

DRIVE

ND40

NOVOTRON
Future in Drives



The new generation: NOVODRIVE ND40 series

Digital servo converters by NOVOTRON – that's maximum precision and unparalleled functionality, brought together under an extreme compact design. With the new NOVODRIVE ND40 series, we commit ourselves to the principles we have been pursuing from the beginning.

While all proven functions and features of the predecessor series ND31 and ND32 have found their way into the new series, the ND40 series comes with some additional capabilities, of course. One of them: **ENDAT 2.2 support for absolute-measuring systems.**

Also, we invested a lot of time and work in improving the user-friendliness of our devices. A **completely revised start-up software** will ensure that you use ND40 servo converters as efficiently as possible in order to achieve your goals fast and obtain great results.

What else can you expect from the ND40 series? With this little brochure, we would like to give you a brief overview of the functional range of this new generation of servo converters. If you have any questions, don't hesitate to contact us!

For the best ideas come into being when people talk with each other ...



The perfect interplay of motors and servo converters

The decisive factor of any application has always been – and presumably will always be – the motor. What power is required? What torque must be achieved? What kind of motor suits best?

Using servo converters of the NOVODRIVE ND40 series will allow you to stay flexible. All devices are equally suited to work with synchronous servo motors, high-torque motors, and linear motors.

From a finely graduated range of power levels, you can select the servo converter suiting best your specific requirements: ND41 for applications requiring between 2 and 7 ampere, ND42 for applications requiring 5 or 10 ampere, and ND43 for applications requiring up to 20 ampere.

In this respect it is important to note that ND41 uses a two-phase or three-phase supply voltage of 230 VAC, while ND42 and ND43 use a three-phase supply voltage of 400 VAC.



All ND40 devices come with onboard power pack and braking circuit. If a motor is supposed to be driven at high speed under high working load or high inertia load, external resistors may be hooked up in compliance with the rated output of the device used.

Concentrated functionality

No matter if you choose ND41, ND42 or ND43 – the broad range of functions and features is the same with every device. Outstanding flexibility is granted by an intelligent modular software concept, by which standard applications can be modified and specialized so that customer specific requirements can be met quickly and effectively.

A modern cascade control based on ASICs and μ -controllers provides for closed-loop control of power, speed and position. All important functions are controlled at a cycle time of 100 μ s. The same cycle time is achieved when internal setpoints are generated, for example in the positioning mode.

For rotor position feedback, you can choose from a range of measuring systems the one best suited for your specific application.



All ND40 devices support

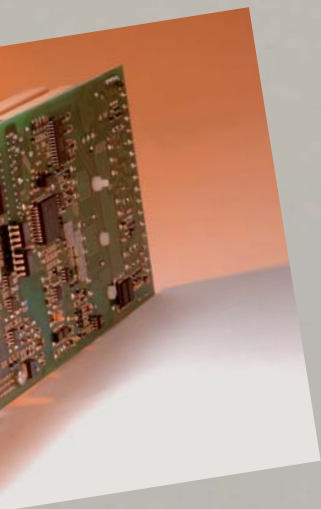
- resolvers,
- sine encoders (rotary or linear) with up to 4096-fold interpolation,
- Heidenhain ENDAT 2.2 measuring systems with absolute position identification in realtime.

Still adhering to our "All-in-one Philosophy" ...

Both complicated wiring and excessive use of peripherals is something we at NOVOTRON have always tried to avoid. That's why all our NOVODRIVE servo converters are built according to our 'All-in-one Philosophy', which means that all functions and features are offered to you in one single device. Thus accessories can be reduced to a minimum.

When we talk about "all in one" with regard to our new NOVODRIVE ND40 series, we specifically mean that you may use an extended range of great functions without needing additional hardware:

- sequencing control for up to 128 stored parameter sets,

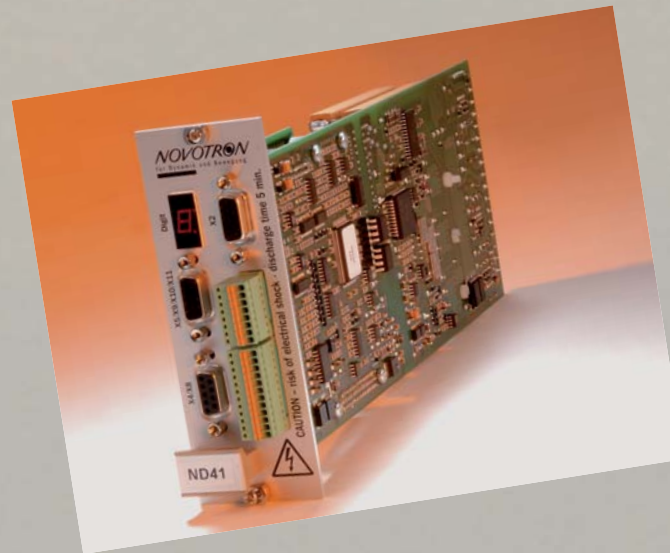


- 50 permanently available operation modes, from analog setpoint setting for speed to various positioning modes (among them, absolute positioning with setpoint ramp),
- on-the-fly change of operation modes,
- field-weakening operation for high speeds when working with high-torque motors,
- 4-channel oscilloscope for increased user support during system start-up and monitoring.

High performance by extremely compact devices

NOVOTRON is leading edge particularly with regard to compact design of electronic devices. Even ND43, our most powerful servo converter, is characterized by very small dimensions.

All our devices are mounted on a 3HE Eurocard of 230 mm length. A 19" frame can accommodate nine ND41, or five ND42, or three ND43 servo converters. For wall mounting in switch cabinets, our servo converters are available in a rugged single-axis housing, with integrated mains filter as an option.



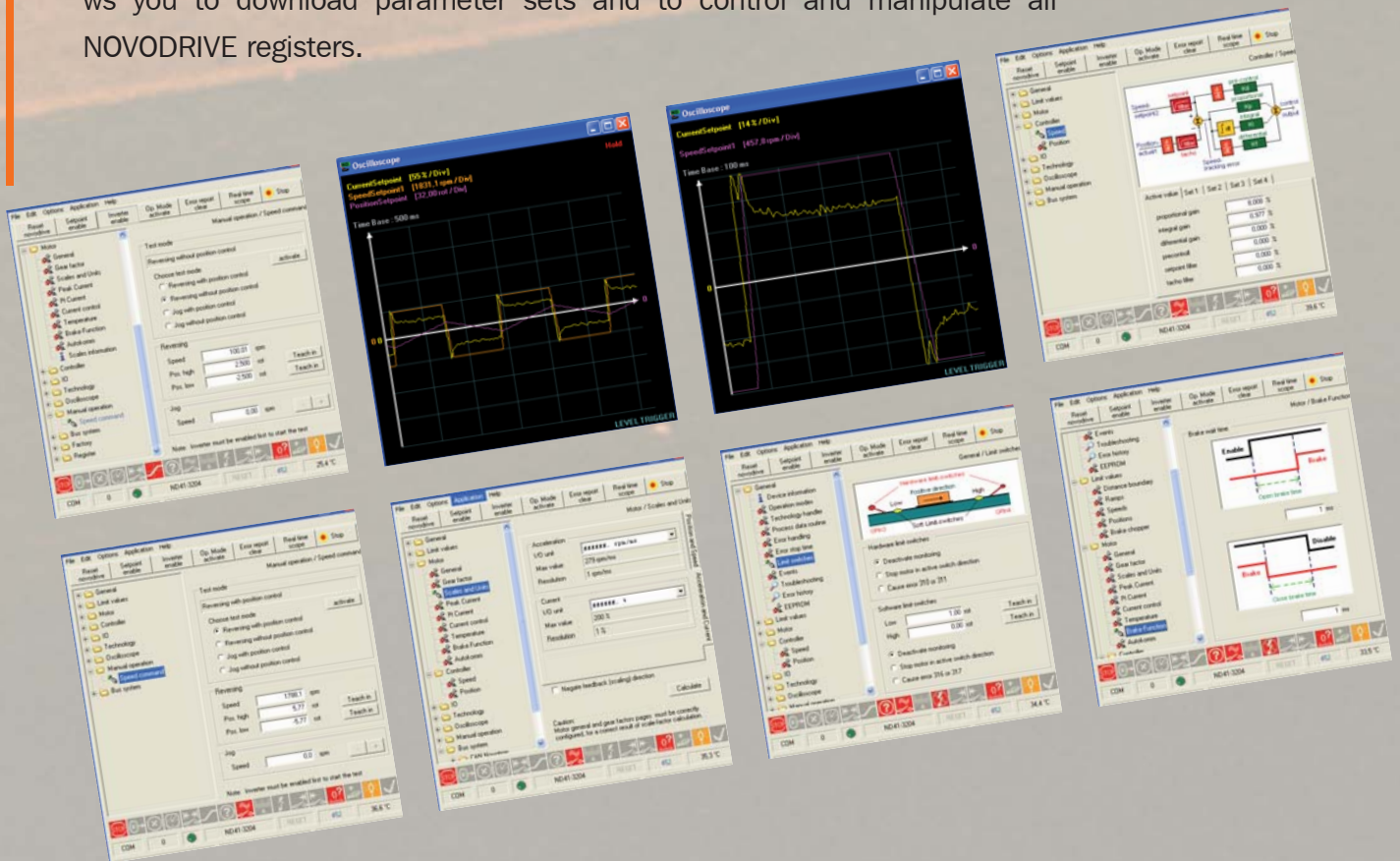
For being connected with an external control, you may choose from the following options:

- connector block,
- D-SUB with 12 x 24 V inputs, 4 x 24 V outputs, analog input, counter input, and encoder output,
- bus interface with CAN NOVOTRON, Profibus, and CAN Open protocol.

The bus interface accommodates profiles for easy PLC extension.

For highest user convenience: the start-up and application software

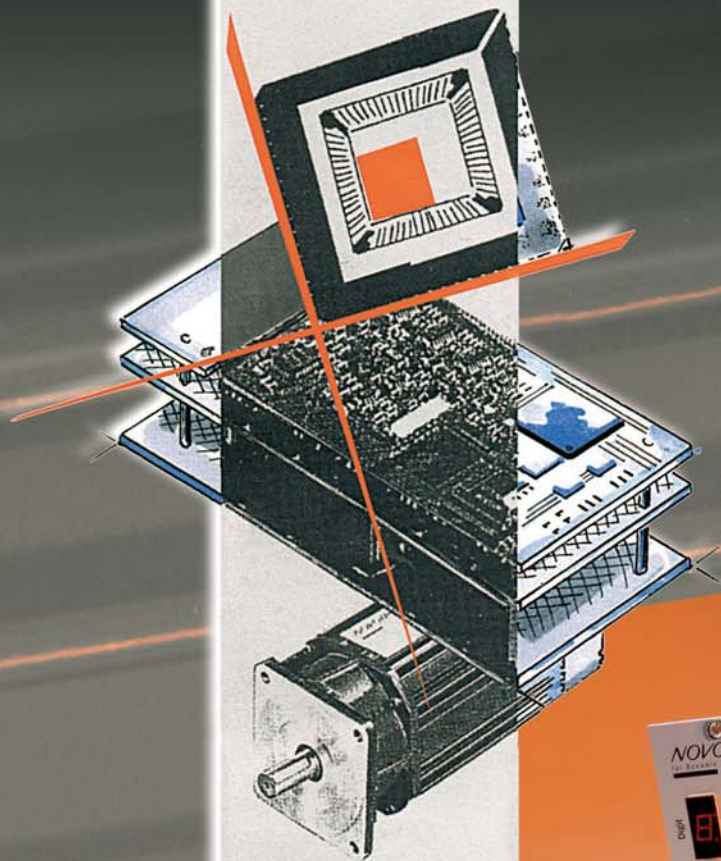
By means of the NOVODRIVE user software, programming, starting up and optimization can be done easily over a PC or laptop. This sophisticated and at the same time easy to use Windows software allows you to download parameter sets and to control and manipulate all NOVODRIVE registers.



By means of the integrated 4-channel-oscilloscope, all control parameters such as acceleration ramps, limit values, or values for input/output current can be recorded, printed and archived.

The software now comes with a brandnew diagnosis function. And, last but not least, programming can now be done according to the international SI standard, which will eliminate the problem of data conversion substantially.

Technical specifications	ND41			ND42		ND43
Type	3202	3204	3207	5605	5610	5620
Rated motor current	2 A _{eff}	4 A _{eff}	7 A _{eff}	5 A _{eff}	10 A _{eff}	20 A _{eff}
Rated supply voltage	130 V/230 VAC			230 V/400 VAC		
DC link voltage	320 VDC			560 VDC		
Number of input phases	2 or 3			3		



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