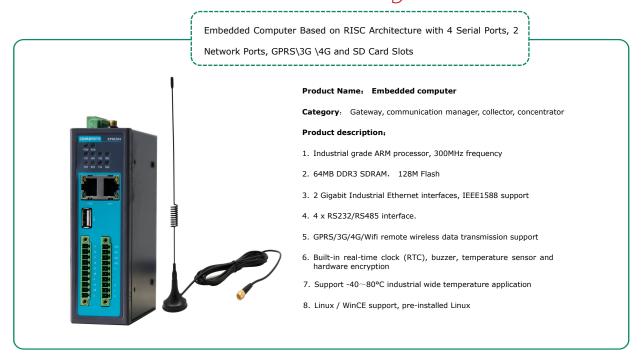


# KPM204 Communication Manager



KPM204 series wireless remote intelligent controller based on RISC architecture industrial grade ARM9 processor, clocked at 300MHz, supports 2 10/100/1000Mbps adaptive industrial Ethernet interface, 4 serial ports (RS-232/422/485 optional Supports power IEC60870-101, 103, 104 protocol, DL/T645, ModbusRTU, CJT188 and other protocols, supports IEC61850 ProfiNet, EtherNet, BACnet, SNPx, energy management machine and other communication protocols, with 1 debug serial port, large capacity SD Storage, WIFI wireless LAN and GPRS/3G/4G remote communication functions make it easy for users to realize remote monitoring applications. It is ideal for industrial field signal acquisition and control of on-site and remote equipment.

KPM204 series uses high-performance, low-power, small-volume embedded microprocessors with embedded 64MB DDR2 SDRAM, 128MB Flash memory, 32KB NVRAM, and SD memory card with up to 128GB capacity for powerful computing, storage capacity, local and remote wireless communication capabilities, real-time collection and processing of field data, complex control algorithms and massive field data storage, with rich peripheral interfaces and communication functions, ideal for data acquisition and high computing power control systems, communication systems, remote equipment monitoring and other applications. Rugged metal casing and internal circuit "three-proof" treatment, especially suitable for harsh environments.

KPM204 series of intelligent controllers pre-installed the embedded Linux operating system, providing an open and efficient software platform for user software development. Combined with the self-developed LT-IDE development environment, it can easily and efficiently complete application development and interactive debugging.





#### Main system

CPU: Industrial grade ARM, 300MHz frequency

RAM: 64MB DDR2 SDRAM Flash: 128MB Flash

NVRAM: 32KB

Storage: Large capacity SD storage, up to 128GB

**Network Interface** 

LAN: 10/100Mbps Adaptive Industrial Ethernet, RJ45

Protection: 15KV air discharge and 8KV contact discharge protection

Standard: RS-232 (TxD、 RxD、 GND)

RS-422 (A、 B、 Y、 Z、 GND)

RS-485 (DATA+、 DATA-、 GND)

Photoelectric isolation: independent optical isolation for each channel

Serial port protection: 15KV ESD for all signal lines

Flow direction control: RS485 automatic data flow control

Communication Protocol: Modbus RTU/ASCII Protocol Support

**CAN** interface

Standard: Bidirectional optical isolation CAN2.0B interface

Signal: CAN-H, CAN-L

Isolation: 2KV digital optical isolation

Speed: 10Kbps to 1Mbps

**GPRS** 

RF Band: 850/900/1800/1900MHz

Standard: Class 8/10 3G (Optional WCDMA)

Technical System: WCDMA/HSDPA/GSM/GPRS/EDGE

RF band: 2100/1900/850MHz

Peak rate: 3.6Mbps (downstream) / 384Kbps (upstream) Peak rate: 100Mbps (downstream) / 50M bps (upstream)

Reliability

Alarm Tool: Built-in buzzer

Temperature monitoring: Built-in temperature sensor for

temperature monitoring

Watchdog: Hardware Watchdog (WDT) Monitoring

MTBF: more than 100,000 hours

Safety

Hardware encryption: Built-in independent hardware encryption circuit to

protect user IP

WIFI (WLAN)

Compatible standards: 802.11a/b/g

RF Type: DSSS, CCK, OFDM Transmission rate: 150Mbps

**Transmission distance:** 200 meters (open area without shelter)

Dry node: logic 0 (short to GND), logic 1 (disconnected) Wet node: logic 0 (below 3VDC), logic 1 (10  $\sim$  30 VDC)

Protection: 4KV photoelectric isolation; 36 VDC overvoltage protection

**Digital output** 

Relay: Type C (lifetime is more than 100,000 times), capacity 1A @120 VAC or 1A @ 24VDC, support for normally open or normally closed contacts

Analog input

Signal Type: Single-Ended / Differential Signal Input

Resolution: 16 bits

Signal form: 0~5V, 0~10V, ±5V, ±10V, 4~20mA

Sampling rate: no less than 100 times per second per channel

**Analog output** 

Resolution: 16 bits

Signal form: 0~10V, 4~20mA Load resistance: less than 250  $\Omega$ 

**Pulse input** 

Operating humidity: 5 to 95% RH Storage temperature: -50 $\sim$ 100°C

Seismic performance: 1G @ IEC-68-2-6, sine wave,  $5{\sim}500$  Hz,

1 Oct./min, 1 hr/axis.

Impact resistance: 5G @ IEC-68-2-27, half sine wave, 30 ms

**Power requirements** 

Power input: 9-48VDC, 12 VDC/24VDC recommended

Power Consumption: 250 mA @ 12 VDC, 3W

**Mechanical properties** 

Shell: Polycarbonate plastic

Dimensions: 138x55x118mm

Weight: 320g

Installation: rails, wall mount

Warranty period 5 years





### Linux (pre-installed)

Operating System: 3.2

BootLoader: UBoot

File System: JFFS2, YAFFS2, NFS, Ext2, Ext3

Protocol stack: TCP, UDP, IPv4, SNMPv1/v2/v3, ICMP,

ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS,

SMTP, Telnet, FTP, TFTP, PPP, PPPoE

Network security: OpenVPN, iptables firewall

Web server (Apache):

 $Create \ and \ manage \ websites, \ support\ PHP \ and \ XML \ and \ dial-out \ tasks \ for \ network \ connectivity \ to \ other \ hosts$ 

# Web-based system configuration and machine testing services:

IE or other browsers can complete system function configuration and verification testing of all components on board

# Application development software:

- GNU C library
- GNU C/C++ cross-compiler
- GCC C/C++ cross-compilation toolchain Bootloader/ Kernel/ files