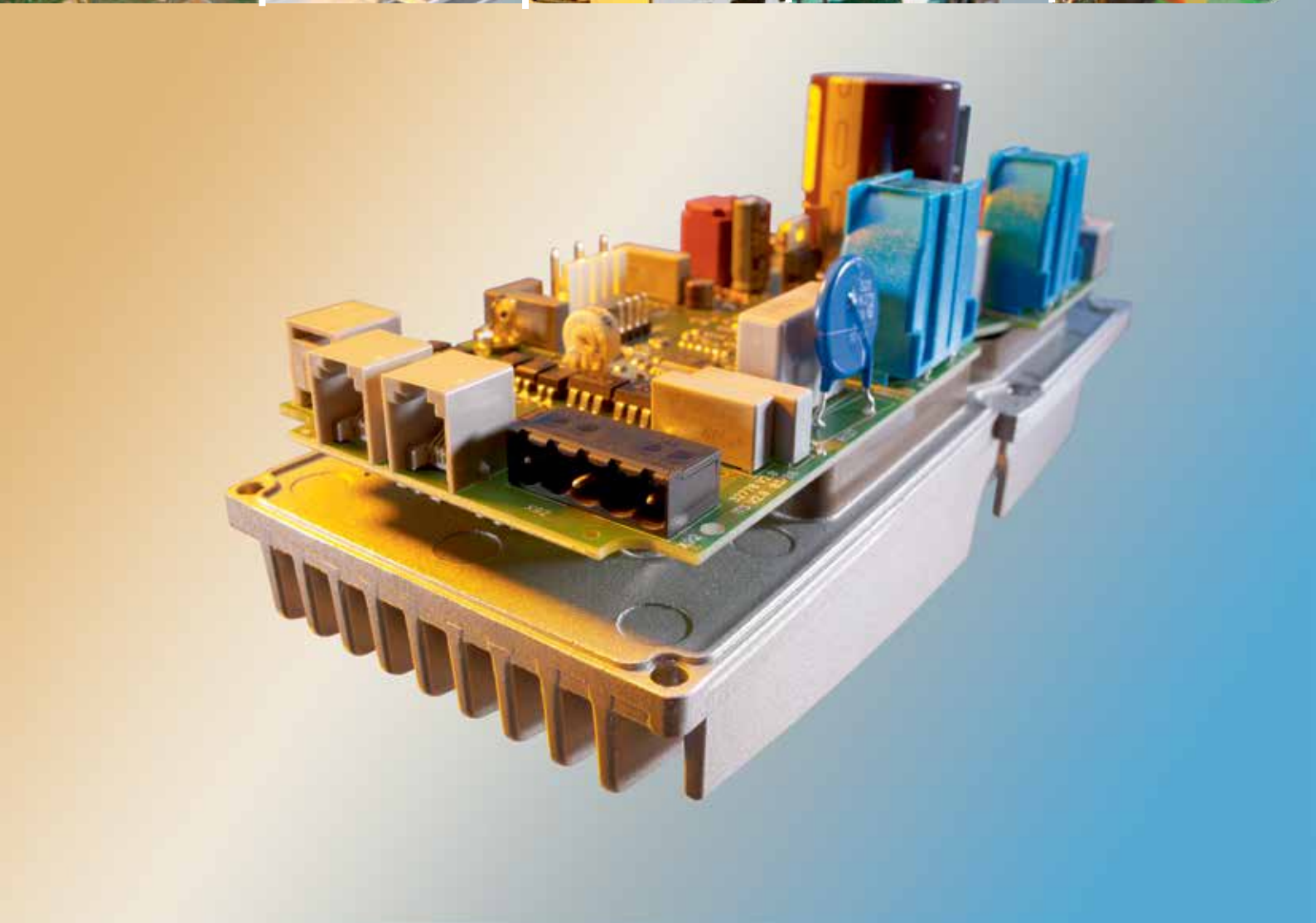
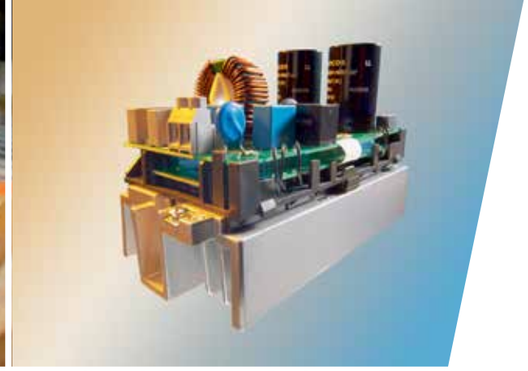
HANNING

