

InRouter700 Industrial 3G Router

Rugged design and reliable communications



Overview

The InRouter700 is a series of rugged, compact-sized 3G routers. As a heritage InRouter series, the InRouter700 integrates secure routing, VPN technologies, industrial Ethernet switching, industrial serial and Modbus TCP/Modbus RTU functions.

With multiple link redundancies and intelligent link detection & recovery mechanisms, the InRouter700 maintains reliable connections between widely distributed remote sites and the monitoring centers. For years, the robustness and reliability of the InRouter700 Series Industrial Router are proved in many projects across industries.

Features

Rugged Industrial Design

- Compact-sized, support standard industrial DIN rail
- Metal housing, IP30
- EMC levels 4/3
- Ethernet port supports 1.5KV isolation protection; serial port supports 15KV ESD protection
- Wide temperature range: -25~70 °C
- Wide input voltage range: 12~48VDC

Data Security

- Data Transmission Security
 - IPSec VPN, L2TP, SSL VPN and certificates guarantee data security
- Network Security
 - Stateful Packet Inspection (SPI), Secure Shell(SSH) and DoS mitigation
 - Intrusion protection, and IP to MAC Binding
- Management-Plane Security
 - Support AAA, Radius, local authentication, and multi-level user authority

High Reliability

- Redundancy
 - Support VRRP for redundant backup with dual routers
 - Dual-redundancy between wired and wireless links or two wireless links
- Automatic Link Detection & Recovery
 - PPP Layer Detection: keep the connection with mobile network, prevent forced hibernation, able to detect dial link stability.
 - Network connection Detection: automatic redial when link broken, keep Long Connection.
 - VPN Tunnel Detection: sustain VPN tunnel, to ensure availability of business.
- InRouter Auto-recovery
 - InRouter embeds hardware watchdog, able to automatically recover from various failure, ensure highest level of availability.

Remote Management

- Local Web-Browser Interface
- Command-line interface
- *Device Manager* for batch management and configuration

Industrial Serial

- Transparent serial communication for point to multi-point serial over cellular.

- Modbus TCP to Modbus RTU protocol conversion

Intelligent Protocol Conversion

- Support conversion between Modbus TCP, Modbus RTU industrial protocols
- Support conversion between IEC101, IEC104 electric power protocols

Specifications

InRouter700 Software Specifications

Items		InRouter791	InRouter794
Internet	LAN	ARP	ARP/Port mirroring
	WAN	N/A	PPPoE Client, PPP
	Cellular	APN, VPDN GSM/GPRS/EDGE: 850/900/1800/1900 MHz UMTS: 850/900/1900/2100 MHz EVDO: 800/1900 MHz	
	Authentication	CHAP/PAP	
	IP Service	TCP/UDP/IP	
	IP Application	DHCP, DHCP Relay, DNS, DNS Relay, DDNS, HTTP, HTTPS, SSH, VRRP, SNMP	
	IP Routing	Static routing	
Security	Management Security	AAA (TACACS+/Local) Multi-level user authority	
	Network Security	SPDML, anti-DOS attack, filtering multicast/Ping package, port forwarding, Z, access control list (ACL), virtual IP, IP-MAC binding	
	Data Security	IPSec VPN/ CA/OpenVPN/L2TP/PPTP/GRE	
Reliability	Link Redundancy	Support VRRP N/A	Backup between wired and wireless links or two wireless links
	Link Detection	Reconnects automatically when a link failure is detected	
	Watchdog	Embedded watchdog for auto-recovery	
Intelligence	Integrated DTU Functions	Transparent transmission, Modbus TCP/Modbus RTU, IEC101/104, virtual serial port, WP protocol, WN protocol, Trap+Poll, RFC2217	
Network Management	Configuration	HTTP/HTTPS/Telnet, SSH, CLI, InHand Device Manager Cloud, loopback interface	

