EmHashLabs

# Hardware Design and Contract Manufacturing

EmHashLabs

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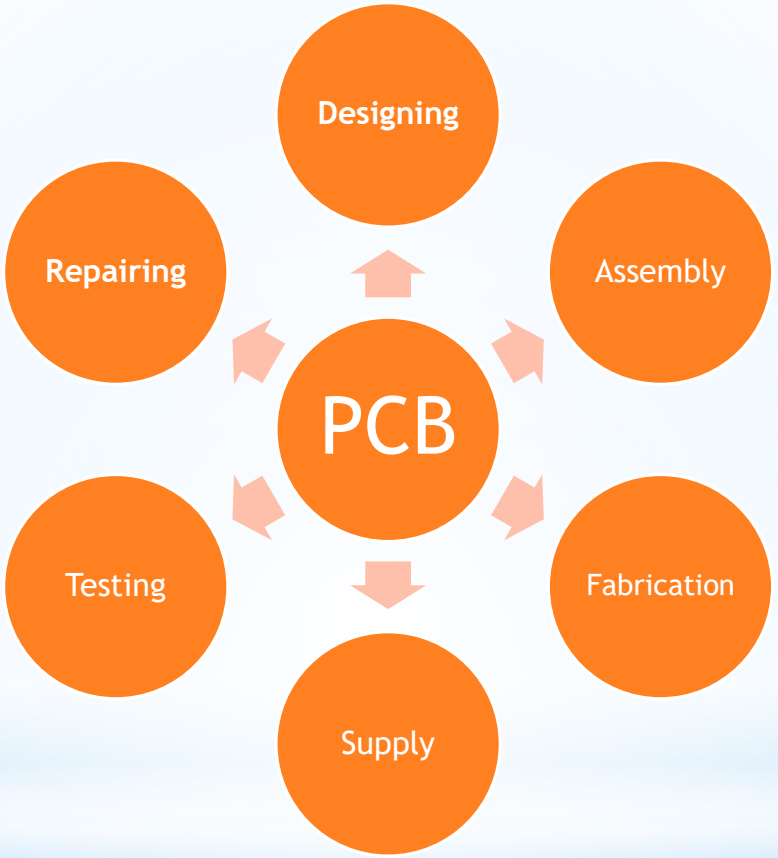
# * Aim and objectives

* Promoting “Make In India” vision by providing support for designing, assembly, manufacturing, testing and repairing of PCBs




* Trading of electronic component/equipment industries and R&D institutions at appropriate cost

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# Development projects

## Vertical Split Furnace

- Temperature up to 1000°C
- 3kW Kanthal heaters
- Our own design of thyristerized power supply
- Connected with the fuel cell station to sense temperature

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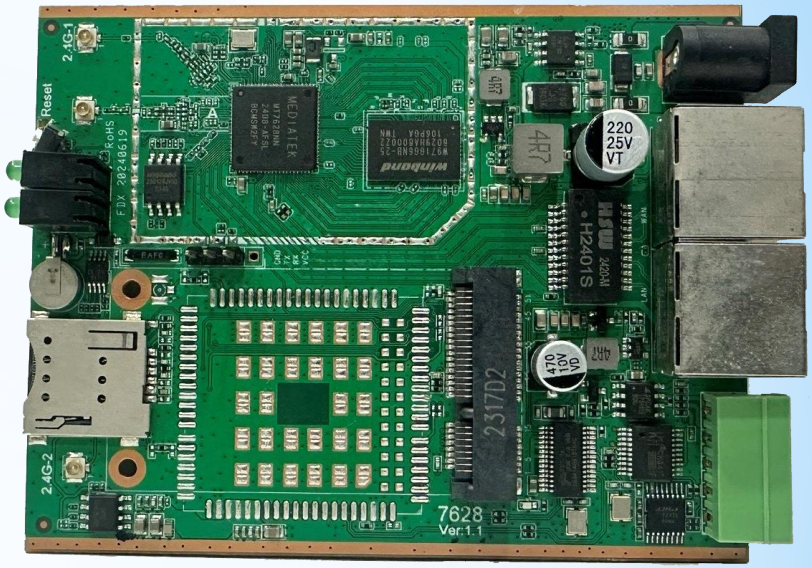
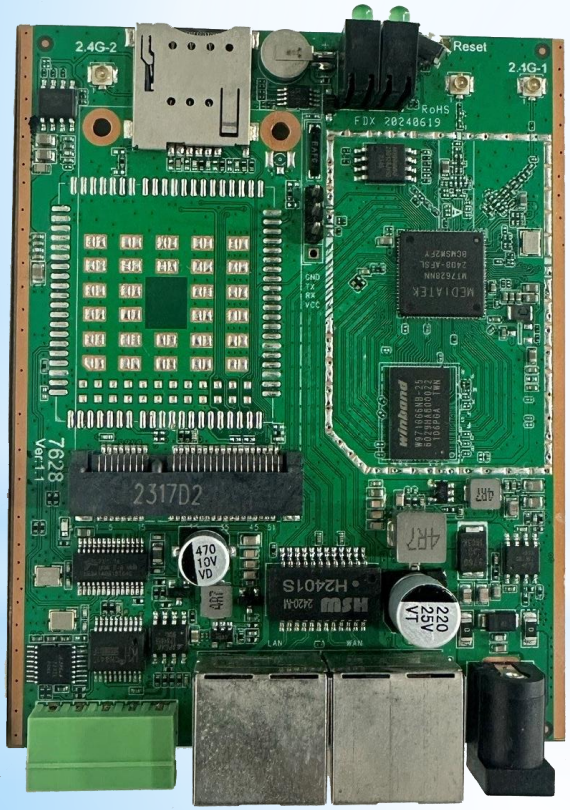
# PCB designed and development for Industrial IOT Application

