



exalt[®]

GPS tracking &
fleet management
telematic solutions



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exalt[®]

GPS tracking & fleet
management telematic solutions

Exalt Telematics develops and designs a wide array of products including networking solutions that enhances the enterprise networks and mobile connected asset tracking solutions driving the productivity and improving the safety.



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FM3001

EASY-3G

Exalt FM3001 is EASY OBDII Plug and Play tracker with GNSS, 3G and Blue-tooth connectivity. FM3001 is perfectly suitable for light vehicle tracking in applications like courier delivery service, car rental & leasing, insurance telematics and many other where simple integration is a must. EX3001 has additional feature - reading OBDII data from on-board computer. Device supports firmware and configuration update via Blue-tooth. 3G feature makes this device usable worldwide. educes costs OBDII data - get OBDII data - expand value for customer

- 3G - 3G connectivity - works worldwide
- Easy OBDII installation - no wires required - saves installer's time and reduces costs
- OBDII data - get OBDII data - expand value for customer

FLEET MANAGEMENT // EX3001



Bluetooth



Integrated Blue-tooth 4.0 LE allows usage of various wireless sensors and grants compatibility with previously available Blue-tooth V3.0 features like device configuration, firmware update. Retrieve temperature and humidity information from Blue-tooth sensors without the need of wired connection – reduce installation costs. Save on fuel by reducing aggressive driving, increase your driver safety and reduce the number of driving-related incidents with Android application BTAPP.



Internal battery

Feel safe when vehicle is monitored by device with internal battery. When vehicle battery is disconnected, device still remains online and sends data to server.



Advanced antitheft system

Prevent your vehicle from theft with advanced antitheft functionality. Combine Auto Geofencing with new Towing detection functionality.



Smart Crash detection

Ensure safety of Your employee with smart Crash detection. Get alarm message immediately after accident, save workers life!



OBDII Data

FM3001 connects directly to car OBDII connector and is able to read up to 32 vehicle onboard parameters.



Operating voltage 10-30 V

Increased operating voltage grants possibility to use plug and play tracker for all types of transport. Avoid additional wiring and reduce installation costs not only for light vehicles, but also for trucks and other heavy machinery equipped with OBD II socket.

FM3001 USE CASES



Car rental & leasing

Current vehicle location, status and track history are the main aspects for all rental service providers. Prevent theft with remote car lock management, receive notifications about possible contract violations, monitor driver behavior and areas where vehicle is driven – obtain standard tracking information and gain full control of your fleet.



Insurance telematics

Main reasons for insurance pay outs are car accidents and thefts. There have been at least 7 million cases of stolen vehicles around the world every year and this number keeps growing every day; figures in traffic accident statistics are even greater. Real time tracking, warnings when theft attempt or crash is detected, with possibility to trace accidents – all this to determine culprit and reduce expenses when unforeseen event occurs.



Courier delivery service

Quick and professional distribution of goods is the key to profit in delivery business. Route optimization can reduce your fuel expenses up to 30%; driver identification and behavior monitoring ensure high delivery standard and traceability, if any complaints need to be investigated. Gain full control of your fleet and resources with our solution.



Taxi

For Taxi Company to be competitive and profitable, you must have the most innovative technology on your command. It is not enough to deliver customer from point to point, you need to ensure safety and traceability. Send pick up destination, acquire necessary routing and fuel consumption information – manage your fleet with our solution for taxi business.



Security & emergency services

Concept of public security has changed significantly in the past decade. Safety of our society depends on technology which allows us to monitor, track and respond to emergency calls faster than ever. With our solution you will always know current location and status of your transport, thus ensuring quick response time to any kind of situation.

