

Precision Analog Optocoupler

Function

An optocoupler is used to isolate a voltage source from the process (or experiment) by creating a optical link between the two using an LED-photodiode combination. A digital optocoupler can output only digital signals (high or low), while an analog optocoupler faithfully reproduces the input voltage into the same output voltage but now produced by an independent power source. This device provides the best isolation of the power source (typically an analog output card of a computer) from failures that occur on the experiment side (eg: voltage spikes during fast switching of magnetic fields).

The optocoupler circuit and the board is a replica of the circuit by Todd Meyrath which can be found [here](#). The original board was designed using the layout software "pcb123". Since the version is now obsolete, it has been remade by me using "Eagle" version 5.11.0. The schematic is identical with no exceptions. The board layout is similar except for minor adjustments. The complete documentation for the original circuit can be found on the above website and I am not including all the options here. The options mentioned in the documentation can be implemented by identifying the respective components in the schematic.

Optionen und Alternativen



Performance



Date

Project date: August 2011

Status



Aufwand für Nachbau:



Developer

Hrishikesh Kelkar, kelkar@iqo.uni-hannover.de

Anwender



Working principle



Circuit diagram

- The [schematic](#) in PDF-Format
- The source files can be obtained from the [Download-page](#) of wiki.



Layout

- Abmessungen der Leiterplatte:
- Versorgung:
- Eingang:
- Ausgang:
- Anzeigen:
- Der [Bestückungsdruck](#) im PDF-Format
- Die [gezippten Gerberdaten](#) für die Bestellung der Platine
- Die Source des Layouts im pcb-Format liegt auf der [Download-Seite des Wiki](#).



Housing



Test



Bedienung



Bilder

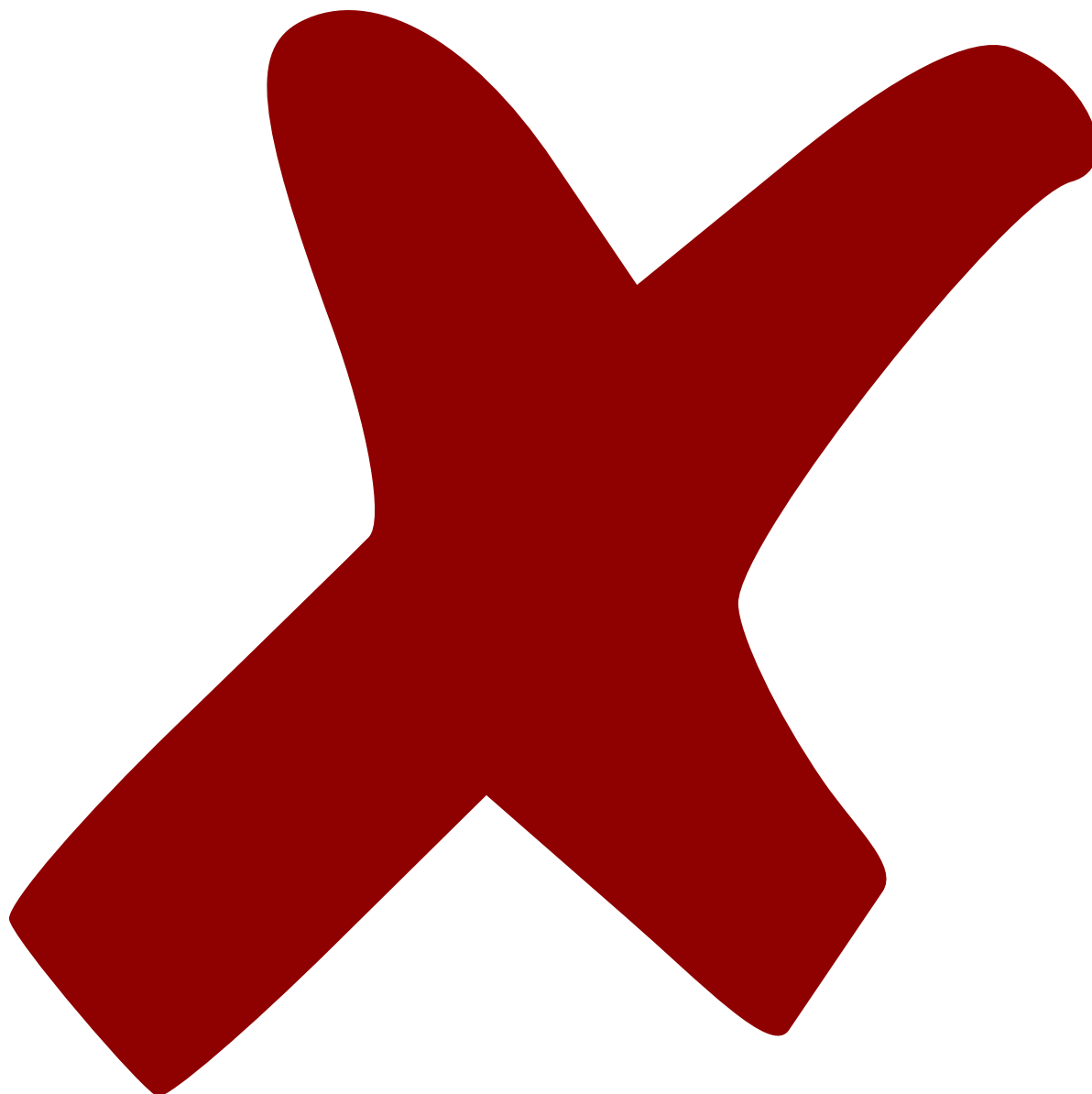
Kalkulation



was	wieviel	E-Preis	Preis	Anmerkung
Leiterplatte	1x	??.?? €	??.?? €	1/n von XXX EUR
Gehäuse	1x	??.?? €	??.?? €	
*	?x	??.?? €	??.?? €	...
R,C	??x	0.02 €	0.22 €	Bauform 0805
Bestückung		??.00 €		bei SRM
Verschnitt		?.?? €		
	Summe	??.?? €		

Meckerliste

Was für die nächste Version zu tun ist: (



: verworfen,



: in Arbeit,



Schaltplan, aber noch nicht im Layout,

: im



: erledigt)

From:
<https://elektroniq.iqo.uni-hannover.de/> - **ElektronIQ**

Permanent link:
<https://elektroniq.iqo.uni-hannover.de/doku.php?id=eigenbau:analogoptocoupler:start&rev=1313151990>

Last update: **2011/08/12 12:26**

