

# Release Notes

## Fortec Integrated

### Artista-IoT Raspbian

Industrial ARM platform based on Raspberry Pi CM3 and CM3B

PA-36-XXX



Version 5.0.0  
31.01.2025

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## Table of Contents

1	Revision History .....	3
2	Firmware Release History .....	3
2.1	Firmware version: 20170426_Goodix .....	3
2.2	Firmware version: 1.0.0 .....	4
2.3	Firmware version: 2.0.0 .....	4
2.4	Firmware version: 3.0.0 .....	5
2.5	Firmware version: 3.2.0 .....	5
2.6	Firmware version: 3.3.1 – EETI EXC3000 I <sup>2</sup> C PCAP Touch .....	6
2.7	Firmware Version 4.2.0.....	7
2.8	Firmware Version 5.0.0.....	7
3	Known Issues of latest Firmware Version.....	8
3.1	Currently no Known Issues .....	8

## 1 Revision History

Date	Version	Description	Page
20.07.2017	3.0.0	Artista-IoT firmware version 3.0.0 and all previous versions	All
26.09.2017	3.2.0	Added info about Artista-IoT firmware version 3.2.0	7
27.09.2017	3.3.1	Added info about Artista-IoT firmware version 3.3.1 with support for EETI EXC3000 I2C PCAP Touch	8
31.01.2025	5.0.0	Updated header and footer Added Artista-IoT firmware version 4.2.0 and 5.0.0	all

## 2 Firmware Release History

This section lists all Artista-IoT firmware releases.

### 2.1 Firmware version: 20170426\_Goodix

Exact firmware version: 20170426\_Goodix  
Release date: 26.04.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module:  
CM\_Artista-IoT\_Main\_Goodix\_2017-04-10-raspbian-jessie\_20170426.7z
- SD Card: SD\_Artista-IoT\_Main\_Goodix\_2017-04-10-raspbian-jessie\_20170426.7z

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Jessie with PIXEL
- Version: April 2017
- Image: 2017-04-10-raspbian-jessie.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-04-10/>

Notes:

- This is the initial firmware release for Artista-IoT
- The original Raspbian kernel has been replaced by a custom kernel version to support the Goodix I<sup>2</sup>C touch screen of the Artista-IoT Starter Kit
- The original Raspbian image is too large to be installed into the on-board eMMC flash memory device on the Raspberry Compute Module. Thus the installation has been split into two parts. The boot partition is located in the Compute Module eMMC and the root file system is located on the external SD card

## 2.2 Firmware version: 1.0.0

Exact firmware version: 1.0.0.55052  
Release date: 03.05.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v1.0.0.55052.7z
- SD Card: SD\_Artista-IoT\_Raspbian\_v1.0.0.55052.7z

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Jessie with PIXEL
- Version: April 2017
- Image: 2017-04-10-raspbian-jessie.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-04-10/>

Changes:

- Raspbian uses the limited color range (16..235) for HDMI out for displays with 16:9 aspect ratio. Since the display controller on the ArtistaMedia-III Base Board expects full color range (0..255) at its HDMI input, there was a mismatch. Added the setting "hdmi\_pixel\_encoding=2" to the "config.txt" file to hardcode the Raspberry Pi to full color range (0..255) at HDMI out for all modes and display resolutions

## 2.3 Firmware version: 2.0.0

Exact firmware version: 2.0.0.55315  
Release date: 06.06.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v2.0.0.55315.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Jessie with PIXEL
- Version: April 2017
- Image: 2017-04-10-raspbian-jessie.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-04-10/>

Changes:

- With firmware version 1.0.0 the size of the resulting image was larger than 4 GiB. Because of this it was not possible to install it completely into the flash memory of Raspberry Compute Module 3. Thus the original Raspbian image was split into two parts, where the "CM\_\*.img" was installed on the Compute Module 3 and "SD\_\*.img" was installed on the microSD card. To improve this, the following applications coming with the original Raspbian image have been uninstalled:

- Wolfram Mathematica ○  
Squeak (Smalltalk) ○  
Supercollider, Scratch and Sonic
- Minecraft

This results in a firmware image with a size of 3 GiB which can be installed on the internal flash memory of Compute Module 3 completely. The SD card is not required for the firmware anymore and can be used as memory extension

- Added the file "/etc/Artista-IoT-Version" which keeps the current Artista-IoT firmware version
- Added support for the EETI eGalaxTouch USB resistive touch controller. The calibration tool can be found in the "Other" program menu

## 2.4 Firmware version: 3.0.0

Exact firmware version: 3.0.0.55952  
Release date: 20.07.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v3.0.0.55952.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Jessie with PIXEL
- Version: July 2017
- Image: 2017-07-05-raspbian-jessie.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-07-05/>

Changes:

- Updated the Raspbian base image from version "2017-04-10" to version "2017-07-05". This brings a kernel upgrade from version 4.4 to 4.9. For a detailed list of changes, please refer to the Raspbian release notes: [http://downloads.raspberrypi.org/raspbian/release\\_notes.txt](http://downloads.raspberrypi.org/raspbian/release_notes.txt)
- The new Raspbian kernel version 4.9 brings native support for the Goodix I<sup>2</sup>C touch screen used with the Artista-IoT Starter Kit. To enable it, the following lines have been added to the "config.txt" file:  
# Enable Goodix gt9271 touchscreen on "Touch" connector:  
dtoverlay=goodix,interrupt=34,reset=35
- Due to the new kernel version mentioned above, the customized kernel with Goodix support is not required any more. The original Raspbian kernel is now used

## 2.5 Firmware version: 3.2.0

Exact firmware version: 3.2.0.56724  
Release date: 26.09.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v3.2.0.56724.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Stretch with DESKTOP
- Version: September 2017
- Image: 2017-09-07-raspbian-stretch.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-09-08/>

Changes:

- Updated the Raspbian base image from version "2017-07-05" to version "2017-09-07". This brings an upgrade from Raspbian Jessie (based on Debian 8) to Raspbian Stretch (Debian 9). For a detailed list of changes, please refer to the Raspbian release notes: [http://downloads.raspberrypi.org/raspbian/release\\_notes.txt](http://downloads.raspberrypi.org/raspbian/release_notes.txt)
- Removed "LibreOffice" from the installation to save disk space in the Compute Module eMMC flash memory

## 2.6 Firmware version: 3.3.1 – EETI EXC3000 I<sup>2</sup>C PCAP Touch

Exact firmware version: 3.3.1.56811  
Release date: 27.09.2017

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v3.3.1.56811\_EETI\_EXC3000\_I2C.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian Stretch with DESKTOP
- Version: September 2017
- Image: 2017-09-07-raspbian-stretch.zip
- Download: <http://downloads.raspberrypi.org/raspbian/images/raspbian-2017-09-08/>

Changes:

- This firmware is based on the standard Artista-IoT Raspbian firmware version 3.2.0.56724 and has been customized to support the EETI EXC3000 I<sup>2</sup>C PCAP touch controller:
  - Disabled the support for the Goodix I<sup>2</sup>C touch controller used with the Artista-IoT Starter Kits by removing the support for the following entry from the "config.txt" file:

```
# Enable Goodix gt9271 touchscreen on "Touch" connector:
dtoverlay=goodix,interrupt=34,reset=35
```
  - Removed the calibration tool for the EETI eGalaxTouch USB resistive touch controllers ○ Replaced the standard by a customized Raspbian kernel and device tree with support for the EETI EXC3000 I<sup>2</sup>C touch controller ○ Added the following entries to the "config.txt" file to enable the EXC3000 touch controller, set the I<sup>2</sup>C bus frequency of the board from 100kHz (default) to 400 kHz and use the custom kernel and device tree:

```
# Enable EETI EXC3000 touchscreen on "Touch" connector:
```

```
dtoverlay=exc3000,interrupt=34

# Set I2C1 baudrate to 400KHz
dtparam=i2c1_baudrate=400000

# Force to boot our kernel with EXC3000 support:
kernel=ddkernel.img
# Force to use our device tree:
device_tree=devtree.dtb
```

## 2.7 Firmware Version 4.2.0

Exact firmware version: 4.2.0.67116  
Release date: 11.03.2022

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v4.2.0.67116.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian bullseye
- Version: January 2022

Changes:

- Updated the Raspbian base image version

## 2.8 Firmware Version 5.0.0

Exact firmware version: 5.0.0  
Release date: 11.09.2024

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM\_Artista-IoT\_Raspbian\_v5.0.0.7z
- SD Card: -

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian bookworm
- Version: July 2024

Changes:

- Upgrade the Raspbian base image to Debian 12

## **3 Known Issues of latest Firmware Version**

This section lists all known issues of the latest Artista-IoT firmware version.

### **3.1 Currently no Known Issues**



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