FM3001 TECHNICAL DETAILS

GSM/GPRS features	<p>UMTS/HSPA+, GSM/GPRS/EDGE module UMTS/HSPA+ bands: • 850/900/1700/1900/2100 MHZ HSPA+ uplink up to 5,76 Mbps, downlink up to 14.4 Mbps UMTS Uplink/Downlink up to 384 Kbps EDGE Uplink/Downlink up to 236.8 Kbps GPRS and EDGE class 12 SMS (text, data)</p>
Bluetooth	<p>Bluetooth transceiver fully compliant with Blue-tooth specification V4.0 LE for external peripherals: • Configuration and Firmware update via Blue-tooth • Blue-tooth sensors • OBDII Bluetooth dongle</p>
GNSS	<p>33 channel GNSS receiver -165 dBm sensitivity Hot start <1s Warm start < 25s Cold start < 35s NMEA-183 protocol GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS,AGPS Accuracy < 3m</p>
Interface	<p>1 Digital Input Reserved for Ignition Status Monitoring (depends on vehicle type) Accelerometer Power supply (+10...+30) V DC Integrated back-up battery Internal High Gain GSM antenna Internal High Gain GNSS antenna Dimensions: L(50,7mm)xW(49,6mm)xH(25mm) 2 Status LEDs Configuration and firmware upload (via FOTA, Bluetooth and cable)</p>
Features	<p>128 MB internal flash memory Plug and Track With new integrated GNSS module, your tracking experience will be better than ever before. Even higher sensitivity, faster than ever cold start and almost instant hot start ensures that your fleet will be tracked precisely Bluetooth transceiver fully compliant with Blue-tooth specification V4.0 LE for external peripherals Small and easy to mount case – directly to car OBDII connector Real Time tracking Smart data acquisition based on time, distance, angle, speed delta, ignition and I/O events allow to have precise online tracker Sending acquired data via GPRS (TCP/IP and UDP/IP protocols) Smart algorithm of GPRS connections for GPRS tracking saving Operating in roaming networks by preferred GSM providers list Add all your unwanted GSM operators to black list Events from I/O elements detection and sending via GPRS or SMS 50 geofence zones (rectangular or circle) Auto Geofencing created for car towing detection and car theft prevention Towing detection using accelerometer</p>

FM3001 TECHNICAL DETAILS

Deep Sleep mode (less than 4,5 mA power consumption)

Online Deep Sleep mode for constant connection with server

Firmware and configuration update via GPRS (FOTA)

3 operational modes (Home, Roaming, Unknown) based on operator

Time synchronization by NTP (Network Time Protocol) if GNSS signal is absent

Time synchronization by NITZ (Network Identity and Time Zone) if GNSS signal is absent

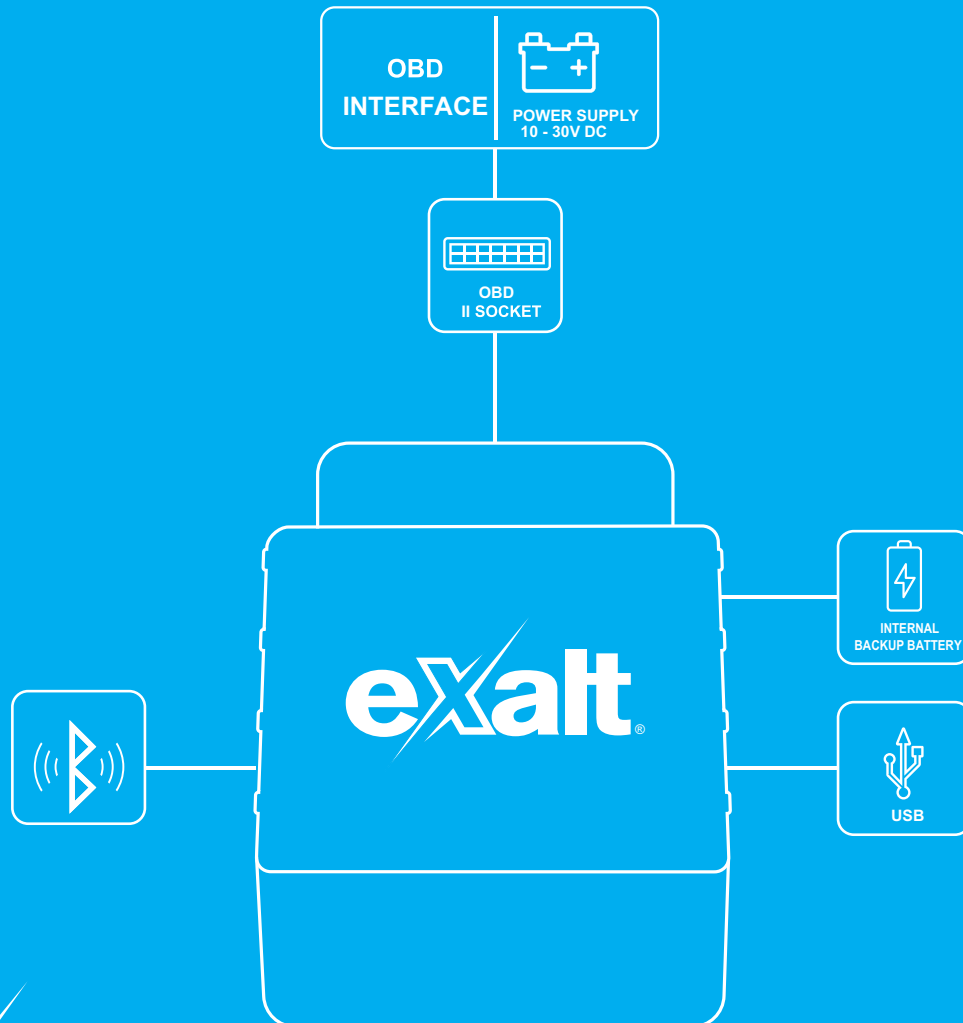
Integrated scenarios:

- Over speeding to secure driver and prevent penalties
- Trip start and end detection
- GSM jamming detection
- Excessive Idling detection

Vehicle onboard parameters reading

Blue-tooth scenarios:

- OBDII Bluetooth dongle
- Data link mode over Blue-tooth
- Bluetooth sensors



FM3612

ADVANCED

EXALT FM3612 - GNSS, 3G terminal for ADVANCED applications. FM3612 designed for light vehicles tracking but are also suitable for advanced applications like logistics, delivery services, utility transport and more. EX3612 excellent for refrigerated transport, because this terminal has extended input/output set and 1-wire interface for temperature monitoring. With Exalt CAN adapters, FM3612 can be even used in agriculture or construction & mining. Moreover, FM3612 have 3G feature which makes this device usable worldwide. FM3612 has internal GNSS and 3G antenna.



Courier delivery services



International logistics



Agriculture



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Fm3612

Small and professional tracker with internal high-gain GNSS and 3G antennas, internal backup battery

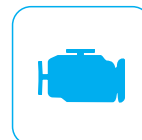


Integrated 3G/GSM module

It makes this device usable worldwide, as there are countries which have only 3G network. User can choose if device will work only in GSM network, or will it prefer 3G network and switch to GSM only when 3G is absent.

Various vehicle CAN data

With additional Teltonika Vehicle CAN adapter you will be able to acquire CAN data from any kind of transport such as light vehicles, trucks, buses, agriculture transport, and special transport. Supported vehicles list contains more than 1800 models.



1-Wire®

1-Wire® protocol support enables you to identify up to 500 authorized drivers and connect temperature sensor. According to iButton or RFID ID you can prevent unauthorized access to your fleet and temperature sensor allows you to monitor your cargo.

Internal battery

Feel safe when vehicle is monitored by device with internal battery. When vehicle battery is disconnected, device still remains online and sends data to server.

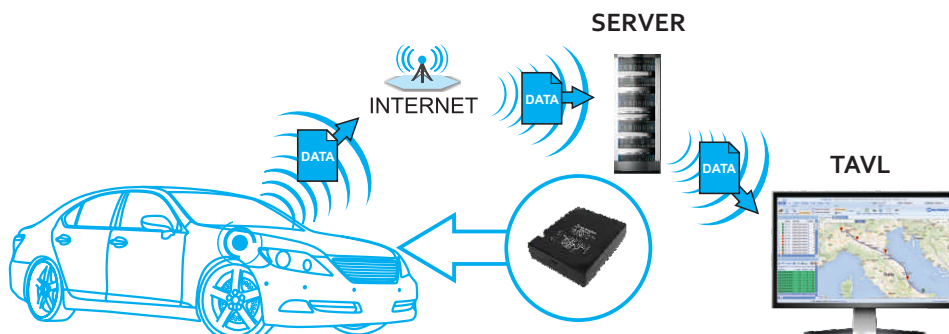


Trip detection

Easy trip start and stop detection gives you possibility to have the report with correct time, location and driven distance for each trip.

Internal GNSS and 3G/GSM antennas

With integrated GNSS and 3G/GSM antennas, your fleet management experience will be enhanced. High sensitivity, fast cold start and almost instant hot start ensures that Your fleet will be tracked precisely. Moreover installation will be fast and easy.



