

H820 4G Router Datasheet



Product Introduction



The E-Lins H820 model is a compact, ruggedized 4G LTE cellular networking router designed for mission-critical connectivity in the most challenging environments. It is qualified for M2M (Machine to Machine), IoT (Internet of Things) and In-Vehicle applications.

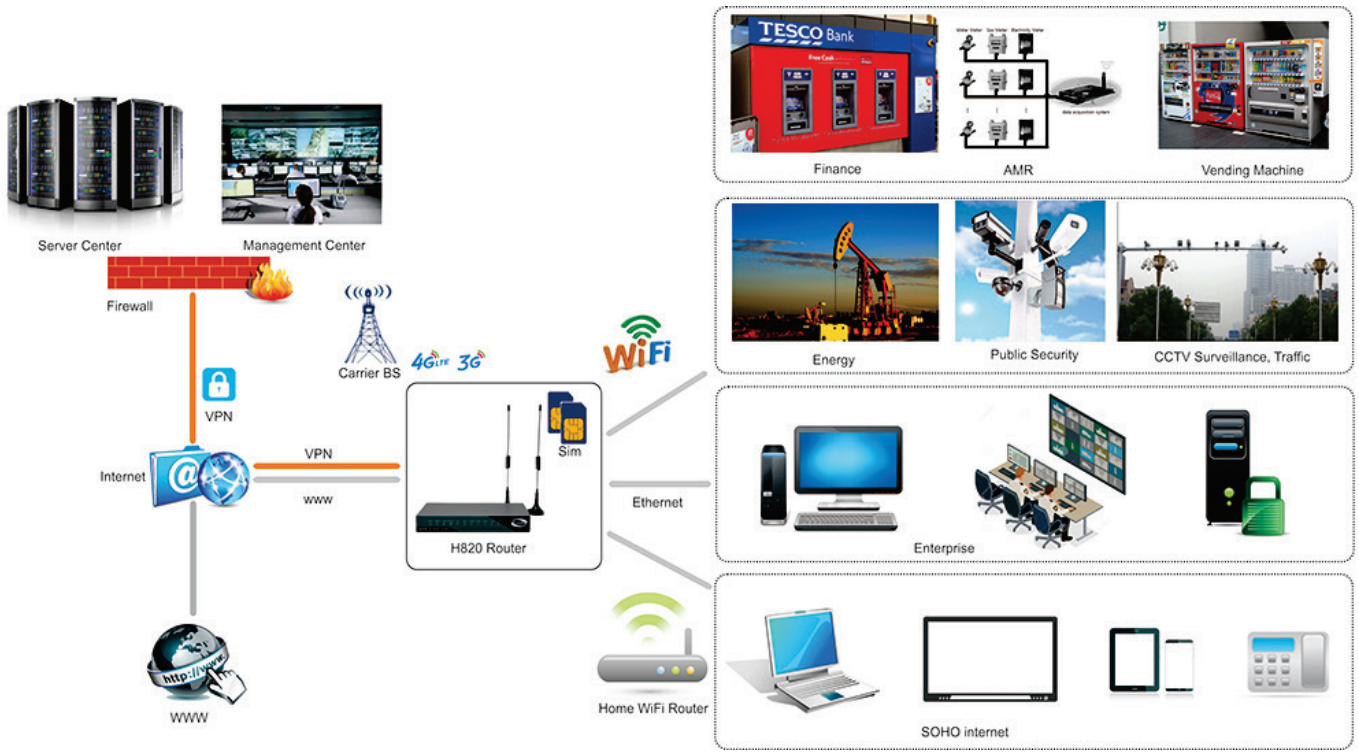
Application Fields

With an extensive list of safety and hardening certifications, the H820 is engineered to protect against extreme temperatures, humidity, shocks, vibrations, dust, reverse polarity, and transient voltage, which is widely used in more than twenty industrial fields, such as CCTV security surveillance, vehicle, Telemetry, vending machines, power control, AMR, traffic, oil field, weather forecast, environmental protection, street lamp control, post, bank and many other areas.

Key Features

- ◆ 2G/3G/4G LTE support with SIM card slot, SIM-based auto-carrier selection
- ◆ Cellular/WAN RJ45/Wi-Fi client failover and Load Balance
- ◆ External antenna connectors for high gain antennas replacement
- ◆ MIMO supported
- ◆ Cloud-managed (with NMS network management system), TR-069, Web management, SMS, SSH/Telnet/Command, SNMP
- ◆ Certified 3G/4G LTE enterprise/industrial grade internal modems
- ◆ Built-in transient and reverse polarity voltage protection, over-current and over-voltage protection;
- ◆ 5-40V DC voltage input range (5-60V DC option), Dual Power Inputs/Power Failover;
- ◆ Supports Ethernet (T1, DSL, Cable, MetroE), Wi-Fi as WAN, and Metro Wi-Fi
- ◆ Ruggedized to ensure always-on connectivity, watch dog
- ◆ Create real-time alerts to monitor uptime
- ◆ Offer secure, guest WiFi to passengers
- ◆ Advanced security, VPN, and stateful firewall to protect sensitive data
- ◆ Robust Metal Case is ruggedized for vibration, shock, provide IP30 protection
- ◆ Desktop, Wall-mount and Din-rail mount of installation
- ◆ Optional Features
 - Wi-Fi (802.11 a/b/g/n, 802.11 ac, 802.11 ax WiFi6)
 - GPS/GNSS
 - Serial Port RS232 or RS485
 - E-SIM and EUICC
 - POE PD or PSE. 802.3af/at/bt (POE/POE+/POE++)

