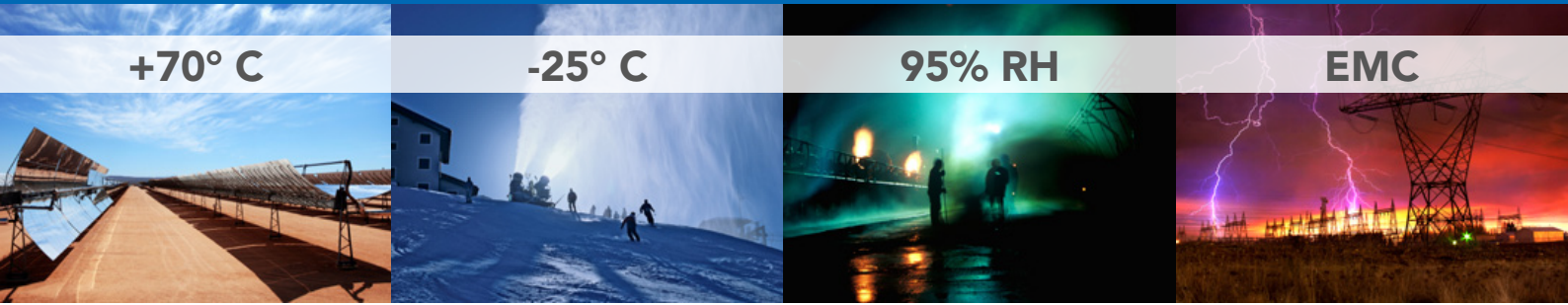


TK-Series Cellular Router



TK701G

TK701U

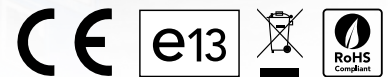
TK704G

TK704U

TK704W



TK700



The industrial 2G GPRS- and 3G UMTS routers offered by Welotec enables the access to Ethernet devices or a local network remotely via mobile network with 2G and 3G transmission standards like UMTS / HSDPA / HSUPA and GPRS / EDGE. Especially for applications like remote control, digital signage and condition monitoring the-

se devices are easy to install and cost-effectively. With a huge number of functions and interfaces like VPN, OpenVPN, IPsec and the RS-232 serial port these routers are well-equipped for the most common applications. The 3G router can reach a data transmission speed of 7.2 Mbps upload and 5.76 Mbps download.

Technical detail

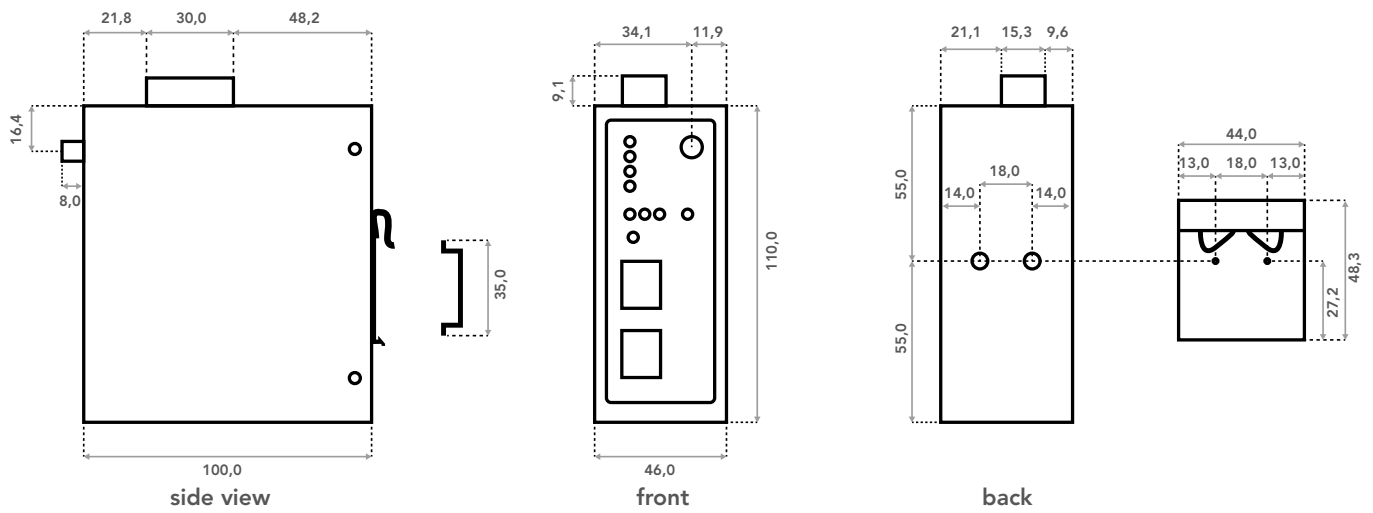
Cellular Features	TK701G	TK701U	TK704G	TK704U	TK704W
Modul	Cinterion MC55i GSM / GPRS 850 / 900 / 1800 / 1900 MHz Quad Band	Huawei EM770W, HSUPA 850 / 900 / 1800 / 1900 / 2100 MHz Quad Band	Cinterion MC55i GSM / GPRS 850 / 900 / 1800 / 1900 MHz Quad Band	Huawei EM770W, HSUPA 850 / 900 / 1800 / 1900 / 2100 MHz Quad Band	-
Downlink	64,2 Kbit/s	7,2 MBit/s	64,2 Kbit/s	7,2 MBit/s	-
Uplink	42,8 Kbit/s	5,76 MBit/s	42,8 Kbit/s	5,76 MBit/s	-
Authentication	CHAP / PAP / MS-CHAP / MS-CHAP2				-
APN functions	<ul style="list-style-type: none"> • APN (Access Point Name) • VPDN (Virtual Private Dialup Network, operators IP VPN) 				-
Dial on demand	Activated by Call / SMS / Local data flow				-
Always online	PPP LCP echo and ICMP keep alive for link inspection				-

