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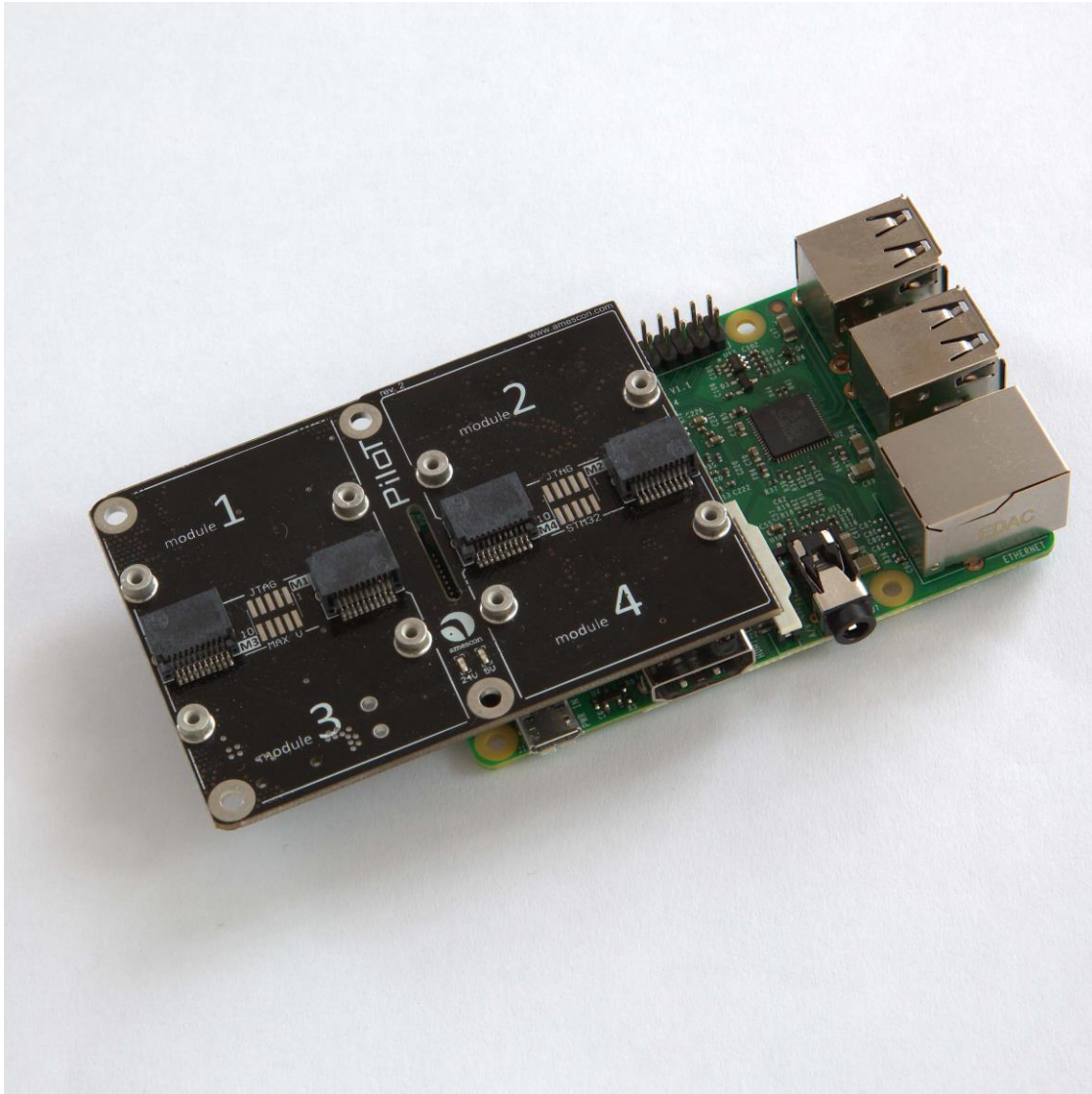# **PiloT** Mainboard for Raspberry Pi and other compatible Mini PC Platforms

