# InRoute695 Series

## 4G TDD/FDD, WI-FI Industrial Router



## Overview

Integrating 4G/3G and VPN technology, InRouter695 ("IR695" thereinafter) series TDD LTE, FDD LTE, TD-SCDMA, HSPA+/WCDMA, EVDO (Rev.A) and EDGE, CDMA, GPRS. With embedded hardware watchdog, link detection, auto-recovery and auto-reboot, the IR695 series provides reliable communications to unattended sites. Reliable VPN technology secures sensitive data, including standard IPSec/SSL/L2TP. The IR695 also utilizes remote management tools such as a CLI, a web interface and InHand *Device Manager* Cloud platform for batch configuration and monitoring. It also supports Wi-Fi function to build WLAN.

## Features

**High-speed Internet Access**
- 4G TDD/FDD, with 100Mbps downlink, 50Mbps uplink.
- 802.11b/g/n for WLAN with 150 Mbps.

**Rugged Industrial Design**
- Metal housing, IP30
- EMC levels II
- Wide temperature range: -20~70 °C
- Wide input voltage range: DC9~26V

**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**
  SSH, HTTPS and InHand *Device Manager* for secure remote management
  Multi-level user authority
  Administrative permission management

**Reliable Cellular**
- **Automatic Link Detection & Recovery**
  PPP Layer Detection: monitor the cellular connection
  Network Connection Detection: automatic redial and reboot
  VPN Tunnel Detection: ruggedized and improved VPN tunnels
- **Failure Auto-recovery**
  Hardware watchdog embedded to automatically recover from various failure, ensure
  highest level of availability.

**Remote Management**
- Local Web-Brower 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

## Specifications

### IR695 Software Specification

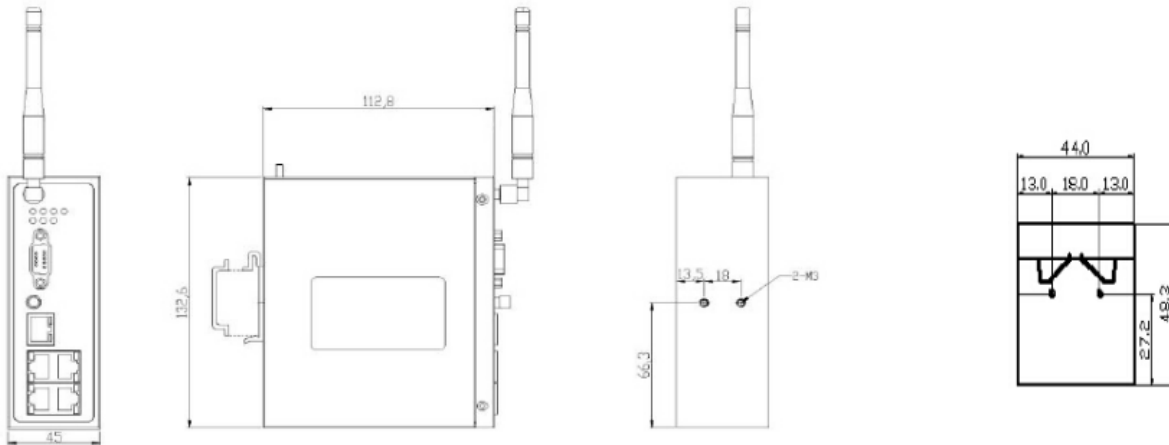| | | IR695 |
|---|---|---|
| Network | Network Access | APN, VPDN |
| | Authentication | CHAP/PAP |
| | Network | GSM/GPRS/EDGE: 850/900/1800/1900 MHz |
| | | UMTS: 850/900/1900/2100 MHz |
| | | EVDO: 800/1900 MHz |
| | | FDD LTE: band1/band3/band5 |
| | | TDD LTE: band38/band39/band40/band41 |
| | LAN | ARP |
| | WAN | PPP, PPPoE Client |

| | | **IR695** |
|---|---|---|
| | IP | Ping, Trace, DHCP Server, DHCP Relay, DHCP Client, DNS relay, DDNS,Telnet |
| | IP Routing | Static routing |
| WLAN (optional) | Standard | IEEE 802.11b/g/n |
| | Mode | AP, Client, Bridge |
| | Security | Support open system, shared keys |
| | | WEP/WPA/WPA2 encryption |
| Security | Network Security | DoS protection, Stateless Packet Inspection, Filtering Multicast/Ping package, Access Control List (ACL), IP/MAC Binding, Port forwarding |
| | Data Security | IPSec VPN/L2TP/PPTP/GRE/OpenVPN/CA |
| | Management Security | Multi-level user authority |
| Reliability | Link Status Detection | Reconnects automatically when a link failure is detected |
| | Auto-Recovery | Hardware Watchdog |
| Intelligence | Integrated DTU Functions | Support Modbus protocol, virtual serial port, WP agreement, WN protocol, Trap+Poll, transparent transmission |
| Management & Maintenance | Traffic Management | Bandwidth control, IP-based QoS |
| | Configuration | Serial, Telnet, Web, SSH |
| | Firmware Upgrade | Via web, InHand Device Manager |
| | Log | Local log, remote log, export log via serial port; important log backup in flash memory |
| | On-Demand Dial Up | Trigger by data on port, text message or on demand |
| | Network Management | InHand Device Manager for batch configuration |
| | Multi-level user | Authentication for configuration and remote access |
| | Maintenance Tool | Ping, Traceroute, speed test |
| | Status Check | System, modem, network connections, route |

## IR695 Hardware Specification

| | | **IR695** |
|---|---|---|
| Interface | LAN | 4*10/100Mbps fast Ethernet port, 1.5KV isolated protection |
| | WAN | 1*10/100Mbps fast Ethernet WAN, 1.5KV isolated protection |
| | Power Supply | DC9-26V |

|  |  | IR695 |
|---|---|---|
|  | Serial Port | 1*RS-232/485(DB9),15KV ESD protection |
|  | SIM Holder | Drawer Card Holder x1 |
|  | Reset | Pinhole Reset Button |
|  | Antenna Connector | 1*SMA (female) 3G/4G<br>1*RP SMA (female) Wi-Fi |
| Mechanical Features | Dimension (mm) | 130x110x45 |
|  | Installation | DIN-Rail, Wall mounting |
|  | Housing | Metal |
|  | Protection Level | IP30 |
|  | Cooling | Fanless |
| Power Consumption | Standby | 2.76~3.12W@12V |
|  | Operating | 2.76~3.48W@12V |
|  | Peak | 3.48W@12V |
| Environment Temperature | Humidity | 5~95% relative humidity (noncondensing) |
|  | Storage Temp | -40~85°C |
|  | Working Temp | -20~70°C |
| LED Indicators | POWER, STATUS, WARN, ERROR, MODEM, SIM, three Levels of Cellular Signal Strength | |
| EMC | Electrostatic Discharge Immunity | EN61000-4-2,level 2 |
|  | Radio Frequency Immunity | EN61000-4-3,level 2 |
|  | Electrical Fast Transient/Burst Immunity | EN61000-4-4,level 2 |
|  | Surge | EN61000-4-5,level 2 |
|  | Immunity to Conducted Disturbances | EN61000-4-6,level 2 |
|  | Shockwave Immunity | EN61000-4-12,level 2 |
|  | Power Frequency Magnetic Field Immunity | EN61000-4-8, horizontal/vertical400A/m (>level 2) |
| Physical | Shock Test | IEC60068-2-27 |
|  | Free Fall | IEC60068-2-32 |
|  | Vibration | IEC60068-2-6 |
| Certification | CE(EMC, LVD, RF, Temperature), FCC, CCC | |
| Warranty | 3 years | |

## Dimensions (mm)



## Ordering Information

| | InRouter695 |
|---|---|
| Part Number | IR695<N>-<W>-<P>-<S> |
| Network Security | 9: VPN, support CA, SSL |
| N(Network) | UE00: no cellular module<br>PH09: UMTS (HSPA+)　　　Band1/2/5/8<br>　　　　EDGE/GPRS/GSM　850/900/1800/1900<br>VZ16: EVDO 800/1900MHz<br>　　　　CDMA 1x 800MHz<br>TL00: LTE-FDD Band 1/3/5<br>　　　LTE-TDD Band 38/39/40/41<br>　　　TD-SCDMA Band 34/39<br>　　　UMTS (DC-HSPA+)Band 1/5<br>　　　EDGE/GPRS/GSM 850/900/1800/1900MHz<br>FH09: LTE-FDD　　Band 1/2/3/5/7/8/20<br>　　　UMTS (DC-HSPA+) Band 1/5/8/9<br>　　　EDGE/GPRS/GSM　850/900/1800/1900MHz |
| W (Wi-Fi Function) | <NA>: no Wi-Fi<br>AP: Wi-Fi AP<br>STA: Wi-Fi Client |
| S(Serial Type) | <NA>:RS232; 485: RS485 |
| Example | IR695TL00-AP: 5 port 4G router, support VPN (IPsec/PPtP/L2TP), TDD/FDD/HSPA+/TD-SCDMA/GPRS, Wi-Fi AP, RS-232. |

**InHand Networks**

InHand Networks provides reliable, secure 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 andEnduring 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 service.

**InHand Networks**

7926 Jones Branch Dr. Suite 110
McLean, Virginia 22102
USA
T: +1-703-348-2988
F:+1-703-348-2988
info@inhandnetworks.com
www.inhandnetworks.com