

JANUARY, 2021

PRODUCT CATALOG

NORTH AMERICAN VERSION



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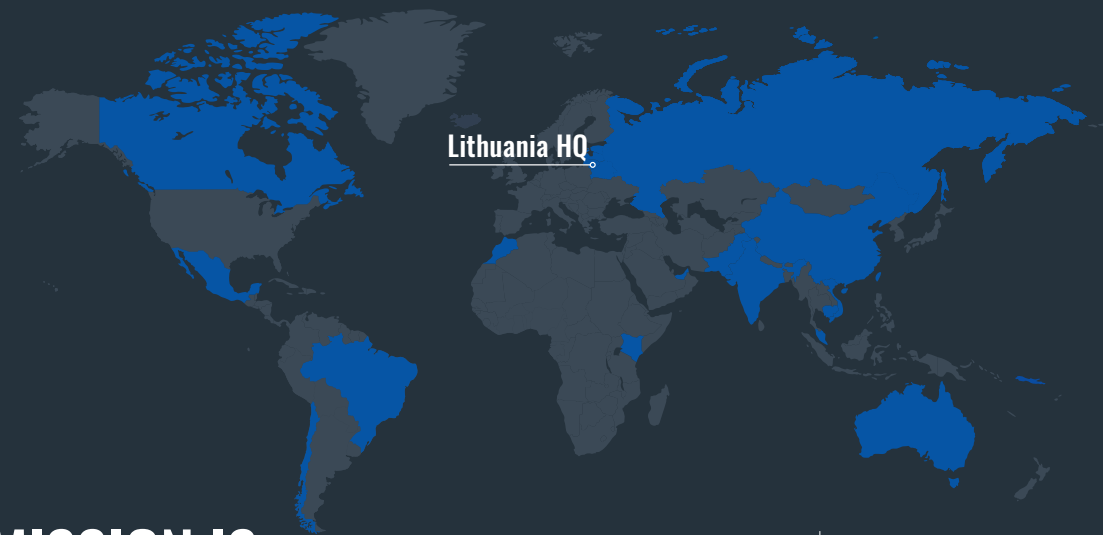
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WHO WE ARE?

22 YEARS
OF IoT BUSINESS

We are a rapidly growing technology company, manufacturing professional network connectivity equipment for international markets. Through long-term experience and research and development of industrial network devices for IoT and M2M communication, we have developed a wide portfolio of products for the most complex areas, such as Industry 4.0, Smart City, and Green Energy.



OUR MISSION IS

to be a fast and flexible partner and be closer to our clients in every world region. Longstanding experience, reliable supply chain, and highest technology process models enable us to produce millions of IoT devices to our clients.

OUR VISION IS

to become one of the global leaders providing unique IoT solutions that contribute to making people's lives easier. We are open-minded to establish the environment for the creative and ambitious work professionals in Lithuania and the rest of the world to grow and contribute towards our Mission.

OUR VALUES ARE

not only working but also living to help and sharing kindness to people, especially those who need our help the most. We are keeping our values by continuously and courageously creating synergy between Teltonika IoT Group and business partners as well as clients.

27
OFFICES
IN **18**
COUNTRIES

OUR TEAM

BIGGEST STRENGTH!

Teltonika Networks has a proven track record of rapid growth within professional and industrial cellular connectivity market segments. It would not be possible without a strong, ambitious, and continuously growing team.

260+

employees in HQ

45%

team growth in 2020

10+

nationalities

100%

dedication to our partners

IOT & B2B ACADEMIES
MORE THAN 200
COMPLETED INTERNSHIPS

GROWING TALENT

We have established IoT and B2B academies that closely collaborate with local universities by hosting guest lectures and supporting them with custom scholarships. However, the biggest gain of these academies is the student internships. During them, we share all of our know-how and experience. This practice is also beneficial to us as it helps to attract the best talent to join our young but already experienced team.

HOLISTIC APPROACH



From concept to the finished product – we develop everything in-house to ensure maximum quality and efficiency. It enables us to move much faster because we do not rely on any externalities.

Over the years, we have implemented hundreds of customized projects, from the smallest firmware changes to full-scale hardware alterations. This experience helped our partners capture more opportunities in the fast-paced technology environment - together.

We make all of our products in the state-of-the-art Teltonika IoT Group manufacturing facility in Vilnius, Lithuania. Full control over our production allows us to ensure that we deliver only the best and most reliable devices.

**5 MODERN
SMT LINES**

**100+ ROBOTS FOR
AUTOMATION**

**ECOFRIENDLY PACKAGING
AND LASER ENGRAVING**

FROM CONCEPT TO THE FINISHED PRODUCT

EXPERIENCE

For more than 22 years we have been providing reliable Industrial IoT & M2M connectivity solutions that are secure and easy to use.

FLEXIBILITY

We have implemented hundreds of customized projects from the smallest firmware change to full-scale hardware alterations.

ALL IN ONE

From the concept to the finished product – we develop everything in-house to ensure maximum quality and efficiency.



PORTFOLIO

WE HELP YOU CONNECT

We designed our product portfolio to help our partners access opportunities within the rapidly growing IoT and Industrial IoT space. It consists of modems, gateways, routers, switches, and IoT platforms. We have grown to be one of the leaders of cellular IoT devices for industrial and professional applications. From automation, smart grid, to public transport connectivity – hundreds of thousands of our networking products are currently at the heart of our partners' solutions.

GROWING PORTFOLIO

+2

2017

+3

2018

+5

2019

+5

2020

★

2021

22 DEVICES - UNLIMITED USE CASES



INDUSTRIAL & AUTOMATION

Global adoption of automation demands the ability to monitor and manage equipment remotely to increase productivity.



ENERGY & UTILITIES

Reducing power consumption and maintenance costs by building wired and wireless IoT connectivity solutions.



SMART CITY

Connected sensors, infrastructure, vehicles, and devices require secure and reliable IoT connectivity products.



TRANSPORTATION

Networking devices transport operators to optimize their businesses and create new revenue streams.



ENTERPRISE

Enterprise applications require primary and backup connectivity solutions that are secure, reliable, and easy to use.



RETAIL

IoT connectivity solutions offer new ways to interact with clients and collect valuable data to make strategic decisions.

