NAVIS ENGINEERING

NJoy

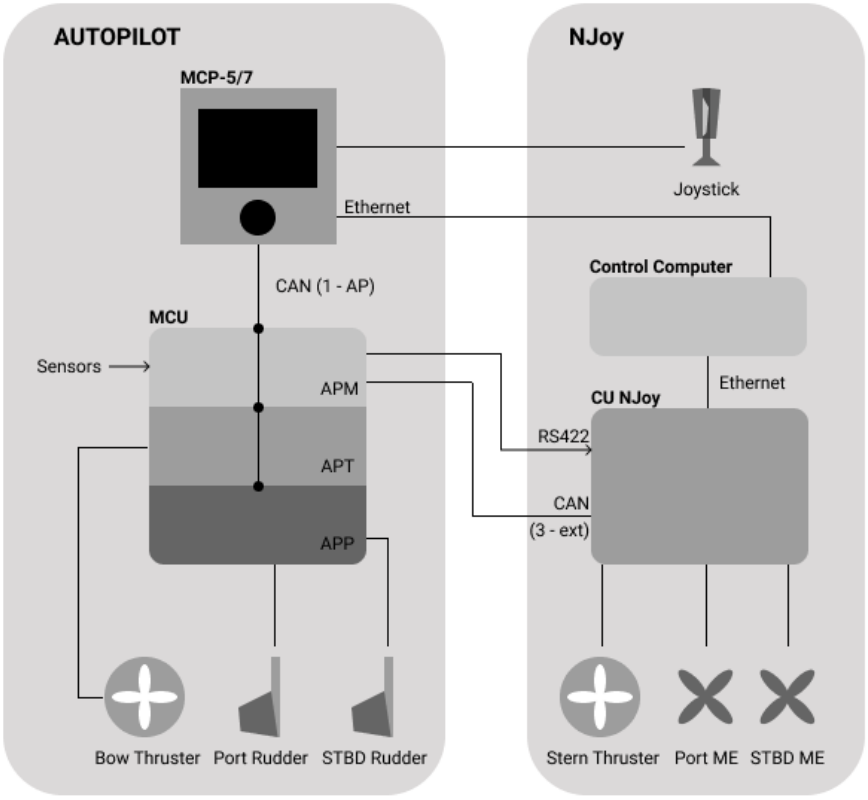
IMCA

ISO 9001 DNV CERTIFIED ORGANISATION

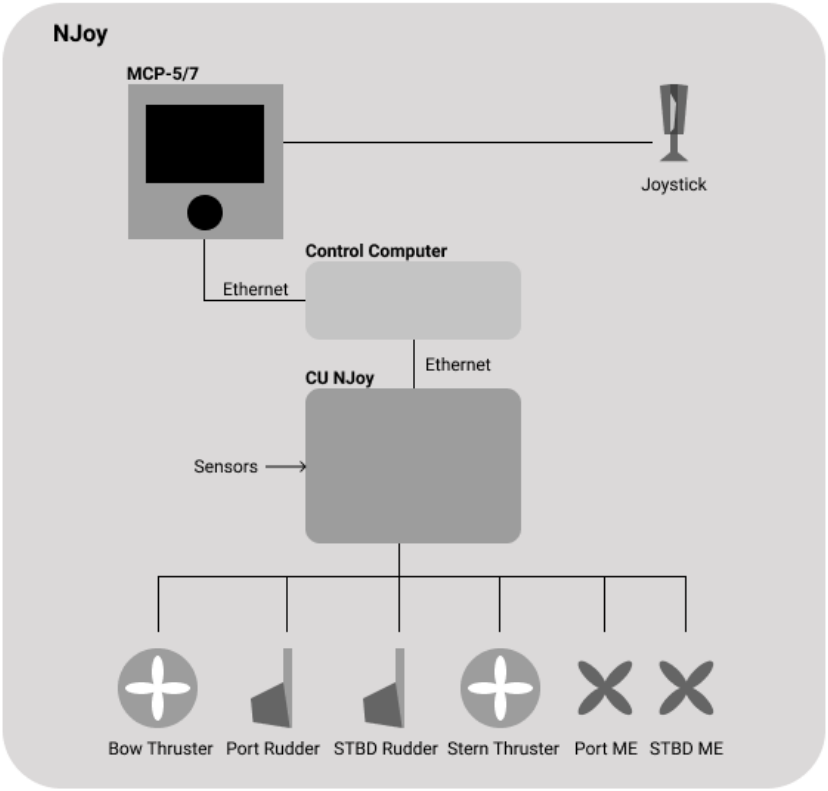
NJoy description

NJoy our newest generation of Joystick control system. System features manual control of engines and thrusters with single joystick as well as automatic position keeping.
Despite having same functionality and operation philosophy, NJoy is not a full scale dynamic positioning system. It is designed to be operated by navigator offering much more simple control comparing to DP.
This solution is the best for small work boats and yachts, which require smart and intelligent automatic functions with combination of precise manual control but without complicated DP GUI or DP certification.