- RS485 serial port for data logging
- 4G miniPCIe support for internet
- Single SIM option




- 2x10/100 Mbps Ethernet Ports
- 12V DC Input Supply

# *PCB Development

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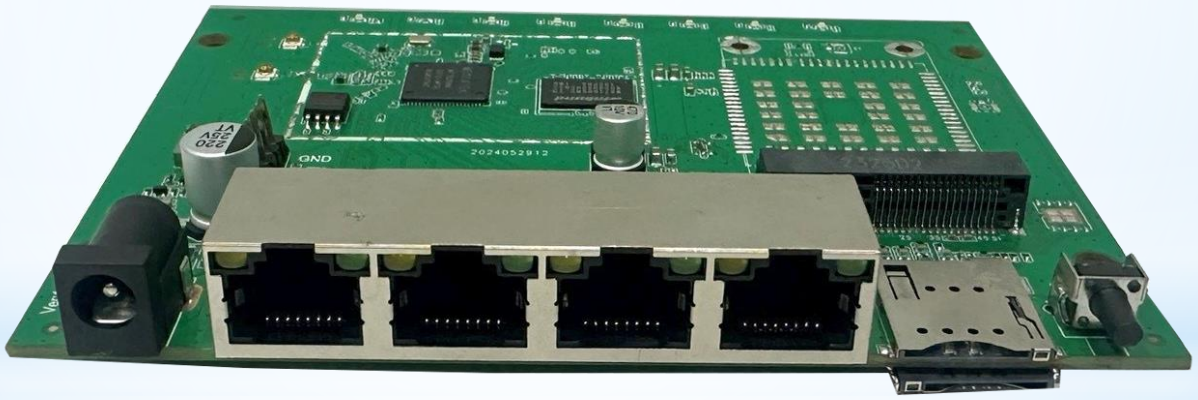
PCB designed and development for

Multi-WAN/SDWAN Application

- 2.4 GHz WiFi Support
- 4G miniPCIe support for internet
- Two SIM slots

- 4x10/100 Mbps Ethernet Ports
- 12V DC Input Supply



# *PCB Development

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PCB design and development for Fiber Cut Monitoring Device

- High resolution sensor for detection of fiber tampering
- Works on 12V DC input

