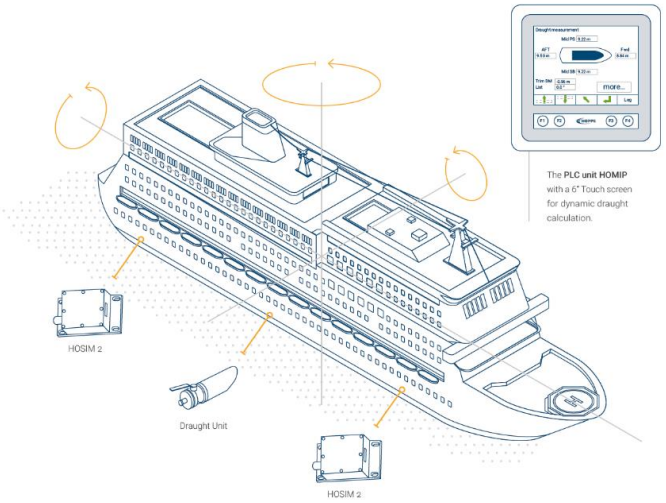
SYSTEM

The Hoppe **Dynamic Draught and Floating Monitoring** system (DDFM) provides detailed information about the floating condition of the vessel at all times.

The system compensates for the influences of hydrostatic pressure measurements while sailing and is thus independent of hydrodynamic effects due to speed and waves. It assumes static displacement and does not take squat effects into account.

Torsion and deflection are always known beyond the static load case. The highly accurate solution also monitors roll and pitch angles, rates and periods, and much more motion-related information. It can even calculate draught and trim at any user-defined position.



FACTS & FEATURES

- Provides dynamic draught and trim while sailing with an accuracy of up to 0.2 m in the dynamic trim determination
- Monitoring of the general floating condition and hull deformation like bending and torsion
- Automatic detection of the operating mode (static / dynamic)
- Easy switching between draughts at perpendicular and draughts at draught marks
- Self-validating system automatically detects sensor failures
- Provides fundamental information for performance optimizations and site-specific tank corrections

Output information

- Roll (Angle, Period, Rate, Acceleration)
- Pitch (Angle, Period, Rate, Acceleration)
- Linear Acceleration (X, Y, Z)
- List
- Trim

- Ships Torsion
- Ships Bending

- Dynamic Trim
- Dynamic Draught FWD CL (DSI, DPP, DM, [X, Y])
- Dynamic Draught MID PS (DSI, DPP, DM, [X, Y])
- Dynamic Draught MID SB (DSI, DPP, DM, [X, Y])
- Dynamic Draught AFT CL (DSI, DPP, DM, [X, Y])

Retrofit

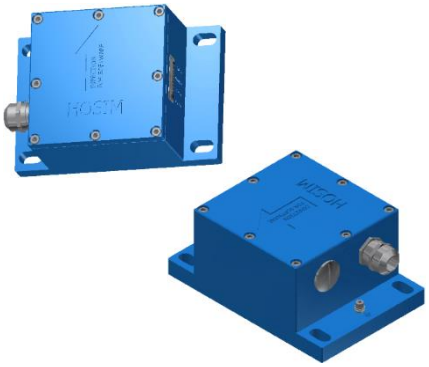
The system can be installed as a retrofit to an existing tank gauging system of any maker.

TECHNICAL DATA CONTROL UNIT HOMIP 2

Supply voltage	24 VDC
Power consumption	15 W, approx. (30 W max.)
Interfaces	2x Ethernet RJ 45 3x USB 2.0 (1x Device, 2x Host) 2x RS 422, 6x RS 485 2x CAN 500 kBit 1x SD/MMC-Card (up to 25 MB/s)
Max. operating temperature	+5 °C – +55 °C

TECHNICAL DATA HOSIM 2

Measuring principle	Acceleration- and temperature-compensated position measurement
Roll/Pitch angle accuracy (static)	0.07° RMS
List/Trim angle accuracy (5 min. average)	0.09° RMS
Linear temperature influence (angles)	±0.02 °/°C
Interfaces	RS422, RS485, Ethernet
Housing and protection class	Aluminum, IP68



TECHNICAL DATA HCG2011-MO4 ANALOG PRESSURE SENSOR 4…20mA

Measuring range	160 mbar – 3200 mbar
Output signal	4…20 mA, 2-wire
Temperature measuring	via PT100
Housing material	Stainless Steel / Titanium
Degree of protection	IP 68; submersible, up to 10 bar
Application range	-40 °C – +120 °C

TECHNICAL DATA HCG4011 DIGITAL BUS SENSOR

Measuring range	0 mbar – 3200 mbar
Output signal	bus signal, half-duplex, interface RS485
Temperature measuring	via PT100
Housing material	Stainless Steel / Titanium
Degree of protection	IP 68; submersible, up to 10 bar
Application range	-10 °C – +100 °C