L3HARRIS™
FAST. FORWARD.

Power Node Control Center

Electrical Power Distribution Systems

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
- Programmable Current & Voltage protection
- Mil-qualified environmental requirements
- Minimize impact of faults to adjacent circuits
- Reduces 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
- Building block modules have the flexibility to perform as inputs or outputs

Improved Power Density

- Reduced equipment and cable weights
- Eliminates multiple distribution systems
- 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 - DC, DC - AC
  AC - AC, DC - DC
- Motor Controller: Programmable for variable speed control
  All motors can be soft started
- Remote and local control

STANDARD FEATURES

- Source voltage
  - 440 VAC, 60Hz, 3 phase
  - 1000 VDC (planned)
- Common Multi-Function Power Modules
- Ratings 5kW - 300kW
- Modules can be paralleled for higher capacities
- Load current limiting
- Field-adjustable output frequency range 25Hz - 400Hz
- Local monitoring and control panel
- Air cooled
- Water cooled (planned)
- Near unity line power factor
- Line current balancing
- Seamless source transfer
- Programmable fault protection
- Remote control capability
- Field-upgradable firmware
- Emergency power down disconnect
- Door safety interlocks
- Input and output maintenance isolation

Electrical Characteristics

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

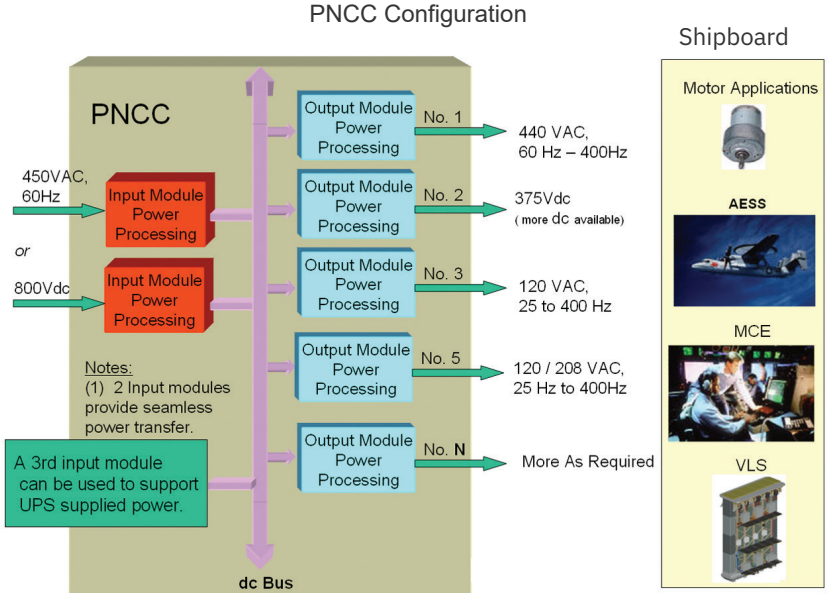
Operational Characteristics

> 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)

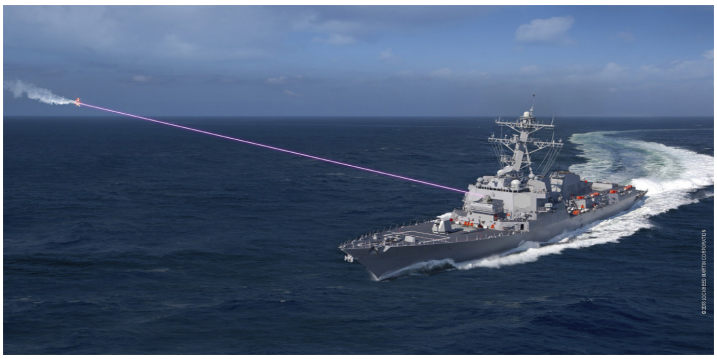
Applications

> Naval ships and submarines
> Directed-energy weapons (high-energy laser)
> Commercial marine and offshore vessels
> Land-based critical power facilities

PNCC Configuration



High Energy Weapons



Power Node Control Center

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

L3HARRIS™
FAST. FORWARD.

1025 W. NASA Boulevard
Melbourne, FL 32919
productsales@L3Harris.com