# *PCB Development

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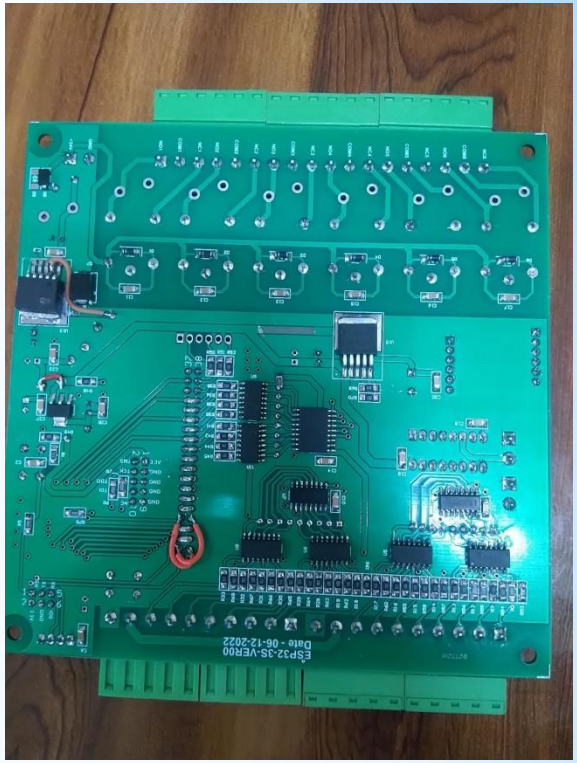
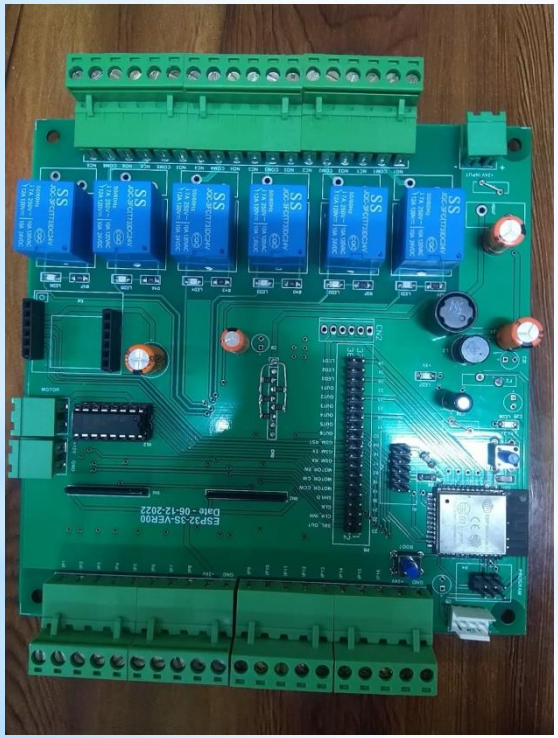
PCB design and development for

Relay control card

- Programmable sequential card
- Depending on the 5 inputs conditions 6 relays can be controlled





- ESP 32: Cards can be controlled through WiFi
- Can be controlled remotely through internet data

# *PCB Development

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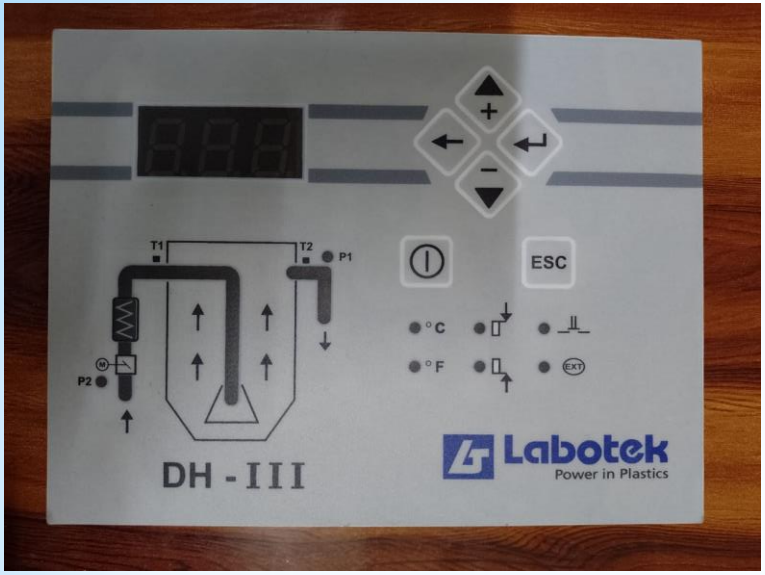

- Card designed and developed for **Labotek, Denmark**
- Required for machines used in plastic moulding
- New features added to control the card through Android application

# *Electromechanic controllers

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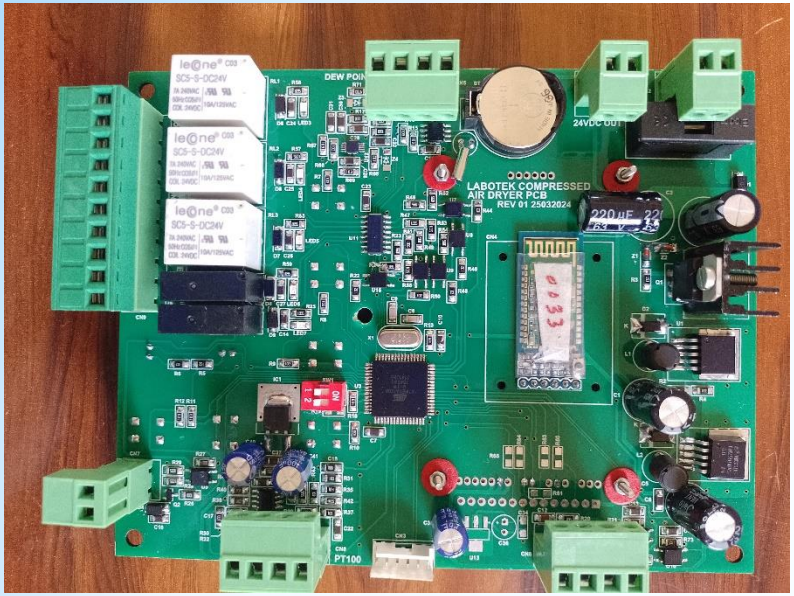


