General description

The PCE-1601 board is used to conditioning TTL/HC signals of the TEDIA DAQ PC card digital ports to external equipments with technological signal levels and contains eight input and eight output channels.

As standard, the input channels are designed for DC signals up to 32 V both polarities, but as an option filter capacitors can be added in order to add compatibility with AC signals with a frequency of 50 Hz.

The output channels are solved by individually isolated switching relays.

All channels work as non-inverting; the presence of the input voltage is represented by the "H" level and the "H" level at the PC card output activates the signal switch.

General instructions for use

The PCE-1601 may be used only according to the manufacturer's recommendations given in this manual or other general standards and only such a way, that its failure caused by any reason will not be dangerous to any person or property.

Installation

The PCE-1601 is designed to be placed into a free slot for expansion cards, the length of the ribbon cables requires a position adjacent to the control PC card.

The board can be used in an environment with operating temperature -10~60 °C and relative humidity up to 90%, noncondensing and normal levels of pollution.

Specifications

Digital inputs:

input voltage - level L:	< 3 V_{DC}	(= level L on the PC card signal)
input voltage - level H:	> 10 V_{DC}	(= level H on the PC card signal)
maximum input voltage:	±32 V_{DC}	(±50 V_{DC} max. 10 ms)
input impedance:	10 kOhm approx.	
signal delay:	< 0.2 ms	
isolation voltage:	1000 V_{DC}	(inputs against the PC card port)

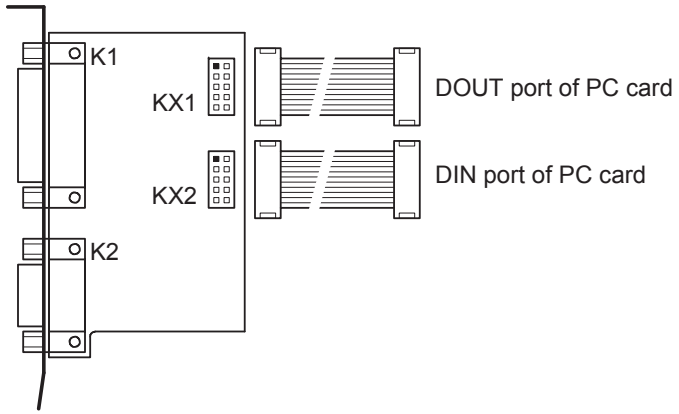
Digital outputs:

switching voltage:	30 V_{DC} max. 100 V_{AC} max.	
switching current:	500 mA max.	
signal delay:	< 5 ms	
isolation voltage:	200 V_{DC}/V_{AC} 100 V_{DC}/V_{AC}	(outputs against the PC card port) (relay contacts to each other)

General:

recommended cable length:	10 m max.	(isolated inputs/outputs)
dimensions of board:	93 x 60 mm approx.	
power supply:	5 V	(powered from PC card port)
current consumption:	400 mA max.	

Note: Values marked as "RMS" indicate the effective AC value with the frequency 50Hz.



KX1/KX2 connectors pin assigment
identical to the pin assigment of DIO port connectors (refer to the PC card manual)

K1 connector pin assigment (D-Sub 25, male), controlled by KX1 signals			
DOUT00_RL0_NO (relay contact)	C1		
DOUT00_RL0_NC (relay contact)	C2	C14	DOUT00_RL0_CM (relay contact)
DOUT01_RL1_CM (relay contact)	C3	C15	DOUT01_RL1_NO (relay contact)
DOUT02_RL2_NO (relay contact)	C4	C16	DOUT01_RL1_NC (relay contact)
DOUT02_RL2_NC (relay contact)	C5	C17	DOUT02_RL2_CM (relay contact)
DOUT03_RL3_CM (relay contact)	C6	C18	DOUT03_RL3_NO (relay contact)
DOUT04_RL4_NO (relay contact)	C7	C19	DOUT03_RL3_NC (relay contact)
DOUT04_RL4_NC (relay contact)	C8	C20	DOUT04_RL4_CM (relay contact)
DOUT05_RL5_CM (relay contact)	C9	C21	DOUT05_RL5_NO (relay contact)
DOUT06_RL6_NO (relay contact)	C10	C22	DOUT05_RL5_NC (relay contact)
DOUT06_RL6_NC (relay contact)	C11	C23	DOUT06_RL6_CM (relay contact)
DOUT07_RL7_CM (relay contact)	C12	C24	DOUT07_RL7_NO (relay contact)
- - -	C13	C25	DOUT07_RL7_NC (relay contact)

K2 connector pin assigment (D-Sub 9, male), the board generates KX2 signals			
DIN00 (input signal, channel 0)	C1		
DIN02 (input signal, channel 2)	C2	C6	DIN01 (input signal, channel 1)
DIN04 (input signal, channel 4)	C3	C7	DIN03 (input signal, channel 3)
DIN06 (input signal, channel 6)	C4	C8	DIN05 (input signal, channel 5)
I_COM0 (common signal of inputs)	C5	C9	DIN07 (input signal, channel 7)
Note: Since the inputs accepts signal of both polarities, the I_COM0 signal can be connected to GND (for "PNP" type outputs) or +24 V (for "NPN" type outputs).			

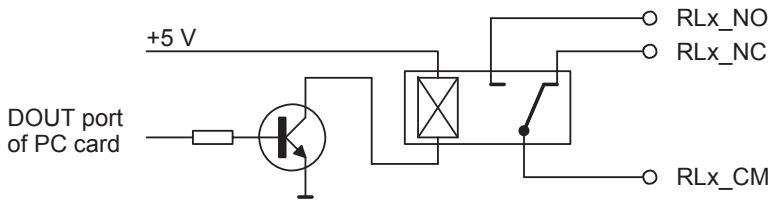


Fig. 1. Simplified schematic of relay outputs (one channel out of eight).

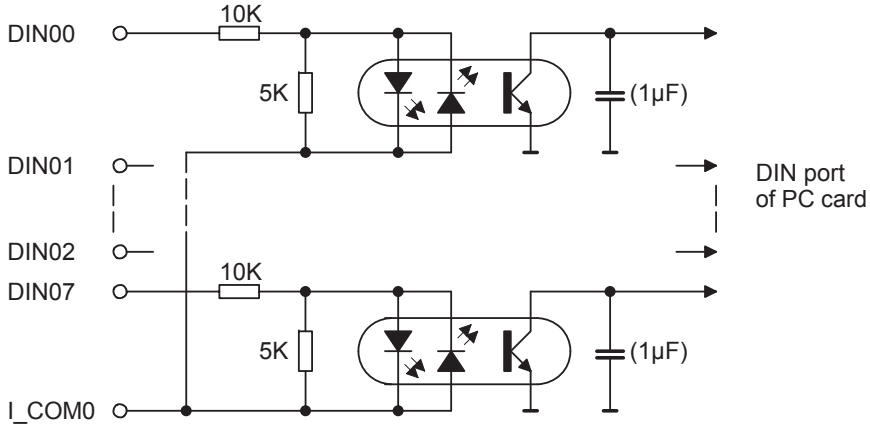


Fig. 2. Simplified schematic of isolated inputs.

Note: Capacitors of 1 µF (enable the processing of AC signals with a frequency of 50 Hz or higher) are not fitted as standard and can be added as an option.

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PCE-1601

User Guide

(further information available at http://www.tedia.eu)

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