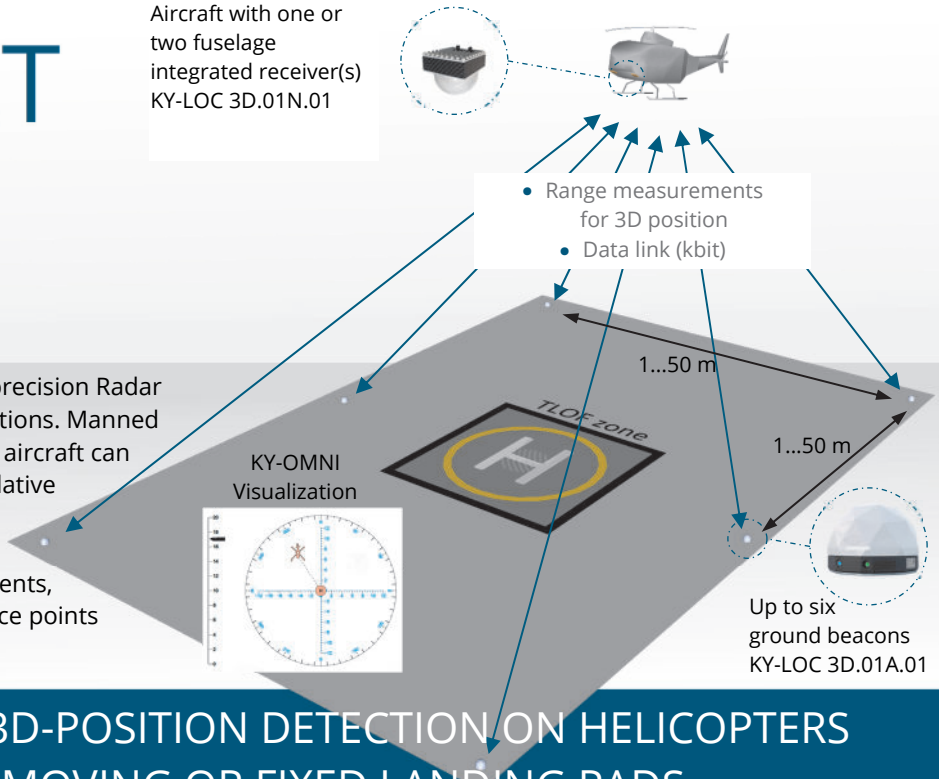
DATA SHEET
K-LOC



K-LOC is a GPS-independent, high integrity, high precision Radar sensor suite to determine three-dimensional positions. Manned and unmanned vertical take-off and landing (vtol) aircraft can determine their absolute position and heading relative to the landing pad, even under adverse light and weather conditions.
K-LOC enables safe start and landing in environments, where satellite-based navigation or visual reference points are limited or not available at all.

RADAR SENSOR SUITE FOR 3D-POSITION DETECTION ON HELICOPTERS AND DRONES, RELATIVE TO MOVING OR FIXED LANDING PADS

K-LOC has three main components:

- One or two receivers integrated in the fuselage of the aircraft, with downward pointing antennas.

- Four to six ground beacons, that are mounted around the landing pad.

- An optical position and heading visualization with height, distance, and heading, relative to the landing pad. This data can be used on a standalone display, integrated in existing flight control devices, or be displayed onto a pilot´s MFD.

For operation on small or moving landing pads, a precise position relative to the landing spot is essential to execute flight missions regardless of adverse weather conditions or limited vision.

The integrated, bidirectional data link can be used for mission data and as a redundant Command & Control channel.

TECHNICAL DATA: K-LOC	
Operating range[1)]	up to 500 m
Accuracy of speed measurement[1)]	typ. ±0,2 m/s
Accuracy of range measurement[1)]	typ. ±0,05 m during final landing approach
Update rate	20 Hz (adjustable)
Protection	IP 69K, IP 68 24hr@5m
Operating temperature	-30 ... +75 °C; -22 ... 167 F
Voltage, power consumption:	ground beacon, airborne unit, altimeter, each: 9 .. 36 V DC, 3 W
Integrated radio data link	up to 100 kbit/s

1) Varying with regional radio regulations

K-LOC – Quick Facts

- Sensor suite to measure relative positions with redundant radio signals.
- Works with high integrity under adverse light and weather conditions, on moving or fixed landing platforms.
- Use of a worldwide license free radio band.
- Totally independent of satellite positioning (GPS/Glonass/Galileo/Beidou).
- Resistant against jamming or spoofing.
- Very small and lightweight components on the aircraft, with standard interfaces for fast system integration.
- Ground beacons can be deployed permanently or temporary, with external power or battery driven.
- Own radio data link.

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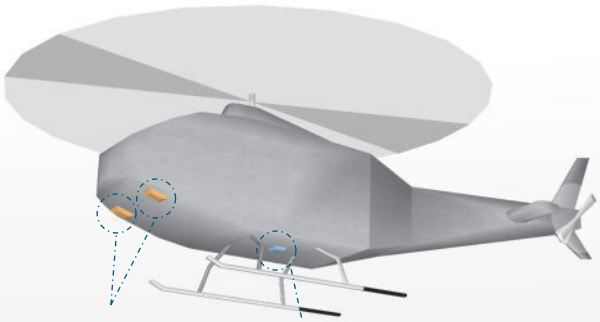


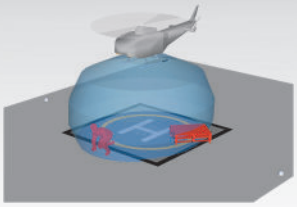
KY-LOC 3D.01N.01
3D position receiver

KY-RAY 1D.03.01
altimeter/down Radar
(optional)

KY-LOC 3D.01A.01
Ground beacon, weight 1,5 kg,
size: Ø 150 mm, height 110 mm

KY-LOC 3D.01N.01 position receiver
OEM version for fuselage integration
weight 50 g, size 80x80x50 mm

KY-RAY 1D.03.01 altimeter/down Radar
OEM version for fuselage integration
weight 50 g, size 80x80x50 mm



Object detection on landing
pad with optional down Radar

APPLICATION EXAMPLES

VESSELS
- Off-shore supply of parts, medicine, mail
- Landing navigation in heavy waters and adverse weather

VERTIPORTS
- Safe landing in confined areas
- Redundant navigation in GPS denied environments

OIL/GAS RIGS
- Goods and staff transport to offshore rigs
- Assisted manned landing with challenging weather and vision

URBAN HELIPAD
- Easy retrofit for existing sites
- Safe landing in confined areas
- Redundant navigation in GPS denied environments

MOVING LANDING PAD
- Safe landing on moving platforms
- Redundant data link for Command & Control

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