# Polyhex 24PIN-Pai 15PIN FPC User Guide

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

Engineered for seamless connection! This FPC cable is the ideal bridge between the DEBIX 24pin/0.5mm pitch MIPI CSI connector and the standard Raspberry Pi camera port (15pin/1mm pitch FPC).

Figure 1 Polyhex 24PIN-Pai 15PIN FPC

| REVISION HISTORY | | |
|---|---|---|
| **Rev.** | **Date** | **Description** |
| 1.0 | 2025.12.10 | First edition |

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# Chapter 1 Security

## 1.1. Safety Precaution

This document describes the procedures for making FPC cable connections.

**Table 1 Terms and conventions**

| Symbol | Meaning |
|---|---|
| *Warning!* | Always disconnect the device from its power source before performing any operation or connecting FPC cables. Never plug, unplug, or connect cables while the device is powered on. Sudden power surges can damage sensitive electronic components. Only experienced technicians should open the device chassis or perform internal operations. |
| *Caution!* | Always ground yourself to dissipate static electricity before handling FPC cables or equipment. Wear a grounding wrist strap during all operations. Store components properly on an anti-static surface or in a static-shielded bag. |

## 1.2. Safety Instruction

To prevent product malfunction or damage, please observe the following:

1. Disconnect the FPC cable from the device before cleaning. Use a slightly damp, soft cloth. Do not use liquid detergents or spray-on detergents.

2. Keep the FPC cable away from humid environments.

3. During installation, place the device on a stable and reliable surface. Drops or impacts may damage the device and the internally connected FPC cables.

4. Before connecting the power supply, ensure the input voltage meets the device requirements and the wiring is correct.

5. Do not crush or excessively bend the FPC cables.

6. Given the sensitive nature of the equipment and FPC cables, they must be stored in a restricted access area, accessible only to qualified personnel.

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

## 1.3. Technical Support

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

### ■ Skip 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 configuration
    - Description of your peripheral attachments
    - 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 Introduction

Engineered for seamless connection! This FPC cable is the ideal bridge between the DEBIX 24pin/0.5mm pitch MIPI CSI connector and the standard Raspberry Pi camera port (15pin/1mm pitch FPC).

Compatibility:

Compatible with the MIPI CSI connectors on the DEBIX Model A, DEBIX Model B, DEBIX Model C, DEBIX Infinity, and DEBIX R3576-01

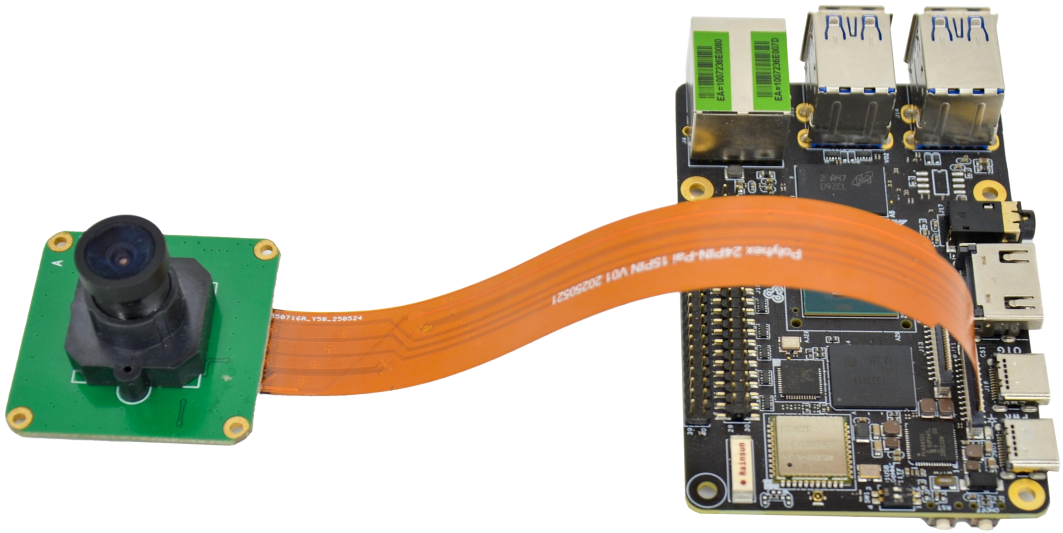


Figure 2 The IMX219 Camera Connected to DEBIX Model A via the FPC Cable

## 2.1. Overview

Figure 3 Polyhex 24PIN-Pai 15PIN FPC

The Polyhex 24PIN-Pai 15PIN FPC cable is designed to interface DEBIX products with a standard 15-pin Raspberry Pi camera. The data specifications are as below:

**Table 2 Polyhex 24PIN-Pai 15PIN FPC Specification**

| Polyhex 24PIN-Pai 15PIN FPC | |
|---|---|
| Pin Count & Pitch | 24Pin (0.5mm pitch) to 15Pin (1mm pitch) |
| Insertion Thickness | 0.35-0.4mm |
| Contact Orientation | Same side |
| Total Length | 15cm |

## 2.2. Packing List

- Polyhex 24PIN-Pai 15PIN FPC cable

# Chapter 3 Getting started

This section applies only to the DEBIX Model A and DEBIX Model B, using the DEBIX Model A with an IMX219 camera as an example. Before you begin, make sure the device is running the required OS version: **Ubuntu 22.04 V3.6**.

(You can download the OS image from: https://debix.io/view-historical-versions/)
Once the correct OS is installed, follow the steps below.

## 3.1. Usage

- **Component Preparation**

✓ Polyhex 24PIN-Pai 15PIN FPC cable

✓ DEBIX Model A

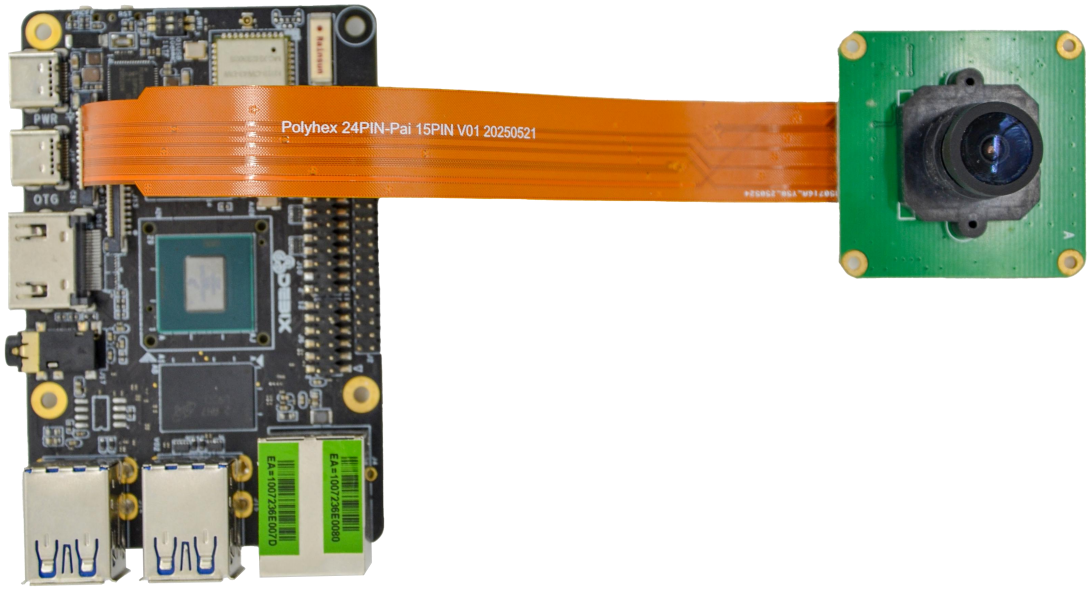
✓ IMX219 camera

**The usage steps are as follows:**

1. **Connect the camera:** Use the FPC cable to connect the DEBIX Model A to the IMX219 camera. Make sure the FPC cable contacts are oriented correctly.

(Conductive Side)

(Stiffener)

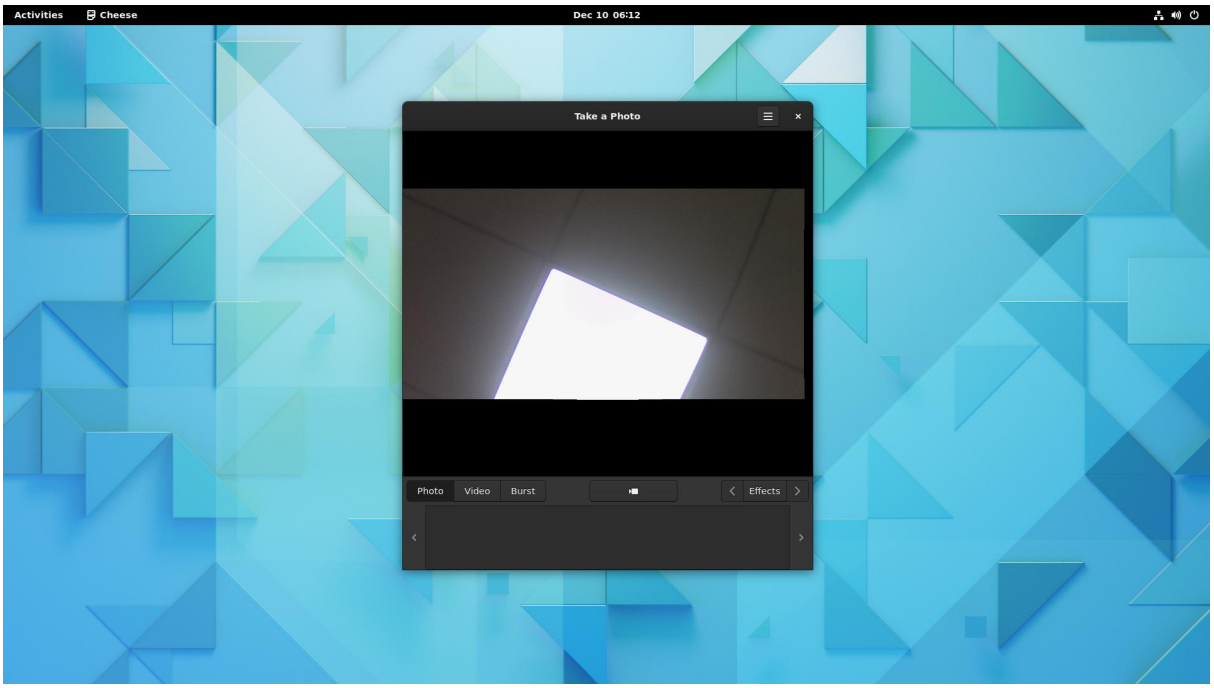



2. **Switch the device tree:** Power on the DEBIX Model A and run the command below to switch the device tree, then reboot the device.

*(The password for the debix user is **debix**)*

```
sudo cp /boot/imx8mp-debix-io-imx219.dtb /boot/imx8mp-evk.dtb
sudo reboot
```

```
debix@imx8mp-debix:~$ DebixVersion
=========================================================
================ Debix Information ======================
=========================================================
***HW version      : V2.0
***system version  : Ubuntu 22.04.1 LTS (V3.6 20240410)
***Lan1  mac       : d6:b1:93:96:f6:b2
***Lan2  mac       : 0e:ff:e2:ff:cf:c9
***wifi mac        : ac:6a:a3:3f:b5:51
***bt   mac        : AC:6A:A3:3F:B5:52
***kernel          : 6.1.22 #4 SMP PREEMPT Mon Mar 11 08:30:49 UTC 2024
***memory          : 2 GB
***cpu             : 1.6 GHz
debix@imx8mp-debix:~$ sudo cp /boot/imx8mp-debix-io-imx219.dtb /boot/imx8mp-evk.dtb
[sudo] password for debix:
debix@imx8mp-debix:~$ sudo reboot
```

3. **Verify the camera output:** After the reboot, open the Cheese application. The live

camera preview should now be visible.