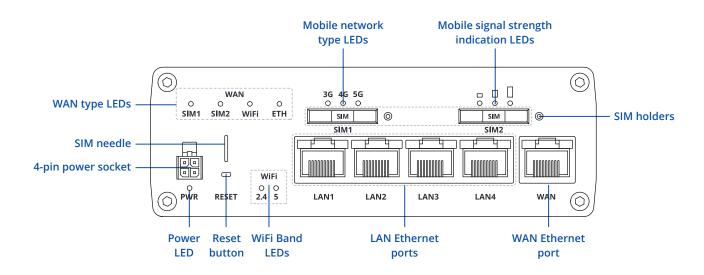




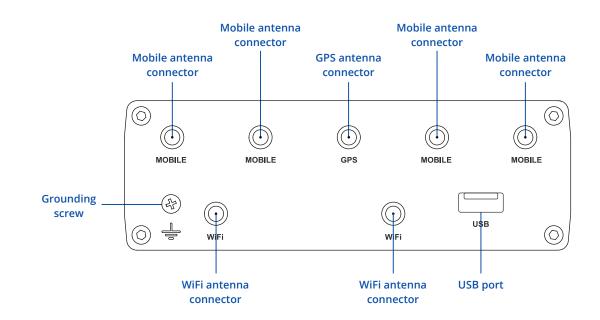


HARDWARE

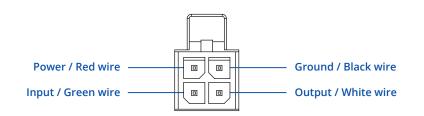
FRONT VIEW



BACK VIEW



POWER SOCKET PINOUT





FEATURES

MOBILE

| INOBILL | |
|------------------------|--|
| Mobile module | 5G Sub-6Ghz SA/NSA 2.1/3.3Gbps DL (4x4 MIMO), 900/600 Mbps UL (2x2); 4G (LTE) – LTE Cat 20 2.0Gbps DL, 200Mbps UL; 3G – 42 Mbps DL, 5.76Mbps UL |
| 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 autoreply, Call utilities |
| USSD | Supports sending and reading Unstructured Supplementary Service Data messages |
| Black/White list | Operator black/white list |
| Band management | Band lock, Used band status display |
| APN | Auto APN |
| Bridge | Direct connection (bridge) between mobile ISP and device on LAN |
| Passthrough | Gateway assigns its mobile WAN IP address to another device on LAN |
| Multiple PDN | Possibility to use different PDNs for multiple network access and services |
| WIRELESS | |
| Wireless mode | 802.11b/g/n/ac Wave 2 (WiFi 5) with data transmission rates of up to 867 Mbps (Dual Band, MU-MIMO), 802.11r fast transition Access Point (AP), Station (STA) |
| WiFi security | WPA3-EAP, WPA3-SAE, WPA2-Enterprise-PEAP, WPA2-PSK, WEP; AES-CCMP, TKIP, Auto Cipher modes, client separation |
| ESSID | ESSID stealth mode |
| WiFi users | Up to 150 simultaneous connections |
| Wireless Hotspot | Captive portal (Hotspot), internal/external Radius server, built in customizable landing page |
| Wireless mesh/ roaming | Wireless mesh (802.11s), fast roaming (802.11r) |
| ETHERNET | |
| WAN | 1 x WAN port (can be configured as LAN) 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover |
| LAN | 4 x RJ45 port, 10/100/1000 Mbps, supports auto MDI/MDIX crossover |
| NETWORK | |
| Network protocols | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SMTP, SSL v3, TLS, PPP, PPPoE, SSH, DHCP, SNMP, MQTT, Wake on LAN (WOL) |
| Routing | Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP) |
| Connection monitoring | Ping Reboot, Wget Reboot, Periodic Reboot, LCP and ICMP for link inspection |
| Firewall | Port forwards, traffic rules, custom rules |
| DHCP | Static and dynamic IP allocation |
| 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 the WebUI, unlimited firewall configuration via CLI; 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 | Set up custom data limits for SIM card |
| 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 |
| | |





