# FOX ADVANCED ®

- **Real-time locating, tracking and mapping using PC or mobile phone**
- **Automatic monitoring and reporting of important events and vehicle statuses**
- **History of vehicle routes**

Fox Advanced is AVL (Automatic Vehicle Location) device enabling satellite vehicle monitoring and supervision of vehicle statuses, defined parameters, measurements and detection of important events. Vehicle data is transferred through mobile telecommunication network (GSM/GPRS) and Internet, enabling the user to track and control his vehicles at any moment. It is designed for private or professional use, for monitoring of only one vehicle or the whole fleet. Monitoring is performed by computer or mobile phone connected to Internet.

Device configuration can be done remotely through SMS messages and GPRS service, or locally using serial port. Expense optimization of GPRS traffic is achieved by double set of parameters for device operation in local network and roaming.

Wide range of devices can be connected to Fox Advanced device including GARMIN, EuroScan, Fuel Flow Meters and Fuel Level Meters. Fox Advanced can be connected to vehicle FMS, enabling monitoring vehicle data. Using additional interface devices, connection to CAN and OBD II is also possible.

SYL-BA164

OG-HT680

PRY-TF178

MKT-AK876

SLS-AK178
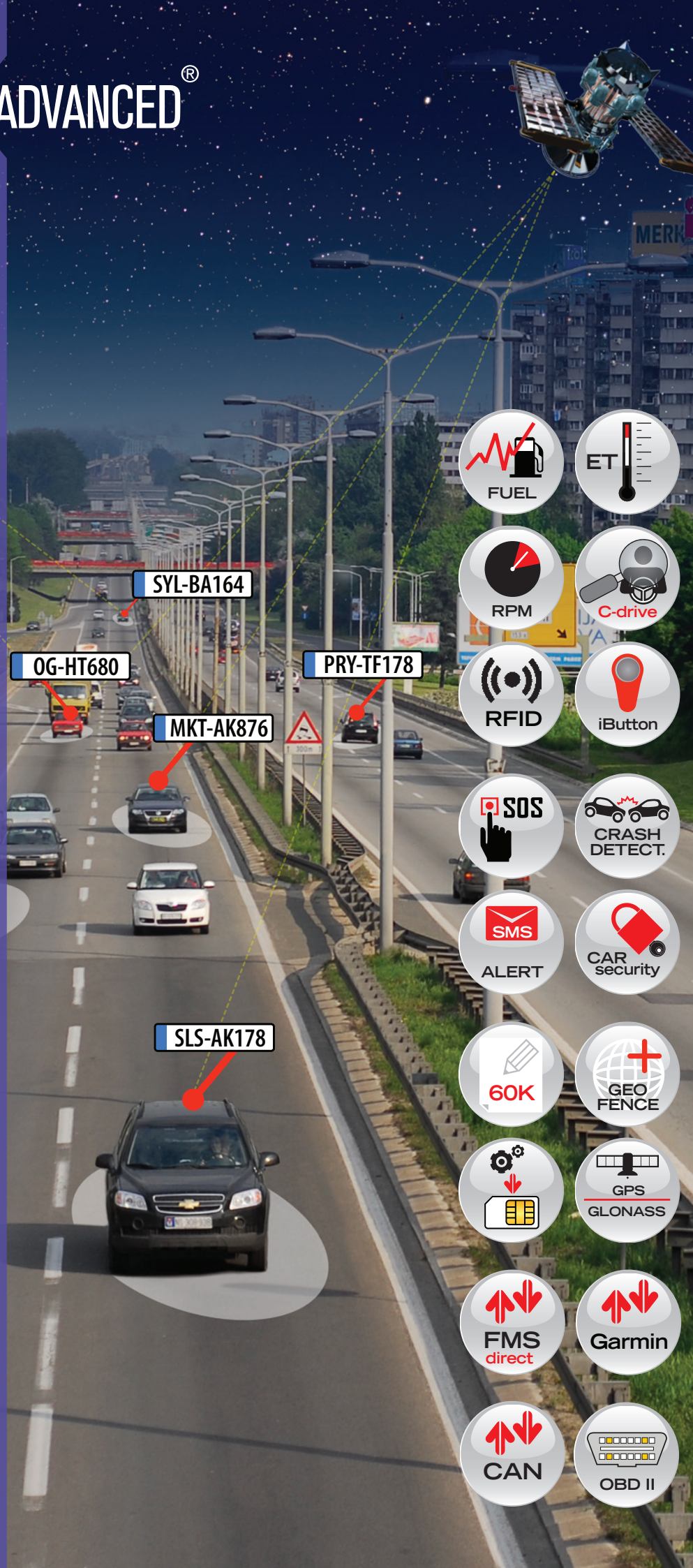
FUEL

ET

RPM

C-drive

RFID

iButton

SOS

CRASH DETECT.

SMS ALERT

CAR security

60K

GEO FENCE

GPS GLONASS

FMS direct

Garmin

CAN

OBD II

FOX ADVANCED®

AUTOMATIC VEHICLE LOCATION DEVICE

Main functions

- Satellite vehicle locating, tracking and mapping in real-time
- Automatic monitoring of vehicle statuses and important events, and reporting by GPRS and SMS
- Immediate alarming about critical status and emergency events

Functional characteristics

- Satellite vehicle monitoring using GPS or GLONASS
- Configurable smart algorithm parameters for GPS data sending
- Sending events caused by digital inputs or changes in statuses of the vehicle
- Instant data transfer on vehicle position and statuses on user request
- Sending events in real time, or logging and sending data at predefined time period or at predefined time of day
- Logger capacity more than 60.000 records
- Additional SD card for expanded logger capacity
- SMS alerts
- XML, binary and auth+ack binary sending formats
- Backup server IP address
- Calculation of distance travelled by vehicle and sending this information together with GPS data
- Calculation of vehicle maximum speed
- Driver identification using iButton
- Driver identification using RFID card
- C-Drive information
- Shock/acceleration sensor. In power save mode, shock/acceleration sensor detects mechanical shock and wakes up device from power save mode. In normal operation mode it obtains C-Drive information and detects vehicle crash event
- Vehicle engine RPM measurement
- Vehicle fuel level control using analogue and digital sensors
- Vehicle fuel consumption control using fuel flow meter
- Temperature measurement using additional Geneko temperature sensors or Euroscan device
- Reading data from Symbol BarCode reader
- Direct connection/reading vehicle CAN according to FMS and SAE J1939 standards
- OBD II connectivity using Geneko OBD II interface (SAE J1850 VPW, SAE J1850 PWM, ISO 15765-4 (CAN),SAE J1979, ISO 14230-4, ISO 9141-2)
- Connecting external GARMIN navigation and communication device
- Geofence. Device can store up to 70 rectangular or round zones
- Phonebook with special functions of some numbers
- Remote device parameters setup, device management, debug and firmware update ability
- Parameter (device configuration) backup in SIM card memory
- Engine/ignition blocking with remote command – immobilizer
- Panic taster (panic event sending by GPRS and SMS)
- Private/Business drive switch
- Test sequence on serial port
- Device parameters configuration via serial port
- Navigation option by external PC, laptop or PDA
- Advanced power save function
- Internal battery for operation without external power supply
- Vehicle battery monitoring and over-discharge protection
- GPS/GLONASS antenna cable breakdown detection

Technical specification

Processor	ARM Cortex-M3
Operating system	Real time operating system
GSM/GPRS module	Quad Band - GSM 850/900/1800/1900 MHz, GPRS Multi-slot class 10/8
GPS	
Channels	50
Hot start	1s
Cold start (open sky)	28s (on average)
Tracking sensitivity	-160 dBm
Position/speed accuracy	2.5 m CEP
SBAS	WAAS, EGNOS, MSAS, GAGAN
Power supply	7 VDC - 36 VDC, over-voltage and under-voltage protection
Power supply modes	max 200mA@12V, max 110mA@24V
Internal backup battery	Li-Ion, 3.7V / 950mAh (1600mAh optional)
Storage temperature	-40°C to +95°C (-20°C to +80°C with internal battery) (max. +60°C for the storage period more than two weeks)
Operating temperature	-30°C to +80°C
Charging temperature	0°C to +50°C
Dimensions (WxDxH)	132 x 80 x 26 mm
Weight	140 g

24 Multifunctional inputs/outputs

- Up to 15 digital inputs (one is reserved for ignition detection)
- Up to 6 digital outputs
- 8 analog inputs (one is reserved for vehicle accumulator measuring and monitoring)
- One 1-Wire port
- Two RS-232 ports
- One RS-485 port
- One CAN port
- One USB port

Low power consumption

- Average power consumption < 70mA (@12VDC)
- Maximal power consumption in Power Save mode < 30mA (@12VDC)
- Maximal power consumption in Deep Power Save mode < 3mA (@12VDC)
- Vehicle accumulator protection mode (when accumulator voltage is lower than the value specified by low voltage protection parameter) < 1mA (@12VDC)

Serial port

- External device connection
- Device parameters set up
- System log and debug information read
- Firmware update
- GPS data (NMEA) for external navigation device (PC, PDA)

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