Items		InRouter791	InRouter794
	Firmware Upgrade	Via Web interface or InHand Device Manager	
	Log	Local log, remote log, export log via serial port	
	SMS	Reboot and inquiry	
	On-Demand Dial Up	On-demand dialing, data activation, SMS activation	
	Management	Centralized management via InHand Device Networks Cloud	
	AAA	Support AAA (TACACS+/Local)	
	Debugging	Ping, traceroute, speed test	
	Status Display	Operation status, modem, cellular connection, routing, and router list	
	Traffic Management	Support bandwidth control/port speed limit	

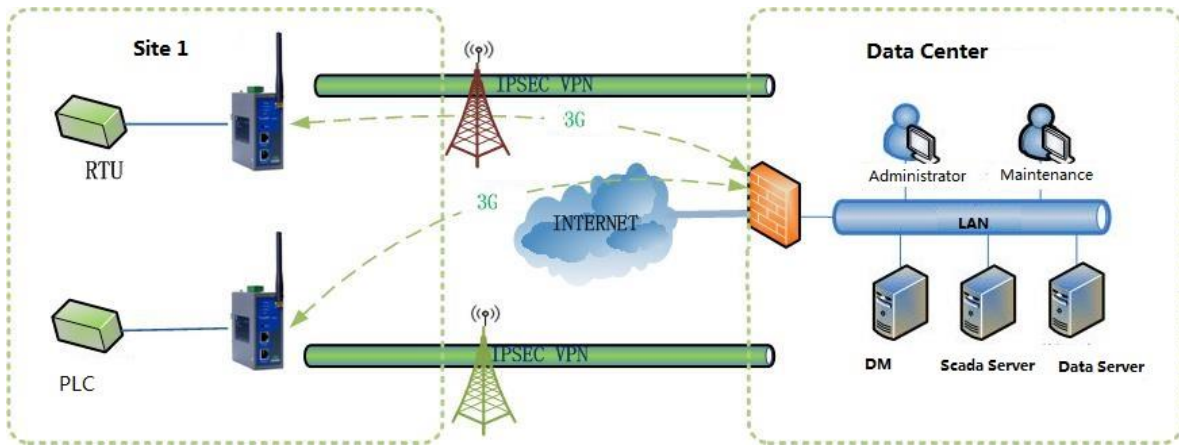
InRouter700 Hardware Specifications

Items		InRouter791	InRouter794
Interface	WAN	N/A	WAN-DMZ-2LAN/WAN-3LAN/4LAN(software controlled), 1.5KV isolation protection
	LAN	1*10/100Mbps, 1.5KV isolation protection	WAN-DMZ-2LAN/WAN-3LAN/4LAN(software controlled), 1.5KV isolation protection
	Power	DC12-48V	
	Serial Port	RJ45, 15KV ESD protection	
	SIM Holder	1 * Flip card holder	
	Reset	Pinhole Reset Button	
	SMA connector	SMA * 1	
Power Consumption	Standby	150mA@12V	200mA@12V
	Operating	250mA@12V	250mA@12V
Mechanical	Dimension(mm)	110x100x46	130 x100x46
	Installation	DIN-rail, wall mounting	
	Cooling	No fan	
	Enclosure	Metal	
	Protection	IP30	
Environment	Temperature	Operating: -25°C ~ 70°C	

