

Wärtsilä Lipstronic/ReFit Standard for controllable pitch propeller (CPP)



All vessels need a safe, reliable, and easy-to-use control system for maneuvering, and Wärtsilä has years of experience in the development of such systems. The Wärtsilä Lipstronic/ReFit Standard CPP is a standard replacement for controllable pitch propeller (CPP) control systems. It covers all the essential functionalities required for this application. With this replacement a standard low cost solution is available for older Lipstronic systems. It also fits other makes of CPP control systems.

Advances in automation technology have made it possible to update older control systems to modern performance standards and safety requirements. Depending on factors such as moisture, humidity, vibration, temperature and the level of maintenance, ageing can result in poor contacts and deteriorating capacitors. This can lead in turn to rising operational costs resulting from the extensive investigation of failures, and high spare part costs. Spare parts for older systems become obsolete and it is harder to obtain them. Unscheduled repairs become inevitable.

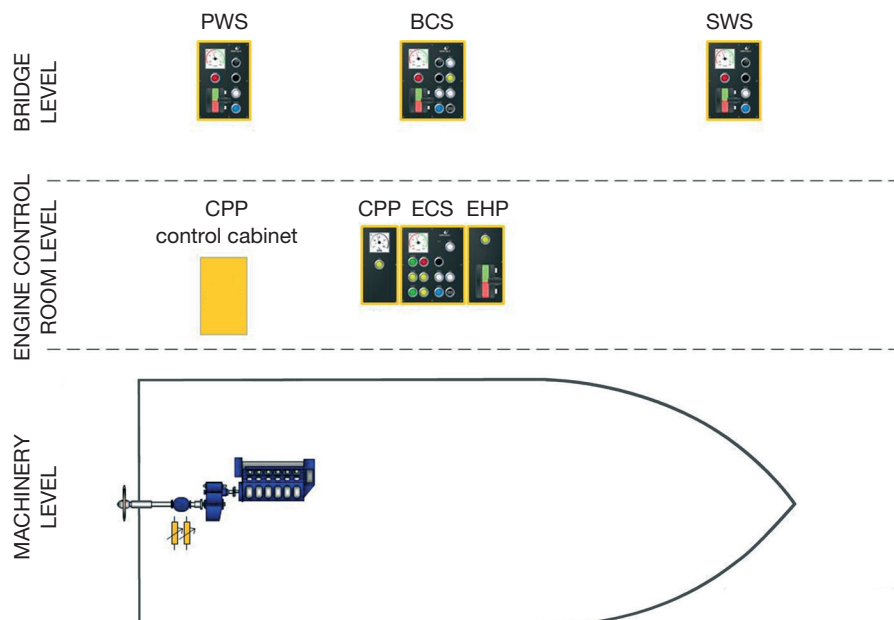
KEY BENEFITS

- Easy and intuitive to use control system, intuitive learning within the day.
- Reliable control system with trouble free operation.
- Reduced operational costs due to more accurate controls and operation.
- Short delivery (less than 3 months) and commissioning time 1 to 3 days per equipment (depending on selected configuration).
- System approval from all major classification societies such as BV, DNV, ABS, GL and RINA enabling on board acceptance test.
- Direct replacement for existing system with coverage of existing functionality.*

*Based on standard Ancos 2000 configuration.



SCHEMATIC SYSTEM OVERVIEW OF SCOPE OF SUPPLY



FUNCTIONALITIES

- Pitch (follow-up) and RPM control
- Combinator mode, separate mode, constant RPM, emergency RPM
- Responsible control transfer
- Non-follow-up pitch control
- Engine load control
- Running up/down schedule
- Pitch indication
- Hydraulic pump control
- Windmilling protection
- Up to 4 control stations available

Power requirements:	
Main power	110/230 VAC
Backup power	18/32 VDC
Environmental requirements:	
Operating temperature	-10°C ... +50°C
Storage temperature	-40°C ... +80°C
Max. relative humidity	95%
EMC properties are in accordance with EN60945	

The Wärtsilä Lipstronic/ReFit Standard CPP control system meets or exceeds the requirements of all main marine classification societies.

The Wärtsilä Lipstronic/ReFit Standard CPP ensures a reliable and user-friendly control system for each propeller driven by a single engine. An independent system controls each propulsion shaft line. The system is suitable for all vessels not requiring an advanced degree of automation. This standard system is the ultimate replacement at low costs.

SCOPE OF SUPPLY PER SHAFTLINE

One Wärtsilä Lipstronic/ReFit Standard CPP control cabinet with:

- Main controller (follow-up control)
- Back-up controller (non-follow-up control)

Control stations

- Engine room control station
- Bridge control station

Additional delivery

- Pitch feedback sensors (*)

*Mechanical interfaces excluded

Optional control stations

- Port wing control station
- Starboard wing control station

Note: Wing stations have Ingress Protection grade IP66

Optional operator modules

- Clutch control for ECS
- Lever unit for ECS