

Tips of Digital I/O Boards

5. Input circuit type

Input circuits for digital input/output can be divided into the following groups.

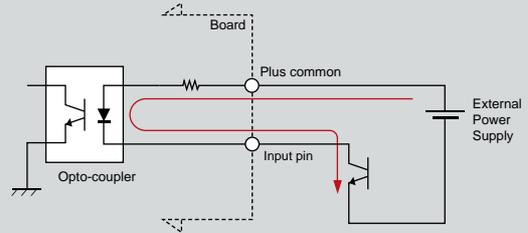
DC input

An input circuit in which transistor output and operation circuit can be connected with DC contact output circuit.

■ Opto-coupler insulation input (Sink output supported)

An input circuit in which the cathode side of a photo coupler serves as an input terminal. It inputs sink type transistor output or the output signal from a relay.

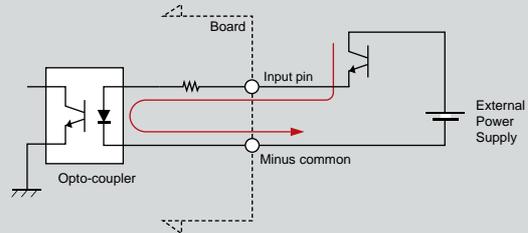
The internal logic is "ON (short): 1, OFF (open): 0". The input terminal is a source type with which the electric current flows out. It is used for the signal input from light electric appliances with a voltage of 12 to 24VDC.



■ Opto-coupler insulation input (Source output supported)

An input circuit in which the anode side of a photo coupler serves as an input terminal. It inputs source type transistor output or the output signal from a relay switch.

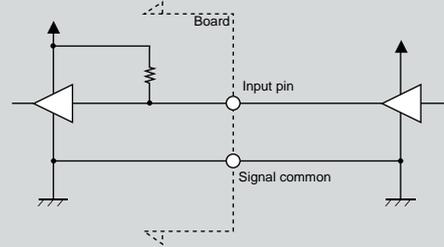
The internal logic is "ON (short): 1, OFF (open): 0". The input terminal is a sink type with which the electric current flows in. Due to its high resistance to earth fault, it is favored among European countries. It is used for the signal input from light electric appliances with a voltage of 12 to 24VDC.



■ Non-insulation TTL level input (negative logic)

An input circuit in which the transistor base serves as an input terminal and pull-up is conducted at 5VDC. The internal logic is negative at "Low: 1, High: 0".

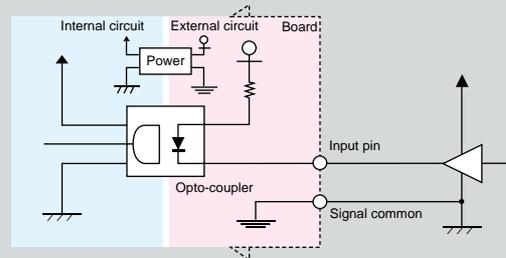
It is used for the signal input from appliances with TTL output circuit or 5VDC appliances.



■ Photo coupler insulation TTL level input (negative logic)

An input circuit in which the cathode of a photo coupler serves as an input terminal. The internal logic is negative at "Low: 1, High: 0".

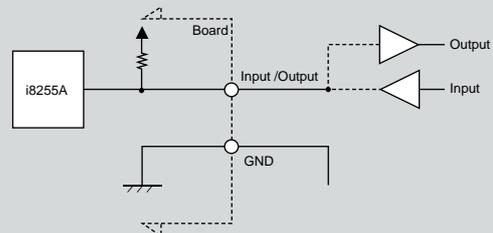
It is used with appliances with TTL output circuit or 5VDC appliances when the wiring on the operation circuit needs to be extended or when the insulation is required.



Bilateral circuit

■ Non-insulation TTL level input/output (positive logic)

An input/output circuit of i8255 PPI (or the equivalent). 5VDC pull-up type is also available. The internal logic is positive at "Low (short): 0, High (open): 1". It is used for the signal input/output with appliances with TTL input/output circuits and 5VDC appliances as well as with those requiring bilateral input/output of TTL (5VDC).



■ Non-insulation TTL level input/output with buffer (positive logic)

An input/output circuit which is pulled up at 5VDC after adding a buffer IC to i8255 PPI (or the equivalent) for enhanced drive capacity. The internal logic is positive at "Low: 0, High: 1".

It is used for the signal input/output with appliances with TTL input/output circuits and 5VDC appliances as well as with those requiring bilateral input/output of TTL (5VDC).

