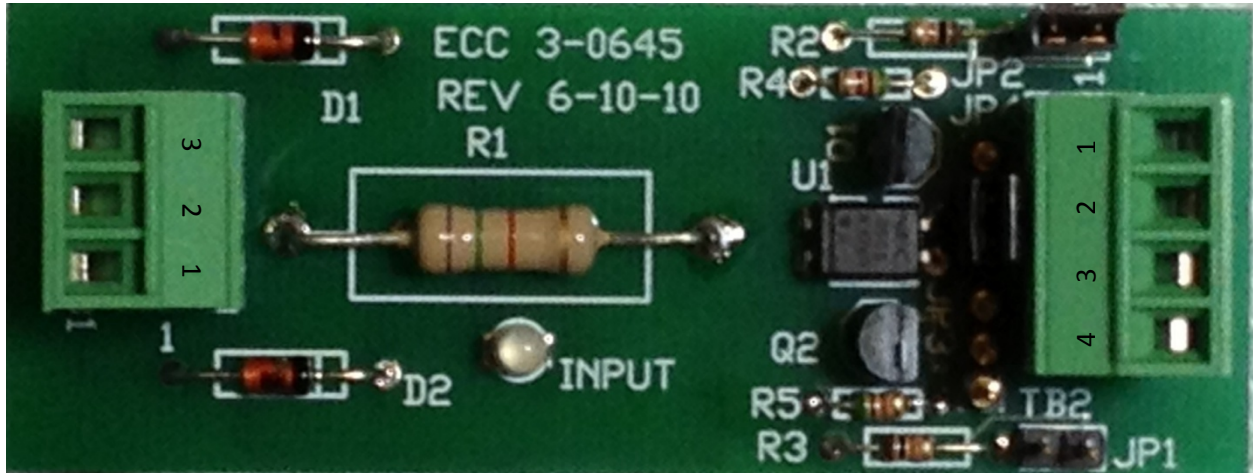


OptoIO Input/Output Circuit Board

Revision 1/23/14



The OptoIO circuit board solves many problems associated with interfacing controls:

- It can be used as a voltage translator for both AC and DC circuits.
- It provides optical isolation in electrically noisy systems.
- The output can be configured as a sourcing or sinking output.

The OptoIO is available in seven models. Each model number identifies the input voltage. The output is the same for, four models. The “F” models have filtering. The model numbers are:

- OPTOIO-5 Logic level input.
- OPTOIO-12 12 VAC/DC input. See note *1 below in configuration table.
- OPTOIO-120 120 VAC input.
- OPTOIO-240 240 VAC input.
- OPTOIOF-12 12 VAC input. See note *1 below in configuration table.
- OPTOIOF-120 120 VAC input. See note *1 below in configuration table.
- OPTOIOF-240 240 VAC input. See note *1 below in configuration table.

Model OPTOIO-5 is normally used as a driver from a logic circuit to a higher voltage/current load. The logic circuit driving the input should be capable of sourcing or sinking eight milliamps minimum.

Typical Applications:

OPTOIO-5 was used to Interface a logic circuit to a solenoid, and a relay coil.

OPTOIO-12 was used to interface a paddle wheel flow sensor requiring a sinking input to a control with sourcing inputs only.

OPTOIO-120 was used to monitor a 120 VAC, E-STOP circuit to provide an ON/OFF indication to a controller that only had low voltage DC inputs.

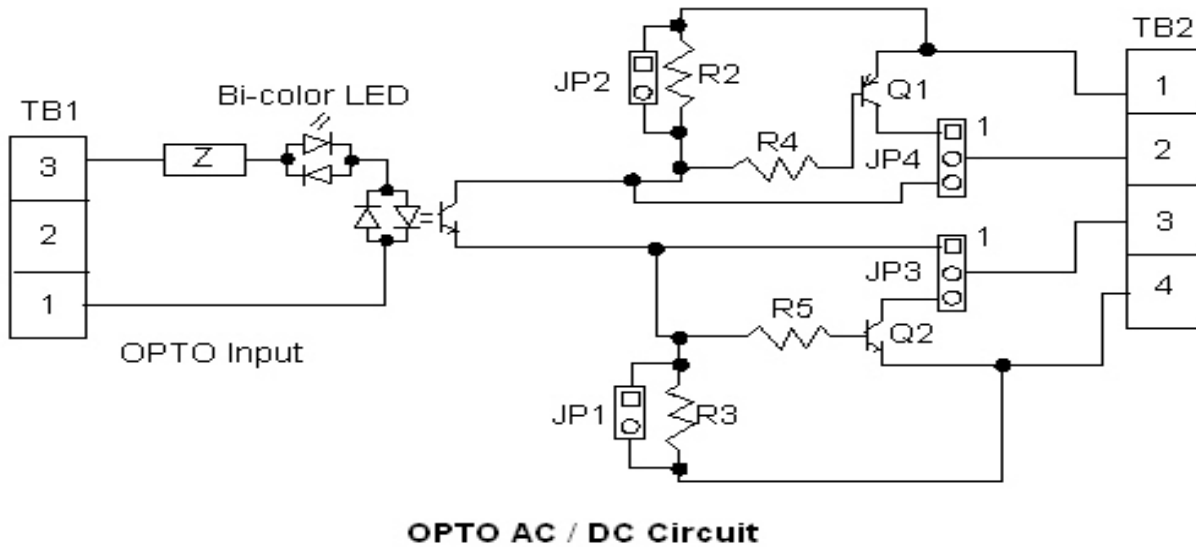
Note: If driving an inductive load, a reversed biased diode should be placed across the coil to suppress transients.

