



emPC-A/RPI3

Industrial Embedded Controller
powered by Raspberry Pi 3, Model B



PRODUCT DESCRIPTION

With emPC-A/RPI3 Janz Tec AG provides a device which uses an original Raspberry Pi 3 model B module inside. This module is mounted on a self-developed mainboard providing a 24V power supply, an additional CAN interface, a real-time clock, digital inputs and outputs and an additional RS232/RS485 interface. Furthermore the device has a robust plastic housing and passed a standard EMC certification.

The emPC-A/RPI can be ordered in several versions. A microSD card is always necessary in addition to run the device. This fits in the SD card slot on the

internal Raspberry module. Customers can provide their own microSD card and download and install standard Raspian image themselves. They can also download Janz Tec's additional device drivers free of charge from download area of our product page.

A second option is to order the system with a microSD card that has operating system and device drivers already pre-installed.

Other options include a compatible power supply, a Java environment, and a CODESYS SoftPLC runtime environment.

FEATURES

Processor

- Powered by Raspberry Pi 3, Model B
- Quad-Core CPU based on ARM Cortex-A53 with 4 x 1.2 GHz ¹⁾
- Fanless cooling concept
- Real-time clock, battery buffered

Memory

- System memory 1 GB DDR2 RAM
- External accessible µSD card slot

Physical

- Ambient operating temperature 0 °C ... 35/40°C ²⁾
- Non-operating temperature -20 °C ... 75 °C
- Humidity 5 % ~ 95 %, non-condensing
- Dimensions (w x d x h): 99.8 x 96.7 x 30.0 mm
- Desktop, Wall or DIN rail mounting

Power Supply

- Input 9 ... 32 V_{DC}

Connectors and Interfaces

- 1 x 10/100 MBit/s Ethernet
- BCM43143 WiFi/WLAN on board
- Bluetooth Low Energy (BLE) on board ³⁾
- 1 x HDMI graphic interface
- 4 x USB (v2.0)
- 1 x 9-pin D-SUB connector for serial debug console (RS232 only with Rx/D and Tx/D) ³⁾
- 1 x I/O connector, providing:
 - 1 x CAN (ISO/DIS 11989-2, opto-isolated, term. settings via jumper, SocketCAN supported)
 - 1 x RS232 (Rx, Tx, RTS, CTS) or switchable to RS485 (half duplex; term. settings via jumper)
 - 4 x digital inputs (24V_{DC})
 - 4 x digital outputs (24V_{DC})

Software

¹⁾ CPU performance will be reduced by software in our standard OS image to 4 x 600 MHz for protecting the system against overheating. Using only 1 core with full 1.2 GHz is also possible, pls. see hardware manual for more detailed information

²⁾ temperature range depends on mounting situation of the device, pls. see hardware manual for more detailed information


³⁾ only one can be used at the same time, configuration via software, pls. see hardware manual for more detailed information


- Raspian JESSIE lite operating system
- CODESYS V3 runtime environment
- Oracle Java Embedded
- CANopen protocol stack and tools

ORDERING INFORMATION



Ordering No.	Product Name	Description
SY-EPC-RPI30	emPC-A/RPI3	Industrial embedded controller hardware
SD-MIC-008GB	Storage medium	8 GB microSD storage medium
SO-IMG-00001	Operating system image	Pre-installed Raspian JESSIE lite operating system image including emPC-A/RPI device driver package (SD-MIC-008GB needs also to be ordered!)
OE-NTW-15W24	Power supply	External power supply unit
SO-CDS-SL001	CODESYS V3 Control for Raspberry Pi SL	Software licenses for CODESYS control runtime system and WebVisu. OPC UA server, EtherCAT Master, Profinet Master, Modbus TCP Master and Slave, Modbus RTU Master and Slave, CANopen, EtherNet IP scanner and adapter.
SO-JVM-EMB01	Java	Oracle Embedded Java SE Runtime license
SO-SOF-XXXXX	CANopen	CANopen Stack ANSI-C Source code for master/slave, incl. CANopen DeviceDesigner, ready-to-run examples, user- and reference manual and 6 months support
SO-SOF-XXXXX	CANopen-TCP/IP-Gateway	Universal TCP/IP-CANopen-Gateway according to CiA309-3, ASCII command interface to a complete CANopen master, supports main features of CiA309-3


RELATED PRODUCTS

emPC-A/RPI 





Industrial Embedded Controller powered by Raspberry Pi 2, Model B

emPC-A500  




Fanless and compact embedded system for environmentally critical applications based on single-core ARM CPU

emPC-X 



Compact and fanless embedded PC system based on Intel ATOM technology

emPC-A/iMX6



Fanless and compact embedded system with multi-core ARM CPU and DVI interface

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