moving ideas

HATRONIC

Everything under control





moving ideas

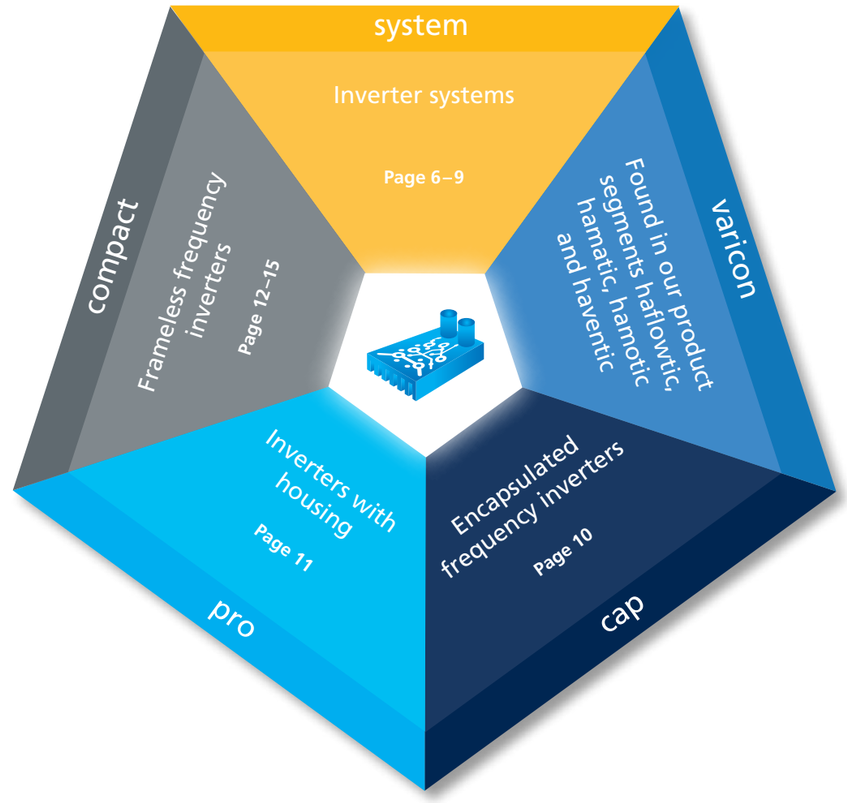
Life is movement – something we have been infusing in the products of our customers for more than 75 years. Based on our slogan “moving ideas”, we at HANNING ELEKTRO-WERKE develop drive concepts and manufacture customized solutions that will put you ahead of the competition. As one of the leading manufacturers of electric and electronic drive systems and components in the world, that is our promise to you.

Global presence is a decisive factor for success: We have an international production network with production facilities in Germany, Romania and India. In addition to that, HANNING has qualified sales partners worldwide. That ensures we are readily available all over, offering first-class service around the globe and bringing our international market and industry expertise for you into play.

To ensure that everything runs smoothly, you need electronic control systems and accessories that are made to measure – both of which can be found under our **hatronic** brand name. The heart of our electronic module for our motors is the frequency inverter that we precisely adapt to your drive requirements – even with small batch sizes. At your request, the parameters of the inverters can also be set in the factory to save you some time. The DriveSAS electronic start-up module makes sure that every single-phase asynchronous motor starts up safely and reliably. Thanks to our extensive experience and in-house production, we are able to meet your requirements without any ifs or buts by focusing on precision, energy-efficiency and sustainability.

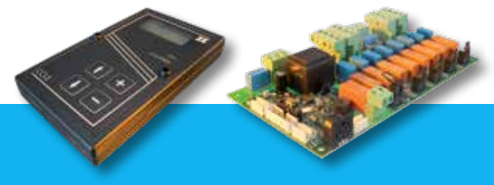
Solutions made to measure: hatronic

hatronic is more than just a product. This name stands for an entire set of diverse product variations with a precise structure and clearly arranged product lines to help you figure out which product suits your needs.



Good to know

At your request, we will obtain the following approvals on your behalf:
- VDE
- TÜV
- UL
- CSA



In addition to the general product classification system of HANNING ELEKTRO-WERKE, we also offer the **control** variation for accessories like controllers and software. Further details can be found on pages 16 and 17.

Increasing energy efficiency – reducing costs

Energy efficiency is a pressing need of our age – which **hatronic** can easily fulfill: **hatronic** inverters operate with high efficiency. This way, you decrease costs and increase your productivity. Moreover, our inverters help protect the environment – a benefit for your image that should not be underestimated.

Electronics at a glance

The customized frequency inverters of the hatronic brand help you to save energy in many applications.

Electric drive systems form the link between the power supply and the mechanical operations that require energy. Drive systems, especially electric motors, account for far more than 60 % of the industry's entire electricity consumption. Here it is possible to increase energy efficiency by 20 to 30 %.

That is why priority must be given to using energy-saving drives to ensure the market success of your systems or equipment. HANNING ELEKTRO-WERKE offers a wide variety of solutions, matured through intensive research and development. In this regard, our product portfolio ranges from motors with improved efficiency on average and cost-effective purchase price through to extremely energy-efficient drives.

Which variation is worth considering on your part depends on your application and the total costs of ownership over its life cycle. To this end, we offer you the entire spectrum of customized drive solutions – from compact and economical through to high-efficiency drives for especially efficient long-term use. This will help you successfully distinguish yourself on the market with HANNING quality products.

Optimized for efficiency

The energy efficiency level of HANNING's electric motors, which is already high, can be increased further with the aid of **hatronic** frequency inverters that are precisely tuned to the task's requirements. They even facilitate operation with partial loads while continuously maintaining high efficiency. That makes HANNING drives even more efficient.

