TELTONIKA | Networks

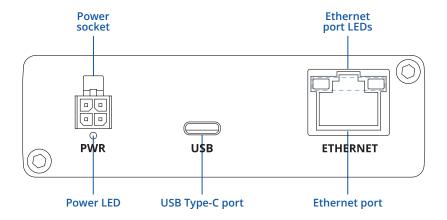
TRB160



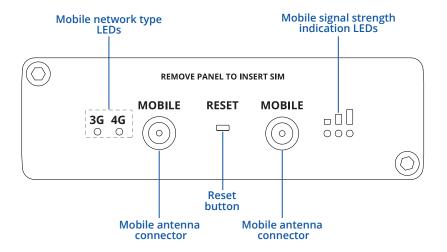


HARDWARE

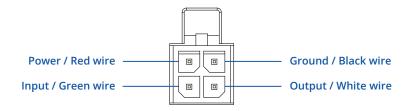
FRONT VIEW



BACK VIEW



POWER SOCKET PINOUT





FEATURES

MOBILE

Mobile module	4G (LTE) – Cat 6 up to 300 Mbps, 3G – Up to 42 Mbps
Status	Signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP, Bytes sent/received, connected band, IMSI, ICCID
SMS	SMS status, SMS configuration, send/read SMS via HTTP POST/GET, EMAIL to SMS, SMS to EMAIL, SMS to HTTP, SMS to SMS, scheduled SMS, SMS autoreply, SMPP
USSD	Supports sending and reading Unstructured Supplementary Service Data messages
Black/White list	Operator black/white list (by country or separate operators)
Multiple PDN	Possibility to use different PDNs for multiple network access and services
Band management	Band lock, Used band status display
APN	Auto APN
Bridge	Direct connection (bridge) between mobile ISP and device on LAN
Passthrough	Router assigns its mobile WAN IP address to another device on LAN
ETHERNET	
Ethernet	1 x ETH port, 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover
NETWORK	
Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP), Policy based routing
Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SFTP, FTP, SMTP, SSL/TLS, ARP, VRRP, PPP, PPPoE, UPNP, SSH, DHCP, Telnet, SMPP, SNMP, MQTT, Wake On Lan (WOL)
VoIP passthrough support	H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets
Connection monitoring	Ping Reboot, Wget Reboot, Periodic Reboot, LCP and ICMP for link inspection
Firewall	Port forward, traffic rules, custom rules
Firewall status page	View all your Firewall statistics, rules, and rule counters
Ports management	View device ports, enable and disable each of them, turn auto-configuration on or off, change their transmission speed, and so or
Network topology	Visual representation of your network, showing which devices are connected to which other devices
DHCP	Static and dynamic IP allocation, DHCP relay, DHCP server configuration, status, static leases: MAC with wildcards
QoS / Smart Queue Management (SQM)	Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e
DDNS	Supported >25 service providers, others can be configured manually
Network backup	Mobile, VRRP, Wired options, each of which can be used as an automatic Failover
Load balancing	Balance Internet traffic over multiple WAN connections
Hotspot	Captive portal (hotspot), internal/external Radius server, Radius MAC authentication, SMS authorisation, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customisable themes and optionality to upload and download customised hotspot themes
SSHFS	Possibility to mount remote file system via SSH protocol
SECURITY	
Authentication	Pre-shared key, digital certificates, X.509 certificates, TACACS+, Radius, IP & login attempts block, time-based login blocking, built-in random password generator
Firewall	Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T
Attack prevention	DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-FIN, SYN-RST, X-mas, NULL flags, FIN scan attacks)
VLAN	Port and tag-based VLAN separation
Mobile quota control	Mobile data limit, customizable period, start time, warning limit, phone number
WEB filter	Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only
Access control	Flexible access control of TCP, UDP, ICMP packets, MAC address filter