Features

- Upgrades the Raspberry Pi to a powerful automation platform
- Compatible to Raspberry Pi A/B/B+ and Raspberry Pi 2 and 3
- Slots for up to 4 PiloT extension modules with a wide variety of features (digital and analog I/Os, serial ports, sensors, relays, valves, GSM, GPS,···)
- 32 bit ARM microcontroller for real-time operation and PLC features

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- Altera CPLD for dynamic wiring and ultra-fast logic
- Real-time clock (backup battery not included, CR1025 battery required for RTC)
- Open Source Software and full driver support for Raspbian
- Ideal for powerful industrial and home automation projects and OEM products

Technical Specifications

- 4 PiloT Module Slots with mounting holes (M2, screws included)
- Size: 80mm x 56.5mm (3.15 in x 2.22 in)
- Power supply: Pi Powered, 5V or 24V depending on version
- ARM STM32F103 or STM32F405 microcontroller at 72MHz or 168MHz depending on version
- Power Consumption: ~50mA max. Modules may require additional power

Setup

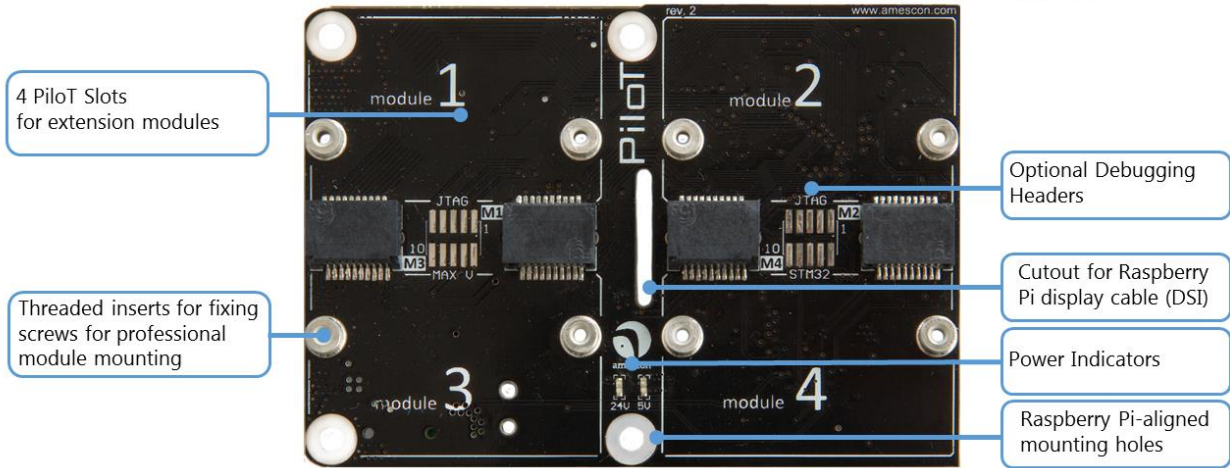Run the following command from the Raspberry Pi Console to setup the driver:

```
wget http://downloads.amescon.com/pilotsetup.sh && chmod +x ./pilotsetup.sh
&& sudo ./pilotsetup.sh
```
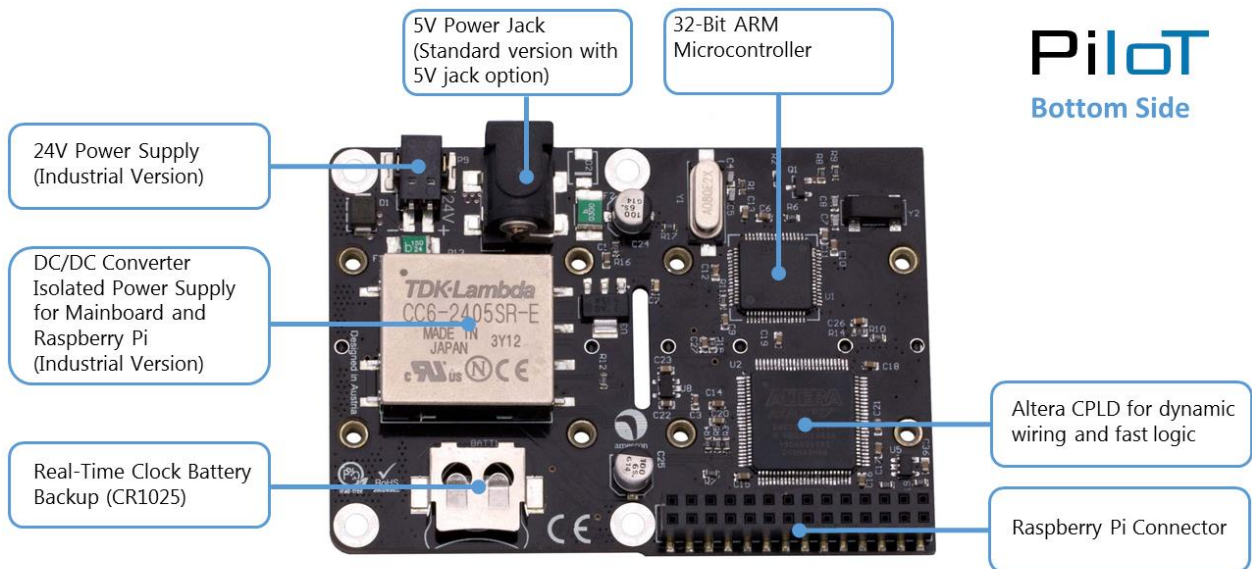
For a getting started tutorial visit http://www.amescon.com/tutorials/pilot-getting-started