The decisive factor in this regard is how the frequency inverter and motor are finely tuned to interact together. Therefore it is important that you get the electronic control module and motor from a single source – HANNING. You concentrate on the functional and geometrically adapted design of your application and we configure
the drive parameters for optimum efficiency.

Moreover, the **hatronic**'s broad range of applications is exceptional. Product lines of other manufacturers are usually geared to one area of application. **hatronic** is, on the other hand, at home in a wide variety of sectors, as for instance, in the industry or medical technology sector.

hatronic system – class of its own

Electronic modules precisely adapted to your requirements – that is what our **hatronic system** product line stands for. The **hatronic system** provides you with maximum individualization: We develop every product of this series specifically for your applications.

At a glance

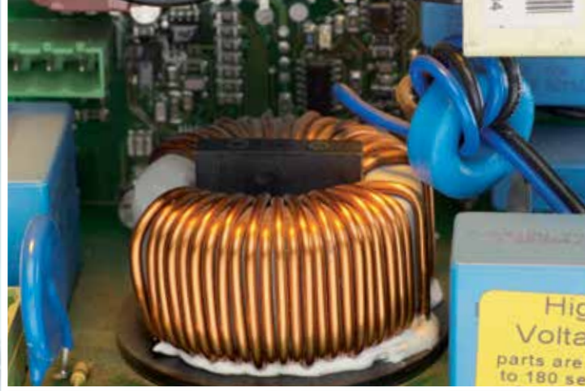
hatronic system:
Inverter systems

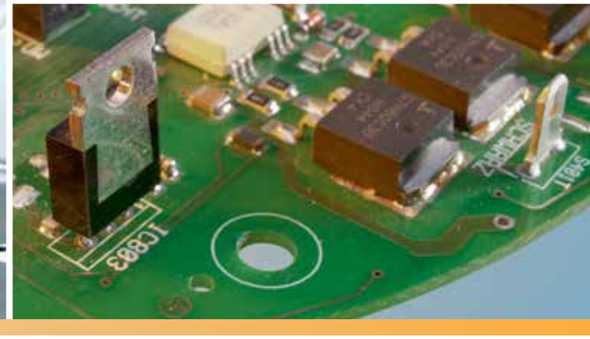
Application fields:
Laboratory equipment, textile sector, industrial rapid action doors and more

Advantage/benefit:
Maximum individualization, other additional functions possible, optimally matched frequency inverter

Technical specifications:
According to customer specification

Options:
According to customer specification



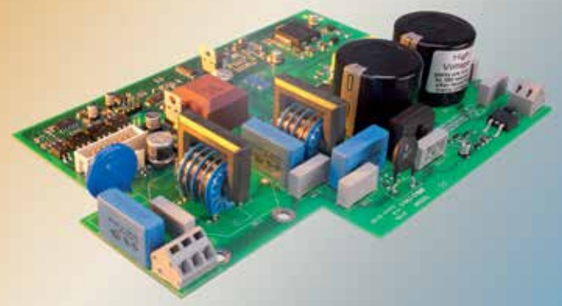


You get a frequency inverter that is designed precisely to your requirements and additionally has settings for other functions. Consequently, the **hatronic system** solution can be adapted to the configuration of your end device and can be designed for especially high ambient temperatures or high humidity if necessary.

As your partner HANNING ELEKTRO-WERKE possesses technological know-how, comprehensive industry expertise and an extensive in-house production, whether for centrifuges for laboratories, the textile industry, door and gate applications, wood processing or hot air applications. At HANNING you get development, production and distribution from a single source.

You only need to install the inverter – and your optimally tuned frequency inverter is ready in terms of functionality, protective ratings, international networks and EMC standards. With the result that your **hatronic system**
solution is the best economically and technically.

Highly individual solutions are the hallmark of **hatronic system**. Tell us your requirements, and we will develop a product tailored specifically to your applications.
The following selected examples will show you how this principle works in real life.



Success story 1:
Efficient and effective
The number of essential components was reduced in this inverter designed for laboratory centrifuges. That decreases the size and reduces the costs.

Inverter for laboratory centrifuges

hatronic system offers effective frequency inverters and even upgrades them with all extra functions that are needed for the application. For instance, the power supply for the centrifuge controller, the lid interlock system and refrigeration actuation module are integrated on the inverter component. A unique solution, not offered by any other standard vendor.

That allows us to reduce individual components and deliver a compact and cost-effective solution.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.12 kW**
Input voltage: **1~ 120–230 V**
Switching frequency: **16 kHz**

Success story 2:
Efficiency with reliability
Maximum safety is called for when it comes to wood processing be it sawing, planing and milling. You will find it in the inverter safety function on.

