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Resilient PNT



orolia

Kannad Ultima-DT

Emergency Locator Transmitter – Distress Tracker

Orolia's Kannad Ultima-DT is a crash survivable fixed Emergency Locator Transmitter – Distress Tracking type, designed to meet the ICAO GADSS ADT requirement which will be applicable in January 2021. Adaptable to any commercial aircraft, its trigger-in-flight capability detects imminent distress situations and automatically sends a secure 406MHz distress signal, including the accurate aircraft position.

Key Features

- **Compliant with the ADT regulation:**

Kannad Ultima-DT autonomously transmits information from which a position can be determined at least once every minute when in a distress condition. As part of the GADSS ADT requirements, the information containing the aircraft location is available to the relevant authorities such as traffic services and SAR Regional Coordination Centers.

- **Non-rechargeable lithium battery:**

Kannad Ultima-DT combines the latest generation of lithium battery technology and a smart design, which enables the unit to comply with the latest FAA / EASA lithium battery requirements (DO-227A & (E)TSO-142b). Lithium batteries allow temporary operation at cold temperature (-40 °C).



- **Trigger-in-flight capability:**

Activation is triggered through the ARINC429 input as soon as the aircraft faces a distress condition. The Kannad Ultima-DT can also be activated manually with a cockpit remote control panel. If the distress condition is mitigated, a cancellation message is transmitted.

- **User's accurate location:**

The beacon's location is determined through its embedded GNSS receiver, using both GPS and Galileo satellite constellations for faster signal detection and robust position acquisition.

- **Return Link Service (RLS) - Distress signal acknowledgement to the user:**

Kannad Ultima-DT includes a distress acknowledgment capability based on Galileo Return Link Service (RLS), which provides a visual indicator to the user that the distress message has been successfully received on the ground. This capability is subject to country regulations.

Technical Specifications

- **Crash survivable ELT-DT**
 - Rugged design
 - Class 1 (-40°C - +55°C)
 - 121.5 MHz homing signal with 48 hours operating time
- **Configurable triggering logic, including:**
 - Trigger-in-Flight input from ADT module designed and supplied by the aircraft manufacturer
 - Manual activation from Cockpit or front panel
 - Activation on loss of ARINC429 interfaces
 - Ground activation (Galileo Command Service) – optional
- **Low nuisance triggering rate - 10^{-5} per hour**
- **406 MHz distress signal (according to C/S T.001 and T.0018)**
 - First Generation Beacon upgradable to Second Generation Beacon
 - ELT-DT protocol
- **Autonomous location**
 - Internal GNSS (GPS, Galileo L1) receiver as main location source
 - ARINC429 input (from avionics) as backup
- **Autonomous power**
 - Aircraft powered for non-essential functions
 - Distress functions powered by internal battery
 - DO227A compliant
 - 5-year battery life
- **Low Size, Weight & Power**
 - L x W x H : 222 x 170 x 58 mm
 - 4 hole mounting
 - Weight: <math>< 1.6</math> kg
 - Power: <math>< 6</math> W
- **Antenna**
 - Single connector, high speed antenna providing
 - 406 MHz and 121.5 MHz transmission
 - GNSS L1 reception
- **Pending approvals**
 - TSO-C126c / ETSO-C126c
 - ED62B / DO204B: Class 1, ELT(DT)sc type
 - DO-178c, DO254
 - DO227A, TSO-C142b / ETSO-C142b
 - Cospas-Sarsat TAC



Complete your ELT package with the new Ultima-S ELT

After several fire incidents involving lithium batteries in which aircraft were damaged or crew members injured, the FAA, then followed by the EASA, strengthened the certification requirements for the installation of non-rechargeable lithium batteries. This requirement, also known under the Special Conditions applies to all items powered by a non-rechargeable lithium battery, such as fixed & portable Emergency Locator Transmitters (ELTs) installed in new and existing commercial aircraft.