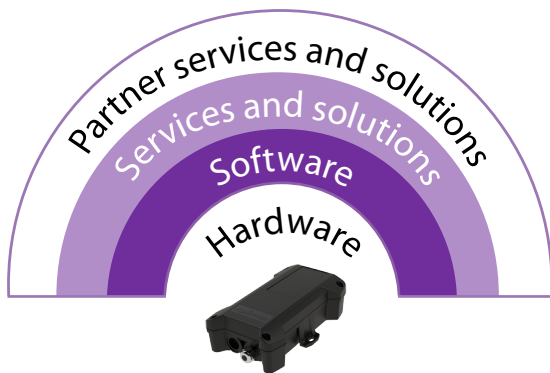


APLICOM A9 IPEX TE

IP-PROTECTED TELEMATICS UNIT FOR HARSH ENVIRONMENTS

Aplicom A9 IPEX provides sophisticated telematics features inside highly protected housing for rugged and outdoor use.

The unit is connectible to CAN-systems, such as to the electronic braking system or to different kinds of serial data sources. Also other Aplicom value-added features and services are available.



Let us help you to build the best possible system for your customers.

www.aplicom.com

Highly reliable and accurate operation you can base your solution on even in demanding environments

The collected data is always stored safely and sent forward thanks to the unit's intelligent two-processor architecture. The internal back-up battery allows continued operation and alarming also in extreme cases where the main input power is removed or cables are cut. A9 IPEX has two product packages available with different backup battery capacities. The unit has also accurate GPS/GLONASS positioning, internal antennas for GPRS/3G and GPS/GLONASS and jamming detection. A-GPS together with Cell-ID backup provides location data also in situations where the unit is installed below the vehicle or asset, or where normal positioning is not possible.

Expandable and flexible - has a wide range of customisable software functionalities for various end-user applications

An unlimited amount of configurations and Over the Air management capability allow the unit to be quickly and effortlessly updated and integrated with new features, making the unit also future proof. Several connections add the flexibility of the device.

Not just hardware, but value-added services to help build your system

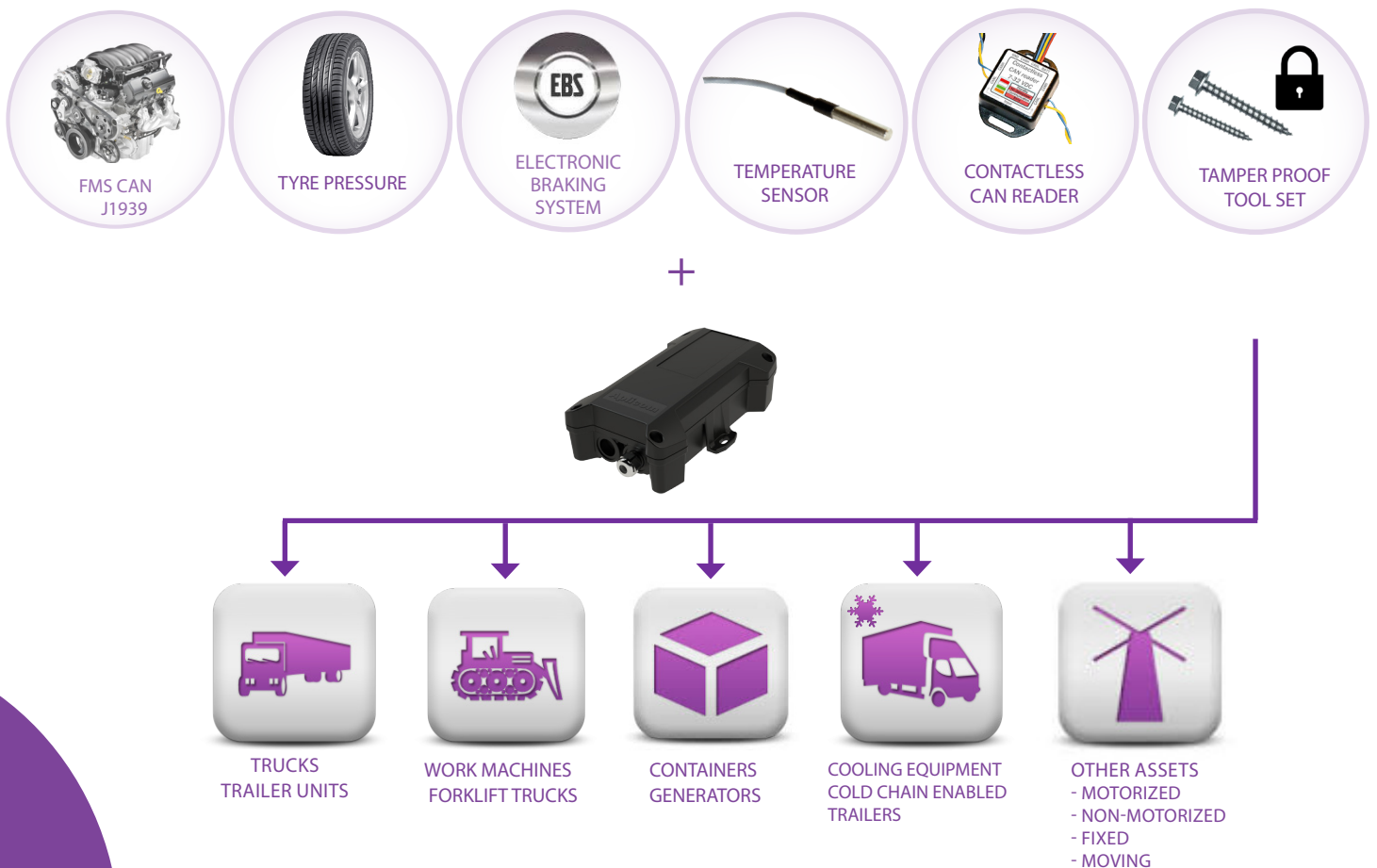
Aplicom does not provide the hardware alone, but instead offers various value-added services for service and system providers to help them build their system more easily and cost effectively for their customers. Services include: software and configuration support, SIM cards, unit preparation services, customisation and certain cloud services.

Aplicom A9 IPEX

KEY FEATURES

- ✓ **IP protection**
Aplicom A9 IPEX is IP67 protected against harsh environments.
- ✓ **Robust**
A9 IPEX endures rough handling and possible damage occurring for example on construction and industrial sites.
- ✓ **Tamper protection**
Tamper proof tool set option makes opening the unit nearly impossible without special tools.
- ✓ **FMS & EBS connectivity**
Collecting data from CAN system or Electronic Braking System (EBS) enables the provision of advanced telematics services.
- ✓ **Cell-ID**
Provides location information when the unit is in a tunnel, in a garage or between high buildings.
- ✓ **Battery options**
The unit is available with two battery options. The small (200mAh) battery is for short term primary power loss situations. The large (4000mAh) battery enables unit use for long periods of time without an external power source. The batteries are rechargeable.
- ✓ **3D acceleration sensor**
Enables collection of vehicle/asset data of acceleration, deceleration, vertical and sideways movements in G-force values.

FEATURES AVAILABLE FOR VARIOUS VEHICLE AND ASSET TYPES



APPLICATION SOFTWARE

Factory installed A9 NEX tracking software

Fully configurable event to action operation with optional conditional execution (AND, OR, IF operators)

Quick steps for first use with simple local settings (also with SMS message) and ready made default configuration for tracking and tracing using Aplicom quick start service

Sending of event based snapshots to server according to configuration

Accurate GPS/GLONASS position based mileage

Acceleration sensor and position data based harsh braking, rapid and sideways acceleration

Open protocols for server connectivity with optional security and certificates. Bearers: 3G/GPRS: TCP/IP, SMS

Geofence support with different shapes for geofence definition (circle, box, polygon) and geofence in/out reporting

Multiple and flexible protocols for customer needs also with end to end acknowledgements

Data protocol report size optimised with selectable content for saving data communication costs

Roaming with LAI list control: Operator allowed / not allowed and non-critical reporting can be prevented and reports optionally stored to nonvolatile memory

Power outage detection, back-up battery operation, timed wake-up positioning capability

Over-the-air (OTA) configuration and updates, remote diagnostics and file management. Supports also Aplicom device OTA upgrade service

Events

- Time interval
- Distance
- Geofence
- Start/Stop moving
- Direction change
- Driver-ID read
- IGN on/off
- Speed limit
- Battery low
- Alarm active
- Input/Output change
- Heading change
- A/D threshold
- Comm fail
- Flag changed
- GPS/GLONASS status changed
- Data event from incoming SMS or TCP message
- Net change
- Scheduled event
- Harsh braking
- Acceleration limit
- etc.

Aplicom A9 IPEX TE

TECHNICAL DATA

General

Communication platform	Europe: GPRS 900/1800 MHz UMTS 900/2100 MHz
	Secure data transmission with HTTPS/SSL Jamming detection
Memory	10 MB FLASH 10 MB RAM
Coprocessor	Up to 150 000 snapshots ARM7 Realtime processing Watch dog functionalities
RTC	Time, wake-up
Acceleration sensor	+/-16g, 3D ACC sensor, movement detection and wake-up

Positioning technology

GPS/GLONASS (GNSS module data)	
Position technology	CSR SIRFstarV™ based
Frequency bands	GPS L1, GLONASS L1, QZSS L1
Acquisition sensitivity	-147dBm
Tracking sensitivity	-166dBm
Time to first fix	Hot start: 1s
With A-GPS	Warm start: <6s Cold start: <22s
Other functions	Jamming detection 2 trip distance counters
Cell ID	Network information of currently used cell is sent over D-protocol

Electrical

Power supply	6,8...32VDC (nominal +12V)
Typical	<100mA
Max (peak)	1A / <1s
Stand by	<3mA
Stand by	<1mA from internal battery Transient and polarity protected
Fuse	Internal fuse 2A
Power switch	SW controlled power management, no mechanical switch
On/off switching options	Ignition input/movement detection, RTC and clock timed wake-up

Battery

Battery backup	Internal Li-Po battery 200mAh (optional 4000mAh)
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Interface

2m interface cable
Cable with 7 pcs AWG 20 wires with open ends.
Available, selectable signals:

- Power in
- GND
- COM 1 RX / TX (COM SW option required)
- IGN/Din 1/AD 1/pulse counter *
- Din 2/AD 2/pulse counter *
- Open collector output/ digital output
- CAN H/CAN L (CAN SW option required)

Other interface signal combinations possible with internal wiring at terminal block.

* Input hi 5-32V / AD 0-5 V scale

Antennas

Internal GSM/GPRS/3G antenna
Internal GPS/GLONASS antenna

Operating conditions

Full performance	-30°C...+70°C
Degraded communication	-40°C...+85°C
Internal battery charge	0°C...+45°C
Internal battery operating	-5°C...+60°C
Humidity	+95 % max

Physical

Housing/material	IP 67, PC +10%GF
Colour	Black
Dimensions	151mm(L) x 92 mm(W) x 46mm(H)
Weight	250g + cable 150g

Development

Configuration tools	A-series SW configurator
Development tools	A9 NEX SDK, Java SDK (v. 4.0.0 or later) for custom SW development

Approvals

CE marking	2004/108/EC (EMC directive)
E-type	ECE 10R - 05 13739 (E-type approval) 1999/05/EC (RTTE)