



Industrial-grade, Stable & Reliable

# InGateway500 Series

## Compact Edge Computing Gateway

The InGateway500 series edge computing gateway is a small-sized, compact edge gateway developed for industrial IoT applications. It provides uninterrupted Internet access over globally ubiquitous 3G/4G wireless networks and multiple broadband services. With powerful edge computing capabilities, comprehensive security protection and wireless services, the IG500 can support networking of up to tens of thousands of devices, providing high-speed data channels for device informatization.

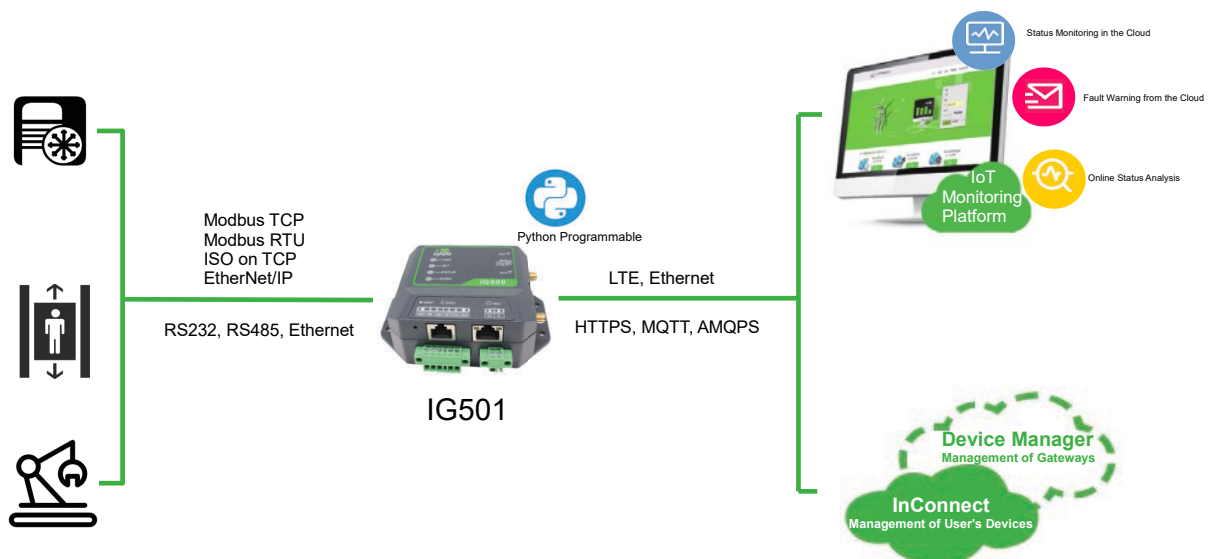
The InGateway500 features open edge computing platforms for data optimization, real-time response, agile connection and intelligent analysis on the IoT edge, thus significantly reducing data flow between field sites and data center and avoiding bottlenecks in cloud-end computing.

It also features ease of deployment and comprehensive remote management functions that enable customers to build IoT networks quickly and efficiently.

The InGateway500 series is ideal for data collection and monitoring of equipment on distributed unattended sites for a wide range of industries, e.g.:

- Industrial automation
- Smart grid
- Smart building
- Green energy
- Utilities: heating, water, natural gas
- Environment, etc.

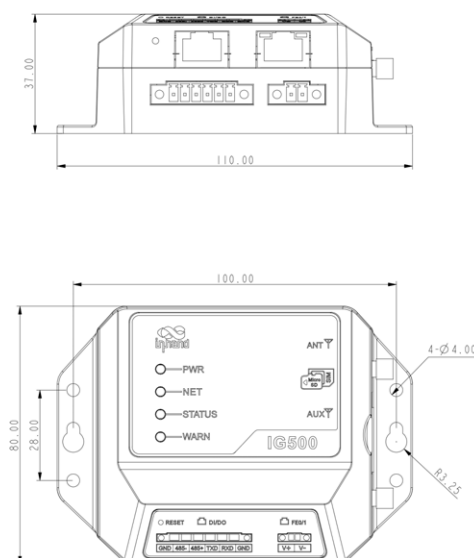
## Application Case



## Features and Advantages

- + Supports LTE CAT4, CAT1 and Ethernet
  - + Supports multiple major industrial protocols, compatible with various industrial devices
  - + Supports major IoT cloud platforms including Microsoft Azure and AWS
  - + Supports Python-based platform for secondary development, edge smart
  - + Multi-layer link detection mechanism, ensuring high device availability and reliability
  - + Fully industrial-grade, ready for challenging conditions
  - + Multiple management methods, for fast, flexible and efficient deployment
- **Fully industrial-grade, ready for harsh industrial environments**  
Adopting fully industrial-grade chip, operating temperatures up to -25 °C~ 60 °C, supports +9 ~ 35VDC wide voltage power inputs, protection rating IP30, providing stable and secure network communications for demanding unattended industrial sites.
  - **Aggregated APP – Device Supervisor, connects your devices to the cloud with ease**
    - Supports major industrial protocols including Modbus TCP/RTU, EtherNet/IP, ISO on TCP, OPC UA, etc., eases industrial data collection
    - Supports major IoT cloud platforms such as AWS and Microsoft Azure
    - Embedded with secondary development platform, and Python programmable, helps you complete special business operation with ease, custom functions and services supported
  - **Powerful Edge computing capabilities, intelligent data processing**  
Equipped with ARM Cortex-A8 processor, 600MHz frequency, 256MB RAM and 256MB FLASH, the IG500 offers strong edge computing capabilities, providing computing resources for data optimization, real-time response, agile connection, and intelligent analysis on edge nodes.
  - **Complete security**
    - VPN (virtual private network): OPEN VPN, certificate and key management, ensuring data transmission security
    - Network security: multiple firewall policies, ACL access control, anti-DoS attack, IP-MAC binding, etc.
    - Multi-level user authorization
  - **High-reliability design, ensuring continuous data transmission**
    - Device auto recovery: embedded watchdog, self recovers from faults, ensuring high device availability
    - Link detection: application layer link detection, auto redials when disconnected, maintain continuous data transmission
    - PPP-layer detection: maintains connection to operator network, prevents forced hibernation, can detect stability of dial-up connections
  - **Support for mass deployment**
    - Multiple configuration methods including Web interface, CLI and SMS
    - In large-scale IIoT applications, tens of thousands of machines are to be networked. The InGateway supports Device Manager to enable efficient large-scale deployment and management

## Dimensions (mm)

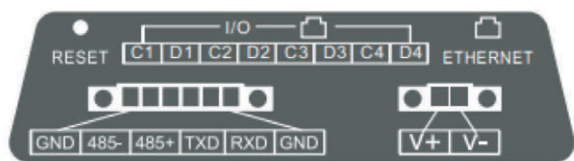


# Product Specifications

IG500 Hardware Specifications			
Item	InGateway500		
Hardware Platform			
CPU	ARM Cortex-A8 600MHz		
RAM	256MB		
FLASH	256MB		
Interfaces			
EtherNet Port	1*10/100Mbps Ethernet port		
Serial Port	RS232 *1, RS485*1, industrial terminal	I/O Interface	4*DI/DO, configurable
SIM Card Slot	SIM x 1	Reset Button	Pinhole reset button
Antenna Interface	SMA female * 2	TF Card	Supports Micro SD
Mechanical Feature			
Installation	Lug mounting	Housing	Engineering plastic
Dimensions (mm)	110 x 80 x 37	Weight (g)	500
Cooling	Fan-less cooling	Protection Rating	IP30
Indicators	PWR, NET, STATUS, WARN		
Power Supply			
Power Input	DC 9-35V, polarity reverse protection	Power Interface	Industria terminal
Standby Power	200mA@12V	Working Power	250mA@12V
Peak Power	500mA@12V		
Ambient Temperature and Humidity			
Storage Temperature	-40 ~ 85°C	Working Temperature	-25 ~ 60°C
Ambient Humidity	5 ~ 95% (non-condensing)		
EMC Index			
Static	EN61000-4-2, level 3		
Radiation Electric Field	EN61000-4-3, level 3		
Pulse Electric Field	EN61000-4-4, level 3		
Surge	EN61000-4-5, level 3		
Conducted Disturbance	EN61000-4-6, level 3		
Power Frequency Magnetic Field	EN61000-4-8, horizontal / vertical 400A/m (>level 3)		
Shockwave Immunity	EN61000-4-12, level 3		
Physical Features			
Shock	IEC60068-2-27	Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32		
Certification			
CE			