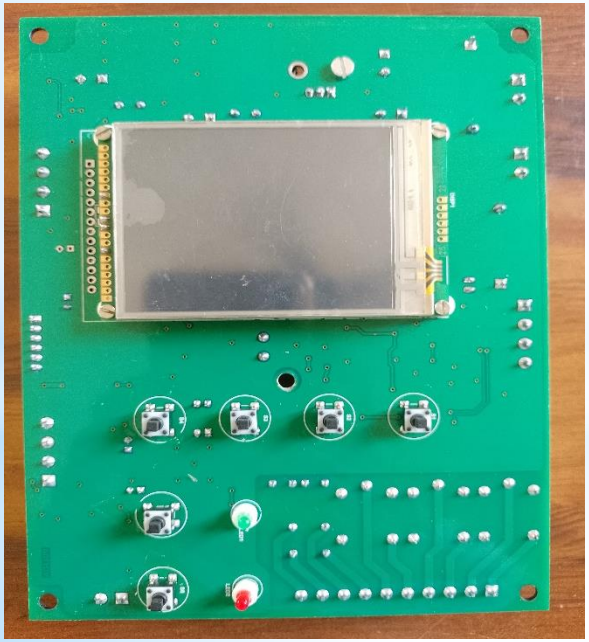

- Card designed and developed for Labotek, India
- Required for machines used for air dryer application
- New features added to control the card through Android application

# *Electromechanic controllers

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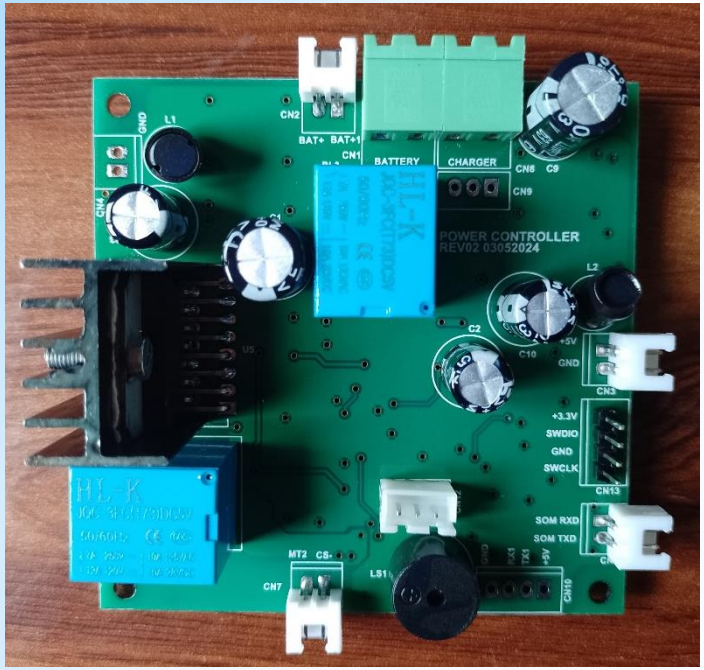


