

SECTION 1
ABBREVIATIONS

LIST OF ABBREVIATIONS

ABBREVIATION	EXPLANATION
ABS	American Bureau of Shipping, a classification society
ADP	Albatross Dynamic Positioning
ARP	Alternative Rotation Point
ARPA	Automatic Radar Plotting Aid
AUT	The DNV Classification for DP vessels of equipment class 1
AUTR	The DNV Classification for DP vessels of equipment class 2
AUTRO	The DNV Classification for DP vessels of equipment class 3
BL	Bridge Line
BV	Bureau Veritas, a classification society
C/A Code	Coarse Acquisition code used with the GPS system
CCS	China Classification Society
CCW	Counter-clockwise
CG	Centre of Gravity
cJoy	Compact Joystick Control System
ClassNK	Nippon Kaiji Kyokai
CLK	Clock
C-MAP	Type of electronically charts
COM	Serial COMunication port
COS	Common Operator Station, name used for computer in DP OS
cPos	Compact DP Control System
CPU	Central Processing Unit
CW	Clockwise
cWing	Compact Joystick Wing Terminal
DARPS	Differential Absolute and Relative Positioning System, a DGPS-related PRS used for relative positioning normally between a shuttle tanker and a FSU
DB	DataBridge
DGPS	Differential Global Positioning System
DNV	Det Norske Veritas, a classification society
DoD	The US Department of Defence
DP	Dynamic Positioning
DPC	DP Controller
DPMC	DP/PM Controller
DPO	Dynamic Positioning Operator
DPVOA	DP Vessel Owners Association, merged with AODC in 1995 to form IMCA
DQI	Differential Quality Indicator
DSC	Digital Selective Calling
EBL	Electronic Bearing Line
ECDIS	Electronic Chart Display and Information System
ECR	Engine Control Room
EGNOS	European Geostationary Navigation Overlay System

ERN	Environmental Regularity Number (DNV), describing position keeping ability
ESB	Electric Switch board
ESD	Emergency Shutdown and Disconnection procedure
ESKI	Environmental Station Keeping Index (BV and RINA), describing position keeping ability
FMEA	Failure Modes and Effects Analysis
FPSO	Floating Production, Storage and Offloading vessel
FSU	Floating Storage Unit
FSVAD	Flag State Verification and Acceptance Document
GL	Germanischer Lloyd, a classification society
GLONASS	Global Positioning System (Russian)
GPS	Global Positioning System
HDOP	Horizontal Dilution Of Precision, an accuracy value used with GPS
HiPAP	High Precision Acoustic Positioning system
HPR	Hydroacoustic Position Reference
HSE	The Health and Safety Executive, the statutory body responsible for safety in the UK sector of the North Sea
HW	Hardware
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities Providing free differential correction signals for GPS
IAS	Kongsberg Integrated Automation System
ICS	Kongsberg Integrated Control System
IEC	International Electro technical Commission
IHO	International Hydrographic Organization
IMCA	International Marine Contractor's Association
IMO	International Maritime Organization
IO	Input-Output
IRS	Indian Register of Shipping
K-Pos	Kongsberg Dynamic Positioning
LAN	Local Area Network
Lat	Latitude
LBL	Long Base Line, one principle used in acoustic positioning
Lon	Longitude
LR	Lloyds Register of Shipping, a classification society
LTW	Light-weight Taut Wire
MED Type approved	Approved by EU's Marine Equipment Directive (MED)
MOB	Man Over Board
MOB	Mobile transponder
MRU	Motion Reference Unit, measuring Pitch, Roll (and Heave)
MSAS	Multi-Functional Satellite Augmentation System
MSC	Maritime Safety Committee (IMO)
NAVSTAR GPS	Navigation Signal Timing and Ranging Global Positioning System
NI	Nautical Institute
NI	Non Interlaced

NK	Nippon Kaiji Kyokai, a classification society
NMD	The Norwegian Maritime Directorate
NMEA	National Marine Electronics Association (USA)
NPD	Norwegian Petroleum Directorate
OS	Operator Station
OT	Operator Terminal
P(Y)-code	The Precision code used with GPS, now replaced by Y-code
PCR	Performance Capability Rating (LR), describing position-keeping ability
PL	Planning station
PM	Position Mooring
PMC	PM Controller
PMS	Power Management System
PRS	Position-reference system
PS	Process Station
RCA	Redundancy and Criticality Assessment
RINO	Registro Italiano Navale
RIO	Remote Input-Output
RMR	Russian Maritime Register of Shipping
RMS	Riser Management System
rms	root mean square
ROV	Remotely Operated Vehicle
RPM	Revolutions Per Minute
SA	Selective Availability, a mean of degrading civilian GPS accuracy, switched off in May 2000
SBAS	Satellite Based Augmentation Service
SBC	Single Board Computer
SBL	Short Base Line, one principle used in acoustic positioning
SDP	Simrad Dynamic Positioning
SM	SeaMap
SPM	Kongsberg Position Mooring
SPS	Kongsberg Planning Station
SSBL	Super Short Base Line, one principle used in acoustic positioning
STC	Kongsberg Thruster Control
STL	Submerged Turret Loading, a loading facility for shuttle tankers
SVC	Kongsberg Vessel Control
SW	Software
UPS	Uninterruptible Power Supply
USCG	U.S. Coast Guard
UTC	Universal Time Coordinated
UTM	Universal Transverse Mercator
VRM	Variable Range Marker
VRM	Vessel Reference Model
VRS	Vertical Reference System, measuring Pitch, Roll (and Heave)

WAAS	Wide Area Augmentation System
WGS	World Geodetic System
WOP	Wheel Over Point
WP	Waypoint

General terms

Apparent wind

See **Relative wind**.