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SNMP

JSON-RPC

Modbus

RMS

| Description Description Description Description AES 122 42C AES 256 CBC Description AES 122 42C AES 256 CBC Description AES 122 42C AES 256 CBC Description AES 122 42C AES 256 CBC Description AES 122 42C AES 256 CBC CRE GRE turnel DEFT Clear Tessever services can run simultaneously, L2TPvd support STP STP Clear Tessever services can run simultaneously, L2TPvd support STP STP Clear Tessever services can run simultaneously, L2TPvd support STP V STP clear Tessever services can run simultaneously, L2TPvd support STP V STP Clear Tessever services can run simultaneously, L2TPvd support STP V STP Clear Tessever services can run simultaneously, L2TPvd support Deftering Respond to one ID in range I1255 J or any Millow remote access Allow access through VAN MODBUS TCP SLAVE MODBUS TCP Accesser Differing Respond to one ID in range I1255 J or any Millow remote access Allow access through VAN MODBUS TCP MASTER Supported functions Supported functions 01, 02, 03, | VPN | |
|--|------------------------|--|
| Upenvirw AES 192.CBC. AES 256.CBC Piece IREV1, IREV2, supports up to 5 x VPN Piece tunnels (instances), with 5 encryption methods (DES, 30ES, AES128, AES128, AES129, AES26 GRE CRE tunnel PPTP, 12TP Client/server services can run simultaneously, 12TV3 support SSTP SSTP dient instance support SSTP SSTP dient instance support SSTP SSTP dient instance support WreGuard WreGuard VPN dient and server support ZeroTier ZeroTier VPN MODBUS CP SLAVE Status and server support Differing Status and server support Control ZeroTier VPN MODBUS CP SLAVE Status and server support Differing Status and server support Control MOREUS CP Counter register block, which allows to read/write to a file inside the router, and can be used to estend MODBUS CP MASTER Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 | OpenVPN | Multiple clients and a server can run simultaneously, 12 encryption methods |
| GRE GRE turnel PPTP_L2TP Client/Severe revices can run simultaneously, L2TPv3 support SSTP SSTP client instruce support DMVPN Method of building catable iPsec VPNs WireGuard WireGuard VPN client and server support ZeroTier ZeroTier VPN MODBUS TCP Stave Differing Differing Respond to one ID in range [1;255] or any Allow access through WAN MODBUS TCP Caustom registers MODBUS TCP MASTER MODBUS TCP caustom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS Supported dua formats & bic INT, UINT; 16 bic INT, UINT (MSB or LSB first): 32 bic float, INT, UINT (ABCD (big-endian), DCBA filture-endian), CDAB, BADC, HCA, SCI Supported modes TCP Master, DNP3 Outstation DATA TO SERVER HTTP(S, MQTT, Azure MQTF, Kinesis Iof PLATFOBMS Closus monitoring of Device data, Mobile data, Network info, Availability | OpenVPN Encryption | |
| PPIP. L2TP Client/Server services can run simultaneously. L2TP/3 support SSTP SSTP dient instance support SSTUNEL Proxy designed to add T.S encryption functionality to existing clients and servers without any changes in the program's code DMVPN Meriod of building scalable Pisec VPNS WireGuard WireGuard VPN dient and server support ZeroTier ZeroTier VPN MODBUS TCP SLAVE Image: Status | IPsec | IKEv1, IKEv2, supports up to 5 x VPN IPsec tunnels (instances), with 5 encryption methods (DES, 3DES, AES128, AES192, AES256) |
| SSTP SSTP client instance support STUNEL 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 WirreGuard WireGuard VPN client and server support ZeroTier ZeroTier VPN MODBUS TCP SLAVE Economy client and server support Differing Respond to one ID in range [1:255] or any MODBUS TCP SLAVE MODBUS TCP scalable Differing Respond to one ID in range [1:255] or any MODBUS TCP Maximum register MODBUS TCP function register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS Custom registers 0.1.02, 03, 04, 05, 05, 15, 16 Supported functions 9.10, 02, 03, 04, 05, 05, 15, 16 Supported data formats 8.bit: INT, UNIT IGN: UNIT (MSB or LSB first); 32 bit: float, INT, UNIT (ABCD (big endian), DCBA (little endian), CDAB, BADC), HEX, ASCII MOT GATEWAY Supported modes DATA TO SERVER From Master, DNP3 Oustation DATA TO SERVER Consols MITP(S), MQIT, Azure MQIT, Knesis Consols MOVer Server Allows monintorig of Device data, Mobile data, Network info, Avai | GRE | GRE tunnel |