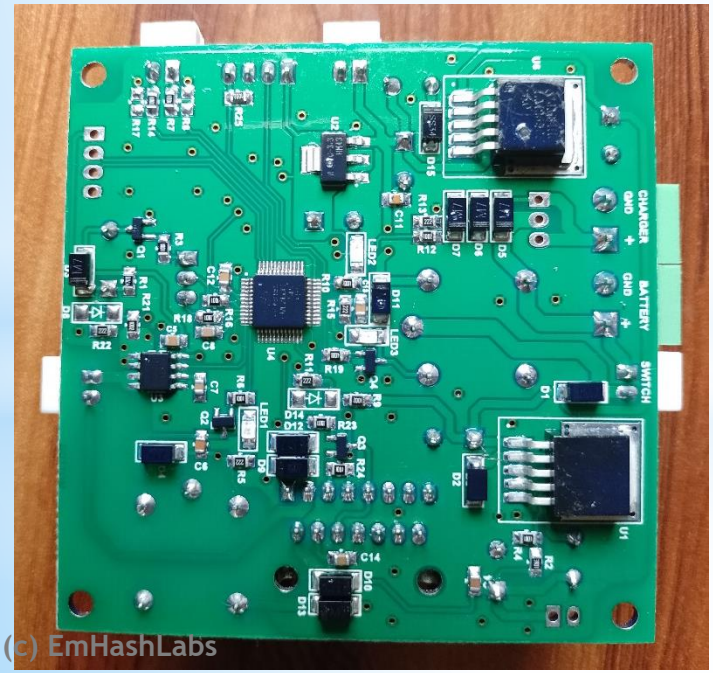

- Card designed and developed for Galleon
- Used in Air Sampler unit

# *controllers

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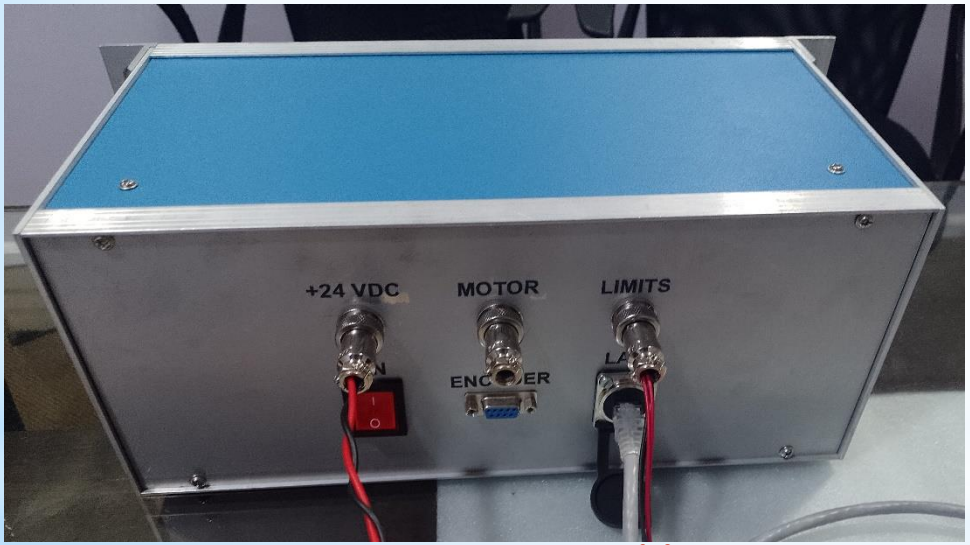


## Single channel stepper motor controller

- Can be controlled through Ethernet
- Motors can be controlled sequentially and positions can be read through encoder/pulses
- Command set provided for communication through computer
- User friendly GUI also provided

# *Electromechanics controllers

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## Two channel stepper motor controller

- Can be controlled through touch screen HMI
- Motors can be controlled sequentially and positions can be read through encoder/pulses
- Command set provided for communication through computer
- User friendly GUI also provided

# *Electromechanics controllers

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# Automatic Pump Controller

- Used in Hospitals for controlling oxygen flow
- Automatic operation of two pumps by dividing the pump load
- Dual mode operation automatic switching between the pumps
- Control pump operation to maintain oxygen pressure
- Alarm system installed oxygen pressure

*Control panel

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Humidifier and its controller designed and developed for humidity chamber

- Can be used to generate humidity up to 100%
- Automatic climate control

# *Mechanical systems

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Specifications:

- ✓ Maximum board area 400mm X 300mm
- ✓ Mounting speed 4000cph
- ✓ Component placement accuracy ±0.05mm
- ✓ In built suction and blow
- ✓ Component sizes applicable: 0402, 0603, 0805, 1206, 1210, diodes , transistor, QFP16x16mm
- ✓ 50nos of feeder slots
- ✓ 2 mounting heads, vision camera
- ✓ 0 to 360 degrees component angle

*Pick and place machine

*SE 936SD soldering guns

Specifications:

- ✓ Power 60W (4 sets available)
- ✓ ±3°C temperature accuracy
- ✓ Temperature range 50 - 450°C
- ✓ Temperature stability ± 1°C
- ✓ Regularly calibrated before use
- ✓ Well maintained and accurate

# *Facilities available

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# Existing customers

- Labotek
  - Design Development & Supply of PCB.
- Fourvac Technologies
  - Design, Development of Customized PCB.
- SS Enterprizes
  - Design Support, Assembly and repair work
- Galleon
  - Design Support, Assembly and repair work
- GLVM
  - Design Support, Assembly and repair work
- Yash Enterprises
  - Design Support and Assembly and repair work
- Sinsil
  - Design Support

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*Looking forward for serve you

EmHashLabs

# *Thank you for your attention…

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