SQUID

Vehicle tracking system broadcasting the position of airport mobiles

The ERA-designed vehicle tracking unit SQUID (squitter beacon SQB) provides airports with a tool to monitor and track all ground vehicles on an airport's surface. SQUID by ERA continuously broadcasts the exact position of each vehicle by using a vehicle-mounted squitter and thus improves airport safety.

SQUID minimizes the risk of collisions between aircraft and service mobiles (fire and rescue vehicles, tugs, de-icing equipment etc.), especially during low visibility conditions.

This easily installed and standard compliant unit using ADS-B squitter based on GNSS technology complements multilateration and ADS-B systems to identify any non-transponder equipped targets.

KEY FEATURES:

- An essential addition to any A-SMGCS
- Each vehicle is clearly and uniquely identified (vehicle position, unique 24-bit ICAO address, vehicle ID, emitter category, type code)
- Ensures easy integration and interoperability with any multilateration or ADS-B system based on Mode S Extended Squitter datalink
- Reduces incursion risk
- High update rate GPS module
- Area management to define the boundaries where the units automatically turn on and off transmissions
- Readiness to operate with GALILEO satellite system

SELECTED REFERENCES:

The success of the SQUID system is shown by its history of flawless operation at some of the busiest airports, with more than 8,500 operational units worldwide since 2014.

Amsterdam Schiphol (The Netherlands)	506
Berlin (Germany)	422
Oslo (Norway)	410
Toronto (Canada)	347
Copenhagen (Denmark)	315
Istanbul (Turkey)	263
Jakarta (Indonesia)	213
Kuala Lumpur (Malaysia)	200

BENEFITS:

- Safe, accurate and reliable
- Mode S address adjustment according to local conditions
- Seamless integration with surveillance solutions from other vendors
- Able to face a full scale of environmental conditions (electrical environment, ambient environment, mechanical tests)
- Fully automated unattended operation
- Small, lightweight and easy to install
- Low electromagnetic emissions
- Low power consumption
- Fully standards compliant (ICAO, ANNEX 10, Volume IV approved by the CAA)

SQUID CONTROL, VERSION 3. - NEW FLEET MANAGEMENT SW:

A RESULT OF RESEARCHING CUSTOMER NEEDS

NEW

- Selection of ADS-B versions: standards DO-260, DO-260B, DO-260C
- Messages transfer
- Information on the SQUID position
- Definition of Restricted Areas polygons
- Upgraded with new management functionality
- Information on the transmitter and GPS receiver status
- User friendly environment displaying all available settings of the transmitter and internal GPS receiver

TECHNICAL DESIGN:

SQUID consists of an electronics unit, an antenna assembly and a cover made out of a composite material. The cable, which feeds the unit and ensures data transmission, is connected to a water resistant connector on the transmitter body. The transmitter can be mounted on a vehicle with the help of a fixed or a magnetic holder.

TECHNICAL PARAMETERS:

Carrier frequency	1 090 MHz
Output power	18 W (pulse)
Output message rate	Acc. to the Annex 10, Vol. 4
Output message format	Mode S reply DF18 (ES/NT) - surface position - identification and category - operational status
Interface	Resistant connector on the body of device. One connector for both the power line and bi-directional link
DC voltage	+9 V ÷ +32 V
Power consumption	max. 3 W
Operating temperature	-40 °C ÷ +70 °C
Relative humidity	up to 100 %
Dimensions	Diameter 198 mm, height 157 mm (without magnetic holder)
Weight	1.2 kg (without magnetic holder)
Serviceability	Possibility to connect any computer with software allowing to change the mode content or upgrade the SQUID firmware

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