

# H685 Series Cellular Router Datasheet



## >>| Product Introduction

The H685 series Cellular Router designed for establish a cellular broad band Internet connection. The H685 series Cellular Router enables users to quickly create a secure wireless network and provide access to the Internet using a cellular network. By connect to cellular network; an Internet connection can be accessed and shared virtually anywhere within a wireless broadband network.

E-Lins' mobile data products are widely used in more than 50 countries and regions, and more than twenty industrial fields, such as power control, water schedule, traffic, oil field, weather forecast, environmental protection, street lamp control, post, bank and many other areas.

## >>| Hot Spot

Broadband M2M communications

SIM failover/standby APN

3G failover for fixed line broadband connections

Support two LAN IP address.

Rapid service deployment applications

VPN (PPTP,L2TP, IPSec, GRE), SNMP

WiFi optional

GPS optional

I/O port terminal blocks for DTU feature optional (RS232/RS485 to Cellular Gateway)

SMS/Voice call to control router to be online and offline

Auto-dial feature, keep alive link

Built-in watch dog

## >>| Brief

### **Broadband M2M Communications**

The product line provides a cost-effective broadband Machine-to-Machine (M2M) solution and supports the following radio access technologies: HSDPA, HSUPA UMTS, EDGE, GPRS and GSM.

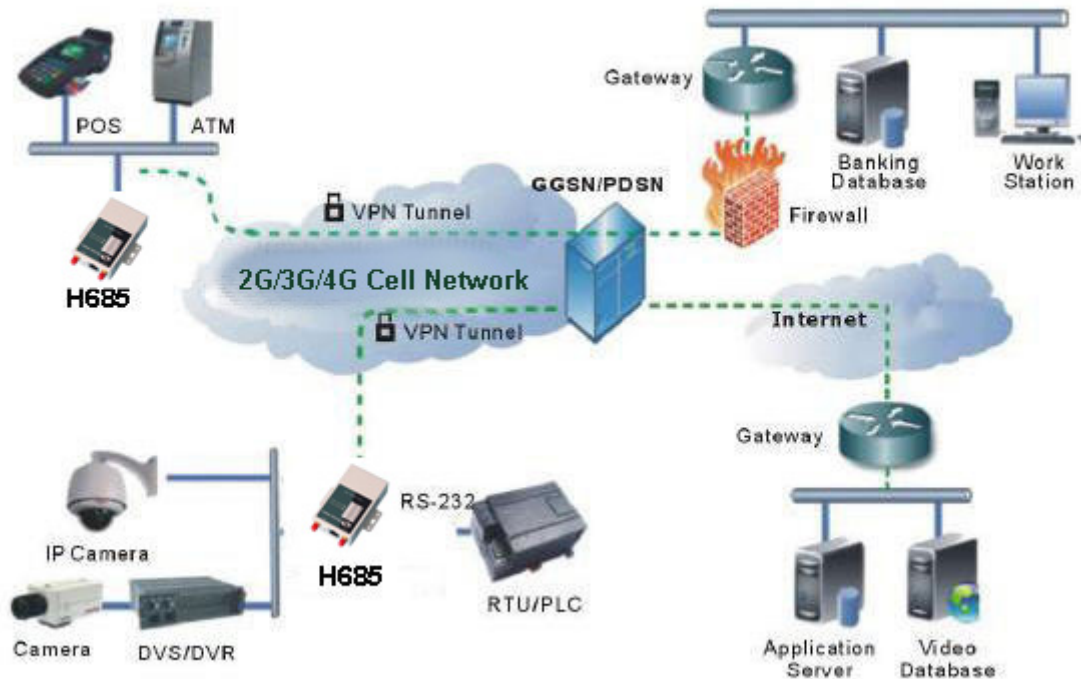
The compact and rugged structure makes it a suitable product for deployments in M2M applications such as CCTV, ATM, telemetry, SCADA, retail (POS), digital signage, and intelligent traffic systems.