Artemis

A microwave position-reference system, measuring range and bearing.

Bearing

The horizontal direction of one terrestrial point from another, expressed as the angular distance from a reference direction, clockwise through 360°.

Blackout prevention

A method of preventing a power failure due to overloading of the supply generators.

Buoyancy element

An anchor line element connected at a fixed position on an anchor line, causing a concentrated vertical force upwards on the anchor line.

Cartesian coordinate system

A coordinate system where the axes are mutually-perpendicular straight lines. Cartesian systems used are UTM, US State Plane and Local N/E.

Catenary profile

The shape of an anchor line, seen from the side, presented as height above sea bed along the line from the fairlead to the touchdown point.

Clump weight

An anchor line element connected at a fixed position on an anchor line, causing a concentrated vertical force downwards on the anchor line.

Course

The horizontal direction in which a vessel is steered or is intended to be steered, expressed as angular distance from north, usually from 000° at north, clockwise through 360°. Strictly, this term applies to direction through the water, not the direction intended to be made good over the ground. Differs from **heading**.

Datum

Mathematical description of the shape of the earth (represented by flattening and semi-major axis as well as the origin and orientation of the coordinate systems used to map the earth).

Dead reckoning

The process of determining the position of a vessel at any instant by applying to the last well-determined position the run that has since been made, based on the recent history of speed and heading measurements.

Destination

The immediate geographic point of interest to which a vessel is navigating. It may be the next waypoint along a route of waypoints or the final destination of a voyage.

ECDIS

Electronic Chart Display and Information System. A navigation information system which can be accepted as complying with the up-to-date chart required by regulation V/20 of the 1974 SOLAS Convention, by displaying selected information from a SENC with positional information from navigation sensors to assist the mariner in route planning and route monitoring, and if required display additional navigation-related information.

ENC

Electronic Navigation Chart. A Cell for use in ECDIS systems.

Fanbeam

A laser based position-reference system, measuring range and relative bearing.

Feedback

Signals returned from the process (vessel) and used as input signals to the Vessel Model.

Gyrocompass

A compass having one or more gyroscopes as the directive element, and which is north-seeking. Its operation depends on four natural phenomena: gyroscopic inertia, gyroscopic precession, the earth's rotation and gravity.

Heading

The horizontal direction in which a vessel actually points or heads at any instant, expressed in angular units from a reference direction, normally true north, usually from 000° at the reference direction clockwise through 360°. Differs from **course**.

ICS

Integrated Control System from Kongsberg Maritime. In an Integrated Control System the SDP communicates with other Kongsberg Maritime systems such as SVC (Vessel Control) and STC (Thruster Control) via a dual Ethernet LAN.

IHO

International Hydrographics Organisation. Coordinates the activities of national hydrographic offices; promotes standards and provides advice to developing countries in the fields of hydrographic surveying and production of nautical charts and publications.

IMO

International Maritime Organisation. Formerly called IMCO, the IMO is the specialised agency of the United Nations responsible for maritime safety and efficiency of navigation.

Kalman Filter

The Kalman filter is a set of mathematical equations that provides an efficient computational (recursive) solution of the least-squares method. The filter is very powerful in several aspects: it supports estimations of past, present and even future states, and it can also do so even when the precise nature of the modelled system is unknown.

Line segment

Either a segment of an anchor line, a **clump weight** or a **buoyancy element**.

Log

An instrument for measuring the speed or distance or both travelled by a vessel.

RADius

A position-reference system using radar principles between an Interrogator and a Transponder.

Reference origin

The reference point of the first position-reference system that is selected and accepted for use with the system. The origin in the internal coordinate system.

Relative bearing

The bearing of an object relative to the vessel's heading.

Relative wind

The speed and relative direction from which the wind appears to blow with reference to the moving vessel.

SOLAS

International Convention for the Safety of Life at Sea developed by IMO.

Surge

Vessel movement in the fore-and-aft direction.

Sway

Vessel movement in the transverse direction.

Setpoint circle

The circle around the terminal buoy where the vessel is positioned during offshore loading operations.

Thruster

In this document, this is used as a general term for any element of the vessel's propulsion system, such as an azimuth thruster, tunnel thruster, propeller or rudder.

Touchdown point

The position at which an anchor line meets the sea bed.

Transponder

In this document, this is the physical reference of a position-reference system. For example: for an HPR system this means any deployed transponder; for an Artemis system, the Fixed Antenna unit/beacon; for a Taut Wire system, the depressor weight, etc.

True bearing

Bearing relative to true north.

Vessel Reference Model

A mathematical model of the vessel which makes it possible to simulate vessel movements and behaviour in the horizontal plane (surge, sway and yaw).

Voting

A system of redundancy using triplicated systems and a “two out of three” vote on all critical values.

Yaw

Vessel rotation about the vertical axis.