

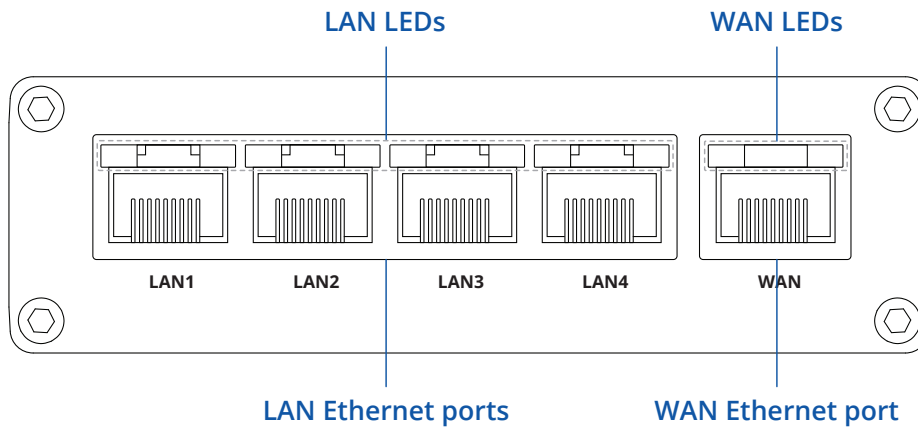


# RUT300

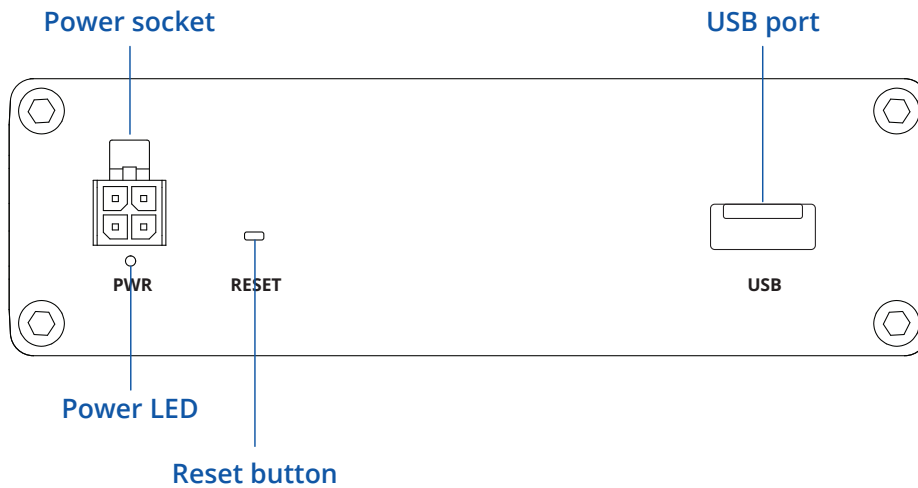


# HARDWARE

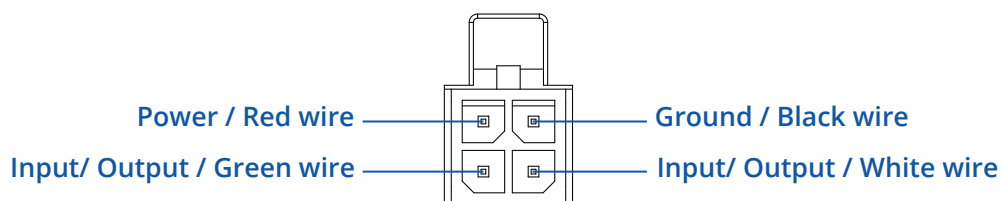
## FRONT VIEW



## BACK VIEW



## POWER SOCKET PINOUT



I/O (PIN 3 and 4): 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

# FEATURES

## ETHERNET

|     |  |
|-----|--|
| WAN | 1 x WAN port, 10/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX crossover   |
| LAN | 4 x LAN ports (can be configured as secondary WAN ports), 10/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX crossover |

## NETWORK

|  |  |
|--|--|
| Routing                                      | Static routes, Dynamic routes (planned)  |
| Network protocols                            | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP (planned), SMTP, SSL v3, TLS, ARP, PPPoE, UPNP, SSH, DHCP, Telnet client, SNMP (planned), MQTT (planned), Wake on LAN (WOL) (planned) |
| 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 forwards, traffic rules, NAT 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 (planned)                               | Supported >25 service providers, others can be configured manually   |
| Network backup                               | Wired WAN 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  |
| 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  |
| 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 a server can run 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 for IPsec (DES, 3DES, AES128, AES192, AES256)   |
| GRE                | GRE tunnel  |
| PPTP, L2TP         | Client/Server instances can run simultaneously, L2TPv3 support (planned)  |
| Stunnel (planned)  | Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program's code            |
| DMVPN (planned)    | Method of building scalable IPsec VPNs  |
| SSTP (planned)     | SSTP client instance support  |
| ZeroTier           | ZeroTier VPN client support   |
| WireGuard          | WireGuard VPN client and server support   |

## MODBUS TCP SLAVE (PLANNED)

|                     |  |
|---------------------|--|
| 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 |

### 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 |
|-----------|------------------------------------|

### 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)   |
| TR-069           | OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem    |
| MQTT (planned)   | MQTT Broker, MQTT publisher  |
| SNMP (planned)   | SNMP (v1, v2, v3), SNMP trap   |
| JSON-RPC         | Management API over HTTP/HTTPS   |
| MODBUS (planned) | MODBUS TCP status/control  |
| RMS              | Teltonika Remote Management System (RMS)   |

### SYSTEM CHARACTERISTICS

|               |                             |
|---------------|-----------------------------|
| CPU           | QCA9531, MIPS 24kc, 650 MHz |
| RAM           | 64 MB, DDR2                 |
| FLASH storage | 16 MB, SPI Flash            |

### 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 at once                                  |
| Keep settings | Update FW without losing current configuration  |

### USB

|                  |   |
|------------------|---|
| Data rate        | USB 2.0   |
| Applications     | Samba share (planned), USB-to-serial (planned)                      |
| External devices | Possibility to connect external HDD, flash drive, printer (planned) |
| Storage formats  | FAT, FAT32, NTFS  |

### INPUT/OUTPUT

|                  |   |
|------------------|---|
| Configurable I/O | 2 x Configurable digital Inputs/Outputs. Digital input 0 - 5 V detected as logic low, 8 - 30 V detected as logic high. Open collector output, max output 30 V, 300 mA |
| Events           | Email, RMS  |
| I/O juggler      | Allows to set certain I/O conditions to initiate event  |

### POWER

|                     |   |
|---------------------|---|
| Connector           | 4 pin industrial DC power socket  |
| Input voltage range | 7 - 30 VDC, reverse polarity protection, voltage surge/transient protection   |
| PoE (passive)       | Passive PoE. Possibility to power up through LAN port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards |
| Power consumption   | Idle: 1.3 W, Max: 3 W   |

**PHYSICAL INTERFACES (PORTS, LEADS, ANTENNAS, BUTTONS, SIM)**


---

|             |  |
|-------------|--|
| Ethernet    | 5 x RJ45 ports, 10/100 Mbps                                      |
| I/Os        | 2 x Configurable digital Inputs/Outputs on 4 pin power connector |
| Status LEDs | 5 x ETH status, 1 x Power  |
| Power       | 1 x 4 pin DC connector   |
| USB         | 1 x USB A port for external devices                              |
| 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) | 100 x 30 x 85 mm                                |
| Weight                 | 229 g   |
| Mounting options       | DIN rail, flat surface placement                |

**OPERATING ENVIRONMENT**


---

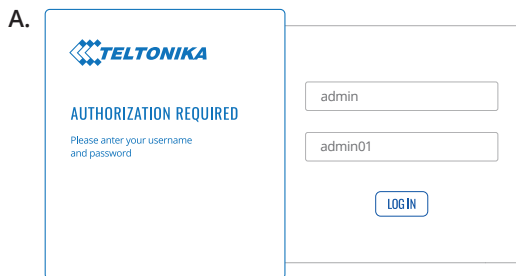
|                       |                             |
|-----------------------|-----------------------------|
| Operating temperature | -40 C to 75 C               |
| Operating humidity    | 10 % to 90 % non-condensing |

## HARDWARE INSTALLATION

1. Connect the power adapter to the socket on the back of the device. Then plug the other end of the power adapter into a power outlet.
2. Connect to the device via an Ethernet cable connected to LAN port.

### LOGIN TO DEVICE

1. To enter the router's Web interface (WebUI), type <http://192.168.1.1> into the URL field of your Internet browser.
2. Use login information shown in image A when prompted for authentication.
3. After you login, 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 router's WebUI before you change the password.**
4. When you change the router's password, the [Configuration Wizard](#) will start. The [Configuration Wizard](#) is a tool used to setup some of the router's main operating parameters.



### TECHNICAL INFORMATION

| Bundled accessories specifications* |  |
|-------------------------------------|--|
| Power adapter                       | Input: 0.4A@100-240VAC, Output: 9VDC, 1A, 4-pin plug |

\*Order code dependent.

## WHAT'S IN THE BOX?

### STANDARD PACKAGE CONTAINS\*

- Router RUT300
- 9 W PSU
- Ethernet cable (1.5 m)
- QSG (Quick Start Guide)
- RMS Flyer
- Packaging box



**ROUTER RUT300**



**9 W PSU**



**ETHERNET CABLE (1.5 M)**

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

## STANDARD ORDER CODES

| PRODUCT CODE  | HS CODE | HTS CODE   | PACKAGE CONTAINS               |
|---------------|---------|------------|--------------------------------|
| RUT300 000000 | 851762  | 8517.62.00 | Standard package with Euro PSU |
| RUT300 000100 | 851762  | 8517.62.00 | Standard package with US PSU   |

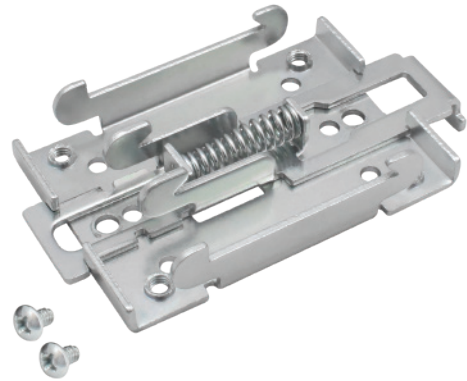
For more information on all available packaging options – please contact us directly.



## 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

PR5MEC00

### HS CODE

73269098

### HTS CODE

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

PR5MEC11

### HS CODE

73269098

### HTS CODE

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

PR5MEC12

### HS CODE

73269098

### HTS CODE

7326.90.98

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

# RUT300 SPATIAL MEASUREMENTS & WEIGHT

## MAIN MEASUREMENTS

W x H x D dimensions for RUT300:

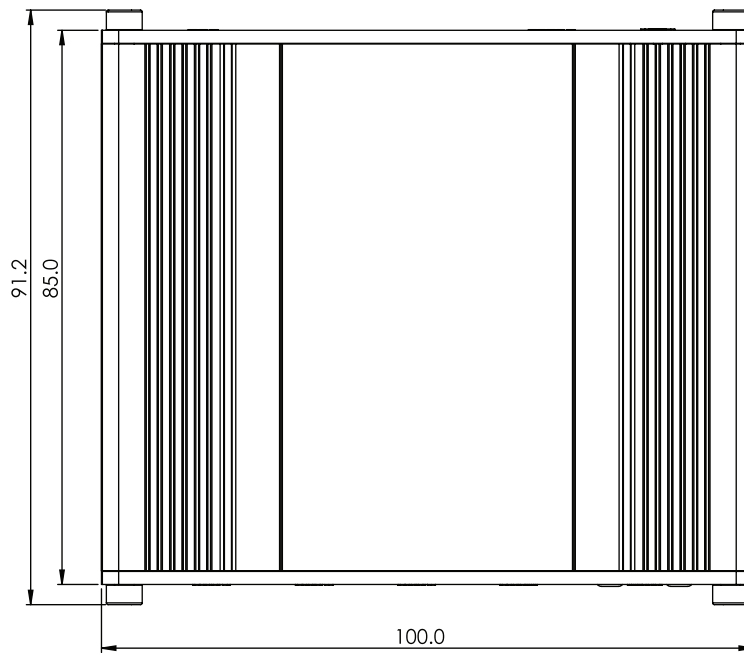
Device housing\*: 100 x 30 x 85

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.

