

H685 Cellular Router Datasheet



>>| Product Introduction

The H685 series Cellular Router designed for establish a 2G/3G/4G cellular and Wi-Fi wireless network and share a cellular broad band Internet connection. The H685 series Cellular Router enables users to quickly create a secure Wi-Fi (802.11 b/g/n) network and provide access to the Internet using a cellular network. By connect to cellular mobile network; an Internet connection can be accessed and shared virtually anywhere within a wireless broadband network.

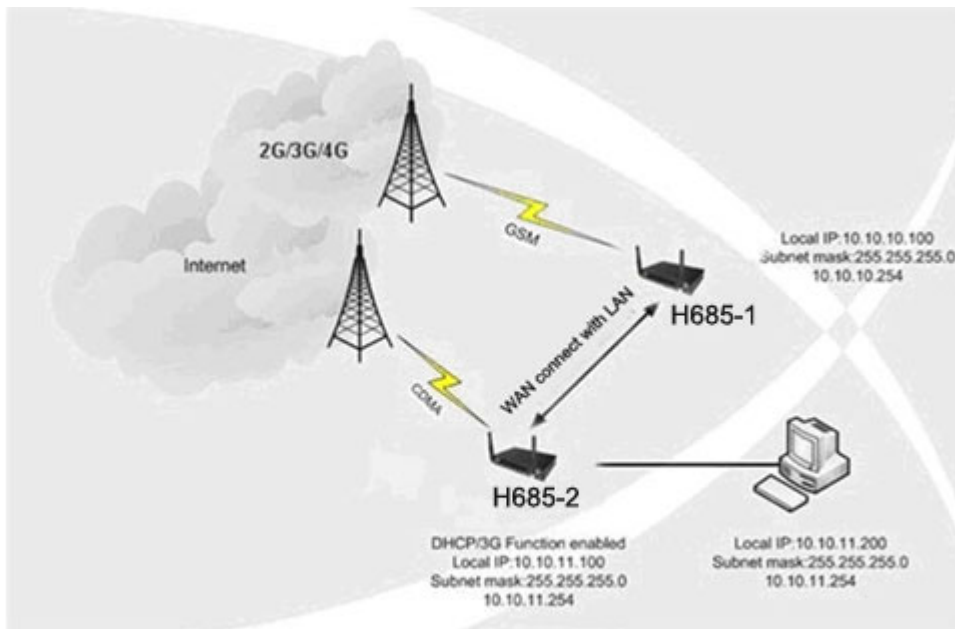
E-Lins' mobile data products are widely used in more than 50 countries and regions, and more than twenty industrial fields, such as power control, water schedule, traffic, oil field, weather forecast, environmental protection, street lamp control, post, bank and many other areas.

>>| Key Point

1. Built-in 2G/3G/4G industrial cellular module and sim card slot, insert SIM/UIM card to work directly.
2. Auto-dial feature, keep alive link
3. Built-in watch dog
4. 1 WAN RJ45 port + 1 LAN RJ45 port
5. VPN (PPTP, L2TP, IPSec, GRE, Tunnel), SNMP
6. standard SMA antenna can be replaced with high gain type
7. Terminal port for DTU feature (Serial to Cellular Gateway feature, RS232 or RS485 option)
8. WiFi 802.11b/g/n 150Mbps (optional), can choose 300Mbps.
9. RJ45 WAN (xDSL) and Cellular backup each other (Route Fail Over Feature)
10. Two H685 can backup each other if one H685 line failed. (to be Dual sim dual module feature)
11. Always online, Reboot if the connection is failed.
12. WiFi can be used as WiFi client
13. Cellular, WAN RJ45 and WiFi Client can failover backup each other redundancy.
14. SMS/Voice call to control router to be online and offline (optional)
15. GPS (optional)
16. VRRP
17. RIP OSPF BGP (optional)

- 18. I/O port *2 (optional)
- 19. POE support (optional)

>>| Typical Topology



Dual H685 Application Diagram

Dual H685 Application Combination type	
H685-1	H685-2
Network A	Network B
Network A	Network A
It means H685-1 and H685-2 can be same network, also can be different network. Network A can be any one of GSM/GPRS/EDGE/UMTS/HSDPA/HSUPA/HSPA/HSPA+/4G LTE/CDMA1x/EVDO; Network B can be any one of GSM/GPRS/EDGE/UMTS/HSDPA/HSUPA/HSPA/HSPA+/4G LTE/CDMA1x/EVDO; Please specify with us which network you will use before order.	

