DEBIX POE Module User Guide

Version: V1.2（2025-06）

Compiled by: Polyhex Technology Company Limited（http://www.polyhex.net/）

DEBIX PoE Module is compatible with DEBIX Model A, DEBIX Model B, DEBIX Model C, DEBIX Infinity and DEBIX R3576-01 SBCs. The PoE module supports DC 5V/4A power output, which can provide stable DC Power for DEBIX Model A/B/C/Infinity/R3576-01, simplify cabling and reduce the cost of constructing network infrastructure.

Figure 1 DEBIX POE Module

REVISION HISTORY		
Rev.	**Date**	**Description**
1.0	2022.07.26	First edition
1.1	2024.04.01	Added compatibility with DEBIX Infinity, DEBIX Model S and C
1.2	2025.06.18	Revised the compatibility with DEBIX products

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Chapter 1 Security

1.1. Safety Precaution

The following messages inform how to make each cable connection. In most cases, you will simply need to connect a standard cable.

Table 1 Terms and conventions

Symbol	Meaning
Warning! 	Always disconnect the power cord from the chassis whenever there is no workload required on it. Do not connect the power cable while the power is on. Sudden power surges can damage sensitive electronic components. Only experienced electricians should open the chassis.
Caution! 	Always ground yourself to remove any static electric charge before touching *DEBIX* product. Modern electronic devices are very sensitive to electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag.

1.2. Safety Instruction

To avoid malfunction or damage to this product please observe the following:

1．Disconnect the device from the DC power supply before cleaning. Use a cloth. Do not use liquid detergents or spray-on detergents.

2．Keep the device away from moisture.

3．During installation, set the device down on a reliable surface. Drops and bumps will lead to damage.

4．Before connecting the power supply, ensure that the voltage is in the required range, and the way of wiring is correct.

5．If the device is not used for a long time, power it off to avoid damage caused by sudden overvoltage.

6. If one of the following situations occur, get the equipment checked by service personnel:

- Liquid has penetrated into the equipment.
- The equipment has been exposed to moisture.
- The equipment does not work well, or you cannot get it to work according to the user's manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.

7. Do not place the device outside the specified ambient temperature range. This will damage the machine. It needs to be kept in an environment at controlled temperature.

8. Due to the sensitive nature of the equipment, it must be stored in a restricted access location, only accessible by qualified engineer.

DISCLAIMER: Polyhex assumes no liability for the accuracy of any statement of this instructional document.

1.3. Declaration of Compliance

This product has passed the following certifications:

Table 2 Compliance Certification

Symbol	Meaning
CE	This equipment has passed CE certified.
RoHS	This equipment is manufactured in compliance with RoHS regulations.
UKCA	This equipment has passed UKCA certified.

FC	This equipment has passed FCC certified.

1.4. Technical Support

1. Visit DEBIX website https://www.debix.io/ where you can find the latest information about the product.

■ Quick Links:

Debix Documentation: https://debix.io/Document/manual.html

Debix Blog: https://debix.io/Software/blog.html

Debix GitHub: https://github.com/debix-tech

2. Contact your distributor, sales representative or Polyhex's customer service center for technical support if you need additional assistance. Please have the following info ready before you call:

- Product name and memory size
- Description of your peripheral attachments
- Description of your software(operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

■ TechSupport Platforms:

Discord Community (recommended): https://discord.com/invite/adaHHaDkH2

Email: teksupport@debix.io

Chapter 2 DEBIX POE Module Introduction

DEBIX POE module for DEBIX motherboard provides stable Power over Ethernet, supports DC 5V/4A power output, eliminates the need for separate power lines, simplifies system wiring and reduces the cost of building network infrastructure.

