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WHO WE ARE?

23 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.

20 YEARS OF IoT BUSINESS

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

OUR MISSION IS

to be a fast and flexible partner and be closer to our clients in every world region. Longstanding experience, reliable supply chains, 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 professional 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.

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.

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.
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.

EXPERIENCE
For more than 23 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.

HOLISTIC APPROACH
**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.

### PORTFOLIO

- **Growing Portfolio**
  - 2017
  - 2018
  - 2019
  - 2020
  - 2021

### 23 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**
- IoT connectivity solutions offer new ways to interact with clients and collect valuable data to make strategic decisions.

**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

**Reliable**
- 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.

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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**

**User-Friendly Interface**

**Location History & Positioning**

**Multi-Configuration & FOTA**

**Customizable Alerts and Notifications**

**Historical Data and Reports**

**Hotspot Management Service**

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!

**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!

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

RMS CONNECT

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!
Industrial cellular modems is the most cost-efficient and scalable method to provide reliable connectivity in industrial networking applications. Large amounts of legacy and industrial IoT infrastructure worldwide require different methods of connectivity. Robust Industrial Cellular Modems from Teltonika Networks provide numerous cellular connectivity options, ranging from 2G (GPRS) to 4G LTE Cat 1, LTE Cat-M1 and NB-IoT.
TRM240 is an Industrial grade USB LTE Cat 1 Modem with rugged housing and external antenna for better signal coverage. This product is perfect for upgrading existing industrial equipment with cost-efficient LTE connectivity.

**CONNECTION**
- 4G/LTE (Cat 1), 3G, 2G
- Low power consumption

**DURABLE**
- Rugged aluminium housing

**EFFICIENT**
- Small size, easy installation

**USB**
- Interface for internet access

**COMPACT**
- Controlled using Network manager

**EASY TO USE**
- USB serial driver
  - Windows 7/8/8.1/10
  - Linux distributions
- RIL driver
  - Android 4.x,5.x,6.x,7.x,8.x,9.x
- NDIS driver
  - Windows 7/8/8.1/10
- QMI_WWAN driver
  - Linux 3.4~5.4
- Control via AT commands
  - 3GPP TS27.007 and enhanced AT commands

**HARDWARE**
- Mobile
  - 4G/LTE (Cat 1), 3G, 2G
- Powering option
  - microUSB, 5 VDC
- SIM
  - 1 x Internal SIM holder (2FF)
- Antenna connectors
  - 1 x SMA for mobile
- USB
  - 1 x Micro USB slave
- Status LEDs
  - 1 x LTE, 1 x Network, 1 x Power
- Ingress protection rating
  - IP30
- Operating humidity
  - 10 % to 90 % non-condensing
- Operating temperature
  - -40 °C to 75 °C
- Housing
  - Aluminium housing with DIN rail mounting option
- Dimensions (W x H x D)
  - 75 x 25 x 65 mm
- Weight
  - 125 g

**SOFTWARE**
- Network manager
  - Windows 7/8/8.1/10
  - Linux distributions
- Drivers:
  - USB serial driver
    - Windows 7/8/8.1/10
    - Linux 2.6~5.4
  - RIL driver
    - Android 4.x,5.x,6.x,7.x,8.x,9.x
  - NDIS driver
    - Windows 7/8/8.1/10
  - QMI_WWAN driver
    - Linux 3.4~5.4
  - Control via AT commands
    - 3GPP TS27.007 and enhanced AT commands
TRM250 is an industrial grade USB LTE Cat-M1/NB-IoT/EGPRS Modem with rugged housing and external antenna for better signal coverage. This product is perfect for providing cost-efficient Internet connectivity in remote monitoring applications.

**HARDWARE**

- **Mobile**: 4G/LTE (Cat M1), NB-IoT, 2G
- **Powering option**: microUSB, 5 VDC
- **SIM**: 1 x Internal SIM holder (2FF)
- **Antenna connectors**: 1 x SMA for mobile
- **USB**: 1 x Micro USB slave
- **Status LEDs**: 1 x Network, 1 x Power
- **Ingress protection rating**: IP30
- **Operating humidity**: 10 % to 90 % non-condensing
- **Operating temperature**: -40 °C to 75 °C
- **Housing**: Aluminium housing with DIN rail mounting option
- **Dimensions (W x H x D)**: 75 x 25 x 65 mm
- **Weight**: 125 g

**SOFTWARE**

- **Network manager**: Windows 7/8/8.1/10, Linux distributions
- **USB serial driver**: Windows 7/8/8.1/10, Windows CE 5.0/6.0, Linux 2.6~5.4, Android 4.x~9.x
- **RIL driver**: Android 4.x~9.x, Windows 7/8/8.1/10
- **NDIS driver**: Windows 7/8/8.1/10
- **Gobinet driver**: Linux 2.6~5.4
- **QMI_WWAN driver**: Linux 3.4~5.4
- **Control via AT commands**: 3GPP TS27.007 and enhanced AT commands
Teltonika Networks TRB series is a set of programmable M2M gateways designed to connect one device to the Internet. Linux-based highly functional TRB devices come with industrial networking capabilities and variety of interfaces such as Ethernet, RS232, RS485 or Inputs/Outputs. All our gateways are 4G LTE capable and can be connected to the RMS (Remote management system) for intuitive and convenient remote monitoring, configuration and control.
TRB140

INDUSTRIAL RUGGED LTE GATEWAY

Ultra-small, lightweight and energy efficient IoT device equipped with mission-critical LTE connectivity, Gigabit Ethernet interface and Linux environment offering a high degree of customization. TRB140 is perfect for projects and applications where a single device must be upgraded with reliable and secure Internet connectivity.

