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USR-EG828

Open source controller

Open-source Gateway Controller

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

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

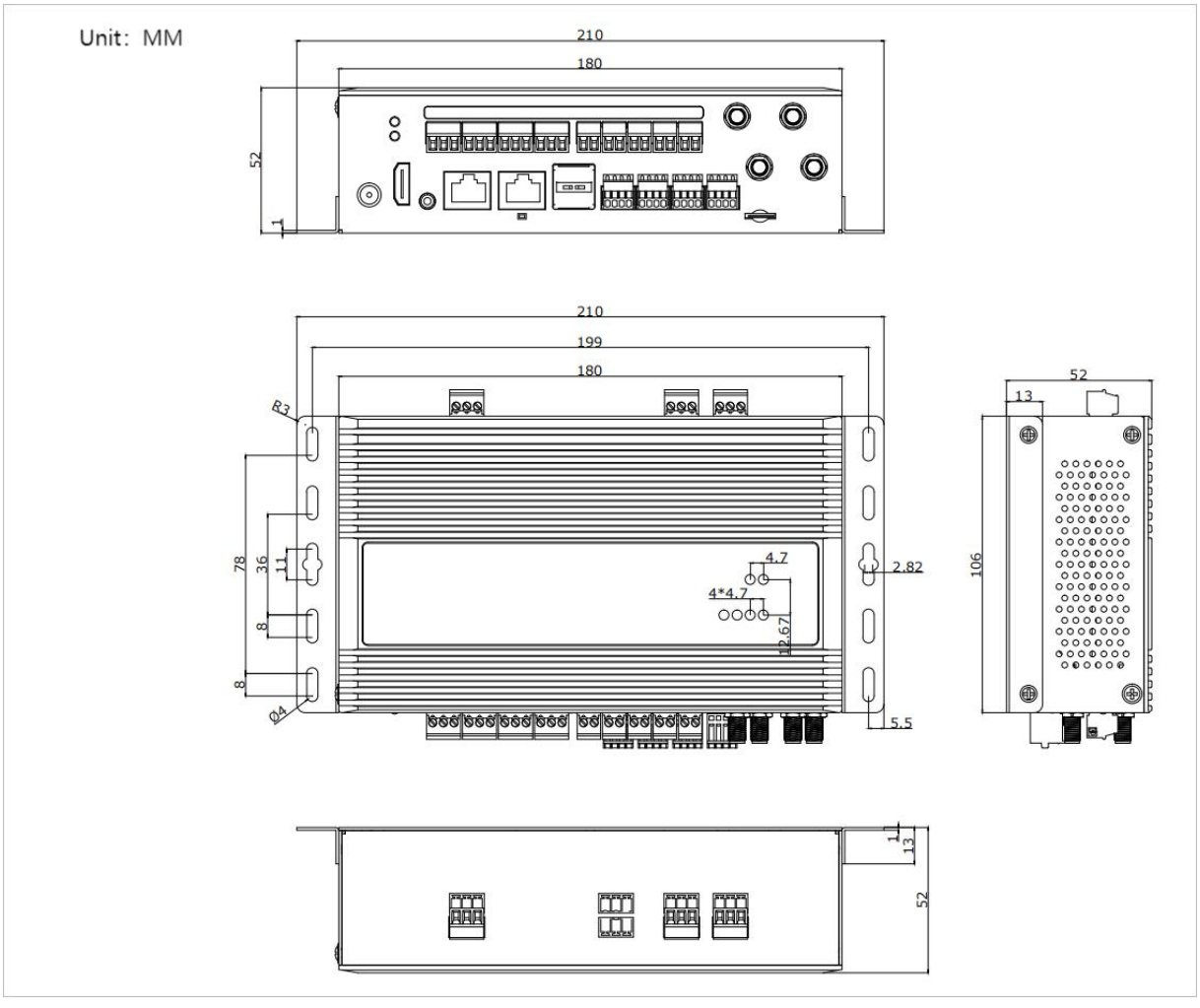
- RK3568, ARM architecture quad-core 64-bit CPU, with a frequency of 2GHz, delivering high performance and fast operation.
- Dual network support with parallel LTE 4G and Ethernet, ensuring stable network transmission without downtime. It also supports WiFi communication, catering to different network 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 0183 Data update rate: 1 Hz by default Sensitivity: -162dBm Receive frequency: 1575.42MHz Acquisition Autonomous -146 dBm Tracking Autonomous -157 dBm 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℃
Storage Temperature	-20 - 70 ℃
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 Cat4	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 Cat4	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