# MyPi Industrial IoT Integrator Board

**Embedded** MICRO TECHNOLOGY

## ■ Main Card Features

Raspberry Pi Compute Module 1 & 3 compatible

Integrated 10/100 Ethernet Adapter

Mini PCI-e Interface + SIM connector for use with cellular modems

Ruggedized USB μSD Card interface, providing on-board mass-storage separate from the OS file system.

Integrated USB RS232 UART (RX/TX/RTS/CTS) using RJ45 connector for maximum range.

Modular IO Cards for Application Specific IO solutions

Dual High-Resolution Raspberry Pi Camera Interfaces

Raspberry Pi 2 HAT Compatible I/O Connector & Mounting Points

Integrated battery backed Real-Time-Clock (RTC)

1.6s hardware watchdog for added system resilience

HDMI Out

2 x USB 2.0 Master Interfaces

2 x Bi-Colour (Red/Green) front panel status LEDs

8-Way 2-part 3.5mm screw terminal industrial connector for use with modular IO card outputs or HAT board

Wide 9-24V (poly-fused and filtered) DC power input range
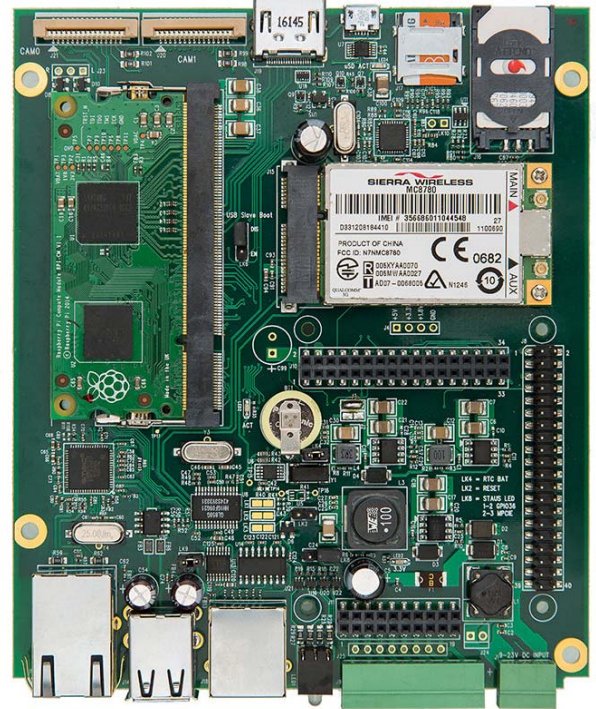
## ■ I/O Socket Features

I2C Interface

SPI Interface (2 x Chip Selects)

TTL 16550 UART (RX/TX/RTS/CTS)

TTL Serial Console

28 x GPIO Lines

2 x PWM Outputs

2 x GPCLK Outputs

## ■ Power Consumption

9-24V DC Input
1.56-2.8W Average -Dependant on CPU module & power saving modes activated

## ■ Dimensions

Core PCB Size             : 125 x 142mm
+ Break Off Enclosure Tabs   : 125 x 160/163.4mm

4 x M3.5 mounting holes

## ■ Raspberry Pi Compatibility

Fully compatible with Raspberry Pi Compute Module 1 & 3 CPU modules,  enabling swift migration of any existing development work done using a standard Raspberry Pi.

## ■ FCC/CE Approvals

Obtained a FCC/CE Class A (Industrial) when tested within a Hammond enclosure.

