

General description

The OPT-851A daughter board provides optical isolation and output digital signal conditioning of the DAQ cards.

The board provides eight output blocks (isolated between each other) for switching DC signals up to 32 V. All channels work as noninverting, i.e. high level on control port activates the output switch. Every channel is fitted with an indicating LED, signaling high level on control port.

The output circuits are realized by isolated semiconductor switches protected by TVS diodes (overvoltage and polarity reversal protection).

General instructions for use

The OPT-851A board is designed for DAQ&C applications and may be used only according to the manufacturer's recommendations and precautions given in this manual and other general standards and terms and may be used only such a way, that its failure caused by any reason will not be dangerous to any person or property.

Installation

The OPT-851A board is supplied as an unencapsulated kit intended for fastening via four screws, a plastic housing DIN-801 suitable for mounting on the 35 mm DIN rail is supplied optionally.

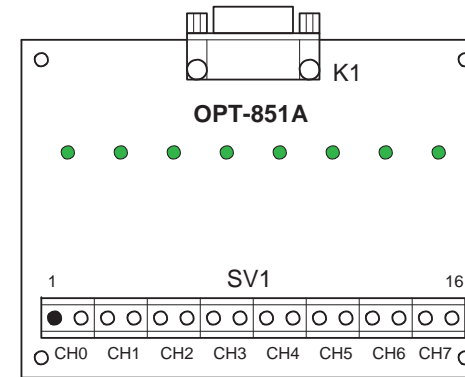
The board can be used in an environment with operating temperature -10~60 °C and relative humidity up to 90%, noncondensing and normal levels of pollution.

Specifications

switching voltage:	24 V _{DC}	(max. 32 V _{DC})
switching current (see note below):	0.5 A max.	
switch overload:	1 A	(100 ms; once every ten seconds)
drop voltage ("ON"):	< 1.2 V	(I = 0.5 A)
control voltage "L" ("OFF"):	< 0,8 V	
control voltage "H" ("ON"):	+3~6 V	
control current "H" (U _{IN} = 5 V):	8 mA	
maximum control voltage:	+10 V / -1 V	
signal delay:	< 0.5 ms	
isolation voltage (see note below):	1500 V _{AC}	(all inputs against outputs)
	100 V _{DC}	(between inputs)
power supply (see note below):	+8~30 V _{DC}	(10 mA typ., 15 mA max.)
recommended cable length:	10 m max.	(output signals)
	2 m max.	(control signals)
dimensions of board:	72 x 88 mm	
mounting hole spacing:	61.5 x 77 mm	
mounting hole diameter:	3.5 mm	

Note: When installed without airflow in the space at the bottom of the board (i.e. DIN-801 housing), the total current of all outputs is limited to 2.5 A.

Note: "AC" indicates the rms value of a 50 Hz AC harmonic signal.



K1 connector pin assignment (interface port, D-Sub 9, female)			
1	CH0 - DOUT port signal (PC card)	6	CH1 - DOUT port signal (PC card)
2	CH2 - DOUT port signal (PC card)	7	CH3 - DOUT port signal (PC card)
3	CH4 - DOUT port signal (PC card)	8	CH5 - DOUT port signal (PC card)
4	CH6 - DOUT port signal (PC card)	9	CH7 - DOUT port signal (PC card)
5	GND - common signal (PC card)		

Note: HC/HCT control signals are required, active in H level.

SV1 terminals pin assignment (digital outputs)			
1	CH0 - output signal (positive)	9	CH4 - output signal (positive)
2	CH0 - output signal (negative)	10	CH4 - output signal (negative)
3	CH1 - output signal (positive)	11	CH5 - output signal (positive)
4	CH1 - output signal (negative)	12	CH5 - output signal (negative)
5	CH2 - output signal (positive)	13	CH6 - output signal (positive)
6	CH2 - output signal (negative)	14	CH6 - output signal (negative)
7	CH3 - output signal (positive)	15	CH7 - output signal (positive)
8	CH3 - output signal (negative)	16	CH7 - output signal (negative)

Note: The schematic of the output circuits is shown in the figure Fig. 1.

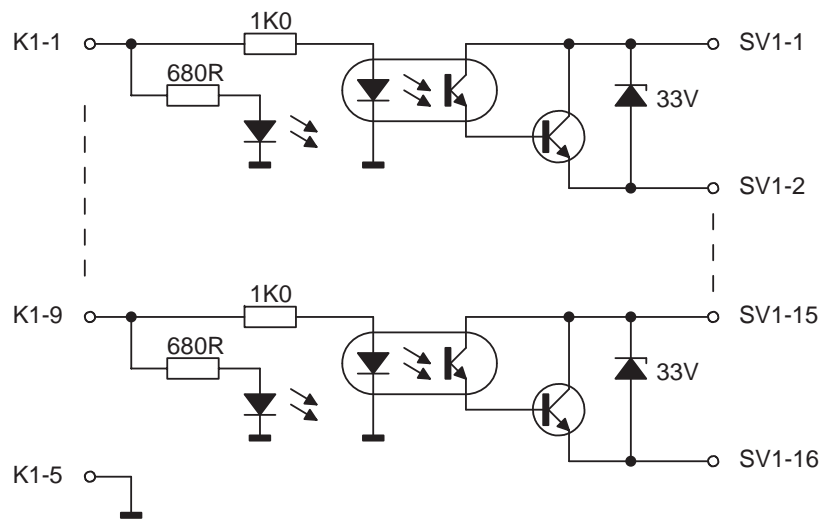


Fig. 1. Simplified schematic of OPT-851A internal circuits.

OPT-851A

User Guide

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

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