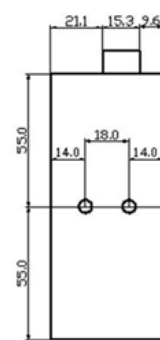
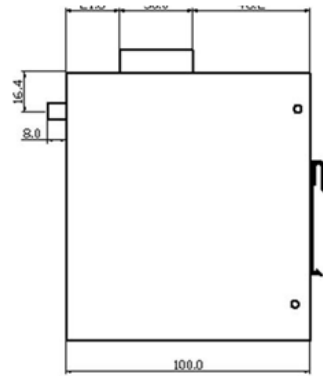
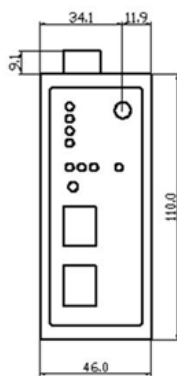
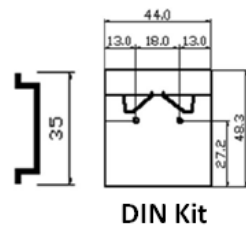
Items		InRouter791	InRouter794
		Storage: -40°C~85°C	
	Humidity	5 ~ 95% relative humidity (non-condensing)	
LEDs	POWER	Power indicator	
	STATUS	Operation status indicator	
	WARN	Warn indicator	
	ERROR	Error indicator	
	Modem	Module indicator	
	Cellular Signal	3 Levels of Cellular Signal Strength	
EMC	Electrostatic Discharge Immunity	EN61000-4-2,level 4	
	Surge	EN61000-4-5,level 3	
	Electrical Fast Transient/Burst Immunity	EN61000-4-4,level 4	
	Radio Frequency Immunity	EN61000-4-3,level 4	
	Immunity to Conducted Disturbances	EN61000-4-6,level 4	
	Shockwave Immunity	EN61000-4-12,level 4	
	Power Frequency Magnetic Field Immunity	EN61000-4-8,Horizontal/Vertical 400A/m (>level 5)	
Physical	Shock	IEC60068-2-27	
	Free Fall	IEC60068-2-32	
	Vibration	IEC60068-2-6	
Certification	CE, FCC		
Warranty	3 years		

Applications

In industrial fields, the InRouter700 can provide the network connectivity for serial or Ethernet RTU and PLC devices so that maintenance engineers can access remote devices for programming, remote I/O and SCADA applications. All traffic is tunneled through standard IPsec VPN protocol to provide the encryption and access control for machines and engineers.



Dimension (mm)

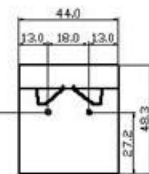
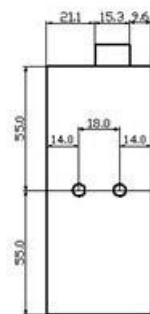
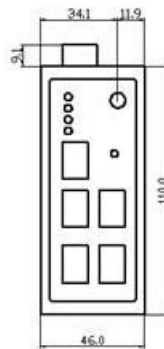
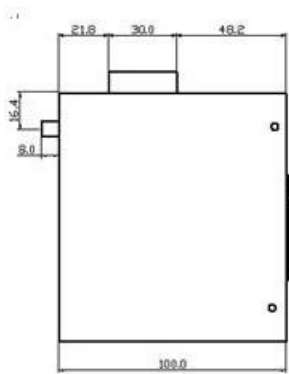


Front View

Side View

Back View

InRouter791



Side View

Front View

Back View

DIN Kit

InRouter794

Part Numbers

Model	InRouter791
Part Number	InRouter791<N><-S>
N (Network)	PH09: (Global) HSPA+/UMTS: 850/900/1900/2100MHz EDGE/GPRS/GSM: 850/900/1800/1900MHz VZ16: (China) EVDO(Rev.A)/CDMA2000 1X: 800/1900MHz
S (Serial Type)	<NA>: RS232 485: RS485
Example	InRouter791PH09-485: 1-port wireless router, HSPA+, RS485 serial port
Model	InRouter794
Part Number	InRouter794<N><-S>
N (Network)	PH09: (Global) HSPA+/UMTS: 850/900/1900/2100MHz EDGE/GPRS/GSM: 850/900/1800/1900MHz VZ16: (China) EVDO(Rev.A)/CDMA2000 1X: 800/1900MHz UE00: No cellular module
S (Serial Type)	<NA>: RS232 485: RS485
Example	InRouter794PH09-485: 4-port wireless router, HSPA+, RS485 serial port

InHand Networks

InHand Networks provides reliable, secured and intelligent M2M solution for electric power, industrial automation, commercial and medical devices. Recognized by world class customers and partners. Proven by a large install base. Expanding with intensive investments in research and development. Enduring for long-term support.

InHand Networks has become leader in industrial grade network technology by providing industrial cellular routers, industrial Ethernet switches, wireless sensor network devices and cloud based M2M platforms.

Connecting devices, enabling services.



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