Figure1 shows a schematic view of proposed opto-coupler isolation circuit. This schematic is made of one opto-coupler and one power isolation units. The power unit provides both power to the circuit and simultaneously isolate the voltages of the two sides of the communication from each other.

1. **Case 1: Differential signal – Direct logic**

For sending one differential bit through isolation channel (for example bit logic 1 of RS-485) first jumper one should be disconnected and the remaining ones should be set as it is shown on Fig 2.

1. **Case 2: differential signal- inverted logic**

Jumpers should be set similar to the previous case, but this time inputs should be reversed.

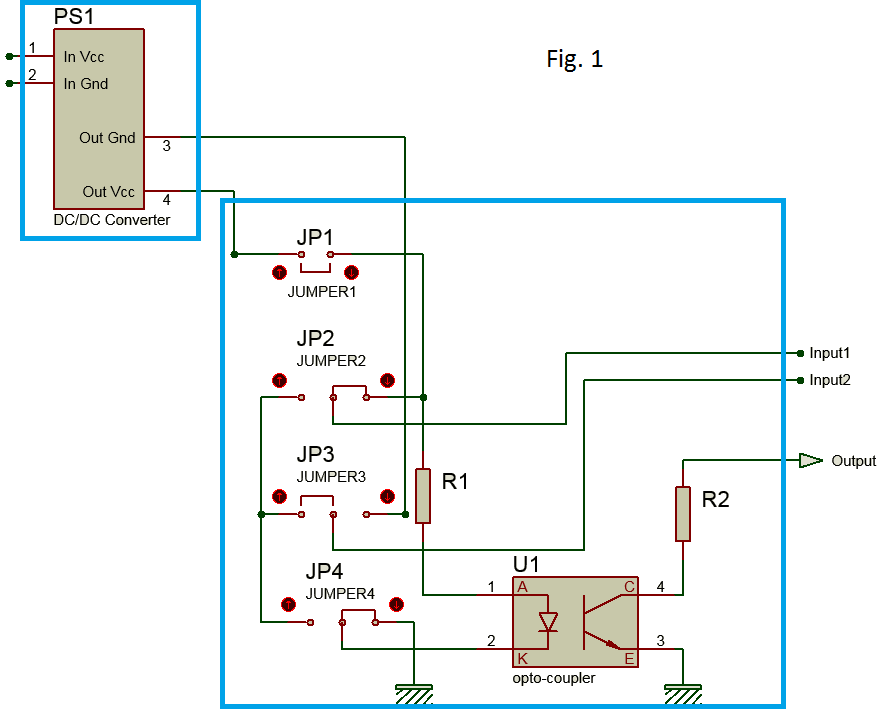
1. **Case 3: Single ended- Direct logic.**

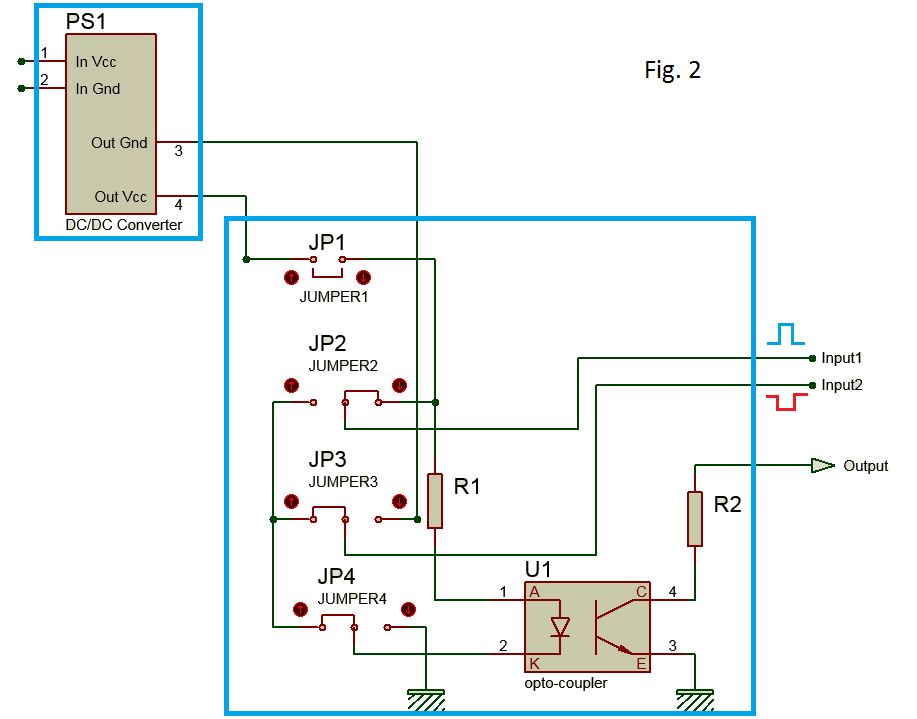
In this case when the input1 is high the output should be activated and when it falls to zero (or less) output is deactivated. Fig. 3 represents state diagram and jumper’s configuration.

