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DK120/90 – RECORDER BEACON



Specifications

The DK120/90 will provide a minimum of 90 days of uninterrupted operation once activated, complying with **TSO/ETSO-C121b**. They have been tested to, meet, and/or exceed all the requirements of **FAA / EASA TSO/ETSO-C121b, SAE AS8045A** in with additional test for batteries as per **TSO/ETSO-C142a**. Building on reliability of the DK120, the DK120/90 will assist in location of CVR/FDR devices.

Physical Characteristics

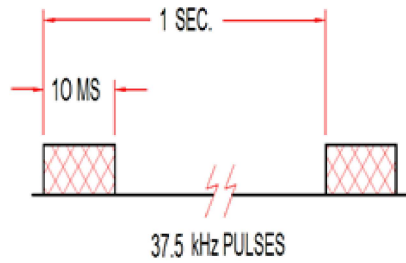
- Watertight aluminum case (1.3" dia, 3.92" length (less mount)).
- Capable of operation at depths of up to 20,000 feet (6096 m)
- Detectable at a range of 2000 to 4000 yards (1800 to 3600 meters) based on environmental factors.
- Sustained pressure up to 8700 psi.
- Water switch actuation initiates beacon operation upon immersion in either fresh or salt water.
- The battery used to power the DK120/90 will sustain beacon operation for a minimum of 90 days at an acoustic output of 160 dB operating frequency is 37.5 kHz.

Beacon Specifications

Operating Frequency:	37.5 kHz \pm 1 kHz
Operating Depth:	Surface to 20,000 feet (6096 meters)
Pulse Length:	9.0 milliseconds Minimum
Pulse Repetition Rate:	Not less than 0.9 Pulse/Sec.
Operating Life:	90 Days (Minimum)
Battery Life In Beacon:	7 Years
Acoustic Output, Initial:	1060 dynes/cm Rms. pressure at 1 meter (160.5dB)
Acoustic Output After 90 Days:	700 dynes/cm ² Rms. pressure at 1 meter (157.0dB)
Operating Temperature Range:	+28°F (-2.2°C) to +100°F (+37.8°C)
Actuation:	Fresh or salt water
Radiation Pattern:	Rated output over 80 percent of sphere
Size:	1.30 inches (3.30 cm) diameter x 3.92 inches (9.95 cm) long (less mount)
Weight, Beacon:	6.7 ounces (190 grams)
Weight, N30A26B Mount:	6 ounces (170 grams)
Weight, N30A21A Mount:	3 ounces (85 grams)
Storage Temperature Range:	-67°F (-55°C) to 185°F (85°C)
FAA & EASA Authorized:	TSO-C121b / ETSO-C121b, TSO- C142a / ETSO-C142a

Theory of Operation

- The DK120/90 is a battery operated underwater acoustic pulse generator (beacon / pinger) that is activated when the water switch is immersed in either fresh or salt water.
- The water switch is part of a low current triggering circuit, which when closed will initiate normal pulsing of the beacon oscillator circuit. The output voltage of the oscillator is coupled to the Piezo-ceramic transducer ring.
- The resultant mechanical motion is transmitted to the metal case of the beacon, which in turn radiates acoustic energy into the surrounding water at 37.5 kHz. The pulse generated are approximately 10 ms in duration, and occur about once per 1 second as shown in figure below.
- The beacon will operate for a minimum of 90 days after being immersed in the water. The beacon will withstand depths to 20,000 feet (6096 meters). It can be detected at a range of 2000 to 4000 yards (1800 to 3600 meters) with N30A5 series of Locator.
- The sea state, nearby boats, marine animals, gas or oil lines, and other factors contributing to the ambient noise level may affect the range at which the beacon can be detected.
- 42A12/1 Ultrasonic Test Set, or TS200 Portable Test Set may be used to perform operational tests on the beacon.



Underwater Locator Beacons

- DKM590
- DKM502/90
- DKM502
- DK485/K
- DK470
- DK350
- DK350L
- DK290 – Recorder Beacon
- DK140 – Recorder Beacon
- DK180 – Low Frequency Beacon
- DK120/90 – Recorder Beacon

 Questions? Get in touch

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