AP + NJoy



NJoy standalone

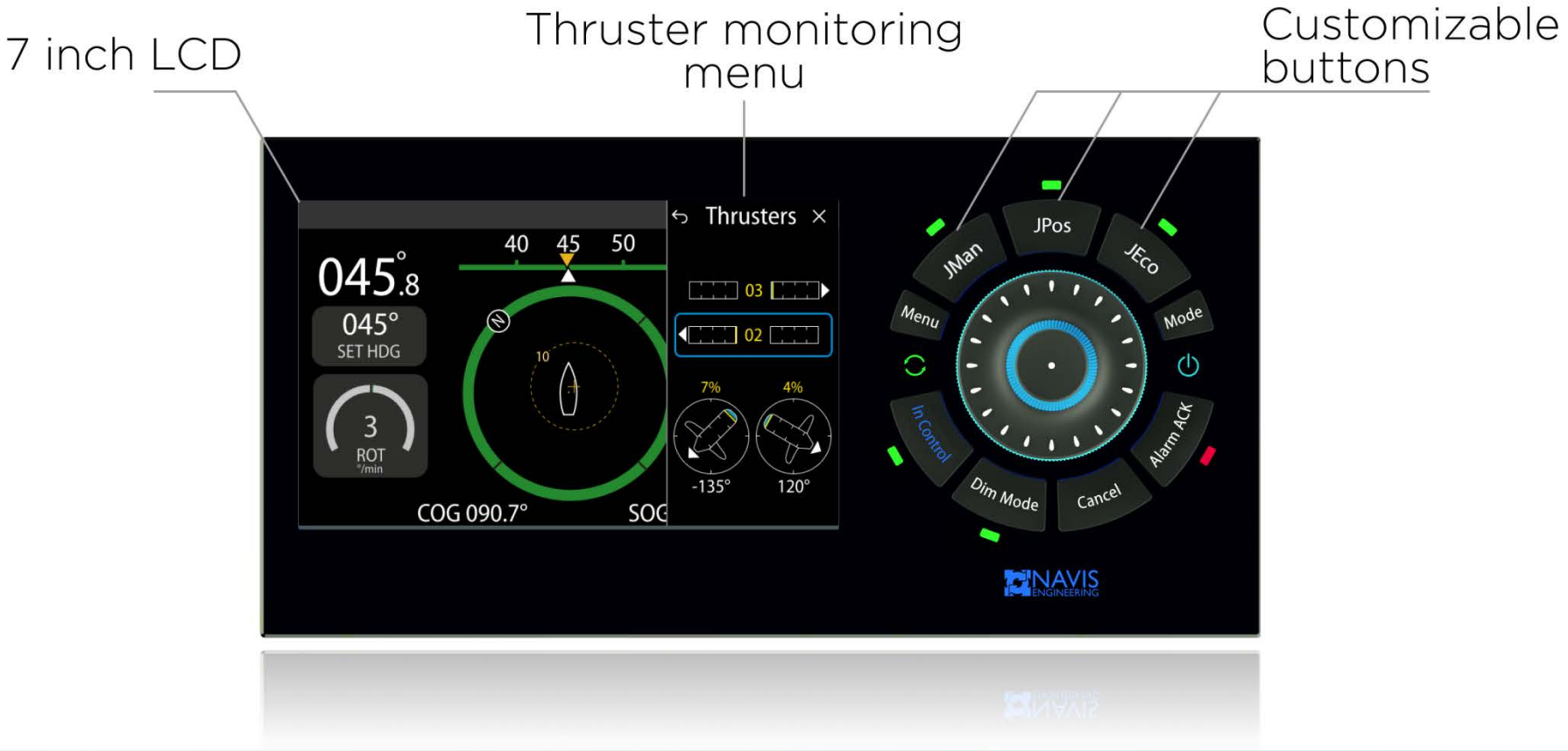


NJoy benefits

- Can be with integrated type approved autopilot
- No UPS
- Auto functions based on fast and precise DP algorithms
- Type approved Autopilot could be integrated part
- One control panel for both: Autopilot and NJoy systems
- Same sensors for Autopilot and NJoy systems
- Compact
- Remote support and fine tuning
- No big touchscreen required
- Simple and intuitive GUI
- Panels could be installed under solid foil or glass