Ethernet interface	TK701	TK704
Connector	1 x RJ45 Port 10/100TX - Auto MDI/MDI-X	4 x RJ45 Port 10 / 100TX - Auto MDI/MDI-X
Isolation protection	1.5 kV between signals and Gnd	
Serial port	TK700	
Interface	1 x RS-232 / screw pluggable terminal block, pitch=5mm	
Data rate	1200 bit/s - 115200 bit/s	
Protocol	<ul style="list-style-type: none"> • Modbus TCP / RTU • Transparent TCP Connection • Virtual Com port 	
System management	TK700	
Management tools	Webbrowser, Telnet, SSH and Hyper Terminal	
Upgrade	Remote and local firmware upgrade based on redundant firmware backup	
Network features	TK700	
Routing	Static routing	
Network protocol	ICMP, IP, TCP, UDP, DHCP, PPP, ARP, Telnet, DNS, SSH, VRRP, HTTP, HTTPS, NTP	
Connection inspection	PPP LCP echo and ICMP keep alive for link inspection	
NAT and PAT	Network Address Translation (NAT) and Port Address Translation (PAT), hiding internal IP addresses and expand IP address space	
DDNS (DynDNS)	Support Dynamic DNS	
VRRP	Hot backup, auto switch to slave router when master router failed	

