



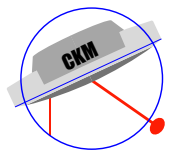
CKM

Canting Keel Manager



Designed for monohulls equipped with a canting keel operated by hydraulic or electric system

- Security controlled keel handling
- Manual, semi automatic or automatic keel control
- Automatic management of tacking sequence
- Securing of the vessel in case of capsizing or loss of keel
- Integrates optimal keel angle data,
- Records the history of manoeuvres and events, delivers a usage report
- Integrates energy saving working modes



Practical

CKM integrates the optimal keel angle data based on the heel angle, true wind angle and speed.

The automatic tacking sequence can be configured entirely by the user. This can vary according to wind angle (tack or gybe) and the wind strength. Energy saving mode reduce power consumption and favours movement using gravity.

Available as an option, the CKM ControlCenter software offers enhanced functions :

- Monitoring of the system,
- Recording and viewing of historic data concerning the control of the keel,
- Access to usage report,
- Processing of the data concerning the ideal keel position,
- Advanced set-up,
- Triggering of the keel movement.

User friendly

From the remote control panels, the user can launch the keel movement.

- move up to port or starboard,
- move down using gravity,
- stop the movement,
- launch the tacking sequence.

The keel movement is stopped automatically or when the user gives the order.

The figures on the main unit and the control panels indicate the process underway.

The current and target keel angles are shown on the control panels display.

A wireless remote control is also available.



CKM main unit :

- 4 push buttons for direct manual control of the hydraulic components,
- 2 function keys
- 1 ON/OFF key
- 4 indicators for hydraulic devices processes
- 6 status indicators

Improving safety

For the boat and the crew : if the boat goes over on her side, the keel automatically goes back into position to increase the righting moment. If the boat is upside down, the keel automatically goes to the opposite side to where the waves are coming from.

The keel anomaly sensing function means it is possible to secure the boat (if connected to the UpSideUp system) and to launch an alarm.

For the equipment : the system includes all the safety functions that are required to avoid damage in case of human error or sensor failure.

If there is any equipment failure and to test the various devices, four push buttons on the front of the electronic box enable the keel to be moved. They directly control the valves and the pump (or the electrical devices) and are independent of the electronic circuit.

Warning lights and alarms show if the system is functioning correctly.

Reliable and low energy use

With a minimum number of connections, with high quality integrated electronic circuits, CAN bus, easily switchable electronic card, the equipment offers everything to ensure a long-lasting and reliable system, whatever the circumstances and guarantees easy maintenance.

These characteristics mean as well that the system is compact, lightweight and uses very little energy.

Simple and independent

CKM works completely independently. It is not a requirement to have connections with the ControlCenter software or NMEA inputs. The CKM main unit includes a 9° of freedom sensor to measure precisely the angle of heel of the boat.

Easily updated

The system behaviour can be modified with a simple configuration files and user settings update, directly from the ControlCenter software.

CKM is open to custom developments. The client can request a particular functioning mode or a specific function. CKM can be used on all types of boat and on all power devices configuration.

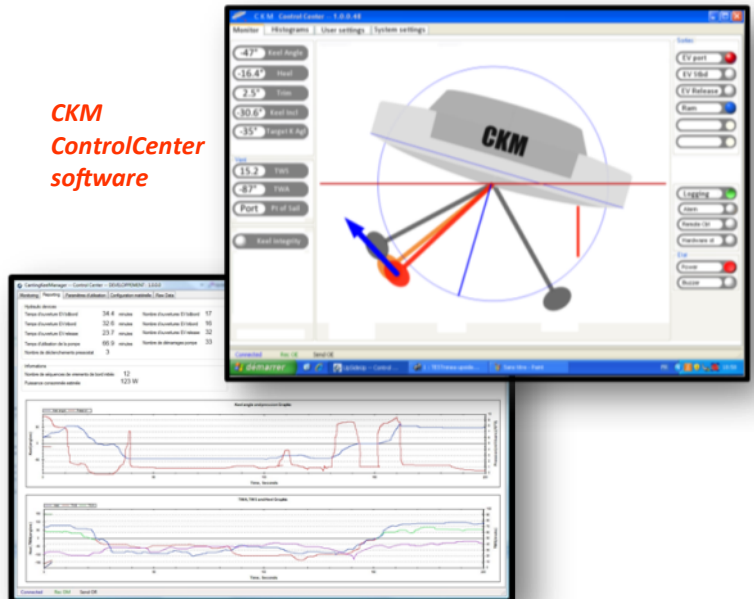
CKM remote control unit :

- 1 display for keel angles, heel angle and notifications
- 3 indicators for underway processes
- 1 display control key
- 5 command keys



Features	
Number of output channels (relay outputs) (4 are used by the hydraulic devices on a conventional installation)	6
Alarm management	yes
Integrated buzzer / Output for external alarm	1 / 1
Contextual management on wind angle and speed	Option
NMEA input	
Ethernet link for CKM ControlCenter software	1
Software CKM ControlCenter	Option
Wireless remote control	Option
Number of remote control units maximum	16
Data and event recording	yes
Analogue sensor / binary signal inputs	7 / 5
Output state indicator	yes
Main unit power supply : voltage / power max	9/32 vdc - 1.7 W
Dimensions of CKM main unit	H220 x W130 x D36mm
Dimensions of CKM control unit	H160 x W90 x D19mm
Weight of CKM main unit	700gr

CKM ControlCenter software



CKM ControlCenter software

- Graphics monitoring of the boat heeled over, and the position of the keel in relation to the end stops, the axis of the boat and the target keel angle,
- Visualisation of the data and the state of the equipment,
- Advanced set-up for the processes. Management of the target keel angle data,
- Data logging, processes and events reports,
- Access to function reporting; times of use, number of movements, changes in tack, etc...
- Keel motion processes launch panel.