OpenVPN	Multiple clients and a server can run simultaneously, 27 encryption methods
OpenVPN Encryption	DES-CBC 64, RC2-CBC 128, DES-EDE-CBC 128, DES-EDE3-CBC 192, DESX-CBC 192, BF-CBC 128, RC2-40-CBC 40, CAST5-CBC 128, RC2-64-CBC 64, AES-128-CBC 128, AES-128-CFB 128, AES-128-CFB1 128, AES-128-CFB8 128, AES-128-OFB 128, AES-128-GCM 128, AES-192-CFB 192, AES-192-CFB1 192, AES-192-CFB8 192, AES-192-CFB 192, AES-192-CFB 192, AES-192-CFB 192, AES-192-CFB 192, AES-192-CFB 256, AES-256-CFB 256, AES-256
IPsec	IKEv1, IKEv2, with 14 encryption methods for IPsec (3DES, DES, AES128, AES192, AES256, AES128GCM8, AES192GCM8, AES256GCM8, AES128GCM12, AES192GCM12, AES256GCM12, AES128GCM16, AES192GCM16, AES256GCM16)
GRE	GRE tunnel, GRE tunnel over IPsec support
PPTP, L2TP	Client/Server instances can run simultaneously, L2TPv3, L2TP over IPsec support
Stunnel	Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code
DMVPN	Method of building scalable IPsec VPNs
SSTP	SSTP client instance support
ZeroTier	ZeroTier VPN client support
WireGuard	WireGuard VPN client and server support
Tinc	Tinc offers encryption, authentication and compression in it's tunnels. Client and server support
OPC UA	
Supported modes	Client, Server (planned)
Supported connection types	TCP
MODBUS	
Supported modes	Server, Client
Supported connection types	TCP
Custom registers	MODBUS TCP custom register block requests, which read/write to a file inside the router, and can be used to extend MODBUS TCP Client functionality
Supported data formats	8-bit: INT, UINT; 16-bit: INT, UINT (MSB or LSB first); 32-bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC), HEX, ASCII
DATA TO SERVER	
Protocol	HTTP(S), MQTT, Azure MQTT
Data to server	Extract parameters from multiple sources and different protocols, and send them all to a single server
MQTT GATEWAY	
Modbus MQTT Gateway	Allows sending commands and receiving data from MODBUS Server through MQTT broker
DNP3	
Supported modes	Station, Outstation
Supported connection types	TCP
DLMS	
-	DIMC standard protocol for utility motor data evaluates
DLMS Support	DLMS - standard protocol for utility meter data exchange
Supported modes	Client
Supported connection types	TCP
API	
Teltonika Networks Web API (beta) support	Expand your device's possibilities by using a set of configurable API endpoints to retrieve or change data. For more information, please refer to this documentation: https://developers.teltonika-networks.com
MONITORING & MANAGEN	IENT
WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, multiple event log servers, firmware update availability notifications, event log, system log, kernel log, Internet status
FOTA	Firmware update from server, automatic notification
SSH	SSH (v1, v2)
SMS	SMS status, SMS configuration, send/read SMS via HTTP POST/GET
Call	Reboot, Status, Mobile data on/off, Output on/off, answer/hang-up with a timer, Wi-Fi on/off
TR-069	OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem
MQTT	MQTT Broker, MQTT publisher
SNMP	SNMP (v1, v2, v3), SNMP Trap
JSON-RPC	Management API over HTTP/HTTPS
RMS	Teltonika Remote Management System (RMS)



