



Sunlux Technovations Pvt

- End to End Solution Provider.
- Long History of Successful Design, Development and Manufacturing
- Located in Bangalore City Technology Hub.
- Has 20 + Innovative Talented Engineers

Sunlux has contributed to Indigenization of ElectroMechanical control systems for,

Atomic Energy

Multiple robotics work in hazardous area for human safety and ease of operation

- Master Slave Manipulator
- Pipetting and Bottle handling Systems.
- Pipe Inspection Systems

Department of Space

Fault tolerant Supervisory Control and Data Acquisition System for Thermo Vacuum testing of Satellites before launching by simulating space conditions

Chandrayaan and Mangalyan tested with these systems.

Naval Projects

- Designed, Developed and qualified the SECRA Control Systems for maintaining habitual in environment.
- Designed, developed and supplied SECRA Simulator for Endurance trials of SECRA System and On-board for setting to work.
- Indigenized Rudder Angle feedback unit SMCS 9 by developing resolvers to work at 400 Hz for the first time in India.

Indian Army

- Indigenized AC to DC Converters for T72 Battle tanks.
- Designed and Developed ATE for testing BMPII Control system.

The SECRA Auto control system is to automatically control the operation of the different equipment's and manage the process to maintain the oxygen (O₂) and carbon-dioxide (CO₂) content inside the habitable areas of the submarine within permissible limits to ensure habitable environment.

- Electrolysis Plant
- Rectifier
- H₂ Compressor
- CO₂ Absorbers
- CO₂ Compressor

REDNET, REDSTAT



Operator Station (OS)

Features

- VME64x System with 500GB Rugged HDD
- High end processor with Linux OS
- 4-Channel RS485 with Modbus RTU Protocol
- MMI: 15" TFT-LCD Display, Trackball
- Forced Air Cooling & Process Control Software
- Redundant OS with GUI as per ISA/ANSI standards
- Power Supply: 220VAC, 400Hz, 380VA

Rugged Packaging

- Mil Grade Circular Connectors
- Operating Temperature: 0-55 degC
- Humidity: 98% RH at 45 degC
- Shock: K200 Machine for 3 axis
- Vibration: 1G, 20-30Hz on all 3 axis
- Ingress Protection: IP 21
- Pressure: 5 bar static dry air
- EMI/EMC: Mil-Std-461E

Fault Tolerant System Design

- Dual Modular Redundancy
- Dual Redundant RS485 Networks
- Real time data replication and control action synchronization

- PJB is used for 220VAC, 400Hz, 1-ph distribution.
- Input is capable of 5A
- Each of the OS outputs is capable of 1A

Power Junction Box (PJB)



Dual Data Communicator



Features

- 16-Channel, 4-20mA/0-10V, 16-bit, Analog Inputs
- 4-Channel, 4-20mA, 12-bit, Analog Outputs
- 20-Channel, 24VDC, Digital Inputs
- 8-Channel, PFC, Digital Outputs
- RS485 with Modbus RTU Protocol
- 25MHz DSP Processor with Linux OS
- Power Supply: 220VAC, 400Hz, 80VA

Rugged Packaging

- Dual Redundant Processors
- Dual Redundant RS485 Networks
- Transient Protection
- Dual Redundant Power Supply
- Real Time Sync
- Bumpless Changeover
- Line break detection for AIO
- Dimensions: 300x205x145mm

- Mil grade Circular Connectors
- Operating Temperature: 0-55degC
- Humidity: 98% RH at 45 degC
- Shock: K200 Machine for 3 axis
- Vibration: 1G, 20-30Hz on all 3 axes
- Ingress Protection: IP 55
- EMI/EMC: Mil-Std-461E