OUR FOCUS

INSPIRE

At Teltonika Networks, we have a clearly defined product development philosophy that we use at every stage of product development decision making. We know that security and reliability are the two core factors in industrial networking device selection. However, we thrive to offer complex and capable devices without the sacrifice of ease of use. We wish to make IoT accessible to every enthusiast to inspire creativity and solve real-life problems with technology.

RELIABLE

Reliability is one of the core focus while designing devices at Teltonika Networks. Our products are engineered and manufactured with goal to achieve the best reliability possible.

SECURE

Security risk tests are performed constantly on all Teltonika Networks devices and all products are being periodically updated to eliminate any breaches in order to assure highest level of security.

EASY TO USE

Teltonika Networks devices are highly professional however they are very easy to use. Ability to offer products which do not require any special training is one of our strengths.

RUTOS

OPERATING SYSTEM FOR NETWORKING PRODUCTS

RutOS is our unified router Operating System and the core component of all Teltonika networking products. 10+ years of development made RutOS grow to the highest Industry standards. Security, stability and user experience are the key values that our platform is built around. Intuitive Web interface and constantly growing Wiki/Crowd-Support platforms help our partners to cut costs on engineer training while implementing new devices or migrating from other systems.

Teltonika networking products stand out as easily manageable devices on the market. Multiple remote monitoring and control functions are inseparable part of RutOS. This Open-source OpenWrt based Operating System along with full software documentation enable easy development of custom software solutions or new functionality as well as fast integration with 3rd party platforms.

COMPLETE SOLUTION

RMS

The **Remote Management System (RMS)** by Teltonika Networks allows you to be in control of your complete IoT solution from anywhere in the world. RMS offers remote access to all of your devices from a single user-friendly platform. We tailored RMS to meet the requirements of various client profiles and designed three available RMS plans.

REMOTE MANAGEMENT SYSTEM



MANAGEMENT

RMS MANAGEMENT gives you full control over your fleet of Teltonika Networks routers and gateways, ensuring their security and availability. RMS offers many features to save your time and expenses while managing everything remotely – even without a public IP!

USER
FRIENDLY
INTERFACE

LOCATION
HISTORY
& POSITIONING

HISTORICAL
DATA AND
REPORTS

MULTI-
CONFIGURATION
& FOTA

CUSTOMIZABLE
ALERTS AND
NOTIFICATIONS

HOTSPOT
MANAGEMENT
SERVICE

CONNECT

RMS CONNECT is a unified access system, which allows you to reach and control smart devices remotely via RMS. If your PLC, Industrial PC, CCTV camera, Point of Sale system or other intelligent device is reachable by one of RMS compatible routers or gateways, you can access it with RMS CONNECT without a public IP or additional VPN services!

// HTTP/HTTPS protocol compatibility allows for easy access of Web User Interface of other devices

// SSH enables you to reach Command Line Interface of end devices via SSH tunnels

// Remote Desktop functionality enables you to gain full control of any equipment running Windows, Linux or Android that support RDP/VNC protocols

API

What could be more efficient than having a single software system for your whole connected solution infrastructure? With our RMS API you can get just that! RMS API allows your IoT Platform to directly interact with RMS and get the exact data and functionality you need. Just like with other RMS services we want to give you full control of your solution and RMS API brings that to another level!

ROUTERS

Our routers are equipped with a variety of wireless and wired connectivity options and technologies which makes them an essential tool to connect people, machines and infrastructure across most market sectors. The Teltonika Networks RUT series is engineered to be deployed easily in challenging connectivity scenarios and our RutOS based on Linux OpenWRT has become one of the most functional router operating systems in the market.



RUT240

INDUSTRIAL CELLULAR ROUTER

Compact, robust and powerful device tailored for Industrial M2M/IoT applications. RUT240 is equipped with 2 x Ethernet and Wireless interfaces with Hotspot functionality. Device provides secure and stable Internet connectivity for Industrial applications using RutOS software and security features with RMS support.

CONNECTIVITY

4G/LTE (Cat 4), 3G, 2G

COMPACT

Small size – easy integration

WAN FAILOVER

Automatic switch to available backup connection

I/O

Digital Input/Output for remote monitoring and control

WIFI

Wireless Access Point with Hotspot functionality

RMS

Compatible with Teltonika Remote Management System

HARDWARE

| | |
|------------------------|--|
| Mobile | 4G/LTE (Cat 4), 3G, 2G |
| CPU | Atheros, MIPS 24Kc, 400 MHz |
| Memory | 16 MBytes Flash, 64 MBytes RAM |
| Powering option | 4pin power socket, 9-30 VDC |
| SIM | 1 x External SIM holder (2FF) |
| Antenna connectors | 2 x SMA for mobile, 1 x RP-SMA for WiFi |
| Ethernet | 2 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 1 x LAN |
| WiFi | IEEE 802.11b/g/n, Access point (AP), Station (STA) |
| Inputs/Outputs | On 4pin socket: 1 x Digital input, 1 x Digital open collector output |
| Status LEDs | 3 x Connection type, 5 x Signal strength, 2 x Ethernet, 1 x Power |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with DIN rail mounting option, plastic panels |
| Dimensions (W x H x D) | 83 x 25 x 74 mm |
| Weight | 135 g |

SOFTWARE

| | |
|---------------------------|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Mobile features | Auto APN, Band lock |
| Network protocols | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, PPPoE, DHCP, Telnet |
| Network | Failover (Network backup), VLAN, QoS, Load Balancing |
| Security | 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 attacksw |
| VPN and tunneling | OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP |
| Monitoring and management | WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS |
| Connection monitoring | Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection |
| Cloud solutions | RMS, FOTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx |
| SMS features | 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 |
| Services | DDNS, VRRP, Wake On Lan (WOL), WEB filter, UPNP, Traffic Logging |



RUT950

INDUSTRIAL CELLULAR ROUTER

This router is equipped with Dual-SIM, 4 x Ethernet interfaces and WiFi. Device is designed as Main/Backup Internet source and can guarantee reliable Internet connection with high data throughput and data redundancy. RUT950 comes with RutOS software and security features with RMS support.

CONNECTIVITY

4G/LTE (Cat 4), 3G, 2G

WAN FAILOVER

Automatic switch to available backup connection

WIFI

Wireless Access Point with Hotspot functionality

DUAL SIM

With auto failover, backup WAN and other switching scenarios

ETHERNET

4 x Ethernet interfaces with VLAN functionality

RMS

Compatible with Teltonika Remote Management System

HARDWARE

| | |
|------------------------|---|
| Mobile | 4G/LTE (Cat 4), 3G, 2G |
| CPU | Atheros, MIPS 74Kc, 550 MHz |
| Memory | 16 MBytes Flash, 128 MBytes RAM |
| Powering option | 4pin power socket, 9-30 VDC |
| SIM | 2 x External SIM holders (2FF) |
| Antenna connectors | 2 x SMA for mobile, 2 x RP-SMA for WiFi |
| Ethernet | 4 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN |
| WiFi | IEEE 802.11b/g/n, Access point (AP), Station (STA) |
| Inputs/Outputs | On 4pin socket: 1 x Digital input, 1 x Digital open collector output |
| Status LEDs | 1 x Bi-Color connection type, 5 x Signal strength, 4 x Ethernet, 1 x Power |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with DIN rail mounting option, plastic panels with flat mounting option |
| Dimensions (W x H x D) | 109 x 50 x 103 mm |
| Weight | 263 g |

SOFTWARE

| | |
|-----------------------------|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Mobile features | Auto APN, Band lock, SIM switch, Operator black/white list, Data/SMS limits |
| Network | Failover (Network backup), VLAN, QoS, Load Balancing |
| Routing | Static routes, Dynamic routes (BGP, OSPFv2, RIPv1/v2, NHRP), Routing rules |
| VPN and tunneling | OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP |
| Monitoring and management | WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS |
| Connection monitoring | Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection |
| Cloud solutions | RMS, FOTA, Telenor, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx |
| Hotspot | External/Internal Radius, SMS OTP, MAC authentication, Walled Garden |
| Supported Hotspot platforms | IronWiFi, HotspotSystem, Cloud4Wi, SAI + WiFi, MugiCloud, Purple.ai |
| SMS features | 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 |
| Services | DDNS, VRRP, Wake On Lan (WOL), WEB filter, UPNP, Traffic Logging |





RUT955

INDUSTRIAL CELLULAR ROUTER

Equipped with Dual-SIM, 4 x Ethernet, WiFi and RS232, RS485, USB interfaces and Inputs/Outputs. RUT955 comes with RutOS advanced software features such as Modbus, SNMP, TR-069, NTRIP, MQTT protocol support and custom GNSS tracking protocol that is compatible with Global AVL tracking platforms.

CONNECTIVITY

4G/LTE (Cat 4), 3G, 2G

I/O

Multiple digital and analog inputs and outputs for equipment control and event notification

DUAL SIM

For additional connection reliability

SERIAL

RS232/RS485 serial communication interfaces

GNSS

Global Navigation Satellite System for location services and time synchronization

RMS

Compatible with Teltonika Remote Management System

HARDWARE



| | |
|------------------------|---|
| Mobile | 4G/LTE (Cat 4), 3G, 2G |
| CPU | Atheros, MIPS 74Kc, 550 MHz |
| Memory | 16 MBytes Flash, 128 MBytes RAM |
| Powering option | 4pin power socket, 9-30 VDC |
| SIM | 2 x External SIM holders (2FF) |
| Antenna connectors | 2 x SMA for mobile, 2 x RP-SMA for WiFi, 1 x SMA for GPS |
| Ethernet | 4 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN |
| WiFi | IEEE 802.11b/g/n, Access point (AP), Station (STA) |
| GNSS | GPS, GLONASS, BeiDou, Galileo, QZSS |
| Inputs/Outputs | On 4pin socket: 1 x Digital input, 1 x Digital open collector output On 10pin socket: 1 x Isolated digital input, 1 x Digital dry input, 1 x Analog input, 1 x Isolated open collector output (requires external voltage), 1 x Relay output (non-latching) |
| Serial | 1 x RS232, 1 x RS485 |
| Other | 1 x USB host, 1 x MicroSD |
| Status LEDs | 1 x Bi-Color connection type, 5 x Signal strength, 4 x Ethernet, 1 x Power |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with DIN rail mounting option, plastic panels with flat mounting option |
| Dimensions (W x H x D) | 109 x 50 x 103 mm |
| Weight | 295 g |

SOFTWARE

| | |
|---------------------------|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Mobile features | Band lock, SIM switch, Operator black/white list, Data/SMS limits |
| Network | Failover (Network backup), VLAN, QoS, Load Balancing |
| Monitoring and management | WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS |
| Cloud solutions | RMS, FOTA, Telenor, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx |
| NTP | NTP Server, NTP Client, Sync with: External NTP server, GNSS, Mobile operator |
| GNSS | NMEA forwarding, AVL, Geofencing |
| Modbus | TCP slave, TCP master, RTU master, RTU gateway, Modbus over MQTT |
| Serial | Console, Over IP, Modem, NTRIP, Modbus |



RUTX10

PROFESSIONAL ETHERNET ROUTER

This professional router combines the best of wired and wireless routing functionalities with Gigabit Ethernet, Bluetooth LE, and AC Wi-Fi. Advanced remote management capabilities along with numerous security & networking protocols supported make RUTX10 an ideal choice for professional applications.

GIGABIT ETH

4 x Gigabit Ethernet ports with up to 128 port/tag-based VLANs supported

PROTOCOLS

Multiple protocols supported including MQTT, Modbus TCP, BGP, GRE

I/O & USB

Digital Input / Output for remote monitoring and control and USB 2.0 interface

SECURITY

Firewall and numerous VPN services including OpenVPN, IPsec, PPTP, L2TP & DMVPN

WIFI & BT

Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

RMS

Compatible with Teltonika Remote Management System

HARDWARE



| | |
|-----------------------|--|
| CPU | Qualcomm, 4 x ARM Cortex A7, 717 MHz |
| Memory | 256 MBytes Flash, 256 MBytes RAM |
| Powering option | 4pin power socket, 9-50 VDC |
| Antenna connectors | 2 x RP-SMA for WiFi, 1 x RP-SMA for Bluetooth |
| Ethernet | 4 x 10/100/1000 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN |
| WiFi | IEEE 802.11a/b/g/n/ac 2.4GHz/5GHz, Access point (AP), Station (STA) |
| Bluetooth | 4.0 (Low energy) |
| Inputs/Outputs | On 4pin socket: 1 x Digital input, 1 x Digital open collector output |
| Other | 1 x USB host |
| Status LEDs | 2 x WiFi, 8 x Ethernet, 1 x Power |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with DIN rail mounting option and grounding capability |
| Dimensions | 115 x 32 x 95 mm |
| Weight | 355 g |

SOFTWARE

| | |
|-----------------------------|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Network protocols | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, PPPoE, DHCP, Telnet |
| Routing | Static routes, Dynamic routes (BGP, OSPFv2, RIPv1/v2, EIGRP, NHRP), Routing rules |
| VPN and tunneling | OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP, WireGuard, ZeroTier |
| Monitoring and management | WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS |
| Connection monitoring | Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection |
| Cloud solutions | RMS, FOTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx |
| Hotspot | External/Internal Radius, MAC authentication, Walled Garden |
| Supported Hotspot platforms | IronWiFi, HotspotSystem, Cloud4Wi, SAI + WiFi, MugiCloud, Purple.ai |
| Services | DDNS, VRRP, Wake On Lan (WOL), WEB filter, UPNP, Network shares (Samba), Traffic Logging |



RUTX11

INDUSTRIAL CELLULAR ROUTER

This powerful LTE Cat 6 cellular industrial router is designed for professional and IoT applications where steady and fast connection and high data throughput is required. It is equipped with 4 x Gigabit Ethernet, Bluetooth LE, and AC Wi-Fi with remote management capabilities.

4G LTE CAT 6

Cellular speeds up to 300Mbps with Carrier Aggregation

DUAL SIM

With auto failover, backup WAN and other switching scenarios

WIFI & BT

Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

GNSS

Global Navigation Satellite System for location services and time synchronization

PROTOCOLS

Multiple protocols supported including MQTT, Modbus TCP, BGP, GRE

RMS

Compatible with Teltonika Remote Management System

HARDWARE



| | |
|-----------------------|---|
| Mobile | 4G/LTE (Cat 6), 3G |
| CPU | Qualcomm, 4 x ARM Cortex A7, 717 MHz |
| Memory | 256 MBytes Flash, 256 MBytes RAM |
| Powering option | 4pin power socket, 9-50 VDC |
| SIM | 2 x External SIM holders (2FF) |
| Antenna connectors | 2 x SMA for mobile, 2 x RP-SMA for WiFi, 1 x RP-SMA for Bluetooth, 1 x SMA for GPS |
| Ethernet | 4 x 10/100/1000 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN |
| WiFi | IEEE 802.11a/b/g/n/ac 2.4GHz/5GHz, Access point (AP), Station (STA) |
| GNSS | GPS, GLONASS, BeiDou, Galileo, QZSS |
| Bluetooth | 4.0 (Low energy) |
| Inputs/Outputs | On 4pin socket: 1 x Digital input, 1 x Digital open collector output |
| Other | 1 x USB host |
| Status LEDs | 4 x WAN type, 2 x Connection type, 5 x Signal strength, 2 x WiFi, 8 x Ethernet, 1 x Power |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with DIN rail mounting option and grounding capability |
| Dimensions | 115 x 44 x 95 mm |
| Weight | 456 g |

SOFTWARE

| | |
|-------------------|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Mobile features | Multiple PDN, Auto APN, Band lock, SIM switch, Operator black/white list, Data/SMS limits |
| Network | Failover (Network backup), VLAN, QoS, Load Balancing |
| Routing | Static routes, Dynamic routes (BGP, OSPFv2, RIPv1/v2, EIGRP, NHRP), Routing rules |
| VPN and tunneling | OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP, WireGuard, ZeroTier |
| Cloud solutions | RMS, FOTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx |
| Hotspot | External/Internal Radius, SMS OTP, MAC authentication, Walled Garden |
| NTP | NTP Server, NTP Client, Sync with: External NTP server, GNSS, Mobile operator |
| GNSS | NMEA forwarding, AVL, Geofencing |

PUBLIC TRANSPORT CONNECTIVITY

TRANSPORTATION

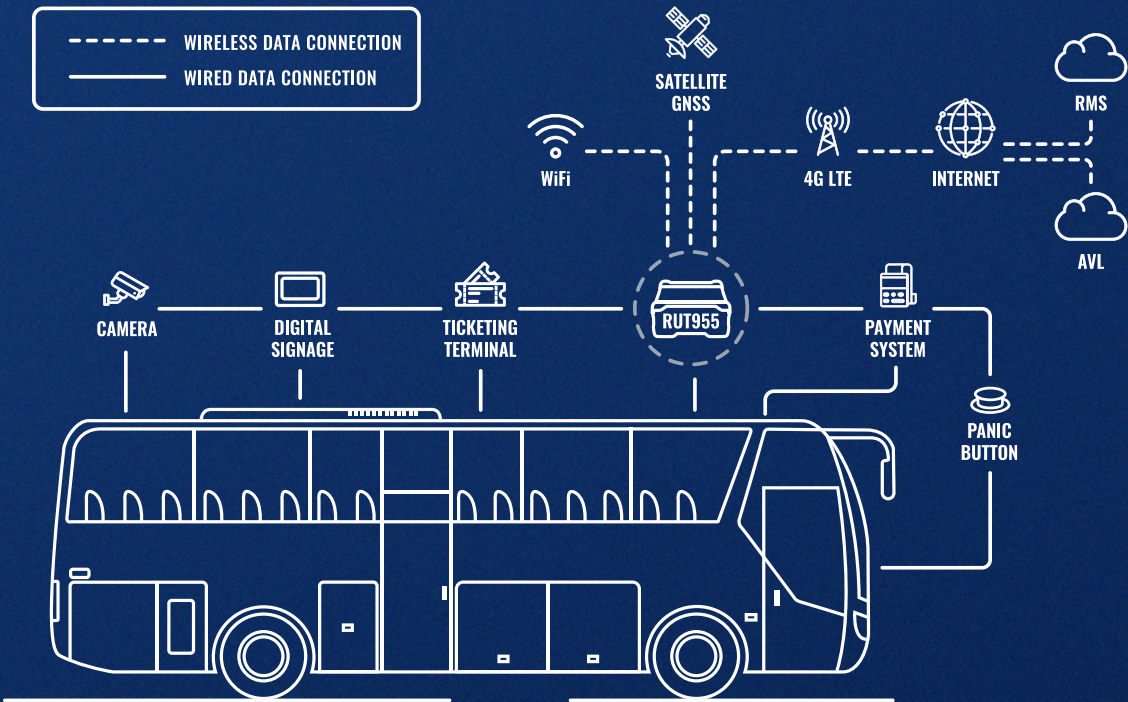
Most bus passengers today enjoy high speed public WiFi, pay for tickets online and track bus arrival times using their smartphone. Moreover, majority of public transportation users cannot imagine their trips without seeing relevant information on bus mounted digital signage screens as well as without security cameras ensuring their safety. All of this would not be possible without advanced communications hardware connecting people, equipment and cloud services into one seamless system.

SOLUTION
RUT955 was the perfect choice for this solution because of a few reasons. Since it includes a variety of different components using wired and wireless connection, it needed to have a wide range of connectors and interfaces to integrate everything into one fully functioning system, which could be supervised remotely. This highly secure and reliable industrial router is equipped with Ethernet, Digital & Analogue I/Os, RS232, RS485, microSD, and USB, meaning it is capable of connecting legacy ticketing terminals, CCTV cameras, a panic button, digital signage screens and accepting card payments. Besides, it has a GNSS module for accurate location tracking and

dual SIM failover for connectivity redundancy. RUT955 also allows setting up a secured and managed hotspot for the bus travelers, and collecting data for marketing purposes. And all of this can be easily managed through our Remote Management System (RMS).

BENEFITS

- /Provide accurate location tracking services using embedded GNSS module.
- /Connect at least seven 1080p30 CCTV IP security cameras due to robust and reliable Cat4 LTE.
- /Provide secure passenger hotspot with advertising and landing page for convenient and managed browsing.
- /Empower Digital Signage screens across the vehicle for informational and advertising services.
- /Give connectivity to existing or new ticketing terminals via Ethernet or Serial to ensure card payments or collect and upload ticketing statistics to operator's platform.
- /In addition, I/O elements such as Panic Buttons can be installed across the bus to give even more control to the bus operators.



SEAPORT WIRELESS CONNECTIVITY

SMART CITY

For centuries, seaports have served as a vital economic lifeline by bringing goods and services to people and enhancing the overall quality of life. Seaports continue to be a crucial link for access to the global marketplace. The volume of cargo shipped by water in 2018 was nearly 4.2 billion metric tons and is projected to increase over the coming decades dramatically. Therefore operators of the seaports are continuously looking for ways to increase efficiency.

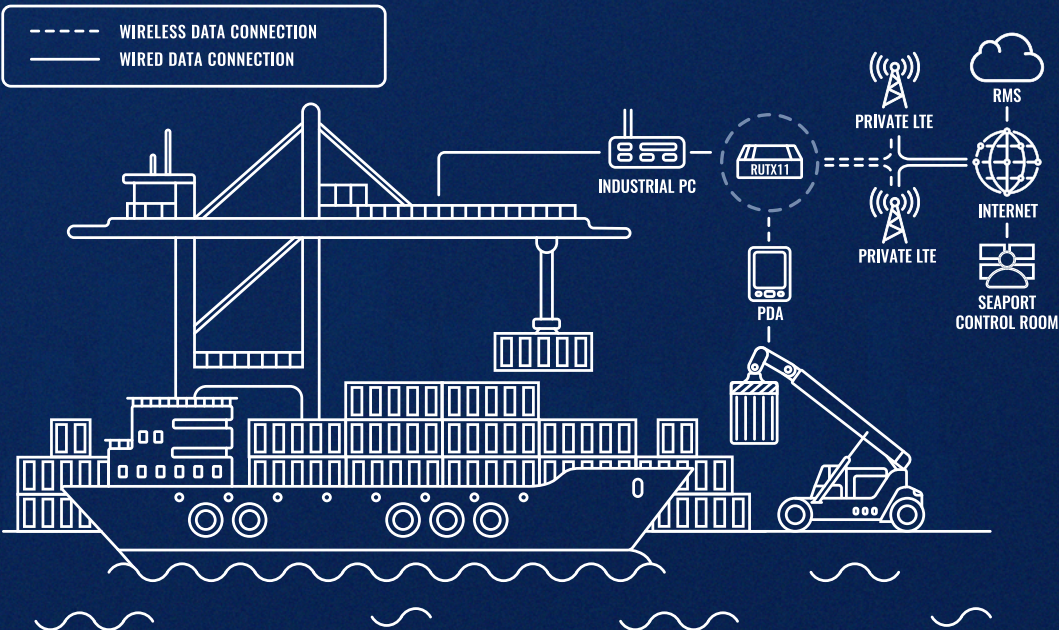
SOLUTION

As we indicate in the topology, all vehicles and cranes in the seaports need to be connected to a unified, secure, and reliable network. Our partners are choosing RUTX11 for this solution due to multiple reasons, one of which is performance. RUTX11 with 4G LTE CAT6 is capable of speeds up to 300 Mbps and can support large data throughput application not only for today but for years to come. Dual Wi-Fi functionality allows connecting multiple PDAs or industrial PCs to the router. These or other devices can also be connected via Ethernet ports. RUTX11 is a rugged device with metal casing, which can sustain vibrations, humidity, and extreme temperatures. The operating temperature of the router can vary from -40 C to 75 C. This professional cellular router has E-mark certification ensuring full compliance with a number of essential requirements when mounting additional devices in aftermarket automotive vehicles.

In this specific use case, devices are using a secure private LTE network provided by the mobile operator. Although they are using their solution for efficient traffic management, they still needed Remote Management System (RMS) by Teltonika Networks. With the help of this IoT platform, customers easily could configure all settings of the vast fleet of routers or just to a part of it, in a single window. They also can upload firmware for all their fleet at once. Of course, RMS is a highly secure platform as it has two-factor authentication functionality. Moreover, you are also able to use ID Biometrics authentication when logging in to it.

BENEFITS

- /Performance - RUTX11 with LTE CAT 6 cellular module provides speeds up to 300 Mbps and is ready for industrial applications with rugged aluminum housing, wide operating temperature range, and resistance to vibrations.
- /Security - with advanced RutOS features, RUTX11 offers multiple VPN options, embedded firewall and other security features to comply with high security standards of seaports operators.
- /Easy Management - Remote Management System allows to efficiently upload FW or change settings in a singlewindow configuration even for a vast fleet of routers.



SWITCHES

Teltonika Networks provides a range of industrial Ethernet Switches. They feature industrial-grade reliability, network redundancy, security and easy management. Switches have multiple mounting options for faster and easier installations.



TSW100

INDUSTRIAL UNMANAGED POE+ SWITCH

TSW100 – 5-port, unmanaged full Gigabit Ethernet switch supporting Power-over-Ethernet (802.3af and 802.3at standards). This device is classified as power source equipment (PSE), and when used in this way, TSW100 switch enables centralization of the power supply, providing up to 30 watts of power per port and reducing the effort for installing power. It has 10/100/1000 Mbps Ethernet ports to provide an economical high-bandwidth solution for your industrial Ethernet network.

POE

4 x PoE ports with 802.3af and 802.3at support

POWER BUDGET

Total power budget at PSE up to 120 W

DURABLE

Rugged aluminium housing

ETHERNET

5 x Gigabit Ethernet with speeds up to 1000 Mbps

MOUNTING

DIN rail and surface mounting options

PLUG-N-PLAY

No additional configuration needed

HARDWARE



| | |
|---------------------------|--|
| Powering option | 4pin power socket, 7-57 VDC |
| Power consumption | Idle: < 2 W, Max: < 9 W (no PoE device connected) |
| PoE standart | 802.3af/at (max 30 W per port, total power budget 120W*) |
| Ethernet | 5 x 10/100/1000 Ethernet ports: 4 x PoE, 1 x Uplink |
| Status LEDs | 10 x Ethernet, 1 x Power |
| Ingress protection rating | IP30 |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with wall or DIN rail mounting option and grounding capability |
| Dimensions | 115 x 32 x 95 mm |
| Weight | 340 g |

PERFORMANCE SPECIFICATIONS

| | |
|--------------------------------|------------|
| Bandwidth | 10 Gbps |
| Packet buffer | 128 KB |
| Jumbo frame support | 9216 bytes |
| MAC address table size | 2K entries |
| Auto MDI/MDI-X Cable Detection | Yes |

*Provided power supply only allows 60 W PoE power budget at PSE, to reach maximum 120 W at PSE >130 W power PSU must be used



TSW110

L2 UNMANAGED SWITCH

TSW110 is a layer 2 unmanaged switch that is a simplified version of our earlier product – TSW100. It is a tiny but rugged device for industrial high bandwidth applications requiring a reliable data connection. It has five Gigabit Ethernet ports and supports wide power supply voltages (9-30 V).

PLUG-N-PLAY

No additional configuration needed

DURABILITY

Rugged aluminium housing

MOUNTING

DIN rail and surface mounting options

RESILIENT

Operating temperature -40 °C to 75 °C

9-30 V

Wide range of supported power supply voltages

GIGABIT ETH

5 x Gigabit Ethernet with speeds up to 1000 Mbps

HARDWARE



| | |
|---------------------------|--|
| Powering option | 4pin power socket, 9-30 VDC |
| Power consumption | Idle: < 0.4 W, Max: < 1.8 W (no PoE device connected) |
| Ethernet | 5 x 10/100/1000 Ethernet ports |
| Status LEDs | 10 x Ethernet, 1 x Power |
| Ingress protection rating | IP30 |
| Operating temperature | -40 °C to 75 °C |
| Housing | Aluminium housing with wall or DIN rail mounting option and grounding capability |
| Dimensions | 100 x 30 x 85 mm |
| Weight | 227 g |

PERFORMANCE SPECIFICATIONS

| | |
|--------------------------------|------------|
| Bandwidth | 10 Gbps |
| Packet buffer | 128 KB |
| Jumbo frame support | 9216 bytes |
| MAC address table size | 2K entries |
| Auto MDI/MDI-X Cable Detection | Yes |

RELIABLE MULTIPLE CAMERA CONNECTIVITY

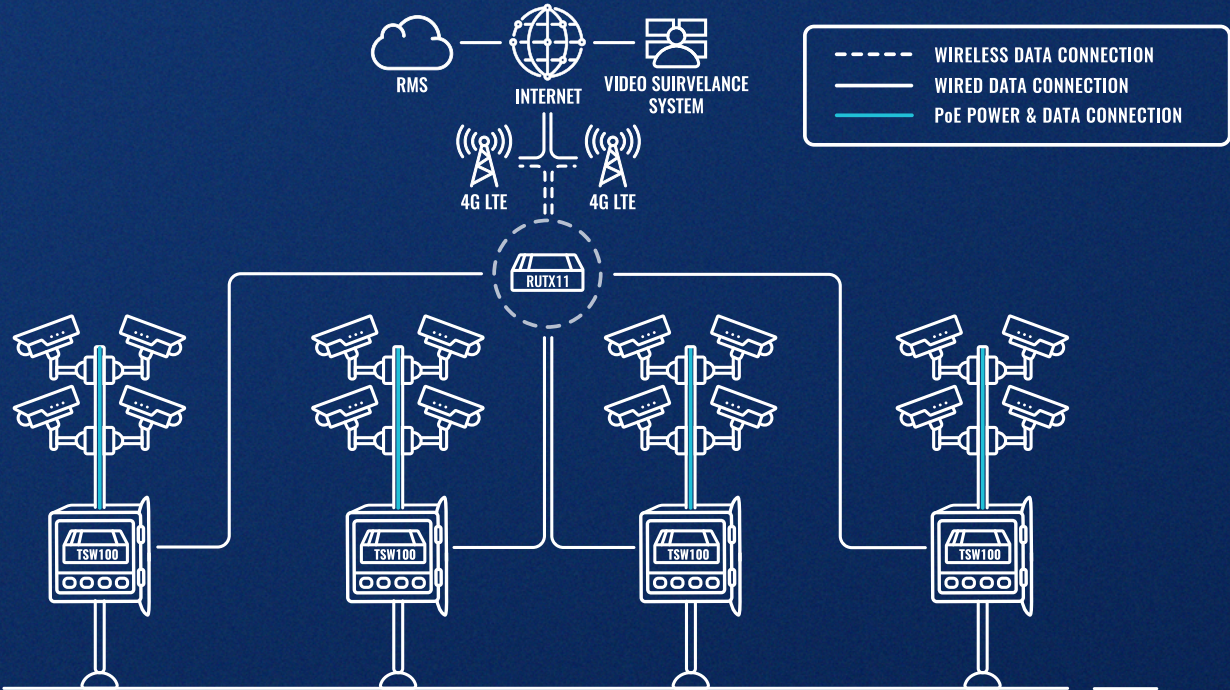
SMART CITY

The adoption of Closed-circuit television (CCTV) surveillance has been steadily growing in recent years. This technology provides reliable information for area monitoring, public order, and crime prevention. Surveillance systems play an integral role today because they are fast and easy to deploy and provide valuable data for private and public security and business operations. Finally, CCTV solutions are highly demanded across Smart City projects and enable smart solutions such as parking and retail business intelligence.

SOLUTION
RUTX11 cellular router is responsible for stable and robust Internet connectivity delivered through 4G LTE. All CCTV cameras connect via PoE (Power over Ethernet) compatible switch - TSW100. This device has five Gigabit Ethernet ports, four of which support IEEE 802.3af and IEEE802.3 at PoE standards. They allow to power up devices up to 30W power per port. RUTX11 and TSW100 can withstand harsh weather conditions with wide operating temperature ranges and have numerous mounting options for faster and easier installations. This solution can be deployed very fast and start operating within a few hours. And last but not least, the RUTX11 is compatible with the

Remote Management System (RMS). RMS enables remote set-up, configuration, and management of the whole solution.

- BENEFITS**
- /Reliable connectivity – dual SIM functionality makes mission-critical connectivity in remote areas.
 - /Quick to deploy – no need to wait for wired Internet access deployment. The solution can be pre-configured before installation on-site.
 - /Easy to install – PoE technology allows using Ethernet for both: powering up and data transmission.
 - /Industrial Mounting Options – both devices have a DIN rail.
 - /Easy to manage – with Remote Management System, system administrators can control the remote infrastructure with a convenient, user-friendly interface.
 - /Secure - advanced features of the RUTX11, such as VPN, IPsec, Firewall, and Access Control, ensure the highest security standard.



POE TECHNOLOGY SIMPLIFYING OFFICE NETWORK INTEGRATIONS

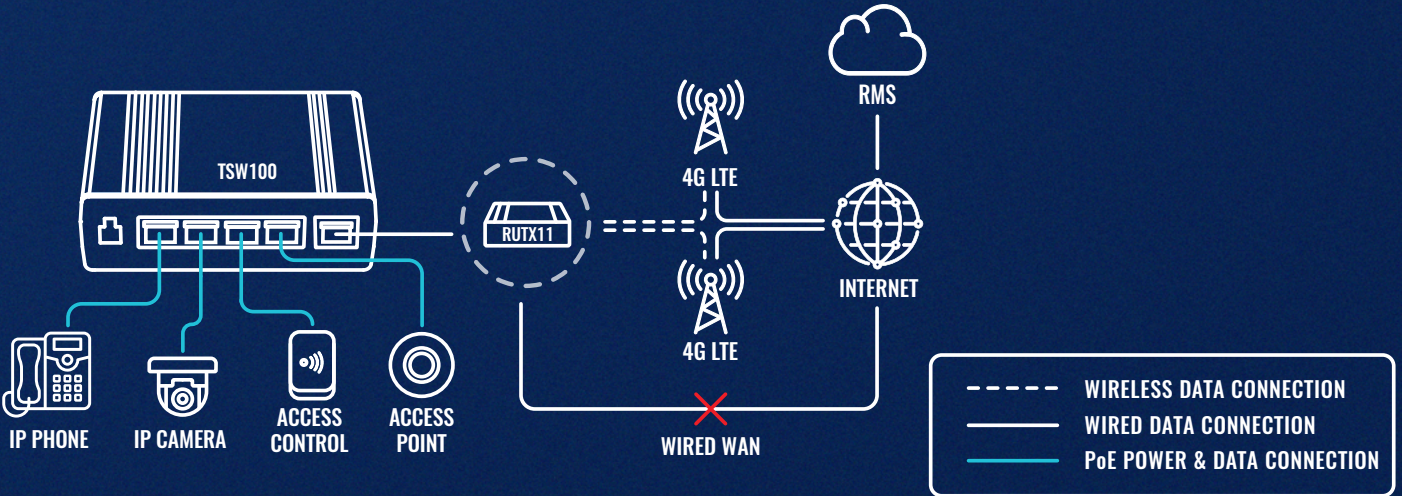
ENTERPRISE

Smartphones have certainly changed the way we interact with technology and each other. However, the office environment with all technological innovations has mostly stayed unchanged. Of course, analog phones got replaced with their modern digital versions. Standard networks have gone wireless using numerous access points across the office. Security cameras with connected access control devices are helping building managers to ensure the security of the employees. Naturally, changing the way we interact with technology poses new challenges for office network integrators.

SOLUTION
IP devices, such as IP Cameras, IP Phones, wireless access points, and access control solutions, can be powered by PoE and connected via the PoE switch – TSW100. The PoE technology makes the installation process faster because it does not require the services of electrical installers. Networking engineers can connect and deliver both power and data with one Ethernet cable for PoE compliant devices. In this specific example, the TSW100 PoE switch connects to our cellular router RUTX11. This secure, high-performance cellular router is responsible for Internet connectivity from wired or mobile sources. 4G LTE CAT6 mobile technology can deliver up to 300 Mbps over cellular networks. Naturally, if the primary connection is lost or

unstable, RUTX11 can switch to another mobile provider due to its dual SIM and Auto Failover features. Besides, RUTX11 can deliver powerful wireless service with Dual-Band AC Wi-Fi functionality with secure and flexible usage settings and statistics for the users and system operators. Together, our cellular router RUTX11 and newly released PoE switch TSW100 is an excellent solution for office device connectivity deployment.

- BENEFITS**
- /Fast and easy to deploy – switch eliminates the usage of electrical power units.
 - /Easy to use – TSW100 switch is a plug-and-play device, while RUTX11 has many functionalities that allow fast and easy setup.
 - /Secure - data will be safe due to advanced security features of the RUTX11, such as VPN, IPsec, Firewall, and Access Control.
 - /Reliable connectivity – Dual SIM functionality for primary and backup connection.
 - /Convenience - dual-Band AC Wi-Fi functionality allows providing secure connectivity to employees and visitors of the office.



FEATURE COMPARISON

| Products key features | ROUTERS | | | | | SWITCHES | |
|-----------------------|---------|--------|--------|--------|--------|------------|--------|
| | RUT240 | RUT950 | RUT955 | RUTX10 | RUTX11 | TSW100 | TSW110 |
| 4G/LTE category | Cat4 | Cat4 | Cat4 | | Cat6 | | |
| 3G | • | • | • | | • | | |
| 2G | • | • | • | | | | |
| CPU (MHz) | 400 | 550 | 550 | 4x717 | 4x717 | | |
| RAM (MB) | 64 | 128 | 128 | 256 | 256 | | |
| Flash memory (MB) | 16 | 16 | 16 | 256 | 256 | | |
| Passive PoE | • | • | • | • | • | | • |
| PoE out | | | | | | 802.3af/at | |
| Power voltage (VDC) | 9-30 | 9-30 | 9-30 | 9-50 | 9-50 | 7-57 | 9-30 |
| SIM card slots | 1 | 2 | 2 | | 2 | | |
| Ethernet ports | 2 | 4 | 4 | 4 | 4 | 5 | 5 |
| Ethernet speed (Mbps) | 100 | 100 | 100 | 1000 | 1000 | 1000 | 1000 |
| WiFi standard | n | n | n | ac | ac | | |
| GNSS | | | • | | • | | |
| Inputs/Outputs | 2 | 2 | 6 | 2 | 2 | | |
| RS232 | | | • | | | | |
| RS485 | | | • | | | | |
| Bluetooth | | | | • | • | | |
| USB | | | Host | Host | Host | | |
| DIN Rail mounting | • | • | • | • | • | • | • |
| Rack mounting | | | | | | | |
| Flat surface mounting | • | • | • | • | • | • | • |
| Grounding terminal | | | | • | • | • | • |
| Sleep mode | | | | | | | |
| RMS support | • | • | • | • | • | | |
| RutOS | • | • | • | • | • | | |

ACCESSORIES / POWERING OPTIONS



Power supply, 4.5 W
US: PR3PTUS3 // EU: PR3PTEU3
UK: PR3PTUK3 // AU: PR3PTAU3



Power supply, 9 W
US: PR3PUUS3 // EU: PR3PUEU3
UK: PR3PUUK3 // AU: PR3PUAU3



2-pin power supply, 9 W
US: PR3PRUS6 // EU: PR3PREU6
UK: PR3PRUK6 // AU: PR3PRAU6



Power supply, 18 W
US: PR3PXUS3 // EU: PR3PXEU3
UK: PR3PXUK3 // AU: PR3PXAU3



Power supply, 24 W
US: PR3P2US3 // EU: PR3P2EU3
UK: PR3P2UK3 // AU: PR3P2AU3



Power supply, 50 V, 1.3 A
US: PR3PWUS3 // EU: PR3PWEU3
UK: PR3PWUK3 // AU: PR3PWAU3



Universal power supply, 9 W
Order code: PR3PUPS3



4-pin to barrel socket adapter
Order code: PR2PD01B



Automotive power supply, 4 pin
Order code: PR2AM20M



Power cable whit 4-way screw terminal
Order code: PR2FK20M



DIN Rail power supply
Order code: PR3PDNP0

ACCESSORIES / ANTENNA OPTIONS



**COMBO MIMO mobile/GNSS/
WiFi ROOF SMA antenna**
Order code: PR1KCO28



**COMBO SISO mobile/GNSS/
WiFi ROOF SMA antenna**
Order code: PR1KCS28



**COMBO MIMO mobile
ROOF SMA antenna**
Order code: PR1KCL25



**Mobile magnetic SMA
antenna**
Order code: PR1KS210



Mobile SMA antenna
Order code: PR1US440



WiFi magnetic SMA antenna
Order code: PR1KRF30



WiFi SMA antenna
Order code: PR1URF51



**Bluetooth magnetic SMA
antenna**
Order code: PR1KRT25



**GNSS Adhesive SMA
antenna**
Order code: PR1KSG30



**GNSS Adhesive fakra
antenna**
Order code: PR1KFG30



**Mobile adhesive fakra
antenna**
Order code: PR1LF435



**Mobile adhesive sma
antenna**
Order code: PR1AS420



**WiFi dual-band SMA
antenna**
Order code: PR14RD35



**WiFi dual-band magnetic
antenna**
Order code: PR1KRD30



**Angled Compact Mobile
antenna**
Order code: PR1US450



**Straight Compact Mobile
antenna**
Order code: PR1CS450

ACCESSORIES / MOUNTING OPTIONS



Compact DIN Rail Kit
Order code: PRMEC11



DIN Rail Kit
Order code: PR5MEC00



Surface mounting kit
Order code: PR5MEC12



Surface clip holder kit
Order code: PR5MEC22

ACCESSORIES / BLUETOOTH SENSOR



BLE Beacon
Order code: 258-00093
Order code: 258-00094



BLE Temperature sensor
Order code: 258-00095
Order code: 258-00096



BLE Movement sensor
Order code: 258-00097
Order code: 258-00098



BLE Magnetic sensor
Order code: 258-00099
Order code: 258-00100



**BLE Temperature sensor
(EN 12830)**
Order code: 258-00102



**BLE Temperature and
humidity sensor**
Order code: 258-00101



Blue SLIM ID
Order code: PRIEDASN60

OUR WORLDWIDE PRESENCE



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