>>| 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
- 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, HSPA or 4G HSPA+ LTE 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 & 1 WAN RJ45 port
- WiFi 802.11b/g/n optional

>>| Enhanced Features

- Real-time clock
- VPN (PPTP, L2TP, IPSec, GRE, Tunnel), and VPN pass-through
- 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

>>| Specification

Wireless

Compatible Mobile

UMTS WCDMA (HSUPA/HSDPA/HSPA/HSPA+)

Networks	<p>GSM EDGE/GPRS CDMA1x CDMA EVDO Rev 0 and Rev A TD-SCDMA/TD-LTE 4G LTE (FDD/TDD)</p>
Cellular Frequency	<p>UMTS/HSPA/HSUPA/HSPA/HSPA+ (WCDMA/FDD): 850/1900/2100 MHz, option for 850/900/1900/2100Mhz;</p> <p>3G TD-SCDMA: 2010~2025MHz/1880~1920MHz</p> <p>Quad-band EGSM 850/900/1800/1900;</p> <p>CDMA1x/EVDO: 800/1900Mhz, option for 450Mhz;</p> <p>4G FDD LTE: Band 17--700(B17)/AWS Band 13--700(B13)MHz Band 20--DD800Mhz Band 8--900Mhz Band 12—700Mhz Band 3--1800Mhz Band 1--2100Mhz Band 7--2600MHz</p> <p>4G TDD LTE: Band 40 -- 2300Mhz Band 39 – 1900Mhz Band 38--2600Mhz</p>
Bandwidth	<p>HSPA+: Downlink 21/42Mbps, Uplink 5.76Mbps; HSPA: Downlink 14.4Mbps, Uplink 5.76Mbps; HSUPA: Downlink 7.2Mbps, Uplink 5.76Mbps; HSDPA: Downlink 7.2 Mbps, Uplink 384k bps; WCDMA/UMTS: Downlink/Uplink 384 kbps;</p> <p>EDGE: Downlink 236,8 kbps, Uplink 118 kbps; GPRS: Downlink 85.6 kbps, Uplink 42.8 kbps;</p> <p>CDMA1x: Downlink/Uplink 153.6kbps; CDMA EVDO: Rev A: 3.1Mbps downlink, 2.4Mbps uplink Rev O: 2.4Mbps downlink, 153.6kbps uplink</p>

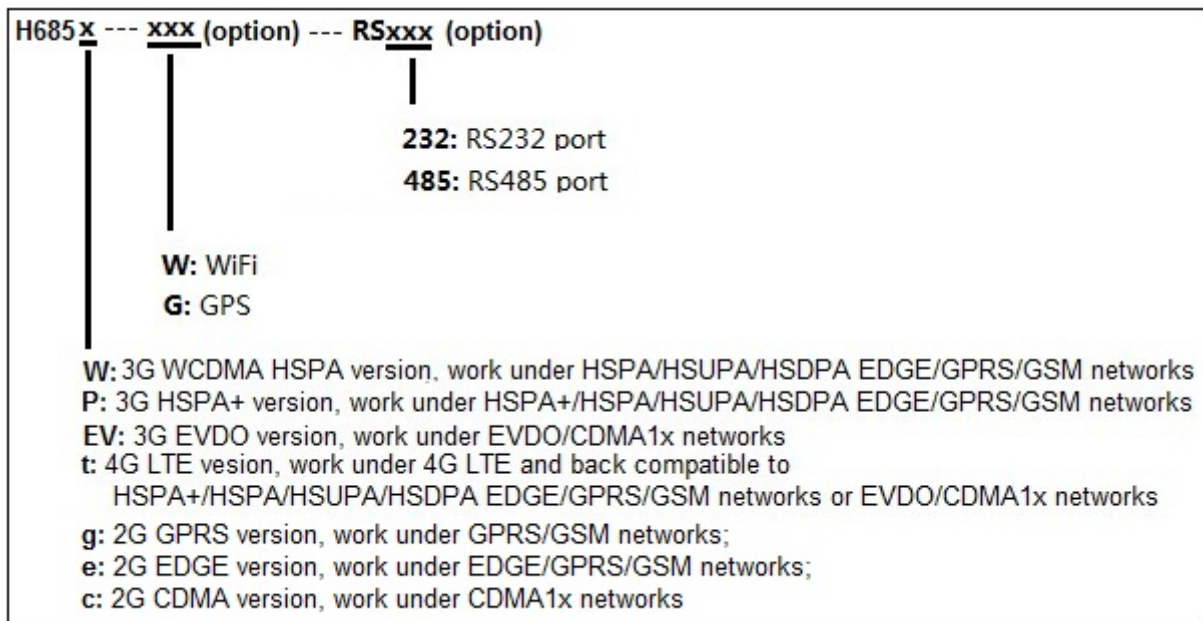
	4G LTE: Max. 100Mbps downlink, 50Mbps uplink 3G TD-SCDMA: 2.8Mbps
Main	
USB Host	No
SMS/Voice (optional)	SMS/Voice call to control router to be online, offline and reboot
GPS (Optional)	GPS feature
DTU (Optional)	With DTU feature (Serial to Cellular Gateway feature, RS232 or RS485 port option)
VPN	PPTP, L2TP, IPSec, GRE, Tunnel (PPTP client, L2TP client, IPSec client, IPsec server)
OpenWRT	Optional
VRRP	Optional
BGP, OSPF	Optional
SNMP	Support V1, V2. V3
VLAN	Support multi-LAN IP address, support two IP address
Wi-Fi	Optional, 802.11b/g/n; 150Mbps default. 300Mbps optional. Frequency from 2.4GHz to 2.483GHz, Access Points, Routers and Gateway Server Applications, wireless up to 254 PC users
Fail Over Redundancy (network Backup feature)	Auto-dial feature, keep alive link; Built-in watch dog; Cellular (2G/3G/4G), RJ45 WAN (xDSL, DHCP, Fixed IP), WiFi client three line redundancy; Two H685 dual sim same network(Network1+ Network1); Two H685 dual sim two network (Network2+ Network 2); Two H685 dual sim dual mode network (WCDMA+CDMA2000, WCDMA+LTE, CDMA2000+LTE);
POE	Optional for LAN/WAN RJ45
Protocol	
Protocol support	TCP, UDP, SMTP, POP, ICMP, FTP, PPP, PPPoE, DHCP, DDNS, DNS, WPS, DMZ, Syslog (local and remote), NAT, xDSL, NTP, QoS,

