Z1
5G Industrial Outdoor Gateway

Overview

With powerful data collection, storage, analysis and processing capabilities, Hongdian Z1 5G intelligent IoT gateway is mainly aimed at the industrial sector and can also be used for indoor and outdoor network coverage, providing customers with a total solution for device networking, edge computing and intelligent operation and maintenance.

Highlights

Excellent WiFi Coverage

Support new generation 802.11ac Wave2 and dual-band 2×2 MU-MIMO
Equipped with IPQ40X9 LTE/NR CPE

High Stability

Fully industrial grade hardware platform with 4 core high performance CPU
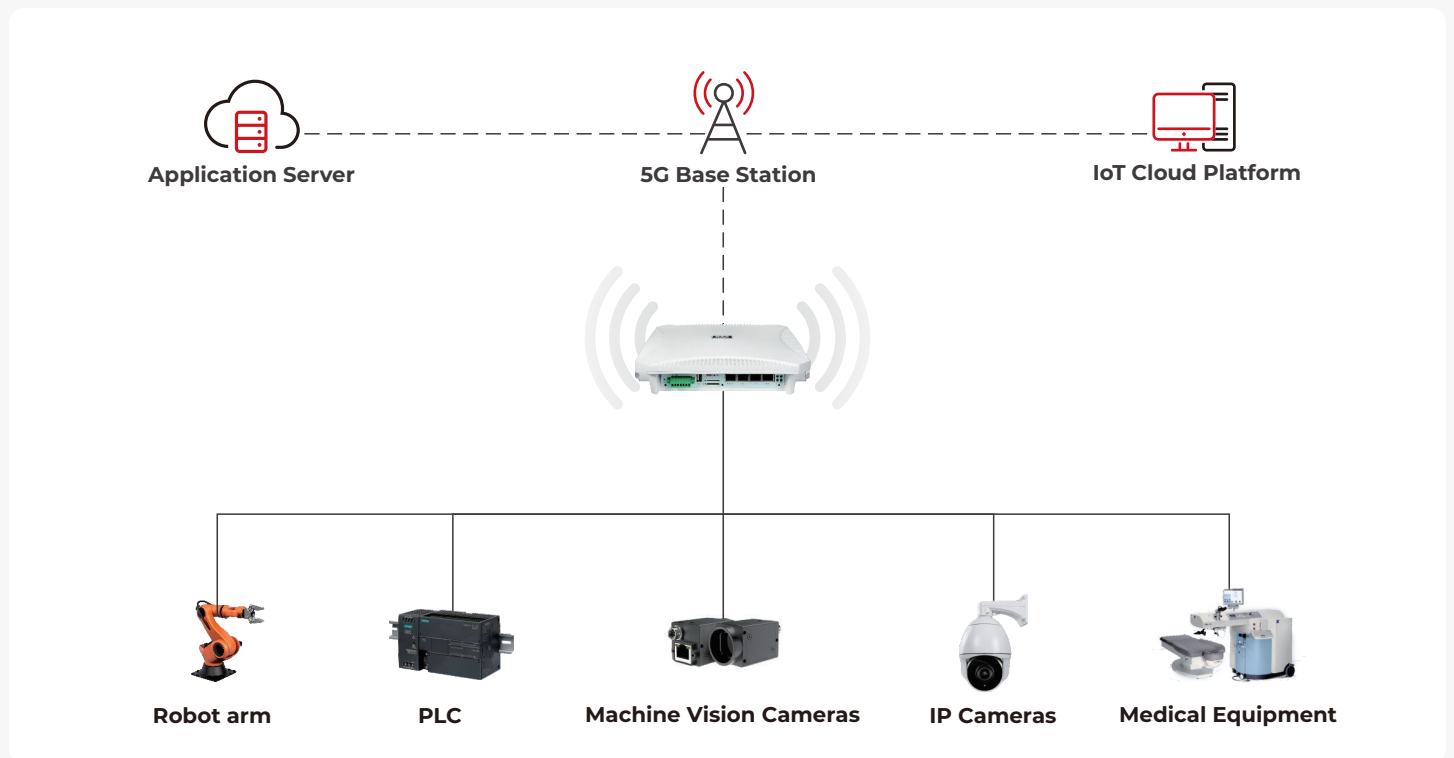Support wired, WLAN, 4G/5G multi-network access

Multiple Mounting Options

Support ceiling-mounted installation

Industrial Standard Design

Wide temperature and input voltage range, above IP66 protection level

▊ Topology diagram

Application Server

5G Base Station

IoT Cloud Platform

Robot arm

PLC

Machine Vision Cameras

IP Cameras

Medical Equipment

Smart Manufacturing

Smart Factory

Smart Ports

Smart Healthcare

▊ Features

Rich interfaces
RJ45, RS485, RS232 and other industrial field interfaces

VLAN
Dividing VLAN, network isolation

5G ultra-high-speed network
Support for frequency locking, cell locking, support for 5G/4G, WiFi wired multi-network simultaneous access, multi-network backup switching

VXLAN
VXLAN, LAN networking
Support bridging, port forwarding and other functions
Support multi-DNN

◢ *Specification*

Hardware

CPU	Quad-core ARM Cortex A7, 717MHz		
RAM	512MB	**FLASH**	32MB+8GB eMMC
SD Card	Built-in TF card slot	**USB**	USB2.0

Cellular Interface

Modem	1×LTE or 1×5G NR SA/NSA or 1×LTE + 1×5G NR SA/NSA		
Number of Antennas	4 (MAIN + AUX)	**Module Integration**	Mini PCIe or M.2
SIM	2 × Mini SIM (2FF)	**Connector**	SMA-K

