B&B HOME 0-10V Output module

APPLICATION:

16 Channel 0-10V Output module

Dimming Control Card

ICBITBYTEDIMMER5

TECHNICAL SPECIFICATIONS:

CONNECTIONS
- 16 x pushbutton inputs (CN1 + CN2)
- 16 x 0-10V outputs (CN3 -> 6)
- B&B bus connector (CN8)
- 20V power connector (CN7)

POWER
- 5V 25mA
- 24V 14mA (Fuse F2)
- VCC 15V-20V (V 1.00, figure 1) 115mA
- VCC 15V-32V (V 1.01, figure 2) 115mA

DIMENSIONS
- W18 * H10

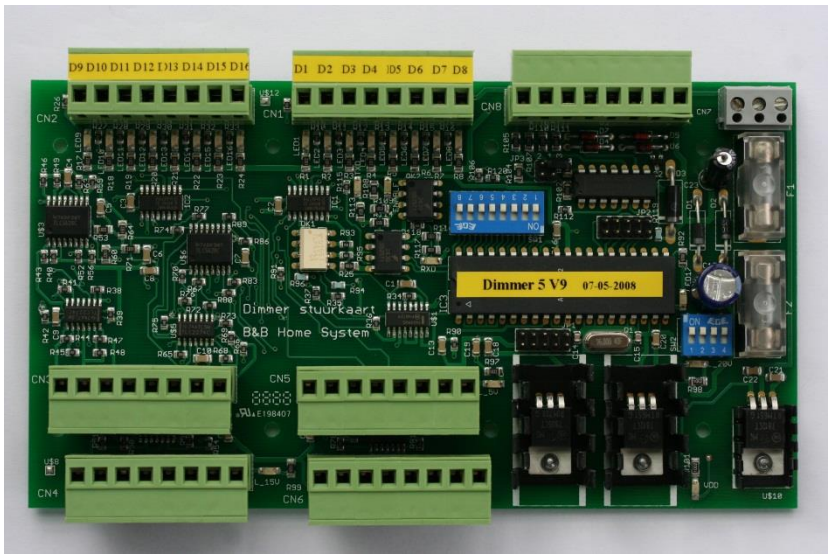

Figure 1 0-10V outputsmodule V 1.00

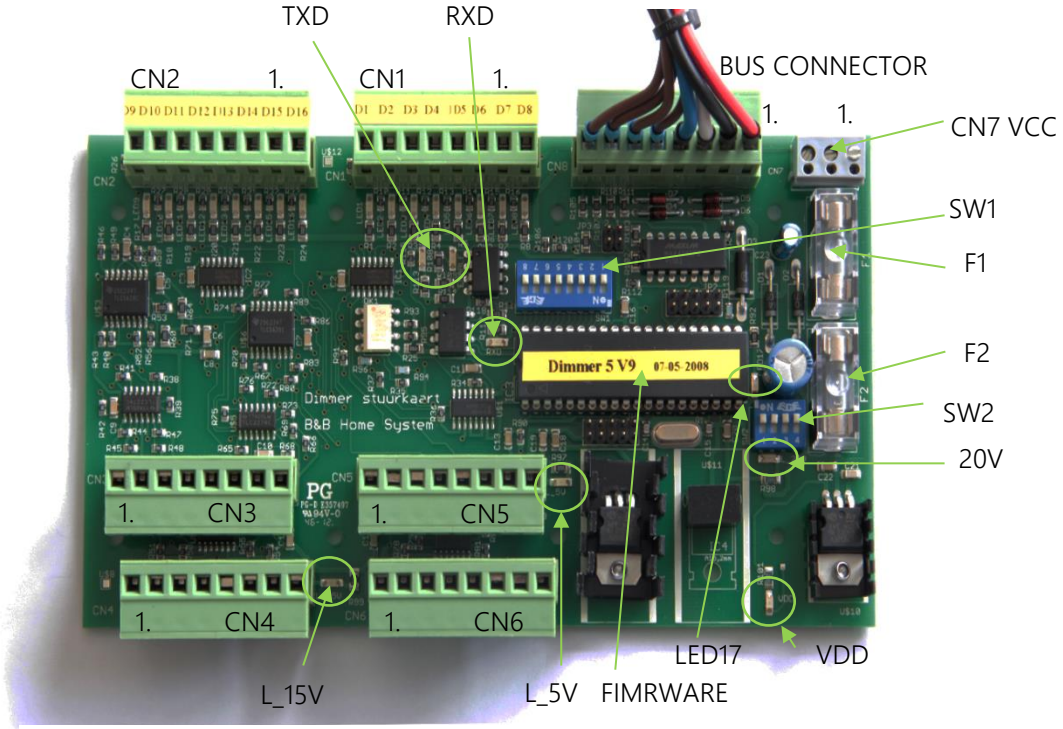

Figure 2 0-10V outputsmodule V1.01

PIN CONNECTIONS

BUS CONNECTOR (CN8) AND VCC CONNECTOR CN7

On connector CN8 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”.

