

HMS 300



KONGSBERG



Helideck Monitoring System

Offshore helicopter operations are carried out in hostile environments. The HMS 300 is designed to measure helideck motion during helicopter pre-landing and on-deck operations to improve flight and passenger safety in these conditions. The system monitors the helidecks acceleration, heave velocity, inclination, roll and pitch together with meteorological data in real-time.

The HMS 300 is fully compliant with the prevailing recommendations and guidelines issued by the Civil Aviation Authorities in UK, Norway and Brazil. The HMS 300 is compliant with the CAP 437 from September 2018 and accompanying Helideck Certification Agency (HCA) document revision 9b. This implies that the helideck must be equipped with repeater lights connected to the HMS 300 system to indicate to the pilot whether the on-deck or pre-landing conditions are within the landing limits or not. The HMS 300 is compliant to NOROG ver. 9.2 for the Norwegian sector and NORMAM-223/DPC for the Brazilian sector.

Data monitoring and presentation

The HMS 300 will calculate and present the Motion Severity Index (MSI) and Wind Severity Index (WSI) data together with significant heave rate (SHR), inclination, roll and pitch of the helideck in real-time. The system utilizes the KONGSBERG MRU models (E, H, 3, 5 or 5+) or the MGC models (R2 or R3) to precisely monitor vessel motion and accelerations in the helideck center. These data are transferred to the HMS Processing Unit that processes helideck motion data together with MSI and WSI figures to determine whether the helicopter operation is safe or not.

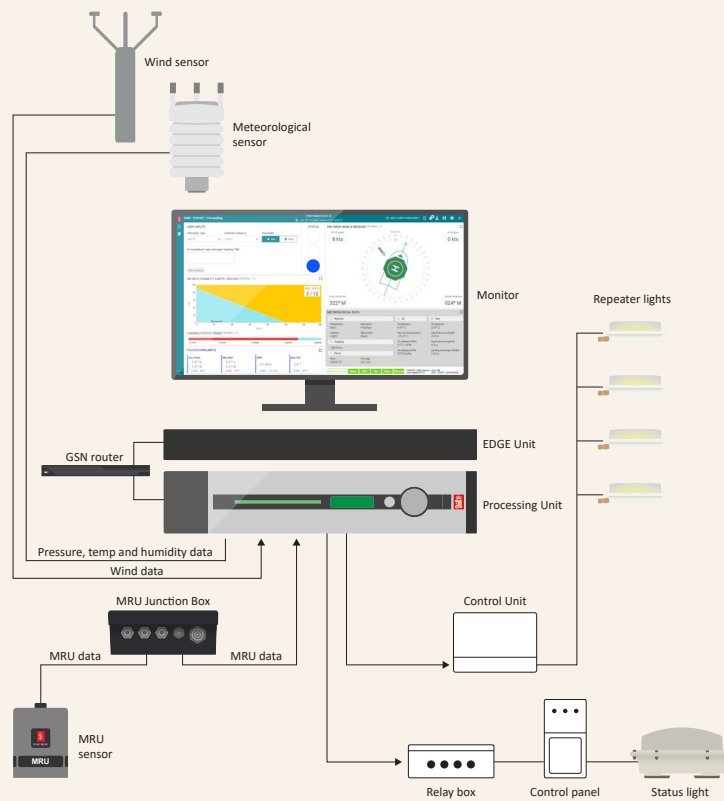
Web access

Live vessel data can be made available from the HMS 300 installation when connected through the KONGSBERG K-IMS cloud based digital platform (optional). The Web access will be available to customers through a paid service. The Web service is developed to assist helicopter operators to plan the flight prior to take-off from the heliport.

Both onboard and onshore personnel can monitor helideck movements and meteorological data in real-time and see the same operational picture in order to increase operational awareness. Cyber security is an important part of the system. With this cloud-based service, storage of helideck data for months is included.

FEATURES

- Real-time presentation of roll, pitch, heave amplitude, heave rate and inclination
- Comply to latest CAP 437 and HCA requirements
- Comply to NOROG ver. 9.2 and NORMAM-223/DPC
- Meteorological data acquisition and presentation in real-time
- Selectable motion sensor input from MRU or MGC
- Measurements of 3-axes linear acceleration in the helideck center
- Live vessel data available through K-IMS by a paid service
- Control of repeater lights mounted on helideck in pre-landing and on-deck mode
- More than 30 days storage of HMS data
- Wave and air gap sensor interface included
- Control of helideck status light to show red light when motions are out of limits (helideck not available)



Technical specifications

HMS 300

Roll and pitch output

Dynamic accuracy (MRU H or E) 0.010°, 1-sigma

Cloud height 0 - 25000 feet
 Visibility 10 - 20000 m
 Wave and air gap 2 - 95 m

Acceleration output

Acceleration range (all axes) $\pm 30 \text{ m/s}^2$
 Acceleration noise $0.002 \text{ m/s}^2 \text{ RMS}$
 Acceleration accuracy $0.01 \text{ m/s}^2 \text{ RMS}$

Power specifications

Processing Unit 100 - 240 VAC, 75 W max.
 HMI Unit 100 - 240 VAC, 120 W max.
 MRU 24 VDC from Processing Unit

Heave output

Output range $\pm 50 \text{ m}$, adjustable
 Periods 0 - 25 s
 Dynamic accuracy (RMS) 5 cm or 5% whichever is highest

Weights and dimensions

Processing Unit 5.4 kg, 89 × 485 × 357 mm
 HMI Unit 7.5 kg, 44 × 485 × 477 mm
 MRU 2.4 kg, 140 × Ø105

Meteorological parameters

The weather sensor feature solid-state designs with no moving parts.

Environmental specifications

Operating temperature range

Processing and HMI Units -15 - +55°C
 MRU -5 - +55°C

Sensor type

Wind speed and direction Ultrasonic anemometer
 Air temperature Capacitive measurement
 Humidity Capacitive measurement
 Barometric pressure Capacitive measurement
 Cloud height Ceilometer
 Visibility Forward-scatter measurement

Humidity (enclosure protection)

Processing and HMI Units 10 - 95 % rel. non-condensing, IP21
 MRU IP66

Present weather RAINCAP® sensor element

Wave and air gap Vertical radar

Mechanical

Vibration IEC 60945/EN 60945

Electromagnetic compatibility

Compliance with EMC immunity/emission IEC 60945/EN 60945

Sensor range

Wind speed 0 - 60 m/s
 Wind direction 0 - 359°
 Air temperature -40 °C - +60 °C
 Humidity 0 - 100 %
 Barometric pressure 800 - 1100 hPa

*Not all stated functionalities apply for all helideck operations standards.
 Specifications subject to change without any further notice.*