Pi Cubes Universal Outputs Module Manual

Pi Cubes Universal Outputs Module provides easy way to add universal outputs to you modular Pi Cubes system.

It provides analog/digital output variations to accommodate 12VDC relays and different type of devices with analog 0-10V Input, as well there is PWM function to be used with Solid State Relays and electric heaters.
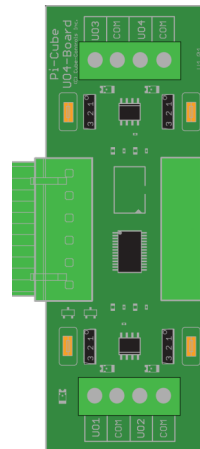
There is possible to connect up to six I/O modules in any possible combinations.

Features

Pi Cubes Universal Outputs Module is providing four universal outputs.

Main features are :

- Four Universal outputs , selectable for 0-10V analog modulation output or 0V/12VDC digital output with maximum load of 80mA per output.
- PWM Output with 2sec up to 255 sec. period for the Solid State Relays and electrical heaters.
- Internal overload protection on each output.
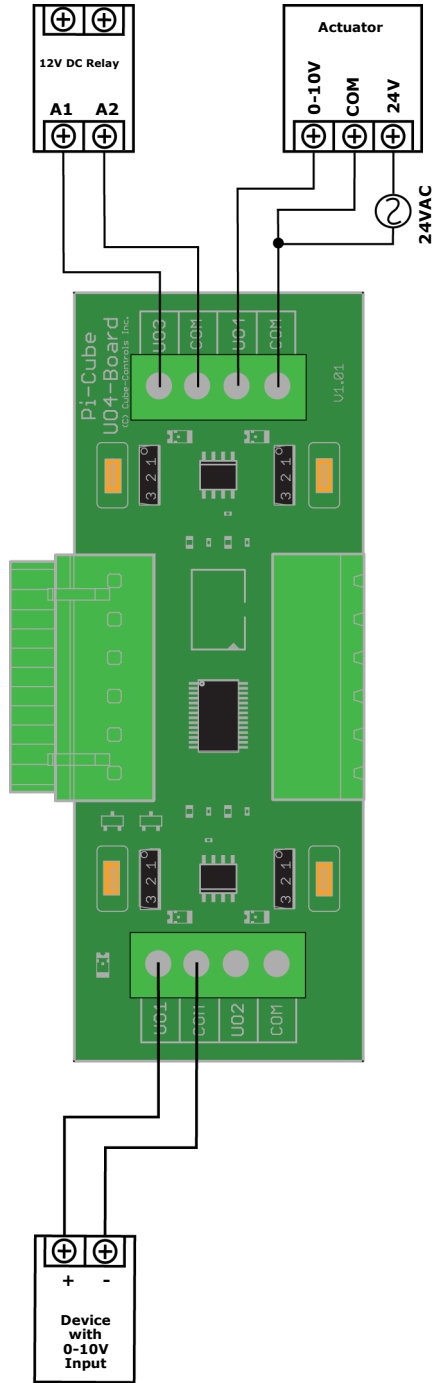- Module Status LED, Flashing on power up and solid when module communication is

Technical Specifications

Power consumption:	20mA on 5VDC Power/320mA on 15VDC Power
D/A Convertor:	8 bit PWM D/A Convertor
MCU :	Cypress PSoC4 CY8C4125
Maximum Output Load :	Maximum 80mA per Output
PWM Output Period:	2 to 255 seconds
Digital Outputs:	Digital Output with built in snubbing diode.
Dimension:	W 38mm (1.5") x H 101 mm (4") x D 25mm (1")
Mounting:	Modified Tyco PVC PCB Track
Operating Parameters:	0ºC(32ºF) to 50ºC (122ºF) : 0-90% RH Non Condensing
CC Part Number:	CC-PI-CUBES-UO4

Connections and Wiring

Universal Output as Digital 0/12VDC Output

12V DC Relay

A1   A2

Actuator

0-10V   COM   24V

24VAC

Universal Output as 0-10V Modulation to Analog Actuator

Pi-Cube
UO4-Board
(C) Cube-Controls Inc.

V1.01

UO3   COM   UO1   COM

3 2 1   3 2 1

3 2 1   3 2 1

UO1   COM   UO2   COM

+   -

Device with 0-10V Input

Pi-Cubes Installation Terms & Conditions

Pi-Cubes is FCC 15/ICES-003 Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures:

- **Use all grounded shield cables.**
- **Install Pi-Cubes Main Board in to grounded control panel.**
- **Use adequate Ferrites on the cables if needed.**

Pi-Cubes will be subassemblies of your final product and you have full and exclusive responsibility to assure safety and compliance of your product based on the Pi-Cubes with all Federal, State and local regulatory requirements and other applicable regulatory requirements.

NO LIABILITY

TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW, CUBE-CONTROLS INC., SHALL NOT BE LIABLE TO YOU, OR ANY THIRD PARTY, FOR ANY INDIRECT, EXEMPLARY, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND ARISING IN ANY WAY OUT OF USE OF THE PRODUCTS, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, REVENUES OR DATA, OR COSTS OF REPLACEMENT GOODS, EVEN IF CUBE-CONTROLS INC. HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING THE FAILURE OF ANY LIMITED REMEDY OF ITS ESSENTIAL PURPOSE.

Limited Product Warranty

We warrant Cube-Controls Products will be free from manufacturing defects for a period of thirty (30) days following the date of delivery to you. We will replace, repair or credit you for any confirmed defective product at our option. Please contact info@cube-controls.com with any issues.