

emPC-A/RPI3+

Industrial Embedded Controller powered by Raspberry Pi 3, Model B+



PRODUCT DESCRIPTION

Janz Tec's emPC-A/RPI3+ is a device which uses an original Raspberry Pi 3 model B+ module inside. This module is mounted on a self-developed mainboard providing a 24 V power supply, a CAN interface, a real-time clock, digital inputs and outputs and an additional RS232/RS485 interface. A microSD card (not included) is required for operation.

FEATURES

Processor

- Powered by Raspberry Pi 3, Model B+
- Quad-Core CPU based on ARM Cortex-A53 with 4 x 1.4 GHz ¹⁾
- Fanless cooling concept
- Real-time clock, battery buffered

Memory

- 1 GB DDR2 RAM system memory

Storage

- Externally accessible μ SD card slot

Internal Interfaces

- BCM43455 WiFi/WLAN on Board
- 1 x I/O connector, providing:
 - 1 x CAN (ISO/DIS 11989-2, opto-isolated, termination settings via jumper, SocketCAN supported)
 - 1 x RS232 (Rx, Tx, RTS, CTS) or switchable to RS485 (half-duplex, termination settings via jumper)
 - 4 x digital inputs (24 V_{DC})
 - 4 x digital outputs (24 V_{DC})

External Interfaces

- 1 x 10/100/1000 Mbit/s Ethernet
- 4 x USB (V2.0)
- 1 x 9-pin D-SUB connector for serial debug console (RS232 only with Rx/D and Tx/D)
- 1 x HDMI graphics interface

Environment

- Ambient operating temperature 0 °C ... 35/40 °C ²⁾
- Non-operating temperature range -20 °C ... 75 °C
- 5 % ... 95 % r.H., 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}

Software

- Raspbian lite operating system
- CODESYS V3 runtime environment
- CANopen protocol stack and tools

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 1.4 GHz is also possible, see hardware manual for more detailed information.

² Temperature range depends on mounting situation of the device.