

# カメラI/O端子資料

## Connector Pin Assignment

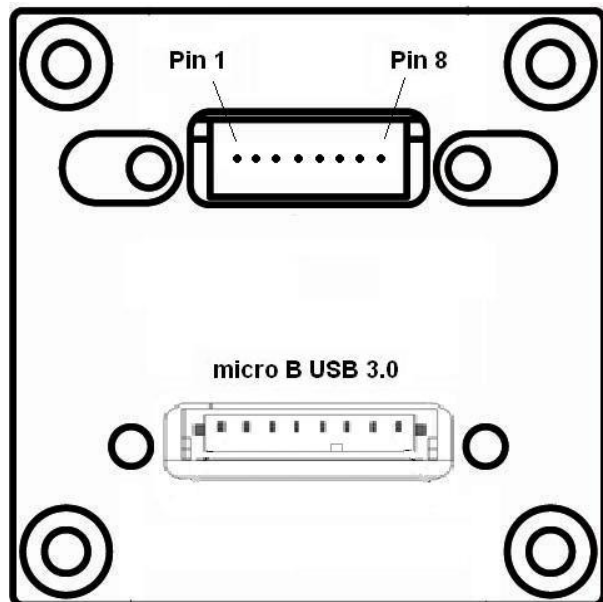


Figure 3: Camera rear view with AUX pin order (left) and trigger cable (right)

## Auxiliary I/O Connector

The camera has an 8pin connector to connect digital IO

Table 4: Auxiliary I/O Connector pin assignment

Pin No.	I/O	Signal	Function
1	I	LINE 0	Trigger Input
2	I	LINE 0 GND	Trigger Input GND
3	O	LINE 1	Strobe 1 Output
4	O	LINE 1 GND	Strobe 1 Output GND
5	I/O	GPIO 1	(optional)
6	I/O	GPIO 2	(optional)
7	I/O	GPIO 3	(optional)
8	-	GND	Power GND

## I/O Specification

### **Digital IO interfaces**

Digital IO's of the 3iCube Camera are electrically decoupled by opto couplers to prevent damage or unwanted interference by ground loops or block voltage spikes. An opto coupler is a device using optical path to transfer an electronic signal between two circuits. It consists of a photodiode converting the input signal to light and a phototransistor converting the light again to electronic signal. 3iCube cameras provide 1 digital input and 1 digital output that way.

### **Digital Data Input**

The digital input (Line0) can be used for trigger applications or other synchronization tasks for 3iCube cameras. An external signal level from 0~0.5V is interpreted as **Low**, a level from 3.3~24V is interpreted as **High**.

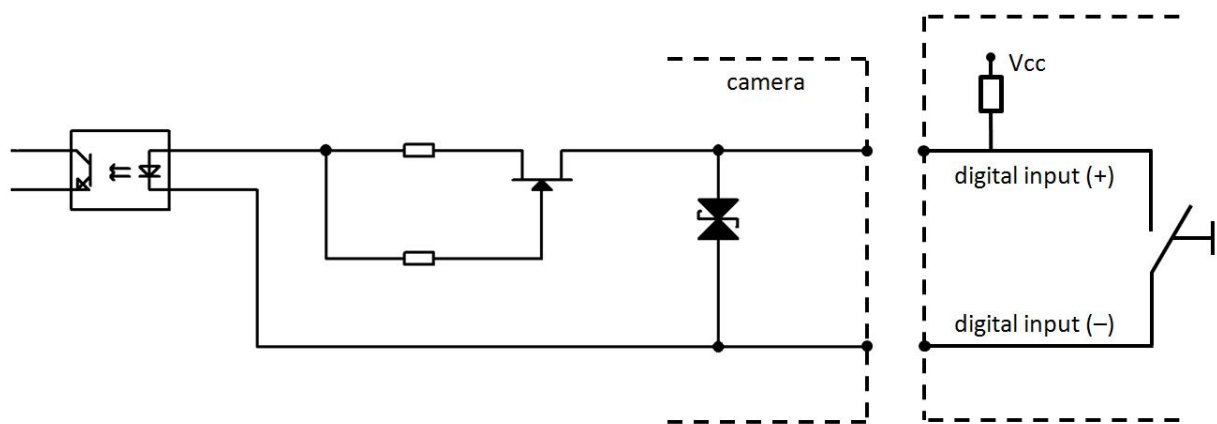


Figure 4: Digital Data Input

Table 5: Digital Input Characteristics

Parameter	Value
Operating voltage	0-24 V
Input current	7.5 mA
External resistor requirement	No
ON voltage level	> 3.3 V
OFF voltage level	< 0.5 V
OFF to ON delay	< 4 $\mu$ s
ON to OFF delay	< 40 $\mu$ s

**Note:**

For external trigger application a rising/falling edge signal is recommended to minimize the time it takes for the opto-coupler to change state.