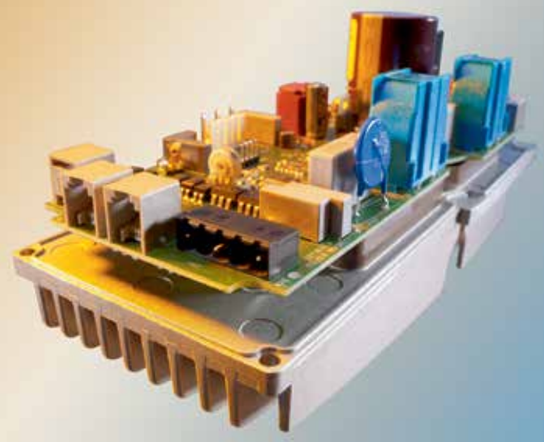
Frequency inverter in synchronous technology

Harsh environment, flying wood shavings, as well as dynamic acceleration and deceleration are some of the challenges faced by wood processing equipment. The **hatronic system** is optimally suited in this regard. High demands on service life and safety are typical for this industrial sector. A particular challenge posed by this application is integrating two prerequisites in one solution: Cutting and milling combined.

To fulfill stringent safety requirements and make the machinery certification compliant, the **hatronic system** inverter has an additional component. It immediately stops the drive as soon as the operator takes hold of the machine, which is a major contribution to on-the-job safety. Special components are used to ensure a long service life under extreme conditions. The inverter is equipped with a housing to protect it against external influences. It moreover possesses two output stages in order to be able to control two motors at the same time.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **2 x 0.4 kW**
Input voltage: **3~ 400 V**
Switching frequency: **16 kHz**



Success story 3:
The slim, high-speed star
Gate open, door closed – rapid action doors in supermarkets, cold storage rooms and logistic centers usually have to open quickly and close smoothly. This special inverter is the key to success.

Inverter for industrial rapid action doors

A high rotational torque is essential at the starting point to open such doors quickly. That is especially important for doors in cold storage warehouses, where short opening and closing times are an integral part of energy management. This **hatronic** solution consists of select components with high overload capacity and optimized design of the heat sink.

The **hatronic** electronic module controls the motor in such a way that the motion profiles can be implemented as needed. It provides the high start-up acceleration that is needed to open the gate quickly and brakes smoothly when stopping the gate's motion, which decreases mechanical wear. In addition, the increased motor speed keeps the opening and closing times short, reducing energy costs for the owner of the production facility. For motors that are only briefly active, the inverter requires less material – a further benefit for the cost situation.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.75 kW**
Input voltage: **1~ 208–240 V**
Switching frequency: **16 kHz**

hatronic cap – sealed, clean, dry

Demanding environments call for special protection. The solution is **hatronic cap** – the completely encapsulated and partly potted motor electronic module.

Water and dust pose a risk to every drive unit. Yet with our completely encapsulated **hatronic cap** solutions they do not affect the electronic module. That's why the IP protection rating is correspondingly high.

At a glance

hatronic cap:
Encapsulated frequency inverters

Application fields:
Fluid pumps, car washes,
livestock ventilation systems and more

Advantage/benefit:
High IP protection rating of up to IP65 and high vibration resistance

Technical specifications:
Applicable motor output up to 2.5 kW,
Input voltage 1~ 208–240 V / 3~ 360–460 V,
Switching frequency 8–16 kHz

Options:
Customer-specific communications interface, ready-made connecting cables, Power Factor Correction (PFC) and more

hatronic cap frequency inverters are ideally equipped for a wide variety of applications: They control, for instance, the drive unit for swimming pool or car wash pumps.
Another application includes electronic modules for drives used in livestock ventilation systems.

Success story 4:
Controller defies bad odors
A livestock building is not a playground either for one's sense of smell or electronic devices. Ammonia and high humidity are aggressive to electronic components. Unless they are hatronic cap components and are completely encapsulated.

Encapsulated frequency inverter

HANNING ELEKTRO-WERKE has the right frequency inverters even for aggressive environments like livestock buildings or greenhouses. To ventilate such areas with intensive odors, you need strong motors and an electronic module that fulfills special requirements. They must also be silent so as to ensure that the livestock stays calm and have a high protection rating. The **hatronic cap** solution comes with a special coating and sealing compound. Completely encapsulated or potted, our frequency inverters are designed to withstand the harshest ambient conditions.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **1 kW**
Input voltage: **1~ 208–240 V**
Switching frequency: **16 kHz**

hatronic pro – rugged, top performer

hatronic pro frequency inverters are protected by a housing. That makes them rugged for use in demanding environments – from appliances, materials handling equipment, textile machinery and lifts through to cleaning systems.

At a glance

hatronic pro:
Inverters with housing

Application fields:
Materials handling equipment, textile machinery, lifts, cleaning systems and more

Advantage/benefit:
Rugged design with protective housing, effective protection against accidental contact, IP20-54 protection rating

Technical specifications:
Applicable motor output 0.25–3.0 kW,
Input voltage 1~ 120 V and 230 V / 3~ 400 V,
Switching frequency 16 kHz

Options:
Power Factor Correction (PFC), EMC filter, braking resistors, controllers and more

Well protected, **hatronic pro** frequency inverters are ready to work. Their compact enclosures consisting of plastic, stainless steel or other materials are precisely matched to the customer's application. Thus, operators are well protected against accidental contact with electronic components. At your request, the inverters can also satisfy even higher protection ratings like IP40-54. HANNING will adapt the bus and connecting system to the customer's requirements; that also applies to the membrane keyboard and integrated basic elements. That makes the frequency inverters easy to operate and economic to manufacture. Upon request these products can also be equipped with integrated Power Factor Correction (PFC) and an EMC filter.

