

AtoN Telematics Kit

The AtoN Telematics Kit (**ATK**) provides a temporary remote connection to programmable ekta™ AtoN site systems supplied without integrated telematics for enabling of remote services over the cellular network and Internet data link. Built around a Telematics Controller TelFiCon™ E926X or TelFiCon™-Flasher E927X, it is powered directly from the AtoN system into which it plugs using a single cable. GSM network coverage at the location of use and corresponding valid SIM subscription are required. While an ATK can be obtained with a time-limited license with access to corresponding AtoN telematics server resources, related specialist services including data analysis and reporting can be offered in accordance with actual customer needs.

While the standard enclosure of the core unit with bare screw terminals is intended for operation inside an equipment cabinet, its contents is protected to IP64 and will survive short to medium term exposure to considerable variety of field conditions. Please consult E926X, E927X and TeViNSA™ documentation for more detailed information.

Remote professional support services for diagnostics and maintenance

When connected to the Data/Service socket of an AtoN site system or a lantern containing a programmable flasher, the ATK opens a communication session with the server side software (TeViNSA™ Limited Server Component, **TLSC**) hosted by the supplier in the cloud. It reports in key parameters of the equipment interconnected by the RS485 based site network (wired up at the distances of up to 1 km) for recording in dedicated files at the server side in accordance with AtoN site information prepared before such sessions. All data including the changes implemented are logged at server side for verification and documenting the diagnostics, maintenance or re-configuration procedures.

A team of experts can observe and coordinate the processes at the server side within mutually agreed upon time window, performing any requested activities like remote diagnostics or parameter re-configuration upon the connected ekta™ equipment, up to full replacement of equipment firmware with updated versions (when available). Corresponding site equipment status/condition/performance reports can be ordered.

Remote support to testing and observation of AtoN lights

An ATK can be used for conducting AtoN light system visibility trials, allowing to re-configure all relevant parameters of a navigation light from the vessel using a smart phone web browser connection to the TLSC. Similar observations can be arranged with assistance of remote experts tasked to configure various rhythmic character parameters like Day/Night switching levels, pulse-width modulation (PWM) duty cycle values for luminous intensities in flash or during FFL low-intensity eclipses.

An ATK-F with integrated flasher capabilities supplied based on the TelFiCon™-Flasher E927X can provide full functionality for operating an AtoN light when powered from a suitable source. It can also be connected to a standard ekta leading lights or sector lights without built-in flasher for diagnostics and evaluating performance of built-in light sensors.

Capability to issue remote commands from the smart phone to AtoN-on-Demand (**AoD**) lights or other equipment connected to two (optionally three) logic level outputs allows to perform comparison of different operational modes, etc.

Vibration Profiling and Structural Health Monitoring services

When supplied with an optional external triaxial acceleration sensor, the ATK enables conducting of vibration profiling and temporary structural health monitoring (**SHM**) of AtoN structures that are suspected of being subjected to excessive vibrations caused by wind or wave action. Any structures of interest that are expected to exhibit vibration within the range of the sensor (magnitudes from 0.2g up to nearly 4g at frequencies up to 24 Hz) can be checked when mounting the sensor at the optimum location and feeding the ATK with external power (8 to 24 VDC). Raw acceleration data acquired at the structure of interest is uploaded to the TLSC server that can be configured for dispatching immediate alarms by e-mail in case of exceeding pre-configured acceleration level or vibration magnitude thresholds.

AtoN site profiling for telematics deployment feasibility

An ATK can be used for estimation of suitability of the environment at an AtoN for implementation of GSM based telematics before deployment of such systems. It reports GSM field strength and horizontal dilution of position (HDOP) of GPS satellite constellation as standard while the server side software also logs communication errors. In addition, an ATK can be used for comparison of key performance indicators (Figure 2) recorded at different AtoN structures while exposed to similar environmental conditions (sampling of hydrodynamic parameters and heeling of floating platforms, etc). Three 10-bit analog inputs and two digital inputs of a TelFiCon™ can be used for additional data acquisition, contact closure monitoring, etc.

ATK ordering options

ATK	ATK-E	ATK-F	ATK-FE
Basic set with integrated triaxial acceleration sensor	Set with external triaxial acceleration sensor E3551	Set with flasher and integrated triaxial acceleration sensor	Set with flasher and external triaxial acceleration sensor E3551
Core: E9263	Core: E9263.E	Core: E9271	Core: E9271.E
Power/signal lead with a 6-pole plug for flashers (1.5m)	Power/signal lead with a 6-pole plug for flashers (1.5m)	Power lead (2m) with crimped terminals	Power lead (2m) with crimped terminals
		External Light sensor E332X	External Light sensor E332X

By default, each kit is supplied with a GSM/GPS antenna with magnetic mount and 5m cables. Optionally, custom cable lengths can be requested prior to ordering.

A one (1) year single user access subscription at TLSC server is provided with 10 hours of support services and one AtoN site configured per each ATK ordered.

Requests for additional information are welcome at ekta@ekta.ee.

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SABIK
a Carmanah company

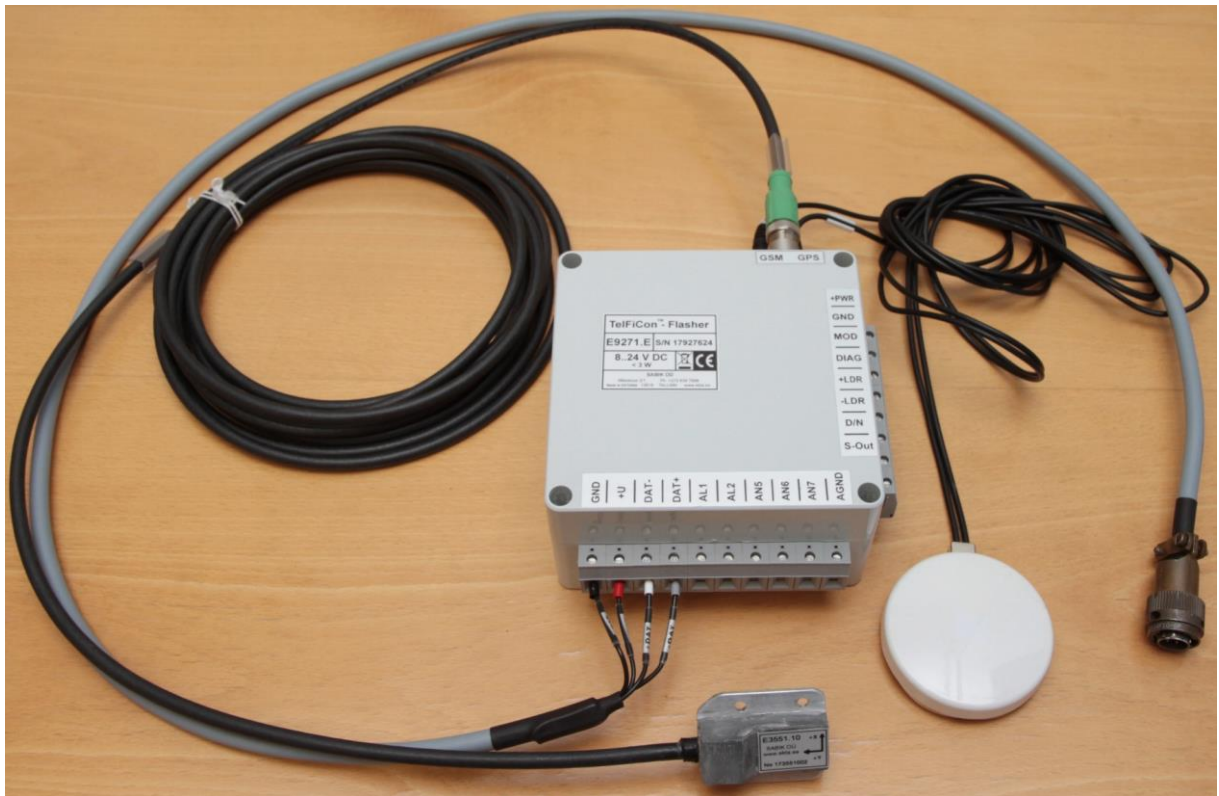


Figure 1. AtoN Remote Support Set ATK-FE with TelFiCon™-Flasher E9271, GSM/GPS antenna and triaxial acceleration sensor E3551 (shown without a light sensor).

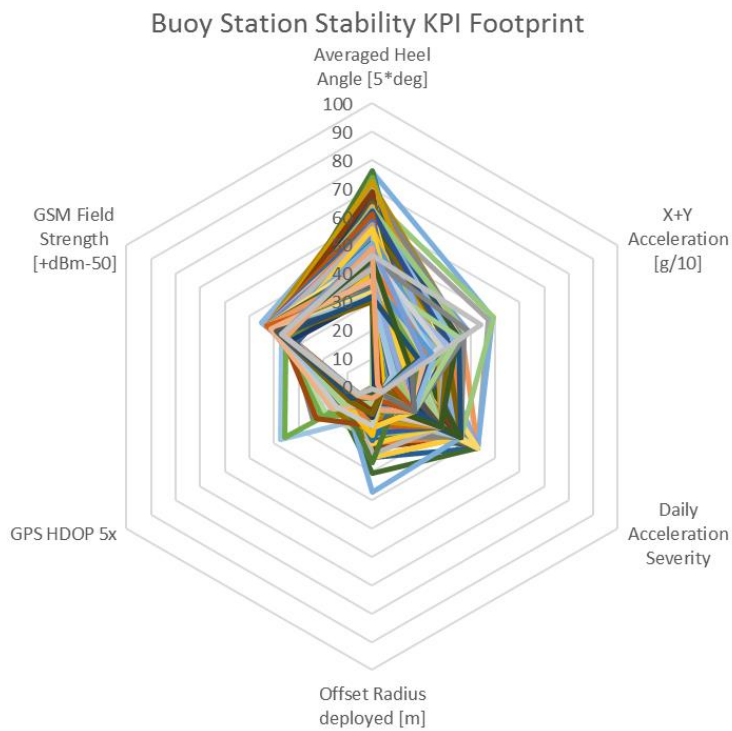


Figure 2. AtoN telematics key performance indicator graph



Figure 3. Optional rugged carrying case for ATK