Typical Topology



Failover & Load Balance Tech. for M2M / IoT



Features & Specifications

Main Feature	
WAN	Dual Cellular 2G/3G/4G LTE (FDD/TDD) Wi-Fi as WAN Failover/Failback/Load balance Advanced Modem Failure Check IP Passthrough WAN ports support Cell/Static IP/DHCP/PPPoE (on demand, keep alive, schedule, manual, standby)
LAN	DHCP Server, Client, Relay DNS and DNS Proxy DDNS UPnP DMZ Multicast/Multicast Proxy QoS (DSCP and Priority Queuing) MAC Address Filtering VLAN 802.1Q
Cellular	4G LTE (FDD/TDD) 3.75G/3.5G/3G/2G Single SIM Card Unlocked SIM, Network and Band Lock Feature (Option)
Wi-Fi (option)	802.11a/b/g/n or 802.11a/b/g/n or 802.11ac or 802.11ax WiFi6 Dual band 2.4GHz/5GHz, dual concurrent MIMO supported AP, Client, Bridge Up to 128 connected devices Hotspot/Captive Portal SSID-based Priority
Antenna	Cell antennas * 2 Wi-Fi antennas * 2~4 GPS antenna * 1 External connectors, high gain antenna replacement
Power	Dual Power Inputs/Power Failover; Option POE (Power over Ethernet) PD or PSE, 802.3af/at/bt;

	<p>DC input steady state voltage range: 5-40 VDC/5-60VDC option, (requires inline fuse for vehicle installations);</p> <p>For 9–24 VDC installations, use a 3 A fuse;</p> <p>For > 24 VDC installations, use a 2.5 A fuse;</p> <p>Reverse polarity and transient voltage protection per ISO 7637-2</p> <p>Ignition sensing (automatic ON and time-delay OFF);</p> <p>Power consumption:</p> <p>Idle: typical=100mA@12VDC; Maximum=500mA@12VDC;</p> <p>Tx/Rx: typical=260mA@12VDC; Maximum=800mA@12VDC;</p> <p>12VDC 2A adapter recommended.</p> <p>48V1A/48V1.5A/48V2A (with POE PSE)</p>
Hardware Memory	<p>RAM: 512Mb, can be extended with requirement;</p> <p>Flash: 128Mb, can be extended with requirement;</p>
Ports	<p>Power (DC Jack, 2 Pin Terminal Block for wire connection)</p> <p>5 Ethernet LAN/WAN</p> <p>Serial connector – RS232/RS485 (DB9)</p> <p>Console Port (Terminal Socket)</p>
LEDs	<p>SYS*1, WPS*1, VPN (IPSec)*1, Signal*1, Cell*1, WAN*1, Wi-Fi*1; LAN (10/100M) 1, 2, 3, 4</p>
UIM/SIM Card Slot	<p>Support 1.8V/3V UIM/SIM cards</p>
E-SIM and EUICC (option)	<p>Yes</p>
Buttons	<p>Reset button</p>
Case	<p>Metal Gray-Black; Customization is available</p>
Size	<p>PCBA: 156mm x 104mm x 20mm</p> <p>With case: 168mm x 104mm x 25mm</p>
Weight	<p>455g (not including the antenna)</p> <p>550g (including the antenna)</p> <p>850g (including all accessories, without package)</p>
Temperature	<p>–35 °C to 75 °C ambient air operating;</p> <p>–40 °C to 85 °C storage;</p>
Humidity (non-condensing)	<p>5% to 95% operating</p> <p>5% to 95% storage</p>
Package Contents	<p>H820 model wireless router</p> <p>Ethernet Cable</p> <p>Power Adapter</p>

