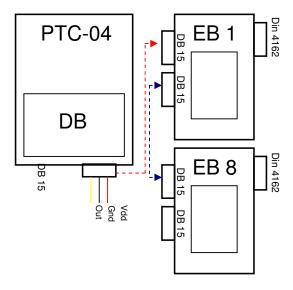
Scope

The extension board has been designed to control more then one device with the PTC-04. 8 extension boards can be connected to the PTC-04. Each board can calibrate 8 devices using 3 wires per device. So in total 64 devices can be calibrated with the use of one PTC-04.

Functional description

To address each module separately we are working with 2 ID's. One will be the board ID (called devID) and the other one the Channel ID, which is the actual module that is selected on the board. The connection between the extension boards and the ptc is done by using a standard DB15 connector.

See schematic below



Connections and Power supply

For the PTC-04 we are using a default DB15 connector. With the following pin numbering

Pin Nr		Name
1	Vdd	
2	Out	
3	Gnd	
4	Mice	
5	SCL	
6	SDA	
7	5V DO	
8	DGND	
9	Vdd_Sense	
10	Out_Sense	
11	Gnd_Sense	
12		
13		
14		
15	Channel_state	

Connectors on the Extension Board

A mail din 41612C64 connector is foreseen on the extension boards using following connections.

	CON3B		CON3A
VDD CH1		VDD Sense CH1	2
OUT CH1	3 C1	OUT Sense CH1	4 A1
GND CH1	E 02	GND Sense CH1	6 A2
	J C3		8 A3
VDD CH2	<u></u>	VDD Sense CH2	10 A4
OUT CH2	11 0	OUT Sense CH2	12 43
GND CH2	13 C6	GND Sense CH2	14 A6
	15 C7 15 C8		16 A8
VDD_CH3	17 C9	VDD_Sense_CH3	18 A9
OUT_CH3	19 040	OUT_Sense_CH3	20 79
GND_CH3	21 011	GND_Sense_CH3	22 011
	23/ 040		24/ 0.40
VDD_CH4	25 012	VDD_Sense_CH4	Zb' A12
OUT_CH4	21 011	OUT_Sense_CH4	20 044
GND_CH4	29 045	GND_Sense_CH4	30 04-
	31 040		32 A15 A16
VDD_CH5	33 047	VDD_Sense_CH5	34 A17
OUT_CH5	35 576	OUT_Sense_CH5	30 040
GND_CH5	31 040	GND_Sense_CH5	38 440
	39 020		40 400
VDD_CH6	41 624	VDD_Sense_CH6	42 421
OUT_CH6	43 (22)	OUT_Sense_CH6	44 422
GND_CH6	45 622	GND_Sense_CH6	46 422
	40 004	-	48 004
VDD_CH7	49 025	VDD_Sense_CH7	50 105
OUT_CH7	31 000	OUT_Sense_CH7	02 400
GND_CH7	53 027	GND_Sense_CH7	54 027
	22/ 0.00		56 A28
VDD_CH8	57 020	VDD_Sense_CH8	
OUT_CH8	59 020	OUT_Sense_CH8	6U 420
GND_CH8	01 021	GND_Sense_CH8	02 021
	63 C32		64 A32



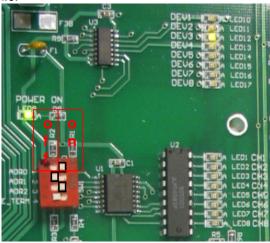
DIP switch

A dipswitch is used to indicate the hardware address that is assigned to the Extension Board. As the boards are using an I2C communication it is required that each board can be addressed separately with a specific device number.

A binary coding is used for determining the hardware address.

Hardware	1	2	3
Address			
DEV1	ON	ON	ON
DEV2	OFF	ON	ON
DEV3	ON	OFF	ON
DEV4	OFF	OFF	ON
DEV5	ON	ON	OFF
DEV6	OFF	ON	OFF
DEV7	ON	OFF	OFF
DEV8	OFF	OFF	OFF





Channel state (DIPSWITCH 4)

The signal CH_state is used for feedback purposes during the selection of the Channel ID, used for all 8 extension boards. All boards have one open collector connected trough 47 ohms. It is enough to set ON SW1/4 on one board only.

Please be sure that this dipswitch is only set to on only 1 time for all the boards.