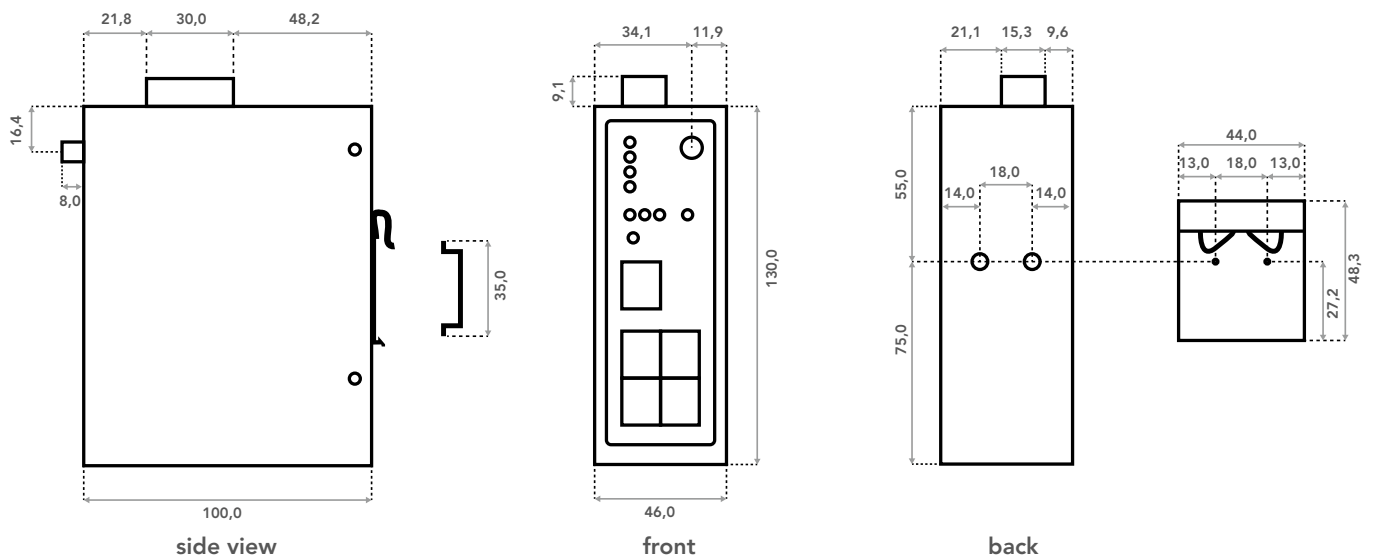
Network security	TK700	
IPsec	Support 4x standard IPsec based VPN tunnel, encryption methods including DES, 3DES, AES, data verification methods including MD5 and SHA-1	
OpenVPN, PPTP, L2TP	Client and Server	
GRE	Client	
Authentication	Pre-shared key, digital certificate	
Firewall	Stateful Packet Inspection(SPI), filtering multicast, filtering PING packet, preventing DoS attack, different firewall strategies	
MAC address bundling	Refuse illegal host access	
Port mapping	Allow extranet user to access specific intranet port	
Access control	Flexible access control of TCP, UDP, ICMP packet	
DMZ	Support virtual servers	
Advanced functions	TK700	
Realtime clock	Provide the system with accurate local time	
Watchdog	With both software and hardware watchdog, insure system against dead-halt	
LED	<ul style="list-style-type: none"> • 3-level LED indication of cellular network signal strength • 4 Status LEDs: POWER, STATUS, WARN, ERROR 	
Power supply	TK701	TK704
Power supply	9 to 48 V DC, anti-RCE (reverse connection error), over-current protection	12 to 48 V DC, anti-RCE (reverse connection error), over-current protection
Power consumption	<ul style="list-style-type: none"> • Communication: 300mA @ 12V (max) • Idle: 120mA @ 12V (max) 	
Connector	screw pluggable terminal block, pitch=5mm	
Housing	TK701	TK704
Material	Metal Housing	
Dimensions	46 x 100 x 110 mm	46 x 100 x 130 mm
Weight	490 g	595 g
Installation	DIN-rail mounting and Wall mounting	
Operation environment	TK700	
Operating temperature	-25°C ~ +70°C	
Storage temperature	-40°C ~ +85°C	
Air humidity	5% ~ 95%, non-condensing	
Protection class	IP30	
MTBF	240.000 hours	
EMI Immunity	TK700	
ESD	EN 61000-4-2, Level 4	
RF	EN 61000-4-3, Level 4	
EFT	EN 61000-4-4, Level 4	
Surge protection	EN 61000-4-5, Level 3	
RC	EN 61000-4-6, Level 3	
Oscillatory Wave Immunity	EN 61000-4-12, Level 4	
Umweltprüfungen	TK700	
Anti-shock/Drop/Vibration	IEC 60068-2-27 / IEC 60068-2-6	
Electric Strength	DC500V imposed on communication lines to ground and on power lines to ground, resistance >15MΩ	
Impact strength	15 G / 11 ms	