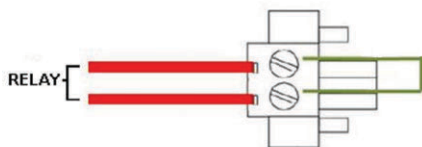
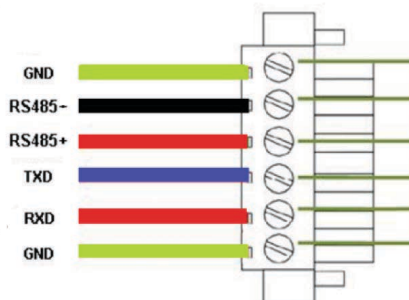
IG500 Software Specifications	
Item	InGateway500
Network Interconnection	
Network Access	APN, VPDN
Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAP V2
Network Type	Please refer to the Ordering Guide
LAN Protocol	ARP, EtherNet
WAN Protocol	Static IP, DHCP
Dial On-demand	Data / SMS / Call activation, scheduled on/offline
Network Protocols	
IP Application	ICMP, DNS, TCP/UDP, TCP server, DHCP
IP Routing	Static routing
Network Security	
Firewall	Stateful packet inspection (SPI), anti-DoS attack
	Filter multicast/Ping probe packet, Access Control List (ACL)
	NAT, PAT, DMZ, port mapping, virtual server
User Level	Multi-level user authorization
Certificate Management	Digital certificate
Data Security	OPENVPN
Others	ARP attack protection, DMZ
Reliability	
Link Detection	Heartbeat packet detection, auto-redials once disconnected
Embedded Watchdog	Device self-diagnosing, auto-recovers from operation faults
Open Platform	
Open Platform	Python development platform
Accessible Cloud Platform	Microsoft Azure, Amazon AWS, etc.
Protocol Type	
Protocol Type	Modbus RTU/TCP, OPC UA Client/Server, 101. 104, etc.
Maintenance and Management	
Configuration Method	CLI, Web configuration
Configuration Backup	Supports import & export of configuration files
Upgrade Method	Supports patent upgrade mechanism, local or remote firmware upgrade
Log	Local system logs, remote logs, serial port log output, power-down saving of important logs
Network Disgnostics	Ping, Traceroute, Sniffer (network packet capture tool)
Remote Management	InHand Device Manager Platform; HTTP, HTTPS, Telnet, SSH, etc.

# Interface Definitions



Definition of 6-pin Industrial Terminal

Pin	Definition	Description
1	GND	Signal ground
2	485-	RS485-
3	485+	RS485+
4	TxD	RS232 send
5	RxD	RS232 receive
6	GND	Signal ground

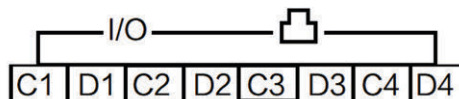


Definition of 2-pin Power Terminal

Pin	Definition	Description
1	V+	Power (positive)
2	V-	Power (negative)

Definition of I/O Interfaces

Pin	Definition	Description
1	C1	Common terminal 1
2	D1	Digital input 1
3	C2	Common terminal 2
4	D2	Digital input 2
5	C3	Common terminal 3
6	D3	Digital input 3
7	C4	Common terminal 4
8	D4	Digital input 4



## Ordering Guide

Model code: IG501-<WMNN>					
Model	Network Type	Cellular Type & Module: <WMNN>	Ethernet Port	Serial Port	I/O
IG501-LQ20	LTE CAT4	For China LTE-FDD Band 1/3/5/8 LTE-TDD Band 38/39/40/41 TD-SCDMA Band 34/39 UMTS (DC-HSPA+) Band 1/8 EDGE/GPRS/GSM 900/1800MHz	1*10/100Mbps	RS232 * 1 RS485 * 1	4 * DI/DO
IG501-FS58	LTE CAT4	For Europe and Asia Pacific LTE-FDD Band 1/3/8/20/28 UMTS(DC-HSPA+) Band1/8 GPRS 900/1800MHz	1*10/100Mbps	RS232 * 1 RS485 * 1	4 * DI/DO
IG501-FB13	LTE CAT1	For North America, AT&T, T-Mobile LTE-FDD Band 2/4/5/12 UMTS Band 2/5	1*10/100Mbps	RS232 * 1 RS485 * 1	4 * DI/DO

## About Us

InHand Networks is a global leader of Industrial IoT, with a record of tremendous success following groundbreaking innovation since our inception in 2001.

InHand serves world-class partners and customers with industrial M2M routers, gateways, industrial Ethernet switches, rugged computers and IoT management platforms. We provide IoT solutions for various vertical markets including Smart Grid, Industrial Automation, Remote Machine Monitoring, Smart Vending, Smart City, Retail and more.

Proudly bearing the marks of AWS Select Technology Partner, Schneider Electric TPP Certified Technology Partner, and Rockwell Automation Encompass Product Partner in Asia-Pacific, InHand Networks defines industrial innovation and reliability.



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