



ANORD
CRITICAL POWER INC.

Product Range

Introduction

Anord Critical Power Inc. based out of Richmond, VA is the US subsidiary of Anord Control Systems Ltd, a leading independent provider of critical power infrastructure to the global data center industry. With a pedigree spanning 45 years, Anord have a successful track record in providing mission critical Low Voltage Switchboards and power equipment to many of the world's leading cloud computing, co-location and enterprise data center businesses.

Anord Critical Power Inc. is now supplying and servicing blue chip clients in the North American and LATAM markets. Utilizing the 'original design' Anord AMS switchboard system, Anord Critical Power Inc. provides customized power switchboards from a modular platform. Originally developed and tested to comply with the IEC 61439-2 standard for LV switchboards, 'AMS' switchboards have recently been tested to UL-891, thereby offering a 'best-of-both' solution to our client's critical power needs.

Anord Critical Power Inc. is unique to the US market, due to the Form 4b Type 7 design of 'AMS' switchboards, which provides clients with a compact, fully compartmentalized and robust switchboard product for mission critical applications. By selecting Anord AMS switchboards, a growing number of data center clients are investing in superior power system protection, system fault resilience and enhanced operator safety for their facilities. For enquiries, please contact;

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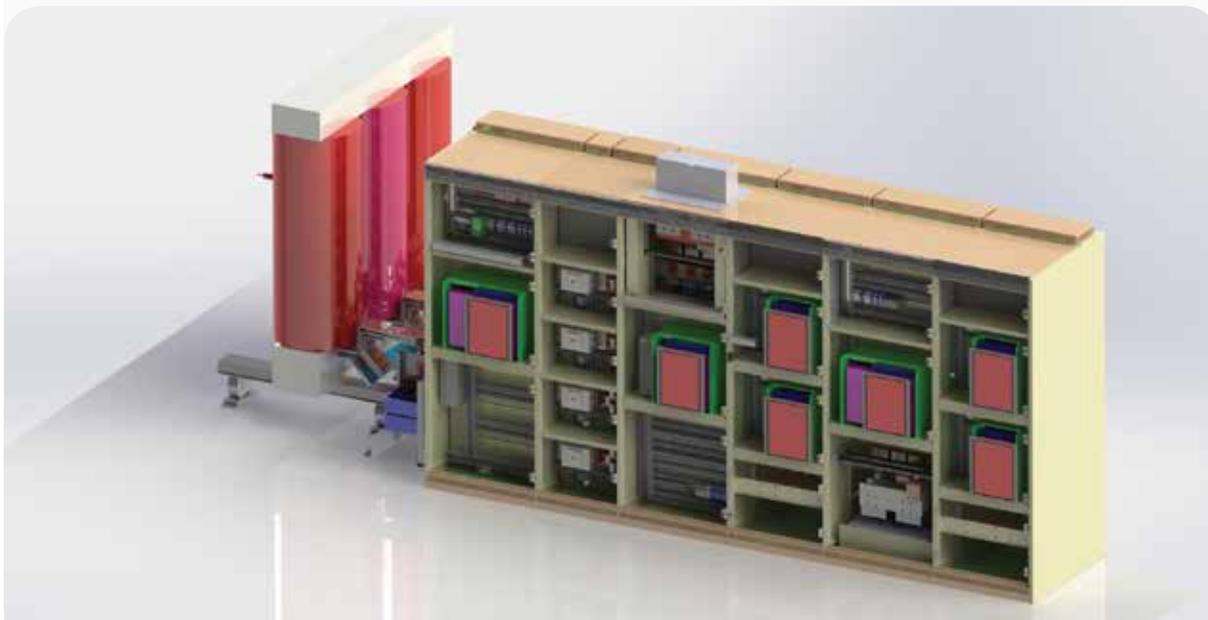
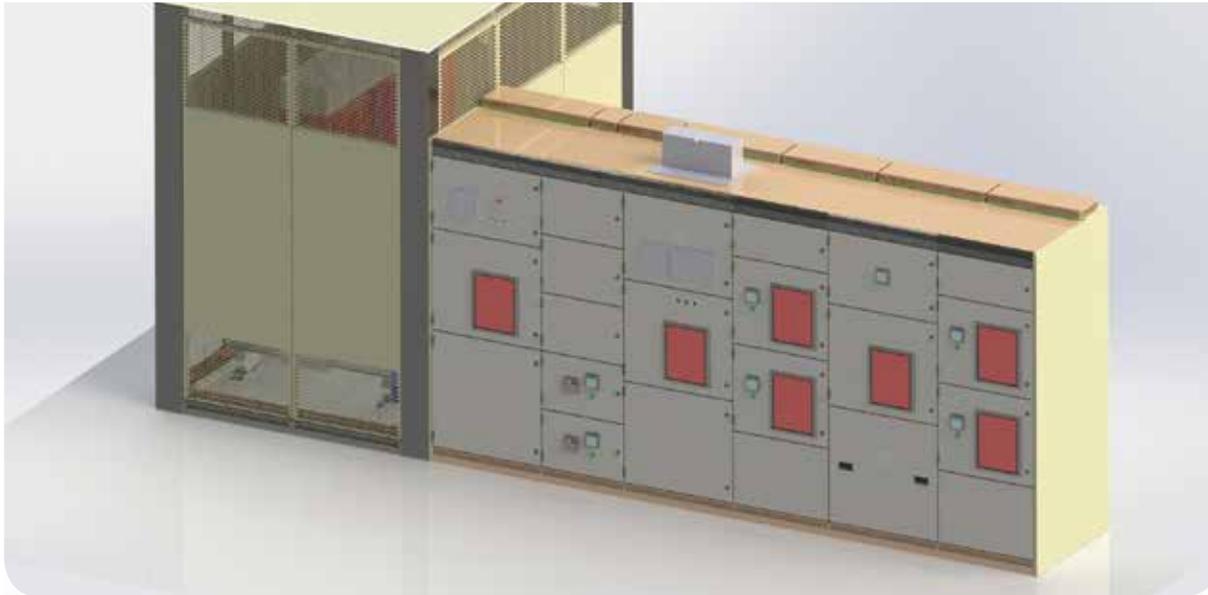
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AMS Switchboards