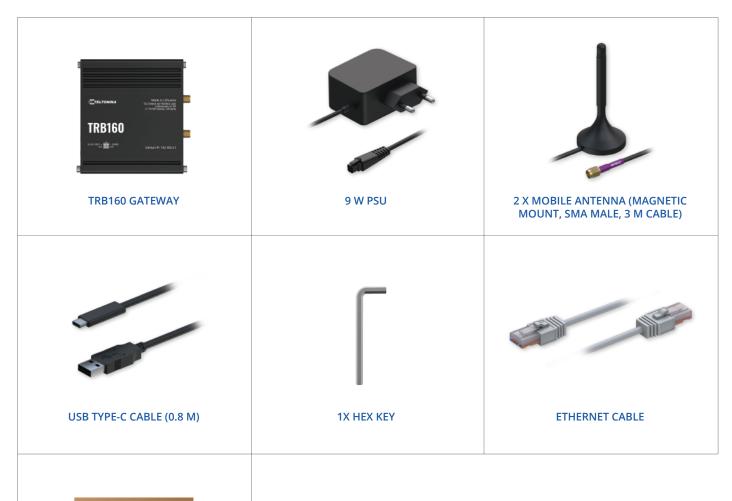
		TFC	

in our firmware to fit your or your clients' needs INPUT / OUTPUT Input	IOT PLATFORMS			
Alliews monitoring of Denick Model, Revision and Serial Number, WAN Type and IP, Mobile Cell ID, KCID, IMEL Connection Type, Operator, Signal Strength Arure Int Hub Can send device IP, Jumber of bytes centrificative, Entering the Revision in Connection State Revision in Kastal, IMEL Cold, Model, Manufacturer, Serials, Revision, MIS, 198 Marker, Planace, CSM Signal, WCDMA RCPO, LTR RSRP, LTR SNR, LTR RSRQ, CELL ID, Operator, Operator number, Connection type SYSTEM CHARACTERISTICS CPU Qualcomm, 1.2 Ghz, ARM Cortex-A7 RMM 126 MB REMANARE / CONFIGURATION WEB UI Update PW from file, check FW on server, configuration profiles, configuration backup FOTA Update PW Will Update PW willhout bissed of innu configuration profiles, configuration backup FOTA Update PW willhout bissed of innu configuration for multiple device at onne Keep settings Update PW willhout bissed timux OS Supported languages BudSo System Studies REMANARE CUSTOMISATION FIRMMARE CUSTOMISATION FIRMMARE CUSTOMISATION Supported languages BudSo System Studies B	Cloud of Things	Allows monitoring of: Device data, Mobile data, Network info, Availability		
Autre I of Thub Can seed and device IP, Number of Dyses senderceived, Temperature, PIN count to Autre I of Thub server, Mabile connection state Network link state, IMEL (CID), Model, Monufacturery, Serial, Revision, IMS, 19M state, ISM state, ISM signal, WCDMA RSCF, WC	ThingWorx	Allows monitoring of: WAN Type, WAN IP, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type		
Acute In 19th With Metwork Instation INFE, ICCID, Model, Manufacturer, Serial, Revision, IMS, IM State, PIN state, SSM signol, WCDMA RSCP,	Cumulocity	Allows monitoring of: Device Model, Revision and Serial Number, WAN Type and IP, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength		
PUI Qualcomm, 1.2 GHz, ARM Cortex-A7 RAM 128 M8 128 M8 FIRMMARE / CONFIGURATION WEB UI Update FW from file, check FW on server, configuration profiles, configuration backup FIOTA Update FW BMS Update FW on file, check FW on server, configuration profiles, configuration backup Forcity Update FW on file, check FW on server, configuration profiles, configuration backup Forcity Update FW on file, check FW on server, configuration profiles, configuration backup Forcity Update FW on file, check FW on server, configuration profiles, configuration backup Forcity Update FW on file, check FW on server, configuration Forcity Server FW on FW	Azure IoT Hub	Network link state, IMEI, ICCID, Model, Manufacturer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA RSCP,		
FLASH storage 256 MB	SYSTEM CHARACTERISTICS			
FIRMWARE / CONFIGURATION WEB UI Update PW from file, check FW on server, configuration profiles, configuration backup FOTA Update PW configuration for multiple devices at once Keep settings (Update PW without losing current configuration Factory settings reset Update PW without losing current configuration Formal September PW without losing current configuration Factory settings reset A full factory reset restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration FIRMWARE CUSTOMISATION Deverlag system RUGS (OpenWirt based Linux OS) Supported languages Busybox shell, Lus, C, C++ Development tools SOK package with build environment provided GPL outsomization You can create your own customy branded firmware and web page application by changing colours, logos, and other element in our firmware for the rice needs INPUT: OUTPUT Input 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital input, 0 - 6 V detected as logic high and a logic high	CPU	Qualcomm, 1.2 Ghz, ARM Cortex-A7		
With U U Update FW from file, check FW on server, configuration profiles, configuration backup FOTA Update FW FOTA Update FOTA Update FOTA Update FOTA Updat	RAM	128 MB		
WEB UI Update FW from file, check FW an server, configuration profiles, configuration backup FOTA Update FW configuration for multiple devices at once Keep settings Update FW without losing current configuration Factory settings reset Aruli factory reset restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration FIRMWARE CUSTOMISATION Operating system RutOS (OpenWrt based Linux OS) Supported languages Busybox shell, Lus, C, C++ Development tools SDK package with build environment provided Operating system Variance of the your or your clients' needs FIRMWARE CUSTOMISATION OPIC Lustomization In our firmware to fit your or your clients' needs NPUT / OUTPUT Input 1 1 x Digital Imput, 0 - 6 V detected as logic law, 8 - 30 V detected as logic high Output 1 x Digital Imput, 0 - 6 V detected as logic law, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS Opic May so set certain I/O conditions to initiate event POWER Connector 1 x A Jain industrial DC power socket 1 x USB Type-C 3 VOC. Operating human System Variance	FLASH storage	256 MB		
FOTA Update FW RMS Update FW www.onfiguration for multiple devices at once Keep settings reset Update FW without bising current configuration Factory settings reset A full factory reset restores all systems settings, including the IP address, PIN, and user data to the default manufacturer's configuration Operating system RutOS (OpenWrt based Linux OS) Supported languages Busybox shell, Lus, C, C++ Development tools SDR package with build environment provided GPL customization Vou can create your own custom, branded firmware and web page application by changing colours, logos, and other element in our firmware to IR your or your clients' needs NPUT / OUTPUT Input 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, mak output 30 V, 300 mA Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin - 3-04 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C SUB Type-C S VDC POWSER Live C S VDC POWER Live C S VDC 1 x RJS S Protect S VDC Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJS S port, 10/100/1000 Mbps LiVOs 1 x Digital Input, 1 x Digital Output on 4-pin power connector USB Type-C Antennas 2 x SAM For Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Haternal SIM slot (Mini SIM - 2 FF), 1.8 W/3 V, eSIM (Optional) Power 1 x 4-pin power connector USB Type-C Power Antennas Anoticed aluminum housing and panels Directions (W x H x D) 8 x 25 x 74 2 mm Weight 1 Z g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT OPERATING ENVIRONMENT 1 v 90% non-condensing	FIRMWARE / CONFIGURATION	DN .		
NAME Digital Park without bising current configuration for multiple devices at once Keep Settings Update PW without bising current configuration Factory settings reset An illifactory reset restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration Permanufacturer's	WEB UI	Update FW from file, check FW on server, configuration profiles, configuration backup		
Keep settings	FOTA	Update FW		
Keep settings Update FW without losing current configuration Factory settings reset A full factory reser restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration Operating system RutOS (OpenWrt based Linux OS) Supported Ingusystem Buybox shell, Lua, C, C++ Development tools SDK package with build environment provided GPL customization You can create your own custom, branded firmware and web page application by changing colours, logos, and other element in our firmware to fit your or your clients' needs INPUT OUTPUT Imput 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Input, 1 x Digital Digital Put, 1 x Digital Put, 1 x Digital Put, 1 x Digital Put, 1 x Digital Digital Put, 1 x Digital Put, 1 x Digital Put, 1 x Digital Put, 1 x Digital Put, 2 x Digita	RMS	Update FW/configuration for multiple devices at once		
FIRMWARE CUSTOMISATION Operating system RutOS (OpenWrt based Linux OS) Supported languages Busybox shell, Lua, C, C++ Development tools SOK package with build environment provided GPL customization You can create your own custom, branded firmware and web page application by changing colours, logos, and other element in our firmware to fit your or your clients' needs INPUT / OUTPUT Input 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x 1.58 Type-C. Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection > 35 VDC 10us max USB Type-C. For power on sumption Idle < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x 1.8 [945 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power Alternas 2 x SMA for Mobile Reset Reboor/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) Bix A pin power connector UsB Type-C Operating temperature 4 0 - C to 75 ° C Operating thumidity 1 0% to 90% non-condensing	Keep settings			
Operating system RutOS (OpenWrt based Linux OS) Supported languages Busybox shell, Lua, C, C++ Development tools SDK package with build environment provided OPL customization You can create your own custom, branded firmware and web page application by changing colours, logos, and other element in our firmware to fit your or your clients' needs INPUT / OUTPUT Input 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS (7) juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x VBS Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C: 5 VDC POE (passive) Possibility to power up through ETH port, not compatible with IEEE802,3af, 802,3at and 802,3bt standards, Mode 8, 9 - 30 VDC Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDS 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) 1 x 4-pin power connector USB Type-C Antennas 2 x SIM for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 8 3 x 25 x 74.2 mm Weight OPPerating Environnement OPPerating Environnement OPPerating Environnement OPPerating Environnement OPPerating Environnement OPPerating Environnement OPPerating temperature 40 °C to 75 °C Operating tumidity 10% to 90% non-condensing	Factory settings reset			
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Development tools SDK package with build environment provided GPL customization You can create your own custom, branded firmware and web page application by changing colours, logos, and other element in our firmware to fit your or your clients' needs INPUT / OUTPUT Input 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C: 5 VDC PoE (passive) Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode 8, 9 - 30 VDC POWER Ethernet 1 x RJdS port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Reboor(User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight Other and Anodized aluminum housing and panels Dimensions (W x H x D) 84 x 25 x 74.2 mm Weight Operating temperature -40 "C to 75 "C	Operating system	RutOS (OpenWrt based Linux OS)		
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Input 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C 5 VDC POE (passive) Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC Power consumption Idle: <0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O's 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Rebox/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	GPL customization	You can create your own custom, branded firmware and web page application by changing colours, logos, and other elements in our firmware to fit your or your clients' needs		
Output 1 x Digital Output, Open collector output, max output 30 V, 300 mA Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C: 5 VDC POE (passive) Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDS 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Wini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DiN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	INPUT / OUTPUT			
Events Email, RMS, SMS I/O juggler Allows to set certain I/O conditions to initiate event POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C: 5 VDC POE (passive) Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC, Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDS 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature 40 °C to 75 °C Operating temperature 40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Input	1 x Digital Input, 0 - 6 V detected as logic low, 8 - 30 V detected as logic high		
Allows to set certain I/O conditions to initiate event	Output	1 x Digital Output, Open collector output, max output 30 V, 300 mA		
POWER Connector 1 x 4-pin industrial DC power socket 1 x USB Type-C Input voltage range 4-pin: 9 - 30 VDC, overvoltage protection, reverse polarity protection, surge protection >35 VDC 10us max USB Type-C: 5 VDC POE (passive) Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature 40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Events	Email, RMS, SMS		
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Power consumption Idle: < 0.25 W, Max: < 3.3 W PHYSICAL INTERFACES Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector	Input voltage range			
Ethernet 1 x RJ45 port, 10/100/1000 Mbps I/O'S 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM - 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector	PoE (passive)	Possibility to power up through ETH port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC		
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I/O's 1 x Digital Input, 1 x Digital Output on 4-pin power connector Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM – 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector USB Type-C Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	PHYSICAL INTERFACES			
Status LEDs 2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED SIM 1 x Internal SIM slot (Mini SIM – 2FF), 1.8 V/3 V, eSIM (Optional) Power 1 x 4-pin power connector	Ethernet	1 x RJ45 port, 10/100/1000 Mbps		
SIM 1x Internal SIM slot (Mini SIM – 2FF), 1.8 V/3 V, eSIM (Optional) Power 1x 4-pin power connector USB Type-C Antennas 2x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	I/O's	1 x Digital Input, 1 x Digital Output on 4-pin power connector		
Power USB Type-C Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Status LEDs	2 x connection type status LEDs, 3 x connection strength LEDs, 2 x ETH status LEDs, 1 x Power LED		
Antennas 2 x SMA for Mobile Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	SIM	1 x Internal SIM slot (Mini SIM – 2FF), 1.8 V/3 V, eSIM (Optional)		
Reset Reboot/User default reset/Factory reset button Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Power	· ·		
Other 1 x Virtual network interface via USB Type-C (For power and network data) PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Antennas	2 x SMA for Mobile		
PHYSICAL SPECIFICATION Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Reset	Reboot/User default reset/Factory reset button		
Casing material Anodized aluminum housing and panels Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Other	1 x Virtual network interface via USB Type-C (For power and network data)		
Dimensions (W x H x D) 83 x 25 x 74.2 mm Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	PHYSICAL SPECIFICATION			
Weight 172 g Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Casing material	Anodized aluminum housing and panels		
Mounting options DIN rail, wall mount, flat surface (all require additional kit) OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Dimensions (W x H x D)	83 x 25 x 74.2 mm		
OPERATING ENVIRONMENT Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Weight	172 g		
Operating temperature -40 °C to 75 °C Operating humidity 10% to 90% non-condensing	Mounting options	DIN rail, wall mount, flat surface (all require additional kit)		
Operating humidity 10% to 90% non-condensing	OPERATING ENVIRONMENT			
	Operating temperature	-40 °C to 75 °C		
Ingress Protection Rating IP30	Operating humidity	10% to 90% non-condensing		
	Ingress Protection Rating	IP30		