| Description Description functionality to existing clients and servers without any changes in the program's code DMVPN Method of building scalable IPsec VPNs WireGuard WireGuard VPN client and server support ZeroTier ZeroTier VPN MODBUS TCP SLAVE Differing Respond to one ID in range (1:255) or any Allow remote access Allow access through WAN Custom registers MODBUS TCP SLAVE Supported functionality to existing clients and server support TCP alaxe functionality MODBUS TCP MASTER MODBUS TCP ustom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS Supported functions 1, 02, 03, 04, 05, 06, 15, 16 Supported functions Supported functions 8 bit: INT, UNIT: 16 bit: INT, UNIT (MSB or LSB first); 32 bit: float, INT, UNIT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC), HEX ASCII Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Clouds and file on and provide provide data, Mobile data, Network info, Availability Protocols HTP(S), MQTT, Arure MQTT, Kinesis Iof PLATFORMS Clouds of things Clouds of things Allows monitoring of: Device datad, Mobile Cell ID, ICCDD, MEL Connection Type, Op | PPTP, L2TP | Client/Server services can run simultaneously, L2TPv3 support |
| DNVPN Method of building scalable IPsec VPNs WireGuard WireGuard VPN client and server support ZeroTier ZeroTier VPN MODBUS TCP SLAVE Image: Status Stat | SSTP | SSTP client instance support |
| MireGuard WireGuard VP N client and server support ZeroTier ZeroTier VPN MODBUS TCP SLAVE Diffuering Respond to one ID in range [1:255] or any Allow remote access Allow access through WAN Custom registers MODPUIS TCP custom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 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 MQTT GATEWAY Sateway Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation Data Control (Kinesis Dol PLATFORMS Clouds of things Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device data, Mobile data, Network info, Availability Currliofty Allows monitoring of: Device data, PN Naje, CAM Naje, Allowa IS, Nature, Signal Strength, Mobile Network Type Currliofty Allows monitoring of: De | STUNNEL | Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code |
| ZeroTier ZeroTier VPN MODBUS TCP SLAVE Environment of the second of the time of the second | DMVPN | Method of building scalable IPsec VPNs |
| MODBUS TCP SLAVE ID DIRIERING 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 siave functionality MODBUS TCP MASTER MODBUS TCP Custom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS TCP siave functionality Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER DNP3 Protocols HTTP(S), MQTT, Azure MQTT, Kinesis Iof PLATFORMS Clouds of things Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability Allows monitoring of: Device Model, Revision and Serial Number, Mobile Coll ID, ICCID, INEI, Connection Type, Operator, Signal Strength, WAN Type a | WireGuard | WireGuard VPN client and server support |
| D 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 functions 8 hit: INT, UINT; 16 bit: INT, UINT (MSB or LSB first); 32 bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC), HEX, ASCI MQTT GATEWAY Gateway Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device Model, Revision and Serial Number, Mobile Signal Strength, Mobile Network Type Cunulocity Can send device IP, Number of bytes send/received, Mobile connection state, Network link state, IMEI, ICCID, Model, Manufacturer, Serial, Revision, MMS, SM State, SM Signal, WCDMA RSCP, WCDMA EVID, LTE RSRP, LTE SINR, LTE RSRP, LTE | ZeroTier | ZeroTier VPN |
| Allow remote access Allow access through WAN MoDBUS TCP access through WAN MODBUS TCP custom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS TCP share functionality MODBUS TCP Custom register block, which allows to read/write to a file inside the router, and can be used to extend MODBUS 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 MQTI GATEWAY Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device data, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type Allows monitoring of: Device Model, Revision and Serial Number, Mobile Coll ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type and IP Azure IoT Hub Can send device IP, Number of bytes send/received, Mobile connection state, Network link state, INEL (ICCID, Model, Manufac-turer, Serial, Revison, IMS, SIX Misch, Pix state, GM signal, COAL, EK SKP, ILT ESINR, LTE SINR, LET RSRQ, CELL ID, Operator, Operator number, Connection type, Tem | MODBUS TCP SLAVE | |
| 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 & bit: INT, UINT, 16 bit: INT, UINT (MSB or LSB first); 32 bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC, IEX, ASCII MQTT GATEWAY | ID filtering | Respond to one ID in range [1;255] or any |
| Clause Annu Program Street | Allow remote access | Allow access through WAN |
| Supported functions 01, 02, 03, 04, 05, 06, 15, 16 Supported data formats & 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 MQTT GATEWAY Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis Iot PLATFORMS Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device data, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type Curulocity Allows monitoring of: Device Model, Revision and Serial Number, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, Mobile Network Type Azare IoT Hub Can send device IP, Number of bytes send/received, Mobile connection state, Network link state, IMEI, ICCID, Mdel, Manufacturer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA RSCP, WCDMA EC/O, LTE RSP, LTE SINR, LTE RSRO, CELL ID, Operator, Operator, Number of bytes send/received, Mobile connection to Azure IoT Hub server MONITORING & MANAGEMENT HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log KEB UI HTTP/HTTPS, status, configuration, send/read SMS via HTTP POST/GET Call | 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 |
