



USR-EG528

Open CPU Computer

IoT Controller

All- New Featured Industrial Computer Series



Quad-core 64-bit ARM Cortex A53; Linux Ubuntu22.04; Original Node-RED;

WukongEdge Engine; Diverse I/O and Ethernet interfaces; Powerful CPU chip.



Robot control



Factory automation



Energy management

Product Features

USR-EG528 is an ARM-based Linux industrial control computer. It is equipped with RK3562 chip, quad-core Cortex-53 processor with a main frequency of 2.0 GHz. The build-in NPU supports Caffe/Mxnet/TensorFlow/TFLite/ONNX/Darknet frameworks.

It also incorporates the WukongEdge edge computing engine, enabling data collection, edge computing, and cloud reporting with simple configuration. The product is pre-installed with the latest Node-Red, featuring drag-and-drop programming, allowing business logic to be implemented immediately.

The product also supports 4G/Wi-Fi/ Ethernet, and when paired with a router, firewall functions enable comprehensive networking. It comes with 2 USB ports and 4 serial ports, HDMI configuration, and can easily connect to various industrial sites. It is equipped with a standard Ubuntu 24.04 environment, with open root access, and the development environment is set up in one click, allowing for unrestricted creativity and rapid project launch.



- ◆ RK3562, Quad-core 34-bit ARM Cortex-A53 CPU,, up to 2.0GHz.
- ◆ 2*Fast Network port, 4G network, WiFi connectivity, to ensure stable Internet access.
- ◆ Diverse hardware interface, HDMI output, 2*USB, 2*RS485, 2*RS485/RS232.
- ◆ Standard Linux Ubuntu 24.04, with user friendly UI.
- ◆ Native Node-RED, featuring drag-and-drop programming, allowing business logic to be implemented immediately.
- ◆ Built-in WukongEdge computing engine, enabling data collection, edge computing, and cloud reporting with simple configuration.
- ◆ Simple configuration enables data collection and reporting, making it more convenient and efficient to use.
- ◆ Powerful edge gateway function, supporting edge collection, edge computing, group reporting, and capable of handling 2000 real-point collection.
- ◆ Rich collection protocols, supporting standard Modbus and various mainstream PLC protocols for collection, as well as various industry protocol collection.
- ◆ Interconnected control, supporting multi-point linkage, supporting linked SMS alarms, linked platform alarms, and linked point control.
- ◆ Multiple protocol conversions, integrating Modbus, OPCUA, power protocol, building protocol and other protocol conversions.

Product Parameter

| USR-EG528 | |
|------------|--|
| CPU | Rockchip RK3562, quad-core 64-bit Cortex-A53, main frequency up to 2.0GHz |
| GPU | ARM G52 2EE, Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, High performance dedicated 2D processor. |
| NPU | 1.0TOPS@INT8 Support Caffe/Mxnet/TensorFlow/TFLite/ONNX/Darknet frameworks. |
| OS | Linux Ubuntu 22.04 (without desktop) |
| RAM | DDR4 4G |
| ROM | eMMC 32GB |
| SD Storage | External SD card interface |
| Network | Ethernet: 2 * 10/100M RJ45 Ethernet port |
| | WiFi: Dual band |

| | |
|-----------------------|--|
| | IEEE 802.11 a/b/g/n/ac/ax 2.4G: 2.400~2.4835 GHz 5.8G: 5.150~5.850GHz |
| | Cellular: LTE Cat 4 (5G cellular can be customized) |
| GPS | Sensitivity: -162dBm Receive frequency: 1575.42MHz Satellite channel: 20 channels Accuracy: <10m The GPS function is only available for GL version |
| SIM | Nano SIM (Single SIM card by fault, Dual SIM card can be customized) |
| HDMI | HDMI output, 1.4, 60Hz, 1080P |
| RTC | Built-in RTC clock battery |
| USB | 1*USB2.0 HOST 1*USB3.0 OTG (Compatible with upgrading, HOST by default) |
| LED | 1 * power, red 1 * SYS, green, flashing after start up |
| Key | 1 * update key, for updating firmware |
| Serial | 2 * RS485 2 * RS485/RS232 |
| Power input | DC 9-36V, DC socket, 5.5 * 2.1mm |
| Weight | WiFi: 340g |
| Operating temperature | -25-75°C |
| Storage temperature | -25-80°C |
| Operating humidity | 5%-95% |
| Video Codec | Support 4K 60fps H.265/H.264 decoder Support 1080P 100fps H.265/H.264 encoder Support 8M ISP and HDR |
| Language | English by default |
| Software | |
| Edge computing | Edge acquisition, edge computing, active reporting... Up to 2000 data points |
| Protocol conversion | Modbus, Json, IEC104, IEC61850, BACnet, OPC UA, SL651, DNP 3.0 |
| Acquisition protocol | Mainstream PLC protocols, Modbus TCP/RTU, DTL645, IEC104, IEC61850, BACnet IP |
| Open CPU | Linux Ubuntu 24.04 OS, support C/C++ programming, built-in Node-RED, support installing Docker |

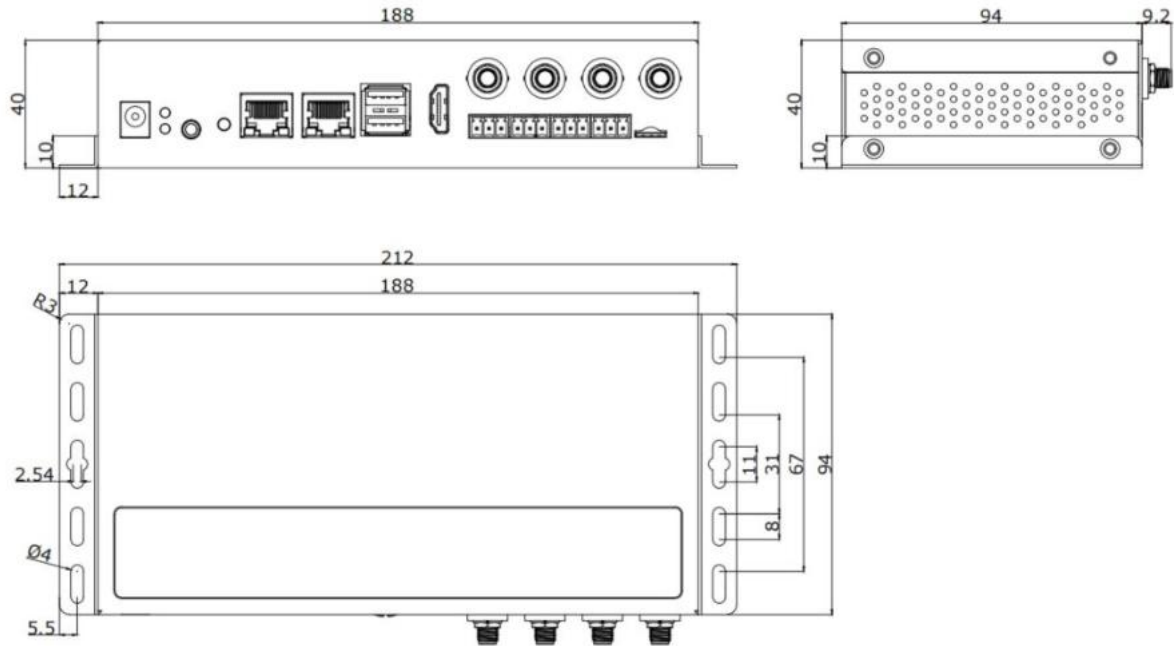
Ordering Guide

| Model | Ethernet | IO | Network connectivity | Region | Frequency Band |
|----------------|----------|----|-------------------------------------|--------------|--|
| USR-EG528K-GL* | √ | √ | LTE Cat 4 2.4G WiFi 5.8G WiFi | Global | LTE TDD:B34/38/39/40/41 LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28/66 GSM: B2 /3/5/8 GPS: GPS/GLONASS/BDS/Galileo/QZSS 2.4G WiFi: 2.4-2.4835 GHz 5.8G WiFi: 5.15-5.85 GHz IEEE 802.11 a/b/g/n/ac/ax |
| USR-EG528K-EW | √ | × | 2.4G WiFi 5.8G WiFi | Global | 2.4G WiFi: 2.4-2.4835 GHz 5.8G WiFi: 5.15-5.85 GHz IEEE 802.11 a/b/g/n/ac/ax |
| USR-EG528K-G4* | √ | √ | LTE Cat 4 2.4G WiFi 5.8G WiFi | China, India | LTE TDD:B34/38/39/40/41 LTE FDD: B1/3/5/8 GSM: 900/1800MHz 2.4G WiFi: 2.4-2.4835 GHz 5.8G WiFi: 5.15-5.85 GHz IEEE 802.11 a/b/g/n/ac/ax |

Note: The USR-EG528K-G4 and USR-EG528K-GL are under development.

Product Dimensions

Unit: mm



Product Interfaces