The connector CN7 is for the external VCC power supply.
This VCC power supply can be 15V-20V (V 1.00, figure 1) or 15V-32V (V 1.01, figure 2).

Usually this VCC comes from the first connected dimmer pack or Fluo-Dimmer.
At version 1:01 V it is possible to connect the + 24V of the B&B bus.

CN8	
1	+24V
2	GND 24V
3	+5V
4	GND 5V
4	T+
6	T-
7	R+
8	R-

CN7	
1	GND
2	GND
3	VCC

PUSHBUTTONS

The pushbutton connections are located on the connectors CN2 and CN3. They are marked individually with D1-D16. D1 stands for button of output 1, D2 for button of output 2, etc.
The second 0-10V output module contains D17-D32, etc. One side of the pushbuttons is connected to the corresponding Dxx input and the other side is connected to the GND 24V. (Figure 3)

CN2	
1	Pushbutton D16
2	Pushbutton D15
3	Pushbutton D14
4	Pushbutton D13
4	Pushbutton D12
6	Pushbutton D11
7	Pushbutton D10
8	Pushbutton D9

CN1	
1	Pushbutton D8
2	Pushbutton D7
3	Pushbutton D6
4	Pushbutton D5
5	Pushbutton D4
6	Pushbutton D3
7	Pushbutton D2
8	Pushbutton D1

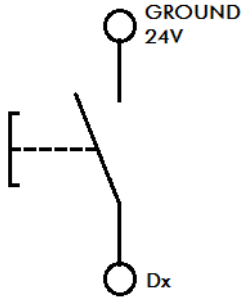

Figure 3 Pushbutton Connection

0-10V OUTPUTS

The 16 x 0-10V outputs are located on the connectors CN3 until CN 6.

CN3		CN4		CN5		CN6	
1	GND	1	GND	1	GND	1	GND
2	GND	2	GND	2	GND	2	GND
3	0-10V out D12	3	0-10V out D16	3	0-10V out D5	3	0-10V out D1
4	0-10V out D11	4	0-10V out D15	4	0-10V out D6	4	0-10V out D2
4	0-10V out D10	5	0-10V out D14	5	0-10V out D7	5	0-10V out D3
6	0-10V out D9	6	0-10V out D13	6	0-10V out D8	6	0-10V out D4
7	GND	7	GND	7	GND	7	GND
8	GND	8	GND	8	GND	8	GND

CONFIGURATION OF DIP SWITCHES

SW1

SW1 is used to set the start address of the 0-10V output module.
After setting/changing the address the module has to be restarted. This is done by disconnecting the VCC on connector CN7 (right corner) for 10 seconds.
See annex 1 for correct addressing.

SW2

SW1 is used to set the amount of 0-10V outputs connected to the 0-10V output module. (see table1).
After setting/changing the amount of 0-10V outputs the module has to be restarted. This is done by disconnecting the VCC on connector CN7 (right corner) for 10 seconds.

	SW2-1	SW2-2	SW3-3	SW4-4
1	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF
3	OFF	ON	OFF	OFF
4	ON	ON	OFF	OFF
5	OFF	OFF	ON	OFF
6	ON	OFF	ON	OFF
7	OFF	ON	ON	OFF
8	ON	ON	ON	OFF
9	OFF	OFF	OFF	ON
10	ON	OFF	OFF	ON
11	OFF	ON	OFF	ON
12	ON	ON	OFF	ON
13	OFF	OFF	ON	ON
14	ON	OFF	ON	ON
15	OFF	ON	ON	ON
16	ON	ON	ON	ON

Table 1 **Dip Switch settings amount of 0-10V outputs**

ACTIVATION IN B&B SETUP

Open the B&B Home System setup program. There you can set the “# Digital modules”.
You can only set the amount of 0-10V outputs in multiples of 4. (See figure 4)