Ethernet Interface

Number of Ports	4 × 10/100/1000 Mbps, Gigabit Ethernet	**Configuration**	4 × LAN / 3 × LAN + 1 × WAN

Wireless Interface

Standards	802.11b/g/n/ac, AP or station modes	**Frequency Bands**	2.4 GHz & 5 GHz
Speed	1167Mbps	**Security**	WPA, WPA2
Encryption	64/128 AES, TKIP	**Antennas**	4
Connector	SMA-K		

GNSS Interface

Number of Antennas	1 (only for GPS version)	**Connector**	SMA-K with 50 ohms impedance
Dead Reckoning	Optional		

Seiral Interface

Type	1 × RS-232 + 1 × RS-485 serial port	**Socket Form**	1 × 7-pin 3.5 mm female socket
Signal Definition	RX, TX, GND (RS-232) , A+, B-, GND (RS-485)	**ESD**	15KV
Baudrate	RS-232 (300-115200bps), RS-485 (300-115200bps)		

Software

Auto Fail-over	Between: Cellular and WAN, Cellular and Wi-Fi (station mode), WAN and Wi-Fi (station mode)
Network Protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPs, DNS, ARP, NTP, SMTP, Telnet, SSH, DDNS, etc.
Routing	Static Routing, Policy routing, RIP, OSPF and BGP, etc
Firewall	NAT, PAT, DMZ, Port Forword IP/Domain/MAC Filter, Access Control List
VPN	PPTP/L2TP/GRE/IPSec/OpenVPN/DMVPN
Remote Management	HTTP, Telnet, SSH, SMS, SNMP V1/V2/V3, SNMP TRAP, Hongdian Wedora Cloud Platform
Serial Ports Function	Transparent, Modbus RTU, etc

Power Supply and Consumption

Connector	2 pin socket	**Voltage Input**	+9V~+24V DC
Power Consumption	Idle: 450mA@12V DC, Data transceiving: 2.2A@12V DC		

Others

Reset Button	Yes	**Hardware Watchdog**	Yes
LED Indicators	4 indicators for WiFi, SIG, NET, SYS		

Physical Characteristics

Ingress Protection	IP66	**Housing & Weight**	Metal, 1860g
Dimension	216×216×51.5(mm)	**Installations**	Desktop, wall mounting and DIN rail mounting
Operating Temperature	-30 ~ +70 °C	**Storage Temperature**	-40 ~ +85 °C
Relative Humidity	5 ~ 95% RH	**Certifications**	CE*, FCC* (*In progress)

Appearance

RST
USB
1*WAN/LAN + 3*LAN ports
SIM*2
LED*4

51.5mm

7-pin socket
DC power & Serial

216mm

216mm
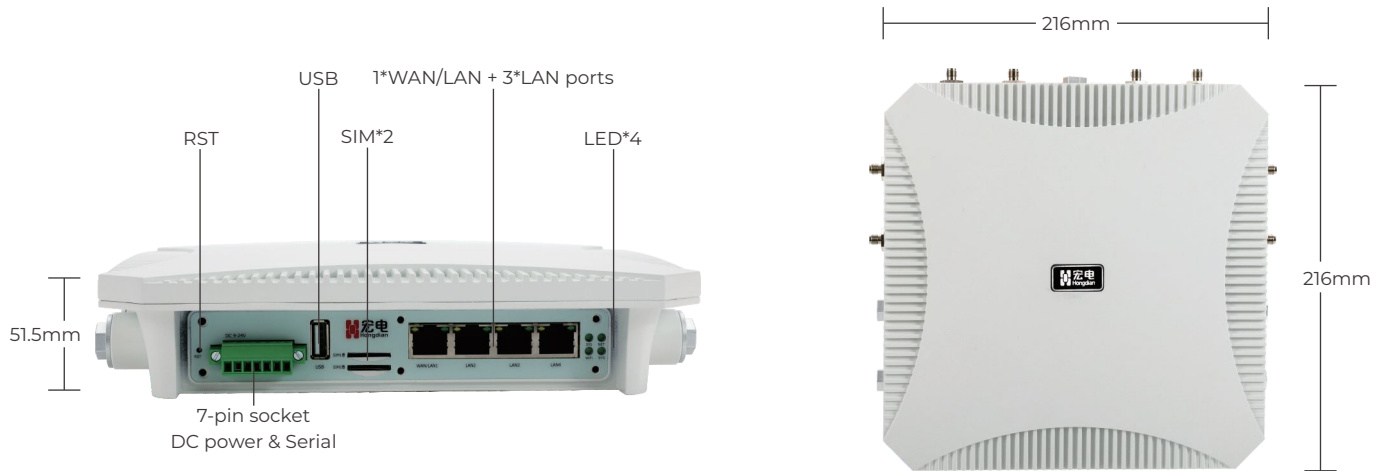
Ordering info

Model	Bands	5G modem	WLAN	RJ45	RS232	RS485	Region
Z1-N005-4W-4R-CS	**NSA/SA:** n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 **LTE-FDD:** B1/B2/B3/B4/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 **LTE-TDD:** B34/B38/B39/B40/B41/B42/B43/B48 **LTE DL 4×4 MIMO:** B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/39/B40/B41/B42/B43/B48/B66 **LAA:** B46(only support 2×2 MIMO) **WCDMA:** B1/B2/B3/B4/B5/B6/B8/B19	1*modem	4*4G Antenna	4*RJ45 Cable	1*RS232	1*RS485	Global

Packing list

Packing box

Z1 5G Industrial Outdoor Gateway

NR antennas*4

WiFi antennas*4

Connecting things

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