ROCKSON
AUTOMATION

Integrated Control and Monitoring System

Evolution V5

ROCKSON AUTOMATION

At a Glance

Main Features :

Application oriented user interface

- Available on windows & Linux platforms
- Using Java technology
- Visualization based on "scalable vector graphics"
- Auto-adapting to monitors resolution and format
- Capable for "touch" operation
- Multiple language selection
- Online project documentation
- Extensive visualization of historical data / reports
- UMS solution with eXtension Alarm clients and panels

Communication methods

- Open network architecture according to IEC standards
- Reliable fieldbus with optimized Modbus protocol
- Network redundancy
- Multiple client – multiple process server architecture
- Independent eXtension Alarm system communication
- Remote access via secure communication gateway

Robust system components

- Process server, designed for maritime use
- Reduced number of different I/O modules
- Integrated earth fault monitoring
- Workstations with any screen size, resolution and format

Applications :

Alarm & Monitoring

- Functions for UMS operation
- Basic monitoring functions
- Exhaust gas mean value supervision
- Extension alarm system incl. engineer call / alarm
- Historical reports and alarm statistics
- Level gauging, volume calculation, trim correction
- Draught measurement

Auxiliary systems control

- Single / standby pump control
- Compressor control
- Fan control
- Sequential restart after black-out
- Valve control
- Automatic functions for :
  - Bilge
  - Ballast transfer & exchange
  - Fuel transfer and filling
- Fuel consumption and performance monitoring
- Process regulation (PID)

Liquid cargo management

- Ullage reading
- Volume calculation incl. trim/list correction
- 95%/98% tank overfill protection
- Liquid temperature and inert gas pressure reading
- HPU control
- Liquid cargo historical reports

Power Management

- Fully integrated, industrial standard
- Safety system for diesel engine protection
- Generator protection
- Load sharing
- Power management
- Customized solutions

Interfaces

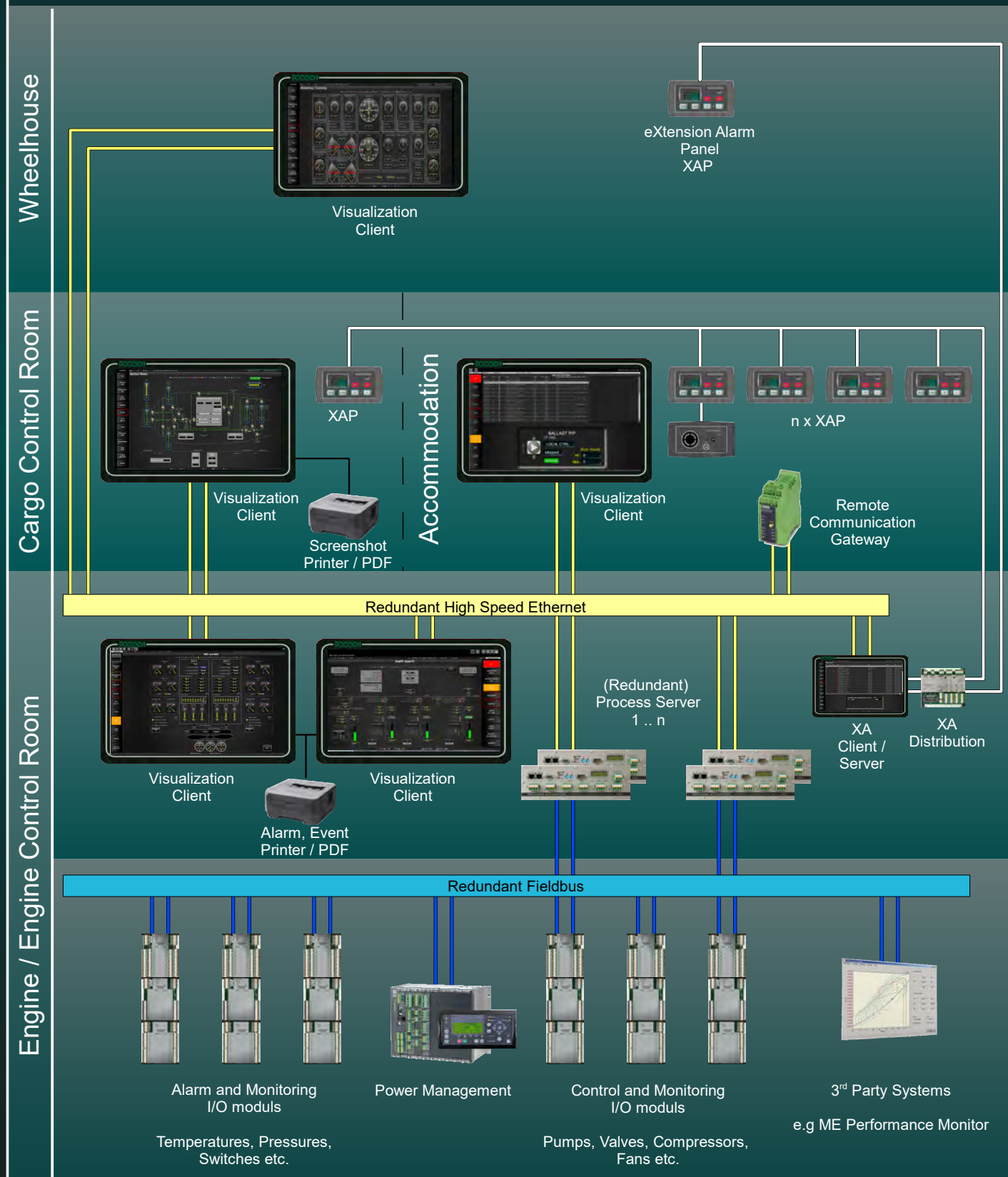- Voyage Data Recorder
- Loading calculator
- Engine control and safety systems
- Master Clock
- Energy management systems
- Performance monitor

