



Container GPS

Every day, over fifty million containers travel across the world. Over ninety percent of them are not personally owned and are only used in one-way transports. This means, that one has to rent a container, load it up in one city, transport it to another city, unload it and send it on its journey to another terminal in the world.

The issues are clear. The containers with possible valuable goods are not supervised or controlled during their transports, leaving them vulnerable to organized crime world-wide.

Furthermore, containers are open to terroristic exploitation which is becoming increasingly important considering new safety regulations and overall security issues.

For this reason the Container GPS was developed as a plug & play solution targeting exactly the above mentioned concerns.

The container GPS is a self-sufficient working system supported by GPS/GSM. It communicates online over the world-wide available GSM-network with a computer-based station.

Depending on the usage the Container GPS can be connected with a personally-owned base station, or used with service providers, which also offers international intervention in case of emergencies.

Container GPS consists of a main device with additional sensors. The main device is attached to a trough on the top of the container with a removable magnetic fixing. The sensors are attached the same way inside the container. All sensors communicate on short-range radio signals with the Container GPS.

The basic package includes the Container GPS and a sensor that monitors opening and closing of the door, as well as new sources of light inside.

In addition, it can be easily modified to monitor customer related matters like boundary values of the temperature, humidity or chemical-physical processes, based on several available sensors.

Currently in development are new sensors which will not only be able to measure exceeding or falling values but are able to submit live data. Furthermore it will be possible to monitor and check the contents of a container for integrity by equipping items with RFID-transponders and scanning them while packing the container.

A built-in shock sensor monitors the handling of the container as well as accelerating forces, regarding possible valuable goods like IT or medical equipment.

Since most containers travel only one-way, one has to make sure that the return of the Container GPS will be safe. Container GPS has a solid box and bag for transportation, which automatically shuts down the device for a possible return transport in planes.

A lithium rechargeable battery with a capacity of 3,6 ah supplies the power. Before transport the battery is charged with an external charger. During transport the charging is done by the solar cell. Without a single recharge, the Container GPS will work up to 80 days, supporting transport with stacked containers and other situations where no sunlight is available.

The standard operational mode will determine the geographic position of the Container GPS every 8 hours and send a report to the headquarter/base station once a day. Occurring events will be sent immediately. The time for reports can be shortened for special requirements like transport on streets. In addition it is possible to track the route of a transport by using the geofencing functionality of the software. The operational mode can be changed manually or remotely by using the control software.

Event Messages

- attaching/detaching of the Container GPS unit
- power loss of the rechargeable battery under its normal value
- attaching/detaching of sensors within the container
- battery status of the sensors
- opening/closing of doors
- movement of persons within the container
- incidence of light in a closed container
- exceeding acceleration limits of the container
- exceeding/falling of temperature or min./max. values, humidity values
- information about the proper loading/unloading of goods using RFID
- stacking information of the container (stacked / not stacked)
- arrival / leaving of predefined addresses (port, customs, loading areas, etc)
- exiting of predefined routes
- daily report with information regarding position, charge of the batteries, GSM-code of the carrier / provider
- messages regarding possible radioactivity / radioactive material, gas and various others

Every message is sent using a geographic position and timestamp and can be recorded as an alarm, event or daily record within the base station. In the event of an alarm, an alarm plan is shown, to provide the fastest possible response. In addition, alarms can be forwarded over email or text messages to the persons in charge.

Please do not hesitate to call or contact us for any further inquiry.

Marcel Eckerle
Marine Manager
ACE Switzerland

Phone: +41 43 456 76 43
Email: marcel.eckerle@acegroup.com