Product Description

The Power Node Control Center (PNCC) offers groundbreaking technology for electrical power distribution systems by providing the functionality of transfer switches, frequency converters, motor controllers, transformers, circuit breakers, rectifiers and inverters - simultaneously within a single enclosure. Programmable power electronic building blocks are what enables this technology for mixed application usage. The PNCC provides the highest reliability, survivability, power density and load power quality all with affordability in mind.

PERFORMANCE BENEFITS:

• Load Survivability
  Dual input capability with “seamless” transfer
  Flexible I & V protection
  Mil qualified environmental requirements
  Faults do NOT affect adjacent circuits
  Eliminates high-fault currents

• Affordability
  Lower installation costs through factory integration
  Lower start-up costs by factory grooming
  Reduced training and maintenance
  Fewer spare parts required
  Potential for manning reduction
  Open architecture to facilitate efficient technology upgrades
  Many building block modules have the flexibility to perform as inputs or outputs

• Improved Power Density
  Reduced equipment and cable weights
  Eliminates multiple distribution systems by enabling multiple output types from a single node, e.g. 450V, 208V, 115V
  Flexible building block design
  Input power factor correction to near unity
  Provides more deck and bulkhead space

• Improved Power Quality
  Tailors power to the needs of each load

KEY FEATURES:

• “Seamless” power transfer when performing as a transfer switch

• Power Conversion
  Programmable frequency (25-400Hz)
  AC to DC, DC to AC
  AC to AC, DC to DC

• Motor Controller
  All modules programmable for variable speed control
  All motors can be soft started

• Remote and local control
Product Description Line

STANDARD FEATURES OF PNCC:

- Source voltage
  - 440 VAC, 60Hz, 3 phase
  - 800VDC
- Common Multi-Function Power Modules (MFPM)
- Ratings 5kW to 300kW
- Modules can be paralleled for higher capacities
- Load current limiting
- Field adjustable output frequency range 25Hz to 400Hz
- Local monitoring and control panel
- Air cooled
- Near unity line power factor
- Line current balancing
- Programmable fault protection
- Remote control capability compatible with/RS485, ethernet or serial interface
- Field upgradable firmware

APPLICATIONS:

- Naval ships and submarines
- Commercial marine and offshore vessels
- Land-based critical power facilities

ELECTRICAL CHARACTERISTICS:

- Node frequency DC to 400Hz
- Efficiency PNCC – 92% - 94% (input to output)

OPERATIONAL CHARACTERISTICS:

- Temperature range 0°C to 50°C
- Shock Mil-S-901D Grade A
- Vibration Mil-Std-167-1
- EMI Mil-Std-461
- Performance Specification MIL-PRF-32272 (Integrated Power Node Center – IPNC)

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PNCC

450VAC, 60Hz
or 800VDC

Input Module Power Processing

Notes:
(1) 2 Input modules provide seamless power transfer.

A 3rd input module can be used to support UPS supplied power.

dc Bus

Output Module Power Processing

No. 1
440 VAC, 60 Hz – 400Hz

No. 2
375Vdc
(3 more DC available)

No. 3
120 VAC, 25 to 400 Hz

No. 5
120 / 208 VAC, 25 Hz to 400Hz

More As Required

Motor Applications

A688

MCE

VLS

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