# TELTONIKA | Networks

# RUT260

# HARDWARE

**FRONT VIEW**

Power socket

Mobile signal strength indication LEDs

Mobile network type LEDs

LAN port

WAN port

2G 3G 4G

POWER          SIM          LAN          WAN

Power LED     SIM slot     LAN LED     WAN LED

**BACK VIEW**

Reset button

WiFi     RESET     MOBILE          MOBILE

Wi-Fi antenna connector (RP-SMA female)

Mobile MAIN antenna connector (SMA female)

Mobile AUX antenna connector (SMA female)

**POWER SOCKET PINOUT**

Power / Red wire          Ground / Black wire

Input / Green wire        Output / White wire
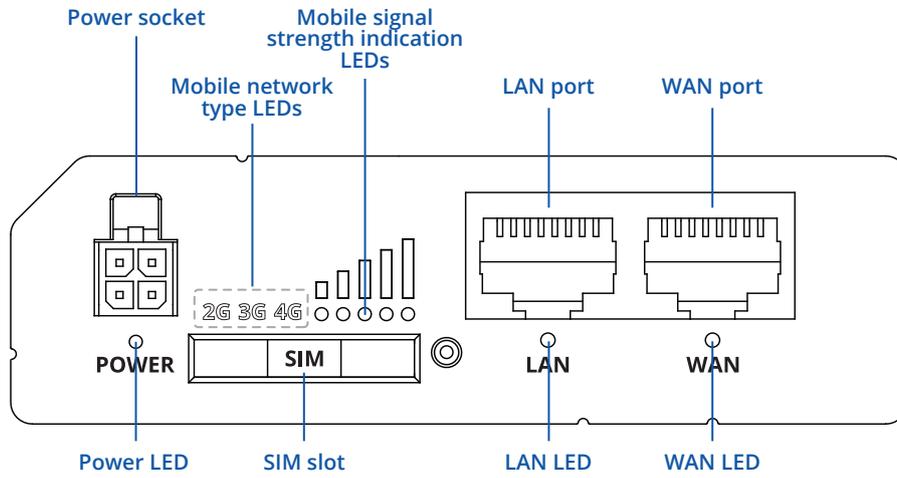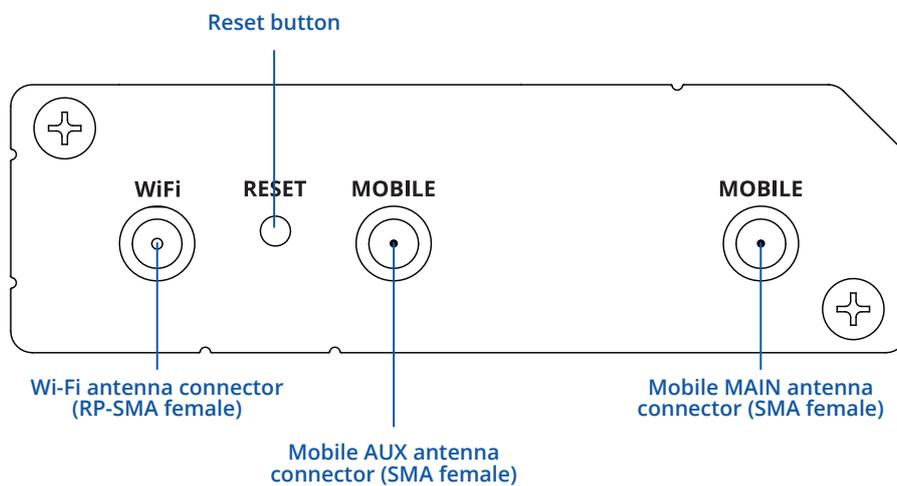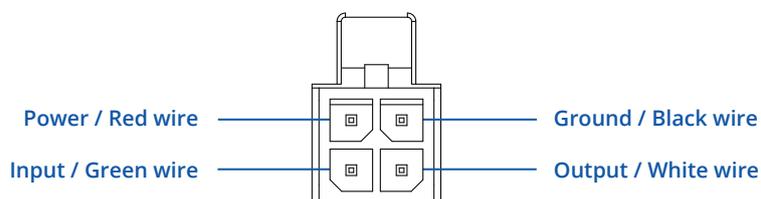
# FEATURES