	Cellular Antenna, Wi-Fi Antenna Others depends on option features (GPS antenna, Serial Cable, etc.)
Warranty	1 Year default. Option extends up to 5 years maximum; Other warranty services can be customized;
Customization Services	OEM / ODM other customization service
Other Details	
VPN	IPsec – Tunnel, NAT-T, and transport modes; connect to E-Lins, Cradlepoint, Cisco/Linksys, CheckPoint, Watchguard, Juniper, SonicWall, Adtran and others; Hash (MD5, SHA128, SHA256, SHA384, SHA512), Cipher (AES, 3DES, DES), IPsec over L2TP support; GRE Tunnel; PPTP support; L2TP, L2TP over IPsec support; VPN pass-through; OpenVPN (option); DMVPN (option); Wireguard (option); Certificate support (option); multiple networks supported in a single tunnel, site-to-site dynamic VPN with NHRP; VTI Tunnel support;
ROUTING	OSPF/BGP/RIP, Virtual Server/Port Forwarding, IPv6 (option), VRRP;
MANAGEMENT	E-Lins Enterprise Cloud Network Management System (NMS) Web GUI, API, CLI/SSH/Telnet Data Usage Alerts (router and per client) Advanced Troubleshooting (support) Device Alerts SNMP SMS control TR-069 Optional RADIUS or TACACS+ username/password; remote WAN web-based management w/ access control (HTTP, HTTPS); SNMP v1, v2c, & v3; CLI over SSH, SSH to serial, API; one-button firmware upgrade; modem configuration, update, and management; modem data usage w/ alerts, per-client data usage; custom AT scripting to modems; SMS;
SECURITY	RADIUS and TACACS+ support

	802.1x authentication for Ethernet Certificate support ALGs MAC Address Filtering Advanced Security Mode (local user management only) Per-Client Web Filtering IP Filtering Content Filtering (basic) Website Filtering Zone-Based Object Firewall with host address (IP or FQDN), port, and mac address Other Details: NAT, SPI, port blocking, service filtering (FTP, SMTP, HTTP, RPL, SNMP, DNS, ICMP, NNTP, POP3, SSH), protocol filtering, WAN ping (allow/ignore)
OPTIMIZED IP COMMUNICATIONS	Automated WAN Failover/Failback support WAN Affinity and QoS allow prioritization of VoIP services Advanced VPN connectivity options to HQ SIP ALG and NAT to allow VoIP and UC communications to traverse firewall MAC Address Filtering 802.1p/q for LAN QoS segmentation and treatment of VoIP on LAN Private Network support (wired and 4G WAN)
Firmware update	support firmware update locally, remotely (LAN, Wi-Fi and OTA WAN) and RMS (Remote Management System) option;
Redundancy and Load Balancing	Failover/failback with 4G, 3G, 2G; WAN failure detection, VRRP; Auto-dial feature, keep alive link; LCP, ICMP check; Built-in watch dog; Load Balancing: allows to use multiple WAN sources to increase throughput. Cellular (2G/3G/4G), RJ45 WAN (xDSL, DHCP, Fixed IP), Wi-Fi client three-line redundancy; Option Feature: Ethernet with rule selection, advanced load balancing options (round robin, spillover, data usage, rate)
Intelligent Routing	UPnP, DMZ, virtual server/port forwarding, routing rules, NAT-less routing, wired or wireless WAN-to-LAN IP passthrough, route management, per-interface routing, content filtering, IP filtering, website filtering, per-client Web filtering, local DHCP server, DHCP client, DHCP relay, DNS, DNS proxy, Split DNS; ALGs: PPTP, SIP, TFTP, FTP, IRC; MAC address filtering, Dynamic DNS, LAN/WAN affinity, VLAN 802.1Q (coming Q4), STP, enterprise routing protocols: BGP/OSPF/RIP,

	multicast proxy support, IP setting overrides, IPv6 support option;
SMS, SMS Control and Alarm	Receive and send the SMS; WAN Cell APN configuration via SMS; SMS/Voice Control and Alarm. SMS or call to control router to be online, offline, reboot, signal and status monitor; SMS is default feature, Voice is option; SMS text sending and receiving;
Others	Cellular and Wi-Fi MIMO supported; Syslog (local and remote); DDNS; DNS proxy; Optimized EMC design; Real-time clock (NTP, support update with defined hours); WAN/LAN/Memory statistics; Local/remote profiles backup and retrieve; Modbus is supported;

Order Part Numbers

H820 Series Router Order Models																		
Part Number	5G	4G						3G	WiFi			POE		Serial		GPS	DI/DO	5-60VDC
		CAT1	CAT4	CAT6	CAT12	CAT19	CAT20		WiFi4 802.11b/g/n	WiFi5 802.11b/g/n/ac	WiFi6 802.11b/g/n/ac/ax	PD	PSE	RS232	RS485			
H820t	-	O	D	O	O	O	O	Y	O	O	O	Y	-	O	O	O	-	O
H820frc	5G Redcap			O				Y	O	O	O	Y	-	O	O	O	-	O
D = default Y = supported O = option - = not supported																		
POE = Power Over Ethernet DI/DO = Digital Input & Output																		
Part Number Markings Description: G = GPS / GNSS W = WiFi S2 = Serial RS232 S4 = Serial RS485 DC60V = DC 5~60V wide range voltage input																		
Part Number Definition: H820x-CATn-XXX (e.g. H820t-CAT6-G-S2-DC60V means H820t with CAT6 LTE, GPS/GNSS, Serial RS232 and DC 5-60V wide range input.)																		
Option Accessories: Replacable High Gain Antennas 35mm Din-Rail Adapter DI/DO Control Board																		