

## 1 General Description

AEMICS Pyglet boards are MicroPython modules perfect for controlling embedded devices. The Pyglet is based on the STM32G473 microprocessor making the module very capable.

Python is a programming language developed for easy-to-read code and has access to advanced data structures. This makes programming of clear user applications possible. The board is provided with a micropython kernel ([www.micropython.org](http://www.micropython.org)), this is a python variant optimised for embedded devices.

A new python application can be transferred to the board in two different ways. Via the USB mass storage device or by writing it to the internal flash memory. Besides, the Python REPL (read-evaluate-print loop) via USB serial communication is available for testing purposes.

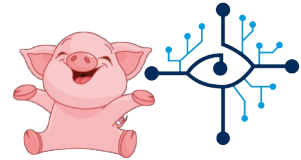
Power can be provided via break-out pins or USB. The wide input-range of the external power supply is 4.2 – 10 Volt.

Hardware drivers and features are available right now! Make use of the hardware and software examples to design your own devices quick and easy. (Coming soon)

Micropython kernel and Python examples are available on github<sup>1</sup>. Manuals, tutorials and schematics are available on the AEMICS website<sup>2</sup>.

1) <https://github.com/orgs/AEMICS>

2) <https://www.aemics.nl/en/pyg-boards/>



## 2 Features

- STM32G473 microprocessor with
  - 32 bit ARM Cortex-M4 CPU with floating-point unit. 213 DMIPS and DSP instructions.
- Memory
  - 96 KB internal SRAM
  - 1 MB interne Flash memory for MicroPython kernel and application
- Communication interfaces available at breakout pins: Quad SPI, SPI, I2C, USB, PWM, SAI (Serial Audio Interface)
- Input/Output pins of which many 5 Volt tolerant
- Red LED
- User definable switch
- Analog functions
  - 5 x 12-bit Analog/Digital converter
  - 7 x 12-bit Digital/Analog converter
  - 7 Comparators
- USB interface
  - Serial connection for REPL
  - Mass storage device with access to internal flash
  - DFU bootloader for updating  $\mu$ Python firmware
- Power
  - Suitable for external power (4.2 – 10 Volt)
  - Power via microUSB connector
  - 3.3 Volt power output for break-out board (max. 500mA)
- Clock sources
  - External 32 MHz crystal for accurate timing (Optional)
  - External 32.768 KHz crystal for low-power real-time clock (Optional)