| Supported data formats B 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 MQTT GATEWAY Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 TCP Master, DNP3 Outstation DATA TO SERVER HTTP(S), MQTT, Azure MQTT, Kinesis Protocols HTTP(S), MQTT, Azure MQTT, Kinesis Lood of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device data, 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, Mobile context taxe, Network link state, IMEI, ICCID, Model, Manufac- turer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA EC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL ID, Operator, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub server WEB UI HTTP/HTTPS, status, configuration, Send/received, Mobile one, system log, kernel log FOTA Firmware update from server, automatic notification SSH SSH (v1, v2) SMS SMS status, SMS configuration, send/recad SMS via HTTP POST/GET | MODBUS TCP MASTER | |
| MQTT GATEWAY Gateway Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device data, 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, Mobile cont state, Network link state, IMEI, ICCID, Model, Manufac-turer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA REC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL ID, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub server MONITORING & MANAGEMENT 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 status, SMS configuration, send/reced SMS via HTTP POST/GET Call Reboot, Status, Mobile data on/off, Output on/off Reboot, Status, Mobile data on/off, Output on/off | Supported functions | 01, 02, 03, 04, 05, 06, 15, 16 |
| Allows sending commands and receiving data from MODBUS Master through the MQTT broker DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability Clouds of things Allows monitoring of: Device data, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type Clouds of things Allows monitoring of: Device Model, Revision and Serial Number, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type, OPerator, Signal Strength, WAN Type, Operator, Number of bytes send/received, Mobile connection state, Network link state, IMEI, ICCID, Model, Manufacturer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA ESC/P, WCDMA EC/O, LTE RSRP, LTE SINK, LTE RSRP, CELL ID, Operator, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub MONITORING & MANAGEMENT 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 Call Reboot, Status, Mobile data on/off, Output on/off Cole OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, | Supported data formats | |
| DNP3 Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Clouds 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, Mobile 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 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 Call Reboot, Status, Mobile data on/off, Output on/off Reboot Status, Mobile data on/off, Output on/off Reboot Cane, CLibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem <td>MQTT GATEWAY</td> <td></td> | MQTT GATEWAY | |
| Supported modes TCP Master, DNP3 Outstation DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Iot PLATFORMS Clouds of things Allows monitoring of: Device data, Mobile data, Network info, Availability ThingWorx Allows monitoring of: Device Model, Revision and Serial Number, 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, Mobile connection state, Network link state, IMEI, ICCID, Model, Manufac-turer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA RSCP, WCDMA EC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL ID, Operator, Operator, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub MONITORING & MANAGEMENT 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/recad SMS via HTTP POST/GET Call Reboot, Status, Mobile data on/off, Output on/off Reo69 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Gateway | Allows sending commands and receiving data from MODBUS Master through the MQTT broker |
| DATA TO SERVER Protocols HTTP(S), MQTT, Azure MQTT, Kinesis IoT PLATFORMS Clouds 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 Coll ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type and IP Azure IoT Hub Can send device IP, Number of bytes send/received, Mobile 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 RSRO, CELL ID, Operator, Operator, Operator number, Connection type, Temperature, PIN count to Azure IoT Hub server MONITORING & MANAGEMENT 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 Call Reboot, Status, Mobile data on/off, Output on/off Call OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | DNP3 | |
