

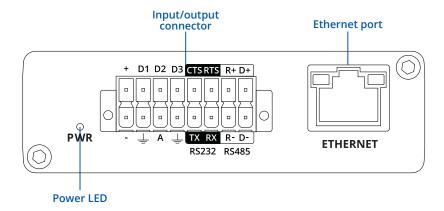
TRB255



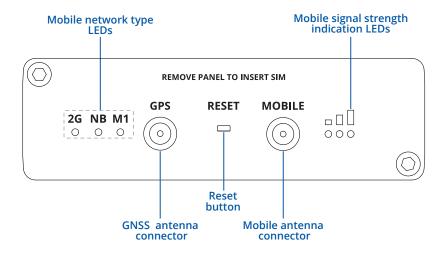


HARDWARE

FRONT VIEW



BACK VIEW



INPUT/OUTPUT 16 PIN CONNECTOR PINOUT

D1, D2, D3 - Configurable digital Input/Output pins. Open collector output, max output 30 V, 300 mA or Digital input where 0-6 V detected as logic low and 8-30 V – logic high.

+ -9-30 VDC positive power pin

CTS - RS232 clear data to send pin (output).

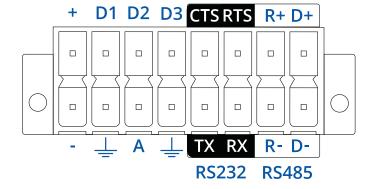
RTS - RS232 request data to send pin (input).

R+ - RS485 receiver positive signal pin.
D+ - RS485 driver positive signal pin.

- Negative/ground power pin.
 - Ground pins for D1, D2, D3, A, RS232 and RS485.
 - Analog input pin. Analog voltage range 0-30 V.
 TX - RS232 transmitted data (input).

RX - RS232 received data (output).

R- - RS485 receiver negative signal. D- - RS485 driver negative signal.