APH-5 (with 5` non touch LCD)

APH-7 (with 7` non touch LCD)



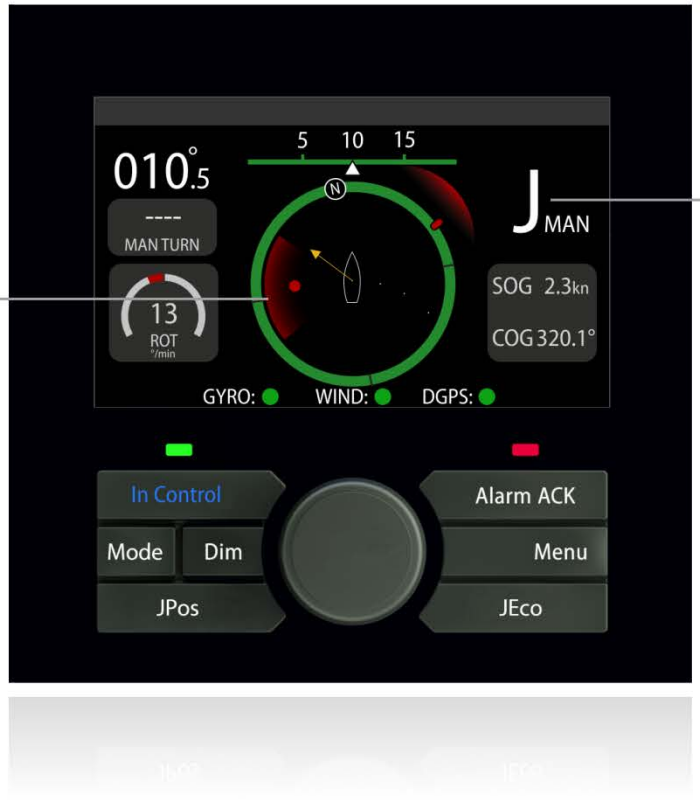
NJoy GUI

Thruster monitoring menu

Thruster selection\deselection for allocation

Real-time thruster command & feedback

NJoy GUI



Zones unavailable for mevement

Manual joystick control mode

NJoy GUI

Manual joystick command

Manual joystick control mode

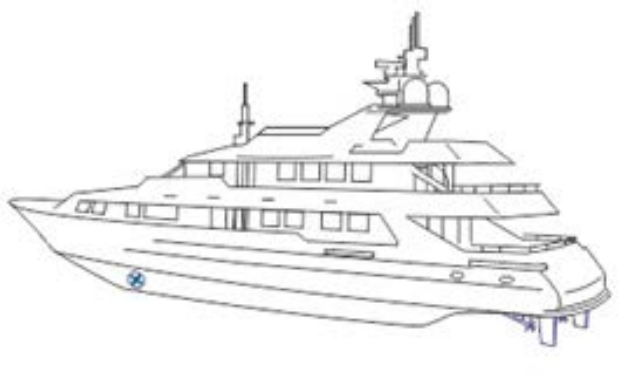
NJoy interfaces

1) Analogue interface: 16 DI, 16 DO, 16 AI, 8 AO
2) 8 RS422 sensors + 1 dual RS port
3) 2 PCP connection points or 2 additional control panels only

NJoy minimum set of sensors and PRS

1) DGPS
2) GYRO (Heading)
3) Wind sensor
4) … nothing else, no VRS required

NJoy minimum set of propulsion



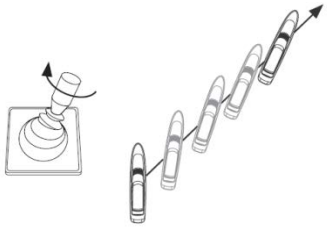
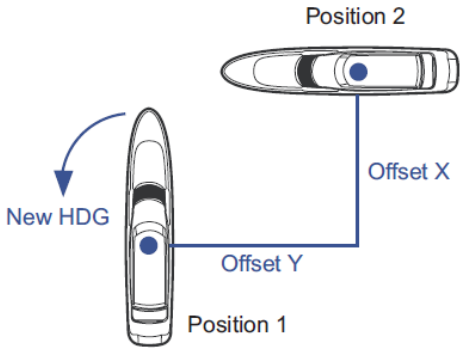
BTT + 2 Rudders + 2 CPP