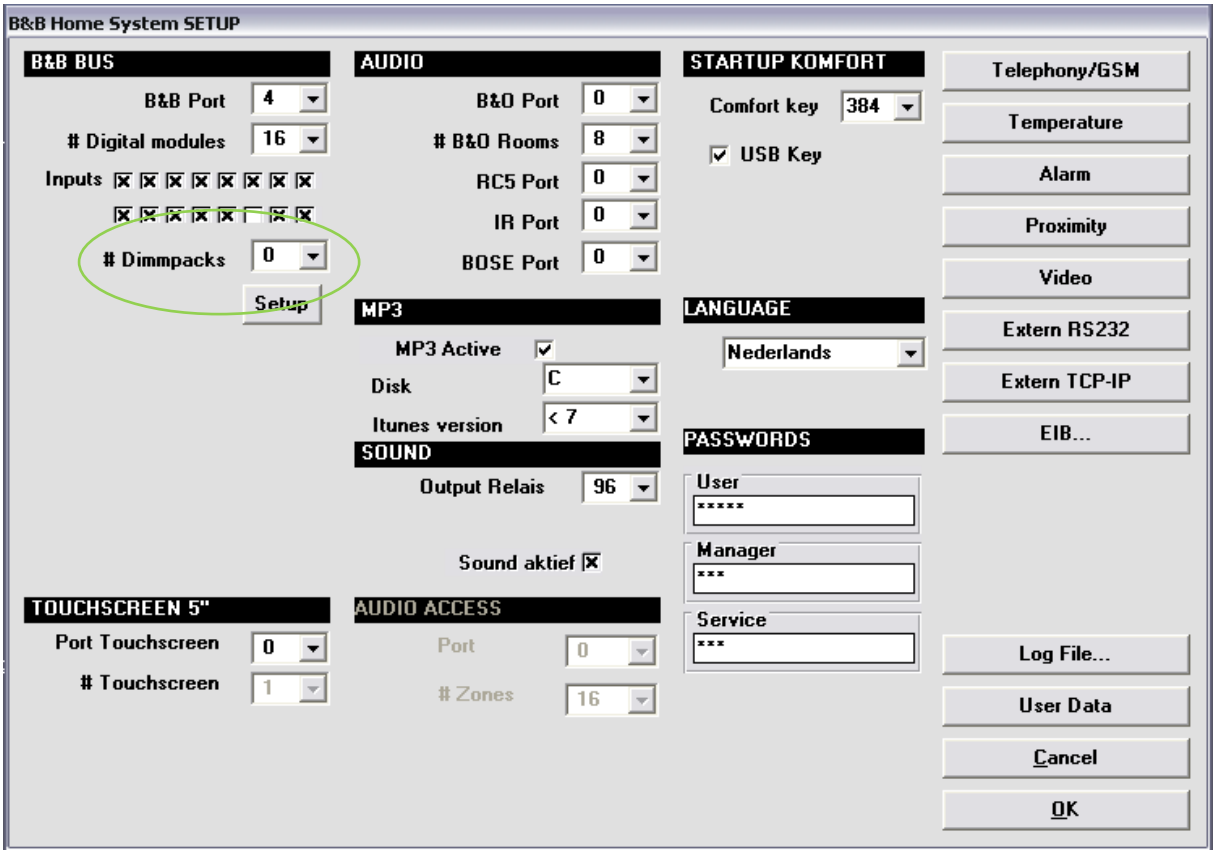

Figure 4 B&B Home System SETUP

FIRMWARE VERSION

Dimmer 5V9 07-05-2008 is the latest version

ORDER INFORMATION

BBDIMSTUUR 0-10V output module
Dimension Width 18cm, Height 10cm

15.11.8.230.0400 Dimmer slave 0-10V 400W
Dimension Width 2cm, Height 10cm

ERROR SOLVING

LED17	VDD	20V	L_5V	L_15V	TX data	RX data	B&B Bus Monitor	
Orange	Orange	Orange	Orange	Orange	Orange	Orange		
OFF	ON	ON	ON	ON	Flash	Flash	OK	Everything is OK
ON	OFF	ON	ON	-	-	-		5V/24V not connected
								Or Fuse F2 defect (T 315mA)
OFF	-	OFF	OFF	OFF	-	-		20V not connected
								Or Fuse F1 defect (T 315mA)
OFF	-	ON	OFF	OFF	-	-		Card is defect
OFF	-	ON	OFF	ON	-	-		Card is defect
OFF	ON	ON	ON	ON	Flash	Flash	Framing Err	Bus Address Fault
								Check DIP-switch for same addresses
OFF	ON	ON	ON	ON	Flash	Flash	Time OUT $#% .. X	TX data connection to server isn't correct
								Check B&B bus cabling