| Protocols HTTP(S), MQTT, Azure MQTT, Kinesis HTTP(S), MQTT, Azure MQTT, Kinesis IOT PLATFORMS Clouds 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, Mobile 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 MONITORING & MANAGEMENT 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 Call Reboot, Status, Mobile data on/off, Output on/off Cole OpenACS, EasyCwmp, ACSLite, tGern, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Supported modes | TCP Master, DNP3 Outstation |
| INTERNATION Control of the control of | DATA TO SERVER | |
| Clouds of thingsAllows monitoring of: Device data, Mobile data, Network info, AvailabilityThingWorxAllows monitoring of: WAN Type, WAN IP, Mobile Operator Name, Mobile Signal Strength, Mobile Network TypeCumulocityAllows monitoring of: Device Model, Revision and Serial Number, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type and IPAzure IoT HubCan send device IP, Number of bytes send/received, Mobile connection state, Network link state, IMEI, ICCID, Model, Manufac- turer, 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 serverMONITORING & MANAGEMENTWEB UIHTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel logFOTAFirmware update from server, automatic notificationSSHSSH (v1, v2)SMSSMS status, SMS configuration, send/read SMS via HTTP POST/GETCallReboot, Status, Mobile data on/off, Output on/offCollOpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Protocols | HTTP(S), MQTT, Azure MQTT, Kinesis |
| Display and the end of the e | IoT PLATFORMS | |
| 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, Mobile connection state, Network link state, IMEI, ICCID, Model, Manufac-turer, 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 MONITORING & MANAGEMENT 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/recad SMS via HTTP POST/GET Call Reboot, Status, Mobile data on/off, Output on/off OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Clouds of things | Allows monitoring of: Device data, Mobile data, Network info, Availability |
| Cumulocity Strength, WAN Type and IP Azure IoT Hub Can send device IP, Number of bytes send/received, Mobile 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 MONITORING & MANAGEMENT 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 Call Reboot, Status, Mobile data on/off, Output on/off TR-069 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | ThingWorx | Allows monitoring of: WAN Type, WAN IP, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type |
| Azure IoT Hubturer, Serial, Revision, IMSI, SIM Štate, 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 serverMONITORING & MANAGEMENTWEB UIHTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel logFOTAFirmware update from server, automatic notificationSSHSSH (v1, v2)SMSSMS status, SMS configuration, send/read SMS via HTTP POST/GETCallReboot, Status, Mobile data on/off, Output on/offOpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Cumulocity | Allows monitoring of: Device Model, Revision and Serial Number, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength, WAN Type and IP |
| WEB UIHTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel logFOTAFirmware update from server, automatic notificationSSHSSH (v1, v2)SMSSMS status, SMS configuration, send/read SMS via HTTP POST/GETCallReboot, Status, Mobile data on/off, Output on/offTR-069OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | Azure IoT Hub | turer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA RSCP, WCDMA EC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL |
| Formation and the growth approximation of the end of the | MONITORING & MANAGE | EMENT |
| 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 TR-069 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | WEB UI | HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log |
| SMS SMS status, SMS configuration, send/read SMS via HTTP POST/GET Call Reboot, Status, Mobile data on/off, Output on/off TR-069 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | FOTA | Firmware update from server, automatic notification |
| Call Reboot, Status, Mobile data on/off, Output on/off TR-069 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | SSH | SSH (v1, v2) |
| TR-069 OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem | SMS | SMS status, SMS configuration, send/read SMS via HTTP POST/GET |
| | Call | Reboot, Status, Mobile data on/off, Output on/off |
| MQTT MQTT Broker, MQTT publisher | TR-069 | OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem |
| | MQTT | MQTT Broker, MQTT publisher |