FEATURES / BENEFITS



- » AMS switchboards are an Anord original design Low Voltage switchboard system, of which Anord is the sole designer, fabricator and manufacturer in the world market
- » AMS Switchboards have been independently tested to UL891
- » AMS Switchboards are available in NEMA 1, 2, 3 & 3R enclosure types
- » AMS Switchboards have been independently type-tested and certified in full compliance with the current international standard for Power switchboards and Controlgear (PsC) assemblies, IEC- 61439 -2
- » AMS Switchboards are available with bus-bar systems up to 5000A, with short circuit withstand ratings up to 100 kA RMS
- » AMS Switchboards are available with type tested arc prevention bus-bar systems
- » AMS Switchboards have been independently seismically tested to a level equivalent to Seismic Zone 4
- » Ingress protection (IP) ratings are available from IP-31 to IP-54

Unit Substations



Anord AMS Unit Substations have been the product of choice in the data center industry for many years and are widely recognized as the market leading product for high current load centres by many of the world's leading data center businesses.

By integrating either VPI or Vacuum Cast transformers into an aesthetically pleasing, naturally ventilated transformer housing, the LV switchboards are close coupled utilizing internal busbars connecting to the matching Low Voltage Switchboards. The Unit Substation forms a composite load centre which can be located close to the UPS or mechanical loads. This significantly reduces civil and cabling costs along with minimizing site coordination, due to a single vendor approach for the package.

Incorporating the client's choice of circuit breaker manufacturers, Anord AMS Unit Substations offer high density power hub's within Data Centers without taking up the space of conventionally built UL listed switchboards. Depending on the configuration, there are savings of up to 40% over traditional rear access Unit Substation footprints. Cable management is also exceptionally safe and easy due to the unique Form 4b Type 7 construction separation; whereby busbars are separate from circuit breakers, circuit breakers are housed in individual compartments separate from each other, and each circuit breaker has a separate dedicated cable termination compartment.

FEATURES / BENEFITS

- » Reserve redundant transformer/incomer arrangements available utilizing busway
- » Seismically tested and certified
- » Tested to UL 891
- » Front or rear access busbar systems, suitable for thermographic imaging
- » Available with Integrated Exertherm thermal monitoring
- » Fixed or withdrawable circuit breakers available
- » Flexible construction with in-line, back-to-back, U and L shaped configurations
- » Top, bottom, front or rear cable access can be provided
- » Reduced cabling and installation costs
- » Compact footprint giving civil/structural savings
- » Advanced 3D modelling technique delivers consistent construction standards

SPECIFICATION OVERVIEW

| | |
|--|---|
| LV Transformer Ratings | 400 kVA to 3000 kVA |
| Busbar System Ampacity | 800A to 5000A |
| LV Busbar System Short Circuit Rating | (50kA /3 cycles) (65kA /3 cycles) (85kA /3 cycles) (100kA /3 cycles) |
| Low Voltage Ratings | 240V – 600V |
| Construction Separation | Form 4b type 7 |
| Cable Access | Top, Bottom, front or rear can be provided |
| Ingress Protection | IP 54, IP 42 or IP 31 |
| Panel Colour | Available in all RAL colours |

LV Power Switchboards



Anord Low Voltage Power Switchboards are constructed from the Anord AMS range, a flexible modular system that is designed and constructed upon standard “building blocks”, therefore providing a level of customization yet unknown to the North American and LATAM markets. We listen to our client’s requirements in terms of technical performance, functionality, equipment line-up and available space, and work closely with them to develop a custom switchboard design that meets or exceeds all of these criteria. Furthermore, we are a vendor neutral business and can integrate all major circuit breaker brands within our modular design.

Anord LV Power switchboards have an unrivalled installed base in the most critical aspects of many uptime certified data centre power systems, whereby reliability and uptime are of paramount importance. This is why Anord LV Power switchboards are the product of choice for UPS Input-Output Switchboards, Critical Bypass Switchboards and Generator Paralleling Switchboards. We integrate seamlessly with 3rd party equipment vendors to include UPS and Generator controls, PLC controls, Kirk Key Interlocks and can incorporate static bypass switches into the switchboards line-up using our 3D solid modelling software. All of this is provided in a modern aesthetically pleasing design that is up to 40% smaller than the competition.

FEATURES / BENEFITS

- » Seismically tested and certified
- » Tested to UL 891
- » Front or rear access busbar systems, suitable for thermographic imaging
- » Available with Integrated Exertherm thermal monitoring
- » Fixed or withdrawable circuit breakers available
- » Flexible construction with in-line, back-to-back, u and L shaped configurations
- » Top, bottom, front or rear cable access can be provided
- » Compact footprint giving civil/structural savings
- » Advanced 3D modelling technique delivers consistent construction standards

SPECIFICATION OVERVIEW

| | |
|--|---|
| Busbar System Ampacity | 800A to 5000A |
| LV Busbar System Short Circuit Rating | (50kA /3 cycles) (65kA /3 cycles) (85kA /3 cycles) (100kA /3 cycles) |
| Low Voltage Ratings | 240V – 600V |
| Construction Separation | Form 4b type 7 |
| Cable Access | Top, Bottom, front or rear can be provided |
| Ingress Protection | IP 54, IP 42 or IP 31 |
| Panel Colour | Available in all RAL colours |

ANORD Critical Power Modules



FEATURES / BENEFITS

- » Off-site manufacturing speeds up delivery time and minimizes on-site installation time by up to 25%
- » All units fully fitted and factory tested prior to shipping within an ISO 9001 quality environment
- » Ideal for deployment in modular or remote data center facilities.
- » Robust, weatherproof and secure construction with minimum 25 year life-span
- » Specific lighting, heating and air conditioning requirements catered for to suit each installation
- » Reduced project design and construction costs due to single point of contact for manufacture switchboards and switchroom
- » All switchrooms designed using 3D modelling techniques ensuring optimum layout arrangement

As part of our broad capability range, Anord specialize in providing factory built Critical Power Modules, custom designed for integration to modular data center facilities.

Each Critical Power Module is designed and built by Anord to the specific fit-out requirements of the project and typically incorporates Transformers, Unit Substations, UPS systems/batteries, UPS switchboards and Generator Paralleling Switchboards, all interconnected using busway and control cabling in our controlled factory manufacturing environment.

Anord Critical Power Modules are rapidly deployed to site worldwide and offer significant advantages to data center construction schedules, as the heartbeat of the power system is effectively subjected to an integrated systems test in our manufacturing facilities following completion, therefore reducing on-site testing and cabling time by up to 25%.

Exertherm



Anord are Strategic Partners for Exertherm™ Continuous 24x7, Thermal Monitoring.

Exertherm™ is a system specifically designed to provide Continuous 24x7 Thermal Monitoring of mission critical electrical equipment, detecting and identifying the exact location of the problem long before failure. As a strategic integration partner, Anord are now providing Exertherm as an embedded option to our class leading range of AMS switchboards.

The Exertherm™ system uses patented, small, plastic-housed, lifetime calibrated, non-contact Infrared sensors which require no external power & can be permanently installed INSIDE electrical switchboards to continuously monitor key busbar terminations, delivering real-time Delta T temperature measurement.

Exertherm™ 24x7 Continuous Thermal Monitoring is a different and completely unique form of IR inspection and is now being increasingly recognized & adopted as the new 'Best Practice' technology & solution for mission critical facilities due to its significant & tangible benefits over traditional thermal imaging technology.

Continuously protect your facility with Exertherm™ 24x7 Thermal Monitoring - The Next Technology Step...Please contact us for further information on Exertherm integrated by Anord.

FEATURES / BENEFITS

The Exertherm™ System provides:

- » Ability to monitor cable / busbar joints with pre-set (user definable) alarms
- » Ongoing trend analysis allows detection of problems at an early stage of development
- » Increased device reliability and uptime due to avoided downtime & better maintenance
- » Improved operator and facility safety (Arc Flash)
- » Integrated real-time data to BMS/SCADA 24x7 365 days a year
- » Definable thermal map when combined with load data

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