

TK805L-EXW – Industrial LTE Wi-Fi Router

LTE Router and Wi-Fi Access Point in one device



4G

LTE with 100 Mbps

LTE standard for high transmission rates and good network coverage in sparsely populated areas



MIMO / Diversity

Two SMA (f) antenna connectors for better reception and low susceptibility to faults even with difficult conditions



Dynamic Multipoint VPN

GRE, L2TP, IPSec, DMVPN, OpenVPN
Simple and fast configuration of thousands of routers thanks DMVPN



Command Line Interface

In addition to the web interface, the router can be configured through a lean command line



Dual SIM

High availability with the use of SIM cards of two different network operators thanks to fallback



Serial Interfaces

Each one RS-232 and RS-485 interface for connecting serial devices



I/O support

A digital input and a relay output for connections to sensors and actuators



EMC

High electromagnetic compatibility according to 61000-4 for use in high-stress environments



Five Ethernet Ports

Five RJ45 Ethernet ports. One of them as WAN port usable (Static IP, DHCP, PPPoE)



Wi-Fi Access Point and Client

The TK805L-EXW has the WLAN standards IEEE 802.11 b/g/n and can be used as access point and client



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Technical Details

TK805L-EXW

CELLULAR FEATURES	
Type	LTE router
Chipset	Huawei ME909
2G standard	GSM, GPRS
3G standard	UMTS, HSDPA, HSUPA, HSPA+
4G standard	LTE
Frequency GSM/GPRS	850/900/1800/1900 MHz
Frequency UMTS	850/900/1800/1900/2100 MHz
Frequency LTE	800 / 1800 / 2600 MHz
Download (max)	100 Mbps
Upload (max)	50 Mbps
Authentication	CHAP/PAP/MS-CHAP/MS-CHAP2
Cellular antenna connector	2x SMA (f)
APN functions	APN (Access Point Name), VPDN (Virtual Private Dialup Network, IP VPN of the network operator)
Dial On Demand	Always online or dial, SMS or local data transfer
SMS functions	Reboot and status SMS
WI-FI CHARACTERISTICS	
Wi-Fi antenna connector	2x RP SMA (m)
IEEE 802.11b	11 Mbps
IEEE 802.11g	54 Mbps
IEEE 802.11n	150 Mbps
IEEE 802.11i	WPA/WPA2/TKIP/PSK/AES/CCMP
WEP	64-bit / 128-bit encryption
Access point mode	Yes
Client mode	Yes
ETHERNET INTERFACE	
Connector	5x RJ45 port 10/100TX (1 of them WAN)
WAN-Port	1 Port
VLAN	dot1q
SERIAL INTERFACE	
Amount	2
Type	RS-232, RS-485
Serial interface	TXD, RXD, GND, A(RS-485+), B(RS-485-)
Connector	Terminal blocks 5-pin (m)
Baud rate	1200 - 115200 bps
Additional protocols	Transparent TCP, Virtual COM, Modbus TCP / RTU
ADDITIONAL INTERFACES	
Console port	1x RJ45 Console port (RS-232)
I/Os	1x Digital Input, 1x Relay Output
SIM card slot	2
SOFTWARE CHARACTERISTICS	
Configuration	Webbrowser, Telnet, SSH and Serial port
Updates	Webbrowser, Serial port, TFTP, FTP

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ADVANCED FUNCTIONS	
Watchdog	Software and hardware watchdog
LED	LED indicators for the signal strength, 9 status LEDs: POWER, STATUS, WARN, ERROR, Modem, 2x SIM, VPN, WLAN
NETWORK CHARACTERISTICS	
Routing	Static routes and dynamic routes with RIP or OSPF
Network protocols	ICMP, TCP, IP, UDP, DHCP, SNTP, DNS, HTTP, HTTPS, Telnet, ARP, VRRP, PPP, SSH
Connection inspection	PPP LCP echo and ICMP keep alive and IP SLA / tracking for checking connections
NAT and PAT	Network Address Translation (NAT) and Port Address Translation (PAT)
DDNS (DynDNS)	Supports Dynamic DNS
VRRP	Automatically switch to slave router if the master router fails
IPsec	Tunnel mode, Transport mode, DMVPN
OpenVPN	Client
GRE	Point-to-Point
VPN authentication	Preshared keys, digital certificates
Firewall	Stateful Packet Inspection (SPI), ACLs
Access control	ACLs, RADIUS, TACACS+, LDAP
Realtime clock	Provides the system with the current time (NTP)
POWER SUPPLY	
Power supply	12 - 48 V DC
Connector	Terminal blocks 2-pin (m)
Power consumption standby	3.8 W
Power consumption aktiv	5.3 W
PHYSICAL CHARACTERISTICS	
Housing material	Metal
Ingress protection	IP30
Dimensions (W x H x D)	45 x 132,6 x 112,8 mm
Weight	606 g
Mounting	DIN rail
ENVIRONMENTAL	
Operating temperature range	-25 - +70 °C
Storage temperature range	-40 - +85 °C
Humidity	5 - 90 %, non condensing
Shock	IEC 60068-2-27
Free fall	IEC 60068-2-32
Vibration	IEC 60068-2-6