Majorly Developed -2: SMCS9

Rudder position feedback unit



SMCS9 Unit

Positional
Feedback Unit
with Resolvers

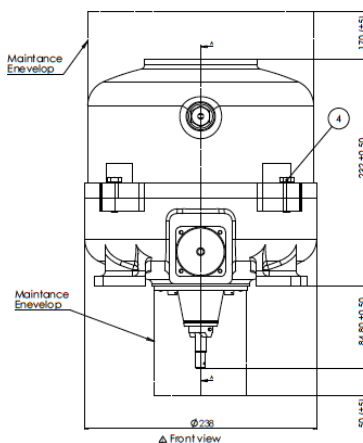


Resolver

Resolver -
rotor and
stator
assembly



Positional feedback unit for Ship Motion Control System



- The Unit comprises of 5 Resolvers with Sine & Cosine outputs from resolvers for sensing the angular position of the rudders.
- The Resolvers are enclosed in water tight housing with IP 68 Protection Level. The resolvers are engaged with each other and the main shaft through high Precision gear train. Three of these units are mounted on a sector gear frame which in turn is connected to the rudder position. The resolver outputs are processed for measuring the angular position of the rudder.

Capabilities

SUNLUX is a company with strong R&D strengths offering innovative and high reliability Products and Turnkey Solutions & Engineering Services

Marine & Land

- Reliable Control Systems
- Custom Algorithms -AUTO PID
- Product Development
- Engineering Services
- Indigenization
- Simulators for Training

SCADA & Automation

- Industrial communication Networks
- Gateways with Analytics for Cloud
- Remote Monitoring Systems
- Building Automation Systems
- PLC based Solutions
- Electrical control Panels

Automated Test

- Thermo vacuum Test
- End-Of-Line Testing
- Characterization Test
- Endurance Testing
- Qualification test Services

MIL Grade Solution & Products with Mechatronics Embedded & Application Software Reliability Assessment

Engineering & Development Services

TECHNOLOGY

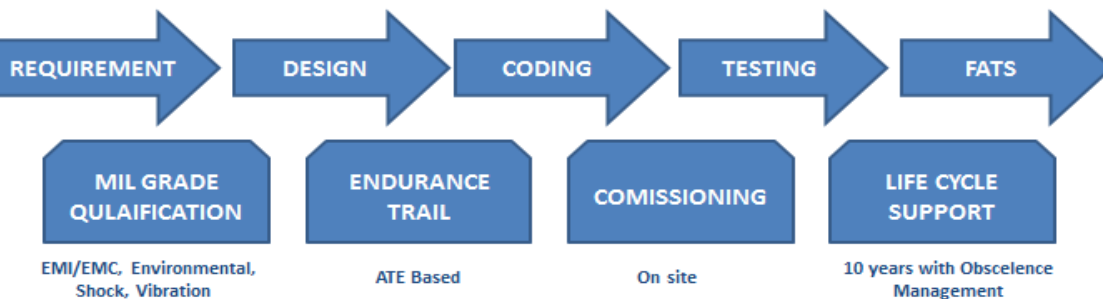
ARM Processors Intel Processors
 Microcontrollers
 System ON Chip

RTOS
 Open Source Linux
 Embedded Linux

Industrial communication
 Modbus, BACnet, Mbus –etc.
 Cloud -MQTT

C, C++, QT, Web
 Angular JS
 Embedded Server
 LabView , MATLAB

PROCESS: IEEE 12207 SW and ISO 9001-2015



List of Major Customers

- Ship Building Center (SBC)
- Defence Machinery Design Establishment (DMDE)
- Weapons Electronic System Engineering Establishment (WESEE)
- Defence Research and Development Organisation (DRDO)
- Space Applications Centre (SAC) Ahmedabad
- Indira Gandhi Centre for Atomic Research (IGCAR)
- Bhabha Atomic Research Centre (BARC)
- Aeronautical Development Establishment (ADE)
- Hindustan Aeronautics Limited (HAL)
- National Aerospace Laboratories (NAL)
- ISRO Satellite Centre (ISAC)
- Vikram Sarabhai Space Centre (VSSC)
- L & T
- Dubai Metro
- Schider
- Siemens
- Honeywell