SNMP (v1, v2, v3), SNMP trap

Modbus TCP status/control

Management API over HTTP/HTTPS

Teltonika Remote Management System (RMS)



SYSTEM CHARACTERISTICS

| CPU | Quad-core ARM Cortex A7, 717 MHz |
|---------------|---|
| RAM | 256 MB (100 MB available for userspace) |
| FLASH storage | 256 MB (80 MB available for userspace) |

FIRMWARE / CONFIGURATION

| WEB UI | Update FW from file, check FW on server, configuration profiles, configuration backup |
|---------------|---|
| FOTA | Update FW |
| RMS | Update FW/configuration for multiple devices at once |
| 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 |
|------------------|---|
| Coordinates | GNSS coordinates via WebUI, SMS, TAVL, RMS |
| NMEA | NMEA 0183 |
| Server software | Supports server software: TAVL, RMS |
| Geofencing | Multiple configurable geofence zones |
| USB | |
| Data rate | USB 2.0 |
| Applications | Samba share, USB-to-serial, Modbus gateway |
| External devices | Possibility to connect external HDD, flash drive, additional modem, printer |
| Storage formats | FAT, FAT32, NTFS |
| | |

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 | SMS, Email, RMS |
| I/O juggler | Allows setting certain I/O conditions to initiate event |
| POWER | |
| Connector | 4-pin industrial DC power socket |

| | - pin industrial DC power socket |
|---------------------|---|
| Input voltage range | 9 – 50 VDC, reverse polarity protection, surge protection >51 VDC 10us max |
| PoE (passive) | Passive PoE. Possibility to power up through LAN1 port , not compatible with IEEE802.3af, 802.3at and 802.3bt standards |
| Power consumption | Idle: <4 W, Max: <18 W |

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

| Ethernet | 5 x RJ45 ports, 10/100/1000 Mbps |
|-------------|--|
| I/Os | 1 x Digital Input, 1 x Digital Output on 4-pin power connector |
| Status LEDs | 3 x connection status LEDs, 3 x connection strength LEDs, 10 x Ethernet port status LEDs, 4 x WAN status LEDs, 1x Power LED, 2 x 2.4G and 5G WiFi LEDs |
| SIM | 2 x SIM slot (Mini SIM – 2FF), 1.8 V/3 V |
| Power | 1 x 4-pin DC power connector |
| Antennas | 4 x SMA for Mobile, 2 x RP-SMA for WiFi, 1 x SMA for GNSS |
| USB | 1 x USB A port for external devices |
| Reset | Reboot/User default reset/Factory reset button |
| Grounding | 1 x Grounding screw |



PHYSICAL SPECIFICATION

| Aluminum housing |
|--|
| 132 x 44.2 x 95.1 mm |
| 533 g |
| DIN rail (can be mounted on two sides), flat surface placement |
| NT |
| 1 |

| Operating temperature | -40 °C to 75 °C |
|---------------------------|-----------------------------|
| Operating humidity | 10 % to 90 % non-condensing |
| Ingress Protection Rating | IP30 |



WHAT'S IN THE BOX?

STANDARD PACKAGE CONTAINS*

- RUTX50 Router
- 18 W PSU
- 4 x Mobile antennas (swivel, SMA male)
- 2 x WiFi antennas (magnetic mount, RP-SMA male, 1.5 m cable)
- 1 x GNSS antenna (adhesive, SMA male, 3 m cable)
- Ethernet cable (1.5 m)
- SIM Adapter kit
- QSG (Quick Start Guide)
- Packaging box





* 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 |
|---------------|---------|------------|------------------|
| RUTX50 000000 | 851762 | 8517.62.00 | Standard package |

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

AVAILABLE VERSIONS

| PRODUCT CODE | REGION (OPERATOR) | FREQUENCY |
|--------------|---|--|
| RUTX50 0**** | Europe ¹ , the Middle East, Africa, Oceania, Brazil | 5G NR NSA: n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n77, n78 5G NR SA: n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n77, n78 4G (LTE-FDD): B1, B3, B5, B7, B8, B20, B28 4G (LTE-TDD): B38, B40, B41, B42, B43 3G: B1, B5, B8 |

The price and lead-times for region (operator) specific versions may vary. For more information please contact us. 1 - Regional availability - excluding Russia & Belarus.



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



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

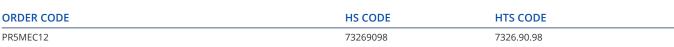
SURFACE MOUNTING KIT

| 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



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



RUTX50 SPATIAL MEASUREMENTS & WEIGHT

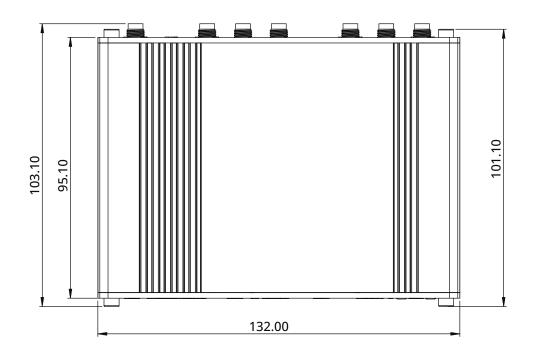
MAIN MEASUREMENTS

| W x H x D dimensions for R | x50: |
|----------------------------|-------------------|
| Device housing*: | 132 x 44.2 x 95.1 |
| Box: | 355 x 60 x 175 |
| | |