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## >>| Typical Topology



## >>| Industrial Application

- Remote Data Monitor and Control
- CCTV, security surveillance
- Water, gas and oil flow metering and schedule
- AMR (automatic meter reading)
- Power station monitoring and control
- Remote POS (point of sale) terminals, ATM,
- Traffic signals monitor and control, Traffic info guidance
- Oil field, weather forecast, environmental protection, street lamp monitoring and control
- Early Warning of Mountain Torrent
- Fleet management
- Power distribution network supervision
- Central heating system supervision
- Weather station data transmission
- Hydrologic data acquisition

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- Vending machine
- Telemetry, SCADA
- Vehicle logistics and diagnostics controlling
- Parking meter and Taxi Monitor
- Telecom equipment supervision (Mobile base station, microwave or optical relay station)

## >>| Basic Features

- Supports multi-band GSM, GPRS, EDGE, HSDPA, HSUPA network, and CDMA1x, EVDO networks
- SMA Standard antenna
- Optimized EMC design
- Always on line: On-line detection and automatic redial and keep-alive while the line dropped
- Wide range power input
- Smart power management
- Reliable, flexible, easy to use and management
- RS-232/485 interface transparent communication (DTU modem function) optional
- 1 LAN RJ45 ports for Ethernet interface
- WiFi 802.11b/g/n optional

## >>| Enhanced Features

- Real-time clock
- VPN (PPTP, L2TP, IPSec, GRE) optional – Please confirm what VPN you require before order.
- Built-in DHCP server
- Supports NAT and DMZ host
- Supports DNS proxy and Dynamic DNS (DDNS)
- Supports Static routing table
- Supports packet filter
- Built-in multi-routing backup (Ethernet and dialup network)
- System and network monitoring
- WAN interface traffic statistics
- Support multiple protocol conversion
- Transparent data transmission (DTU feature) optional
- WEB/Telnet/console management interface
- Support radio network data envelope counting
- Self-diagnostic and alarm output
- Local/remote profiles backup and retrieve
- Local/remote firmware upgrade via web
- Remote web management
- Urgent event alarm via SMS optional
- Firewall, packet filtering
- Support data center communication
- Support NTP

- Support LED status indication
- Support VLAN
- Support LCP, ICMP check

## >>| Enhanced Features

- Multi-level link detection and redial, keep the traffic channel alive
  1. PPP detection
  2. Local and remote ICMP detection
  3. Heart-beat detection
  4. WAN interface traffic detection
  
- On/off line control
  1. Auto or manual dial
  2. Timing on/off line control
  
- Flexible data communication
  1. Supports layer 2 and 3 data communication
  2. Supports RS-232 transparent communication optional  
UDP/IP or TCP/IP Client/Server
  3. Supports both RS-232 and Ethernet communication
  
- Configuration and remote management
  1. Multi-language web based configuration interface (local or remote)
  2. Supports Telnet local or remote operation
  3. CLI operation
  
- Virtual online technology (VKL, only CDMA)
  1. Release wireless network channel while there is no user's data traffic
  2. Keep the router online logically when the wireless channel released
  3. The router will immediately restore to the connected status without any redial or authentication if there is any data transmitted

## >>| Specification

<b>Wireless</b>	
<b>Compatible Mobile Networks</b>	<ul style="list-style-type: none"> <li>• UMTS WCDMA (HSUPA/HSDPA/HSPA/HSPA+)</li> <li>• GSM EDGE</li> <li>• GSM GPRS</li> <li>• CDMA1x</li> <li>• CDMA EVDO Rev 0 and Rev A</li> </ul>