Dimensioned drawing

TK701



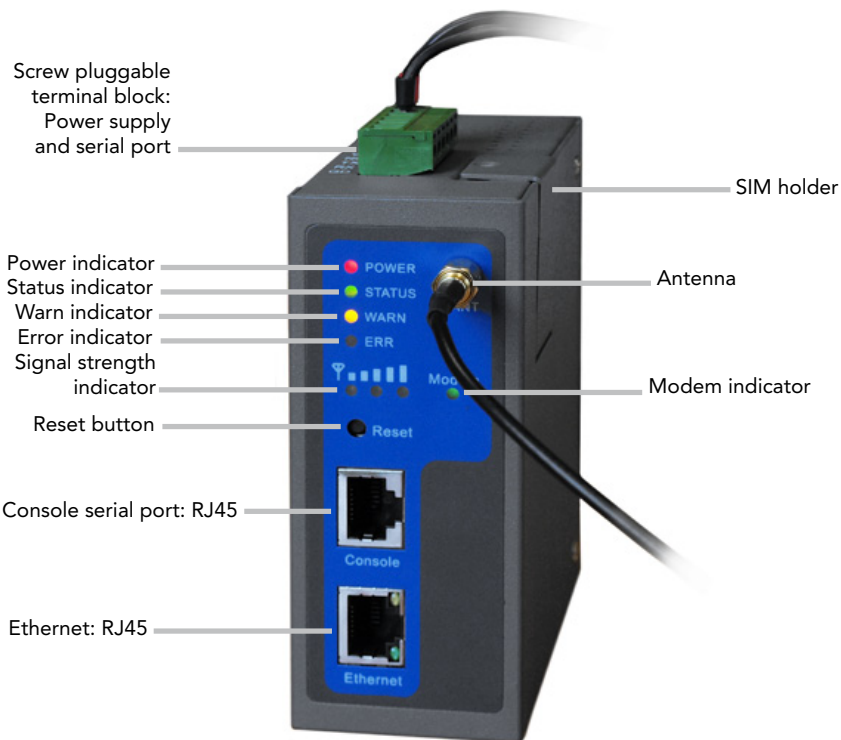
TK704



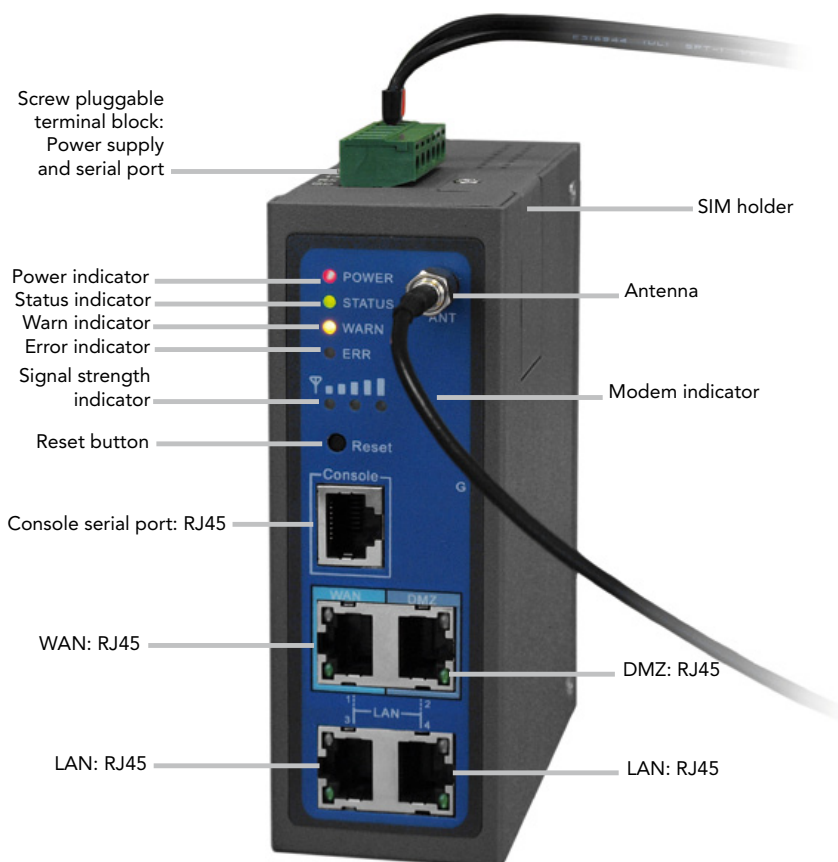
All dimensions in millimeter

Hardware introduction

TK701

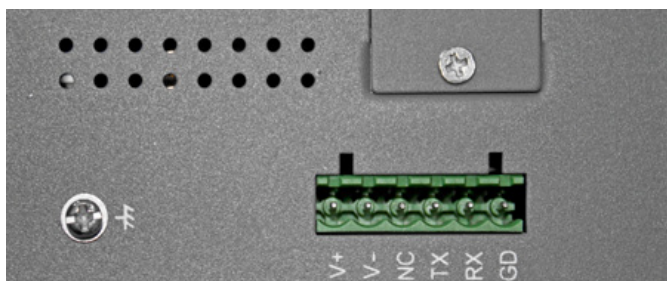


TK704



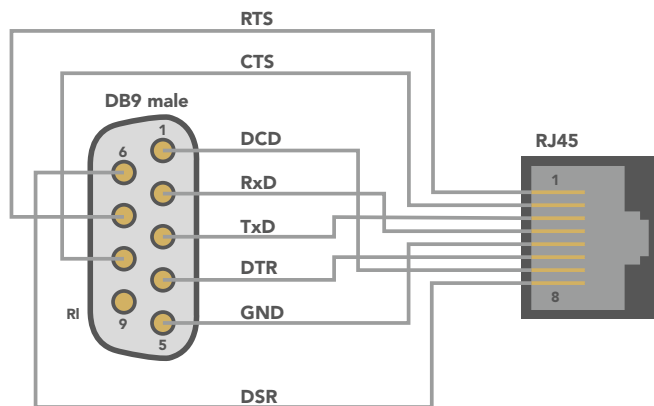
TK-Series Cellular Router

Screw pluggable terminal block, pitch=5mm



Pin	Description
V+	12 ~ 48 V DC
V-	0 V
NC	none connect
TX / 485-	RS-232 TX, RS-485-
RX / 485+	RS-232 RX, RS-485+
GD	Digital ground

Pin assignment:
Console Port DB9 - RJ45



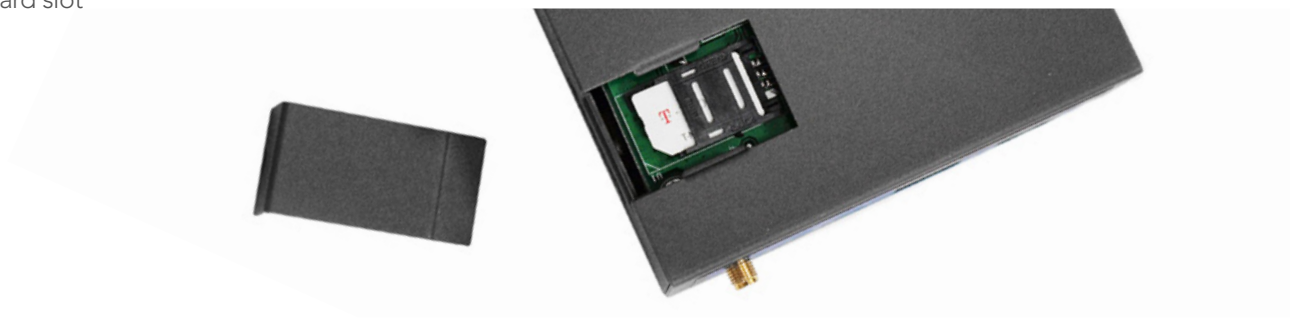
DIN-Rail mount (included in delivery)



Wall mount (optional)



SIM card slot



Accessories



Power supply
100 ~ 265 V AC to 12 V DC
(included in delivery)
Art. No. 6912TK000000



Magnetic base antenna
with 3 m cable
(included in delivery)
Art. No. 6911WAGEN000



Terminal block connector
(included in delivery)
Art. No. 6912TK000002



Wall mount
Art. No. 6912TK000003

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 TK-Series routers.



Antenna	WA-B2BE-C3G-5SP	CACELY-TNC	WA-W21-CP-9	WAT-LP-DE-3G
Version	Patch antenna	Yagi	Directional 3G antenna	Low profile antenna
Frequency range	805 ~ 960 / 1710 ~ 2170 MHz	880 ~ 960 / 1710 ~ 2170 MHz	1900 ~ 2170 MHz	890 ~ 960 / 1710 ~ 1880 / 1900 ~ 2170 MHz
Gain	2 dBi	6/8 dBi	9 dBi	2 dBi
Polarisation	Vertical	Vertical/Horizontal	Vertical	Vertical
Connection	FME	TNC-(f)	SMA	FME
Art. No.	6704B2BC35SP	6701CACELY00	6704W21CP900	6704WATLPDE3

Cable				
Cable 2 m	FME to SMA	TNC to SMA	SMA to SMA	FME to SMA
Cable 5 m	FME to SMA	TNC to SMA	SMA to SMA	FME to SMA
Cable 10 m	FME to SMA	TNC to SMA	SMA to SMA	FME to SMA