



4g industrial router zx4520 specification

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# Documentation

The company reserves the right to make changes and improvements to the product information described in this manual without prior notice; it also reserves the right to revise or withdraw this document at any time.

This manual is intended as a guide to use only, and all statements, information and recommendations in this manual do not constitute any warranty, express or implied.

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# Preamble

## Summarize

This document mainly focuses on the hardware and software functions of the zx4520 as a brief introduction, so that readers can easily understand the basic information of this device.

## Readers

Customers who need to know about the product

## Releases

The product and specification versions corresponding to the introduction of this document are as follows:

Diethylammonium chloride	Specification version
4g industrial router zx4520 specification	V1 .0

# 1. Product overview

## 1.1 introduction

This router is an industrial iot communication device, fully compatible with 4g/3.5g/3g/2.5g networks, with industrial-grade protection, wide-temperature and wide-voltage design, which can easily set up a high-speed and stable wireless transmission network. Utilizing public lte network (or vpdn proprietary network) to provide users with wireless long-distance data transmission services.

This router utilizes a high-performance industrial-grade 32-bit communication processor

and industrial-grade communication module with the embedded real-time operating system as the software support platform, 4 ethernet lan ports, 1 ethernet wan port and wifi interface, it can connect ethernet devices and wifi devices at the same time to realize data transparent transmission and routing functions.

## 1.2 areas of application

Industrial control, electric power, petroleum, coal mine, finance, communication, public security, heat, meteorology, water conservancy, transportation, municipal and other industries that require remote data transmission.

## 1.3 product illustrations



## 1.4 characteristics

1. Adoption of high-performance industrial-grade communication modules
2. Support 3g(wcdma/evdo/td-scdma), 4g(fdd-lte/td-lte)
3. Metal housing with protection class ip30
4. Standard rj45 (ethernet) interface with built-in lightning protection (6000v electromagnetic isolation included)
5. Wide voltage and current input: Dc9-30v/1a; automatic power-off protection for ultra-high voltage
6. Anti-reverse power supply protection, anti-surge protection; esd anti-static protection
7. Soft and hardware watchdog anti-deadline design, if the router is dead due to special environment, it will automatically power off and restart to ensure stable and reliable operation of equipment
8. Network disconnection automatic detection, dialing failure automatic restart, timed restart and other features
9. Supports multiple ddns dynamic domain name services
10. Port mapping, dmz hosting, and other features
11. Support vpn client pptp client, l2tp client, openvpn client
12. Base station positioning function, etc.

# 2、 Functional overview

## 2.1 software functions

Network interconnection	
Network access	3g/4g dial-up internet access, support apn, vpdn, built-in information of hundreds of apns around the world, the router can automatically match the internet access after inserting the sim card.
Access authentication	Support chap/pap/ms-chap/ms-chapv2/none
Network standard	Support lte/wcdma(hspa+)/td-scdma/evdo/edge/gprs
Lan protocol	Supports arp, ethernet, stp
Wan protocol	Supports static ip, dhcp, pppoe, pptp,l2tp

Number of supported users	Wired: 253, wireless: 32
Network protocol	
Ip application	Support ping, traceroute, dhcp server/wireless relay/client, dns relay, dynamic domain name ddns, telnet, ssh, http, https, tftp, ftp, sftp, ipv6
Ip routing	Supports static routing, igmp proxy
Ttl	Customizing client host ttl values
Network security	
Firewalls	Supports stateful packet inspection (spi) to protect against denial of service (ddos) attacks
	Supports filtering of multicast/ping packets, access control lists (acls)
	Dmz, mac filtering, whitelist/blacklist access control
	Support nat, pat, dmz, port mapping, virtual server
Data security	Supports l2tp, pptp, openvpn, ca
Dependability	
Backup function	Interface backup, 4g, wired or relay disconnection backup each other
	Dual sim slots for automatic signal switching and dual-sim carrier backup
Link in-line inspection	4g status detection, auto redial when disconnected or bad signal
	4g dual-sim switching, when one network is disconnected it switches to the other network
	Vpn disconnect redial interval definition, with dialing count control
	Wan side sends heartbeat detection packet detection, disconnection automatic connection
	Reset
Wlan	
Wireless 2.4ghz	Support ieee 802.11b/g/n
	Supports wireless area code (country/region channel) selection
	Wifi on time period control
	Ssid broadcast time slot control
	Supports transmit power adjustment
	Single and dual antenna (150mbps,300mbps rate) control
	Guest network: Can set up guest wifi, manage guest internet behavior
	Wireless bridging: Can bridge to other wifi (wds bridging, etc.)
	Wireless access control: Internet access control for mac (black and white list)

