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PUSR USR-EG828 ARM Based Computer

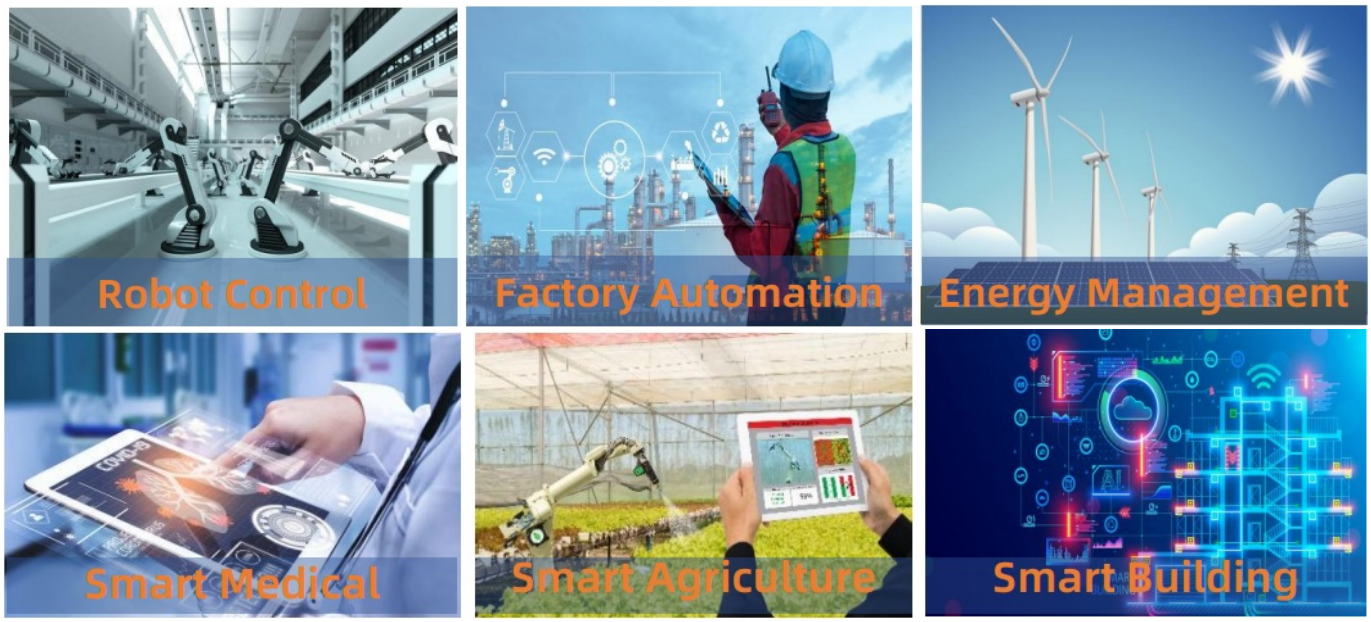
Specifications

- CPU: Rockchip RK3568 Quad-core ARM Cortex-A55 64bit CPU, up to 2.0GHz
- GPU: ARM G52 2EE GPU
- NPU: Support OpenGLES1.1/2.0/3.2, OpenCL2.0, Vulkan1.1, embedded high performance 2D acceleration hardware
- Operating System: Linux Ubuntu 20.04
- RAM: Memory network
- Display: Support for 4K 60fps H.265/H.264 Video decoding,
- Support for 1080P 100fps H.265/H.264 Video decoding
- Audio: Multi-media
- Interfaces: HDMI output, 2 * USB 3.0 ports, 1* CAN interface, multiple serial ports (2 RS485, 2 RS232), multiple IO interfaces
- Power Input: Power Input Working Temperature Storage Temperature Working Humidity
- Dimensions: 160mm*85mm*28mm

Introduction

USR-EG828 high-performance open source gateway controller, using RK3568 chip, 4-core 64-bit high-performance ARM architecture CPU design, main frequency up to 2.0G, has super general computing performance, CPU

integrates AI neural network processor NPU, computing performance up to 1.0 TOPS, supports a variety of AI development tools and interfaces.
Built-in Linux Ubuntu 20.04 system, support desktop, convenient development and design. The product hardware interface is rich, the supporting drive is perfect, the start is already available. Built-in cellular 4G networking, two Ethernet interface and one WIFI interface, realizing a variety of networking functions, external design of multi-serial port, USB3.0 interface, HDMI interface, AI, DI, and DO and other analog acquisition and switch acquisition and control interface, rich interface design can meet the use of different scenarios of the product. The product supports the installation of guide rail and hanging ear, convenient and quick.



Product Features

- RK3568, ARM architecture quad-core 64-bit CPU, with a frequency of 2GHz, delivering high performance and fast operation.
- Dual network support with parallel LTE 4G and Ethernet, ensuring stable network transmission without downtime. It also supports WiFi communication, catering to different network requirements.
- Abundant interfaces including HDMI output, 2 * USB 3.0 ports, and 1* CAN interface.
- Multiple serial ports, including two RS485 and two RS232 ports, maximizing compatibility with external devices.
- Multiple IO interfaces, including 4*AI (Analog Input), 2*DO(Relay Digital

Output), 4*DI(Digital Input).

- Standard Linux Ubuntu system with a graphical interface for more convenient operations.
- Embedded Node-RED graphical design makes development simpler and faster, allowing the loading of more protocol libraries for rapid programming.
- Powerful edge gateway capabilities, supporting edge collection, edge computing, grouped reporting, and capable of collecting 2000 actual points.
- Rich collection protocols, supporting standard Modbus and various mainstream PLC protocol collections, as well as collections for various industry protocols.
- Joint control supports multi-point linkage, supports joint SMS alarms, joint platform alarms, joint point control, and joint DO control.
- Multiple protocol conversions, integrating various protocol conversions such as Modbus and OPC UA,Bacnet.

Product Parameter

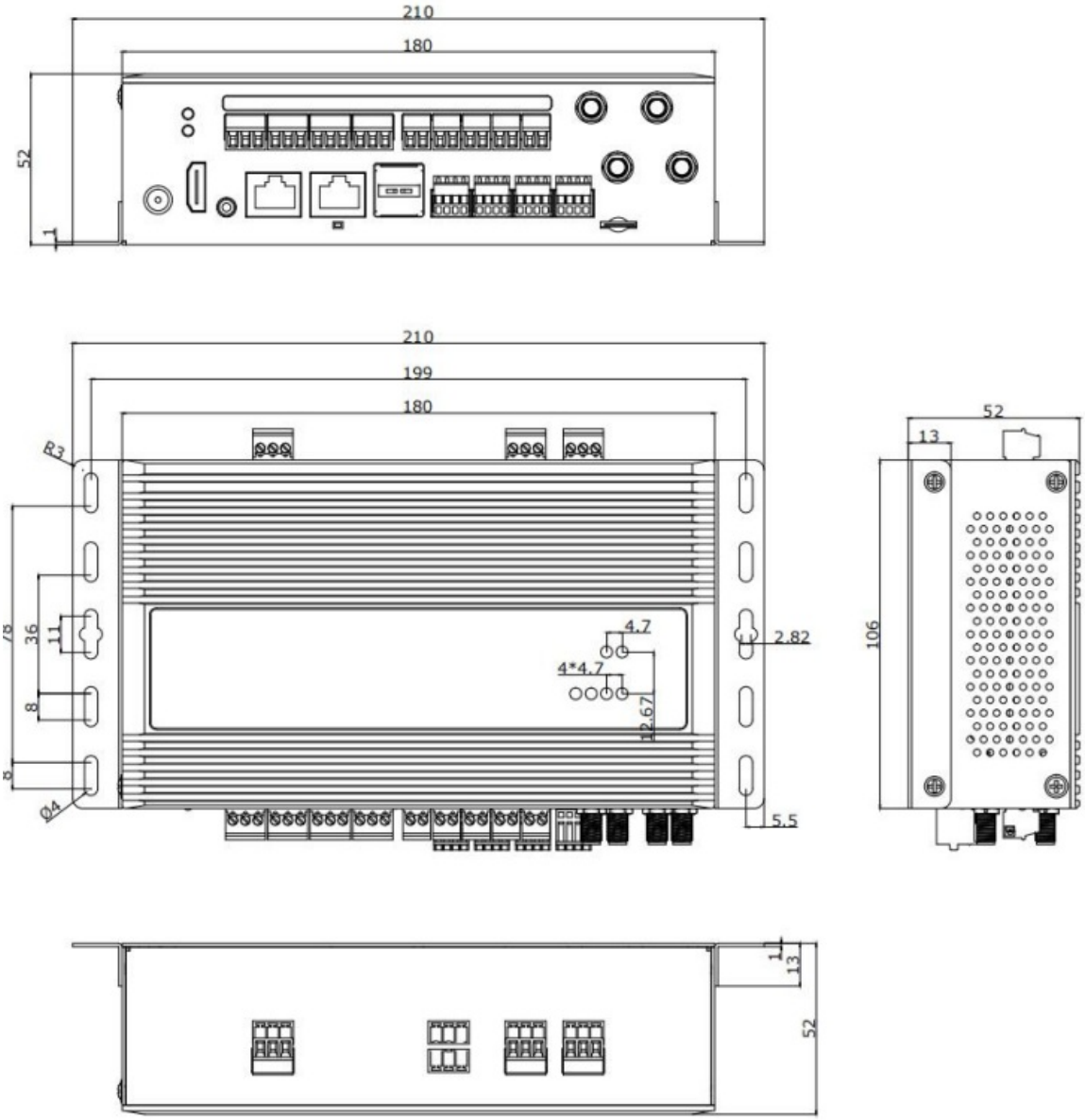
CPU	Rockchip RK3568 Quad-core ARM Cortex-A55 64bit CPU,up to 2.0GHz
GPU	ARM G52 2EE GPU Support OpenGLES1.1/2.0/3.2,OpenCL2.0,Vulkan1.1, embedded high performance 2D acceleration hardware
NPU	1.0TOPS@INT8 Support Caffe/Mxnet/TensorFlow/TFLite/ONNX/Darknet models.
operating system	Linux Ubuntu 20.04
RAM	DDR4 4GB

Memory	eMMC 32GB
network	Dual 10/100 Ethernet ports
	2.4GHz Wi-Fi 802. 11b/g/n
	4G mobile network
GPS	GPS, GLONASS, BDS, Galileo and QZSS Protocol: NMEA 018 3 Data update rate: 1 Hz by default Sensitivity: -162dBm Receive frequency: 1575.42MHz Acquisition Autonomous -146 dBm Tracking Autonomous -157 d Bm Accuracy: Autonomous @ open sky 10m
SIM	1*SIM slot Nano-SIM(4FF)
Displays	1*HDMI OUT 2.0 ,4K 60fps
Audio	1 * Ear output
RTC	Built-in real-time clock battery, supports scheduled power on/off.
USB	1*USB3.0 HOST 1 * USB 3.0 OTG
LED	1*Power LED(RED),1*System LED(Blue, blinking) 2*DOLED 4*DI LED
Button	1*upgrade for OTA,REC
Serial Ports	2*RS232 ,2*RS485

IO	4*DI dry/wet contact –DI voltage range 0-36V (Max. 36V), High 5-36V, Low 0-2V 2*DO Relay –DO Max. 10A-277VAC/28VDC for NO,5A-250VAC for NC 4*AI Analog quantity –Voltage range 0-10v ; Analog input Current range 4~20mA
Power Input	DC12V/2A (Max. 15V) Connector: Jack Barrel Type DC5.5*2.1mm Round socket
Working Temperature	-10 – 70°C
Storage Temperature	-20 – 70 °C
Working Humidity	10%-80%

Dimension	160mm*85mm*28mm
Multi-media	Support for 4K 60fps H.265/H.264 Video decoding Support for 1080P 100fps H.265/H.264 Video decoding Support for 8 MISP, and support for HDR
Language	Default English, and you can download other languages online
Input Method	Standard Android keyboard, optional third-party input method (Chinese, Korean, Japanese, etc.)

Dimensions & Details



Ordering Guide

Model	Ethernet	Cellular	Region	Bands
USR-EG828-G4	√	LTE Cat 4	China, Parts of Southeast Asia	LTE TDD Band 34/38/39/40/41 LTE FDD Band 1/3/5/8 GSM 900/1800MHz

USR- EG828-GL	√	LTE Cat 4	Global	LTE-FDD:B1/B2/B3/B4/B5/B7/B8/ B12/B13/ B18/B19/B20/B25/B26/B28/B66 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 GPS GPS/GLONASS/BDS/Galileo /QZSS

This product complies with the radio interference requirements of the European Community.

- **Product name:** ARM based Computer
- **Product model:** USR-EG828
- **Manufacturer:** Jinan USR IOT Technology Limited

Frequency Range: BT+BLE: 2402~2480MHz; WiFi 2.4G: 2412~2472MHz; GSM900: 880~915MHz; DCS1800: 1710~1785MHz; WCDMA Band I: 1920-1980 MHz; WCDMA Band VIII: 880-915MHz; FDD Band1: 1920~1980MHz; FDD Band3: 1710~1785MHz; FDD Band7: 2500~2570MHz; FDD Band8: 880~915MHz; FDD Band20: 832~862MHz; FDD Band28: 703-736 MHz; TDD Band34: 2010~2025MHz; TDD Band38: 2570-2620 MHz; TDD Band40: 2300-2400 MHz; GPS L1C/A: 1575.42MHz
Max. Transmit Power: BT: 3.05dBm Max; BLE: 2.74dBm Max; WiFi 2.4G: 16.86dBm Max; GSM900: 31.23dBm Max; GSM1800: 23.93dBm Max; WCDMA Band I: 21.48dBm Max; WCDMA Band VIII: 22.69Bm Max; FDD Band1: 22.30dBm Max; FDD Band3: 22.42dBm Max; FDD Band7: 23.06dBm Max; FDD Band8: 22.33Bm Max; FDD Band20: 23.23dBm Max; FDD Band28: 23.06dBm Max; FDD Band34: 22.10dBm Max; FDD Band38: 21.52dBm Max; FDD Band40: 21.78dBm Max;

SIMPLIFIED EU DECLARATION OF CONFORMITY

The simplified EU declaration of conformity referred to in Article 10(9) shall be provided as follows:

- Hereby, Jinan USR IOT Technology Limited declares that radio equipment type USR-EG828 is in compliance with Directive 2014/53/EU, and this product is allowed to be used in all EU member states. This product can be used across EU member states.

Adapter shall be installed near the equipment and shall be easily accessible.

RF warning statement

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular

installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Linux Ubuntu 20.04 4-core 64-bit ARM architecture CPU Rich Interface Powerful edge Computing application Node-RED Perfect Hardware Drivers.

- Linux Ubuntu 20.04 4-core 64-bit ARM architecture CPU
- Rich Interface Powerful edge Computing application
- Node-RED Perfect Hardware Drivers

FAQs

What languages are supported by the device?

The default language is English, but additional languages can be downloaded online including Chinese, Korean, and Japanese.

What is the dimension of the device?

The dimensions of the controller are 160mm in length, 85mm in width, and 28mm in height.

What are the main features of the USR-EG828?

The main features include a quad-core 64-bit CPU, dual network support, abundant interfaces, powerful edge gateway capabilities, and support for various protocols and joint control functionalities.

Documents / Resources

	PUSR USR-EG828 ARM Based Computer [pdf] Owner's Manual 2ACZO-USR-EG828, 2ACZOUSREG828, USR-EG828 ARM Based Computer, USR-EG828, ARM Based Computer, Based Computer, Computer

References

- User Manual

PUSR

2ACZO-USR-EG828, 2ACZOUSREG828, Arm Based Computer, Based Computer, Computer, PUSR, USR-EG828, USR-EG828 ARM Based Computer

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