BTT + STT + Rudder + CPP

BTT + 2 AZ

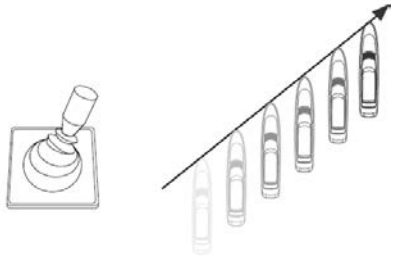
In total interface with propulsion is limited by 8 channels.
F.e. one AZ thruster is 2 channels,
One CPP, Rudder, Tunnel thruster is 1 channel

NJoy functions and modes

Mode	Features description
Standby mode	Ship Control is provided from the Bridge Control Console, using engine telegraph levers, thruster control levers and steering levers or wheel. The system is in operation and is ready for control acceptance.
Joystick Manual Control (Jman) 	The surge/sway forces and the yaw moment are controlled manually by using the joystick/knob. • Adjustable joystick gain (sensitivity)
Joystick Auto Position & Heading (Jpos) 	Automatic keeping of the operator selected vessel heading. • Hold the vessel heading • Set new heading: absolute value or offset from the previous set-point • Set rate of turn • Adjustable heading controller gain • Heading deviation alarm with adjustable limit Automatic keeping of the operator selected vessel position. • Hold the vessel position • Set new position as offset from the previous set-point • Set transfer speed • Adjustable position controller gain • Position deviation alarm with adjustable limit

NJoy functions and modes

Joystick Auto Heading & Manual positioning (JHdg)

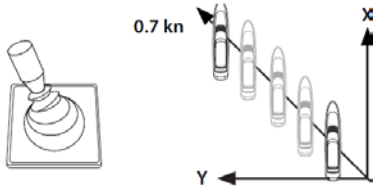


Automatic keeping of the operator selected vessel heading.

- Hold the vessel heading
- Set new heading: absolute value or offset from the previous set-point
- Set rate of turn
- Adjustable heading controller gain
- Heading deviation alarm with adjustable limit

The surge/sway forces and the yaw moment are controlled manually by using the joystick/knob.
Adjustable joystick gain (sensitivity)

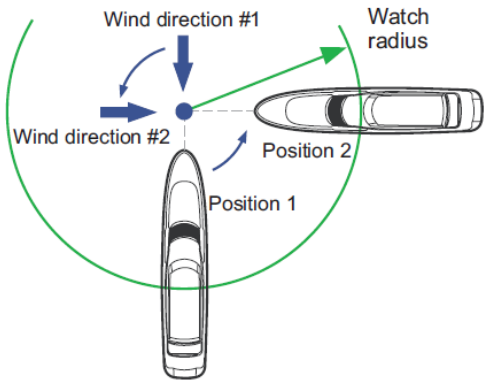
Joystick Speed Control (Jspd)



Automatic keeping of the operator selected vessel speed vector.

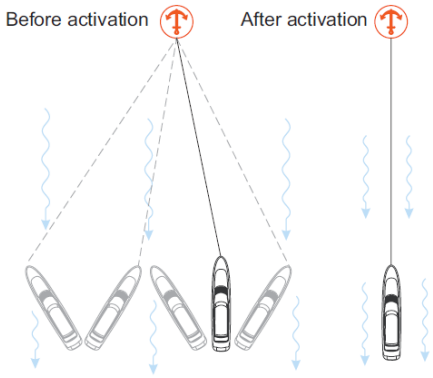
- Hold the vessel speed
- Set new speed (digital/joystick input)
- Adjustable speed controller gain

Joystick Eco Positioning (JEco)



Automatic keeping of the operator selected area with optimal heading directed against disturbing force (wind and/or current) to minimize power consumption of propulsion.

NJoy functions and modes

Joystick Anchor (JAnc)  	The System automatically searches and sets an optimal heading directed against disturbing force (wind and/or current) to minimize yawing by means of only stern propulsion.
Thrust Allocation	At any given moment the fore-aft and athwart ships forces and rotary moment, which are necessary for ship position and heading control, are calculated. • Thrust Limits • Thrust Configuration
Auto Wind Compensation	When this function is selected, control forces and moments are generated to compensate for wind disturbance
Alarm System	The built-in alarm generating system includes online diagnostics, message reporting and alarm acknowledgement function. • Alert Status System • (red, yellow, green) • Voice Alarms • Online Diagnostics • Message Reporting