FEATURES

WireGuard

SiM switch 2 SiM cards, auto-switch cases: weak signal, data limit, SMS limit, on roaming, no network, network denied, data connection fal Status Signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP Bytes sent/received, connected band, IMSI, ICCID. SMS/Call 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 autorepty, Call utilities USSD Supports sending and reading Unstructured Supplementary Service Data messages Black/White list Operator black/white list Band management Used band status display, Band lock APN Auto APN Bridge Direct connection (bridge) between mobile ISP and device on LAN Multiple PDN Possibility to use different PDNs for multiple network access and services ETHERNET LAN 1 x LAN port 10/100 Mbps, comply IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX crossover (Configurable to wor as WAN port) NETWORK Routing Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2) (planned) Network protocols (CP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSL v3, TLS, ARP, PPP, SSH, DHCP, Telnet, MQTT, Wake On Lan (WOL) VolP passthrough support (MOL) H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VolP packets Connection monitoring Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection Firewall Port forward, traffic rules, custom rules DHCP Static and dynamic IP allocation, DHCP Relay QoS / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e DDNS Supported >25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X-509 certificates Firewall Pre-configured firewall rules can be enabled via WebUl, unlimited firewall configuration via CLI; DM2; NAT; NAT-T	Mobile module	LTE (Cat M1) / NB-IoT / EGPRS
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NETWORK ROUTING Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2) (planned) Network protocols TCP, UDP, IP-MJ, IP-M, IP-M, IPM, INF, DNS, HTTP, HTTPS, FTP, SMTP, SSL v3, TLS, ARP, PPP, SSH, DHCP, Teinet, MQTT, Wake On Lan (WOL) VoIP passthrough support (planned) H, 323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets Connection monitoring Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection Firewall Port forward, traffic rules, custom rules DHCP Static and dynamic IP allocation, DHCP Relay Qos / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e DDNS Supported >25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates Firewall Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T Attack prevention DDOS prevention (SYM flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-File) VIAN (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) Blackits for blocking our unwanted websites, Whitelist for specifying allowed sites only Access control Flexible access control of TCP, UDP, ICMP packets, MAC address filter VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods DES-CRC, RC2-CRC, DES-EDE-CRC, DES-EDE-CRC, DES-EDE-CRC, DES-CRC, RC2-40-CRC, CAST5-CRC, RC2-64-CRC, AES-128-CRC, AES-128-CRC, DES-EDE-CRC, DES	ETHERNET	
Routing Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2) (planned) Network protocols TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSL v3, TLS, ARP, PPP, SSH, DHCP, Telnet, MQTT, Wake On Lan (WOL) VoIP passthrough support (planned) H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets Connection monitoring Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection Firewall Port forward, traffic rules, custom rules DHCP Static and dynamic IP allocation, DHCP Relay Qos / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e DDNS Supported >25 service providers, others can be configured manually SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates Firewall Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T Attack prevention DDOS prevention (SYN Rood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-Riox, X-mas, NULL flags, RIN scan attacks) VLAN (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE-CBC, DES-CBC, RC2-40-CBC, CASTS-CBC, RC2-64-CBC, AES-128-CBC, AES	LAN	1 x LAN port 10/100 Mbps, comply IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX crossover (Configurable to work as WAN port)
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(planned)	Network protocols	
Firewall Port forward, traffic rules, custom rules DHCP Static and dynamic IP allocation, DHCP Relay QoS / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e DDNS Supported > 25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates 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 (planned) Tag based VLAN separation WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-128-CBC AES-192-CBC, MES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES192, AES192, AES256) GRE GRE GRE tunel Sunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support		H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets
DHCP Static and dynamic IP allocation, DHCP Relay QoS / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e Supported >25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates Firewall Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T Attack prevention DDDS 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods DES-CRC, RC2-GRC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BE-CBC, RC2-40-CBC, CASTS-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE Lunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	Connection monitoring	Ping Reboot, Periodic Reboot, LCP and ICMP for link inspection
Oos / Smart Queue Management (SQM) (planned) Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e Supported >25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-128-CBC AES-192-CBC, AES-256-CBC IFSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	Firewall	Port forward, traffic rules, custom rules
Management (SQM) (planned) Supported >25 service providers, others can be configured manually SSHFS Possibility to mount remote file system via SSH protocol SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BE-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-128-CBC, AES-128-CBC AES-192-CBC, AES-25-CBC IFSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	DHCP	Static and dynamic IP allocation, DHCP Relay
SECURITY Authentication Pre-shared key, digital certificates, X.509 certificates Firewall Pre-configured firewall rules can be enabled via WebUJ, 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-GBC, DES-EDE-CBC, DES-EDE3-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-192-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (client instance support	,	Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e
Authentication Pre-shared key, digital certificates, X.509 certificates 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) SSTP client instance support	DDNS	Supported >25 service providers, others can be configured manually
Authentication Pre-shared key, digital certificates, X.509 certificates 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DES-CBC, BE-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-128-CBC, AES-129-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (lent instance support	SSHFS	Possibility to mount remote file system via SSH protocol
Firewall Pre-configured firewall rules can be enabled via WebUl, 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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	SECURITY	
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 (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	Authentication	Pre-shared key, digital certificates, X.509 certificates
SYN-RST, X-mas, NULL flags, FIN scan attacks) VLAN (planned) Tag based VLAN separation Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC,	Firewall	Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T
Mobile quota control Custom data limits for both SIM cards WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-192-CBC, AES-192-CBC, AES-256-CBC IPSec IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE Unnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	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)
WEB filter (planned) 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 VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-192-CBC, AES-192-CBC, AES-128-CBC, AES-192-CBC, AES-192-CBC, AES-192-CBC, AES-128-CBC IRSec IKEV1, IKEV2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	VLAN (planned)	Tag based VLAN separation
Access control Flexible access control of TCP, UDP, ICMP packets, MAC address filter VPN OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	Mobile quota control	Custom data limits for both SIM cards
OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-256-CBC IPSec IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	WEB filter (planned)	Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only
OpenVPN Multiple clients and server can be running simultaneously, 12 encryption methods OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-192-CBC, AES-192-CBC, DESX-CBC, DESX-CBC, BF-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-128-CBC, AES-192-CBC, AES-192-	Access control	Flexible access control of TCP, UDP, ICMP packets, MAC address filter
OpenVPN Encryption DES-CBC, RC2-CBC, DES-EDE-CBC, DES-EDE3-CBC, DESX-CBC, RC2-40-CBC, CAST5-CBC, RC2-64-CBC, AES-192-CBC, AES-192-CBC, AES-256-CBC IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	VPN	
AES-192-CBC, AES-256-CBC IPSec IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) GRE GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	OpenVPN	Multiple clients and server can be running simultaneously, 12 encryption methods
GRE tunnel Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	OpenVPN Encryption	
Stunnel (planned) Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	IPSec	IKEv1, IKEv2, with 5 encryption methods (DES, 3DES, AES128, AES192, AES256)
PPTP, L2TP Client/Server services can run simultaneously, L2TPv3 support DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	GRE	GRE tunnel
DMVPN (planned) Method of building scalable IPsec VPNs SSTP (planned) SSTP client instance support	Stunnel (planned)	Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code
SSTP (planned) SSTP client instance support	PPTP, L2TP	Client/Server services can run simultaneously, L2TPv3 support
	DMVPN (planned)	
ZeroTier ZeroTier VPN client support	SSTP (planned)	SSTP client instance support
	ZeroTier	ZeroTier VPN client support

