

Break down protocol barriers and make industrial digitization more convenient and efficient



IG902 Series High-performance Edge Computer

· Multiple Access

· Rich Interfaces

· Built-in DSA

· Cloud Management

1. Product Overview

IG902 is a high-performance industrial edge gateway that combines rich interfaces, protocol interoperability, and cloud-ready edge computing for IIoT deployments.

Key features:

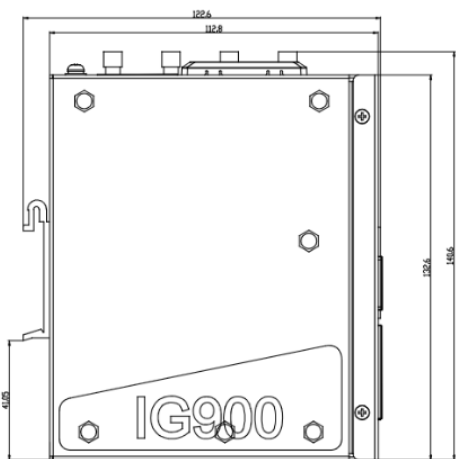
- **High-performance edge compute:** ARM Cortex-A8 1GHz with 1GB DDR3 and 8GB eMMC
- **Rich industrial interfaces:** GE ports, serial, optional DI/DO/relay, USB, MicroSD, optional Wi-Fi/GPS
- **Reliable industrial networking:** Wired/cellular/Wi-Fi backup, dual SIM failover, watchdog, link self-healing
- **Open development:** Python and Docker-based secondary development platform
- **Cloud O&M readiness:** DeviceLive + DSA for remote management and low-code data integration

Core Technical Specifications

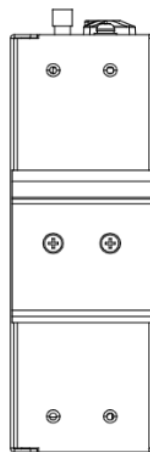
Specification Item	Value
Cellular Network	LTE Cat4/Cat6 (model dependent)
Network Features	APN, VPDN, CHAP/PAP/MS-CHAP/MS-CHAPV2; DHCP Server/Relay/Client; DNS Relay; DDNS; static routing
Security	SPI firewall, ACL, NAT/PAT/DMZ, AAA (Local/Radius/Tacacs+/LDAP), IPSec/GRE/L2TP/OpenVPN/CA
Cloud Management	DeviceLive remote configuration, upgrades, and operations
Secondary Development	Python and Docker secondary development

Specification Item	Value
Data Acquisition Protocols	Modbus RTU/TCP, EtherNet/IP, OPC UA, IEC101/104, DNP3.0, BACnet, CNC
Processor and Memory	ARM Cortex-A8 @1GHz, 1GB DDR3
Storage	8GB eMMC, MicroSD up to 32GB
Ethernet Ports	2 × 10/100/1000Mbps
Serial and I/O	1×RS232/RS485 + 1×RS485 (2×RS485 on some models); optional 4DI+4DO or 4DI+3DO+1 relay
Power Supply	12~48V DC, reverse polarity and overcurrent protection
Operating Temperature and Protection	-25~70°C, IP30

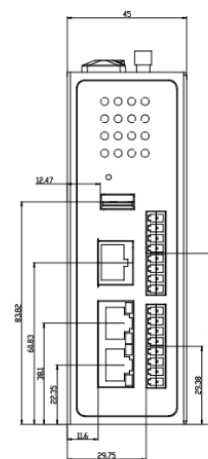
2. Product Dimensions & PIN Definition



Front View



Side View



Interface Diagram

Note:

1. All dimensions are in millimeters (mm).
2. All dimensions are approximate and for reference only.
3. Dimensioned drawings are not intended for machining.

- 4. Dimensions are subject to part and manufacturing tolerances.
- 5. Specifications may change without prior notice.

7 PIN Definition

PIN	Definition	Description
1	V+	Positive electrode
2	V-	Negative electrode
3	TXD/A	Serial RS232 send / Serial RS485+
4	RXD/B	Serial RS232 receive / Serial RS485-
5	GND	Serial RS232 signal ground
6	A	Serial RS485+
7	B	Serial RS485-

I/O Definition

PIN	Definition	Description
1	PCOM	Dry contact access point
2	DGND	Dry contact ground point
3	DICOM	Input common port
4	DI0	Digital/pulse input port 0
5	DI1	Digital/pulse input port 1
6	DI2	Digital/pulse input port 2
7	DI3	Digital/pulse input port 3
8	NC	None

9	DO0	Digital/pulse output port 0
10	DGND	Ground
11	DO1	Digital/pulse output port 1
12	DGND	Ground
13	DO2	Digital/pulse output port 2
14	DGND	Ground
15	DO3/Relay Output	DO3: Digital/pulse output port 3; Relay output: 1A 250VAC / 30VDC
16	DGND	Ground

Notes:**DI input specification:**

- Dry-contact status "1": closed
- Dry-contact status "0": disconnected
- Wet-contact status "1": +10 ~ +30V / -30 ~ -10VDC
- Wet-contact status "0": 0 ~ +3V / -3 ~ 0V
- Isolation: 3000VDC
- Pulse signal counter supported, up to 100Hz pulse signal

DO output specification:

- Isolation: 3000VDC

3. Hardware Specifications

Category/Parameter	Specification
CPU and Storage	
CPU	ARM Cortex-A8 @1GHz
RAM	IG902-B: 512MB DDR3 IG902-H: 1GB DDR3 RAM
Flash	8GB eMMC
Connectivity and Interfaces	
Ethernet Ports	2×10/100/1000Mbps Ethernet ports (WAN/LAN or 2×LAN)
I/O Ports	None / 4×DI + 3×DO + 1×Relay output DO or digital/pulse output DO
Serial Ports	1×RS232/RS485 + 1×RS485
SIM Card Slot	1.8V/3V, 2×drawer-type slot
LED Indicators	POWER, STATUS, WARN, ERROR, MODEM, SIM1, SIM2, TF, PYTHON, USER1, USER2, WIFI, GPS, SIGNAL
Console Port	1×console RS232 (RJ45)
USB Port	1×USB 2.0 port
TF	MicroSD expansion up to 32GB
Wi-Fi(optional)	2.4G/5G Wi-Fi (802.11 ac/a/b/g/n)
GNSS(optional)	GPS and BeiDou
Reset Button	Pinhole button

Category/Parameter	Specification
Power and Power Consumption	
Power Input	12~48V DC input
Power Terminal	Unpluggable industrial terminal
Reverse Polarity/Overcurrent Protection	Supported
Mechanical Specifications	
Mounting Method	DIN-rail/wall mounting
Protection Rating	IP30
Housing and Cooling	Metal housing, fanless
RTC (Optional)	Embedded RTC powered by super capacitor
Environment and Certifications	
Storage Temperature	-40~85°C
Operating Temperature	-25~70°C
Ambient Humidity	5~95% RH non-condensing
Physical Characteristics	IEC60068-2-27 shock resistance IEC60068-2-6 vibration resistance IEC60068-2-32 drop resistance

Category/Parameter	Specification
EMC Standard	EN61000-4-2, level 3, Static EN61000-4-3, level 3, Radiation Electric Field EN61000-4-4, level 3, Pulsed Electric Field EN61000-4-5, level 3, Surge EN61000-4-6, level 3, Conducted Disturbance Immunity EN61000-4-8, Power Frequency Field Resistance, horizontal / vertical 400A/m (>level 3) EN61000-4-12, level 3, Shock Wave Resistance
Certifications	CE,FCC, PTCRB, RCM, IC, IMDA, AT&T, MIC&JATE, MSIP, EAC,ANATEL, UKCA

4. Software Specifications

Category/Parameter	Specification
Operating System	Custom Linux
Network Features	
Network Access	APN, VPDN
Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAPV2
Network Type	LTE, WCDMA(HSPA+), EDGE, GPRS, CDMA
LAN Protocols	ARP, EtherNet
IP Applications	Ping, Traceroute, DHCP Server/Relay/Client, DNS Relay, DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP
IP Routing	Static routing
Security	
User Management	Multi-level users

Category/Parameter	Specification
Network Security	SPI firewall, anti-DoS attack, multicast/ping filter, ACL, NAT, PAT, DMZ, port mapping, virtual server
Data Security	IPSec VPN, GRE, L2TP, OpenVPN, CA
CA Certificates	Supported (may auto apply)
AAA (Authentication, Authorization, Accounting)	Local/Radius/Tacacs+/LDAP
Reliability	
Link Detection	Heartbeat packet detection, auto-recovery of disconnection
Embedded Watchdog	Device self-diagnosis, auto-recovery from operation faults
Backup Mechanism	VRRP, interface backup
Dual-SIM Switching	Dual-SIM backup
WLAN (Optional)	
WLAN Standard	IEEE 802.11 ac/a/b/g/n
WLAN Security	Open System, Shared Key, WPA/WPA2, WEP/TKIP/AES encryption
WLAN Mode	AP, Client modes
Open Platform and Data Acquisition Protocols (DSA)	
Python Secondary Development	Secondary development platform with Python and Docker

Category/Parameter	Specification
IoT Platform	Microsoft Azure, Amazon AWS, Alibaba Cloud, etc.
Industrial Protocols	Modbus RTU Master/Slave, Modbus TCP Master/Slave, EtherNet/IP, ISO on TCP, OPC UA Client/Server, Mitsubishi MC 3C/3E/3C OverTCP, Mitsubishi CPU Port, FINSUDP, HostLink, PPI
Electricity Protocols	DLT645-2007, IEC101/104, DNP3.0
Other Protocols	BACnet, CNC
Network Management	
Configuration Methods	Local/remote HTTP/HTTPS/Telnet/SSH config
Upgrade Methods	WEB/DeviceLive/TFTP/FTP/SFTP upgrades
Log	Local or remote log export, power-down log saving
Remote Management	DeviceLive-based remote access and remote batch device management
Network Diagnostics	Ping, Traceroute, Sniffer (network packet capture tool)

5. Ordering Information

Model Rule

Model code: IG902-<B/H>-<WMNN>-<IO/RIO/NA>-<DW/NA>-<G/NA>

<B/H>: Product version (H shown in this release)

<WMNN>: Cellular Type & Frequency Band

<IO/RIO/NA>: I/O option (**I0** =4DI+4DO, **RI0** =4DI+3DO+Relay, **NA** =No extended I/O)

<DW/NA>: Wi-Fi option (**DW** =Wi-Fi enabled)

<G/NA>: GPS option

Model List

Model	Version	Region	<WMNN>: Cellular Type & Band	Serial Port	<IO/RIO/NA>	<DW/NA>	<G/NA>
IG902-H-LQA8	High-config	China	LTE CAT4; LTE-FDD B1/B3/B5/B8; LTE-TDD B34/B38/B39/B40/B41; TD-SCDMA B34/B39; WCDMA B1/B8; CDMA BCO; GSM 900/1800MHz	RS232×1 + RS485×1	IO	NA	NA
IG902-H-LQA8-IO-DW-G	High-config	China	LTE CAT4; LTE-FDD B1/B3/B5/B8; LTE-TDD B34/B38/B39/B40/B41; TD-SCDMA B34/B39; WCDMA B1/B8; CDMA BCO; GSM 900/1800MHz	RS232×1 + RS485×1	IO	DW	G
IG902-H-FQ58	High-config	Europe & APAC	LTE CAT4; LTE-FDD B1/B2/B3/B5/B7/B8/B20; LTE-TDD B38/B40/B41; UMTS B1/B5/B8; GSM B3/B8	RS232×1 + RS485×1	IO	NA	NA
IG902-H-FQ58-IO-DW-G	High-config	Europe & APAC	LTE CAT4; LTE-FDD B1/B2/B3/B5/B7/B8/B20; LTE-TDD B38/B40/B41; UMTS B1/B5/B8; GSM B3/B8	RS232×1 + RS485×1	IO	DW	G
IG902-H-FQ58-D485-RIO-DW-G	High-config	Europe & APAC	LTE CAT4; LTE-FDD B1/B2/B3/B5/B7/B8/B20; LTE-TDD B38/B40/B41; UMTS B1/B5/B8; GSM B3/B8	RS485×2	RIO	DW	G
IG902-H-FS39-IO	High-config	North America	LTE CAT6; LTE-FDD B2/B4/B5/B13/B17; UMTS B2/B5	RS232×1 + RS485×1	IO	NA	NA
IG902-H-FS39-IO-DW-G	High-config	North America	LTE CAT6; LTE-FDD B2/B4/B5/B13/B17; UMTS B2/B5	RS232×1 + RS485×1	IO	DW	G
IG902-H-FQ78	High-config	Australia & South America	LTE CAT4; LTE-FDD B1/B2/B3/B4/B5/B7/B8/B28; LTE- TDD B40; UMTS B1/B2/B5/B8; EDGE/GPRS/GSM 850/900/1800/1900MHz	RS232×1 + RS485×1	NA	NA	NA
IG902-H-FQ78-IO-DW-G	High-config	Australia & South America	LTE CAT4; LTE-FDD B1/B2/B3/B4/B5/B7/B8/B28; LTE- TDD B40; UMTS B1/B2/B5/B8; EDGE/GPRS/GSM 850/900/1800/1900MHz	RS232×1 + RS485×1	IO	DW	G
IG902-H-FQ88	High-config	Japan	LTE CAT4; LTE-FDD B1/B3/B8/B18/B19/B26; LTE-TDD B41; WCDMA B1/B6/B8/B19	RS232×1 + RS485×1	IO	NA	NA
IG902-H-FQ88-IO-DW-G	High-config	Japan	LTE CAT4; LTE-FDD B1/B3/B8/B18/B19/B26; LTE-TDD B41; WCDMA B1/B6/B8/B19	RS232×1 + RS485×1	IO	DW	G
IG902-H-FQ98	High-config	South Korea	LTE CAT4; LTE-FDD B1/B3/B5/B7/B8/B20; LTE-TDD B38/B40/B41; WCDMA B1/B5/B8; EDGE/GSM B3/B8	RS232×1 + RS485×1	IO	NA	NA

IG902-H-FQ98-IO-DW-G	High-config	South Korea	LTE CAT4; LTE-FDD B1/B3/B5/B7/B8/B20; LTE-TDD B38/B40/B41; WCDMA B1/B5/B8; EDGE/GSM B3/B8	RS232×1 + RS485×1	IO	DW	G
IG902-H-EN00	High-config	Global (No Cellular)	No 3G/4G module	RS232×1 + RS485×1	IO	NA	NA
IG902-H-EN00-IO-DW-G	High-config	Global (No Cellular)	No 3G/4G module	RS232×1 + RS485×1	IO	DW	G