

APLICOM A9 IPEX

IP-PROTECTED TELEMATICS UNIT FOR HARSH ENVIRONMENTS

Aplicom A9 IPEX provides sophisticated telematics features inside highly protected and rugged housing. The unit offers easy way for fleet and asset owners and various site managers to improve communication, data collection, security and productivity even in the most challenging conditions.

The unit is connectible to CAN-systems, such as to the electronic braking system or to different kinds of data loggers with serial communication capabilities. 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

Aplicom[®]

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 various cloud services.

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 to the flexibility of the device.

Highly reliable operation even in demanding environments with accuracy you can base your solution on

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 main input power is removed or cables are cut. A9 IPEX has two product packages available with different backup battery capacity. The unit has also accurate GPS/GLONASS positioning, internal antennas for GPRS and GPS/GLONASS, a jamming detection and A-GPS support that provides location data also in situations where the unit is installed below the vehicle or asset.

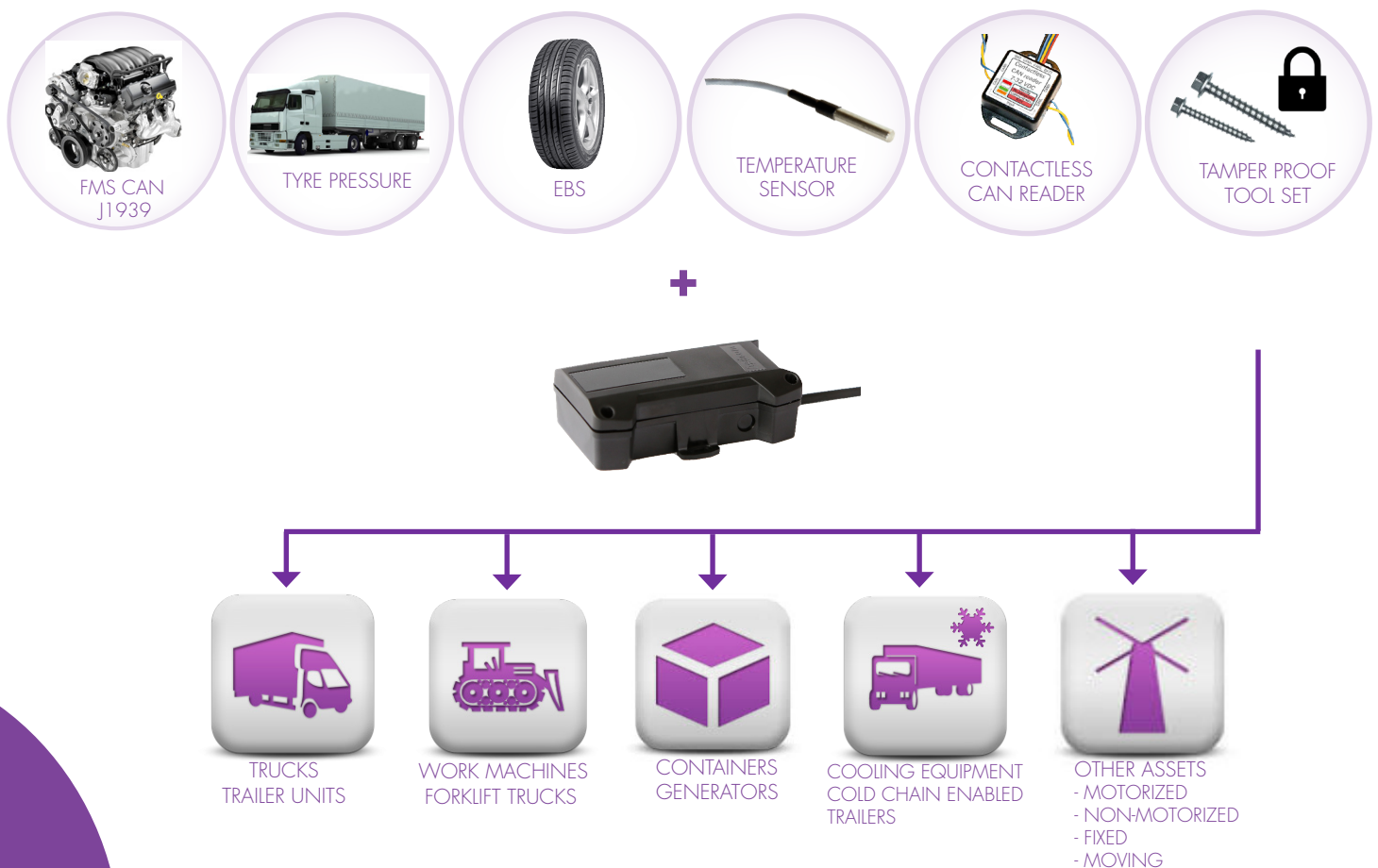
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Aplicom A9 IPEX

KEY FEATURES

- ✓ **IP protection** Aplicom A9 IPEX is IP67 protected against harsh environments.
- ✓ **Robust** A9 IPEX endures rough handling and possible hits occurring for example in construction and industrial sites.
- ✓ **Tamper protection** Tamper proof tool set option makes opening the unit nearly impossible without special tools and same time it provides theft protection.
- ✓ **Cell-ID** provides location information in network jamming situations or when unit is in tunnels or between high buildings or remote areas where network coverage is low.
- ✓ **Battery options** Unit available with two battery options. Small (200mAh) battery is for primary power loss situations. Large (4000mAh) battery enables unit use long periods of time, locations where external power source is not available. Batteries are rechargeable.
- ✓ **FMS CAN & EBS connectivity** Vehicle CAN system and Electronic Braking System (EBS) make it possible to collect configurable set of vehicle data.
- ✓ **3D acceleration sensor** enables collection of vehicle/asset data from 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 based 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 distance calculation

Acceleration sensor based harsh braking, rapid and sideways acceleration

Open protocols for server connectivity with optional security and certificates (same as in Aplicom A1). Bearers: GPRS: TCP/UDP, SMS

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

Data protocol report size optimised with selectable content for saving 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 (OTAP, 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

TECHNICAL DATA

General

GPRS platform	GSM Quad-Band: 850/900/1800/1900 MHz GPRS multi slot Secure data transmission with HTTPS/SSL Jamming detection
Memory	10 MB FLASH 5 MB RAM Up to 150 000 snapshots
Coprocessor	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
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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-Ion 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 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 92mm(W) x46mm(H)
Weight	250g + cable 150g

Development

Configuration tools	Software configurator tool (A1 & A9)
Development tools	A9 NEX SDK, Java SDK for custom SW development

Approvals

CE marking	2004/108/EC (EMC directive)
E-type	ECE r.10.03 (E-type approval) 1999/05/EC (RTTE)