## 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 |
| 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 |

## WIRELESS

| | |
|---|---|
| Wireless mode | IEEE 802.11b/g/n, Access Point (AP), Station (STA) |
| Wi-Fi security | WPA3-EAP, WPA3-SAE, WPA2-Enterprise-PEAP, WPA2-PSK, WEP; AES-CCMP, TKIP, Auto Cipher modes, client separation |
| SSID/ESSID | ESSID stealth mode |
| Wi-Fi users | Up to 50 simultaneous connections |
| Wireless Hotspot | Captive portal (Hotspot), internal/external Radius server, SMS authorization, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customizable themes |
| Wireless mesh/roaming | Fast roaming (802.11r) |

## ETHERNET

| | |
|---|---|
| WAN | 1 x WAN port 10/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover |
| LAN | 1 x LAN port, 10/100 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, SMNP, 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 |
| DHCP | Static and dynamic IP allocation, DHCP Relay |
| 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 | Wi-Fi WAN, Mobile, VRRP, Wired options, each of which can be used as an automatic Failover |
| Load balancing | Balance Internet traffic over multiple WAN connections |
| 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 |
| 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 |

## VPN

| | |
|---|---|
| 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-OFB 192, AES-192-CBC 192, AES-192-GCM 192, AES-256-GCM 256, AES-256-CFB 256, AES-256-CFB1 256, AES-256-CFB8 256, AES-256-OFB 256, AES-256-CBC 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 |

## DNP3

| | |
|---|---|
| Supported modes | Station, Outstation |
| 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 Slave 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 |

## Modbus MQTT GATEWAY

| | |
|---|---|
| Modbus MQTT Gateway | Allows sending commands and receiving data from MODBUS Master through MQTT broker |

## 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, 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 |
| MODBUS | MODBUS TCP status/control |
| RMS | Teltonika Remote Management System (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, WAN Type and IP, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength |
| Azure IoT Hub | Can send device IP, Number of bytes send/received, Temperature, PIN count to Azure IoT Hub server, 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 |

## SYSTEM CHARACTERISTICS

| | |
|---|---|
| CPU | Mediatek, 580 MHz, MIPS 24Kc |
| RAM | 128MB, DDR3 |
| FLASH storage | 16 MB, SPI Flash |

## FIRMWARE / CONFIGURATION

| | |
|---|---|
| WEB UI | Update FW from file, check FW on server, configuration profiles, configuration backup, restore point |
| 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++, and Python, Java in Package manager |
| Development tools | SDK package with build environment provided |

## 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 | 4-pin industrial DC power socket |
| Input voltage range | 9 - 30 VDC, reverse polarity protection, voltage surge/transient protection |
| PoE (passive) | Passive PoE over spare pairs. Possibility to power up through LAN port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, LAN1 Port, 9 - 30 VDC |
| Power consumption | < 2 W idle, < 6.5 W Max |

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

| | |
|---|---|
| Ethernet | 2 x RJ45 ports, 10/100 Mbps |
| I/O's | 1 x Digital Input, 1 x Digital Output on 4-pin power connector |
| Status LEDs | 2 x Connection type status, 5 x Mobile connection strength, 1 x LAN status, 1 x WAN status, 1 x Power |
| SIM | 1 x SIM slot (Mini SIM - 2FF), 1.8 V/3 V, external SIM holder, eSIM (Optional) |
| Power | 1 x 4-pin power connector |
| Antennas | 2 x SMA for LTE, 1 x RP-SMA for Wi-Fi |
| Reset | Reboot/User default reset/Factory reset button |

## PHYSICAL SPECIFICATION

| | |
|---|---|
| Casing material | Aluminum housing, plastic panels |
| Dimensions (W x H x D) | 83 x 25 x 74 mm |
| Weight | 130 g |
| Mounting options | DIN rail, flat surface placement |

## OPERATING ENVIRONMENT

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

## REGULATORY & TYPE APPROVALS

| | |
|---|---|
| Regulatory | CE/RED, UKCA, UCRF, RCM, EAC, WEEE |

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# WHAT'S IN THE BOX?

## STANDARD PACKAGE CONTAINS*

- Router RUT260
- 9 W PSU
- 2 x LTE antennas (swivel, SMA male)
- 1 x Wi-Fi antenna (swivel, RP-SMA male)
- Ethernet cable (1.5 m)
- SIM Adapter kit
- QSG (Quick Start Guide)
- Packaging box

| | | |
|---|---|---|
| ROUTER RUT260 | 9 W PSU | 2 X LTE ANTENNAS (SWIVEL, SMA MALE) |
| 1 X WI-FI ANTENNA (SWIVEL, RP-SMA MALE) | SIM ADAPTER KIT | ETHERNET CABLE (1.5 M) |

*For all standard order codes standard package contents are the same, execpt for PSU.

