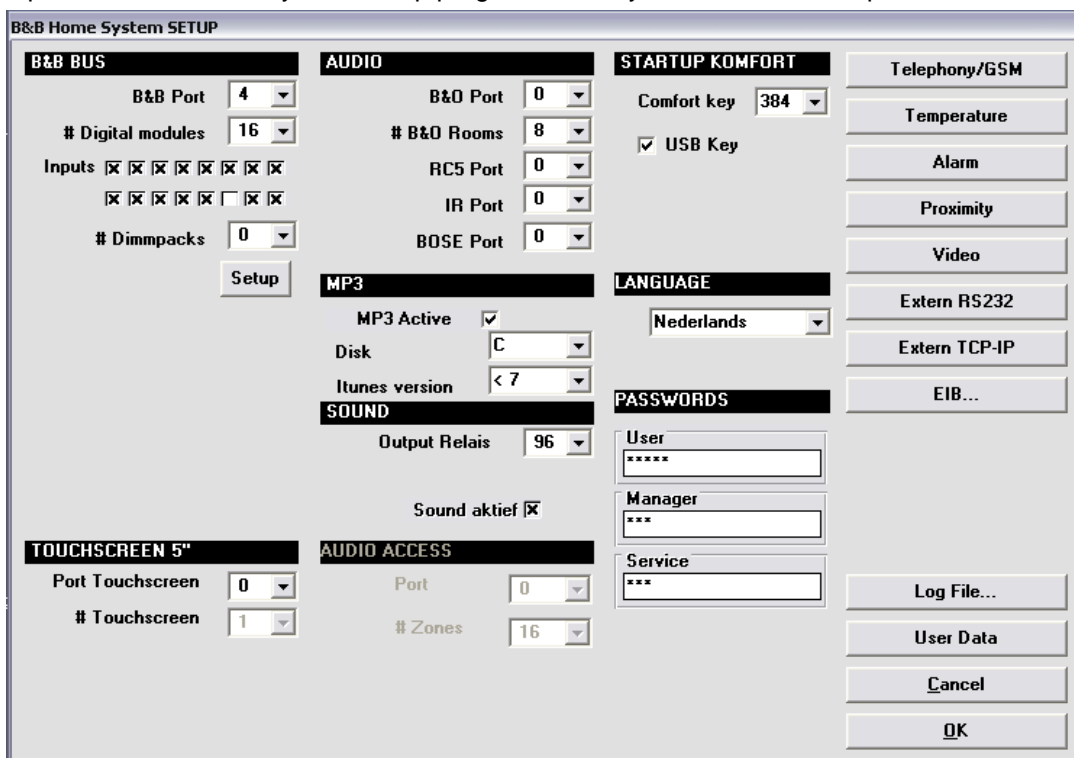
See table 4 for correct settings.

JP4	8	4	2	1
1	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON
3	OFF	OFF	ON	OFF
4	OFF	OFF	ON	ON
5	OFF	ON	OFF	OFF
6	OFF	ON	OFF	ON
7	OFF	ON	ON	OFF
8	OFF	ON	ON	ON
9	ON	OFF	OFF	OFF
10	ON	OFF	OFF	ON
11	ON	OFF	ON	OFF
12	ON	OFF	ON	ON
13	ON	ON	OFF	OFF
14	ON	ON	OFF	ON
15	ON	ON	ON	OFF
16	ON	ON	ON	ON

