

Container Monitoring – the plug & play solution

► Autarkic GPS- /GSM-Container Container Monitoring via CSB® (Container Security Box)



BOSCH



The System

The CSB® is a GPS/GSM supported system for monitoring containers including the interior and doors. The CSB® contains a GPS/GSM board computer, a free band-radio receiver and components for its own power supply in a trapeze-shaped, IP67-protected box. Due to this self-sustaining system and in co-operation with the Monitoring Center of Bosch Communication Center valuable goods can be monitored during transport. The CSB® is attached to the upper side of the container via magnetic adhesion. A radio infrared-sensor provides the basis for surveilling the doors and the interior. It is magnetically attached to the indoor wall of the container. The functionality has been tested successfully in worldwide use.

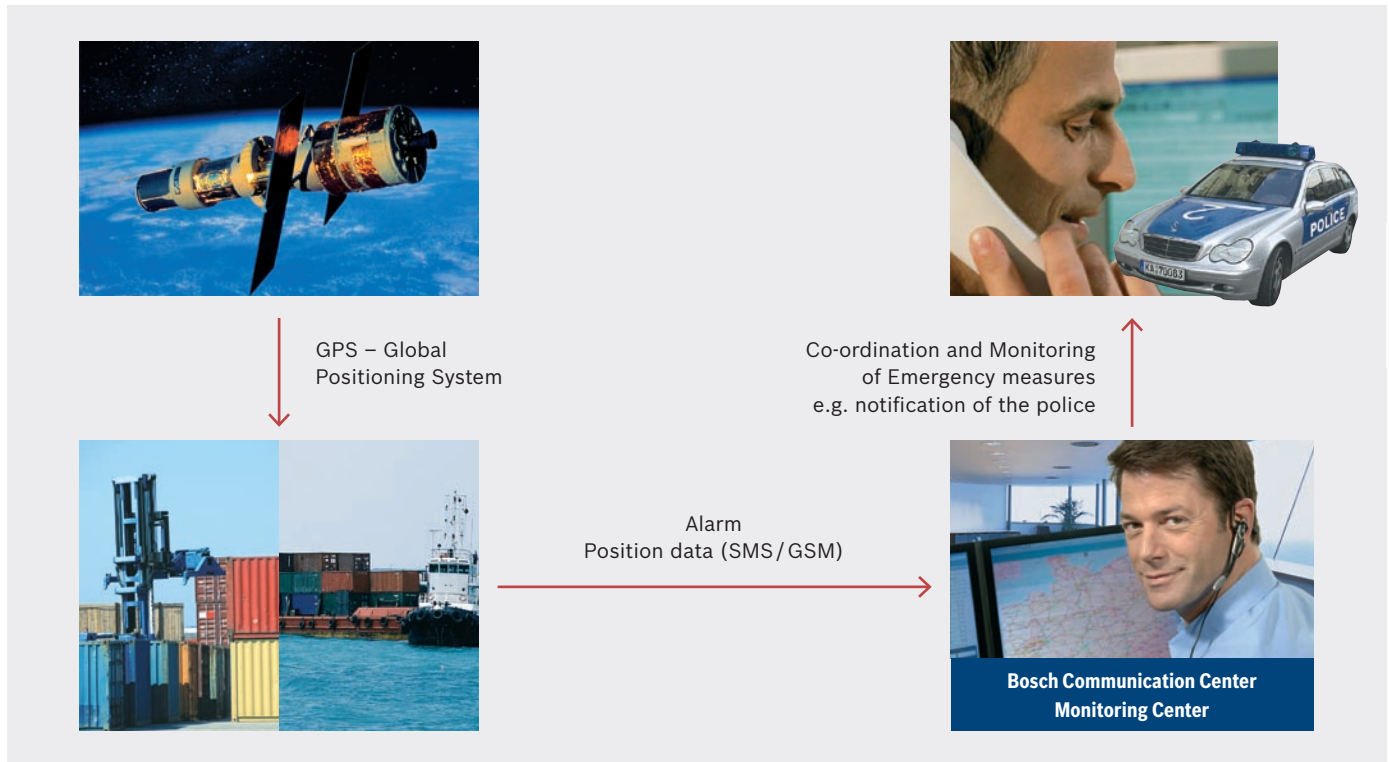
Mode of operation

The CSB® is located via GPS and data are transmitted via SMS within the GSM network. In principle, the system is designed to remain in sleep mode at all time. The CSB® is revealed from the sleep mode during an event as e.g. attaching the CSB® to a container, the removal from the container, the opening of the container doors or the movement of heat sources inside the container (presence of persons or animals).

The alarms/events are transmitted to the Monitoring Center. For each alarm, a date and time stamp and the corresponding location information is available. Thus, the real-time notification of the Monitoring Center of Bosch Communication Center about an unauthorized removal of the CSB® or an unauthorized opening of the container is ensured, provided that GSM net and GPS signals are available. The delivery includes a transport box with a carrier bag for transportation. The CSB® is switched off in this transport box automatically ensuring safe carriage even in aircrafts.

Operating method

A 12-volt battery with a capacity of 2.2 Ah ensures the power supply for the CSB® system. The battery is recharged either by a solar cell or by an external plug-in charger. The operating time of CSB® depends on the operation mode adapted according to the particular operational purpose. For a cyclical operation mode (sleep mode), which is configurable remotely, the power consumption amounts to approx. 3 mA. In case of an hourly recording of the GPS location data and the daily transmission of those data to the Monitoring Center CSB® power will last approx. 30 days without any recharge.



Depending on the daylight exposure of the solar cell, operating time extends accordingly. Also configurable remotely is a continuous operating mode, e.g. for short-term transports with frequent monitoring. During this mode the power consumption totals to 60 mA, allowing an operating time over a long period without any recharge necessary.

Alarm Management

In case of an event – e.g. opening of the doors or removing the CSB® – an alarm is triggered. The Bosch Staff immediately initiates the measures that were agreed upon beforehand. Either the police or a member of the Europe-wide network of intervention-partners is informed and sent to the affected object. With this solution your goods are protected at best around the clock since the Bosch Communication Center acts immediately in case your goods are endangered during transport.

CSB® is a registered brand of Rainer Koch Kommunikation GmbH, CSB® is patent pending at the European patent office under the sign P54174KEP, CSB® is consistent with the international Container Safety Convention (CSC), Accomplished tests: CE Mark, EMV-examination

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Technical Data CSB®

Measures	780 mm x 128 mm x 27 mm
Weight	2.25 kg
Adhesive force of the magnets	2 x 500 N
Power supply	12-V-battery, solar cell 4 Wp
GPS-receiver	16 channels
Data transmission	SMS via GSM (Quad mode)
Temperature	-20°C to +55°C
Protection	IP67
TÜV-Certified (German Technical Inspection Authority)	CSC-compliant

Technical Data Door/Interior Sensor

Measures	153 mm x 87 mm x 83 mm
Weight	820 g
Internal battery	9V-Battery
Radio frequency	Free Band 868.35 MHz
Signal Coding	24-bit
Door Sensor	Magnet-Bridge with control bucket tappet
PIR-Registration Area	6 m x 6 m / 120°

Technical Data Recharger

Measures	105 mm x 42 mm x 37 mm
Type	Plug-In Charger
Operation Method	Switching Power Supply
Input Voltage	100 ... 264 V AC / 45 ... 60 Hz