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# STANDARD ORDER CODES

| PRODUCT CODE | HS CODE | HTS CODE | PACKAGE CONTAINS |
|---|---|---|---|
| RUT260000000 | 851762 | 8517.62.00 | Standard package with Euro PSU |

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

# AVAILABLE VERSIONS

| PRODUCT CODE | REGION (OPERATOR) | FREQUENCY |
|---|---|---|
| RUT260 0***** | Europe[1], the Middle East, Africa, Australia, New Zealand | • **4G (LTE-FDD):** B1, B3, B5, B7, B8, B20, B28, B32<br>• **4G (LTE-TDD):** B38, B39, B40, B41, B42, B43<br>• **3G:** B1, B3, B5 |

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

# RUT260 SPATIAL MEASUREMENTS & WEIGHT

## MAIN MEASUREMENTS

W x H x D dimensions for RUT260:

| | |
|---|---|
| Device housing*: | 83 x 25 x 74 mm |
| Box: | 173 x 71 x 148 mm |

*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 RUT260 and its components as seen from the top:
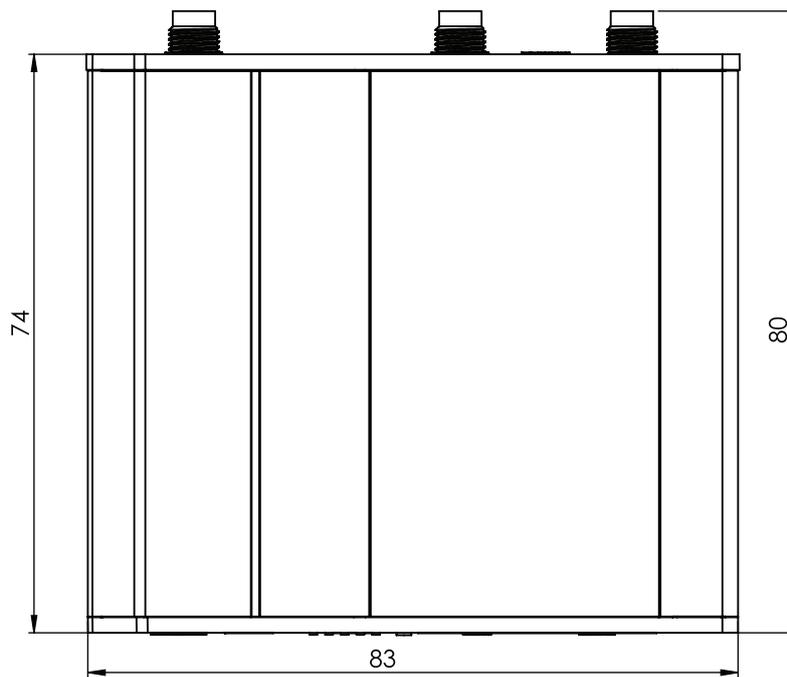
## RIGHT VIEW

The figure below depicts the measurements of RUT260 and its components as seen from the right side:
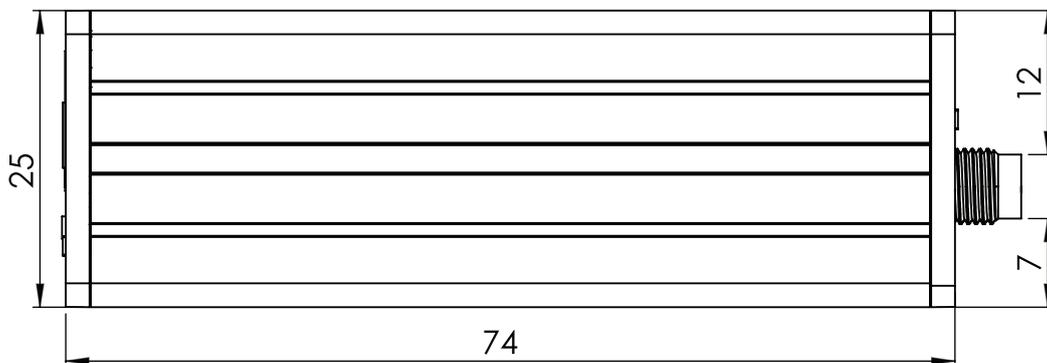
## FRONT VIEW