	<ul style="list-style-type: none"> <li>4G LTE</li> </ul>
<b>Cellular Frequency</b>	<ul style="list-style-type: none"> <li>UMTS/HSPA/HSUPA/HSPA/HSPA+ (WCDMA/FDD) 850/1900/2100 MHz or 850/900/1900/2100Mhz</li> <li>Quad-band EGSM 850/900/1800/1900</li> <li>CDMA1x/EVDO: 800/1900Mhz or 450Mhz optional</li> <li>4G LTE: 700(B17)/AWS or 800/900/1800/2100/2600MHz or 700(B13)MHz</li> </ul>
<b>Bandwidth</b>	<ul style="list-style-type: none"> <li>HSPA+ Downlink 21/42Mbps Uplink 5.76Mbps</li> <li>HSPA Downlink 14.4Mbps Uplink 5.76Mbps</li> <li>HSUPA Downlink 7.2Mbps Uplink 5.76Mbps</li> <li>HSDPA Downlink 7.2 Mbps Uplink 384k bps</li> <li>WCDMA/UMTS Downlink/Uplink 384 kbps</li> <li>EDGE Downlink 236,8 kbps Uplink 118 kbps</li> <li>GPRS Downlink 85.6 kbps Uplink 42.8 kbps</li> <li>CDMA1x Downlink/Uplink 153.6kbps</li> <li>CDMA EVDO Rev A: 3.1Mbps downlink, 2.4Mbps uplink Rev O: 2.4Mbps downlink, 153.6kbps uplink</li> <li>4G LTE Max. 100Mbps downlink, 50Mbps uplink</li> </ul>
<b>Wi-Fi</b>	<ul style="list-style-type: none"> <li>Optional</li> </ul>
<b>SMS/Voice (optional)</b>	SMS/Voice call to control router to be online and offline
<b>GPS</b>	<ul style="list-style-type: none"> <li>Optional</li> </ul>
<b>Multi-Lan IP Address</b>	Support two
<b>Fail Over (network Backup feature)</b>	<ul style="list-style-type: none"> <li>WiFi client mode DHCP to Cellular backup</li> <li>Cellular to WiFi client mode backup</li> </ul>

<b>DTU (Optional)</b>	With DTU feature, RS232/RS485 to Cellular Gateway
<b>VPN</b>	VPN, IPsec, L2TP, PPTP, GRE (IPsec can be server and client, PPTP L2TP, GRE can be client)
<b>Firmware upgrade</b>	Supported via locally or remotely
<b>Protocol</b>	
<b>Protocol support</b>	TCP, UDP, SMTP, POP, ICMP, FTP, PPP, DHCP, DDNS, DNS, SNMP, NAT, DMZ, Qos, ALG, SNMP
<b>Security</b>	
<b>Security</b>	<p>support 64/128 bits WEP, 802.1x, WPA, and WPA2</p> <p>support WDS</p> <p>support WPA1/2 – PSK TKIP, AES encryption</p> <p>support WPA1/2 – 802.1x</p> <p>support EAP – TLS, TTLS, LEAP, PEAP</p> <p>support access with user name &amp; password.</p> <p>support access control base WAN/LAN interface</p> <p>support access control base source IP address</p> <p>defense DOS attack, support SYN flooding, IP surfing, ping of Death, fragile, teardrop, land etc.</p> <p>support PAP &amp; CHAP</p> <p>support IP filtering</p>
<b>Advanced Firewall Features</b>	<p>Network Address Translation (NAT)</p> <p>Stateful Packet Inspection (SPI)</p> <p>VPN Pass-through</p>
<b>Media Access Control</b>	CSMA/CA with ACK
<b>Certifications</b>	REDIUS Client
<b>Interface</b>	
<b>LAN</b>	1X 10/100M LAN port (RJ45 interface)
<b>Antenna</b>	<p>1X antenna for Wi-Fi or GPS(SMA interface)</p> <p>1X antenna for cellular (50Ω SMA female interface)</p>
<b>Led</b>	<ul style="list-style-type: none"> <li>• Online</li> <li>• Run</li> <li>• LAN (10/100M)</li> <li>• VPN</li> </ul>