Success story 5:
The master of adaptation
No matter how specific the electronic module may be or even the installation space: DriveCCI inverters can be adapted. The DriveLPI is the right choice for users with especially tight space requirements and budget.

DriveCCI and DriveLPI with protection against contact

Highly specific applications call for special solutions. The frequency inverters of the DriveCCI series can be aligned precisely to the customer's control system and the installation space. DriveLPI products fit even in the smallest space and almost every budget. Both series in the **hatronic pro** line moreover offer optimum protection against accidental contact.

Further details about our DriveCCI and DriveLPI products can be found on pages 13 and 14.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.75 kW** (DriveCCI)
Input voltage: **3~ 400V** (DriveCCI)
Switching frequency: **16 kHz** (DriveCCI)

hatronic compact – the essence

The scope of the **hatronic compact** is just as diverse as customer requirements. That extends from applications in appliances, textile industry, medical equipment and materials handling system through to lift doors, cleaning systems and hot air applications in the catering sector – for a sustainable reliable operation.

At a glance

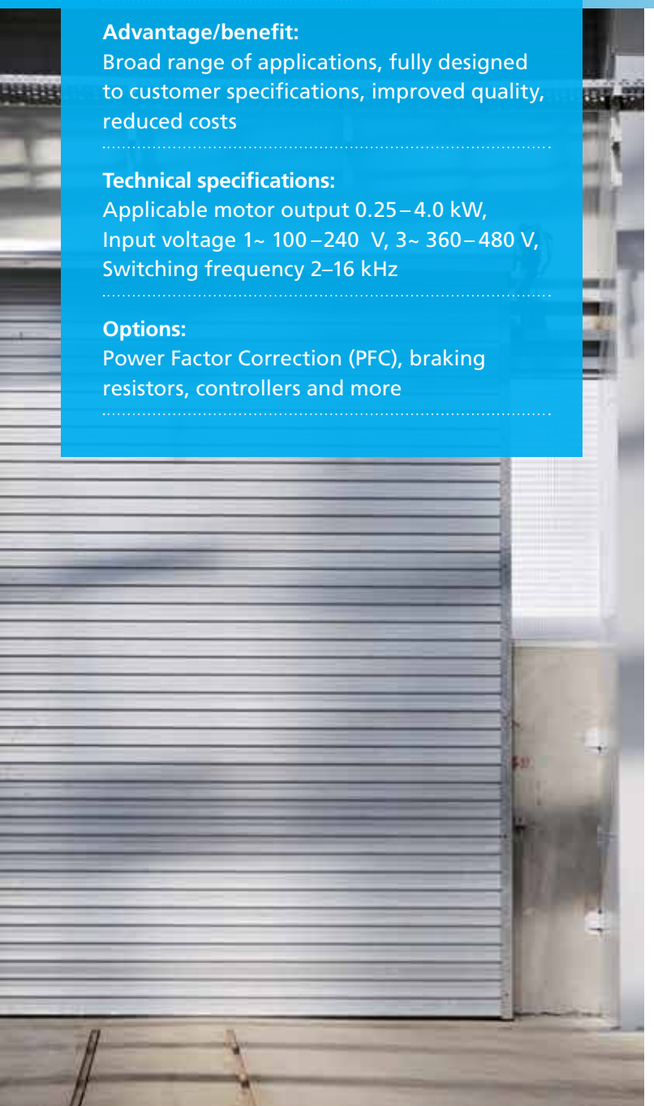
hatronic compact:
Frameless frequency inverters

Application fields:
Industrial rapid action doors, appliances, textile industry, hot air applications, medical equipment and materials handling systems

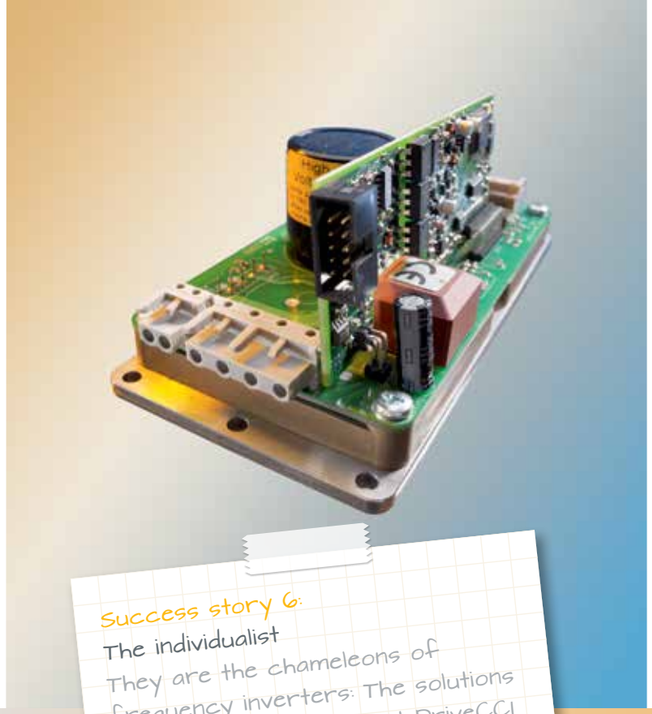
Advantage/benefit:
Broad range of applications, fully designed to customer specifications, improved quality, reduced costs