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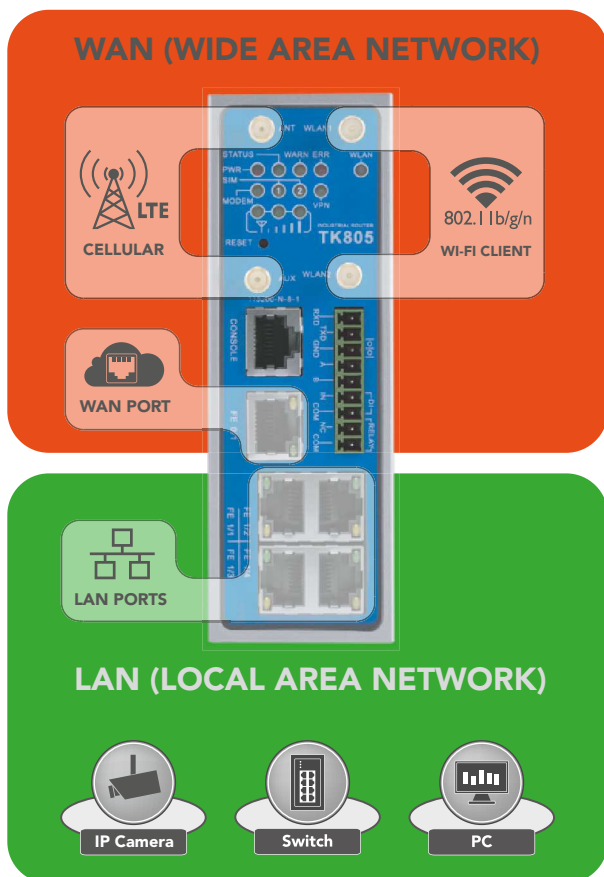
Technical Details

TK805L-EXW

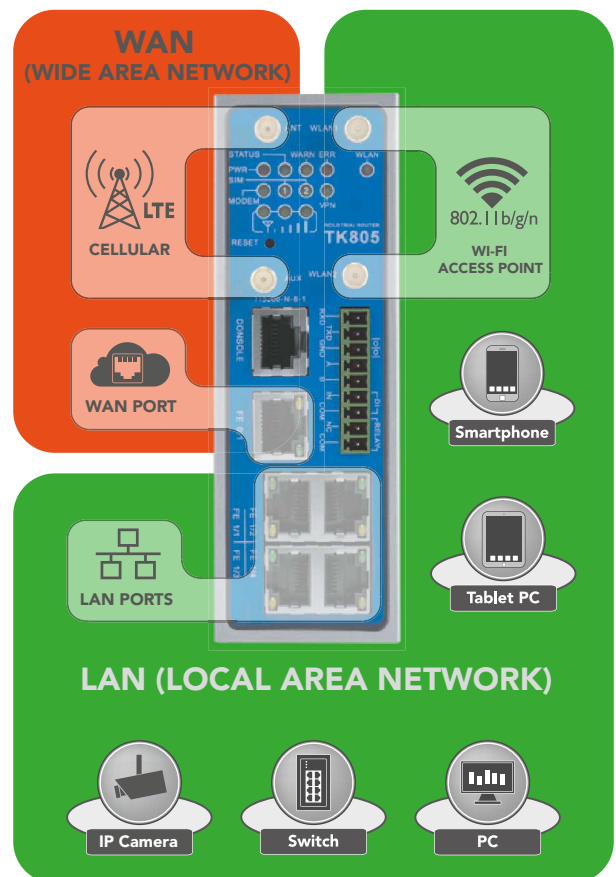
EMC CHARACTERISTICS	
EDS	EN 61000-4-2, Level 4
Surge protection	EN 61000-4-5, Level 3
EFT	EN 61000-4-4, Level 4
RF	EN 61000-4-3, Level 4
RC	EN 61000-4-6, Level 3
Oscillatory wave immunity	EN 61000-4-11, Level 3
Variation magnetic field immunity	EN 61000-4-8, Level 5

