



# Thruster Drives and Controls



Drawing on experience in thruster drive and control systems since 1950 Jastram offer a wide range of applications:

3-step drive systems with resistor units and slip ring motors have been the most popular drives over the last few years.

Dynamic drive, a multistep drive system with resistor unit, slip ring motor and reduced starting current, is the cost-competitive alternative to controllable pitch propeller (CPP) thrusters with the advantages of the robust fixed pitch propeller (FPP).

Frequency-controlled (FC) drives accommodate the increasing demand for stepless control. Interfaces to joysticks and dynamic positioning systems as well as any other customised application can be realised by Jastram.

Control systems including operator panels for hydraulic and diesel engines as well as other drive systems are designed and interfaced in close cooperation with the supplier of the prime mover.

Operator panels for bridges, wings, afts, flybridges and portable stations are available in standard or customised designs.

The alarm system displays alarms and faults on the operator panels and switch cabinet. Interfaces to any alarm monitoring system (AMS) can be achieved.

- ▶ Customised systems
- ▶ All drive applications
- ▶ Specialists in FC drives
- ▶ User-friendly operation
- ▶ New builds and retrofits

## Technical features:

- ▶ PLC / Programmable Logic Control
- ▶ VDR / Voyage Data Recorder interface
- ▶ Heating for motor and switch cabinet
- ▶ PMS / Power Management System, query to main switch panel regarding availability of power
- ▶ Resistor overcurrent protection

## Recommendation:

- ▶ Motor holding brake is recommended to prevent propeller windmilling during passages.

## Options:

- ▶ Room fan control and monitoring
- ▶ RPMS / Restricted Power Management System
- ▶ Operator panel for 3-step drive on switch cabinet
- ▶ Soft start for 3-step drive
- ▶ DP Interface for FC drives
- ▶ Low Harmonic Drives for FC drives





The rack-mounted 3-step drive with switch cabinet and resistor unit reduces onboard installation time.



3-step master and slave panels with customised colours. New design with two additional spaces for lamps and buttons for special functions such as restricted power management.

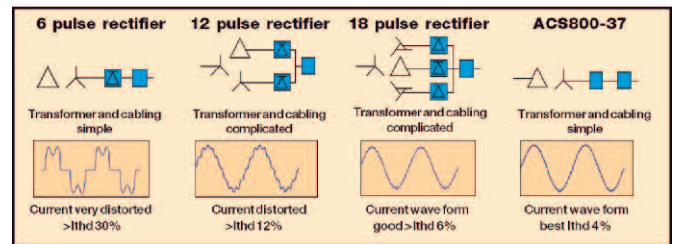
Soft start solutions for 3-step drives or low harmonic frequency-controlled drives as well as restricted power management systems are state-of-the-art drive solutions from Jastram for limited onboard power supply.



Operator panels for dynamic and frequency-controlled (FC) drives.

Harmonic distortions produced by frequency converters can be reduced through the following technical solutions:

### Alternatives in reducing line harmonics



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Operator panels with yacht design. Special applications such as a minimalist design for luxury yachts are implemented in close cooperation with the technical departments of the shipyard.

### Further Jastram products:



Bridge and portable panels for four azimuth grid thrusters with 360° levers and joystick control.



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