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Scope

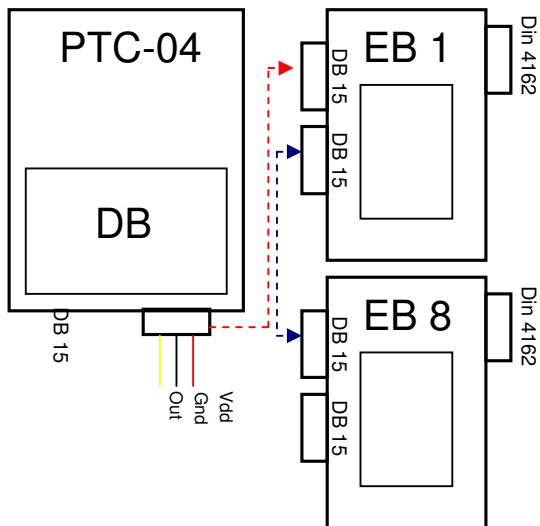
The extension board has been designed to control more than one device with the PTC-04. 8 extension boards can be connected to the PTC-04. Each board can calibrate 8 devices using 3 wires per device. So in total 64 devices can be calibrated with the use of one PTC-04.

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

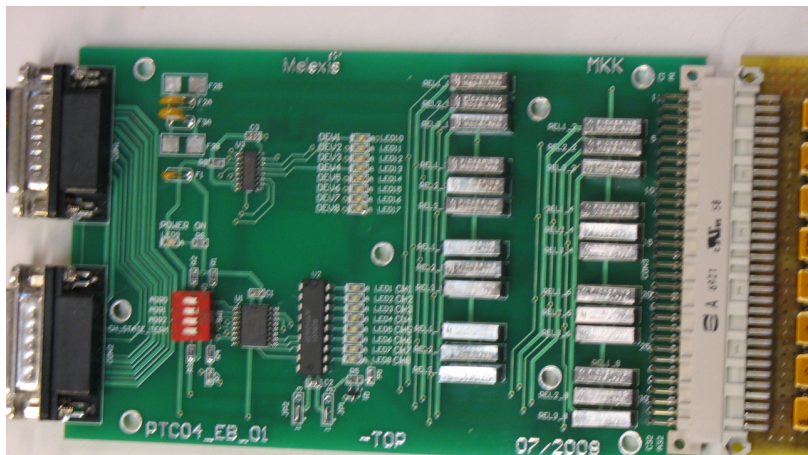
Pin Nr	Name
1	Vdd
2	Out
3	Gnd
4	Mice
5	SCL
6	SDA
7	5V DO
8	DGND
9	Vdd_Sense
10	Out_Sense
11	Gnd_Sense
12	
13	
14	
15	Channel_state

Connectors on the Extension Board

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

CON3B			CON3A		
VDD CH1	1	C1	VDD Sense CH1	2	A1
OUT CH1	3	C2	OUT Sense CH1	4	A2
GND CH1	5	C3	GND Sense CH1	6	A3
	7	C4		8	A4
VDD CH2	9	C5	VDD Sense CH2	10	A5
OUT CH2	11	C6	OUT Sense CH2	12	A6
GND CH2	13	C7	GND Sense CH2	14	A7
	15	C8		16	A8
VDD CH3	17	C9	VDD Sense CH3	18	A9
OUT CH3	19	C10	OUT Sense CH3	20	A10
GND CH3	21	C11	GND Sense CH3	22	A11
	23	C12		24	A12
VDD CH4	25	C13	VDD Sense CH4	26	A13
OUT CH4	27	C14	OUT Sense CH4	28	A14
GND CH4	29	C15	GND Sense CH4	30	A15
	31	C16		32	A16
VDD CH5	33	C17	VDD Sense CH5	34	A17
OUT CH5	35	C18	OUT Sense CH5	36	A18
GND CH5	37	C19	GND Sense CH5	38	A19
	39	C20		40	A20
VDD CH6	41	C21	VDD Sense CH6	42	A21
OUT CH6	43	C22	OUT Sense CH6	44	A22
GND CH6	45	C23	GND Sense CH6	46	A23
	47	C24		48	A24
VDD CH7	49	C25	VDD Sense CH7	50	A25
OUT CH7	51	C26	OUT Sense CH7	52	A26
GND CH7	53	C27	GND Sense CH7	54	A27
	55	C28		56	A28
VDD CH8	57	C29	VDD Sense CH8	58	A29
OUT CH8	59	C30	OUT Sense CH8	60	A30
GND CH8	61	C31	GND Sense CH8	62	A31
	63	C32		64	A32

CON_41612C64_M_90



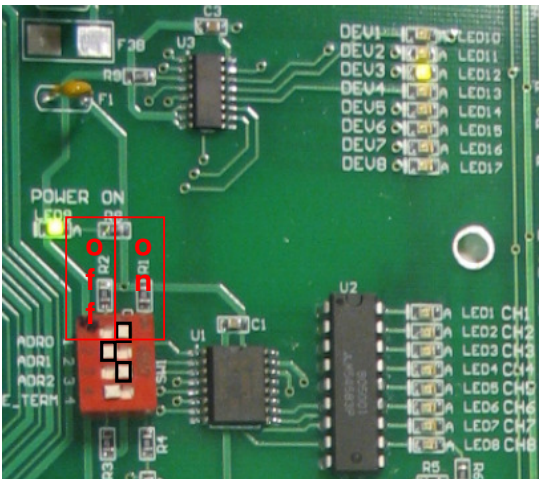
DIP switch

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 Address	1	2	3
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

i.e.



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 through 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.