

MAULABS

Sailing Hydro PLC specs

Hardware:

- Modular electric switchboards with low thin, possibility of coupling between different sizes
- Distributed installation available, for some switchboards connected by network
- Double 24V power supply (normal and backup)
- Wago PLC 750 series with ethernet interface
- Wago spring terminal block
- Wago electronic breakers, with telecontrol and diagnostic functions
- Input modules galvanically insulated to the field
- Output modules with mosfet, without contact wear

Software features:

- *Software based on Maulabs function blocks and libraries*
 - o Each PLC is tailor made for the boat
 - o Any type of customization available
 - o Possibility of expansion and subsequent changes
- *Keyboard and joystick management:*
 - o Buttons and analog joysticks functionality control during system startup
 - o Buttons and analog joysticks functionality control at system enable
 - o Single functions timeout
 - o System inactivity timeout
 - o 2 output programmable dimmer with customizable 5 steps, for separate night brightness control of indication lights and backlights
 - o CAN BUS keyboards availability, for cabling reduction
- *Pumps management:*
 - o Ball valves state acquiring and automatic closed pumps disabling
 - o Digital and analog outputs management for any pump type, from simplest one to pressure, flow and power controlled pumps
 - o Automatic selection of the biggest flow active pump
 - o Automatic clutch (PTO) control
 - o Genset's electric load acquiring and pump setting in order to obtain the maximum oil flow related to the available mechanical power
 - o Possibility of 60 Hz genset setting, in order to increase the available hydro power of 20%
- *Oil flow management*
 - o Management of pumps with electronic control of pressure, flow and power
 - o Proportional valves management, for control of thrusters, rams, winches and motors
 - o Possibility of management of proportional valves for winches flow control, in order to reduce the flow to preset the maximum power available during regatta
- *Magic trim sequence management*
 - o Magic trim sequence management, with rams position acquiring by using digital or analog sensors
 - o Possibility of custom sequences, by using more than one magic trim (4 or more stages)

- Software with possibility of disabling of sequence stages for magic trim maintenance
- *Thrusters management*
 - Retractable thrusters management
- *Pre-alarm and alarm management*
 - Oil tank level acquiring, by using digital or analog sensors
 - Pre-alarm and alarm custom settings available after installation
 - Ball valves position acquiring
- *General system management*
 - remote control of pumps selection from wheelhouse or from other onboard monitoring system, with forced on, automatic selection, forced off for each pump
 - Local control panel of the pumps, that automatically switch off the remote control
- *Web pages PLC access:*
 - Input and output state showing, for diagnostic purpose
 - System configuration pages
 - Selective alarms disabling
- *Software improvement and modifications*
 - Possibility of software replacing by using SD card