


Motion Sensor (Hydrins Inertial Navigation System)

**Attention:**

The Motion Sensors (Hydrins 1 and Hydrins 2) are operated by ship's command only.

Summary

HYDRINS is a high-performance inertial navigation system (INS) optimized for hydrographic survey using multibeam echosounders. HYDRINS comprises a single compact unit and delivers highly accurate real-time position, heading, attitude and speed data.

Hydrins 1

Manufacturer	iXBlue
Model	HYDRINS
Serial No.	PH-1904
Type	motion sensor
REGISTRY-Link	REGISTRY (1224)

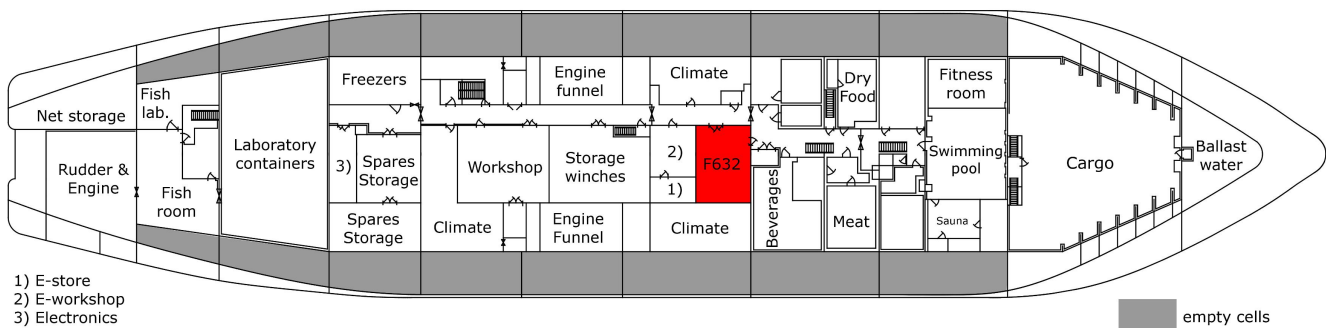
Hydrins 2

Manufacturer	iXBlue
Model	HYDRINS
Serial No.	PH-1887
Type	motion sensor
REGISTRY-Link	REGISTRY (1434)



schematic drawing of Polarstern deck F

location of room F632 (gravimeter, gyrocompass, HYDRINS motion sensors)



Contacts

Name	Institution	Role
Ralf Krockner	Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research	Device Contact
Sebastian Immoor	Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research	Device Contact

Components

Position

Hydrins 1

Info	xyz-position from Alignment Survey Report RV Polarstern (June 2016), located in room F632
X	55.994 m (X-0 is at the center of der rudder (ref. design drawing of the vessel), positive X-axis is forward and along vessel centerline)
Y	-2.666 m (Y-0 at centerline, positive Y-axis is portside)
Z	11.6 m (Z-0 is set to the lowest point of the keel, positive Z-axis is upwards)

Hydrins 2

Info	xyz-positon from Alignment Survey Report RV Polarstern (June 2016), located in room F632
------	--

X	55.166 m (X-0 is at the center of der rudder (ref. design drawing of the vessel), positive X-axis is forward and along vessel centerline)
Y	-2.663 m (Y-0 at centerline, positive Y-axis is portside)
Z	11.599 m (Z-0 is set to the lowest point of the keel, positive Z-axis is upwards)

Data logging, storage and archiving

Logged parameters

Parameter	O2ARegistry Output Type	Unit
latitude	latitude	deg
longitude	longitude	deg
heading	attitude	deg
speed	speed	knot
course	attitude	deg
gyro heading	attitude	deg
gyro heading angle rate	attitude	deg/s
gyro pitch	attitude	deg
gyro pitch angle rate	attitude	deg/s
gyro roll	attitude	deg
gyro roll angle rate	attitude	deg/s
heave	attitude	m
x-velocity	speed	m/s
y-velocity	speed	m/s
z-velocity	speed	m/s

Central geographical ship's position and time standard

Rawdata storage on board

Dship

Data archiving on land

Documentation

- [HYDRINS Quick Start Guide \(User Manual, 4 MB\)](#)
- [HYDRINS Datasheet \(Factsheet, 299 kB\)](#)
- [HYDRINS technical description \(Factsheet, 451 kB\)](#)
- [HYDRINS technical drawing \(Factsheet, 93 kB\)](#)