Secondary development (edge computing)	
Shell script	Customized script function for customized management of the router and related functions
System interface	Router provides secondary development parameter interface (http), such as obtaining the router status, set the router-related functions. Convenient for mobile app, small program, cloud server development.
Network management	
Configuration	Supports local or remote http, https, telnet, ssh, and intranet penetration.
Upgrade method	Support local or remote web, tftp, ftp, sftp server, intranet penetration remote
Logging function	Support local system log, remote log. Important logs are saved by power down
	Supports log power-down saving

## 2.2 hardware parameters

Connector	
Ethernet interface	5* 10/100mbps fast ethernet interfaces, wan/lan adaptive (5 lan in 4g mode)
Wi-fi interface	Optional, ieee802.11b/g/n
Sim card holder	Micro sim x 2
Antenna connectors	Sma externally rotated bore: 3g/4g network: Sma x 2 (1 for standard version) Wlan: Sma x 2 (1 standard version)
Reset button	1
Mechanical property	
Installation	Guide rail, wall mounted
Overall dimensions	Length, width and height: 118*95*25mm (without antenna interface)
Housings	Aluminum
Protection class	Ip30
Cooling method	Thermally conductive wool shell heat dissipation
Weight (g)	175g (without antenna)
Electric power source	
Power connector	Dc2.1 header 2pin terminal

Power input	Dc 9-30v, anti-reverse connection protection
Standby power consumption	100ma@12v (lte+ network)
Operating power consumption	150ma@12v (lte+ network)
Peak power consumption	200ma@12v (lte+ network)
Reverse polarity protection	Be in favor of
Wi-fi transmission power	
Firing power	802.11n ht20 mcs7 : +13.5dbm 802.11n ht40 mcs7 : +13.5 dbm 802.11b cck: +18 dbm 802.11g ofdm: +13.5dbm
Data rate	802.11n: Up to 300mbps 802.11b: 1, 2, 5,5, 11mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54mbps
Receiver sensitivity	-66dbm at 150mpbs -73dbm at 54mpbs -86dbm at 11mpbs
Ambient temperature and humidity	
Environmental humidity	5 ~ 95% (no frosting)
Storage temperature	-40 ~ 85°c
Operating temperature	-20°c ~ +75°c
(sth. Or sb) else	
Led light	<p>Sys system operation indicator:            Blinks 1 time per second to indicate normal system operation            A fast flash indicates that the firmware is being upgraded, or the reset button is being pressed to reset the</p> <hr/> <p>Net extranet connection indicator:            When in 4g mode, a fast flash indicates that 4g is being dialed            Long light, indicates successful wan port internet access            Slow flashing, indicating sim card failure (e.g. Sim card not inserted properly, system cannot find sim card)            Long out. Connection failure on the wan side.</p> <hr/> <p>Sim card switching indicator:            Currently used sim card number</p> <hr/> <p>Network port light, connect the corresponding port cable, the corresponding led is on</p>
Physical property	
Shockproof	iec 60068-2-27