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Onboard Connectors and Functions

PiloT
Top Side

4 PiloT Slots
for extension modules

Threaded inserts for fixing
screws for professional
module mounting

Optional Debugging
Headers

Cutout for Raspberry
Pi display cable (DSI)

Power Indicators

Raspberry Pi-aligned
mounting holes

PiloT
Bottom Side

5V Power Jack
(Standard version with
5V jack option)

32-Bit ARM
Microcontroller

24V Power Supply
(Industrial Version)

DC/DC Converter
Isolated Power Supply
for Mainboard and
Raspberry Pi
(Industrial Version)

Real-Time Clock Battery
Backup (CR1025)

Altera CPLD for dynamic
wiring and fast logic

Raspberry Pi Connector
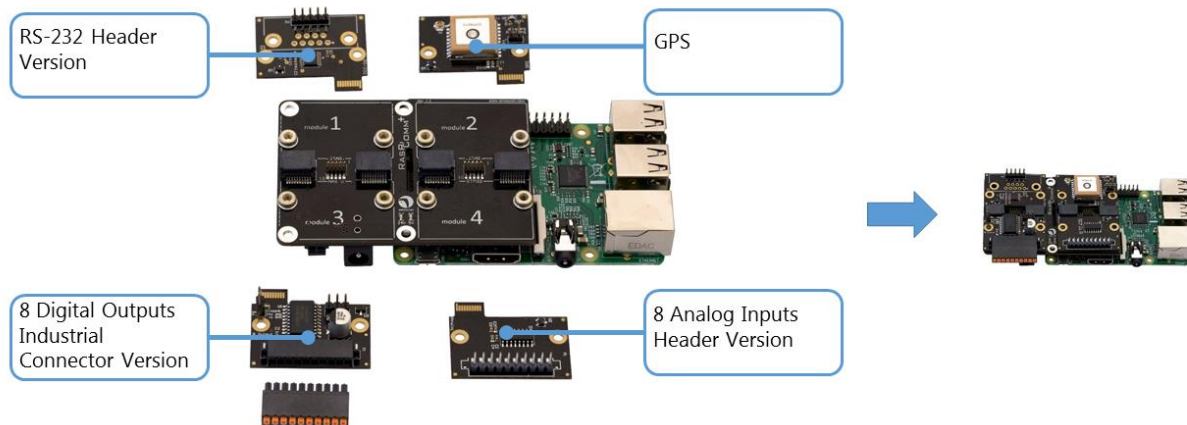
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Available modules