STANDARD PACKAGE*

- TRB160
- 9 W PSU
- 2 x Mobile antenna (magnetic mount, SMA male, 3 m cable)
- USB Type-C cable (0.8 m)
- 1x hex key
- Ethernet cable
- QSG (Quick Start Guide)
- Packaging box





QSG (QUICK START GUIDE)

 $[\]mbox{\ensuremath{\star}}$ Standard package contents may differ based on standard order codes.



CLASSIFICATION CODES

HS Code: 851762 HTS: 8517.62.00

TRB160 1****

EMEA, Australia, Brazil

For more information on all available packaging options – please contact us directly.

AVAILABLE VERSIONS

HARDWARE VERSION SUPPORTED FREQUENCIES STANDARD ORDER CODE / PACKAGE CONTAINS

4G (LTE-FDD): B1, B3, B5, B7, B8, B20,

4G (LTE-TDD): B38, B40, B41, B42, B43

3G: B1, B3, B5, B8

TRB160100000 / Standard package with EU PSU

The price and lead-times for region (operator) specific versions may vary. For more information please contact us.



TRB160 SPATIAL MEASUREMENTS

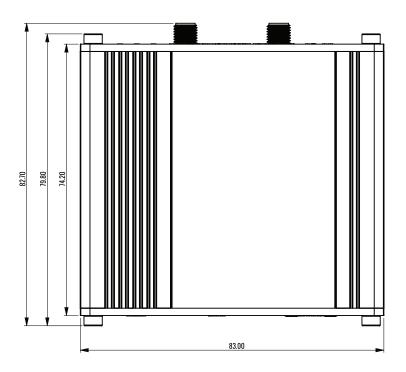
MAIN MEASUREMENTS

W x H x D dimensions for TRB160:

Device housing*: 83 x 25 x 74.2 mm Box: 173 x 71 x 148 mm

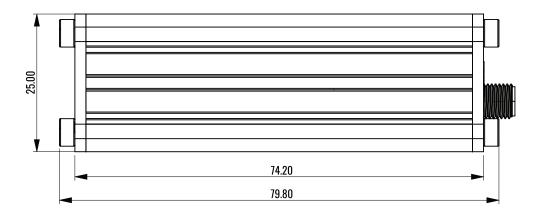
TOP VIEW

The figure below depicts the measurements of TRB160 and its components as seen from the top:



RIGHT VIEW

The figure below depicts the measurements of TRB160 and its components as seen from the right side: $\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left(\frac{1}$

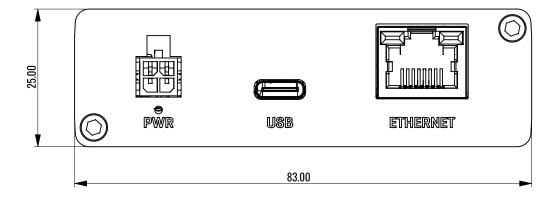


^{*}Housing measurements are presented without antenna connectors and screws; for measurements of other device elements look to the sections below.



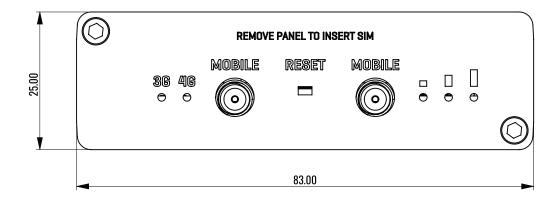
FRONT VIEW

The figure below depicts the measurements of TRB160 and its components as seen from the front panel side: $\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left$



REAR VIEW

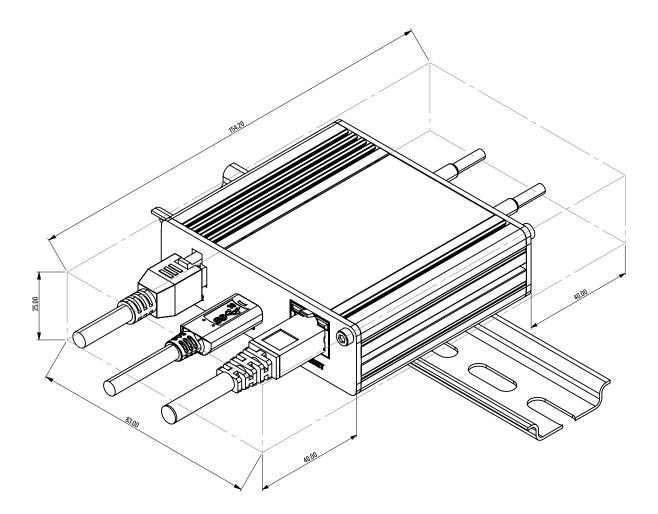
 $The figure \ below \ depicts \ the \ measurements \ of \ TRB160 \ and \ its \ components \ as \ seen \ from \ the \ back \ panel \ side:$





MOUNTING SPACE REQUIREMENTS

The figure below depicts an approximation of the device's dimensions when cables and antennas are attached:





DIN RAIL

The scheme below depicts protrusion measurements of an attached DIN Rail:

