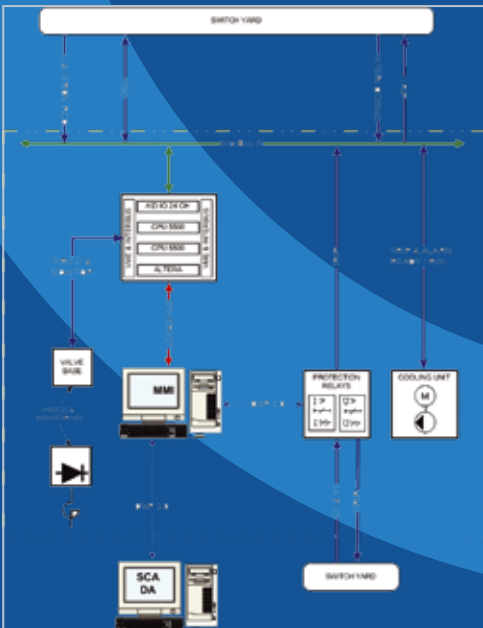


# Multi-Processor Digital Control System NDC/P39814



Our digital control system enables success in modern reactive power compensation. The ultimate parallel processing power of the system tops even the most demanding requirements.

In the heart of SVC control or Series Capacitor protection, there is no room for errors. Instant response of the system is always based on accurate data measurement and reliable real-time calculations. NDC supports a high order of redundancy with a hot-swappable secondary system. Both systems, primary and secondary, are always up to date with the latest system events and measurements. They are also both synchronised with a common system time with TrueTime GPS.

**High reliability and performance of our control system ensures maximum availability for your investment.**

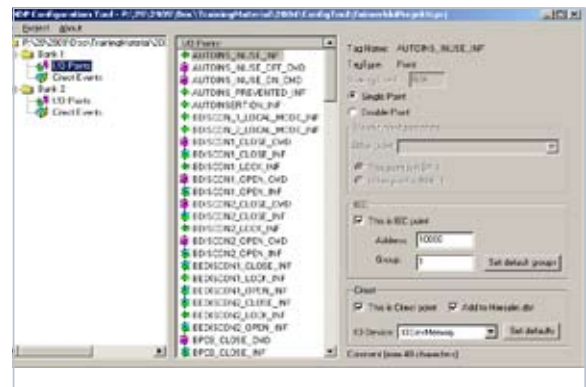
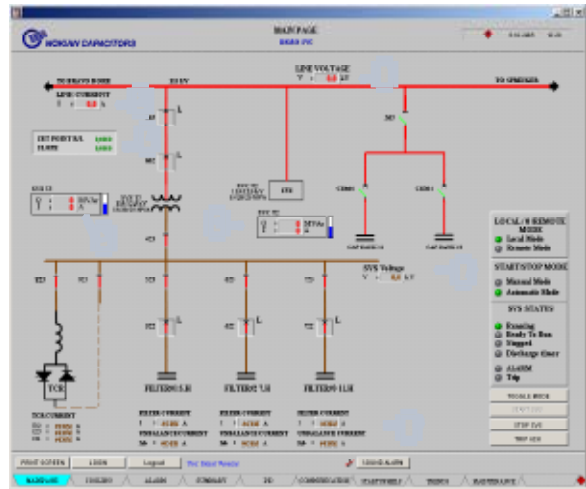
## Technical data

- Up to four parallel CPUs, 2310 MIPS/CPU
- CPU card: MVME5500
- MPC7455 PowerPC® processor 1GHz
- 512MB 133 MHz SDRAM
- 32MB and 8MB Flash memory
- Dual independent 64-bit 66 MHz PCI buses and PMC sites
- VME bus
- Gigabit Ethernet interface
- 10/100BaseTX Ethernet interface
- GPS Clock Synchronisation
- Fast I/O:
  - Programmable digital inputs and outputs
  - AD: 64 x 16 bit @ 10 kHz
  - DA: 8 x 16 bit @ 10 kHz
- Parallel HMI PC units
- Data Concentrator / SCADA Gateway
- Device Protocols
  - INTERBUS
  - EtherCAT
  - IRIG-B
  - IEC-60870-5-101
  - IEC-60870-5-104
  - DNP3.0
- NDC SW Tool Chain:
  - Compiler
  - Configurator
  - Simulator
  - System Debugger
  - Runtime
  - HMI RAD Tool

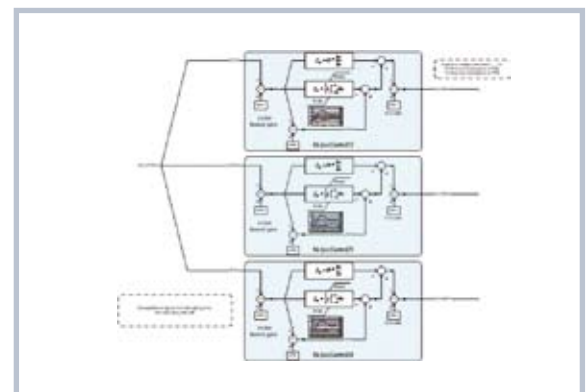
# Competence at your service

## Competence Map

- Project Management
- Electrical Engineering
- System Engineering
- Software Engineering
- Requirements Analysis and Management
- System Architecture Design
- Hardware Design
- Software Design, HW/SW Interaction
- UML (Design methodology)
- Software and Hardware Implementation
- C/C++ (Programming languages)
- Testing Methodologies
- Real-Time Operating Systems
- User Interface Design
- Protocols
  - IEC 60870-5-101
  - IEC 60870-5-103
  - IEC 60870-5-104
  - DNP 3.0
  - TCP/IP
  - MODBUS
  - PROFIBUS
  - IRIG-B
- Technology Integration
- Control and protection systems
  - Real-time measurement and modeling
  - I/O intensive hard real-time applications
  - Algorithms, PID-controllers, Laplacian transform, matrices and vector algebra.



**Nokian Capacitors has 50 years of experience in reactive power compensation. In-depth knowledge of modern digital technology, industrial control and our world-class high voltage products combined together make a unique combination of excellence. Seize the opportunity – contact us!**



In line with our policy of ongoing product development we reserve the right to alter specifications.