The figure below depicts the measurements of RUT260 and its components as seen from the front panel side:
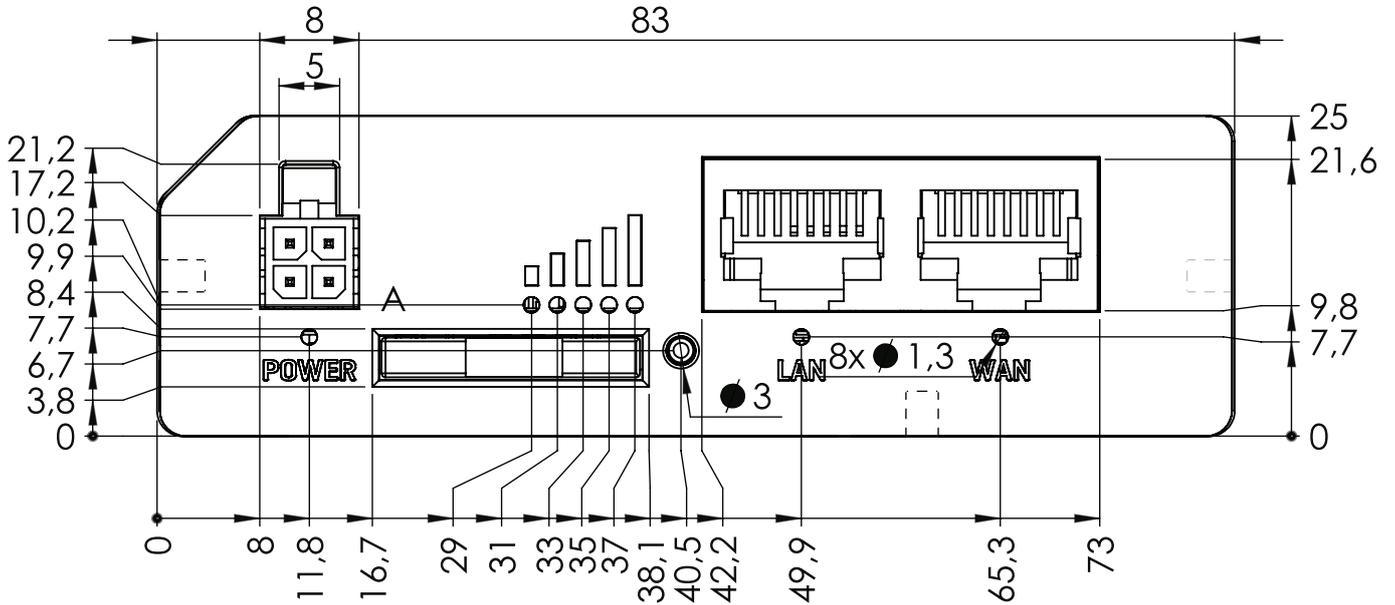


## REAR VIEW

The figure below depicts the measurements of RUT260 and its components as seen from the back panel side:

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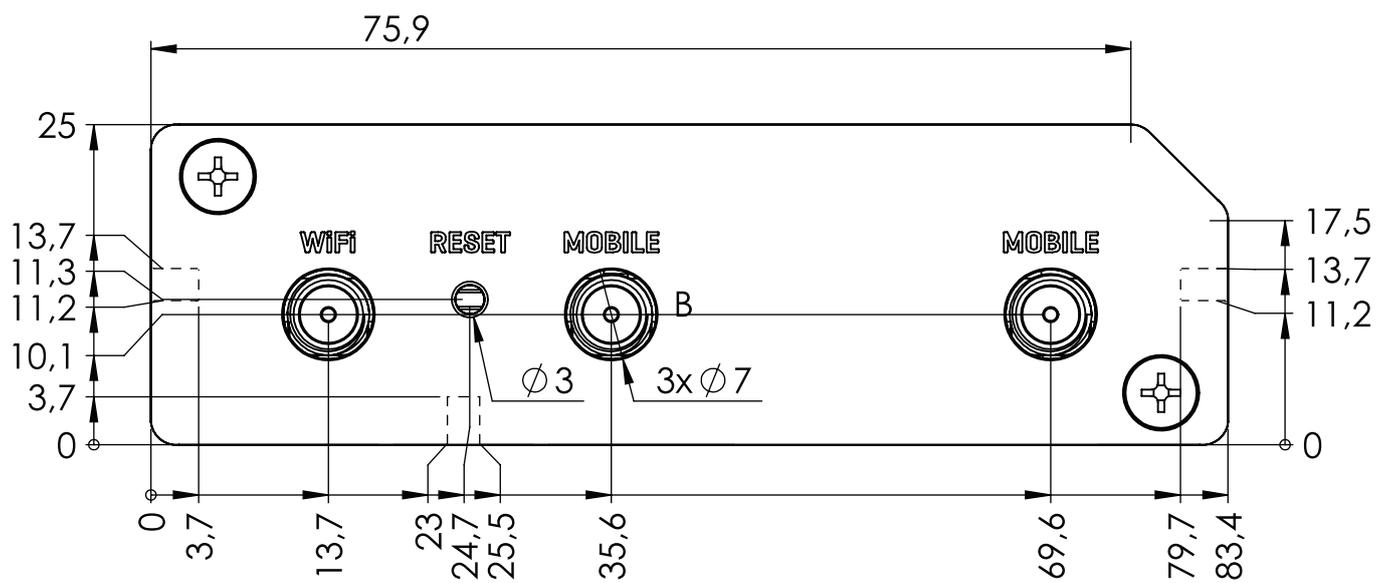
## MOUNTING SPACE REQUIREMENTS