CONNECTIVITY

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

9-30V

Wide range of supported power supply voltages

DURABLE

Rugged aluminum housing

COMPACT

Small size, easy installation

RUTOS

Easy to use, secure and feature rich OpenWRT based operating system

SOFTWARE

Operating system

RutOS

Mobile features

Auto APN, Band lock, SIM switch, Operator black/white list, Data/ SMS limits

Network protocols

TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, DHCP, Telnet

Firewall

Port forward, Traffic rules, Custom rules, Pre-configured firewall rules, DMZ, NAT, NAT-T, NAT helpers, Unlimited firewall configuration via CLI

Security

DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), Port scan prevention (SYN-RST, Xmas, NULL flags, FIN scan attacks)

VPN and tunneling

OpenVPN, IPsec, GRE, PPTP, L2TP

Monitoring and management

WEB UI, CLI, SSH, TR-069, SNMP, JSON-RPC, MQTT, RMS

Connection monitoring

Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection

Cloud solutions

RMS, POTA, 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

HARDWARE

Mobile

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

CPU

Qualcomm, ARM Cortex A7, 1.2 GHz

Memory

512 Mbytes Flash (70 Mbytes for userspace), 128 Mbytes RAM (50 Mbytes for userspace)

Powering option

4pin power socket, 9-30 VDC

SIM

1 x Internal SIM holder (2FF)

Antenna connectors

1 x SMA for mobile

Ethernet

1 x 10/100/1000 Ethernet port

Inputs/Outputs

On 4pin socket: 2 x Digital input/Digital open collector output (configurable)

Other

1 x Micro USB slave

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

Dimensions (W x H x D)

75 x 25 x 65 mm

Weight

134 g
TRB141

INDUSTRIAL RUGGED GPIO LTE GATEWAY

Industrial and small LTE Cat 1 Gateway equipped with multiple Inputs/Outputs and MicroUSB port. Compact design makes this Gateway perfect for applications where devices must be remotely managed using I/O's.

CONNECTIVITY

4G/LTE (Cat 1), 3G, 2G

9-30V

Wide range of supported power supply voltages

DURABLE

Rugged aluminum housing

COMPACT

Small size, easy installation

I/O

Wide range of multiple inputs/Outputs for remote monitoring and control

RMS

Compatible with Teltonika Remote Management System

HARDWARE

Mobile

4G/LTE (Cat 1), 3G, 2G

CPU

Qualcomm, ARM Cortex A7, 1.2 GHz

Memory

512 MBytes Flash (70 MBytes for userspace), 128 MBytes RAM (50 MBytes for userspace)

Powering option

4pin power socket, 9-30 VDC

SIM

1 x Internal SIM holder (2FF)

Antenna connectors

1 x SMA for mobile

Inputs/Outputs

On 4pin socket: 2 x Digital input/Digital open collector output (configurable)

On 16pin socket: 1 x Isolated input, 1 x 1-Wire interface, 1 x Analog input (with 4-20mA capability), 1 x Latching relay output, 1 x Non-latching relay output, 2 x Dry/Wet input (configurable)

Other

1 x Micro USB slave

Status LEDs

3 x Connection type, 5 x Signal strength, 1 x Power

Operating temperature

-40 °C to 75 °C

Housing

Aluminium housing with DIN rail mounting option

Dimensions (W x H x D)

75 x 25 x 65 mm

Weight

136 g

SOFTWARE

Operating system

RutOS

Network protocols

TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPTP, DHCP, Telnet

VPN and tunneling

OpenVPN, IPSec, GRE, PPTP, L2TP

Monitoring and Management

WEB UI, CLI, SSH, SMS, TR-069, SNMPv3, JSON-RPC, MQTT, RMS

Connection monitoring

Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection

Cloud solutions

RMS, POTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx

Services

DDNS, VRRP, WEB filter, UPnP, Traffic Logging
TRB142

INDUSTRIAL RUGGED LTE RS232 GATEWAY

Ultra-small, lightweight and energy efficient IoT device equipped with mission-critical LTE connectivity. TRB142 comes with a widely used RS232 industrial interface for remote device management.

CONNECTIVITY
4G/LTE (Cat 1), 3G, 2G
Wide range of supported power supply voltages

DURABLE
Rugged aluminum housing

COMPACT
Small size, easy installation

SERIAL
Equipped with RS232 for serial communication

9-30V

RMS
Compatible with Teltonika Remote Management System

HARDWARE

Mobile
4G/LTE (Cat 1), 3G, 2G

CPU
Qualcomm, ARM Cortex A7, 1.2 GHz

Memory
512 MBytes Flash (70 MBytes for userspace), 128 MBytes RAM (50 MBytes for userspace)

Powering option
4pin power socket, 9-30 VDC

SIM
1 x Internal SIM holder (2FF)

Antenna connectors
1 x SMA for mobile

Inputs/Outputs
On 4pin socket: 2 x Digital input/Digital open collector output (configurable)

Serial
1 x RS232

Other
1 x Micro USB slave

Status LEDs
3 x Connection type, 5 x Signal strength, 1 x Power

Operating temperature
-40° C to 75° C

Housing
Aluminium housing with DIN rail mounting option

Dimensions (W x H x D)
75 x 25 x 65 mm

Weight
135 g

SOFTWARE

Operating system
RutOS

Network protocols
TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, DHCP, Telnet

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

Modbus
TCP slave, TCP master, RTU master, RTU gateway, Modbus over MQTT

Serial
Console, Over IP, Modem, NTRIP, Modbus
TRB145
INDUSTRIAL RUGGED LTE RS485 GATEWAY

Ultra-small, lightweight and energy efficient IoT device equipped with mission-critical LTE connectivity. TRB145 comes with a widely used RS485 industrial interface for remote device management.

CONNECTIVITY
4G/LTE (Cat 1), 3G, 2G
9-30V
Wide range of supported power supply voltages

DURABLE
Rugged aluminum housing

COMPACT
Small size, easy installation

SERIAL
Equipped with RS485 for serial communication

RMS
Compatible with Teltonika Remote Management System

HARDWARE
Mobile
4G/LTE (Cat 1), 3G, 2G

CPU
Qualcomm, ARM Cortex A7, 1.2 GHz

Memory
512 MBytes Flash (70 MBytes for userspace), 128 MBytes RAM (50 MBytes for userspace)

Powering option
4pin power socket, 9-30 VDC

SIM
1 x Internal SIM holder (2FF)

Antenna connectors
1 x SMA for mobile

Inputs/Outputs
On 4pin socket: 2 x Digital input/Digital open collector output (configurable)

Serial
1 x RS485

Other
1 x Micro USB slave

Status LEDs
3 x Connection type, 5 x Signal strength, 1 x Power

Operating temperature
-40° C to 75° C

Housing
Aluminium housing with DIN rail mounting option

Dimensions (W x H x D)
75 x 25 x 65 mm

Weight
130 g

SOFTWARE

Operating system
RutOS

Network protocols
TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, DHCP, Telnet

Monitoring and Management
WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS

Connection monitoring
Ping Reboot, Wget reboot, Periodic Reboot, LLCP and ICMP for link inspection

Cloud solutions
RMS, FOTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx

Modbus
TCP slave, TCP master, RTU master, RTU gateway, Modbus over MQTT

Serial
Console, Over IP, Modem, NTRIP, Modbus
**HARDWARE**

**Mobile**
- 4G/LTE (Cat 4), 3G, 2G

**CPU**
- Qualcomm, MIPS 24Kc, 650 MHz

**Memory**
- 16 MBytes Flash, 64 MBytes RAM

**Powering option**
- 16pin terminal, 9-30 VDC

**SIM**
- 2 x Internal SIM holders (2FF)

**Antenna connectors**
- 1 x SMA for mobile, 1 x SMA for GPS

**Ethernet**
- 1 x 10/100 Ethernet port

**GNSS**
- GPS, GLONASS, Beidou, Galileo, QZSS

**Inputs/Outputs**
- On 16pin socket: 3 x Digital input/Digital open collector output (configurable), 1 x Analog input

**Serial**
- 1 x RS232, 1 x RS485

**Status LEDs**
- 3 x Connection type, 3 x Signal strength, 2 x Ethernet, 1 x Power

**Operating temperature**
- -40 °C to 75 °C

**Housing**
- Aluminium housing with DIN rail mounting option

**Dimensions (W x H x D)**
- 83 x 25 x 74 mm

**Weight**
- 165 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 protocols**
- TCP, UDP, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, Syslog, TLS 1.3, ARP, PPP, DHCP, Telnet

**Monitoring and Management**
- WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS

**Cloud solutions**
- RMS, FOTA, 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

**Administration**
- Multi user, Configuration profiles, Diagnostics, logs, Configuration backup

---

**INDUSTRIAL M2M LTE GATEWAY**

Industrial All-in-One M2M LTE Cat 4 Gateway equipped with multiple Inputs/Outputs, RS232, RS485 and Ethernet interfaces; All these features allow this device to be used universally in M2M applications.

**Connectivity**
- 4G/LTE (Cat 4), 3G, 2G
- Wide range of power supply voltages

**Dual Sim**
- With auto failover, backup WAN and other switching scenarios

**Serial**
- RS232/RS485 serial communication interfaces

**I/O**
- Multiple Inputs and Outputs for remote monitoring and control

**Gnss**
- Global Navigation Satellite System for location services with geofencing functionality.
Industrial M2M LTE Cat M1/NB-IoT/EGPRS Gateway equipped with multiple Inputs/Outputs, RS232, RS485 and Ethernet interfaces. All these features allow this device to be used universally in M2M applications.

**Connectivity**
- 4G/LTE (Cat M1), NB-IoT, 2G
- Wide range of supported power supply voltages

**Dual SIM**
- With auto failover, backup WAN and other switching scenarios

**I/O**
- Multiple Inputs and Outputs for remote monitoring and control

**Serial**
- RS232/RS485 serial communication interfaces

**GNSS**
- Global Navigation Satellite System for location services with geofencing functionality

**Hardware**
- Mobile: 4G/LTE (Cat M1), NB-IoT, 2G
- CPU: Qualcomm, MIPS 24Kc, 650 MHz
- Memory: 16 MBytes Flash, 64 MBytes RAM
- Powering option: 16pin terminal, 9-30 VDC
- SIM: 2 x internal SIM holders (2FF)
- Antenna connectors: 1 x SMA for mobile, 1 x SMA for GPS
- Ethernet: 1 x 10/100 Ethernet port
- GNSS: GPS, GLONASS, Beidou, Galileo, QZSS
- Inputs/Outputs: On 16pin socket: 3 x Digital input/Digital open collector output (configurable), 1 x Analog input
- Serial: 1 x RS232, 1 x RS485
- Status LEDs: 3 x Connection type, 3 x Signal strength, 2 x Ethernet, 1 x Power
- Operating temperature: -40 °C to 75 °C
- Housing: Aluminium housing with DIN rail mounting option
- Dimensions (W x H x D): 83 x 25 x 74 mm
- Weight: 165 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 protocols: TCP, UDP, IPv4, IPv6, ICMP, NAT, DNS, HTTP, HTTPS, FTP, SMTP, SQLv3, TLS 1.3, ARP, PPP, DHCP, Telnet
- 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
- 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
- Administration: Multi user, Configuration profiles, Diagnostics, logs, Configuration backup
REMOTE WATER PUMP AUTOMATION USING SMS AND CALLS

To avoid wastage of water and enable more efficient use of resources, more and more often water systems are getting automated. It ensures that water use is optimized and requires less human effort.

In this project, ALES company created an automation system for remote control of an underground well pump intended for transportation of sanitation and irrigation water in a remote monastery. The water was intended to be transported between two points with a 160 meters elevation and 1.5 km distance which crossed out the wired control option as too expendable.

**SOLUTION**

In this solution, the well, water pump, and control panel are located in a remote plain field, while the monastery, where the water should be transported, is located on a mountain 1.5 km away. The water pump allows to fill up the water storage tank located on the mountain via the water pipe.

The water pipe is not pumping the water continuously due to efficiency reasons. It can be remotely activated by using the control panel with a mobile Teltonika Networks TRB141 gateway, allowing to turn on and off the water pump with SMS or calls. After the tank is filled up, the pump can be remotely deactivated by using the same method (call or SMS).

**BENEFITS**

- **Remote control by SMS** – the pump can be managed by a simple SMS message sent by a specified list of users at any time.
- **Remote control by call** – the user can turn on the pump for a specified time frame simply by making a call.
- **Easy to set up** – documentation provided with the product is simple to understand and sufficient to utilize the entire capabilities of the device.
- **Simplified support enabled by the Remote Management System.**

**DIGITAL SIGNAGE & CELLULAR CONNECTIVITY**

**RETAIL**

Digital Signage is a sub-segment of electronic signage and uses different technologies including LCD, LED, projection and many others to communicate messages and advertisements to the public for marketing or informational purposes. The concept is not new at all and can be traced back to the neon signs first conceptualized by Georges Claude in 1910. Nowadays, higher quality screens and increased capabilities of media players resulted in the rising popularity of Digital Signage installations, some of which are even introducing concepts of augmented reality (AR). In fact, KBV Research estimates that the global Digital Signage market will reach $29.8 billion by 2024.

**SOLUTION**

As identified, reliable and convenient connectivity is essential for efficient content management across extensive Digital Signage infrastructure. Cellular solutions based on 4G LTE are prevalent in this use case because they eliminate multiple challenges, such as pace of solution deployment, different connectivity provider management, and dependency on 3rd party wired network infrastructure. TRB140 is the device which enables the remote upload and management of such content. TRB140 is a 4G LTE enabled gateway, which is perfect for Digital Signage solutions because it is easy to deploy and scale due to compatibility with Teltonika Networks Remote Management System. With a single TRB140, the user can manage content on the media player and change the parameters and the playing order of the content.

**BENEFITS**

- **Easy to manage** – with Teltonika Remote Management System, system administrators can be in control of thousands of different sites with a single user interface.
- **Quick to deploy** – no need to wait for wired Internet access contracts and installations.
- **Easy to scale** – Teltonika TRB140 compatible with RMS which allows configuring an infinite amount of devices in minutes.
- **Secure** – infrastructure will be safe due to advanced security features of the TRB140, such as 3G/4G PIN, Firmware and Access Control.

**Retail**

TRB140 has impressively small footprint allowing it to be installed even in the most compact and design conscious Digital Signage enclosures.
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.

<table>
<thead>
<tr>
<th><strong>CONNECTIVITY</strong></th>
<th><strong>WAN FAILOVER</strong></th>
<th><strong>WIFI</strong></th>
<th><strong>COMPACT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>4G/LTE (Cat 4), 3G, 2G</td>
<td>Automatic switch to available backup connection</td>
<td>Wireless Access Point with Hotspot functionality</td>
<td>Small size – easy integration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>I/O</strong></th>
<th><strong>RMS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Input/Output for remote monitoring and control</td>
<td>Compatible with Teltonika Remote Management System</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>HARDWARE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
</tr>
<tr>
<td>CPU</td>
</tr>
<tr>
<td>Memory</td>
</tr>
<tr>
<td>Powering option</td>
</tr>
<tr>
<td>SIM</td>
</tr>
<tr>
<td>Antenna connectors</td>
</tr>
<tr>
<td>Ethernet</td>
</tr>
<tr>
<td>WiFi</td>
</tr>
<tr>
<td>Inputs/Outputs</td>
</tr>
<tr>
<td>Status LEDs</td>
</tr>
<tr>
<td>Operating temperature</td>
</tr>
<tr>
<td>Housing</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
</tr>
<tr>
<td>Weight</td>
</tr>
</tbody>
</table>

**SOFTWARE**

<table>
<thead>
<tr>
<th>Operating system</th>
<th>RutOS (OpenWrt based Linux OS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile features</td>
<td>Auto APN, Band lock</td>
</tr>
<tr>
<td>Network protocols</td>
<td>TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, PPPoE, DHCP, Telnet</td>
</tr>
<tr>
<td>Network</td>
<td>Failover (Network backup), VLAN, QoS, Load Balancing</td>
</tr>
<tr>
<td>Security</td>
<td>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)</td>
</tr>
<tr>
<td>VPN and tunneling</td>
<td>OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SFTP</td>
</tr>
<tr>
<td>Monitoring and management</td>
<td>WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS</td>
</tr>
<tr>
<td>Connection monitoring</td>
<td>Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection</td>
</tr>
<tr>
<td>Cloud solutions</td>
<td>RMS, POTA, Azure IoT-Hub, Cloud of Things, Cumulocity, ThingWorx</td>
</tr>
<tr>
<td>SMS features</td>
<td>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</td>
</tr>
<tr>
<td>Services</td>
<td>DDoS, VRRP, Wake On LAN (WOL), WEB filter, UPnP, Traffic Logging</td>
</tr>
</tbody>
</table>
INTERFACES
- 5 x Fast Ethernet ports (10/100 Mbps)
- 2 x Configurable digital Inputs/Outputs
- USB 2.0

VPN
- Numerous VPN services including OpenVPN, IKEv2, PPTP, L2TP, L2FVPN, Stunnel and others

DURABILITY
- Aluminum housing which is capable to withstand harsh environments

SOFTWARE
- OS: 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, DDNS, Telnet
- Routing: Static routes, Routing rules, Pre-configured firewall rules, NAT, NAT-T, NAT helpers, Unlimited firewall configuration via CLI
- Security: DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), Port scan prevention (SYN-FIN, SYN-RST, xmas, NULL flags, FIN scan attacks)
- VPN and tunneling: OpenVPN, IKEv2, GRE, PPTP, L2TP, WireGuard, ZeroTier, Pre-configured firewall rules, Unlimited firewall configuration via CLI
- Monitoring and management: WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS
- Cloud solutions: RMS, FOTA
- Services: DDNS, Wake On Lan (WOL), WEB filter, UPNP, Network shares (Samba), Traffic Logging
- Administration: Multi user, Configuration profiles, Diagnostics, logs, Configuration backup

HARDWARE
- CPU: QCA9531, MIPS 24kc, 650 MHz
- Memory: 64 MB, DDR2
- Storage: 16 MB, SPI Flash
- Powering option: 4 pin power socket, 7-30 VDC
- Ethernet: 5 x 10/100 Ethernet ports: 1 x WAN, 4 x LAN
- Inputs/Outputs: On 4 pin socket: 2 x Configurable digital Inputs/Outputs open collector output
- Other: 1 x USB Host
- Status LEDs: 5 x Ethernet, 1 x Power
- Operating temperature: -40 °C to 75 °C
- Housing: Aluminium housing with DIN rail mounting option and grounding capability
- Dimensions (W x H x D): 100 x 30 x 85 mm
- Weight: 229 g
A successor of our best-selling model RUT240, RUT360 keeps its compact shape in a rugged aluminium housing but offers more processing power and better cellular speeds up to 300Mbps with Carrier Aggregation. Unique programming, remote monitoring, and security features make RUT360 perfect for IoT and M2M applications, where secure and reliable connectivity is a must and the mobile data speeds are limited.

