

# HMS 100



KONGSBERG



## HELIDECK MONITORING SYSTEM

Civil helicopters are required to operate in hostile environments. The HMS 100 is designed to improve flight and passenger safety in these conditions by providing real-time monitoring of helideck motion and weather conditions. The HMS 100 is fully compliant with the prevailing recommendations issued by the Civil Aviation Authority in both UK (CAP437), Norway (BSL D 5-1) and Brazil (NORMAM-27).

The HMS 100 (Helideck Monitoring System) is designed to measure helideck motion during helicopter landing and take-off operations in order to improve both flight and passenger safety. HMS 100 monitors the helideck's heave, heave velocity, roll, pitch and inclination in real-time. The core of the system uses the Motion Reference Unit, MRU, to precisely monitor the vessel motion. These data are transferred to the HMS Processing Unit, which processes all helideck motion data in our unique HMS 100 software. The HMS 100 system can interface to, use and display data from meteorological sensors and monitor the environmental conditions at the helideck (wind speed, wind direction, air and sea temperature, humidity, barometric pressure, cloud height, visibility and present weather). In addition HMS 100 can use and display navigation data from GNSS and gyrocompass sensors.

The HMS 100 system processes and presents helideck motion data in a clear, easy-to-read graphic user interface. An automatic generation of a helideck report that can be sent by e-mail to the helicopter operator, is included. This helideck report includes vessel information, motion data, meteorological data and logistic information vital for helicopter operations. Live vessel data can be made available if the HMS 100 installation is connected to the K-IMS or Kognifai web server.

### **Compliant with Civil Aviation Authority regulations**

The HMS 100 is fully compliant with the prevailing recommendations and guidelines issued by the Civil Aviation Authority in both UK, Norway and Brazil. Further it is fully compliant with the reporting requirements from the UK and Norwegian Offshore Helicopter Operators (HCA) published in "Standard Measurements Equipment for Helideck Monitoring Systems (HMS) and Weather Data", revision 8c. The HMS 100 software is designed with easy upgrade facilities if any future improvements or requirements should be issued by the Civil Aviation Authorities.

### **Flexible and easy installation**

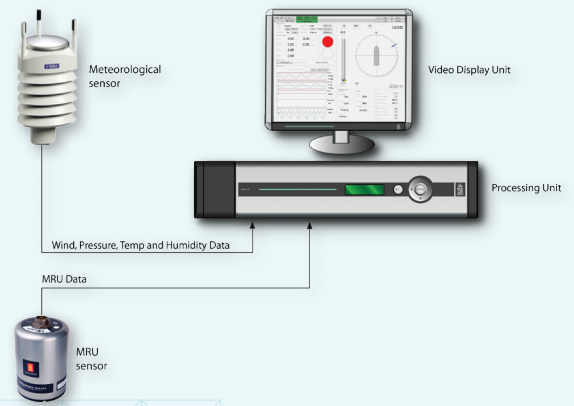
The Motion Reference Unit, MRU, with the aid of selected lever arms in the set-up procedures, enables total installation flexibility. The unit can be installed at the helideck, on the bridge or at any other suitable location on the vessel. The lever arm software makes it possible for the operator to set up the measuring point to be precisely at the centre of the helideck.

### **Advanced features in the HMS include**

- 720-hour logging capability according to new regulations
- Electronic transmission of data using Ethernet
- Check and verification module and procedures

## FEATURES

- Real-time presentation of roll, pitch, heave amplitude, heave rate and inclination
- Meteorological data acquisition and presentation available
- Cloud height, visibility and present weather interface included
- Redundant air pressure sensors can be interfaced
- Output of motion and meteorological data on serial line or Ethernet
- Selectable motion sensor input from MRU or Seapath
- Live vessel data available through K-IMS or Kognifai
- Check and verification tool included



## TECHNICAL SPECIFICATIONS

### HMS 100

#### ROLL AND PITCH OUTPUT

Dynamic accuracy (MRU H or E) 0.05° RMS (for a ±5° amplitude)

#### HEAVE OUTPUT

Output range ± 50 m, adjustable  
 Periods 0 to 25 s  
 Dynamic accuracy (RMS) 5 cm or 5 % whichever is highest

#### METEOROLOGICAL PARAMETERS

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

#### Sensor type

Wind speed and direction	Ultrasonic anemometer
Air temperature	Capacitive measurement
Humidity	Capacitive measurement
Barometric pressure	Capacitive measurement
Cloud height	Ceillometer
Visibility	Forward-scatter measurement
Present weather	RAINCAP® sensor element

#### Sensor range

Wind speed	0 to 60 m/s
Wind direction	0 to 359°
Air temperature	-40 °C to +60 °C
Humidity	0 to 100 %
Barometric pressure	800 to 1100 hPa
Cloud height	0 to 25000 feet
Visibility	10 to 20000 m

#### WEIGHT AND DIMENSIONS

Processing Unit	5.4 kg, 89 x 485 x 357 mm
Monitor	3.8 kg, 383 x 380 x 170 mm
MRU	2.4 kg, 140 x Ø105 mm

#### POWER

Processing Unit	100 to 240 V AC, 75 W (max)
Monitor	100 to 240 V AC, 23 W (max)
MRU	24 V DC from Processing Unit

#### ENVIRONMENTAL SPECIFICATION

##### Operating temperature

Processing Unit	-15 to +55 °C
Monitor	+5 to +40 °C
MRU	-5 to +55 °C

##### Humidity (enclosure protection)

Processing Unit	10 to 95 % rel. non condensing (IP 21)
Monitor	20 to 80 % rel. non condensing (IP 21)
MRU	IP 66

##### Mechanical

Vibration	IEC 60945/EN 60945
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##### Electromagnetic compatibility

Compliance to EMC, immunity/emission	IEC 60945/EN 60945
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Specifications subject to change without any further notice.