

# H850 OpenWRT Cellular Router Datasheet



## >>| Product Introduction

The H850 series Cellular Router is an OpenWRT version router, which is designed for establish a 2G/3G/4G cellular and Wi-Fi wireless network and share a cellular broad band Internet connection. The H850 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 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. Support OpenWRT
2. Built-in 2G/3G/4G industrial cellular module and sim card slot, insert SIM/UIM card to work directly.
3. Auto-dial feature, keep alive link
4. Built-in watch dog
5. 1 WAN RJ45 port + 1 LAN RJ45 port
6. VPN (PPTP, L2TP, IPSec, OpenVPN)
7. standard SMA antenna can be replaced with high gain type
8. 1 DB9 port for DTU feature (Serial to Cellular Gateway feature,RS232)
9. WiFi (optional), can choose 54Mbps/150Mbps/300Mbps/450Mhz, can choose 2.4Ghz or 5.8Ghz or 2.4+5.8Ghz
10. Always online, Reboot if the connection is failed.
11. I/O port \*3 (optional)

## >>| 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
- Vending machine
- Telemetry, SCADA
- Vehicle logistics and diagnostics controlling
- Parking meter and Taxi Monitor

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- Telecom equipment supervision (Mobile base station, microwave or optical relay station)

## >>| Specification

Wireless	
<b>Compatible Mobile Networks</b>	UMTS WCDMA (HSUPA/HSDPA/HSPA/HSPA+/DC-HSPA+) GSM EDGE/GPRS CDMA1x CDMA2000 EVDO Rev 0/Rev A/Rev B TD-SCDMA/TD-LTE 4G LTE (FDD, TDD)
<b>Cellular Frequency</b>	UMTS/HSPA/HSUPA/HSPA/HSPA+/DC-HSPA+ (WCDMA/FDD): 850/1900/2100 MHz, option for 850/900/1900/2100Mhz/1700Mhz/AWS;  3G TD-SCDMA: 2010~2025MHz/1880~1920MHz  Quad-band EGSM 850/900/1800/1900Mhz;  CDMA1x/EVDO: 800/1900Mhz, option for 450Mhz;  4G FDD LTE: Band 1--2100Mhz Band 2--1900Mhz Band 3--1800Mhz Band 4-- AWS Band 5--850Mhz Band 7--2600MHz Band 8--900Mhz Band 12--700Mhz Band 13--700(B13)Mhz Band 17--700(B17)/AWS Band 20--DD800Mhz Other band...  4G TDD LTE: Band 40 -- 2300Mhz Band 39 – 1900Mhz Band 38--2600Mhz

	Other band...  Notes: 4G LTE is new. There are many different band and frequency. Please confirm the detailed band and frequency with your carriers before order.
<b>Bandwidth</b>	DC-HSPA+: Downlink 42Mbps, Uplink 5.76Mbps; HSPA+: Downlink 21Mbps, 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;  EDGE: Downlink 384 kbps, Uplink 118 kbps; GPRS: Downlink 108 kbps, Uplink 42.8 kbps;  CDMA1x: Downlink/Uplink 153.6kbps; CDMA EVDO: Rev B: 14.7Mbps downlink, 5.4Mbps uplink Rev A: 3.1Mbps downlink, 2.4Mbps uplink Rev O: 2.4Mbps downlink, 153.6kbps uplink  4G LTE: Max. 100/150Mbps downlink, 50Mbps uplink  3G TD-SCDMA: 2.8Mbps  Notes: the bandwidth is peak value. Real value depends on carrier network support.
<b>USB Host</b>	No
<b>DTU</b>	No
<b>VPN</b>	IPSec, OpenVPN
<b>OpenWRT</b>	Yes
<b>Static Route</b>	Yes
<b>Wi-Fi (Optional)</b>	802.11; Can choose 54Mbps/150Mbps/300Mbps/450Mhz. Frequency 2.4Ghz or 5.8Ghz or 2.4Ghz+5.8Ghz. Support Access Points, Routers and Gateway Server Applications, wireless up to 254 PC users
<b>Log</b>	System log, Kernel log