Technical specifications:
Applicable motor output 0.25–4.0 kW,
Input voltage 1~ 100–240 V, 3~ 360–480 V,
Switching frequency 2–16 kHz

Options:
Power Factor Correction (PFC), braking resistors, controllers and more



Fully designed to your product specifications – that is the main strength of **hatronic compact**. Design, connecting system, parameters and software: you get everything as requested with minimum programming effort. That decreases costs and at the same time increases quality and functionality. Two variations of wide range inputs are also available as options – 100 to 240 V and 360 to 480 V.



Success story 6:
The individualist
They are the chameleons of frequency inverters: The solutions of the hatronic compact DriveCCI series can be adapted precisely to the customer's application in terms of electronics and to the installation space as well.

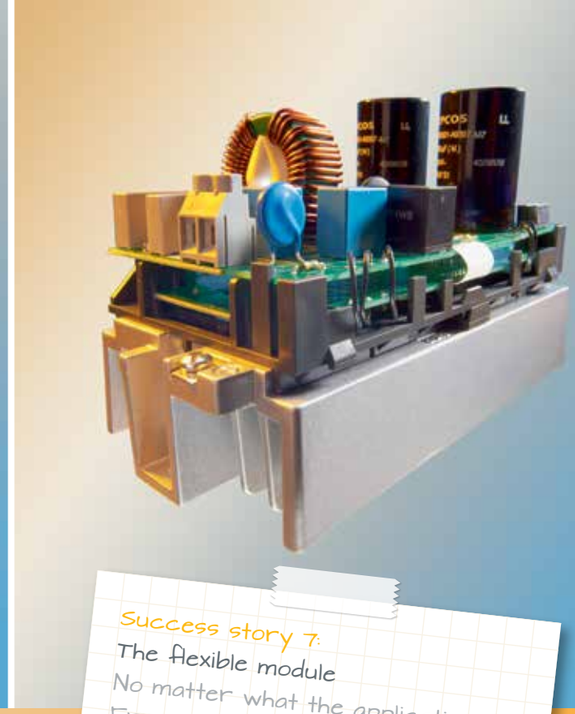
DriveCCI

The DriveCCI is available with an open design and an IP00 protection rating. The basic power components of the single- and three-phase units are classified by mains voltage and output. Depending on your requirements, they can be combined with various control elements.

The DriveCCI controls drives flexibly and based on customer specifications – either with a standard I/O or a compact control card. The controller of the standard version is based on a 16-bit microcomputer, offers several PLC-compatible I/Os and supports connecting a two-track encoder for high precision speed control.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.55 kW**
Input voltage: **1~ 230 V**
Switching frequency: **16 kHz**



Success story 7:
The flexible module
No matter what the application is: Frequency inverters of the hatronic compact DriveMCI series can be adapted easily and quickly.

DriveMCI

Regraded power elements available in two sizes form the basis of the DriveMCI series. The output range of the frequency inverters extends from 0.75 kW in the single-phase design to 4.0 kW in the three-phase design. Only state-of-the-art components are used for the production of these technically sophisticated inverters. They utilize the entire functional scope of modern control electronics.

The inverter communicates via an easy-to-implement, serial transmission protocol. The control functions are transferred to the power circuit in the microcomputer. Thus, the DriveMCI can be used without an interface board. The standard DriveMCI is delivered to customers without housing. If needed, a housing can be provided quickly.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.75 kW**
Input voltage: **1~ 230 V**
Switching frequency: **2–12 kHz, 16 kHz** available on request

Success story 8:
The compact module
Compact and cost-effective: The two key advantages that best describe the hatronic compact DriveLPI frequency inverter.

DriveLPI

A compact solution, which saves materials and is thus cost-friendly, is adequate for an output range of up to 0.37 kW. And that is the DriveLPI for single-phase power supply, which has an open design and equipped with an I/O board and an interface board. The universal interface allows it to control devices via PLC, IPC or a customer-specific solution.

Other functional units are integrated like a line filter, connections for a braking resistor and functions to prevent overheating and power surges. Minimum and maximum speeds can easily be configured.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **0.37 kW**
Input voltage: **1~ 230 V**
Switching frequency: **16 kHz**

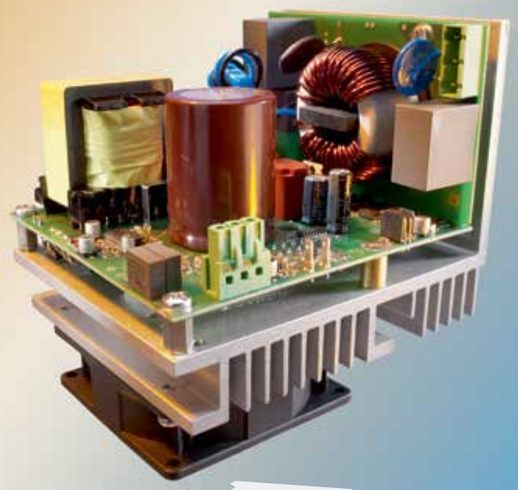
Success story 9:
The versatile module
This inverter is the right solution for linear actuators and columns. It offers a high degree of versatility for the user, since it can be programmed in any way and controlled individually.

DC-FI low voltage frequency inverter

The DC-FI controls HANNING linear actuators and columns with extra low voltage three phase winding. The variable speed frequency inverter can be used wherever there is a demand for powerful, dynamic and intelligent drives with positioning functions. The DC-FI is either controlled by analog or by a CAN bus system. Its configuration also includes a soft start and soft stop in addition to a wide variety of other functions.

TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **up to 750 W** (intermittent operation)
Input voltage: **36–42 V DC**
Switching frequency: **8–16 kHz**



Success story 10:
The space-maker
This inverter saves considerable space in commercial hot air ovens. Thus, greater capacity is available for the cooking chamber.

Hot Air Inverter (HAI)

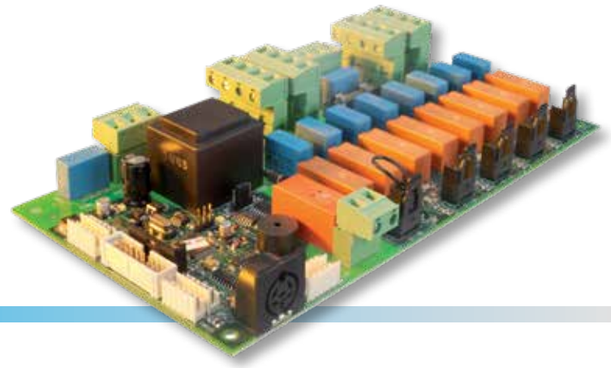
Commercially used hot air ovens present several challenges for drives (motors and electronic modules): They must withstand temperatures of up to 70 °C. Moreover, the drives are suited for international networks – from 100 to 240 V, 50 and 60 Hz. The solution is a customer-specific frequency inverter of **hatronic compact** with an integrated fan. A space-saving component in the installation space allows for a larger cooking chamber – with diverse variations in terms of system voltage.

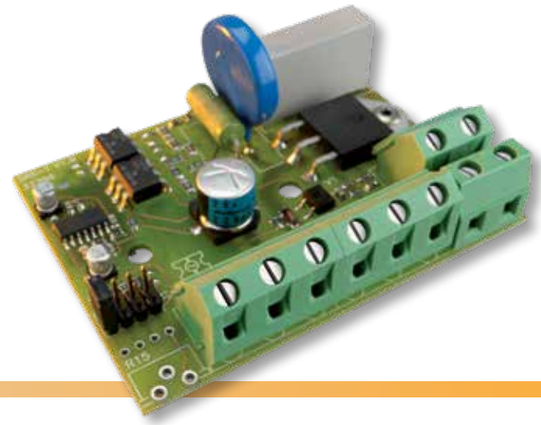
TECHNICAL SPECIFICATIONS AT A GLANCE

Applicable motor output: **650 W**
Input voltage: **1~ 100–240V**
Switching frequency: **16 kHz**

hatronic control – ensuring optimum control

Control elements and instruments are indispensable for ensuring optimal operation. At HANNING ELEKTRO-WERKE, these tools are included – from a single source and individually tailored to the drive components.





HBT controller
With the **hatronic control** HBT unit, the operator can quickly and easily program and operate the inverters. Its plain text display and clear menus make the controllers especially user-friendly. Parameter sets can be easily saved and transferred to other inverters. Inadvertent adjustment is prevented thanks to a multiple-step access concept.

CTRL universal control
Dental chairs, massage tables, health-care couches – the electronic control modules for such medical applications are located in very sensitive surroundings. They are not allowed to disturb patients, but at the same time still have to operate precisely.

The frameless replay control **hatronic control** CTRL can drive all HANNING linear actuators and columns. It offers users a wide variety of actuation and safety options.

As a result, the **hatronic control** CTRL fulfills the customer's positioning requirements to the point: Up to four motors can be connected to the frameless control system or three motors and two switching outputs. With these switching outputs, electrical devices are able to drive a power consumption of up to maximum 0.5 kW per output.

The operational readiness of all essential components is indicated with LEDs. This ensures an easy and quick default analysis. All motor functions can be stopped with the aid of a single enable input – a major benefit for safety. The control system can be supplied with 100 V, 115 V or 230 V AC.

Configuration and operating software
hatronic frequency inverters operate with maximum precision. That's why it is crucial that parameters are programmed carefully. Our software makes this a quick and convenient task.

We customize the software to suit the individual application. In this case, it is easily possible for the user to select the parameters, save menu configurations or transfer parameters from text files.

DriveSAS electronic start-up module
The DriveSAS electronic start-up modules ensure that single-phase asynchronous motors are powerful and safe. There are two variations of the module available: 100 to 120 V and 200 to 240 V. They cover all motor output ratings of up to 1.5 kW.