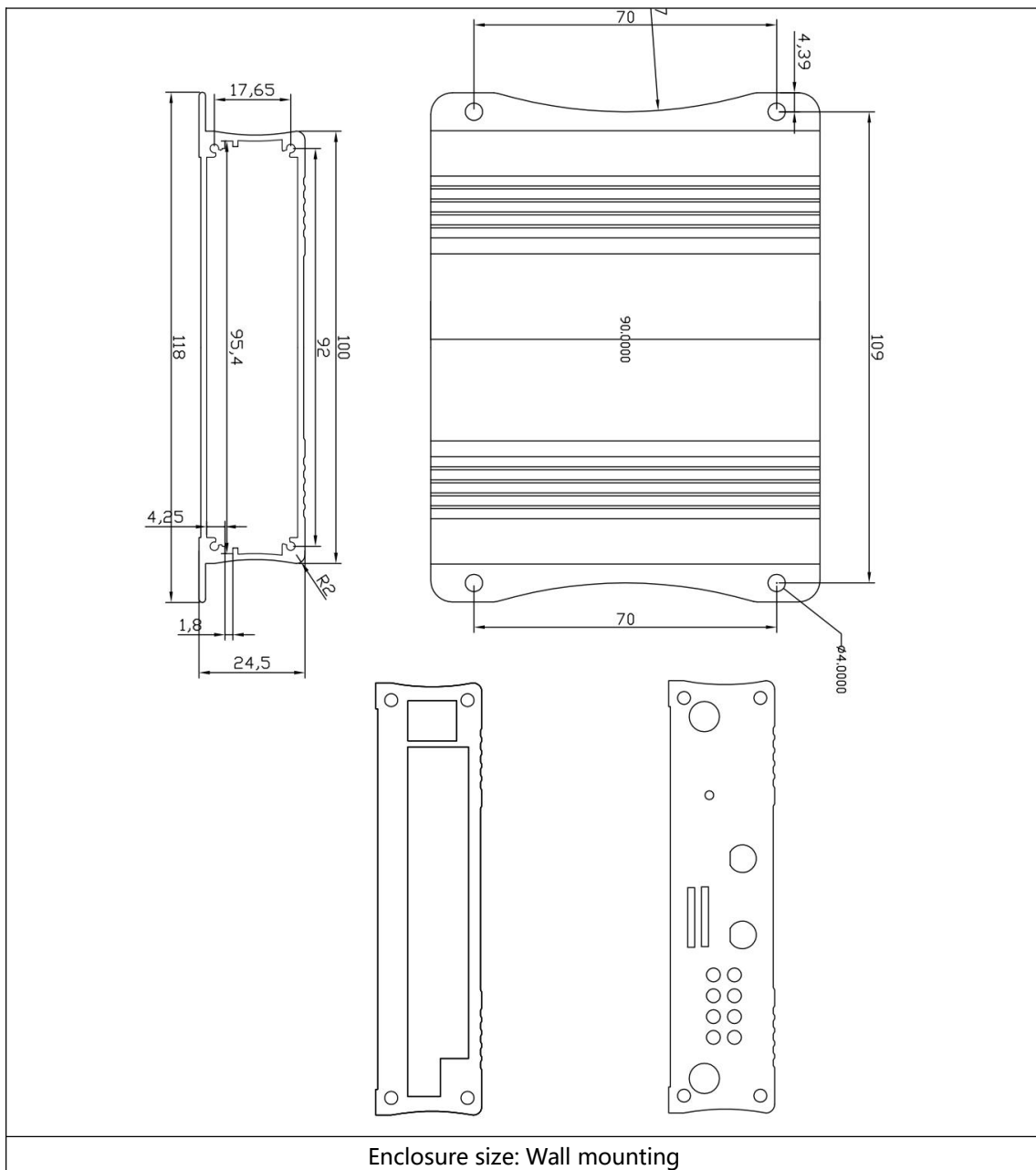
Vibratory	lec 60068-2-6
Fall	lec 60068-2-32

### 3. Interface description

Wan/lan1 - lan4	Standard rj45 ports; in non-standard router mode, all 5 rj45 ports are lan ports
Dc power interface	Adopting 2.1mm round head power connector, internal positive and external negative, the voltage input is 5-30v, and the recommended input power is more than 10w. 2pin terminal power connector
3g/wifi antenna interface	Sma male swivel female connector.
Led light	<p>Sys system operation indicator:  Blinks 1 time per second to indicate normal system operation  A fast flash indicates that the firmware is being upgraded, or the reset button is being pressed to reset the</p> <hr/> <p>Net extranet connection indicator:  When in 4g mode, a fast flash indicates that 4g is being dialed  Long light, indicates successful wan port internet access  Slow flashing, indicating sim card failure (e.g. Sim card not inserted properly, system cannot find sim card)  Long out. Connection failure on the wan side.</p> <hr/> <p>Sim card switching indicator:  Currently used sim card number</p> <hr/> <p>Network port light, connect the corresponding port cable, the corresponding led is on</p>
R (reset) key	Press this key for 8 seconds to reset the system.
Sim card slot	Micro self-ejecting sim card slot.

Customized built-in industrial grade smd cards are available to meet higher requirements in terms of operating temperature range, vibration and humidity resistance. The iccid number will be written in the smd and activated by the user when using.

## 4. Block diagram of the equipment (housing and main board)



Motherboard locating post dimensions