DESCRIPTION

FM3612 is light real-time tracking terminal with GNSS and 3G/GSM connectivity with backup battery, which is able to collect device coordinates and other useful data and transfer them via 3G/GSM network. This device is perfectly suitable for applications where location acquirement of remote objects is needed: fleet management, car rental companies, taxi companies, public transport, logistics companies, personal cars and so on.

APPLICATIONS



FEATURES

- ▶ Easy to mount case
- ▶ Real-time tracking
- ▶ Smart data acquisition - based on time, distance, angle, ignition, speed delta and I/O events allow to have precise online track
- ▶ Sending acquired data via 3G or GPRS (TCP/IP and UDP/IP protocols)
- ▶ Smart algorithm of 3G or GPRS connections (GPRS traffic saving)
- ▶ Operating in roaming networks by preferred GSM providers list
- ▶ Events from I/O elements detection and sending via 3g, GPRS or SMS
- ▶ Scheduled 24 coordinates SMS sending when GPRS not available
- ▶ NTP time synchronization (in places where GNSS is not available)
- ▶ CAN data acquisition from any kind of transport such as light vehicles, trucks, buses, agriculture and special transport with Teltonika Vehicle CAN Adapter
- ▶ 5 geofence zones (rectangular or circle)
- ▶ Auto Geofencing crested for car towing detection and car theft prevention
- ▶ DeepSleep mode (less than 4 mA power consumption)
- ▶ Firmware and configuration update via 3G or GPRS (FOTA)
- ▶ 3 operational modes (Home, Roaming,Unknown) based on operator
- ▶ Integrated scenarios:
 - ▶ Over speeding to secure driver and prevent penalties
 - ▶ Trip start and end detection
 - ▶ Authorized driving (1-Wire[®]iButton ID keys up to 500 iButtons[®] keys) use to prevent stealing or indicate drivers
 - ▶ Immobilizer function
 - ▶ Vehicle Idle detection
 - ▶ GSM Anti-jamming detection



SPECIFICATION

GSM/GPRS/3G FEATURES

- ▶ UMTS/HSPA+, GSM/GPRS/EDGE module
- ▶ GSM/GPRS bands:
 - ▶ 850/900/1800/1900MHz
- ▶ UMTS/HSPA+ bands:
 - ▶ 850/900/1700/1900/2100 MHz
- ▶ HSPA+ uplink up to 5,76 Mbps, downlink up to 14,4 Mbps
- ▶ UMTS Uplink/Downlink up to 384 Kbps
- ▶ EDGE uplink up to 236.8 Kbps, downlink up to 236.8 Kbps
- ▶ GPRS and EDGE class 12
- ▶ SMS (text, data)

GNSS

- ▶ GNSS
- ▶ 33 channel GNSS receiver
- ▶ -165dBm sensitivity
- ▶ Hot start <1 s
- ▶ Warm start <25 s
- ▶ Cold start < 35s
- ▶ NMEA-183 protocol
- ▶ GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS,AGPS
- ▶ Accuracy < 3m

INTERFACE

- ▶ 10 – 30 V input
- ▶ 2 Digital inputs
- ▶ 2 universal digital/analog inputs
- ▶ 2 digital outputs
- ▶ 1-Wire® interface
- ▶ 2 Status LEDs:
 - ▶ Navigate
 - ▶ Status
- ▶ Internal USB Port
- ▶ LVCAN/ALLCAN interface
- ▶ Configuration and firmware upload (FOTA and via USB cable)
- ▶ Internal high gain GSM antenna
- ▶ Internal high gain GNSS antenna

FM3612

Fm6300

PROFESSIONAL

EXALT FM6300 is GNSS, 3G terminal for PROFESSIONAL applications. FM6300 is designed for complex solutions, where one device can do multiple tasks. 3G feature makes this device usable worldwide. FM6300 features like FMS CAN data (J1939), fuel CAN data (J1708), tachograph live data (K-Line), remote tachograph file download, various third party RS232 or RS485 devices support and Dual-SIM will maximize your fleet efficiency. Terminal is suitable for applications like international logistics, refrigerated transport, agriculture, construction & mining, security & emergency services and even more.



International logistics



Security & emergency services



Construction & mining



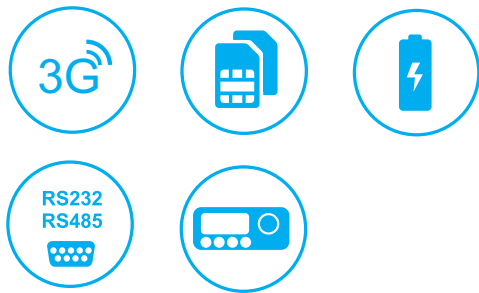
FM6300

EASY-3G

EXALT FM6300 is GNSS, 3G terminal for PROFESSIONAL applications. FM6300 is designed for complex solutions, where one device can do multiple tasks. 3G feature makes this device usable worldwide. FM6300 features like FMS CAN data (J1939), fuel CAN data (J1708), tachograph live data (K-Line), remote tachograph file download, various third party RS232 or RS485 devices support and Dual-SIM will maximize your fleet efficiency. Terminal is suitable for applications like international logistics, refrigerated transport, agriculture, construction & mining, security &

- RS232/RS485 – data from external devices – fulfill customer special needs
- 3G – 3G connectivity – works worldwide
- FMS/LV-CAN/ALL-CAN – CAN data from various transport – expand value for customer

FLEET MANAGEMENT // Fm6300





3G

It makes this device usable worldwide, as there are countries which have only 3G network. Device automatically selects available network (3G or 2G) to ensure the best connectivity in area.



Dual SIM

Double GSM network reliability with Dual SIM! Even if your main SIM card fails to connect, FMB640 will stay online. Moreover, Dual SIM significantly reduces roaming costs, when using first SIM card for Home, second for Roaming data networks.



Internal battery

Feel safe when vehicle is monitored by device with internal battery disconnected, device still remains online and sends data to server.



RS232/RS485

RS232/RS485 functionality enables connection of third party devices like: multiple LLS sensors, GARMIN personal navigation device, RFID readers or some other RS232/RS485 devices.


Integrated tachograph solution

Integrated tachograph solution enables remote tachograph file (DDD, V1B, C1B or TGD format)

Fm6300 TECHNICAL DETAILS

GSM / GPRS / 3G features	UMTS/HSPA+ bands: 800/850/900/1900/2100MHz GSM/GPRS/EDGE bands: 850/900/1800/1900MHz HSPA+ data up to 14.4 Mbps downlink HSPA+ data up to 5.76 Mbps uplink EDGE data downlink/uplink up to 236.8 Kbps UMTS data downlink/uplink up to 384 Kbps GPRS data downlink/uplink up to 85.6 Kbps
GNSS	Tracking: 33/ 99 acquisition channels -165 dBm sensitivity Hot start <1s Warm Start < 25s Cold start < 35s NMEA-183 protocol GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS, AGPS Accuracy < 3m
Interface	Integrated KLINE Dual CAN J1939 J1708 CAN RS485 and 2x RS232 support 4 Digital Inputs for object status monitoring 4 Digital Open-collector Outputs (controlling external relays, LED, buzzers, etc.) 3 Analog Inputs 1-wire interface Ni-Mh 550 mAh internal battery MicroSD card 2 status LED Dimensions: L(104,1mm)xW(76,8mm)xH(31,5mm) Configuration and firmware update (via FOTA and USB cable) External GSM antenna for higher sensitivity External GNSS antenna for higher sensitivity

FM6300 USE CASES



International Logistics

Modern day logistics require a lot of information for business optimization, it is not enough to get current GPS coordinate of your vehicle location. With fuel consumption, driven distance and many other parameters you are able to monitor and regulate your fleet resources, this way all expenses would be accounted. With solution for driver activities monitoring you will have full control of your driver.



Security & emergency services

Concept of public security has changed significantly in the past decade. Safety of our society depends on technology which allows us to monitor, track and respond to emergency calls faster than ever. With our solution you will always know current location and status of your transport, thus ensuring quick response time to any kind of situation.



Construction & mining

Probably most important aspect of construction machinery management is fuel consumption data. Powerful cranes and high capacity concrete mixers compared to light vehicles, use huge amounts of fuel during short periods of time – high chance of fuel theft if work time is accounted only on paper. Take full control of your fleet, workers and resources.



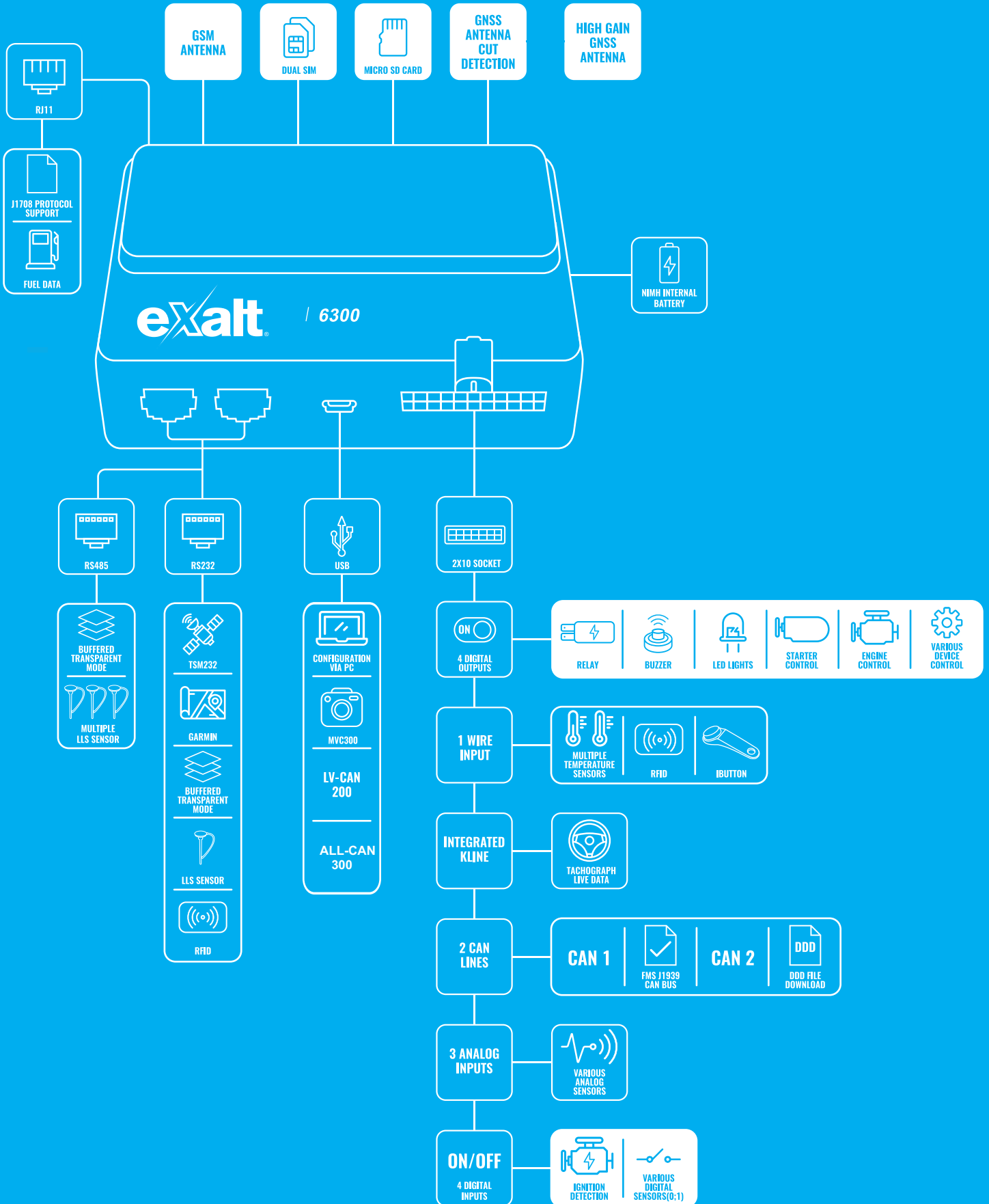
Public transport

Public transport requires a lot of management. It is always important to know where vehicles are, how long they drive and rest – all this to achieve best efficiency. With fuel data and other various parameters you are able to monitor and control your fleet resources, thus cutting expenses to minimum. With solution for driver or even passenger monitoring you will have full information about people who were using your transport.



Agriculture

Agricultural machinery has advanced a lot in recent years, technology like modern tractors or harvesters usually costs more than a sports car – it is essential to keep track of such valuable assets. With our solution you will have full control of current position, driver activities and receive various information from harvesting machinery.