### Hardware

- **CPU**: Qualcomm, MIPS 24Kc, 650 MHz
- **Memory**: 16 MBytes Flash, 128 MBytes RAM
- **Powering option**: 4pin power socket, 9-30 VDC
- **SIM**: 1 x External SIM holder (2PP)
- **Antenna connectors**: 2 x SMA for mobile, 2 x RP-SMA for WiFi
- **Ethernet**: 2 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 1 x LAN
- **WiFi**: IEEE 802.11bg/n, Access point (AP), Station (STA)
- **Inputs/Outputs**: On 4pin socket: 2 x Digital input/Digital open collector output (configurable)
- **Status LEDs**: 2 x Connection type, 3 x Signal strength, 2 x Ethernet, 1 x Power
- **Operating temperature**: -40 °C to 75 °C
- **Housing**: Aluminium housing with DIN rail mounting option
- **Dimensions (W x H x D)**: 100 x 30 x 85 mm
- **Weight**: 247 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, PPTP, L2TP & SSTP
- **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 Flags, SYN-RST, FIN, NULL flags), FIN scan attacks
- **VPN and tunneling**: OpenVPN, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP
- **Connection monitoring**: Ping Reboot, Wget reboot, Periodic Reboot, LCP and ICMP for link inspection
- **Cloud solutions**: RMS, ROTA, Azure IoT Hub, Cloud of Things, Cumulus, 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

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

DUAL SIM
With auto failover, backup WAN and other switching scenarios

WAN FAILOVER
Automatic switch to available backup connection

ETHERNET
4 x Ethernet interfaces with VLAN functionality

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 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, RIP/v1/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, CumuloCat, 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, SMTP

Services
DDNS, VRIP, Wake On Lan (WOL), WEB filter, UPNP, Traffic Logging
### CONNECTIVITY

- **4G/LTE (Cat 4), 3G, 2G**
- **DUAL SIM**
  - For additional connection reliability
- **GNSS**
  - Global Navigation Satellite System for location services and time synchronization
- **I/O**
  - Multiple digital and analog inputs and outputs for equipment control and event notification
- **SERIAL**
  - RS232/RS485 serial communication interfaces
- **RMS**
  - Compatible with Teltonika Remote Management System

### HARDWARE

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>4G/LTE (Cat 4), 3G, 2G</td>
</tr>
<tr>
<td>CPU</td>
<td>Atheros, MIPS 74Kc, 550 MHz</td>
</tr>
<tr>
<td>Memory</td>
<td>16 MBytes Flash, 128 MBytes RAM</td>
</tr>
<tr>
<td>Powering option</td>
<td>4pin power socket, 9-30 VDC</td>
</tr>
<tr>
<td>SIM</td>
<td>2 x External SIM holders (2FF)</td>
</tr>
<tr>
<td>Antenna connectors</td>
<td>2 x SMA for mobile, 2 x RP-SMA for WiFi, 1 x SMA for GPS</td>
</tr>
<tr>
<td>Ethernet</td>
<td>4 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN</td>
</tr>
<tr>
<td>WiFi</td>
<td>IEEE 802.11b/g/n, Access point (AP), Station (STA)</td>
</tr>
<tr>
<td>GNSS</td>
<td>GPS, GLONASS, Beidou, Galileo, QZSS</td>
</tr>
</tbody>
</table>
| 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                      | Aluminum 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, CLL, 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, Modern, NTRIP, Modbus
**RUTX08 INDUSTRIAL ETHERNET ROUTER**

This robust industrial router is equipped with 4 x Gigabit Ethernet ports, Quad-core CPU and 256 MB of RAM. These powerful specifications combined with core RutOS software features, such as multiple VPN services, advanced firewall and RMS support, makes this device a superb Industrial performer.

**PROTOCOLS**

- **GIGABIT ETH**: 4 x Gigabit Ethernet ports with up to 128 port/tag-based VLANs supported
- **I/O & USB**: Digital Input / Output for remote monitoring and control and USB 2.0 interface
- **9-50 V**: This router supports a wide range of power supply voltage for versatile integration
- **SECURITY**: Firewall and numerous VPN services including OpenVPN, IPsec, PPTP, L2TP & DMVPN
- **RMS**: Compatible with Teltonika Remote Management System

**HARDWARE**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Qualcomm, 4 x ARM Cortex A7, 717 MHz</td>
</tr>
<tr>
<td>Memory</td>
<td>256 MBytes Flash, 256 MBytes RAM</td>
</tr>
<tr>
<td>Powering option</td>
<td>4pin power socket, 9-50 VDC</td>
</tr>
<tr>
<td>Ethernet</td>
<td>4 x 10/100/1000 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN</td>
</tr>
<tr>
<td>Inputs/Outputs</td>
<td>On 4pin socket: 1 x Digital input, 1 x Digital open collector output</td>
</tr>
<tr>
<td>Other</td>
<td>1 x USB Host</td>
</tr>
<tr>
<td>Status LEDs</td>
<td>8 x Ethernet, 1 x Power</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 °C to 75 °C</td>
</tr>
<tr>
<td>Housing</td>
<td>Aluminium housing with DIN rail mounting option and grounding capability</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>115 x 32 x 95 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>345 g</td>
</tr>
</tbody>
</table>

**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, NHMRP), Routing rules
- **Firewall**: Port forward, Traffic rules, Custom rules, Pre-configured firewall rules, DMZ, NAT, NAT-T, NAT helpers, Unlimited firewall configuration via CLI
- **Security**: DDOS prevention (SYN flood protection, SEH attack prevention, HTTP/HTTPS attack prevention), Port scan prevention (SYN-FIN, SYN-1ST, X mas, NULL flags, FIN scan attacks)
- **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
- **Cloud solutions**: RMS, POTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx
- **Services**: DNS, VRPP, Wake On Lan (WOL), WEB filter, UPNP, Network shares (Samba), Traffic Logging
- **Administration**: Multi user, Configuration profiles, Diagnostics, logs, Configuration backup
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.

**GNSS**
Global Navigation Satellite System for location services and time synchronization

**DUAL SIM**
With auto failover, backup WAN and other switching scenarios

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

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

**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, 1 x SMA for GPS
- **Ethernet**: 4 x 10/100/1000 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN
- **GNSS**: GPS, GLONASS, BeiDou, Galileo, QZSS
- **Inputs/Outputs**: On 4pin socket: 1 x Digital input, 1 x Digital open collector output
- **Other**: 1 x USB host
- **Status LEDs**: 3 x WAN type, 2 x Connection type, 5 x Signal strength, 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 (W x H x D)**: 115 x 44 x 95 mm
- **Weight**: 455 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 protocols**: TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSLv3, TLS 1.3, ARP, PPP, PPTP, DHCP, Telnet
- **Network Failover**: Failover (Network backup), VLAN, QoS, Load Balancing
- **VPN and tunneling**: OpenVPN, IPsec, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP, WireGuard, ZeroTier
- **Monitoring and management**: WEBCUI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS
- **Cloud solutions**: RMS, POTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx
- **NTP**: NTP Server, NTP Client, Sync with: External NTP server, GNSS, Mobile operator
- **GNSS services**: NMEA forwarding, AVL, Geolocating
- **Services**: DNS, VRP, Wake On Lan (WOL), WEB filter, UPNP, Network shares (Samba), Traffic Logging
- **Administration**: Multi user, Configuration profiles, Diagnostics, logs, Configuration backup
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.

**CPU**
Qualcomm, 4 x ARM Cortex A7, 717 MHz

**Memory**
256 MBytes Flash, 256 MBytes RAM

**Powering option**
4-pin 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

**Wi-Fi**
IEEE 802.11a/b/g/n/ac 2.4GHz/5GHz, Access point (AP), Station (STA)

**Bluetooth**
4.0 (Low energy)

**I/O & USB**
Digital Input / Output for remote monitoring and control and USB 2.0 interface

**PROTOCOLS**
Multiple protocols supported including MQTT, Modbus TCP, BGP, GRE.

**WIFI & BT**
Wave-2 802.11ac, Dual Band WiFi and Bluetooth LE

**SECURITY**
Firewall and numerous VPN services including OpenVPN, IPSec, PPTP, L2TP & DMVPN

**RMS**
Compatible with Teltonika Remote Management System

**SOFTWARE**
Operating system
RutOS (OpenWrt based Linux OS)

Network protocols
TCP, UDP, IPv4, IPv6, ICMP, 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, SNMP, JSON-RPC, MQTT, RMS

Connection monitoring
Ping, Reboot, Wget reboot, Periodic Reboot, LLCP and ICMP for link inspection

Cloud solutions
RMS, ROTA, Azure IoT Hub, Cloud of Things, Cumulus, ThingWorx

Hotspot
External/Internal Radius, MAC Authentication, Walled Garden

Supported Hotspot platforms
IronWiFi, HostspotSystem, 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**

The 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

**GNSS**

Global Navigation Satellite System for location services and time synchronization

**DUAL SIM**

With auto failover, backup WAN and other switching scenarios

**WIFI & BT**

Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

**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 802.11 a/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, NHRRP), Routing rules
- **VPN and tunneling**: OpenVPN, IPv6, GRE, PPTP, L2TP, Stunnel, DMVPN, SSTP, WireGuard, ZeroTier
- **Cloud solutions**: RMS, POTA, 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
Powerful dual LTE Cat 6 router is designed for mission critical applications. Equipped with two LTE modems for dual simultaneous connections allowing instant seamless LTE service switching and load balancing features make this device irreplaceable in applications where losing connection is not an option.

**DUAL LTE CAT 6 INDUSTRIAL CELLULAR ROUTER**

- Cellular speeds up to 600Mbps with dual simultaneous LTE CAT 6 connections
- Global Navigation Satellite System for location services and time synchronization

**DUAL SIM**
- Instant failover switching

**LOAD BALANCING**
- Allows to use multiple WAN sources to increase throughput

**GNSS**
- Global Navigation Satellite System for location services and time synchronization

**WIFI & BT**
- Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

**RMS**
- Compatible with Teltonika Remote Management System

**HARDWARE**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>2 x 4G/LTE (Cat 6), 3G</td>
</tr>
<tr>
<td>CPU</td>
<td>Qualcomm, 4 x ARM Cortex A7, 717 MHz</td>
</tr>
<tr>
<td>Memory</td>
<td>256 MBytes Flash, 256 MBytes RAM</td>
</tr>
<tr>
<td>Powering option</td>
<td>4pin power socket, 9-50 VDC</td>
</tr>
<tr>
<td>SIM</td>
<td>2 x External SIM holders (2FF)</td>
</tr>
<tr>
<td>Antenna connectors</td>
<td>4 x SMA for mobile, 2 x RP-SMA for WIFI, 1 x RP-SMA for Bluetooth, 1 x SMA for GPS</td>
</tr>
<tr>
<td>Ethernet</td>
<td>5 x 1/10/100/1000 Ethernet ports: 1 x WAN (configurable as LAN), 4 x LAN</td>
</tr>
<tr>
<td>WiFi</td>
<td>IEEE 802.11a/b/g/n/ac 2.4GHz/5GHz, Access point (AP), Station (STA)</td>
</tr>
<tr>
<td>GNSS</td>
<td>GPS, GLONASS, Beidou, Galileo, QZSS</td>
</tr>
<tr>
<td>Connectors</td>
<td>1 x 4 pin DC, 5 x Ethernet, 4 x SMA for LTE, 2 x WIFI RP-SMA, 1 x SMA for GNSS, 1 x RP-SMA for Bluetooth</td>
</tr>
<tr>
<td>Bluetooth</td>
<td>4.0 (Low energy)</td>
</tr>
<tr>
<td>Inputs/Outputs</td>
<td>On 4pin socket: 1 x Digital input, 1 x Digital open collector output</td>
</tr>
<tr>
<td>Energy</td>
<td>1 x USB host</td>
</tr>
<tr>
<td>Status LEDs</td>
<td>On 4pin socket: 1 x Digital input, 1 x Digital open collector output</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 °C to 75 °C</td>
</tr>
<tr>
<td>Housing</td>
<td>Aluminium housing with DIN rail mounting option and grounding capability</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>132 x 44 x 95 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>540 g</td>
</tr>
</tbody>
</table>

**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, RIP/v2, EIGRP, NHRP), Routing rules
- Monitoring and management: WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSNP-RPC, MQTT, RMS
- Cloud solutions: RMS, FOTA, 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
RUTX14 is the fastest single modem LTE-A Cat 12 router in the Teltonika Networks range. Combined with two SIM cards, Wave-2 dual-band WiFi, 5 Gigabit Ethernet ports, and automatic failover, you may expect high compatibility, unbeatable network resilience, and exceptional speed.

**HARDWARE**

**4G LTE CAT 12 INDUSTRIAL CELLULAR ROUTER**

**Mobile**

- Qualcomm, 4 x ARM Cortex A7, 717 MHz
- 256 MBytes Flash, 256 MBytes RAM
- 4 pin power socket, 9-50 VDC
- 2 x External SIM holders (2FF)
- Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

**CPU**

- Qualcomm, 4 x ARM Cortex A7, 717 MHz

**Memory**

- 256 MBytes Flash, 256 MBytes RAM
- 4 x SMA for mobile, 2 x RP-SMA for WiFi, 1 x RP-SMA for Bluetooth, 1 x SMA for GPS
- 5 x 1/10/100 Ethernet ports: 1 x WAN (configurable as LAN), 4 x LAN
- IEEE 802.11b/g/n 2.4GHz, IEEE 802.11n/ac 5GHz, Access point (AP), Station (STA)
- GPS, GLONASS, BeiDou, Galileo, QZSS
- 4 x SMA for LTE, 2 x WiFi RP-SMA, 1 x SMA for GNSS, 1 x RP-SMA for Bluetooth
- 4.0 (Low energy)
- 1 x 4 pin DC, 5 x Ethernet, 4 x SMA for LTE, 2 x WiFi RP-SMA, 1 x SMA for GNSS, 1 x RP-SMA for Bluetooth
- 1 x Digital input, 1 x Digital open collector output
- 1 x USB host, 1 x Grounding screw
- 4 x WAN type, 2 x Connection type, 3 x Signal strength, 2 x WiFi, 10 x Ethernet, 1 x Power
- -40 °C to 75 °C
- Aluminum housing with DIN rail mounting option and grounding capability
- 132 x 44 x 95 mm
- 515 g

**Operating system**

- RutOS (OpenWrt based Linux OS)

**Mobile features**

- Multi SIM, Auto APN, Band lock, SIM switch, Operator black/white list (planned), Data/SMS limits

**Network**

- Failover (Network backup), VLAN, QoS, Load Balancing
- Static routes, Dynamic routes (BGP, OSPFv2, RIPV1/v2, EIGRP, NHRP), Routing rules
- WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSNP-RPC, MQTT, RMS
- Cloud of Things, Cumulocity, ThingWorx
- External/Internal Radius, SMS OTP, MAC authentication, Walled Garden
- IronWiFi, HotspotSystem, Cloud4Wi, SAI + WiFi, MugiCloud, Purple.ai

**SOFTWARE**

**RMS**

- Supports Hotspot platforms
- IronWiFi, HotspotSystem, Cloud4Wi, SAI + WiFi, MugiCloud, Purple.ai

**DUAL SIM**

- With auto failover, backup WAN and other switching scenarios
- Compatible with Teltonika Remote Management System

**WIFI & BT**

- Wave-2 802.11ac Dual Band WIFI and Bluetooth LE

**GNSS**

- Global Navigation Satellite System for location services and time synchronization

**LOAD BALANCING**

- Allows to use multiple WAN sources to increase throughput
Cellular speeds up to 300Mbps with Carrier Aggregation

SFP port for long-range Fiber-optic communication

4G LTE CAT 6

DUAL SIM

With auto failover, backup WAN and other switching scenarios

WIFI

Wave-2 802.11ac Dual Band WiFi

GIGABIT ETH

5 x Gigabit Ethernet ports

RMS

Compatible with Teltonika Remote Management System

OPERATING TEMPERATURE

-40 °C to 75 °C

HARDWARE

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 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, SSSP, WireGuard, ZeroTier

Monitoring and management

WEB UI, CLI, SSH, SMS, TR-069, SNMP, JSON-RPC, MQTT, RMS

Cloud solutions

RMS, FOTA, Azure IoT Hub, Cloud of Things, Cumulocity, ThingWorx

Services

DDNS, VRRP, Wake On Lan (WOL), WEB filter, UPNP, Network shares (Samba), Traffic Logging

Enterprise Small LTE Rack Mount Ready Router

Rack-mounted LTE Cat 6 router with redundant power supplies and WAN interfaces (WAN failover), Dual SIM, SFP, USB and dedicated console ports. This feature-rich device with well-known and powerful RutOS is perfect where fast and ultra-reliable connection is needed.
REAL-TIME BEACH OCCUPANCY MONITORING

Tourism is one of the main economic drivers in Spain. Although it has been highly disrupted due to the global pandemic, with certain measures in place, people may start enjoying some of the usual holiday activities, including spending time at the beach. The number of people allowed on public beaches is strictly limited. Technological solutions need to be implemented to monitor the capacity and busyness of each beach in real-time to ensure safety and inform the public for better planning.

**SOLUTION**

Several sensors and cameras are installed to count the number of people at the beach. These devices are connected to the RUT950 dual-SIM cellular router providing connectivity to the solution. The collected information is sent to the Public Monitoring Center and further communicated through various channels. A digital signage screen shows the occupancy rates at the entrance. It also informs about the busyness of nearby beaches. A speaker is connected to the solution to communicate important announcements and the traffic is managed by a traffic light. Whenever the maximum capacity is reached, it turns red and no more people are allowed to enter.

**BENEFITS**

- Reliability ensured by dual SIM and auto-failover switching to a backup option whenever any network issues occur.
- Industrial robustness allows to use the device in outside conditions since it can sustain a temperature range between -40 °C to 75 °C and humidity of 10% to 90%.
- Professional level security ensured by a pre-installed Firewall, multiple VPNs and attack prevention.
- A single RUT950 router is enough to provide connectivity for the whole solution.
- Remote management and maintenance via Remote Management System (RMS).

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IoT FOR REDUCING RISKS IN CONSTRUCTION SITES

The construction business is challenging for many reasons. One of the biggest problems is ensuring the security of the sites. Can you imagine that in the UK alone construction site theft costs 800 million pounds per year? The most common target of thieves is expensive construction equipment and materials, like metal. Besides theft, construction sites often become victims of vandals or arsonists. Implementing smart technology is an efficient way to prevent such crimes or track the criminals after a break-in.

**SOLUTION**

In this solution, we have chosen a highly powerful and rugged RUTX12 router. It has two simultaneously operational LTE Cat6 modems and a load balancing option for fast and seamless performance. Dual SIM with instant automatic failover ensures that the site is always connected. Another Teltonika Networks device - TSW100 is used to connect CCTV cameras with Power over Ethernet (PoE) technology for a simplified power installation. The footage from the cameras is sent to a Centralized CCTV Control room for remote management and monitoring. This way the footage is safe from theft and damage. Various expensive tools and machinery have got ID Coin or ID Puck sensors for easy inventory tracking using Bluetooth. Besides, the Slim ID Beacons enable easy monitoring of people entering and leaving the site and instant access control with a thermal camera at the entrance ensures staff with fever cannot enter the site and is important for the prevention of COVID-19 or other diseases.

**BENEFITS**

- Easy installation allows using the same infrastructure on multiple sites regardless of location.
- Reliable and fast connection ensured by two simultaneously working LTE Cat 6 modems and a load balancing.
- Safe storage of CCTV data outside of the construction site.
- Real-time tracking of tools using Bluetooth technology.
- Remote management of the access data, allowing as well as complete configuration, updates, and troubleshooting from the remote management system in the world.
- COVID-19 prevention is enabled by zero-touch access control and a thermal camera.
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.
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 standard
- 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

RESILIENT

Operating temperature -40 °C to 75 °C

9-30 V

Wide range of supported power supply voltages

MOUNTING

DIN rail and surface mounting options

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
Industrial & Automation

Industrial communication is changing. The rise of IoT caused the industrial sector to evolve and turn to automation to survive in the competitive market and maximize their potential in sense of time, resources, productivity and scale.

A problem with the legacy industrial protocols is that due to long lifecycle of industrial systems, over the years they accumulated many various standards. It is difficult to implement such a variety of protocols into nowadays automation tools.

Ethernet-based solutions are becoming the new standard in the industrial communication. As it is more flexible, economical and speedy, we may witness more and more solutions changing their serial protocols to IP.

SOLUTION

In factories, there usually are multiple different manufacturing lines. All of them consist of various HMIs, PLCs, and sensors interconnected into a network. This task is accomplished by a TSW110 industrial switch, which works as an intermediary among all pieces and enables data transmission to the server, where it can be processed and analyzed.

TSW110 is an unmanaged industrial switch with five 10/100/1000 Mbps Ethernet ports for an economical highbandwidth solution that is more than enough for connecting various manufacturing equipment.

Besides, it’s compact size combined with DIN rail or surface mounting makes it a quick and easy task to deploy it. This plug-n-play device set takes seconds to set up. It’s a product with sturdy aluminum housing and offers a broad amplitude of application scenarios. For example, it would work just as smoothly in factories producing frozen products as in a confectionery.

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, crime prevention. Surveillance systems play an integral role today because they are fast and easy to deploy and provide timely and actionable data for private and public security and business operations. Finally, CCTV solutions are highly demanded across Smart City projects and can enable smart solutions such as smart parking and retail business intelligence.

SOLUTION

As presented in the topology, the RUTX11 cellular router is responsible for stable and robust Internet connectivity delivered through 4G LTE. At the same time, all CCTV cameras are connected to PoE (Power-over-Ethernet) compatible switch - TSW100. This device is equipped with five Gigabit Ethernet ports, four of which support IEEE 802.3af and IEEE802.3 at PoE standards. Because of this TSW100 can power up the devices up to 30W power per port. Router and switch 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 can be operational within a few hours. The router – RUTX11 - is compatible with the Teltonika Remote Management System, which includes a user-friendly interface. Secure - data will be safe due to advanced security features of the RUTX11, such as VPN, IPsec, Firewall, and Access Control.
### Features Comparison

#### MODEMS

<table>
<thead>
<tr>
<th>TRM240</th>
<th>TRM245</th>
<th>TRB140</th>
<th>TRB141</th>
<th>TRB142</th>
<th>TRB145</th>
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<td>4G/LTE category</td>
<td>Cat1</td>
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<td>Cat1</td>
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#### PRODUCTS KEY FEATURES

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**ACCESSORIES / POWERING OPTIONS**

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

- **Power supply, 4 W**
  - EU: PR3PTEU3 // UK: PR3PTUK3
  - AU: PR3PTAU3 // US: PR3PTUS3

- **Power supply, 9 W**
  - EU: PR3PTEU3 // UK: PR3PTUK3
  - AU: PR3PTAU3 // US: PR3PTUS3

- **2-pin power supply, 9 W**
  - EU: PR3PTEU3 // UK: PR3PTUK3
  - AU: PR3PTAU3 // US: PR3PTUS3

- **Power supply, 18 W**
  - EU: PR3PTEU3 // UK: PR3PTUK3
  - AU: PR3PTAU3 // US: PR3PTUS3

- **4-pin to barrel socket adapter**
  - Order code: PR2PD01B

- **DIN Rail power supply**
  - Order code: PR3PDNP0

- **Power cable with 4-way screw terminal**
  - Order code: PR2FK20M

- **Automotive power supply, 4 pin**
  - Order code: PR2AM20M

- **Universal power supply, 9 W**
  - Order code: PR3PUP53

**ACCESSORIES / ANTENNA OPTIONS**

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

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

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

- **Mobile magnetic SMA antenna**
  - Order code: PR1K5210

- **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: PRSMEC00

Surface mounting kit
Order code: PRSMEC12

Surface clip holder kit
Order code: PRSMEC22

ACCESSORIES / BLUETOOTH SENSOR

BLE Beacon
Order code: PPEX00000770
Order code: PPEX00000570

BLE Temperature sensor
Order code: PPEX00000580
Order code: PPEX00000590

BLE Movement sensor
Order code: PPEX00000600
Order code: PPEX00000610

BLE Magnetic sensor
Order code: PPEX00000620
Order code: PPEX00000630

BLE Temperature sensor
(EN 12830)
Order code: PPEX00000400

BLE Temperature and humidity sensor
Order code: PPEX00000640

Blue SLIM ID
Order code: PPEX00000650
WE HELP YOU CONNECT

Crowd-support forum
https://community.teltonika.lt/

Wiki knowledge base
https://wiki.teltonika.lt/

Teltonika-networks
https://teltonika-networks.com/