Wi-Fi capability

The LTE Wi-Fi-Router TK805L-EXW supports the Wi-Fi standard IEEE 802.11b/g/n with WPA2 encryption and can be used as Wi-Fi Client or Wi-Fi Access Point. This makes its use so flexible:



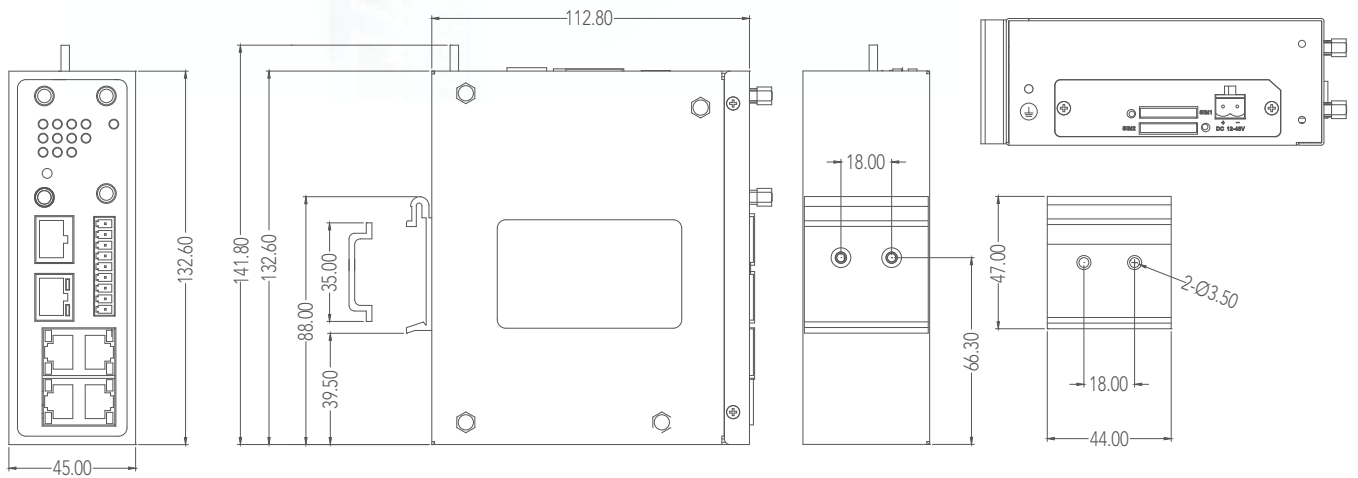
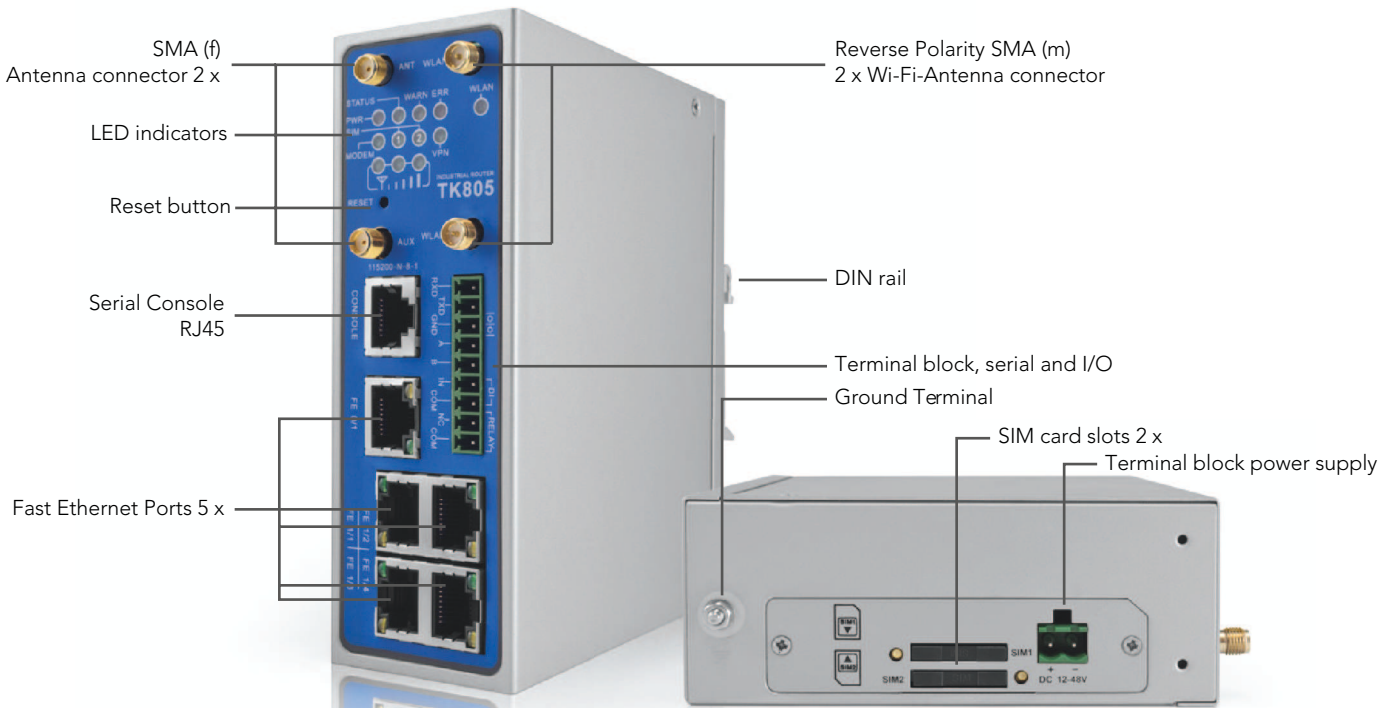
In client mode, the router can connect to the Internet through a Wi-Fi access point, the LTE mobile connection is available as a backup link in this case.