WireGuard VPN client and server support



Modes	Console, OverIP, Modem (Full or Partial control), MODBUS RTU master, MODBUS gateway, NTRIP client (planned)
MODBUS TCP SLAVE	
ID filtering	Respond to one ID in range [1;255] or any
Allow remote access	Allow access through WAN
Custom registers	MODBUS TCP custom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS TCP slave functionality
MODBUS TCP MASTER	
Supported functions	01, 02, 03, 04, 05, 06, 15, 16
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
MODBUS RTU MASTER	
Supported baud rates	From 300 to 3000000
Supported functions	01, 02, 03, 04, 05, 06, 15, 16
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
Number of data bits	7 or 8
Number of stop bits	1 or 2
Parity bits	None, Even, Odd
Flow control	None, RTS/CTS (only for RS232 interface), Xon/Xoff
MQTT GATEWAY	
Gateway	Allows sending commands and receiving data from MODBUS Master trough MQTT broker
DATA TO SERVER	
Protocols	HTTP(S), MQTT, Azure MQTT, Kinesis
MONITORING & MANAGE	
WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log
FOTA	Firmware update from server, automatic notification
SSH	SSH (v1, v2)
SMS	SMS status, SMS configuration, send/read SMS via HTTP POST/GET
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
MODBUS	MODBUS TCP status/control
RMS	Teltonika Remote Management Systems (RMS)
IOT PLATFORMS	
Cloud of Things	Allows monitoring of: Device data, Mobile data, Network info, Availability
ThingWorx	Allows monitoring of: WAN Type, WAN IP Mobile Operator Name, Mobile Signal Strength, Mobile Network Type
Cumulocity	Allows monitoring of: Device Model, Revision and Serial Number, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type and IP
Azure IoT Hub	Can send device IP, Number of bytes send/received/ 3G connection state, Network link state, IMEI, ICCID, Model, Manufacturer Serial, Revision, IMSI, Sim State, PIN state, GSM signal, WCDMA RSCP, WCDMA EC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL ID, Operator, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub server
SYSTEM CHARACTERISTICS	S
CPU	Qualcomm QCA9531, MIPS 24kc, 650 MHz

16MB SPI Flash (4 MB available for user)

64 MB, DDR2

RAM

Flash storage



FIRMWARE / CONFIGURATION

WEB UI	Update FW from file, check FW on server, configuration profiles, configuration backup
FOTA	Update FW/configuration from server
RMS	Update FW/configuration for multiple devices
Keep settings	Update FW without losing current configuration

FIRMWARE CUSTOMIZATION

Operating system	RutOS (OpenWrt based Linux OS)
Supported languages	Busybox shell, Lua, C, C++
Development tools	SDK package with build environment provided

LOCATION TRACKING

GNSS	GPS, GLONASS, BeiDou, Galileo and QZSS
Coordinates	GNSS coordinates via WebUI, SMS, TAVL, RMS
NMEA	NMEA 0183
NTRIP (planned)	NTRIP protocol (Networked Transport of RTCM via Internet Protocol)
Server software	Supported server software TAVL, RMS
Geofencing	Configurable multiple geofence zones

INPUT/OUTPUT

Configurable I/O	3×10^{-2} x Configurable Inputs/Outputs. Digital input $0 - 6 \times 10^{-2}$ V detected as logic low, $8 - 30 \times 10^{-2}$ V detected as logic high. Open collector output, max output 30×10^{-2} MA
Analog input	1 x Analog input (0 - 30 V)
Output control	HTTP POST/GET, Schedule
Events	SMS, Email
I/O juggler	Allows to set certain I/O conditions to initiate event

SERIAL

RS232	Terminal block connector: TX, RX, RTS, CTS
RS485	Terminal block connector: D+, D-, R+, R- (2 or 4 wire interface)
Supported baud rates	From 300 to 3000000
Number of data bits	7 or 8
Number of stop bits	1 or 2
Parity	None, Even, Odd
Flow control	None, RTS/CTS (only for RS232 interface), Xon/Xoff

POWER

Connector	2 pins in 16 pin industrial terminal block
Input voltage range	9 – 30 VDC, reverse polarity protection, surge protection +/-1 kV 50 μs max
Power consumption	Idle: <1.2 W, Max: <5 W

PHYSICAL INTERFACES (PORTS, LEDS, ANTENNAS, BUTTON, SIM)

Ethernet	1 x RJ45 port, 10/100 Mbps
I/O's	3 x Configurable I/O, 1 x Analog input in 16 pin terminal block
Status LEDs	3 x connection status LEDs, 3 x connection strength LEDs, 1 x power LED, 1 x Eth port status LED
SIM	2 x SIM slots (Mini SIM – 2FF), 1.8 V/3 V, double stacked SIM tray
Power	2 pins in 16 pin terminal block
Antennas	1 x SMA connector for LTE, 1 x SMA connector for GNSS
RS232	4 pins in 16 pin terminal block (TX, RX, RTS, CTS)
RS485	4 pins in 16 pin terminal block (D+, D-, R+, R-)
Reset	Reboot/User default reset/Factory reset button



PHYSICAL SPECIFICATION

Casing material	Aluminium housing with DIN rail mounting option
Dimensions (W x H x D)	83 x 25 x 74.2 mm
Weight	165 g
Mounting options	DIN rail, wall mounting (additional kits needed), flat surface placement

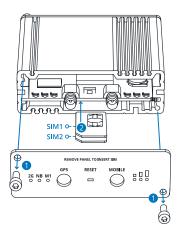
OPERATING ENVIRONMENT

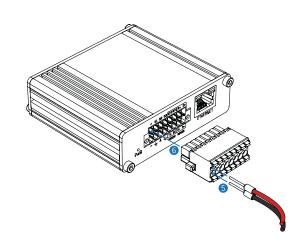
Operating temperature	-40 C to 75 C
Operating humidity	10% to 90% non-condensing



HARDWARE INSTALLATION

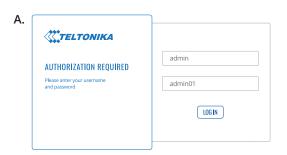
- 1. Unscrew two back panel hex bolts and remove the back panel.
- 2. Insert your SIM card(s) into the SIM socket(s), which are located on the bottom side of PCB.
- 3. Attach the panel and tighten the hex bolts.
- 4. Attach the mobile antenna (max torque 0.4 N·m / 3.5 lbf·in).
- 5. Connect open PSU leads to 16 pin terminal block:
- a) red wire to top row first contact (+);
- b) black wire to bottom row first contact (-).
- 6. Connect the 16 pin terminal block to gateway 16 pin connector and plug other end of the power adapter into a power outlet.





LOGIN TO DEVICE

- 1. Power on the device and connect the Ethernet cable to your computer.
- 2. Allow the gateway to boot up. This might take up t
- 3. To enter the gateway Web interface (WebUI), type http://192.168.1.1 into the URL field of your Internet browser.
- 4. Use login information shown in image A when prompted for authentication.
- 5. After you log in, you will be prompted to change your password for security reasons. The new password must contain at least 8 characters, including at least one uppercase letter, one lowercase letter and one digit. This step is mandatory, and you will not be able to interact with the gateway WebUI until you change the password.
- 6. When you change the gateway password, the Configuration Wizard will start. The Configuration Wizard is a tool used to set up some of the gateway main operating parameters.
- 7. Go to the **Overview** page and pay attention to the **Signal Strength** indication (image B). To maximize the cellular performance try adjusting the antennas or changing the location of your device to achieve the best signal conditions.





TECHNICAL INFORMATION

	Radio specifications
RF technologies	EGPRS, NB-IoT, LTE (Cat-M1), GNSS
Max RF power	33 dBm@GSM, 23 dBm@LTE
Bundled accessories specifications*	
Power adapter	Input: 0.4 A@100-240 VAC, output: 9 VDC, 1 A, connected to 16 pin terminal block
Mobile antenna	698~960 / 1710~2690 MHz, 50 Ω, VSWR < 3, gain** 3 dBi, omnidirectional, SMA male connector
GNSS antenna	1575.42~1602 MHz, 2.2~5 VDC, VSWR < 1.5, gain** 28 dB (typ.), RHCP polarization, SMA male connector

^{*}Order code dependent.

^{**}Higher gain antenna can be connected to compensate for cable attenuation when a cable is used. The user is responsible for the compliance with the legal regulations.

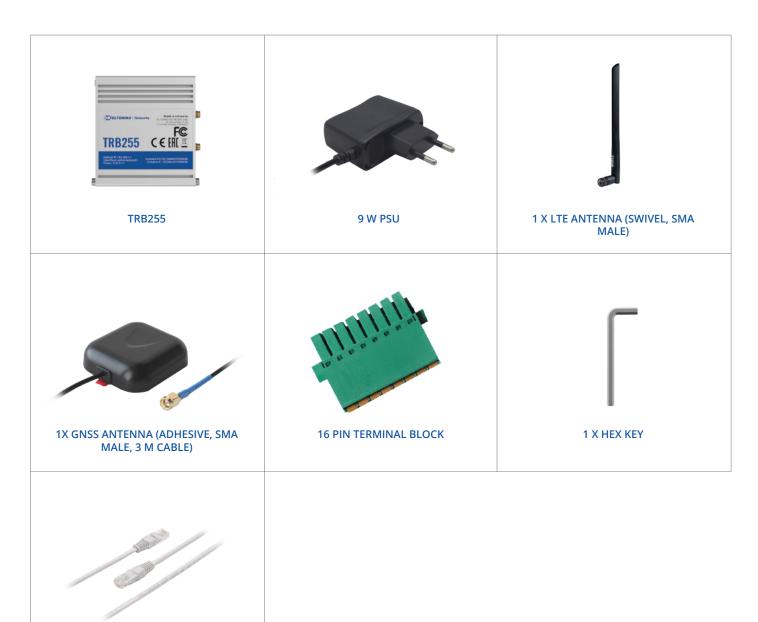


WHAT'S IN THE BOX?

STANDARD PACKAGE CONTAINS*

- TRB255
- 9 W PSU
- 1 x Mobile antenna (swivel, SMA male)
- 1x GNSS antenna (adhesive, SMA male, 3 m cable)
- 16 pin terminal block
- 1 x hex key Ethernet cable (1.5 m)
- QSG (Quick Start Guide)RMS Flyer
- Packaging box





ETHERNET CABLE (1.5 M)

 $[\]ensuremath{^{\star}}$ For all standard order codes standard package contents are the same, execpt for PSU.