- 8 Digital Inputs
- 8 Digital Outputs
- 8 Analog Inputs
- RS-232
- RS-485
- Profibus
- GSM (SMS, GRPS data)
- GPS
- 1-Wire
- 9-Axis Sensor (gyro, accelerometer, magnetometer)
- Sharp Memory LCD
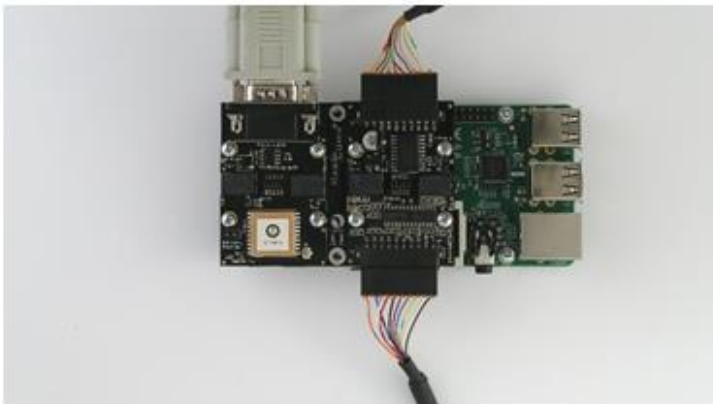
More modules are in development

Configuration example

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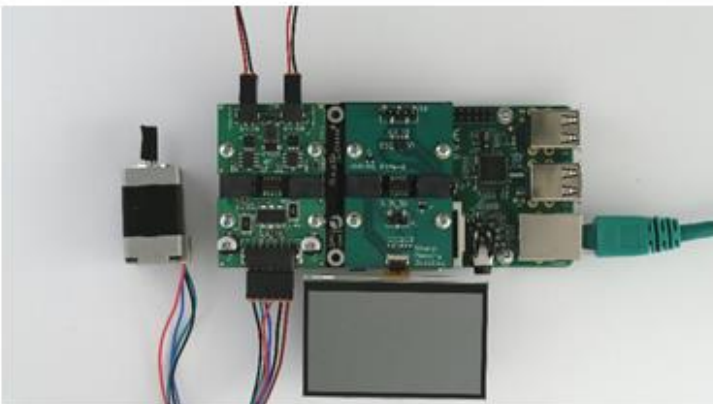# More configuration examples

Modules
1. RS-485
2. GPS
3. RS-232
4. 1-Wire

Modules
1. RS-485
2. 8 Outputs
3. GPS
4. 8 Inputs

Modules
1. 1-Wire
2. 9-Axis Sensor
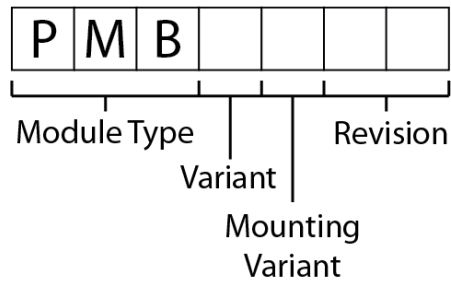3. Stepper Motor
4. LCD Display

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Tutorials

We have a list of tutorials for many different applications online, including remote-control through a web-interface and SMS notifications.
Please visit **www.amescon.com/tutorials** and get started!

Product Reference Guide (SKUs)

Variant

C	Commercial
I	Industrial

Mounting Variant

0	Power supply through Raspberry Pi
1	Onboard 5V Power Supply
2	Onboard 24V DC/DC Converter

Revision

01	First official revision (PCB rev 1.2)

Available PCB Variants

Variant	Mounting Variant	Revision	Documentation
C	0	01	Pi-Powered PiloT Mainboard
C	1	01	5V powered PiloT Mainboard
I	2	01	24V powered PiloT Mainboard (with isolated DC/DC converter)

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