

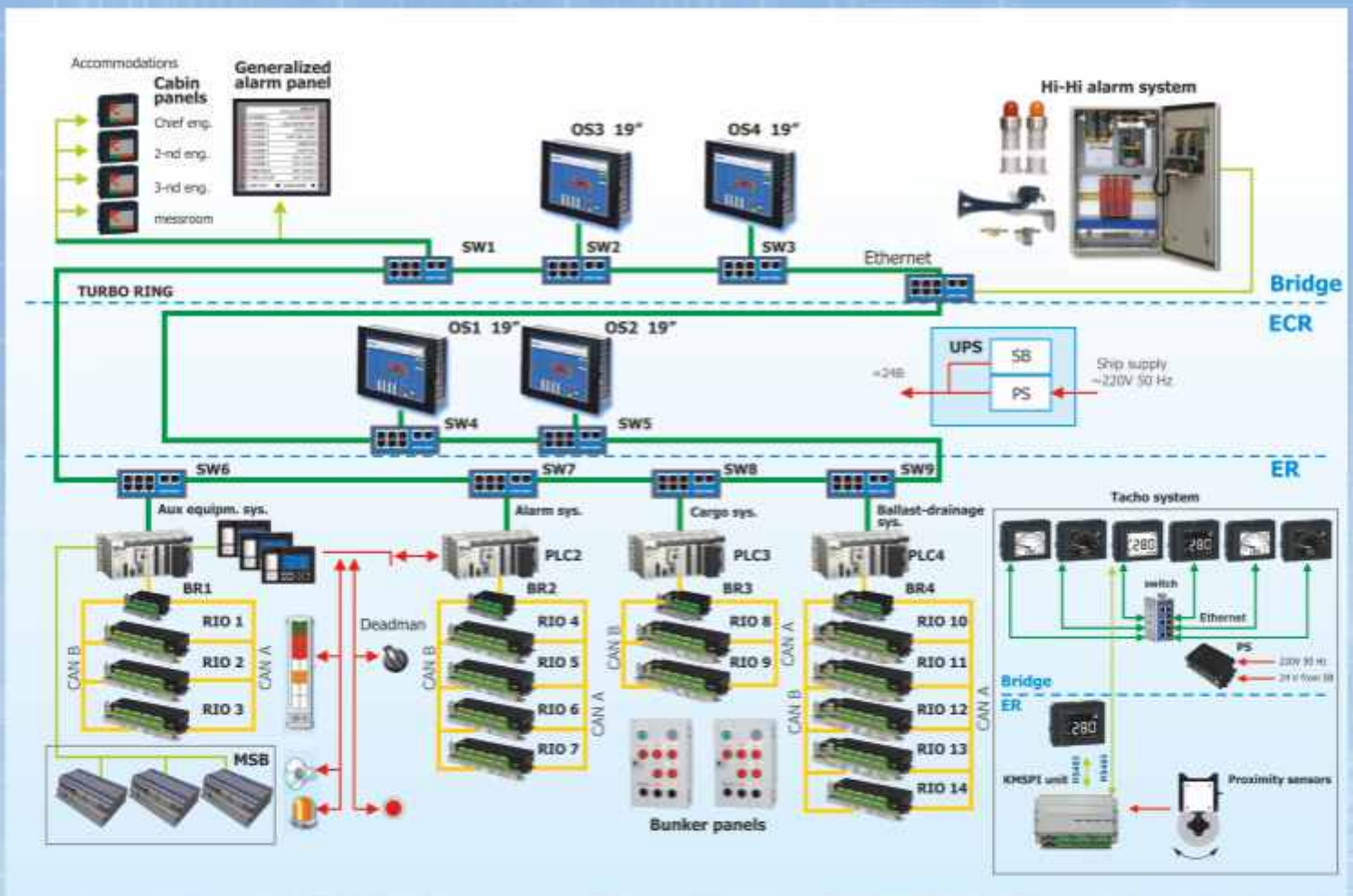
MANAGER 300

Integrated monitoring, alarm and control system (IMACS) «Manager 300»

Integrated monitoring, alarm and control system (IMACS) «Manager 300» is based on Schneider Electric PLC and remote I/O units (KMSPI set) of own production. Remote I/O's communicate with PLC through redundant CAN bus and thus provide significant cables saving.

IMACS can be applied for different types of vessels as a whole or as a separate subsystems (alarm system, power management system, cargo control system, Hi Hi alarm system, level measuring system, tacho system etc.)

IMACS layout



Integrated monitoring, alarm and control system (IMACS) «Manager 300»

IMACS parts and functions

Parts on the Bridge and in the superstructure

- operator stations
- generalized alarm panel
- color touch screen panels in cabins and messroom
- Ethernet switch
- alarm printer
- tacho system color touch screen panels
- Hi-Hi alarm system
- Bunker panels



Parts in ER, MSB room and ECR

- alarm subsystem cabinet
- PMS and auxiliary machinery control subsystem cabinet
- cargo control subsystem cabinet
- ballast and drainage control subsystem cabinet
- UPS cabinet
- light columns, sound devices, rotating lights
- deadman subsystem

Software

The IMACS software (SW) is created and modified through the database. IMACS SW consists of standardized program modules, that are intercommunicate with the database. Such an approach warranties SW reliability and also reduces design, tests, commissioning and documentation release laboriousness.

IMACS is delivered with RMRS (RRR) certificate

Basic IMACS functions

- ME and other equipment parameters monitoring
- alarm and log functions
- watch calling and emergency engineers calling
- DeadMan function
- DG, EDG parameters acquisition (by RIO modules or via MODBUS protocol)
- data transmission to VDR via NMEA protocol
- cargo handling monitoring and control functions
- ballast and drainage systems monitoring and control functions
- service tanks level measuring
- ME and shaft line RPM measuring and indication

IMACS RIO's have the following I/O types:

- digital ("dry contact" or voltage) inputs
- analog inputs:
 - ±10V
 - 4...20 mA
 - Pt100
 - thermocouples (B, E, J, K, N, R, S, T)
 - pulses from proximity sensors (40 mV...30 V)
- transistor or relay digital outputs
- analog outputs 0...20 mA/10 V

IMACS power supply

UPS has two (main and reserve) 220 V 50 Hz inputs. UPS provides 30 min system operation from own storage batteries in case of blackout.

Technical specification

Parameter name	Value
Power supply parameters	
DC power supply, V	18...32
AC power supply voltage, V	180..240
AC power supply frequency, Hz	47...63
Environmental parameters	
Operation temperature, °C	from minus 10 to + 45
Operation humidity at 35 °C, %	97
Storage temperature, °C	from minus 25 to + 60
Shock and vibration	
Operation from storage batteries, min	30
Startup time, sec	60
IP protection	according to RMRS or RRR rules