	SNMP, RIP, support firmware update locally or remotely.
Security	
Security	support 64/128 bits WEP, 802.1x, WPA, and WPA2 support WDS support WPA1/2 – PSK support WPA1/2 – 802.1x support EAP – TLS, TTLS, LEAP, PEAP TKIP, AES encryption support access with user name & password. support access control base WAN/LAN interface support access control base source IP address defense DOS attack, support SYN flooding, IP surfing, ping of Death, fragile, teardrop, land etc. support PAP & CHAP support IP filtering
Advanced Firewall Features	Network Address Translation (NAT) Stateful Packet Inspection (SPI) VPN Pass-through
Media Access Control	CSMA/CA with ACK
Certifications	RADIUS Client
Interface	
LAN/WAN	1X 10/100M LAN port (RJ45 interface) 1X 10/100M WAN port (RJ45 interface)
Antenna	2 antenna for Wi-Fi (detachable, SMA interface * 1, Internal *1) 3 antenna for Cellular and GPS (detachable, 50Ω SMA female interface), Cellular support diversity receiving (MIMO) option
Led	SYS*1 VPN*1 Signal*1 Cell*1 WAN*1 LAN*1 WiFi*1
Button	Reset
Console	1 console port

Serial port	RS232 or RS485 built-in terminal block interface
IO Port	2
Configuration Interface	Web/Telnet/CLI, support remote management
At command	Supported
UIM/SIM Card Slot	Support 1.8V/3V UIM/SIM cards, one sim card slot
DC Jack	Two types of input jack for DC 2.5mm DC jack * 1 Terminal Block * 1
Power	
Power supply	DC5V-50V , typical DC 9V1A or 12V1A, 12v CAR USE; DC5V~40V is the default, DC5V~50V is the option
Power consumption	Current: Idle: 22mA@12VDC Max: 208mA@12VDC Average:125mA@12VDC Power: Idle: 1.2w@12VDC Max: 2.5w@12VDC Average:2w@12VDC
Software	
Device Management	WEB interface (Internet Explorer v6 or Later; Mozilla Firefox v1.5 or Later, or other Java-enabled Browsers,Chome,Opera,Sarafi)
Minimum System Requirements	Mobile Internet Access Subscription and Internet PC Adapter Computer with: Windows 7, Vista , Windows XP SP2, Windows 2000 SP4, or Mac OS® X (v10.4/v10.3), Linux Internet Explorer 6 or Mozilla Firefox CD-ROM Drive Network Interface Card
Physical	
Operating Temperature	Storage Temperature: -40 ~ 85°C Working Temperature: -30 ~ 75°C

Humidity	95% Maximum (Non-condensing)
Dimensions	PCBA: 96mm x 56mm x 14mm With case: 100mm x 60mm x 21mm
Weight	220g (not including the antenna) 330g (including the antenna) 650g (including all accessories, without package)
Color	Metal Gray-Black, OEM is available
Others	
Warranty	1 Year default, can extend to 5 years
Package Contents	H685 Series wireless Router CAT5 Ethernet Cable Power Adapter Antenna Others depends on option features

>>| H685 model and types



Notes: please be informed the following features are option. Please indicate before order.

- 1) Cellular diversity receiving MIMO (with this feature, router can get better signal and speed)

- 2) WiFi Feature
- 3) GPS feature
- 4) Serial to cellular feature, RS232 or RS485 can choose one
- 5) Voice/SMS control
- 6) DC5V~50V (default is DC5V~40V)
- 7) Dynamic Route BGP, OSPF.
- 8) POE feature for WAN/LAN RJ45

The H685 router optional with din-rail, default we don't pack it. If customers need it, please inform us with order.

>>| Package & Accessories

- The H685 Series wireless Router
- CAT5 Ethernet Cable
- Power Adapter
- Antenna
- 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

UK Power Supplier

EU, US, AU, UK for choice



Metal Mangetic-Mount W/ Cable

Rubber antenna

Rubber Mangetic-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.