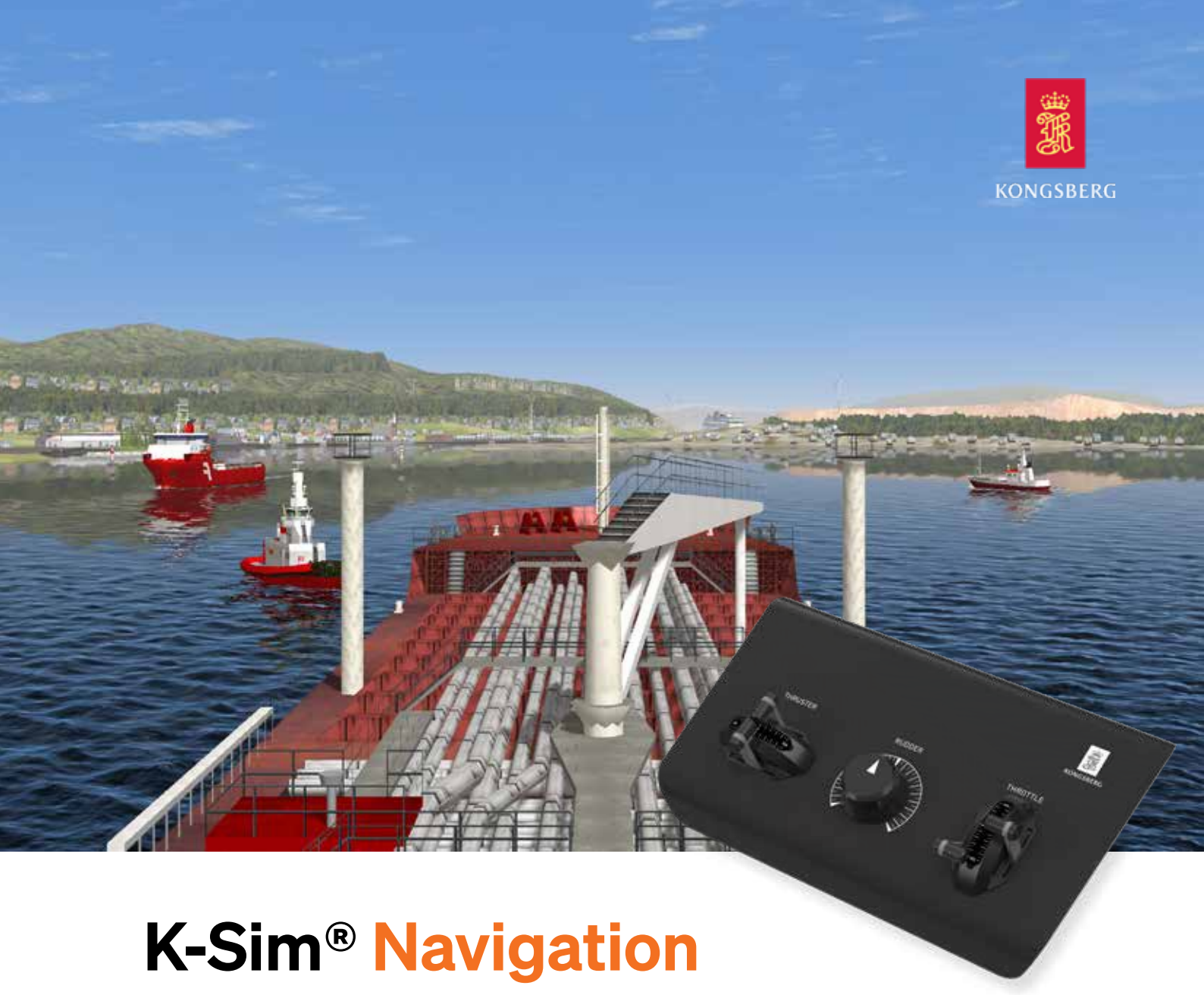


K-Sim® Navigation Maneuver Control Instrument

Enhancing Desktop Training with levers and controls

The Maneuver Control Instrument brings authentic ship-handling experience to K-Sim Navigation's desktop systems. Students can select between rudder-, autopilot- or remote mode. In addition, a Non-Follow-Up (NFU) emergency mode provides direct rudder control via port and starboard pushbuttons. Thruster controls allow activation and deactivation of bow and stern groups, and propulsion is continuously governed by the throttle.

Why Choose the Maneuver Control Instrument?

- Authentic Experience – Real hardware levers and controls in a Class C desktop setting for higher engagement than on-screen controls.
- Accelerated Learning – Build proficiency in steering modes, NFU operations, and situational awareness.
- Reinforced Concepts – Practice order vs. feedback for precise maneuvering.
- Plug & Play – USB integration with zero driver installation.
- Scalable & Flexible – Enhance multi-station classrooms with min. overhead.
- Progressive Training Path – From basic helm handling to complex thruster and autopilot scenarios.
- Safe, Controlled Environment – Master low-speed approach, departure, course keeping, and rate of turn without risk.