Used as a Wi-Fi access point, the router can connect to the wired WAN. Devices such as smartphones and tablet PCs can communicate with the router via Wi-Fi.

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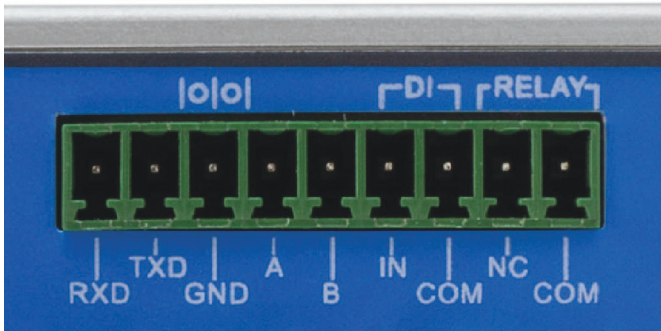
Dimensions TK805L-EXW



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Serial Interfaces / I/Os

The TK805L-EXW LTE Wi-Fi router features five Ethernet ports and a serial interface for configuration. As an extension, two serial interfaces (1x RS-232, 1x RS-485) and a digital input and a relay output are available.



Pin assignment:
Terminal block 9-pin

PIN	DESCRIPTION
RS-232	RXD / TXD / GND
RS-485	A(RS-485+) / B(RS-485-)
DI	IN / COM
Relay	NC / COM

Improve availability with Dual-SIM

The device can be operated with two SIM-cards. The combination of two different SIM cards from different network providers leads to a redundancy in the network connection. Fails the network of a mobile operator, can automatically be switched to the second SIM card.



Pin assignment:
Terminal block 2-pin

PIN	DESCRIPTION
+ / -	12 - 48 V DC

LTE with up to 100 Mbps

The TK805L-EXW is an industrial LTE router. With LTE, the fourth generation wireless standard, you can achieve higher speeds and lower latencies. They also benefit from better coverage, especially in rural areas by the provider. The use of diversity or MIMO antennas also ensures better reception.