Maximum Values

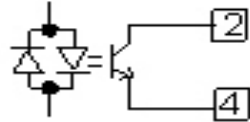
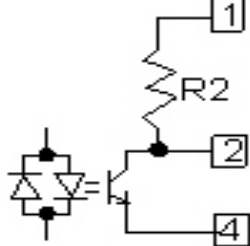
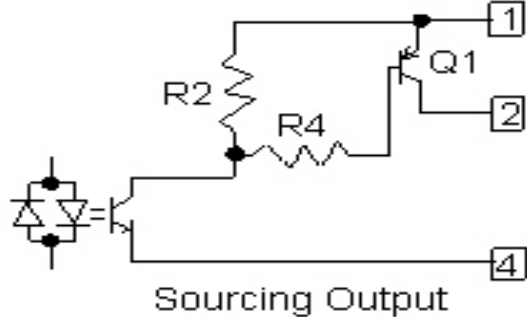
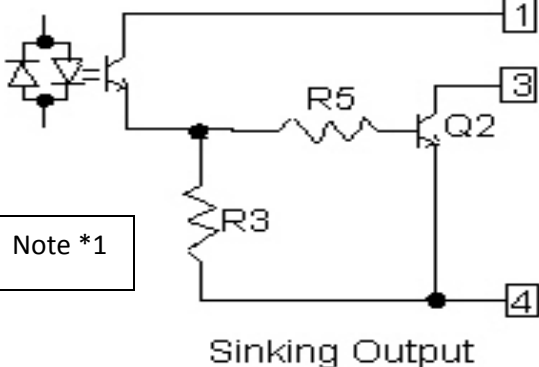
Model#	Opto Input Voltage	Supply to Output Stage	Output Current types 1 & 2 circuits	Output Current types 3 & 4 circuits
OPTOIO-5	5 – 12 VDC	40 VDC	20 MA.	200 MA.
OPTOIO-12	12 – 30 VDC 12 – 24 VAC	40 VDC	20 MA.	200 MA.
OPTOIO-120	100 VDC 90 – 150 VAC	40 VDC	20 MA.	200 MA.
OPTOIO-240	200 – 250 VAC	40 VDC	20 MA.	200 MA.
OPTOIOF-12	12 – 24 VAC	40 VDC	20 MA.	200 MA.
OPTOIOF-120	90 – 150 VAC	40 VDC	20 MA.	200 MA.
OPTOIOF-240	200 – 250 VAC	40 VDC	20 MA.	200.

Operating temperature -40 to +85°C.

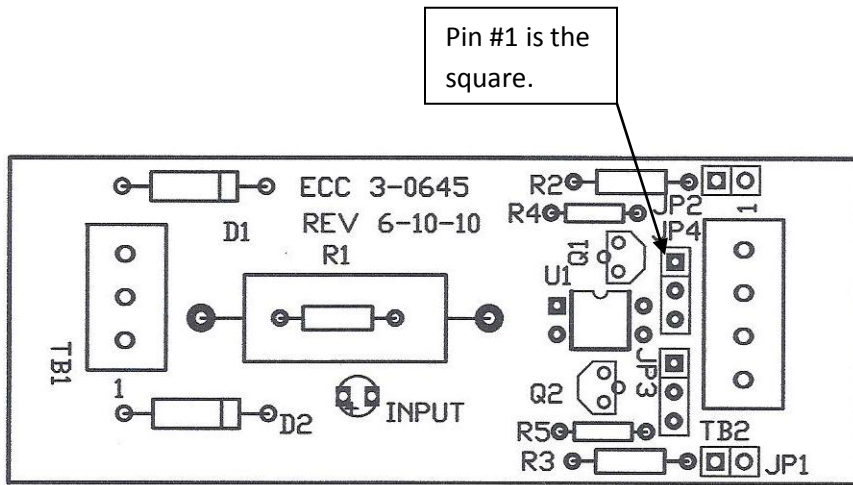
Mounting: The 1.1 x2.95 inch OPTOIO circuit board mounts in a 3.0 inch Snap Track. The Snap Track can optionally be fitted with adapter for DIN Rail mounting.



The component values for “Z” are selected based on the model number.

Type	JP1	JP2	JP3	JP4	Equivalent Circuit
1	yes	no	none	2 - 3	
2	yes	no	none	2 - 3	
3	yes	no	none	1 - 2	 <p>Sourcing Output</p>
4	no	yes	2 - 3	none	 <p>Sinking Output</p> <p>Note *1</p>

Jumper Selection Table



Circuit Board Layout.

*1. OPTOIOE models (AC only) only support the sinking output configuration.

The AC/DC models, if used for AC produces an ON/OFF output that follows the AC input (see illustration below). The output is ON for most of the AC cycle, but turns OFF as the sine wave approaches zero for each half cycle. This is easily filtered out in software or with a PLC timer. If a steady output is required, The "F" models include filtering to provide a steady output as long as the AC signal is present, but the "F" model only supports the sinking output configuration.