STANDARD ORDER CODES

PRODUCT CODE	HS CODE	HTS CODE	PACKAGE CONTAINS
TRB255 000000	851762	8517.62.00	Standard Package with Euro PSU
TRB255 000100	851762	8517.62.00	Standard Package with US PSU

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

AVAILABLE VERSIONS

PRODUCT CODE	REGION (OPERATOR)	FREQUENCY
TRB255 0****	Global	 4G (LTE-FDD): B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B28 4G (LTE-TDD): B39 (for Cat M1 only) 2G: B2, B3, B5, B8

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



MOUNTING OPTIONS

DIN RAIL KIT

Parameter	Value
Mounting standard	35mm DIN Rail
Material	Low carbon steel
Weight	57g
Screws included	Philips Pan Head screw #6-32×3/16, 2pcs
Dimensions	82 mm x 46 mm x 20 mm
RoHS Compliant	V

DIN RAIL KIT

- DIN Rail adapter
- Philips Pan Head screw #6-32×3/16, 2pcs for RUT2xx/RUT9xx



ORDER CODE	HS CODE	HTS CODE
PR5MEC00	73269098	7326.90.98

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

COMPACT DIN RAIL KIT

Parameter	Value
Mounting standard	35mm DIN Rail
Material	ABS + PC plastic
Weight	6.5 g
Screws included	Philips Pan Head screw #6-32×3/16, 2pcs
Dimensions	70 mm x 25 mm x 14,5 mm
RoHS Compliant	V

DIN RAIL KIT

- Compact plastic DIN Rail adapter (70x25x14,5mm)
- Philips Pan Head screw #6-32×3/16, 2pcs

ORDER CODE	HS CODE	HTS CODE
PR5MEC11	73269098	7326.90.98

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

SURFACE MOUNTING KIT

Parameter	Value
Mounting standard	Flat surface mount
Material	ABS + PC plastic
Weight	2x5 g
Screws included	Philips Pan Head screw #6-32×3/16, 2pcs
Dimensions	25 mm x 48 mm x 7.5 mm
RoHS Compliant	V

DIN RAIL KIT

- Surface mounting kit
- Philips Pan Head screw #6-32×3/16, 2pcs

ORDER CODE	HS CODE	HTS CODE
PR5MEC12	73269098	7326.90.98

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





TRB255 SPATIAL MEASUREMENTS & WEIGHT

MAIN MEASUREMENTS

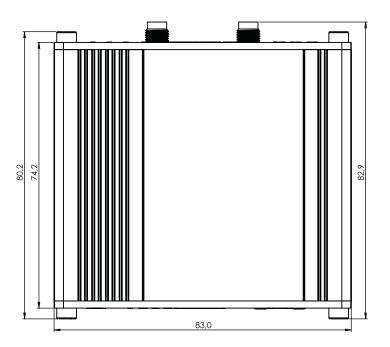
W x H x D dimensions for TRB255:

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

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

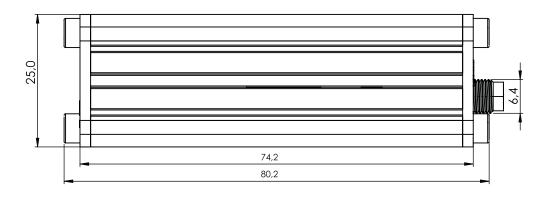
TOP VIEW

The figure below depicts the measurements of TRB255 and its components as seen from the top:



RIGHT VIEW

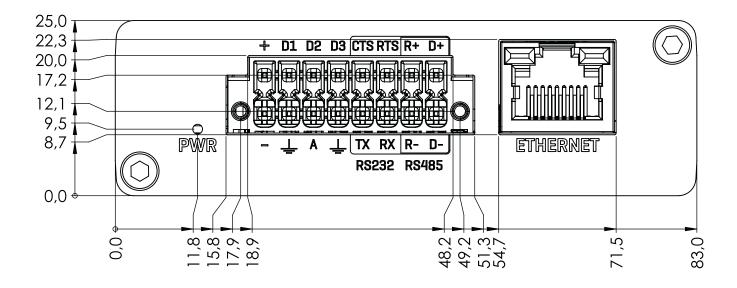
The figure below depicts the measurements of TRB255 and its components as seen from the right side: $\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left(\frac{1}$





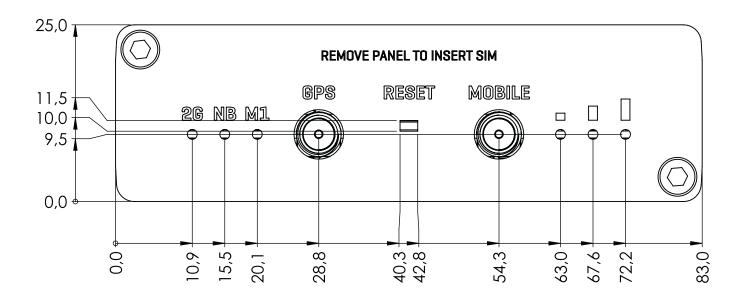
FRONT VIEW

The figure below depicts the measurements of TRB255 and its components as seen from the front panel side:



REAR VIEW

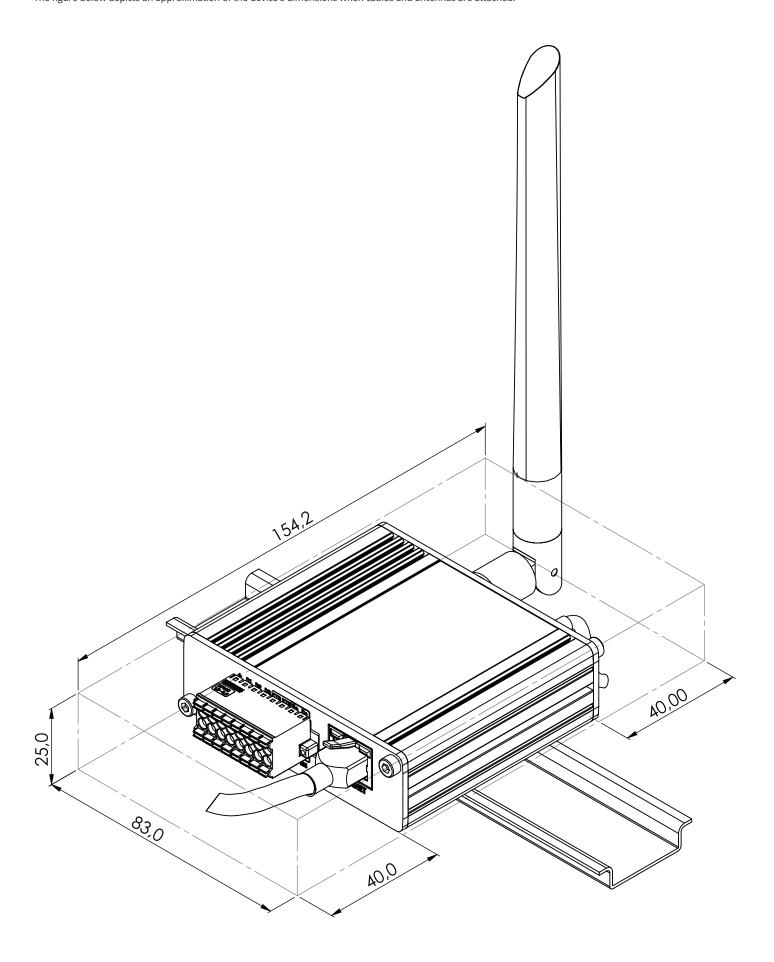
The figure below depicts the measurements of TRB255 and its components as seen from the back panel side:





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:

