Runtracker 6.0

The new version of Viasat Runtracker, ideal for the advanced management of fleets of road transport.

Device functionalities

Runtracker 6.0 is the new on board **device specific for the management of fleets of truck that offers innovative and more competitive web-based services for Fleet management**, for personal security and for the traceability of transported goods. Furthermore, the Runtracker 6.0 terminal allows to handle the **management of fleets dedicated to companies that operate in the urban hygiene market** (it provides reports and information on the location, routes, stops, in general on the daily life of your vehicles).

The Central Unit has been engineered to enhance the **backup battery** life and to integrate the GSM and GNSS antennas with the possibility to include an external GNSS antenna.

Serial and Can ports have been doubled and **voice call facilities are been added in order to receive assistance from operators of the Operations Centre**.

Both Standard (2.0) than Low Energy (4.0) Bluetooth communication modules are present inside the device, in order to permit the connectivity with tablet/navigator or other devices present into the vehicle.

The Central Unit can mount a communication module **GSM 2G** and it is compliant with eCall requirements.

The functionality of the device cover both SAE J1939 than SAE J1979. It supports also tachograph data download with remote authentication or on board authentication for old trucks, and tachograph real time drive status.

The internal accelerometer and gyroscope permit the **crash events detection and store** into internal memory the dynamic values sampled at 400 or 800 Hz.

The accessories base includes more optional devices which allow to monitor the fuel consumption and the temperature in the load compartment, to set and manage the missions through the navigator display, to obtain fiscal benefits through the recovery of excise duties on fuel, to perform tachograph data download with remote authentication or on board authentication and, as usual, to protect the cargo from theft and to protect the personnel (in case of danger or robbery).

A special cover is available in order to reach an IP65 degree of protection.

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On board device

Runtracker Central Unit	GNSS multistandard satellite tracker GSM/GPRS communication system Embedded GNSS/GSM antennas (optional external GNSS antenna) 1 Triaxial accelerometer ±2/±4/±8/±16g and 1 Triaxial accelerometer ±2/±4/±8/±16g with Gyroscope Internal NiMh rechargeable backup battery (1000 mAh) Ext. Lead-acid rechargeable backup battery (opt) GSM/GPRS SIM card 2 High Speed Can ports 3 RS 232 ports, 1 RS 485 port, one wire 1 Serial Tachograph connection (D8) Analog and digital inputs / outputs / power suppluy output Internal Relay for Engine Block Leds and 1 buzzer for status notification Bluetooth Standard and BLE Voice Channel Hand Free 4 Temperature Probes connection

Devices accessories

Display/Navigator (Tablet/Garmin)	Tablet System or Navigator Display for managing messages and missions sent by the Fleet Manager. Navigator with visual and voice guidance. Reception of traffic information.
Kit Fleet Key/Security	Driver authentication and/or identification through Rolling Code touch keys.
Kit K-Key	Automatic authentication device including 2 external keys and 1 transponder.
RFID	Driver authentication and identification device through RFID tag.
HPS709VA2 siren	Anti-theft siren for the protection of the hatches of the load compartment.
Hyperfrequency module	Detection system of intrusion in the cabin of the vehicle.
Temperature probes	Temperature Detection and Control System up to 4 probes
FMS unit	System collecting internal vehicle CAN bus data.
System detecting consumption for claiming excise duties back	Meter that allows the telematics reporting of fuel consumption for the recovery of excise duties. Variation for Power take-offs or Electric Generators.
Passive RFID Tag Reader	System for reading of antenna or wristband passive RFID tags (LF or UHF).
Active RFID Identification	System for reading active RFID tag for trailer identification (UHF)
Audio	microphone and speaker
Humidity Probe	Temperature , Humidity and DewPoint detection.

Functional features

Trip registration	Events of Key on/Key off/Tracking Time and Distance.
Crash dynamics registration (Tbd)	Accelerometer data/position/ I/O status 10 sec. pre-crash / 10 sec. post-crash @ 400Hz
Crash alarm	It sends an alarm to the Operations Centre with configurable threshold. It is possible to choose between the alert or the alert + Dynamic.
Lift alarm/movement with key off	It sends an alarm to the Operations Centre if movement with key off is detected, with configurable threshold.
Device configuration	Remotely: through GPRS and through SMS.
Engine block	From Operations Centre: specific action requested by operator. Locally (ITL): if a GSM Jamming attack is detected or in case the engine is started without authentication. The command of blocking/unblocking the engine sent by the Operations Centre prevails on any local action of the Device.
Auto target alarm	Alarm sent to the Operations Centre if it detects a movement from the accelerometer and from the GPS or GSM cells in the absence of GPS signal.
Anti-Jamming	The device detects any fraudulent distorted reception of the GSM signal. If the engine of the vehicle is switched off, the device blocks the start and activates only once the siren.
Border event	The device notifies the change of nation according to the GSM signal.
Cable cut and low battery alarm	It sends an alarm to the Operations Centre if the main power is cut off and/or if the battery voltage of the vehicle drops below a certain threshold.
Output activation	From the Operations Centre: specific action requested by operator. Locally:, local double block compliant to European Directive .
Emergency alarm	Pushing the button, the device sends a sos alarm to the Operations Center.
Service	If in maintenance mode the device sends alerts to the Operations Centre depending on the configuration. When the maintenance mode starts or finishes is indicated in the Operations Centre and can be requested from the Centre itself or from the affiliated phone.
Double Keep Alive	Message sent periodically to the Operations Centre, regardless of the operation of the vehicle and/or only at key off.
Alarm for unauthorised start	The device sends a warning to the Operations Centre if the engine is switched on in absence of authentication. The Centre operator will start the tracking of the device and contact the Customer for all the necessary controls.
Carjacking alarm	The device sends a report to the Operations Centre when trasponder authentication is lost while the key is on. This feature is useful in case of carjacking.
Emergency start alarm	If the hidden button is pushed the device allows the start of the vehicle also in absence of authentication, but sends a warning to the Operations Centre.
Low battery of the device	If the backup battery of the device is under the minimum threshold, the device sends a warning to the Operations Centre.
Perimeter alarm	It is possible to connect one or more switches to the appropriate Device inputs. In this way the Device, in absence of authentication, will send an alert in the Operations Centre when the switch is opened.
Volumetric alarm	Through the Hyperfrequency module, the Device, when there is not authentication, is able to detect potential intrusion into the vehicle and sends a warning to the Operations Centre.

Functional features

Affiliated mobile phone (SMS)	The Operations Centre recognises an affiliated mobile phone from which it is possible to send some commands: Localization request Maintenance mode
Warning of operating states	Via diagnostic LEDs and buzzer.
Speed Threshold Alarm	The device sends an alarm every time a speed threshold (configurable) is exceeded and when the threshold returns to normal.
Stop/moving Alarm	The device sends an alarm every time remains stationary with engine running for long time (configurable) and when moves again.
Driving Style	By linking to the FMS port or through FMS devices the data necessary to determine the driving style of the driver and the fuel consumption are acquired and aggregated.
Virtual key	Through the accelerometric sensor, the GPS and the battery voltage of the vehicle it is possible to determine the status of ignition of the engine without the physical connection to the signal of the ignition panel.
TCP/UDP transmission and SMS	It is possible to configure alarms to the Operations Centre to transmit in each mode (TCP, UDP and SMS), also as a backup in the absence of the main line connection. It is also possible to define an address book for calls to different Front-ends.
APN home/roaming	It is possible to configure a different management of the APN opening according to whether the GSM is recorded in home or roaming.
Tracking at differentiated time	It allows the definition of a frequency of tracking at differentiated time according to whether the GSM is recorded in home or roaming and depending on the registration of a particular input.
Navigator Display	The device handles the communication between the Operations Centre and a display with navigation functions and Missions/Messages/ Notifications/Info Traffic functions.
Diagnostics events	The device records and transmits various information related to the operation (power supply voltages, GPS signal quality and number of received satellites, GPS antenna status, backup battery voltage and temperature, etc.).
Auto download history	Events registration in the internal memory and subsequent download towards the Operations Centre every N samples stored.
Temperature registration	Temperature registration of 4 probes and transmission to the Operations Centre of alarms if the set thresholds are exceeded.
Excise duties registration	Storage and transmission of data necessary for the recovery of Excise Duties for both PTOs and electric generators.
Battery charger external management	It allows you to manage the charge of an external lead-acid battery.
Tachograph	Data download of Tachograph Memory and Driver Card with remote authentication or with on board authentication of the Company Card. Real Time driver status reporting.
Trailer identification	It identifies and manages the attach/detach of Trailer with active RFid Tag.
Hook-Lift detection	Transport detection of Hook lift and Containers with UHF passive Tags
Waste Bin detection	Detection of Waste bin with passive LF and/or UHF Tags
Voice call	It permits a voice call to the Operations Centre

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Technical features

Microprocessor	ARM Cortex M4, 32 Bit, 256 KB Ram, 1 MB flash Program Memory, 64MB external flash, 2KB eeprom
GSM module	Quectel M66, Quad-band GSM/GPRS with embedded Bluetooth 3.0 EDR
GNSS module	uBlox ZOE M8G, GPS/GLONASS /GALILEO/ EGNOS
Accelerometer + Gyroscope	3 axis LSM6DS3 ±2/±4/±8/±16g + embedded gyroscope ±125/±245/±500/±1000/±2000 dps 3 axis LIS2DW12 ±2/±4/±8/±16g
Bluetooth BLE module	Bluetooth LE 4.1
GSM Antenna	Integrated, Pentaband
GPS Antenna	Integrated patch antenna (external antenna available as optional)
Serial interfaces	3 RS 232 serial ports / 1 RS 485 serial port / 1 Onewire Viasat serial port / D8 serial portal
Inputs	4 GP analog inputs / 2 GP digital inputs positive and negative / 2 GP AI-O (analog input and output) / 1 GP Pulse Counter Input / 1 digital input with led for Help Button / 1 digital input for Hopping code
Outputs	1 output Relay for engine block - 2 MOSFET O.D. outputs
Hands-free audio	External hands-free
Backup battery	1000 mAh NiMH rechargeable
Diagnostics LED	Two colored LED on case (Red, Green)
Power supply	7 ÷ 36 Vdc
Operating Temperature	-20 ÷ +85°C
External dimensions	120x105x45 mm (LxWxH)
Communication to the Operations Centre	Through GPRS with TCP/IP or UDP/IP protocol, through SMS
Installation	Fixed and hidden on board.
Test and Activation	Through GPRS call from the Operations Centre
FW update	OTA though GPRS
CAN interface	2 High Speed ports
Archives memory	More than 30.000
Temperature Interface	4 probes for digital temperature sensor
Certification	CE, ECE-R97, 79/56