



NACOS Marine SMARTDRIVE

Navigate with precision with the Intelligent Joystick for Effortless Vessel Control

Traditional joystick systems simply use the joystick to set force parameters for a vessel's horizontal 3 axes of movement (surge, sway, yaw). SmartDrive uses the joystick to set velocity parameters for the surge and sway axes; and rate of turn in the yaw axis, which provides for a more intelligent joystick operation. This is achieved by the inclusion of a closed loop control system which takes care of controlling vessel movement.

When the joystick is centered the vessel is holding position and heading. Displacement of the joystick from the center "Zero" position will command the controller to move the vessel at a fixed velocity in the direction of the joystick displacement, with the velocity directly proportional to the displacement of the joystick. Rotational movement is around

the vessel Center of Rotation (CoR) - a parameter that can be set to a location on or off the vessel.

In its simplest form the system comprises an mru, wind, position and heading sensors, a controller (computer), a 13inch display with touchscreen, a 3-axis joystick, and an IO rack to connect to thruster, propulsion and steering controllers. The architecture is fully scalable to provide for redundancy if required, as well as support multiple operator workstation locations.

The user interface has been simplified for ease of operation (training is not required), and the product is intended for use on both large (cruise ships, bulk carriers) and small (ferries, tugs, mega yachts) vessel types.

Key benefits

- Simple to use
- Full 3-axis control
- Includes capability to hold position and hold heading:
 - Controlled Move or Rotation function included
 - Center of Rotation can be set to an ON vessel or OFF vessel location by the operator
- Capability to install electronic charts (ENC format)
- Optional SmartPredict function (predicts vessel movement up to 180 seconds in the future – prediction shown using ghost ships)



Redefining Joystick Control for Smoother, Smarter Vessel Navigation

Hardware Specification for Operator Workstation	
Display	13 inch touch display
	1920 x 1080 resolution
	600 cd/m2
	W:35.5cm x H:24.8cm x D:6.9cm
Computer	Intel I3 processor
	Solid State Drive (SSD)
	Horizontal or vertical installation
	2 x Gb Ethernet ports
Joystick	3-axis non-spring loaded
Workstation power requirement	120V/240V ac, 50/60Hz

CP-SPU	
Computer (controller)	Intel i7 processor
	SSD
	8 x RS-422 serial ports
	2 x 100Mbps Ethernet ports
Network switch	8 x 100Mbps Ethernet ports
PLC Rack	2 x 100Mbps Ethernet ports
	Up to 64 IO (assorted analog and digital)
CP-SPU power requirement	120V/240V ac, 50/60Hz
CP-SPU dimensions	W:61.0cm x H:82.6cm x D:33.8cm

Certification and conformance	
EMC, Safety, Environmental	IEC 60945, IACS E10 Rev 8

At NACOS Marine, we are redefining control at sea. Born from decades of maritime expertise, NACOS Marine delivers fully integrated automation, navigation, and dynamic positioning solutions, built on one intuitive platform. We empower vessel operators with precision, situational awareness, and confidence in the most demanding marine environments.



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