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

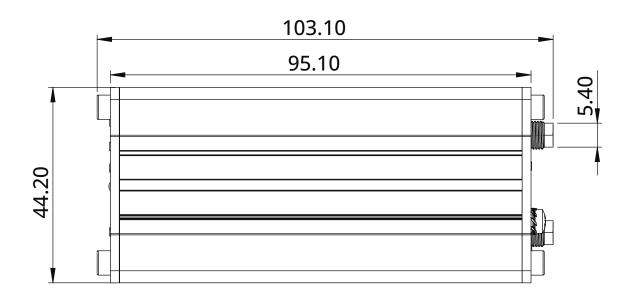
TOP VIEW

The figure below depicts the measurements of RUTX50 and its components as seen from the top:



RIGHT VIEW

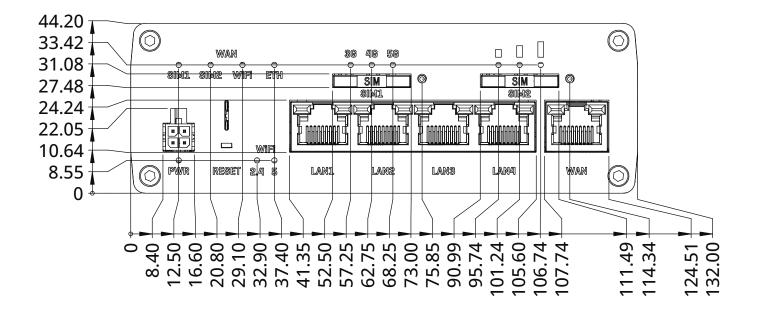
The figure below depicts the measurements of RUTX50 and its components as seen from the right side:





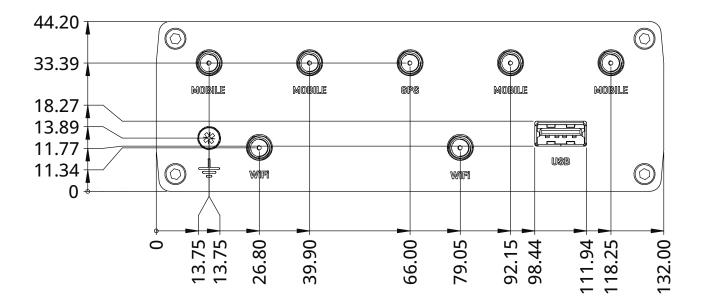
FRONT VIEW

The figure below depicts the measurements of RUTX50 and its components as seen from the front panel side:



REAR VIEW

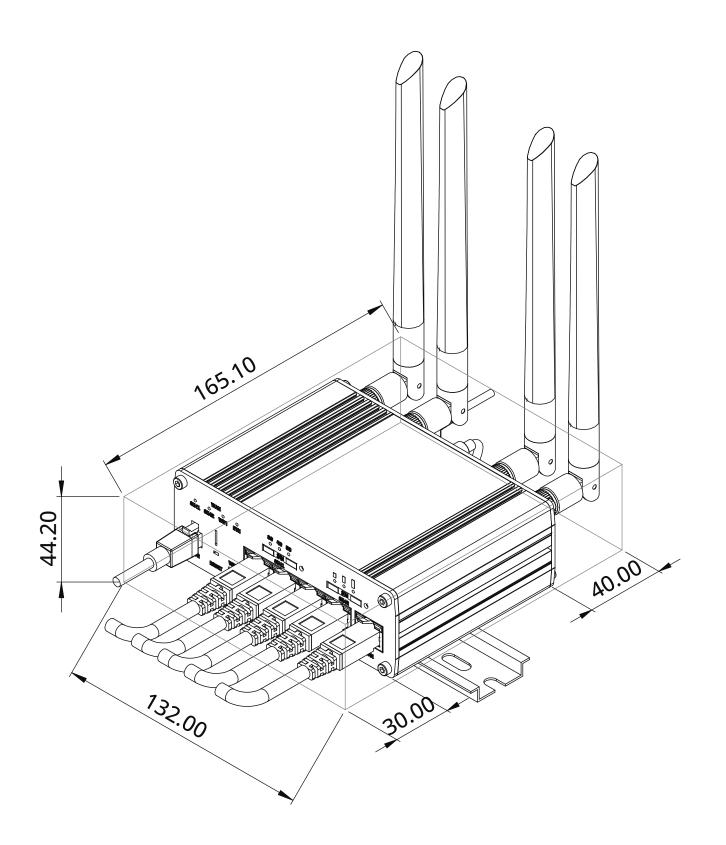
The figure below depicts the measurements of RUTX50 and its components as seen from the back panel side:





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:

