

UC300 module pinouts documentation

The module has 3 dual row pins on 3 sides of the panel. The left side rows pins are marked with an „L” prefix. The top (up) side row pins are marked with a „U” prefix. The right side pins are marked with a „R” prefix. On all 3 sides pins counts from 1 to 40.

All pins are unidirectional which means they have a predefined signal direction. Some pins are inputs and others are outputs. The direction of the pins are hard wired and cannot be changed.

There are some special dedicated function pins which are listed and described in the following table.

| Pin marking | Pin direction | Description of function |
|-------------|----------------|--|
| L1 | Power input | 5Volts input for the internal 3.3V Voltage regulator. This pin powers the whole device and the input can be driven from the USB 5V (from L2 pin) or from an external Voltage source. |
| L2 | Power output | 5Volts output from the USB connector. This pin can power external devices with 5V. If L2 is wired to L1 pin of the module then the device gets it's power directly from the USB port. |
| L3 – L4 | Ground | Common ground pin of the device. |
| L5 | Special input | Connect a resistor between L5 and Ground. The value of this resistor is used by the UC300 module to identify the type of breadboard connected to the UC300. In total 128 type of breakout boards can be identified using 128 different value of resistors. Different plugins and firmwares can be used for different type of breakout boards. The value of resistor to be used can be discussed later. |
| L6-L31 | Digital input | Standard digital inputs with 0/3.3V levels. |
| L32-L40 | Digital output | Standard digital outputs with 0/3.3V levels. |
| U1-U4 | Ground | Common ground pin of the device. |
| U5-U36 | Digital output | Standard digital outputs with 0/3.3V levels. |
| U37-U40 | Ground | Common ground pin of the device. |
| R1-28 | Digital input | Standard digital inputs with 0/3.3V levels. Note: On pins R2 and R3 internal pullup resistors cannot be programmed, for these pins an external pullup or pulldown resistor should be used to not |

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| | | leave the pin floating when unpowered. Or these pins can be switched off in firmware if not used for a type of breakout board. |
| R29 | PWM output | PWM1 output, this pin is a dedicated high speed PWM output, can be used for analog output with filtering. Voltage levels 0/3.3V |
| R30 | Analog input | Analog1 input, this pin is a dedicated analog input pin. Can be used to connect potentiometers or external analog Voltage to control FRO, Feedrate etc. in the plugin. The input Voltage range is 0-3.3V |
| R31 | PWM output | PWM2 output, this pin is a dedicated high speed PWM output, can be used for analog output with filtering. Voltage levels 0/3.3V |
| R32 | Analog input | Analog2 input, this pin is a dedicated analog input pin. Can be used to connect potentiometers or external analog Voltage to control FRO, Feedrate etc. in the plugin. The input Voltage range is 0-3.3V |
| R33 | PWM output | PWM3 output, this pin is a dedicated high speed PWM output, can be used for analog output with filtering. Voltage levels 0/3.3V |
| R34 | PWM output | PWM4 output, this pin is a dedicated high speed PWM output, can be used for analog output with filtering. Voltage levels 0/3.3V |
| R35 | Analog input | Analog3 input, this pin is a dedicated analog input pin. Can be used to connect potentiometers or external analog Voltage to control FRO, Feedrate etc. in the plugin. The input Voltage range is 0-3.3V |
| R36 | Analog input | Analog4 input, this pin is a dedicated analog input pin. Can be used to connect potentiometers or external analog Voltage to control FRO, Feedrate etc. in the plugin. The input Voltage range is 0-3.3V |
| R37-R48 | Ground | Common ground pin of the device. |
| R39-R40 | Power output | 3.3Volts regulator output. Can be used to power external devices with 3.3Volts. |

Notes:

1.) The ground pins are connected all together internally, there is no need to connect all grounds on the external board.