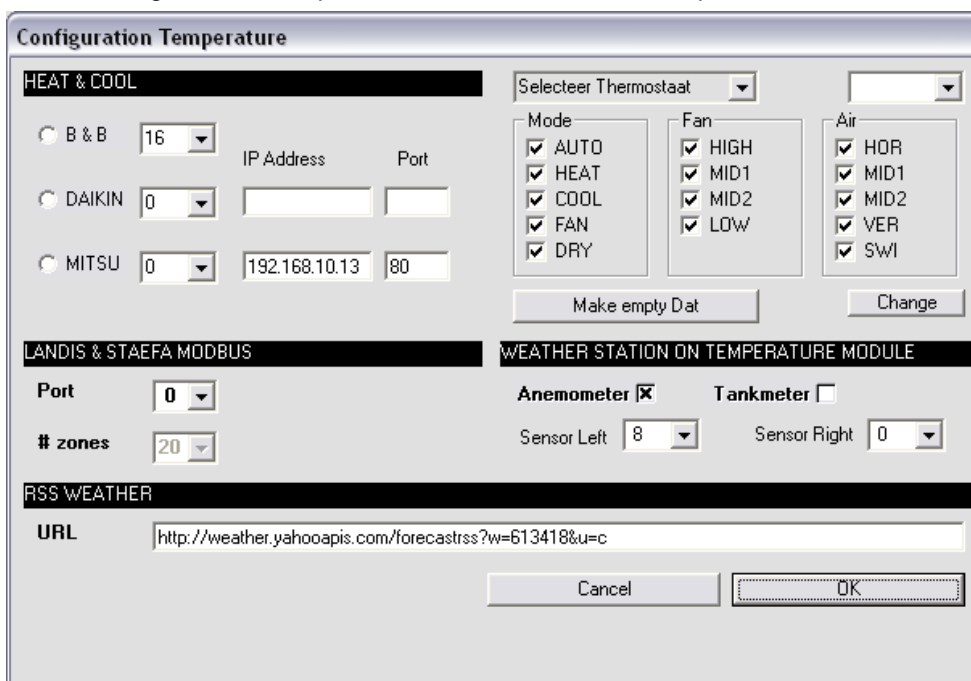
**Table 4** Address settings for optional outputs

ACTIVATION IN B&B SETUP

Open the B&B Home System Setup program. There you can choose temperature.



The following screen will open and here the amount of temperature sensors can be set.



If the temperature module is activated with the optional use of digital outputs see “B&B HOME Digital Input/output module” for activation in B&B.



## FIRMWARE VERSION

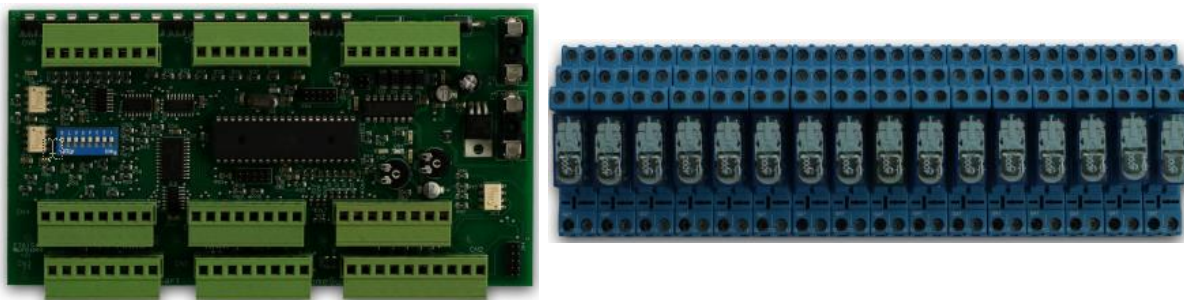
- <= Temp. V1.06 => 16 temperature sensors inputs, 2x 0-5V inputs and 1 wind sensor  
use of jumper "ON" (JP4) not possible => max sensors 31
- TEMP. V1.07 => 16 temperature sensors, 2x 0-5V inputs and 1 wind sensor  
Use of jumper "ON" (JP4) possible => max sensors 47
- TEMP. V1.07R => 16 temperature sensors, 2x 0-5V inputs and 1 wind sensor  
Use of jumper "ON" (JP4) possible => max sensors 47  
Optional digital outputs activated

## ORDER INFORMATION

**BBTEMP**                      Temperature module  
Dimension Width 19cm, Height 10cm



**BBTEMPREL**                      Temperature module  
with 16x 10A/250VAC relays (2 pole) included  
Dimension Width 19cm + 16x 1.6cm = 44.6cm, Height 10cm





## ERROR SOLVING

VDD	VCC	TX data	RX data	B&B Bus Monitor	
Orange	Orange	Orange	Orange		
ON	ON	Flash	Flash	OK	Everything is OK
-	OFF	-	-		5V not connected
OFF	-	-	-		24V not connected
					Or Fuse F2 defect (T 315mA)
					Or Fuse F1 defect (T 315mA)
ON	ON	Flash	Flash	Framing Err	Bus Address Fault
					Check DIP-switch for same addresses
ON	ON	Flash	Flash	Time OUT \$#T .. X	TX data connection to server isn't correct
					Check B&B bus cabling