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System configuration in principle

Wheelhouse

Visualization Client

eXtension Alarm Panel XAP

Cargo Control Room

Visualization Client

XAP

Screenshot Printer / PDF

Accommodation

Visualization Client

n x XAP

Remote Communication Gateway

Redundant High Speed Ethernet

Visualization Client

Visualization Client

Alarm, Event Printer / PDF

(Redundant) Process Server 1 .. n

XA Client / Server

XA Distribution

Engine / Engine Control Room

Redundant Fieldbus

Alarm and Monitoring I/O moduls

Temperatures, Pressures, Switches etc.

Power Management

Control and Monitoring I/O moduls

Pumps, Valves, Compressors, Fans etc.

3rd Party Systems

e.g ME Performance Monitor

Process Visualization Client

Standard Lists Measuring Point Indication

- Standardized alarm visualization with
  - List of all active alarms with time stamp
  - List of unacknowledged alarms with time stamp
  - List of suppressed alarm
  - List of disabled alarms
  - Alarm/event indication
  - Trend and historical data
- MP selection with single indication, control functions and parameter facilities

Mimics Customized process graphics

- Customized piping diagrams
- Manufacturer related engine graphics
- Customized realistic gauge panels
- Clear process data indication and control
- Secured access authorization and parameter facilities

- Based on scalable vector graphic technology
- Automatically adapting to different monitor sizes and format
- User definable zoom factor for each workstation
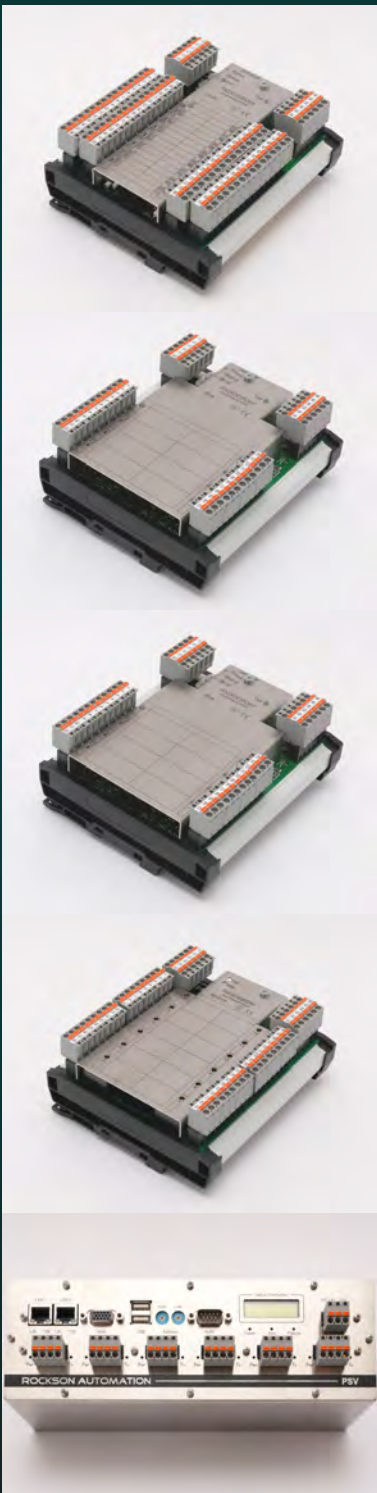- Flexible background textures

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Process I/O modules / Process Server

I/O modules common design characteristics

- 35mm DIN Rail module with rugged stainless steel cover
- Standardized mechanical outline
- Detachable terminal blocks per channel
- Galvanic isolated I/O design
- Redundant power supply
- Redundant isolated fieldbus RS485 / Modbus RTU
- Environment category GL(C), LR(ENV1,2,3)
- Easy replacing, set address and go

CI-32 Contact Input module, 32 channels

- 32 contact inputs (potential free)

- Designed to allow "common wire" applications

- Pulse counting and frequency measurement

- Determining period length

- Integrated earth-fault monitoring

MI-8 Multiple Input module, 8 channels

- Excellent flexibility

- 8 multi purpose inputs for various signal types :
  - 4 – 20mA, 0 - 10V
  - RTD (PT100), T802, Thermocouple
  - Potentiometer
  - Potential free contacts with break and short circuit monitoring
  - NPN and PNP initiators

- Integrated earth fault monitor

MO-8 Multiple Output module, 8 channels

- Excellent flexibility

- 8 double purpose output sources for different signal types
  - Current Output 0-25 mA or 4-20 mA
  - Voltage Output 0-10 V

ROX-12 Relay Output eXtension module, 12 ch.

- 12 single-pole double-throw contacts

- Heavy-duty contacts

- Large safety margin

PSV Process Server

- 35mm DIN Rail module with rugged stainless steel housing

- Fanless design

- Embedded Linux operating system

- Status indication by LED's and text display

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