<b>NTP</b>	Yes
<b>Scheduled Tasks</b>	Yes
<b>LED configuration</b>	Yes
<b>Backup/Restore</b>	Yes
<b>Firmware</b>	Support flash new firmware image
<b>Wake on LAN</b>	Yes
<b>Protocol</b>	
<b>Protocol support</b>	TCP, UDP, SMTP, POP, ICMP, FTP, PPP, PPPoE, DHCP, DDNS, DNS, WPS, DMZ, NAT, xDSL, NTP, QoS, SNMP, RIP
<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</p> <p>support WPA1/2 – 802.1x</p> <p>support EAP – TLS, TTLS, LEAP, PEAP</p> <p>TKIP, AES encryption</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>	<p>1X 10/100M LAN port (RJ45 interface)</p> <p>1X 10/100M WAN port (RJ45 interface)</p>

<b>Antenna</b>	1 or 2 antenna for Wi-Fi (detachable, SMA interface); 1 or 2 antenna for Cellular (detachable, SMA interface); 1 antenna for GPS (detachable, SMA interface)
<b>Led</b>	PWR*1 SYS*1 Cell*1 WAN*1 LAN*1 WiFi*1
<b>Button</b>	Reset
<b>Console</b>	1 console port DB9
<b>Serial port</b>	No
<b>Terminal Block</b>	I/O * 3 (hardware is ready, software need development)
<b>Configuration Interface</b>	Web/Telnet/CLI/SSH, support remote management
<b>At command</b>	Supported
<b>UIM/SIM Card Slot</b>	Support 1.8V/3V UIM/SIM cards, one sim card slot
<b>Power connector</b>	2.1mm DC jack * 1, Terminal Block input
<b>Power</b>	
<b>Power supply</b>	DC5V-50V , typical DC 9V1A or 12V1A, 12v CAR USE; DC5V~40V is the default, DC5V~50V is the option
<b>Power consumption</b>	Idle: about 120mA@12VDC Communication: about 270mA@12VDC
<b>Software</b>	
<b>Device Management</b>	WEB interface (Internet Explorer v6 or Later; Mozilla Firefox v1.5 or Later, or other Java-enabled Browsers,Chome,Opera,Sarafi)
<b>Minimum System Requirements</b>	Computer with: Windows/Mac/IOS/Android/Linux/Unix, etc. Web browser tool Network Interface Card
<b>Physical</b>	

<b>Operating Temperature</b>	Storage Temperature: -40 ~ 85°C Working Temperature: -30 ~ 75°C Humidity: 95% (non-condensing)
<b>Humidity</b>	95% Maximum (Non-condensing)
<b>Dimensions</b>	PCBA: 90mm x 70mm x 23mm With case: 100mm x 78mm x 26mm
<b>Weight</b>	375g (not including the antenna) 475g (including the antenna) 775g (including all accessories, without package)
<b>Color</b>	Metal Gray-Black, OEM is available
<b>Others</b>	
<b>Warranty</b>	1 Year default, can extend to 5 years
<b>Package Contents</b>	H850 Series wireless Router Ethernet Cable Power Adapter Antenna Others depends on option features

## >>| Model and Version

**H850x --- XXX (option)**

**W:** WiFi WLAN

**RS232/RS485:** DTU feature (cellular to serial), RS232 or RS485 for choice

**50V:** DC input 5~50V support, default is 5~40V

**t:** 4G LTE version. Support FDD LTE or TDD LTE or FDD+TDD LTE, back compatible to 3G and 2G

**w:** 3G WCDMA HSPA version, support HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM

**p:** 3G WCDMA HSPA+ version, support HSPA+/HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM

**eva:** 3G CDMA2000 EVDO version, support EVDO RevA/EVDO Rev0/CDMA1x

**evb:** 3G CDMA2000 EVDO version, support EVDO RevB/EVDO RevA/EVDO Rev0/CDMA1x

**td:** 3G TD-SCDMA version, support TD-HSUPA/TD-HSDPA/TD-SCDMA/EDGE/GPRS/GSM

**Notes:**

1) option feature can be select one or all

2) for LTE version, please confirm your LTE band and Network Carrier with order to avoid wrong selection

## >>| Package & Accessories

- The H850 Series wireless Router
- 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 Magnetic-Mount W/ Cable

Rubber antenna

Rubber Magnetic-Mount W/ Cable

CD-Rom with Manual/Data

**Notes:**

- 1) 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.
- 2) Different places have different band and frequency. Signal quality affects the data speed. The antenna in the packages is free default. It's a world-wide use type. Our free antenna may not get good signal or good speed in your area. Please get the dedicated antenna for your area yourself to get the best signal and data speed.