**Digital Data Output**

The digital outputs (Line1/2) can be used for strobe applications or to control other external devices.

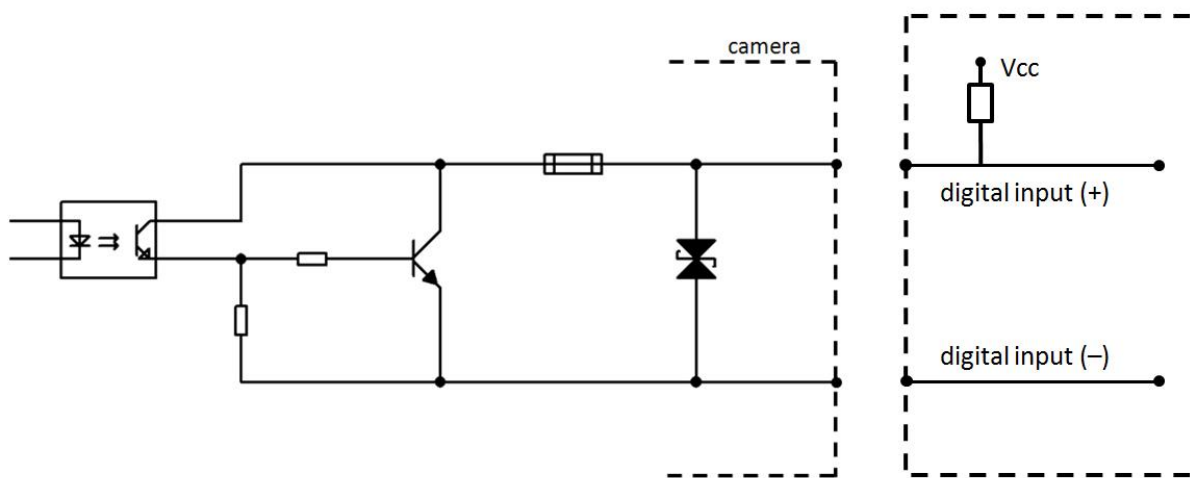


Figure 5: Digital Data Output

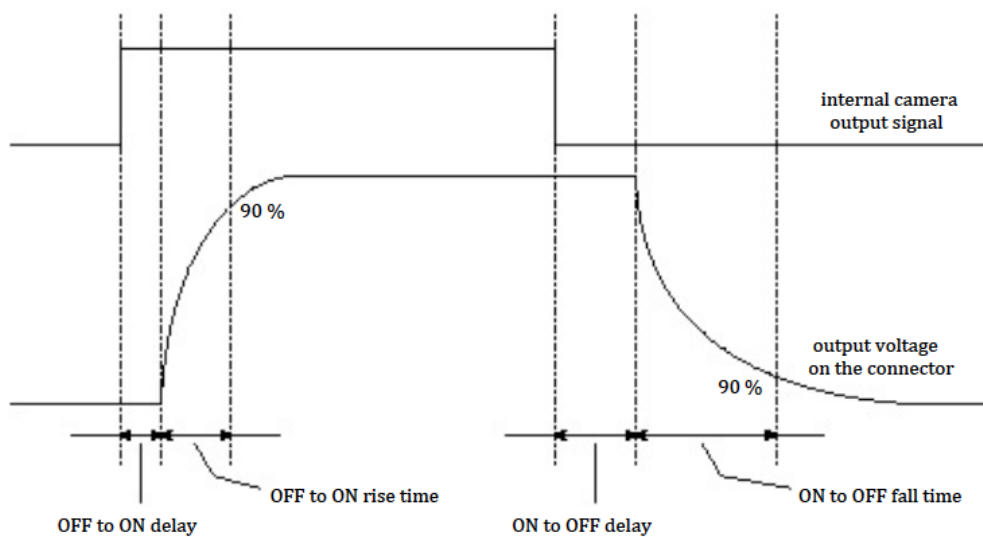


Figure 6: Digital Output Timing Diagram

Parameter	Value
Operating voltage	3.3—24 V
Output current	100 mA
External resistor requirement	Yes
Slew rate rising	0.2V/ $\mu$ s
Slew rate falling	2.0V/ $\mu$ s
OFF to ON delay	30 $\mu$ s
ON to OFF delay	3 $\mu$ s

**Table 6: Digital Output Characteristics**

**Note:**

An external strobe application should use the falling edge of the camera output signal to minimize the overall strobe delay.

**GPIO Specification (optional):**

- Low level    -0.3V to +0.8V
- High level    2.1V to 3.6V

**Note:**

Internal 100 Ohm resistor prevents damage through short circuit on the GPIO ports.