ANNEX 1 ADDRESS 0-10V OUTPUTMODULE

	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**
3	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**
5	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**
7	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
8	**ON**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**
9	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**
11	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
12	**ON**	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**
13	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
14	**ON**	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**
15	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
16	**ON**	**ON**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**
17	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**
19	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
20	**ON**	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**
21	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
22	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**
23	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
24	**ON**	**ON**	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**
25	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
26	**ON**	**OFF**	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**OFF**
27	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
28	**ON**	**ON**	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**OFF**
29	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
30	**ON**	**OFF**	**ON**	**ON**	**ON**	**OFF**	**OFF**	**OFF**
31	OFF	ON	ON	ON	ON	OFF	OFF	OFF
32	**ON**	**ON**	**ON**	**ON**	**ON**	**OFF**	**OFF**	**OFF**
33	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**
35	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
36	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**
37	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
38	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**
39	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
40	**ON**	**ON**	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**
41	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
42	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**OFF**
43	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
44	**ON**	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**OFF**
45	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
46	**ON**	**OFF**	**ON**	**ON**	**OFF**	**ON**	**OFF**	**OFF**
47	OFF	ON	ON	ON	OFF	ON	OFF	OFF
48	**ON**	**ON**	**ON**	**ON**	**OFF**	**ON**	**OFF**	**OFF**

	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
49	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
50	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**ON**	**OFF**	**OFF**
51	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
52	**ON**	**ON**	**OFF**	**OFF**	**ON**	**ON**	**OFF**	**OFF**
53	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
54	**ON**	**OFF**	**ON**	**OFF**	**ON**	**ON**	**OFF**	**OFF**
55	OFF	ON	ON	OFF	ON	ON	OFF	OFF
56	**ON**	**ON**	**ON**	**OFF**	**ON**	**ON**	**OFF**	**OFF**
57	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
58	**ON**	**OFF**	**OFF**	**ON**	**ON**	**ON**	**OFF**	**OFF**
59	OFF	ON	OFF	ON	ON	ON	OFF	OFF
60	**ON**	**ON**	**OFF**	**ON**	**ON**	**ON**	**OFF**	**OFF**
61	OFF	OFF	ON	ON	ON	ON	OFF	OFF
62	**ON**	**OFF**	**ON**	**ON**	**ON**	**ON**	**OFF**	**OFF**
63	OFF	ON	ON	ON	ON	ON	OFF	OFF
64	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**OFF**	**OFF**
65	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**
67	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
68	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**
69	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
70	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**
71	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
72	**ON**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**
73	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
74	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**ON**	**OFF**
75	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
76	**ON**	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**ON**	**OFF**
77	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
78	**ON**	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**ON**	**OFF**
79	OFF	ON	ON	ON	OFF	OFF	ON	OFF
80	**ON**	**ON**	**ON**	**ON**	**OFF**	**OFF**	**ON**	**OFF**
81	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
82	**ON**	**OFF**	**OFF**	**OFF**	**ON**	**OFF**	**ON**	**OFF**
83	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
84	**ON**	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**ON**	**OFF**
85	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
86	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**
87	OFF	ON	ON	OFF	ON	OFF	ON	OFF
88	**ON**	**ON**	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**
89	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
90	**ON**	**OFF**	**OFF**	**ON**	**ON**	**OFF**	**ON**	**OFF**
91	OFF	ON	OFF	ON	ON	OFF	ON	OFF
92	**ON**	**ON**	**OFF**	**ON**	**ON**	**OFF**	**ON**	**OFF**
93	OFF	OFF	ON	ON	ON	OFF	ON	OFF
94	**ON**	**OFF**	**ON**	**ON**	**ON**	**OFF**	**ON**	**OFF**
95	OFF	ON	ON	ON	ON	OFF	ON	OFF
96	**ON**	**ON**	**ON**	**ON**	**ON**	**OFF**	**ON**	**OFF**