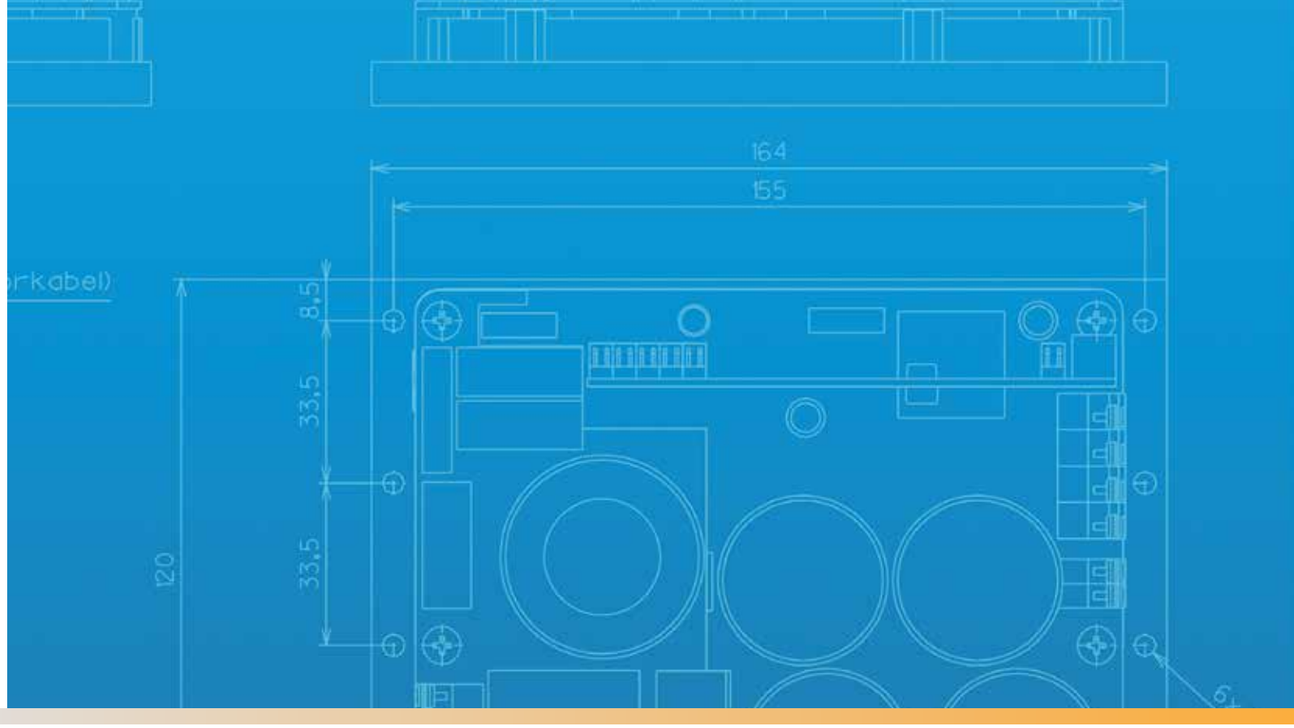
Single-phase asynchronous motors can only be started under severe load conditions with an additional starting capacitor. Since the motors consume more power in this case, the capacitors must be deactivated after start-up. DriveSAS deactivates the starting capacitors based either on speed or time.

The compact electronic modules are placed in the terminal boxes directly installed on the motors, which saves space and eliminates additional wiring. Customer-specific drive solutions are always possible with the DriveSAS electronic start-up module. DriveSAS can be combined with every single-phase asynchronous motor.

hatronic frequency inverters – tailored to perfection

Are you looking for the right frequency inverter for your drives? We have the solution – either customized specifically for your requirements or selected specifically for you from our broad assortment. In this way, we strengthen your position on the market, increase your productivity and improve the performance of your high-quality products.

Are you interested in drive solutions that optimally combine technology and efficiency? Then do not hesitate to contact us. We would be happy to advise and support you during development with our know-how, state-of-the-art measuring and testing equipment.



HANNING

moving ideas

HANNING ELEKTRO-WERKE GmbH & Co. KG
Holter Straße 90, D-33813 Oerlinghausen
PO Box 1361, D-33806 Oerlinghausen
Germany

Tel +49 (5202) 707-0 · Fax +49 (5202) 707-301
info@hanning-hew.com · www.hanning-hew.com





HANNING ELEKTRO-WERKE GmbH & Co. KG
Binning 5, D-17367 Eggesin, Germany

HANNING MOTORS ROMANIA SRL
Strada Petre Carp Nr. 19, Judetul Bihor
410603 Oradea, Romania
info@hanning-hmr.com

HANNING MOTORS INDIA Pvt. Ltd.
Plot No. 80-82 / 1+2, Alindra-Manjusar GIDC, Tal.: Savli
Dist.: Vadodara 391775, Gujarat, India
info@hanning-hmi.com

Printed in Germany · Subject to technical changes · hatronic/E/01.2023/bueroinaoakley