<b>Serial port / DB9 (optional)</b>	rate: 300~115200bps
<b>Configuration interface</b>	Web/Telnet
<b>At command</b>	supported
<b>UIM/SIM Card Slot</b>	Support 1.8V/3V UIM/SIM cards, one sim card slot
<b>Power</b>	
<b>Power supply</b>	DC7V-30V , typical DC9V1A
<b>Power consumption</b>	<ul style="list-style-type: none"> <li>Idle: 15mA@9VDC</li> <li>Max: 250mA@9VDC</li> <li>Average:105mA@9VDC</li> </ul>
<b>Software</b>	
<b>Device Management</b>	<ul style="list-style-type: none"> <li>WEB interface (Internet Explorer v6 or Later; Mozilla Firefox v1.5 or Later, Chome,Opera,Safari or other Java-enabled Browsers)</li> <li>SNMP</li> <li>SYSLOG</li> </ul>
<b>Minimum System Requirements</b>	Mobile Internet Access Subscription and Internet PC Adapter Computer with: <ul style="list-style-type: none"> <li>Windows 7, Vista , Windows XP SP2, Windows 2000 SP4, or Mac OS® X (v10.4/v10.3), Linux</li> <li>Internet Explorer 6 or Mozilla Firefox</li> <li>CD-ROM Drive</li> <li>Network Interface Card</li> </ul>
<b>Physical</b>	
<b>Operating Temperature</b>	<ul style="list-style-type: none"> <li>Storage: 72°F to 153°F (-40°C to 90°C)</li> <li>Working: 36°F to 126°F (-30°C to 80°C)</li> </ul>
<b>Humidity</b>	95% Maximum (Non-condensing)
<b>Dimensions</b>	Item (L x B x H): 105mm x 58mm x 25mm Packaging (L x B x H): 260mm x 190mm x 65mm (10.3" x 7.5" x 2.6")
<b>Weight</b>	Item: 220g Packaging: 1.6 lbs
<b>Others</b>	

<b>Warranty</b>	2 Year	
<b>Package Contents</b>	<ul style="list-style-type: none"> <li>• The H685 Series wireless Router</li> <li>• CAT5 Ethernet Cable</li> <li>• Power Adapter</li> <li>• Antenna</li> <li>• CD-ROM with Product Documentation</li> <li>• Others depends on option features</li> </ul>	
<b>Model</b>	<b>Marks</b>	<b>Optional</b>
H685g	GPRS Router, work under GPRS/GSM networks	Serial for DTU,
H685e	EDGE Router, work under EDGE/GPRS/GSM networks	Serial for DTU,
H685d	HSDPA Router, work under HSDPA/EDGE/GPRS/GSM networks	Serial for DTU, WiFi, GPS, Voice/SMS control
H685u	HSUPA Router, work under HSUPA/HSDPA EDGE/GPRS/GSM networks	Serial for DTU, WiFi, GPS, Voice/SMS control
H685p	HSPA Router, work under HSPA//HSUPA/HSDPA EDGE/GPRS/GSM networks	Serial for DTU, WiFi, GPS, Voice/SMS control
H685p+	HSPA+ Router, work under HSPA+/HSPA/HSUPA/HSDPA EDGE/GPRS/GSM networks	Serial for DTU, WiFi, GPS, Voice/SMS control
H685c	CDMA Router, work under CDMA1x networks	Serial for DTU,
H685ev	EVDO Router, work under EVDO/CDMA1x networks	Serial for DTU, WiFi, GPS, Voice/SMS control
H685t	4G LTE Router, work under 4G LTE and HSPA+/HSPA/HSUPA/HSDPA EDGE/GPRS/GSM networks	Serial for DTU, WiFi, GPS, Voice/SMS control

Notes: please inform us if you need DTU feature, WiFi Feature, GPS feature, Serial for DTU, WiFi, GPS, Voice/SMS control before order.

The H800 router optional with din-rail, default we don't pack it. If customers need it, please

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inform us with order.

## >>| Accessories

- CAT5 Ethernet Cable
- Power Adapter
- Antenna
- CD-ROM with Product Documentation
- Others depends on option features



DB15 to DB9 Cable



DB9 serial cable



RJ45 to DB9 Cable



USB Cable



EU Power Supplier



US Power Supplier



AU Power Supplier



Desktop Power Supplier  
EU, US, AU, UK for choice



UK Power Supplier



Metal Magnetic-Mount W/ Cable



Rubber antenna



Rubber Magnetic-Mount W/ Cable



CD-Rom with Manual/Data

### Notes:

We packed the units with free accessories; default packed depends on stock and the device's feature requirement. If you need specify the type, please inform us when you order.