VACON® NXP SYSTEM DRIVE
COMPLEX SOLUTIONS MADE SIMPLE
VACON – THE BEST PARTNER FOR RELIABILITY AND PERFORMANCE

Customers in heavy industries, such as Marine, Metals and Pulp & Paper, need drive systems that excel in terms of reliable performance. If you can rely on your system, it leaves you with more time and money to spend on optimizing the rest of the application. Vacon recognizes this, which is why we’ve been at the forefront of the drive systems business for the past twenty years.

You can now be sure to receive a drive system that is unmatched in terms of quality and ready in a shorter space of time than ever before. That’s because we have changed our production approach to bring it into line with what customers are after. VACON® NXP System Drive ensures that you receive an excellent level of quality and service, each and every time.

People – partners and employees alike – are what make Vacon. Nowhere is this truer than in the system drives business. These kinds of large-scale projects often feature many different components which are reliant upon communication on both sides to avoid technical problems anywhere down the line.

DRIVEN BY DRIVES

Our ability to work around the challenges our customers face everyday, regarding efficiency and cost savings, is the reason why we have reached where we are so quickly. As a company that’s focused 100% on AC drives, we live by their performance. By choosing Vacon, you can be sure to receive a top-class drive system – nothing else will do. We also won’t compete with system integrators for projects, unlike many other drive suppliers. This enables an atmosphere of mutual trust with our network of system integrators and end-users.

COMPLEX SOLUTIONS MADE SIMPLE

It’s essential that you receive a solution with a level of quality that’s as consistent as it is excellent. VACON® NXP System Drive provides complex solutions which are simplified through standardization, resulting in a product that will easily integrate into the process. This doesn’t prevent you from getting the exact solution you need – we can tailor some elements of the system in order to meet your requirements.
Traditionally, the design of a project-based enclosure accounts for up to 35% of the total cost. With VACON® NXP System Drive, this is reduced to around 5%.

Why choose VACON?

**Cost Savings**
- Traditionally, the design of a project-based enclosure accounts for up to 35% of the total cost.
- With VACON® NXP System Drive, this is reduced to around 5%.

**100% Focus on Drives**
- We concentrate on drives so you can concentrate on the rest of the application.
- Vacon is always a non-competing partner for system integrators on projects.

**Quality as Standard**
- Standardized and pre-tested solutions.
- We support our customers by supplying them with complete drive systems.

**Proven Track Record**
- We have been producing industry-leading AC drives since 1993.
- VACON® NXP Common DC Bus technology has been the ideal choice for drive systems for a number of years.


**VACON® NXP SYSTEM DRIVE - QUALITY AS STANDARD**

**RELIABILITY IS KEY**

VACON® NXP System Drive brings what customers need above all else – consistent and reliable quality guaranteed. We excel in delivering verified and tested solutions that combine VACON AC Drives, DC bus components and options. No need to worry about waiting for technical data, documentation or piloting – we’ve done all that before it reaches your premises.

**SAFETY AND SERVICE MEANS A LONGER LIFECYCLE**

A complex and wide-ranging solution is not one you want to have to replace, which is why VACON® NXP System Drive is built to last. One of the cornerstones of Vacon’s relationship with our partners is a commitment to drives performance that goes far beyond the point of purchase. Items such as busbar systems and high/low power devices are separated into individual compartments, away from each other. This means that, if things go wrong, the problem is compartmentalized and doesn’t cause widespread failure. The fact that VACON NXP System Drive is easy to maintain also makes it safer. Service engineers are immediately familiar with the way the system is set up, meaning they can get straight to the focal point.

**QUICK INSTALLATION**

Aside from the quality delivered, VACON® NXP System drive is also easy to adapt. Engineered sections slot in alongside each other, allowing you to arrange integrated transport splits to save space. Alternatively, you can add extra transport sections to speed up installation. All larger modules have slide-out mechanics that facilitate setup and maintenance. This also enables late module delivery, which can be helpful if the system is to be installed in a harsh environment. All sections are grouped depending on their functionality, making it possible to plan each installation phase exactly how you wish.

**COST EFFICIENCY**

Besides the peace of mind that comes with stress-free installation and setup, you’ll also save a lot of time and money. This is because the setup is essentially formulated when you order it, meaning system integrators can get on with designing the rest of the application. The fact that the drive system’s setup is uniform also means that it’s far easier to provide spare parts.

**PROVEN AC DRIVE TECHNOLOGY FOR HEAVY INDUSTRY**

Still need a reason to choose Vacon? How about the fact that VACON® NXP drives have been leading the way in the industry for the past decade. Aside from frequency converter units, Vacon can also deliver software and common DC bus components, which combine to make your personal solution. VACON® NXP Common DC bus technology has been the choice for our drive system customers for many years already – VACON NXP® System Drive simply ensures an optimal version of this solution, consistently and quickly.

**TYPICAL APPLICATIONS**

- **Marine & Offshore**
  - Cranes & Hoists
  - Thrusters
  - Deck machinery
- **Metals**
  - Metal plane lines
  - Melting and casting
  - Rolling mill applications
- **Pulp & paper**
  - Conveyors
  - Sectional drives
  - Debarking drums
KEY BENEFITS

Complete drive solutions
- Standardized products which fit all your application needs
- Modules can be delivered closer to start of the operation
- Minimized lifetime cost

Premium quality
- Industry-leading VACON® NXP & VACON® Common DC bus solutions
- Safe, tested and verified design
- Comprehensive documentation available with each delivery

Save on time and cost
- Modular design equipped with pull out feature for quick setup & maintenance
- Short setup time
- Easy to train onsite engineers
Setting up VACON® NXP System Drive couldn’t be easier — our online configuration tool guides you through the whole design process while providing you with the necessary documentation.

**THIS IS ALL ACHIEVED IN A NUMBER OF SIMPLE STEPS:**

1. You enter all the standard process data you will need for the drive system to work as you want it to e.g. main network type, frequency, voltage, ambient temperature etc. Once you have selected all these, configuration will start automatically.

2. Now you can play around with the parts to ensure that they meet your needs. The dimensions (height x length x depth) are all listed so that you can ensure the setup fits into the space you have set aside for the system.

3. When everything is setup and is ready to go, VACON® Configurator will automatically provide you with the documentation you need for the initial system setup, including a technical description listing all the specifications.
As a user of VACON® NXP System Drive Configuration Tool, you will have your own profile page which lists all your configurations, drafts and technical history. This allows you to easily keep track of your settings so that you don’t have to spend time looking around for mislaid papers.

**Key Benefits**

- Engineering process is cut to a minimum
- Prevents human mistakes from occurring during configuration
- Preferred configurations can be saved in customer profiles
- Easy and efficient way to try out implementation options
AVAILABLE SECTIONS

AUXILIARY DEVICE SECTION (ADS)

The auxiliary device section includes the common line-up controls. This section can be customized for all application and segment needs. There is one ADS size available.

<table>
<thead>
<tr>
<th>ADS type</th>
<th>Dimensions, W x H x D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS_600</td>
<td>400 x 2000 x 605</td>
</tr>
</tbody>
</table>

As standard the ADS section has the following equipment:

- Control for the circuit breaker with +ICB selected
- Indication of the mains status (fault, pre-charging and ON)
- Auxiliary power supply 24 V, 5 A
- Auxiliary Transformer, 2500 VA 1-phase supply (in bottom of cabinet)
- Terminals for control and monitoring

As pre-engineered standard options, we can provide the following:

- Emergency stop CAT0 (+PES)
- Emergency stop CAT1 (+PED)
- Insulation fault sensor (+PIF)
- Arc protection (+PAP)*
- Cabinet heater (+ACH)
- Cabinet light (+ACL)
- Auxiliary voltage transformer 4000 VA (+AT4)
- Auxiliary voltage 110 VAC (+AT1)
- Cabling from the top (+CIT)
- Empty auxiliary 600 mm cabinet with door (+G60)
- UL approved design and components (+NAR)
- Customer specific option (+CSO)

* +PAP will have sub units in selected sections if needed, please refer to the circuit diagrams.

MAIN INCOMING SECTION (MIS)

The main incoming section includes the main incoming device. The main incoming device and size is dependent on the required current of the complete line-up.

<table>
<thead>
<tr>
<th>MIS type</th>
<th>Input current</th>
<th>Dimensions, W x H x D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS_630</td>
<td>630 A</td>
<td>400 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_1000</td>
<td>1000 A</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_1250</td>
<td>1250 A</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_1600</td>
<td>1600 A</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_2500</td>
<td>2500 A</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_3200</td>
<td>3200 A</td>
<td>800 x 2000 x 605</td>
</tr>
<tr>
<td>MIS_4000</td>
<td>4000 A</td>
<td>800 x 2000 x 605</td>
</tr>
</tbody>
</table>

As standard the MIS section has the following equipment:

- Main incoming device, Load Switch
- Mains connections
- Emergency disconnect push button
- Digital multi instrument with field bus connection

As pre-engineered standard options we can provide the following:

- Air Circuit breaker (+ICB)
- Cabling from the top (+CIT)
- Earth Switch (+ILE)*
- Current transducers (+ITR)
- UL approved design and components (+NAR)
- Arc protection (+PAP)
- Cabinet heater (+ACH)
- Cabinet light (+ACL)

* +ILE requires an additional section.
NON-REGENERATIVE FRONT-END SECTION (NFS)

The non-regenerative front-end section (NFS) includes one or multiple NXN units from the VACON® product family. The NXN is a non-regenerative supply unit that can be utilized in 6-pulse, 12-pulse, 18-pulse and 24-pulse systems.

As standard the NFS section includes the following:
- The NXN unit(s)
- Chokes
- Terminals for control and indication signals
- DC fuses for the Supply Unit
- AC fuses for the filter

As pre-engineered standard options, we can provide the following:
- UL approved design and components (+NAR)
- Arc protection (+PAP)
- Cabinet heater (+ACH)
- Cabinet light (+ACL)

<table>
<thead>
<tr>
<th>NFS type</th>
<th>Number of NXN units</th>
<th>Dimensions, W x H x D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS_1x</td>
<td>1</td>
<td>400 x 2000 x 605</td>
</tr>
<tr>
<td>NFS_2x</td>
<td>2</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>NFS_3x</td>
<td>3</td>
<td>800 x 2000 x 605</td>
</tr>
</tbody>
</table>

ACTIVE FRONT-END SECTION (AFS)

The active front-end section includes an LCL-filter and an NXA unit from the VACON® product family. The active front-end provides low THD(I) and several units can be connected in parallel providing full or reduced redundancy.

As standard the AFS sections include the following:
- LCL Filter
- The NXA unit
- Control unit
- Pre-charging components
- Terminals for control and indication signals
- DC fuses for the Supply Unit
- AC fuses for the filter

As pre-engineered standard options we can provide the following:
- UL approved design and components (+NAR)
- Arc protection (+PAP)
- Cabinet heater (+ACH)
- Cabinet light (+ACL)

<table>
<thead>
<tr>
<th>AFS type</th>
<th>Drive size</th>
<th>Dimensions, W x H x D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFS_9</td>
<td>FI9</td>
<td>800 x 2000 x 605*</td>
</tr>
<tr>
<td>AFS_10</td>
<td>FI10</td>
<td>800 x 2000 x 605*</td>
</tr>
<tr>
<td>AFS_13</td>
<td>FI13</td>
<td>1400 x 2000 x 605*</td>
</tr>
</tbody>
</table>

* Dimensions including LCL
AVAILABLE SECTIONS

INVERTER UNIT SECTION (IUS) DRIVE SIZES FR4–FR8

The inverter unit section (IUS) includes one or several smaller NXI drives from the VACON® product family. The inverter units are all VACON® NXP drives.

<table>
<thead>
<tr>
<th>IUS type</th>
<th>Drive size</th>
<th>Maximum amount of units per section</th>
<th>Dimensions, W x H x D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUS_4</td>
<td>FR4</td>
<td>3*</td>
<td>400 x 2000 x 605**</td>
</tr>
<tr>
<td>IUS_4/6</td>
<td>FR4/FR6</td>
<td>2</td>
<td>400 x 2000 x 605**</td>
</tr>
<tr>
<td>IUS_7</td>
<td>FR7</td>
<td>1</td>
<td>400 x 2000 x 605**</td>
</tr>
<tr>
<td>IUS_8</td>
<td>FR8</td>
<td>1</td>
<td>400 x 2000 x 605**</td>
</tr>
</tbody>
</table>

* Only option board and fieldbus options
** Top exit +400mm can be shared between two sections

As standard the IUS section includes the following:

- Input fuses (DC fuses)
- The NXI drive(s)
- Control box (integrated into the module)
- Terminals for control and indication signals

As pre-engineered standard options we can provide the following:

- dU/dt (+ODU)
- Common mode filter (+OCM)
- SINE filter (+OSI)
- Input Switch with charging (+ISC)
- Input Switch, DC-disconnect (+ISD)
- Arc detection (+ADU)
- Motor fan control (+AMF)
- Motor heater feeder (+AMH)
- Mechanical break control (+AMB)
- Section light (+SLT)
- Top cabling (+COT)
- UL approved design and components (+NAR)
- Arc protection (+PAP)
- Cabinet heater (+ACH)
- Cabinet light (+ACL)
**AVAILABLE SECTIONS**

**INVERTER UNIT SECTION (IUS) DRIVE SIZES FI9-FI14**

The inverter unit section (IUS) includes the largest NXI drives from the VACON® product family. The inverter units are all VACON® NXP drives.

<table>
<thead>
<tr>
<th>MIS type</th>
<th>Drive size</th>
<th>Dimensions, W x H x D (mm)</th>
<th>Dimensions, W x H x D (mm) with space optimization</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUS_9</td>
<td>FI9</td>
<td>800 x 2000 x 605</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>IUS_10</td>
<td>FI10</td>
<td>800 x 2000 x 605</td>
<td>600 x 2000 x 605</td>
</tr>
<tr>
<td>IUS_12</td>
<td>FI12</td>
<td>1000 x 2000 x 605</td>
<td>Not available</td>
</tr>
<tr>
<td>IUS_13</td>
<td>FI13</td>
<td>1400 x 2000 x 605</td>
<td>Not available</td>
</tr>
<tr>
<td>IUS_14</td>
<td>FI14</td>
<td>2400 x 2000 x 605</td>
<td>Not available</td>
</tr>
</tbody>
</table>

As standard the IUS section includes the following:
- Input fuses (DC fuses)
- The NXI drive
- Service platform/module removal
- Outlet for power (for PC etc.)
- Control section and fixed external terminals, 70 pcs

As pre-engineered standard options we can provide the following:
- dU/dt (+ODU)
- Common mode filter (+OCM)
- SINE filter (+OSI)
- Input Switch with charging (+ISC)
- Input Switch, DC-disconnect (+ISD)
- Arc detection (+ADU)
- Motor fan control (+AMF)
- Motor heater feeder (+AMH)
- Mechanical break control (+AMB)
- Section light (+SLT)
- Top cabling (+COT)
- UL approved design and components (+NAR)
- Arc protection (+PAP)
- Cabinet heater (+ACH)
- Cabinet light (+ACL)
VACON AT YOUR SERVICE

Vacon is driven by a passion to develop, manufacture and sell the best AC drives and inverters in the world - and to provide customers with efficient product life-cycle services. Our AC drives offer optimum process control and energy efficiency for electric motors. Vacon inverters play a key role when energy is produced from renewable sources. Vacon has production and R&D facilities in Europe, Asia and North America, and sales and service operations in nearly 90 countries.

VACON – TRULY GLOBAL

Manufacturing and R&D on 3 continents
Vacon sales and service in nearly 30 countries
Sales and service partners in 90 countries