## ■ Enclosures

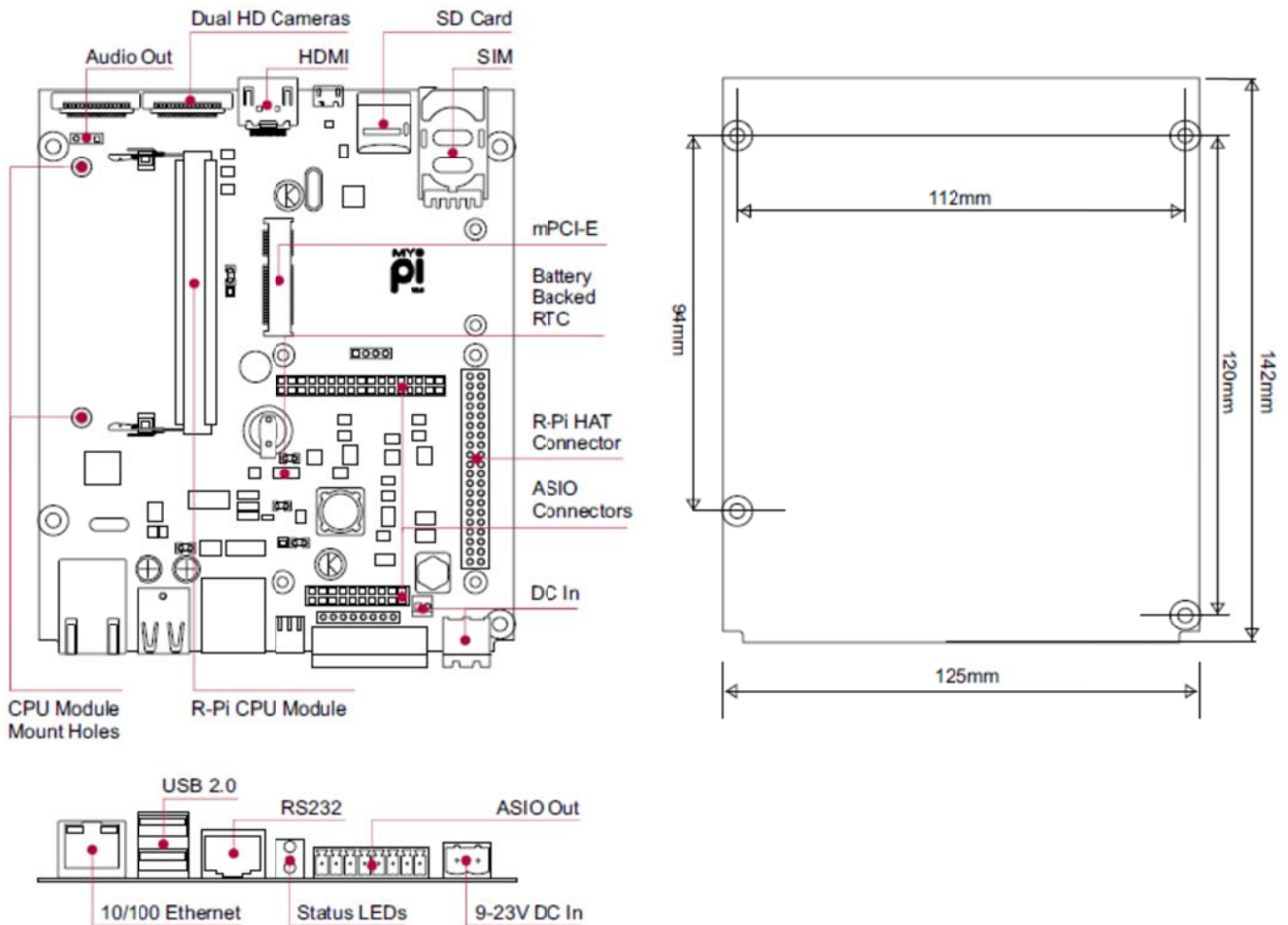Form-factor adjustable to fit two "off the shelf" Hammond brand aluminium enclosures in different size/colours:

Single Height - Hammond 1455P1602(/BK)
Double Height - Hammond 1455Q1602(/BK)

Pre-cut end plates and silk-screening service available

Also compatible with weather proof IP55/66 Rated StationBox enclosure from RF Elements

## ■ Board Features & Dimensions



## ■ Pre-Designed IO Boards

A series of IO cards have been developed to accelerate product design :

| | |
|---|---|
| ISO-CAN | 1 x Isolated CAN-BUS adapter card based on MCP2515 Can Controller |
| ISO-485 | 1 x Isolated Half Duplex RS485 adapter with automatic hardware-based flow control |
| ISO-MBUS | 1 x Isolated M-BUS adapter (1 - 3 Slaves) with integrated 34V PSU |
| ISO-1WIRE | 2 x Isolated 1-Wire interfaces |
| ISO-ADC | Isolated 18-Bit 4-Channel ADC with 4 x Double ended 4-20mA or 0-2.048V inputs |
| ISO-RF/DIGIN | 4 x Opto-Isolated double ended inputs (AC/DC) + XBEE RF Card interface |
| ISO-DIGOUT | 4 x Open-collector outputs (5-40V DC) + 1 x Opto-Isolated Input |
| ISO-COMBO | Combo IO Card with :<br>- 18-Bit 4-Channel ADC with 4 x Double ended 4-20mA or 0-2.048V inputs<br>- 4 x Opto-Isolated double ended inputs (AC/DC)<br>- 4 x Opto-Isolated Relay Outputs (1A @125VAC/24DC)<br>- Isolated 5V & 0V DC Supply (for input opto-coupler drive) |
| ISO-LoRa | LoRa Card Based around Microchip RN2483/RN2903 modules |
| ISO-BLE | Bluetooth 4.0 BLE Card based around Silicon Labs/Bluegiga BLE112E module |
| Power-Timer | Solar Power-Timer Card, use this card to schedule full power off/on times. |