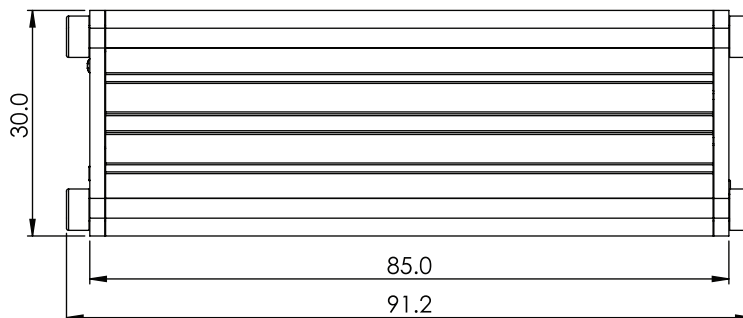
## TOP VIEW

The figure below depicts the measurements of RUT300 and its components as seen from the top:



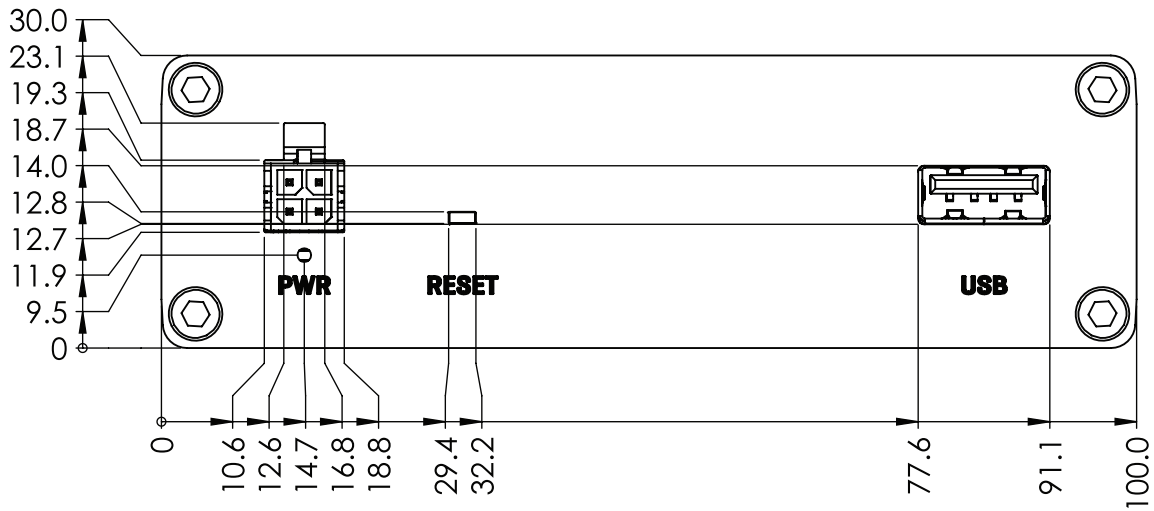
## RIGHT VIEW

The figure below depicts the measurements of RUT300 and its components as seen from the right side:



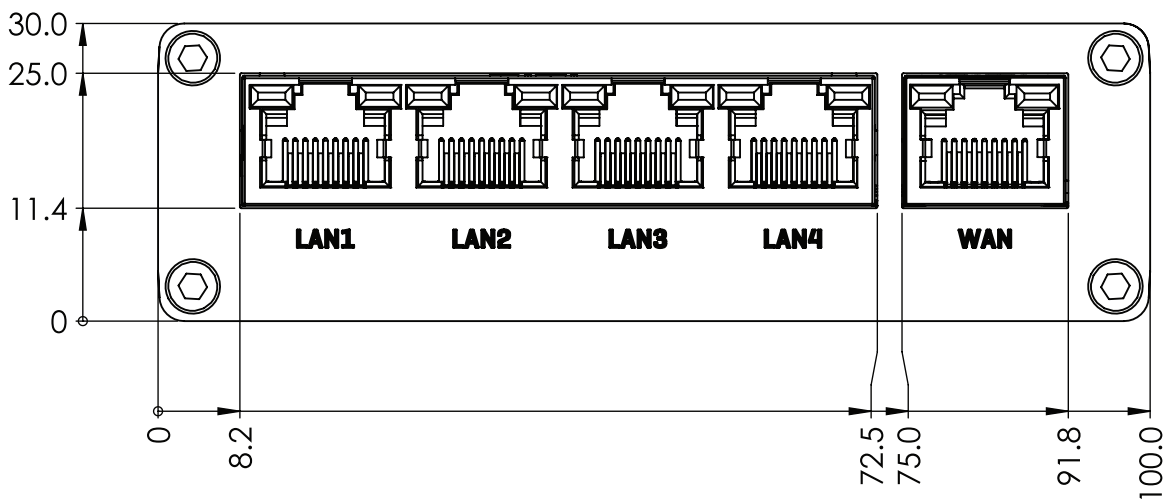
**FRONT VIEW**

The figure below depicts the measurements of RUT300 and its components as seen from the front panel side:



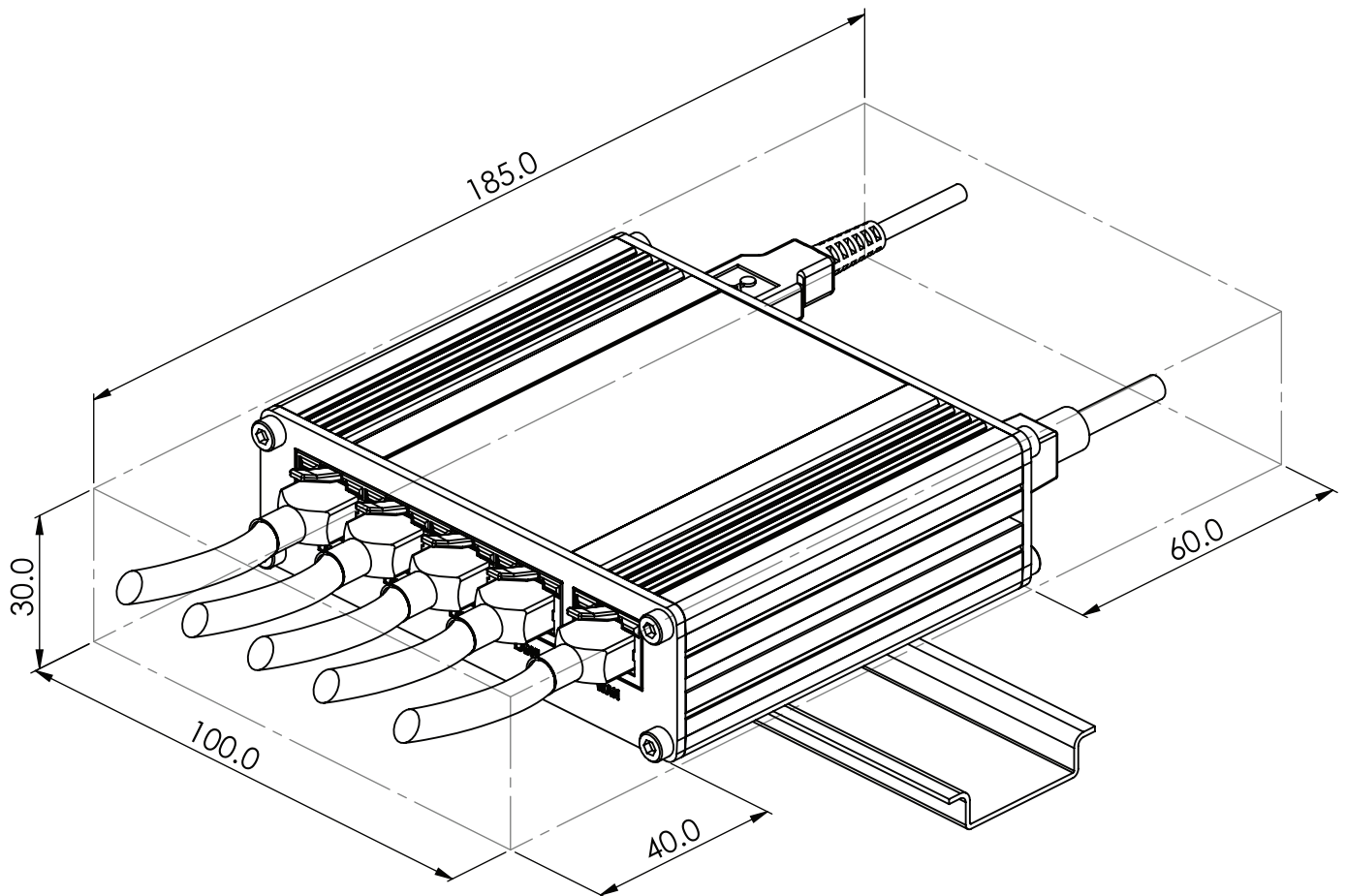
**REAR VIEW**

The figure below depicts the measurements of RUT300 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:

