



# VALVE REMOTE CONTROL

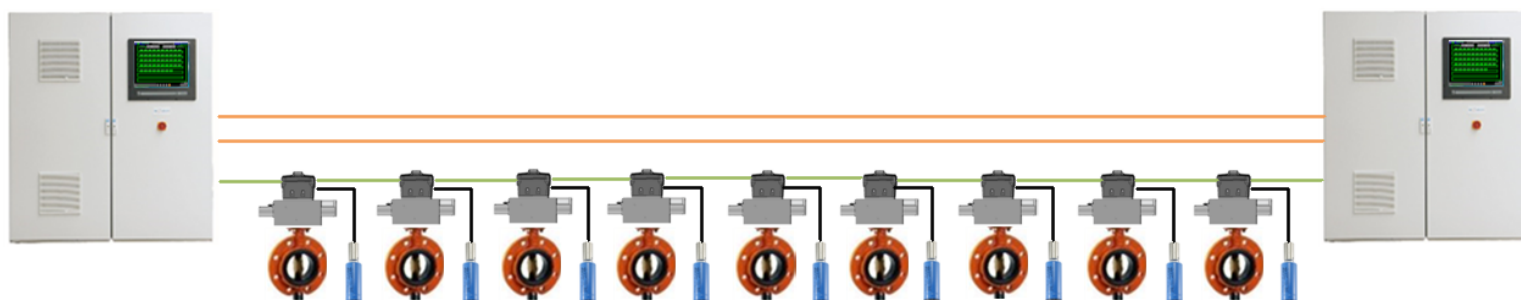
## ELECTRO HYDRAULIC AND ELECTRIC SMARTSHIP **POWERBUS**

**75% LESS CABLING FOR 100% SAFETY!**

The electro-hydraulic and electric *PowerBus* system offers a variety of unique features that make it the ultimate choice for high performance vessels, especially for ship designs where high availability, reliability and redundant designs are of paramount importance to meet the requirements of owners and the classification rules of all major societies.

### SYSTEM ARCHITECTURE

- Up to 7 loops with max. 64 actuators/LPU (Local Processor Unit) – System size up to 448 actuators possible
- Up to 500 meter length for ring bus loop (using 1,5mm<sup>2</sup> hybrid cable or power and communication cable separate)
- Integration of up to 4 external sensors (binary, 4-20mA or temperature) per actuator/LPU
- Maximum of 6 actuators can be operated simultaneously per loop
- Flexible redundancy concepts as per specific demand



## SAFETY CONCEPT

- Safe Return to Port System à highest possibility of redundancy
- Two identical cabinets (master & slave), including all input and output modules, operate in parallel and with the same software
- A communication between the cabinets monitors all activities of the two cabinets/PLCs
- In case of failure of the master cabinet/PLC, the slave cabinet takes over control via RingBus
- Double input for the main power supply (main and emergency)

## KEY FEATURES

- Automatic failure detection and isolation via data and power re-routing – ensures minimum down time of system
  - Identification of failure type (leakage control, phase swap, loose wire, temperature alarm, etc.)
  - Smart service features
- save and easy isolation of actuator
- local operation and calibration of actuator by magnet
- Feedback via potentiometer as standard
- run time supervision (avoidance of water hammer)
- blockage detection

# OUR PRODUCT RANGE

### CONTROL SYSTEM

- Valve Remote Control
- Anti Heeling
- FLUME Box Tank - Roll Damping
- INTERING U-Tank - Roll Damping
- Dock Control
- Floating Condition Control

### MEASURING SOLUTIONS

- Tank Content Measurement
- Draught Measurement
- Dynamic Draught and Floating Monitoring
- MAIHAK Shaft Power Meter
- MAIHAK SHaPoLi
- Fuel Consumption Measurement
- Energy Measurement
- Electronic Inclinator

### INFORMATION SERVICES

- Performance Monitoring
- Crew Connect
- Fleet Connect

### FLEET SERVICES

- Technical Support
- Spare Parts
- Service On Board
- Retrofit
- System Health