

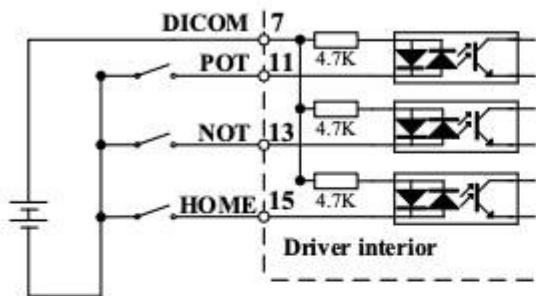
# Input / Output Circuits

## Common Input circuit

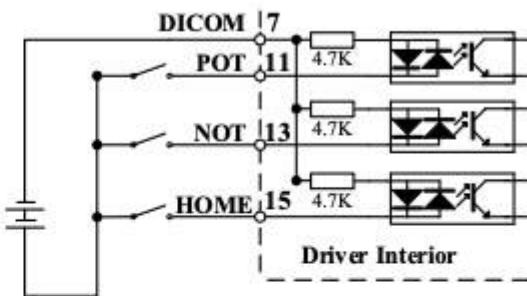
The internal circuit of common input is a bidirectional optocoupler which supports common anode and common cathode configurations. There are 2 types of outputs from master device: Relay output and Open Collector output as shown below.

### ① Output from master device: Relay

Common anode:

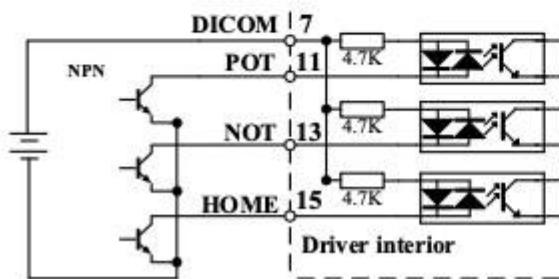


Common cathode:

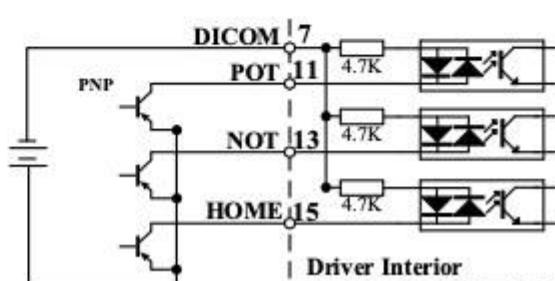


### ② Output from master device: Open Collector

NPN configuration:



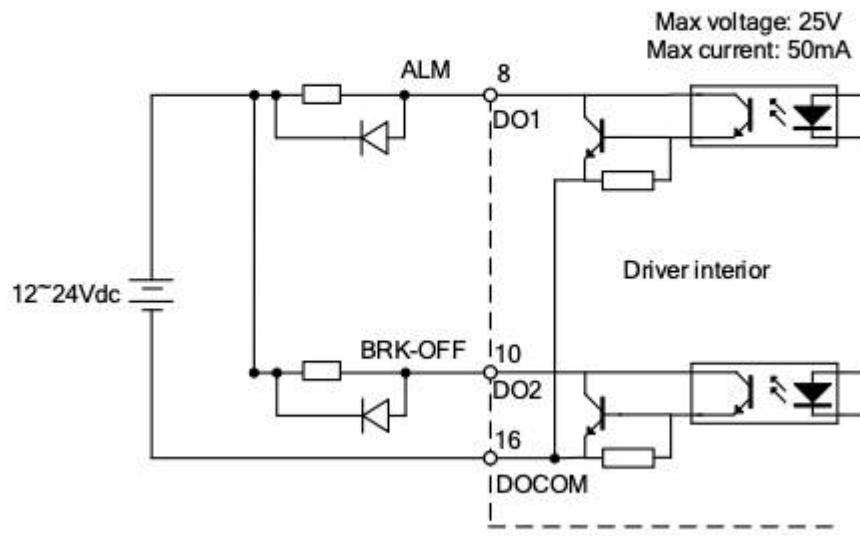
PNP configuration:



## Common output circuit

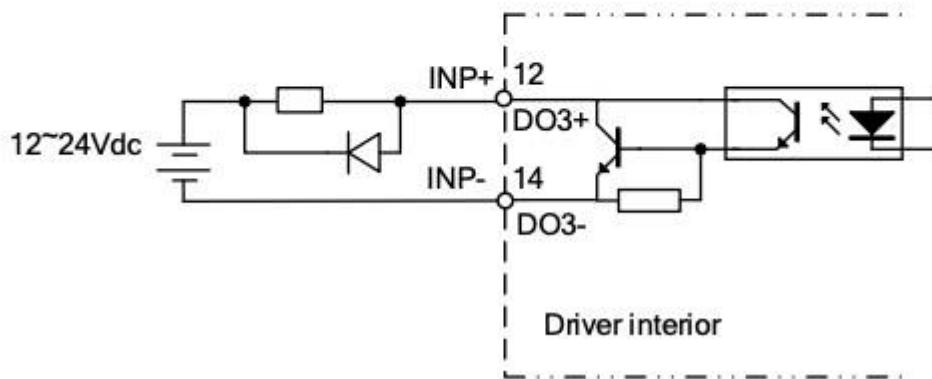
There are 3 common outputs: DO1 and DO2 are single-ended, sharing a common power supply ground terminal; DO3+/DO3- is double-ended, having an isolated 24v power supply.

## Single-ended DO1 & DO2



Please install flyback diodes (as shown in diagram above) if the output is through a relay or other inductive load to prevent damage to DO ports.

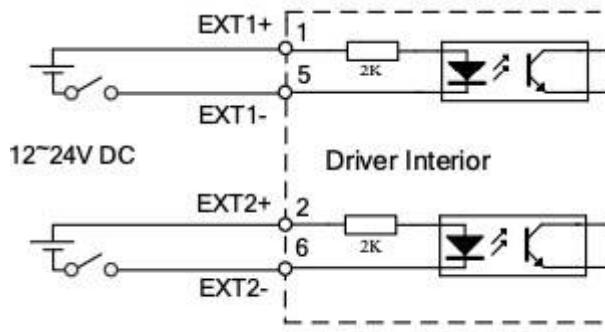
## Double-ended DO3+ & DO3-



- Power supply is provided by user. Please be aware that reversed power supply polarity might cause damage to the driver.
- When it is an open collector output, max current: 50mA, max supplying voltage: 25V. Please ensure the switching power supply fulfills the conditions.
- if the load is an inductive load such as a relay, please connect a flyback diode in parallel in reverse. A wrong installation of the flyback diode might cause damage to the driver.

## Probe input circuit

The internal circuit of probe input is a unidirectional optocoupler. Please be aware of the polarity of the terminal when connecting the cables.



## Digital input signal function configuration

CN1 Pin	Signal	Parameter	Default function	Factory default		
				Set Value	Polarity	Status
9	DI1	Pr4.00	User defined function	0x0	NO	OFF
11	DI2	Pr4.01	Positive limit switch (POT)	0x1	NO	OFF
13	DI3	Pr4.02	Negative limit switch (NOT)	0x2	NO	OFF
15	DI4	Pr4.03	Home switch (HOME)	0x16	NO	OFF

**\*\*NO: Normally Open**

When limit switch or emergency stop is used, POT, NOT and E-STOP signal will be normally close (NC) by default. Please make sure there is no safety concern if these signals need to be set to normally open (NO).

From:  
<https://dokewiki.nilab.at/> - **NiLAB GmbH**  
**Knowledgebase**

Permanent link:  
[https://dokewiki.nilab.at/doku.php?id=nl7\\_servo:io\\_circuits](https://dokewiki.nilab.at/doku.php?id=nl7_servo:io_circuits)



Last update: **2024/03/14 06:08**