The router is downward compatible in the mobile communications standard. So the router also supports 3G (HSPA+, HSDPA, HSPA, UMTS) and 2G (EDGE, GPRS, GSM). If the network with the highest standard is not available or the reception is too weak, the system automatically switches to the next best network.



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Cellular antennas

Apart from many different antennas, we offer antenna extensions and adapters for each application. Below you can find a list of recommendable antennas for the TK800 Series routers.



WAO-GUL0L-2C000-SMAM0



WAO-GUL0W-2D500-SMAM0



WAO-GUL0W-2D999-SMAM0



WAO-GUL0D-2B050-SMAM0

GENERAL DATA				
Type	Portable antenna	Rod antenna	Rod antenna	Low-profile antenna
Radiation Type	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional
Antenna Connector	SMA (m)	SMA (m)	SMA (m)	SMA (m)
Frequency Range	698 - 960 / 1710 - 2700 MHz	824 - 960 / 1710 - 2170 MHz	824 - 960 / 1710 - 2170 MHz	870 - 960 / 1710 - 2170 MHz
Gain	2 dBi	2 dBi	2 dBi	2 dBi
Cable	S0M00-1950100-S0F0B	5 m	10 m	0,5 m



CACELY-N



FP8241850-10VP



BMLPVMB/LTE

GENERAL DATA			
Type	Yagi antenna	Panel antenna	Low-profile antenna
Radiation Type	Directional	Directional	Omnidirectional
Antenna Connector	N (f)	N (f)	Universal-Plug
Frequency Range	880 - 960 / 1710 - 2170 MHz	824 - 960 / 1710 - 2170 MHz	698 - 2700 MHz
Gain	6 / 8 dBi	10 / 11 dBi	3 dBi
Cable	<ul style="list-style-type: none"> • S0M00-1950200-N0M00 • S0M00-1950500-N0M00 	<ul style="list-style-type: none"> • S0M00-1950200-N0M00 • S0M00-1950500-N0M00 	<ul style="list-style-type: none"> • Antennafood: MVP • S0M00-1950200-N0M00

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Wi-Fi antennas

**WAO-2450L-3C000-TNCRO****MMO24580608NF****MLPVDB2458**

GENERAL DATA			
Type	Portable antenna	Rod antenna	Low-profile antenna
Radiation Type	Omnidirectional	Omnidirectional	Omnidirectional
Antenna Connector	RP TNC (m)	N (f)	Universal-plug
Frequency Range	2400 - 2500 / 4940 - 5850 MHz	2400 - 2485 / 5150 - 5850 MHz	2400 - 2500 / 4900 - 5900 MHz
Gain	2 / 4 dBi	6 / 8 dBi	3 / 4 dBi
Fits for	-	-	MVP & MTPM800 Antenna mount

**BMHODB2458IP****MP24580809PTNF**

GENERAL DATA		
Type	Low-profile antenna	Panel antenna
Radiation Type	Omnidirectional	Directional
Antenna Connector	N (m)	N (f), 30 cm
Frequency Range	2400 - 2500 / 4900 - 5900 MHz	2300 - 2500 / 4940 - 5850 MHz
Gain	2 dBi	8 / 9 dBi

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Antenna accessories



MVP



MTPM800



SOM00-1950100-SOF0B



SOM00-1950200-NOM00



SOM00-1950500-NOM00

GENERAL DATA

Characteristic	Vandal-proof permanent mount	Vandal-proof permanent mount	Antenna cable	Antenna cable	Antenna cable
Antenna connector	N (f)	N (f)	SMA (m) - Bulkhead SMA (f)	SMA (m) - N (m)	SMA (m) - N (m)
Cable length	-	-	1 m	2 m	5 m

Router accessories



Power supply



2x Magnetic base antenna



Terminal block 9-pin



Terminal block 2-pin

ACCESSORIES

100 - 265 V AC to 12 V DC included in delivery Art. No. 6912TK000000	2.5 m Cable included in delivery Art. No. 6911WAGEN000	only TK802x-EX0 included in delivery Art. No. 6912TK000004	12 - 48 V DC included in delivery Art. No. 6912TK000005
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Welotec is using a ISO 9001:2008 certified quality management system • All specifications are subject to change

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