COMPARISON

Business cases

	FM3001	FM3612	FM6300
International logistics		•	•
Refrigerated transport		•	•
Courier delivery service	•	•	
Service & Maintenance		•	•
Public transport	•	•	•
Car rentals & leasing	•	•	
Insurance telematics	•		
Construction and mining		•	•
Security & Emergency services		•	•
Utility transport			•
Agriculture		•	•

Products key features

	FM3001	FM3612	FM6300
3G/2G cellular connectivity	3G	3G	3G
Bluetooth	•		
GNSS/GSM antenna type	I	I	E
GNSS antenna type	I	I	E
OBD II data	•		
Digital inputs	1	4	4
Analog inputs		2	3
Digital outputs		2	4
1-Wire interface		•	•
Internal battery energy (Wh)	0.63	0.63	4.62
IP rating	IP41	IP41	IP41
Power supply range, V (10-30)	•	•	•
Power supply range, V (6-30)			
2X SIM Card (Dual-SIM)			•
1x micro SIM, 1x eSIM			
CAN adapters support		•	•
1-Wire interface RFID functionality			
Eco driving/Green Driving	•	•	•
Fuel monitoring LLS		•	•
Fuel monitoring from CAN		•	•
DDD download and Tacho on-line data			•
Crash detection	•		•
Towing detection	•		
Configuration over Bluetooth	•		

RUT230



3G INDUSTRIAL CELLULAR ROUTER

Compact, robust and powerful device tailored for Industrial M2M/IoT applications where no high data throughput is needed. RUT230 is equipped with 2 x Ethernet and Wireless interfaces. Device provides secure and stable Internet connectivity for Industrial applications using RutOS software and security features such as OpenVPN, IPsec, Firewall, Hotspot, SMS control and RMS support.



Worldwide 3G network coverage



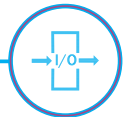
Automatic switching to available Backup connection



Wireless Access Point with Hotspot and station functionality



Compact size, easy integration



Digital Input/Output for remote monitoring and control



Teltonika Remote Management System compatible

VALUABLE

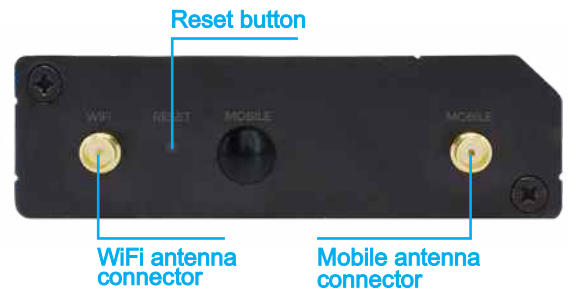
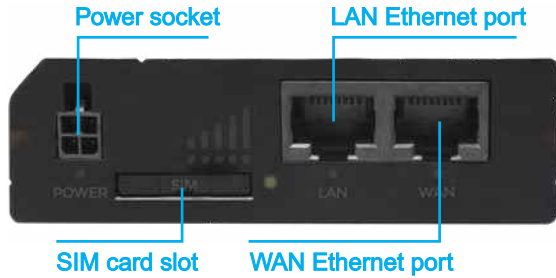
- Compact size
- Feature-rich
- Suitable for multiple sectors

FLEXIBLE

- Supports a wide range of industrial networking protocols
- 3 alternative Internet sources
- Digital I/O

SECURE

- Multiple VPN options
- Embedded Firewall
- Various encryption protocols supported



Hardware

Mobile	3G HSPA+ Up to 14.4 Mbps; UMTS; EDGE; GPRS; CSD
CPU	Atheros Hornet, MIPS 24Kc, 400 MHz
Memory	16 MBytes Flash, 128 MBytes DDR2 RAM
Ethernet	2 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 1 x LAN
Power supply	9 – 30 VDC, 4 pin DC connector
Inputs/Outputs	1 x Digital Input, 1 x Digital Open Collector Output on power connector
Connectors	1 x 4 pin DC, 2 x Ethernet, 1 x Mobile SMA, 1 x WiFi RP-SMA
SIM	1 x external SIM holder
Status LEDs	2 x connection type status, 5 x connection strength, 2 x LAN status, 1 x Power
Operating temperature	-40 °C to 75 °C
Housing	Aluminium housing, plastic panels
Dimensions	83 mm x 74 mm x 25 mm
Weight	125 g

Software

Operating system	RutOS (OpenWrt based Linux OS)
Multiple PDN	Possibility to use different PDNs for multiple network access and services
Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DHCP, DNS, HTTP, HTTPS, SSL v3, TLS, ARP, PPPoE, UPNP, SSH, Telnet, SNMP
Networking features	NAT, Static/Dynamic routing, Firewall, OpenVPN, IPsec, H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets
Unique networking features	VLAN, Load balancing, Mobile quota control, WEB Filter, Network Backup, Auto Failover
Connection monitoring	Ping Reboot, Periodic Reboot, Wget Reboot, LCP and ICMP for link inspection
Authentication	Pre-shared key, digital certificates, X.509 certificates
Keep settings	Update FW without losing current configuration
Monitoring & Management	WEB UI, SSH, SMS, SNMP, JSON-RPC, FOTA, RMS
Supported languages	Busybox shell, Lua, C, C++
Development tools	SDK package with build environment provided

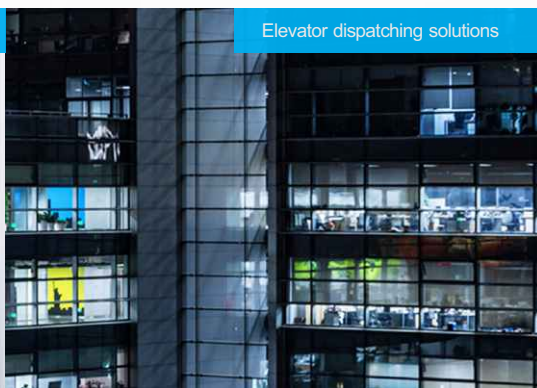
Dual SIM 3G industrial cellular router with WiFi and multiple Ethernet interfaces. Highly secure and reliable OpenWrt based router for most demanding low bandwidth applications where advanced networking functionality is needed.

EXT900

ADVANCED



Heating and cooling automation



Elevator dispatching solutions



Gas and electric station

RUT900



3G INDUSTRIAL CELLULAR ROUTER

This router is equipped with Dual-SIM, 4 x Ethernet interfaces and WiFi. RUT900 is a robust and powerful device tailored for Industrial M2M/IoT applications where no high data throughput is needed. RUT900 comes with core RutOS software and security features such as OpenVPN, Ipsec,



VALUABLE

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- Feature-rich
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- Digital I/O

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Mobile	3G HSPA+ Up to 14.4 Mbps; UMTS; EDGE; GPRS; CSD
CPU	Atheros Wasp, MIPS 74Kc, 550 MHz
Memory	16 MBytes Flash, 128 MBytes DDR2 RAM
Ethernet	4 x 10/100 Ethernet ports: 1 x WAN (configurable as LAN), 3 x LAN ports
Power supply	9 – 30 VDC, 4 pin DC connector
Inputs/Outputs	1 x Digital Input, 1 x Digital Open Collector Output on power connector
Connectors	1 x 4 pin DC, 4 x Ethernet, 2 x Mobile SMA, 2 x WiFi RP-SMA
SIM	2 x external SIM holders
Status LEDs	1 x bi-color connection status, 5 x connection strength, 4 x LAN status, 1 x Power
Operating temperature	-40 °C to 75 °C
Housing	Aluminium housing, plastic panels
Dimensions	100 mm x 110 mm x 50 mm
Weight	256 g

Software

Operating system	RutOS (OpenWrt based Linux OS)
SIM switch	2 SIM cards, auto-switch cases: weak signal, data limit, SMS limit, roaming, no network, network denied, data connection fail
Multiple PDN	Possibility to use different PDNs for multiple network access and services
Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DHCP, DNS, HTTP, HTTPS, SSL v3, TLS, ARP, PPPoE, UPNP, SSH, Telnet, SNMP
Networking features	NAT, Static/Dynamic routing, Firewall, OpenVPN, IPsec, H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets
Unique networking features	VLAN, Load balancing, Mobile quota control, WEB Filter, Load Balancing, Network Backup, Auto Failover
Connection monitoring	Ping Reboot, Periodic Reboot, Wget Reboot, LCP and ICMP for link inspection
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Monitoring & Management	WEB UI, SSH, SMS, SNMP, JSON-RPC, FOTA, RMS
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