

Release Notes

Fortec Integrated

Artista-IoT Raspbian

Industrial ARM Platform based on Raspberry Pi CM3/CM3+ and CM3B

PA-36-XXX



Version 3.4.2

15.06.2025

FORTEC
UNITED STATES

FORTEC
INTEGRATED

FORTEC
UNITED KINGDOM

The information contained in this document has been carefully researched and is, to the best of our knowledge, accurate. However, we assume no liability for any product failures or damages, immediate or consequential, resulting from the use of the information provided herein. Our products are not intended for use in systems in which failures of product could result in personal injury. All trademarks mentioned herein are property of their respective owners. All specifications are subject to change without notice.

Table of Contents

1 Revision History3

2 Firmware Release History3

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 I²C PCAP Touch..... 6

2.7 Firmware Version 4.2.0 7

2.8 Firmware Version 5.0.0 7

2.9 Firmware Version 5.2.0 8

2.10 Firmware Version 5.2.1 8

3 Known Issues of latest Firmware Version8

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	3.4.0	Updated header and footer Added Artista-IoT firmware version 4.2.0 and 5.0.0 Upgrade to Debian 12	all
10.04.2025	3.4.1	Artista-IoT firmware version 5.2.0	7, 8
15.06.2025	3.4.2	Update the document to the latest version	all
		Artista-IoT firmware version 5.2.1	8

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 I²C 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 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
- The new Raspbian kernel version 4.9 brings native support for the Goodix I²C 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
- 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 I²C 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 I²C PCAP touch controller:
 - Disabled the support for the Goodix I²C touch controller used with the Artista-IoT Starter Kits by removing 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 I²C touch controller
- Added the following entries to the "config.txt" file to enable the EXC3000 touch controller, set the I²C 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

2.9 Firmware Version 5.2.0

Exact firmware version: 5.2.0
Release date: 10.04.2025

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM_Artista-IoT_Raspbian_v5.2.0.6da2e32.7z
- Output: CM_Artista-IoT_RaspiOS_v5.2.0.6da2e32.txt

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian bookworm
- Version: July 2024

Changes:

- Fix WiFi driver integration
- Add Rootfs extension at First boot to be adjusted to the CM module size
- Add text file as Output of the build to define the location of the image

2.10 Firmware Version 5.2.1

Exact firmware version: 5.2.1
Release date: 15.06.2025

Name of archive file containing Artista-IoT firmware image:

- Compute Module: CM_Artista-IoT_Raspbian_5.2.1.41ddf34.7z
- Output: CM_Artista-IoT_RaspiOS_v5.2.1.41ddf34.txt

It can be installed on board configuration:

- PA-36-XXX Artista-IoT

Based on:

- Name: Raspbian bookworm
- Version: July 2024

Changes:

- Disable the Setup Wizard and Auto login
- Configure the (Time&Date, Keyboard, Region , Wifi and ethernet)
- Add text file as Output of the build to define the location of the image

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

Our company network supports you worldwide with offices in Germany, Austria, Switzerland, the UK and the USA. For more information please contact:

FORTEC

GROUP

FORTEC Elektronik AG | Augsburger Straße 2b | 82110 Germering
+49 89 894450-0
info@fortecag.de | www.fortecag.de

FORTEC

INTEGRATED

FORTEC Integrated GmbH | Augsburger Straße 2b | 82110 Germering
+49 89 894363-0
info@fortec-integrated.de | www.fortec-integrated.de

FORTEC

POWER

FORTEC Power GmbH | Lise-Meitner-Straße 3 | 64560 Riedstadt
+49 6158 8285-0
weborder@fortec-power.de | www.fortec-power.de

FORTEC

EGYPT

FORTEC Electronic Design and Solution Egypt SMLC | Linx Business Park
Unit B318 | Smart Village | Giza Governorate
info@fortec-integrated.de | www.fortec-integrated.de

Autronic Steuer- und Regeltechnik GmbH | Siemensstraße 17
74343 Sachsenheim
+49 7147 24-0
vertrieb@autronic.de | www.autronic.de

FORTEC

CZECH REPUBLIC

FORTEC Czech Republic s.r.o. | Přátelství 275 | 330 02 Dýšina
+49 89 894363-0
info@fortec.cz | www.fortec.cz

FORTEC

UNITED STATES

FORTEC United States, Corp. | 87 Raynor Avenue Unit 1 | Ronkonkoma
NY | 11779 | +1 631 5804360
info@fortec.us | www.fortec.us

FORTEC

SWITZERLAND

FORTEC Switzerland AG | Bahnhofstraße 3 | 5436 Würenlos
+41 44 7446111
info@fortec.ch | www.fortec.ch

FORTEC

UNITED KINGDOM

FORTEC Technology UK Ltd. | Osprey House | 1 Osprey Court
Hinchbrook Business Park | Huntingdon | Cambridgeshire | PE29 6FN
+44 1480 411600
info@fortec.uk | www.fortec.uk