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

144.4

26

83

40

30
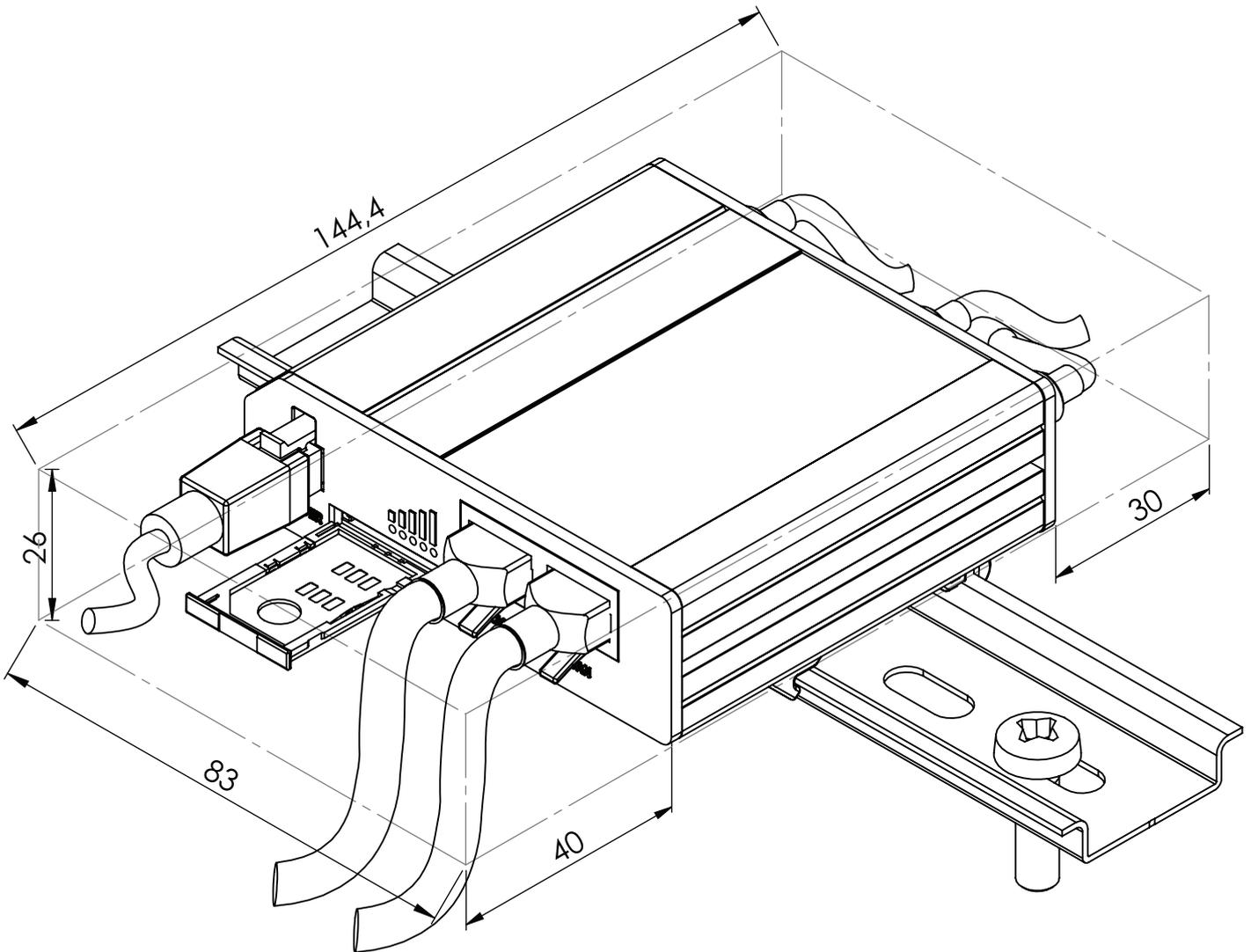
## DIN RAIL

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

16,7