



USR-EG628

Open source controller

Industrial Mini Computer



4-core 64-bit ARM Architecture CPU Linux Ubuntu Node-Red

Rich Networks and Interfaces

WukongEdge (Edge Computing +PLC+ Configuration)



Product Introduction

USR-EG628 is an expandable ARM industrial computer built on the Linux Ubuntu system, featuring the WukongEdge app for edge gateway, local config, and PLC programming. It supports IO expansion and is equipped with the RK3562J industrial chip, boasting a 4-core 64-bit ARM CPU up to 2.0GHz and an AI NPU up to 1.0 TOPS. It includes cellular 4G, dual Ethernet, Wi-Fi, multiple serial and USB 3.0 ports, HDMI, and IO expansion ports for various applications in smart healthcare, buildings, and agriculture.



Product Features

- RK3562J, a 4-core, 64-bit CPU running at 2GHz for high performance and fast operation.
- Mult networking options including dual network ports, 4G and WiFi ensure stable connectivity without downtime.
- Multiple VPNs to ensure data communication security: PPTP, L2TP, OpenVPN, IPsec, for OpenVPN, users can configure via configuration file.
- Communication interface includes 2xRS485, 1xRS232 and 1xCAN
- With HDMI output, two USB 2.0 interface, and 1xUSB3.0
- Expandable I/O, plug-and-play expansion.
- Based on Linux Ubuntu with a user-friendly GUI for easy operation.
- Embedded Node-Red graphical design and rapid programming with extended protocol libraries.
- Powerful edge gateway functions, with edge collection, edge computing, and grouped reporting, supporting up to 6000 real-time collection points with expansion, supporting up to 100 slave devices, among which the number of network slave devices is limited to a maximum of 25.
- Rich collection protocols: standard modbus, PLC and industrial protocols for diverse data collection.
- Linkage control, supporting multi-point linkage, linkage SMS/platform alarm, linkage point control, and linkage DO control.
- Multiple protocol conversions, integrating Modbus, OPC UA, power protocols, building protocols, etc.
- Built-in PLC operating logic compliant with the IEC61131 standard.

- Built-in configuration allows for local editing to achieve data dashboard display.

Product Parameter

Hardware Parameters	
Processor CPU	Rockchip RK3562J ARM quad-core 64-bit processor, clocked up to 2.0GHz
Graphics Processor GPU	ARM G52 2EE GPU Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded high-performance 2D acceleration hardware
Neural Network Processing NPU	Built-in neural network processor NPU, 1.0TOPS@INT8 Performance Support Caffe/Mxnet/TensorFlow/TFLite/ONNX/Darknet models.
Operating system	Linux Ubuntu 20.04
Memory	DDR4 4GB
Storage	eMMC 32GB
SD Memory	Support SD card storage, up to 128G
Network	Two Ethernet interfaces, one gigabit and one hundred megabit
	Dual-band WiFi IEEE 802.11a/b/g/n/ac/ax 2.4 GHz: 2.400~2.4835 GHz 5 GHz: 5.150~5.850 GHz
	Support for 4G functionality
GPS	Built-in GPS/BD module, Sensitivity: -162dBm Receiving frequency: 1575.42MHz; Satellite channel: 20 channel Positioning accuracy: <10m
SIM	Nano SIM card slot for cellular networking (-GL): Dual SIM Single Standby, Dual External Card.
Display interface	1* HDMI OUT 2.0 supports 4K60fps output
Audio	1* Headset output
RTC	Built-in real-time clock power supply battery support timing switch on / off
USB	2* USB 2.0 HOST 1* USB 3.0 OTG (compatible upgrade, default HOST function, Type-C interface)
LED	1* Power status LED (red) 1* Operating status LED (green, blinking by default) L1 and L2 are user-defined indicators
Key	1* Upgrade button (used for firmware upgrade) 1* Factory restore button (Used to restore edge application parameters to factory setting)

Serial port	1*RS232 ,2*RS485
CAN	1*CAN
IO ports	Expandable
Power input	9-36V wide voltage supply
Operating temperature	-20 - 70°C
Storage temperature	-20 - 80 °C
Operating humidity	5%-95%
Multimedia	Support 4K 60fps H.265/H.264 video decoding Support 1080P 100fps H.265/H.264 video encoding Support 8M ISP, support HDR
Language support	English by default, downloadable in other languages
Input method	Standard Android keyboard with optional third-party input methods (Chinese, Korean, Japanese, etc.)
Software parameters	
Edge computing	Supports over 6000 points, edge collection, calculation, active reporting and other edge functions
Protocol conversion	Supports Modbus, OPC UA, JSON, IEC104, IEC61850, Bacnet, DNP 3.0, HJ212, etc.
Collection protocol	Multiple PLC protocols, IEC104, IEC61850, Bacnet, DL/T645, etc.
Configuration	Support configuration local editing, local display
PLC	Comply with IEC61131-3 standard, support 5 PLC programming languages
Secondary development	Standard Linux Ubuntu system, support C/C++ development. It has a built-in new version of Node - Red and can install applications such as Docker

Ordering Guide

Model	Ethernet	Cellular	WiFi	Region	Bands
USR-EG628-G4	√	LTE Cat4	2.4GHz 5.8GHz	China, India	LTE TDD: Band 34/38/39/40/41 LTE FDD: Band 1/3/5/8 GSM: 900/1800MHz WiFi: IEEE80211a/b/g/n/ac/ax WiFi-2.4: 2.4-2.4835GHz WiFi-5.8: 5.15-5.85GHz
USR-EG628-GL	√	LTE Cat4	2.4GHz 5.8GHz	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 WiFi: IEEE80211a/b/g/n/ac/ax WiFi-2.4: 2.4-2.4835GHz WiFi-5.8: 5.15-5.85GHz

USR-EG628-ETH

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Global

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Dimensions