Main features:

- Simplify wiring and provide stable DC power.
- Support IEEE 802.3at-2009 PoE protocol.
- Compatible with DEBIX Model A, DEBIX Model B, DEBIX Model C, DEBIX Infinity, and DEBIX R3576-01
- Can be installed with DEBIX Model A/B/C/Infinity/R3576-01 in the EMC-7090B enclosure

2.1. Overview

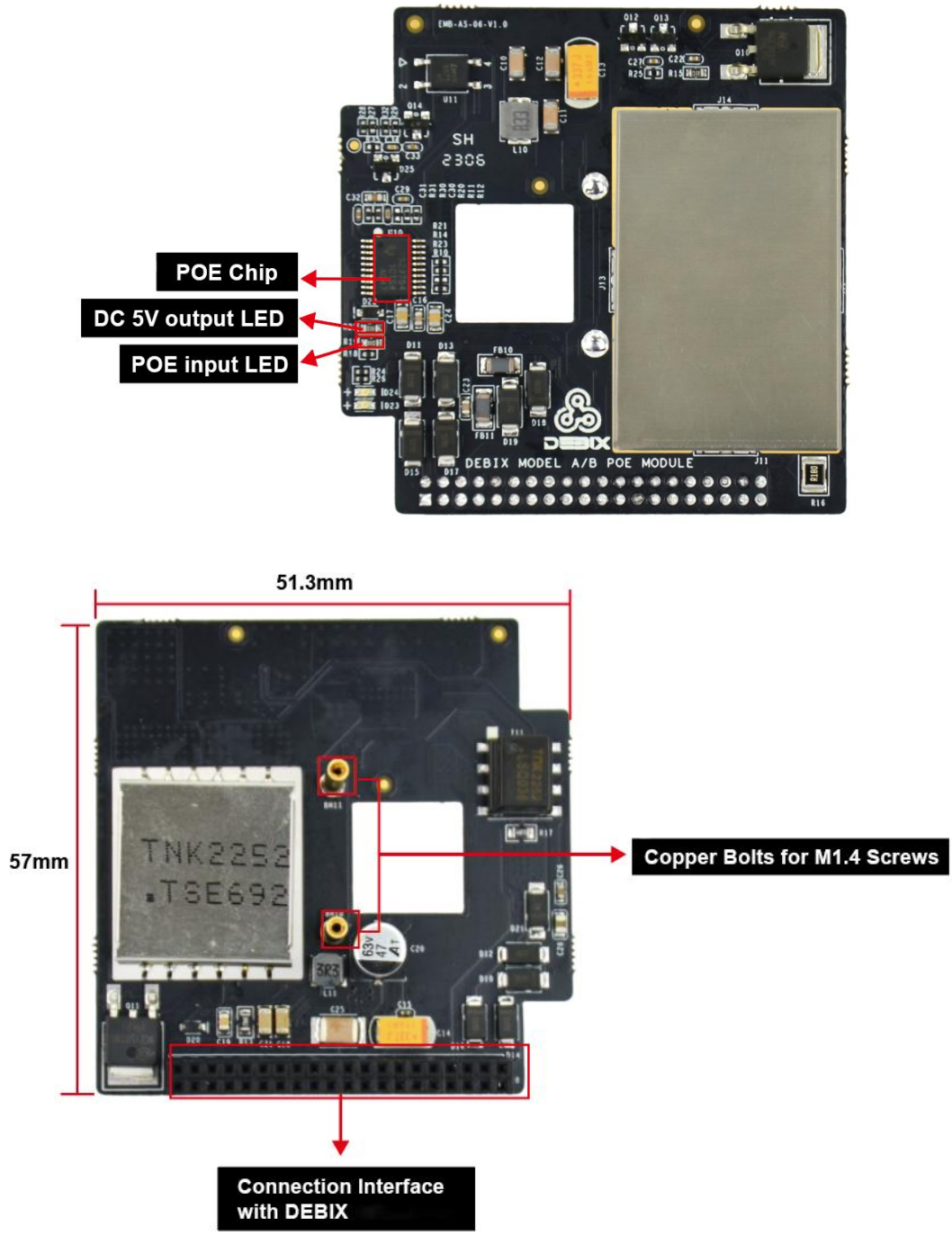

Figure 2 DEBIX POE Module

DEBIX POE module can provide stable DC power for DEBIX motherboard without separate power lines. The data specifications are as below:

Table 3 DEBIX POE Module Specification

DEBIX POE Module	
Power Supply	
Power	Input: DC 50V-57V（Class4） Output: DC 5V/4A
I/O Interface	
LED	● 1 x POE Power Input LED ● 1 x 5V Power Output LED
POE Chip	TPS23754PWPR
Mechanical & Environmental	
Size (L x W)	57.0mm x 51.3mm (±0.5mm)
Weight	33g (±0.5g)
CPU Temp.	-40°C~85°C

2.2. Interface

2.2.1. LED

DEBIX POE module has two LED, a POE power input indicator and a DC 5V power output indicator, as shown below:

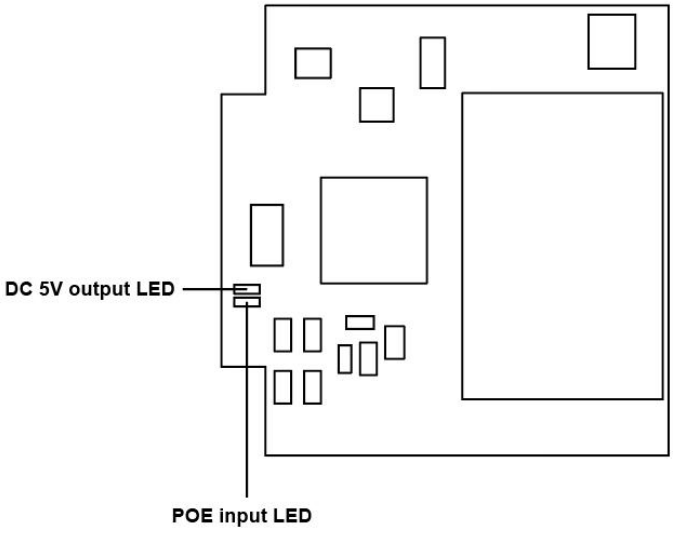

Figure 3 LED

Table 4 Description of LED

LED	Status	Description
POE input LED	Lighting	POE module power supply normal
	off	POE module faulty
DC 5V output LED	Lighting	DEBIX power on, and work normal
	off	DEBIX power off or faulty

2.3. Packing List

- DEBIX POE Module

Chapter 3 Getting started

3.1. Hardware connection

- **Component Preparation**

✓ DEBIX POE module

✓ DEBIX motherboard

✓ Switch or router that supports POE function

✓ Micro SD card with DEBIX system, network cable

✓ 2 x lock screw PM1.4X4

The connection steps are as follows:

1. Paste the square shape and the round shape Mylar sheet on the front and back of DEBIX motherboard, as shown in the figure below:

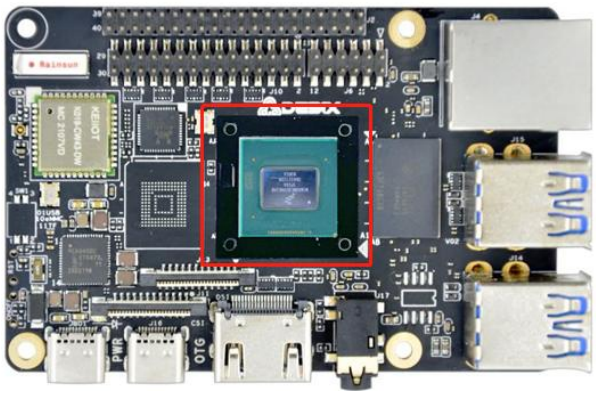

Figure 4 Square shape Mylar sheet

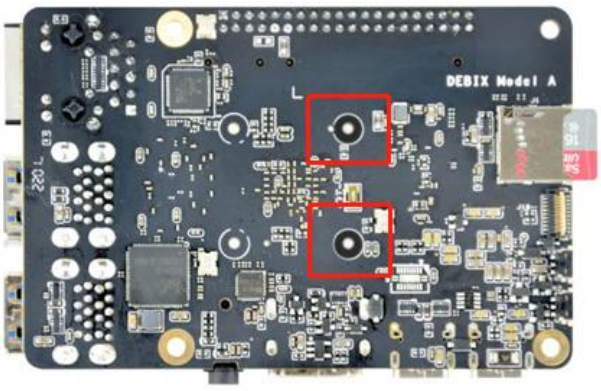

Figure 5 Round shape Mylar sheet

2. Align the female header of DEBIX POE module with the top pin header of DEBIX motherboard, and press to insert, fix them with locking screws (PM1.4X4), as shown in the following figure:

NOTE

It is necessary to confirm that the female header of DEBIX POE module are aligned one by one with the top pin header on the DEBIX motherboard to avoid damage to the board caused by power on after misalignment.

Figure 6 Female header of DEBIX POE module

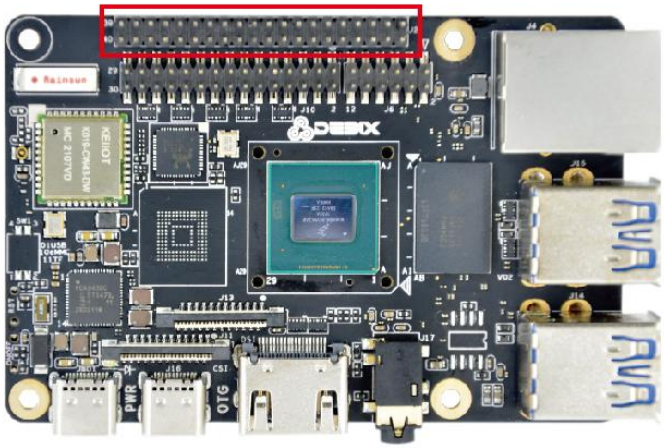

Figure 7 Pin header of DEBIX motherboard

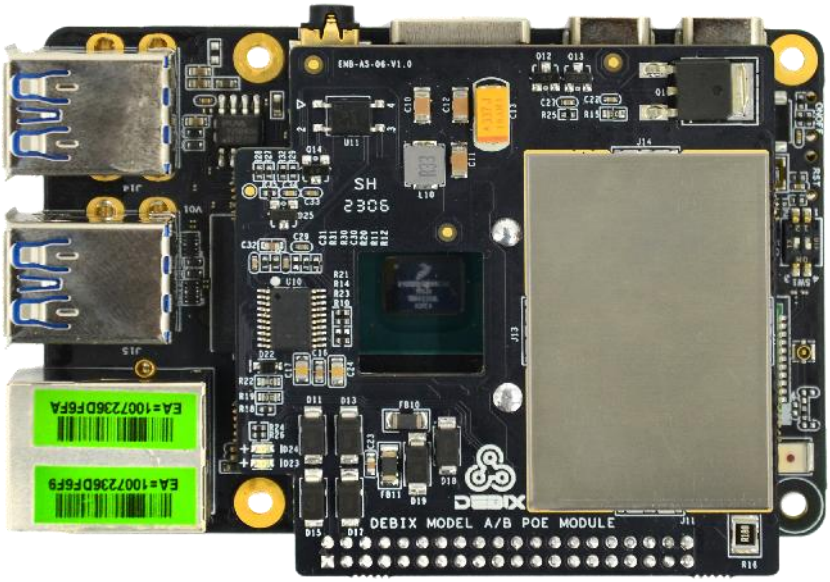

Figure 8 Connect DEBIX with DEBIX POE module

3. Insert the Micro SD card with DEBIX system into the slot of DEBIX motherboard, connect DEBIX peripherals (HDMI monitor, keyboard, mouse, network cable), power up DEBIX, and the DEBIX can be used normally.

Chapter 4 Function Examples

4.1. Usage of POE

1. Connect the switch (supporting POE) to the RJ45 port of DEBIX motherboard with a network cable to power the DEBIX without a power adapter, as shown in the following figure:

Figure 9

2. Insert the Micro SD card into the slot of DEBIX motherboard, power on the switch, and the red indicator light of DEBIX motherboard will be on, which proves the POE function is normal.