Kongsberg Maritime Simulation

We provide advanced simulation systems for maritime education, training and studies.

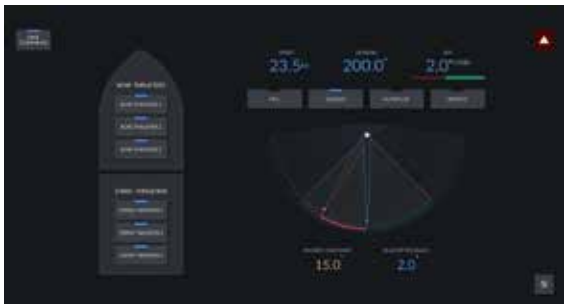
Our K-Sim simulators range from full-scale bridge simulators with realistic features to cloud-based training enabling engaging exercises anytime and anywhere.

Through our training solutions students and crew will have efficient and realistic training that builds vital skills and promote safety, cost-efficiency and sustainability in operations at sea.

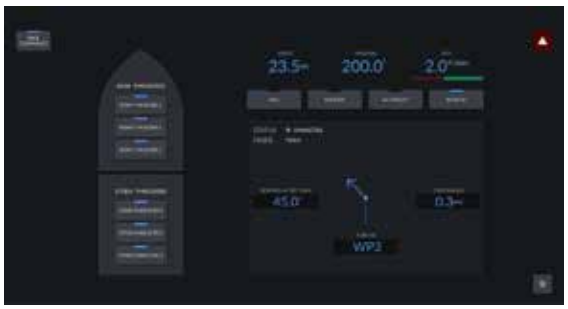
Specifications

How to Use It

1. Connect the console to the PC via the supplied USB cable. The device is auto detected by K Sim Navigation.
2. Launch the K Sim desktop navigation simulator.
3. Select steering mode on the instrument:
 - Rudder (Follow Up): Use the physical rudder lever; ordered vs. feedback rudder angle is shown in the instr.
 - NFU (Non Follow Up): Steering executed via two on screen momentary push buttons (Port / Starboard) that directly controls the rudder(s); physical rudder lever not used for command (order and feedback still displayed).
 - Autopilot: Set desired course on the instrument; rudder lever input is ignored; course and heading feedback displayed.
 - Remote: Steering surrendered to an external ECDIS / autopilot interface using the NMEA 0183 TNT (track control) message (compatible with Kongsberg K-Bridge ECDIS and any system outputting TNT); status indicated on the instrument.
4. Propulsion: Throttle lever(s) always provide direct propulsion command (ahead / astern) irrespective of steering mode.
5. Thrusters: Enable/disable individual thrusters (bow or stern group). Active group analog inputs map to bow group (bow lever) or stern group (stern lever) as configured.



Rudder control
-Students operate the rudder form the desktop console .



ECDIS control
- Student can follow the commands as given from ECDIS

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Technical Specifications

- Propulsion Levers: 2 independent levers (Port / Starboard) with continuous travel from –100 (Full Astern) to +100 (Full Ahead)
- Thruster Levers: 2 levers (Bow, Stern) each scaled –100 to +100
- Rudder Wheel: 1 rotary wheel with graduated scale and visual 0 (center) reference; smooth continuous travel
- Materials: Coated metal enclosure; plastic lever housings and lever handles; plastic rudder wheel and thruster assembly components
- Enclosure Dimensions With 498mm× Depth 300mm × Height 130mm
- Weight: 5,2 kg
- Mounting / Placement: Desktop unit with rubber feet; no permanent mounting points

Electrical & Interface
- Host Connection: USB 2.0 Type A (backward compatible with USB 3.x ports)
- Power: Powered over USB port. No external power supply required (USB cable only)

Calibration
- Performed through K Sim Navigation generic I/O calibration system (software-based)

Environmental
- Operating Temperature: 50-95° F (10-40° C)
- Non-operating: -22° to 149° F (-30° to 65° C)
- Humidity Operating: 10% to 90%
- Non-operating: 5% to 95%

Software / Protocol
- Device Class: HID (Human Interface Device)
- Remote Mode Interface: NMEA 0183 TNT (Track Control) message only; no additional autopilot / heading sentences required
- Autopilot Course Set Increment: 0.1°

Compliance & Quality
- Class C maritime simulation training accessory (desktop environment use only)
- Designed for educational / simulation use

Compatibility
- K Sim Navigation simulator ver. 3.2.0 and later
- Operating Systems: Windows 10 or Windows 11
- USB Port: 1 × available USB Type A