

General description

The PCE-1602 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 semiconductor switches protected by TVS diodes against induced overvoltage and polarity reversal.

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-1602 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-1602 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:

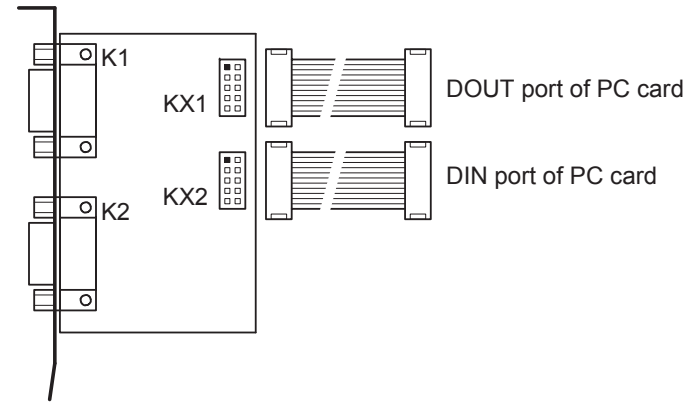
input voltage - level L:	$< 3 V_{DC}$	(= level L on the PC card signal)
input voltage - level H:	$> 10 V_{DC}$	(= level H on the PC card signal)
maximum input voltage:	$\pm 32 V_{DC}$	($\pm 50 V_{DC}$ max. 10 ms)
input impedance:	10 kOhm approx.	
signal delay:	< 0.2 ms	
isolation voltage:	$1000 V_{DC}$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

Digital outputs:

switching voltage:	$32 V_{DC}$ max.	
switching current:	500 mA max.	
switch overload:	1 A	(max. 100 ms; max. 1x in 10 s)
drop voltage:	< 1.7 V	(1.1~1.4 V typically)
signal delay:	< 0.2 ms	
isolation voltage:	$1000 V_{DC}$	(outputs against the PC card port)

General:

recommended cable length:	10 m max.	(isolated inputs/outputs)
dimensions of board:	80 x 60 mm approx.	
power supply:	5 V	(powered from PC card port)
current consumption:	60 mA max.	



KX1/KX2 connectors pin assignment

identical to the pin assignment of DIO port connectors (refer to the PC card manual)

K1 connector pin assignment (D-Sub 9, male), controlled by KX1 signals

DOUT00 (output signal, channel 0)	C1	C6	DOUT01 (output signal, channel 1)
DOUT02 (output signal, channel 2)	C2	C7	DOUT03 (output signal, channel 3)
DOUT04 (output signal, channel 4)	C3	C8	DOUT05 (output signal, channel 5)
DOUT06 (output signal, channel 6)	C4	C9	DOUT07 (output signal, channel 7)
I_PWR0 (DOUT common signal)	C5		

Note: The I_PWR0 signal is intended for the outputs supply voltage (typically +24 V).

K2 connector pin assignment (D-Sub 9, male), the board generates KX2 signals

DIN00 (input signal, channel 0)	C1	C6	DIN01 (input signal, channel 1)
DIN02 (input signal, channel 2)	C2	C7	DIN03 (input signal, channel 3)
DIN04 (input signal, channel 4)	C3	C8	DIN05 (input signal, channel 5)
DIN06 (input signal, channel 6)	C4	C9	DIN07 (input signal, channel 7)
I_COM0 (DIN common signal)	C5		

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).

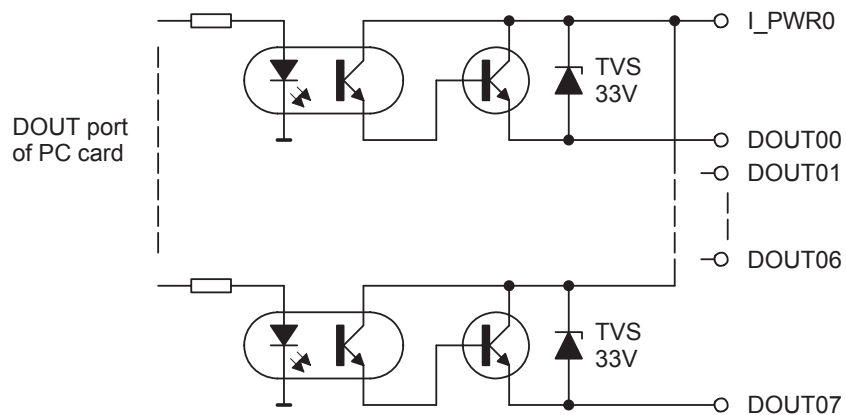


Fig. 1. Simplified schematic of isolated outputs.

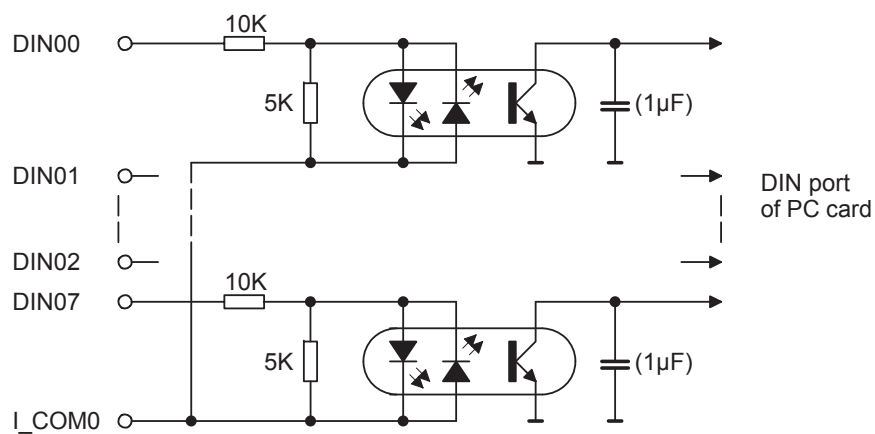


Fig. 2. Simplified schematic of isolated inputs.

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.

PCE-1602

User Guide

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

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