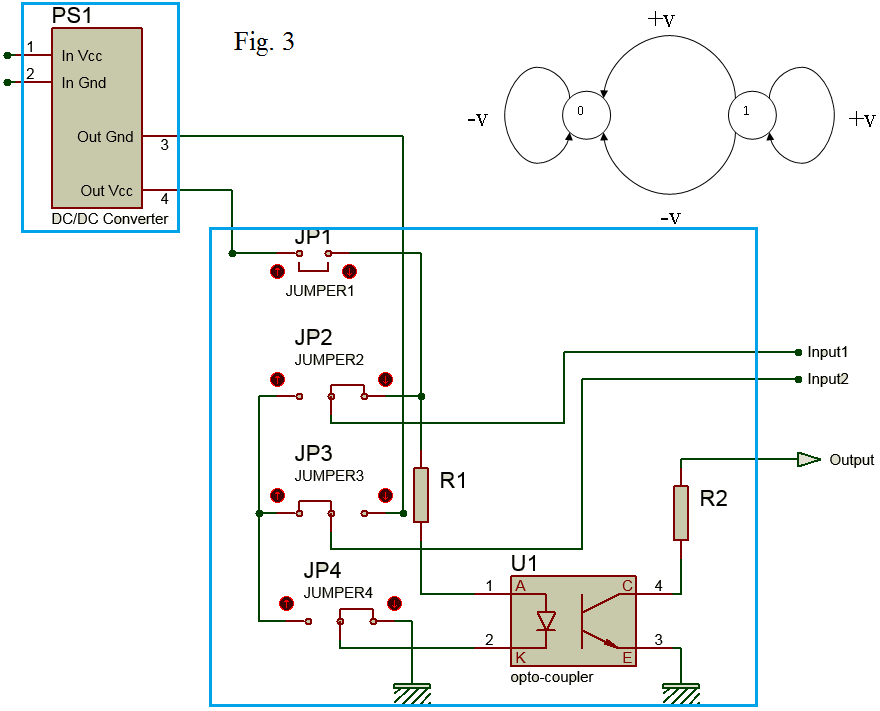
1. **Case 4: Single ended- Reversed logic.**

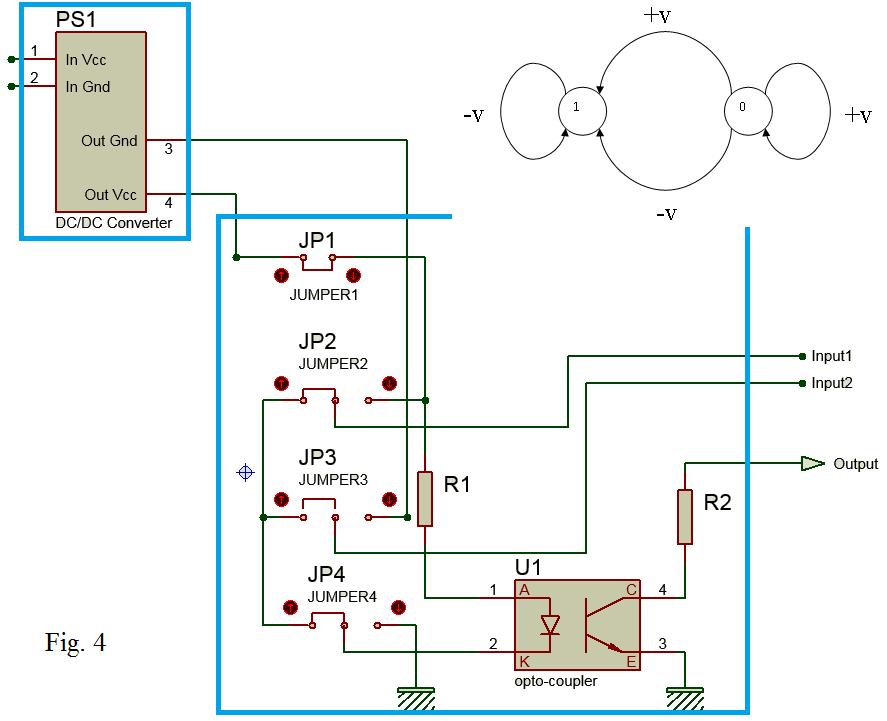
In this case when the input 1 is high the output would be deactivated and when it falls to zero (or less) output is also activated. Fig. 4 represents state diagram and jumper’s configuration.

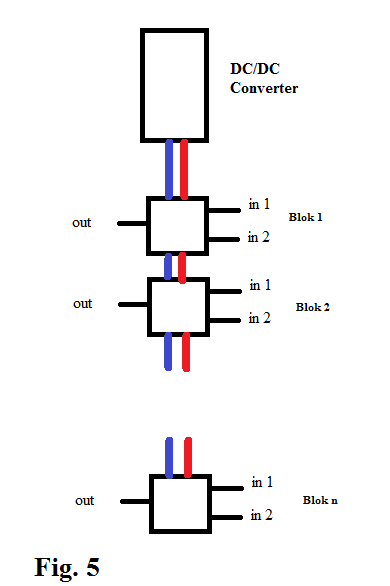
By putting a number of this optocoupler blocks, it is possible to make a general purpose isolation circuit which fits to both single ended and differential signaling. (Fig 5)

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