

## **The latest Drives generation offers new features and standards**

The VLT<sup>®</sup> AutomationDrive FC 300 represents a new drives concept to control the entire range of variable speed drives – from standard to servo operations in any machine or production line. The AutomationDrive FC300 is the first series under the new module concept and will be followed by series FC100 and FC200.

The new VLT<sup>®</sup> AutomationDrive FC300 provides advanced features such as automatic fine-tuning of motor control and performance self-analysis. Proactive troubleshooting and intelligent warning systems are also part of the package, and these features can be configured to meet the needs of specific applications. A Condition Controller built into the standard drives offers a wide range of essential Programmable Logic Controller (PLC) functions, while the optional VLT<sup>®</sup> MCO 300 enables complete PLC functionality.

### **Connects to any application**

The AutomationDrive easily adapts to any AC motor and application. It can be used for a single machine or an entire production line. Its intelligent plug-and-play technology makes implementation, operation, reconfiguration and maintenance easier than ever. Users will feel comfortable operating the AutomationDrive almost immediately, because every model features the well-known intuitive VLT<sup>®</sup> user interface.

### **Any way you want it**

The AutomationDrive FC300 series is the first series under Danfoss Drives' new modular concept, which makes it extremely adaptable and programmable. It complies with IEC 61131-3 open programming language and communicates well with all common standardised platforms.

If you modify an application, the software and hardware modules of the drive can be configured readily to accommodate your modifications. Combined with the Condition Controller, this makes it easy to customise the AutomationDrive and to reconfigure it whenever necessary.

### **The Reliable Drive**

The VLT<sup>®</sup> AutomationDrive features an early warning system that executes most critical tasks for you. These systems adjust drive performance, allowing time for you to react and prevent damage and delays thereby improving uptime. The AutomationDrive is highly resistant to wear and tear. Vulnerable areas such as flexible internal connections have been eliminated, and the optional plug-in modules come in their own enclosures.

### **One system covers everything**

Danfoss has chosen to create their new generation in one system that covers the entire range of drive needs, from simple speed control to advanced servo performance. The drives can control any AC motor on a machine or production line. The customer's advantages of this approach are numerous. For example, all versions share an identical interface. Once you have learned to program and operate one, you will be familiar with every other version in the range. To know one is to know all. Once the new AutomationDrive is implemented to run a machine or production line, programming, operation and maintenance will quickly become routine tasks. Employees save precious time, because they can use the same procedures when carrying out simple or complicated tasks across different models.

### **Buy on a need-to-have basis**

Modularity is one of the cornerstones of the new VLT<sup>®</sup> AutomationDrive. This feature provides a high degree of cost-effectiveness, since these variable speed drives can be altered and rebuilt as your needs change. Buy a standard model now and upgrade it later with additional modules, software and interface options that provide highly sophisticated features. Upgrading is plug-and-play, much like assembling toy blocks.

The standard AutomationDrive has advanced features that enable it to run most applications using factory settings. Optional modules handle operation modes required for very special applications. This

way the new VLT<sup>®</sup> AutomationDrive becomes a cost-effective solution with sufficient performance and options to accommodate completely individual and changing needs.

### **Backward compatible**

The VLT<sup>®</sup> AutomationDrive FC 300 has been designed to integrate as seamlessly as possible with your existing VLT drive solutions. Whether your current drives comprise third-party equipment, drives from Danfoss, or a combination of both, the AutomationDrive will be the right solution. Even the user interface will seem familiar, since it is an upgrade of the well-known, user-friendly interface of the VLT frequency converter.

The footprints of the AutomationDrive versions are identical to or smaller than the VLT<sup>®</sup> 5000 and the VLT<sup>®</sup> 2800 series, which makes replacement easy in side-by-side mounted rows. The user can even continue to use the same tables and charts, because any drive can be set up to display the same numbers for the terminal- crews in its spring-loaded terminals as previous VLT<sup>®</sup> frequency drives installed.

### **Future compatible**

With its open, modular design, the VLT<sup>®</sup> AutomationDrive can be adapted easily to meet future technological requirements. And it already complies with technologies such as Ethernet and PCMCIA, facilitating remote operation and configuration; it is prepared for intelligent solutions of the future. A Bluetooth<sup>™</sup> module that will add mobile connectivity to the AutomationDrive is in the works. As technology evolves, the AutomationDrive you buy today will be able to be monitored, controlled and reconfigured via the Internet, a mobile phone or a PDA. When new modules make these functionalities possible, you simply buy them and plug them in.

The future compatibility of the AutomationDrive is supported by the numerous contributions Danfoss makes to international committees and studies concerning upcoming industry standards. This helps Danfoss to focus on innovation, and to continuously provide unique benefits and competitive advantages to customers.

### **User friendly**

The VLT<sup>®</sup> AutomationDrive comes with a unique user interface that dramatically improves man-machine interactions. The user interface supports numerous languages, can display all alphabets, and can be configured individually to suit your needs. Setting up the AutomationDrive is further simplified by dedicated VLT<sup>®</sup> set-up software.

The LCP interface of the VLT<sup>®</sup> AutomationDrive works on three levels to accommodate different users: basic, experienced and advanced. The basic level displays information such as frequency, number of revolutions and process variables specified by the customer, such as flow and pressure.

A press of a button will display a quick menu for more experienced users. In this menu individual settings unique to each application can be adjusted. A complete menu is available to the advanced user. This menu presents all available parameters in an easy-to-use format. Help texts within the menu explain the definitions of the different parameters.

### **Fail-safe installation**

The VLT<sup>®</sup> AutomationDrive has been designed with fail-safe installation and operation in mind. It is as durable as previous generations of Danfoss Drives, perhaps even more so. Its patience is hard to exhaust. Optimum performance is easily achieved because of the intuitive connections and intelligent motor fine-tuning, including self-analysis. The VLT<sup>®</sup> AutomationDrive has made service much easier. Anybody can replace a damaged AutomationDrive and set up a new one by pushing a few buttons. Smaller drives can be dismantled, leaving optional modules and plugs intact to be used with the replacement drive. The complete set-up is transferred to the replacement drive via the LCP interface, the PC-tool or a Fieldbus connection.

### **Intelligent Condition Control**

The VLT<sup>®</sup> AutomationDrive has a brain of its own called the *Condition Controller*, which handles the basic PLC functions built into every version of the AutomationDrive. The Condition Controller allows you to relieve the central PLC and operate all drives and motors from an ordinary terminal.

Options include the VLT<sup>®</sup> Programmable Logic Controller MCO 300, the VLT<sup>®</sup> Motion Control PLC MCO 310, additional input/outputs, and various Fieldbus protocols. One of the great advantages of the built-in Condition Controller is its easy programmability. You can easily configure it without previous training though it enables a host of advanced functionalities that were unattainable without the PLC MCO 300.

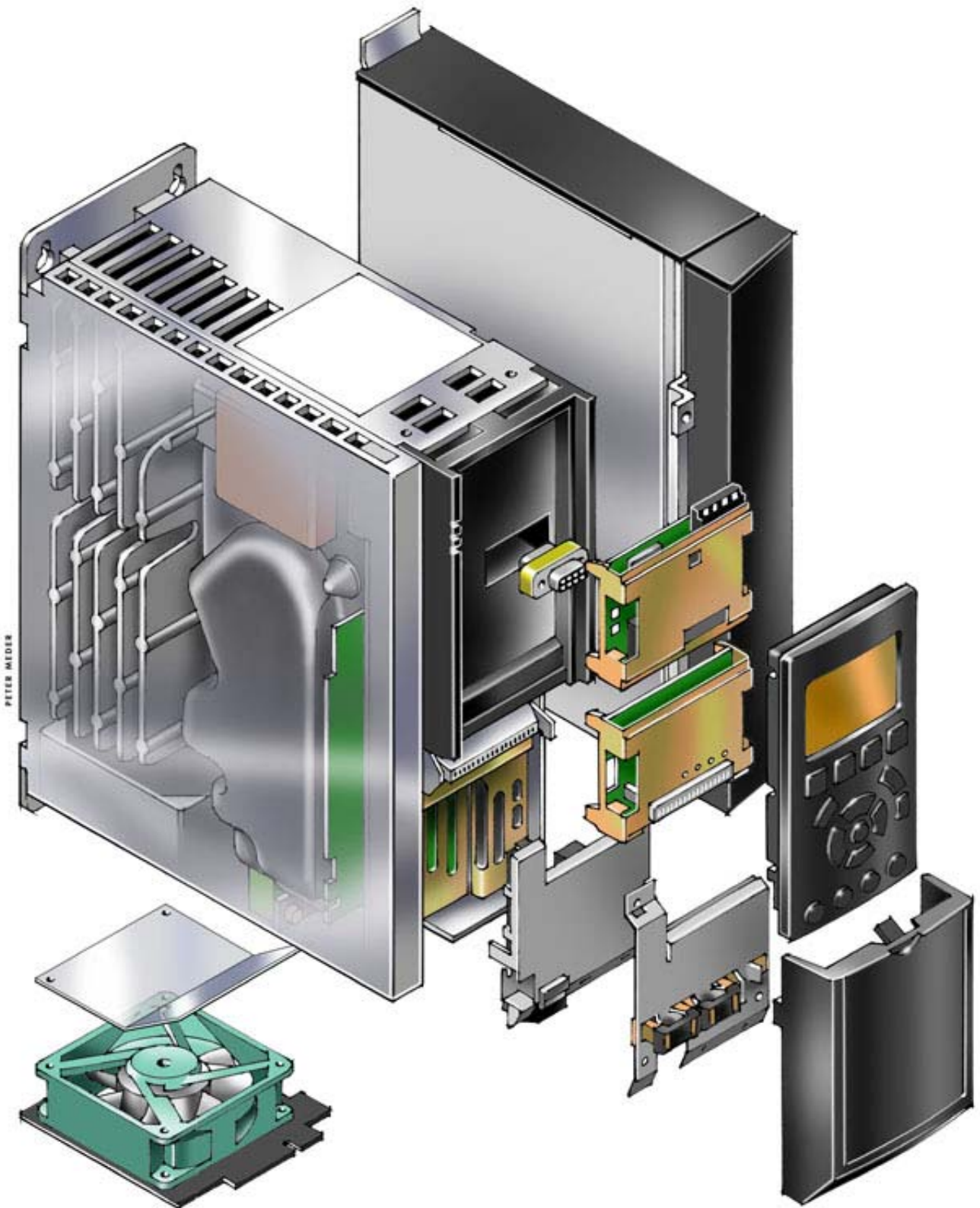
The optional VLT<sup>®</sup> Programmable Logic Controller is compliant with IEC 61131-3 and enables the user to relocate the entire application control to the Drive itself. This saves a considerable amount of wiring and provides real-time access to all of the drive parameters for a wide range of new control and measurement options.

### **Intelligent reliability and cool operation**

The VLT<sup>®</sup> AutomationDrive features intelligent reliability, including self-check, motor monitoring, early warning systems and intelligent heat management. These features and the overall quality of the VLT<sup>®</sup> AutomationDrive increase uptime.

### **Solutions created to perform perfectly**

Danfoss Drives has always paid serious attention to the requirements that evolve with industrial automation; to the need for sophisticated drive control in manufacturing, and to the performance of our variable speed drives in plants and applications in different environments around the world. We have gained in-depth expertise and customer knowledge to inform development of our innovative, application-oriented, user-friendly, durable solutions. All our solutions are created to perform perfectly and to withstand the everyday stresses of a manufacturing environment. These are the qualities that have made Danfoss a preferred international supplier of variable speed drives. The Danfoss Drives service organisation covers 120 countries.



*The VLT<sup>®</sup> AutomationDrive FC 300 has a modular design with plug-and-play structure that makes it unsurpassed flexible, easy to configure and to update. It has built-in protections and facilities that make even the drive with standard performance level drive, FC 301, run any motor with its factory setting. The advanced performance level drive FC 302 can operate even servo requiring applications.*