

Electric Drives
and Controls

Hydraulics

Linear Motion and
Assembly Technologies

Pneumatics

Service

Rexroth
Bosch Group

Declaration on the environmental compatibility for EMC¹⁾, climate and mechanical load

RE 30139-U/03.10 1/4
Replaces: 04.08

Type VT-HNC100...3X

Digital axis control

Product types

- VT-HNC 100...3X according to data sheet RE 30139 and operating instructions RE 30139-B
- VT-HNC 100...3X/S according to data sheet RE 30159 and operating instructions RE 30159-B

Description of the product family

The digital axis control HNC100 is a programmable NC control for controlled axes. It complies with the specific requirements for closed-loop control of hydraulic axes.

¹⁾ In the sense of the EMC directive 2004/108/EC and the EMVG (act on the electromagnetic compatibility of operating media) dated 02/26/2008

The products comply with the following standards:

1. EMC (electromagnetic compatibility)

Test according to generic standard **EN 61000-6-2:2005**

			Interference resistance
EN 61000-4-2:2007	VDE 0847-4-2	ESD (electrostatic discharge)	Air discharge: Severity level 4 / evaluation criterion A Contact discharge: Severity level 4 / evaluation criterion A
EN 61000-4-3:2006 + A1:2008	VDE 0847-4-3	HF fields, freely beamed	Severity level 3 / evaluation criterion A 80...1000 MHz Severity level 3 / evaluation criterion A 1...2.7 GHz
EN 61000-4-4:2004	VDE 0847-4-4	BURST (transient interference)	Repetition rate 5 kHz Supply voltage: Severity level 3 / evaluation criterion A Data lines: Severity level 4 / evaluation criterion A Repetition rate 100 kHz Supply voltage: Severity level 3 / evaluation criterion A Data lines: Severity level 4 / evaluation criterion A
EN 61000-4-5:2006	VDE 0847-4-5	SURGE (surge voltage)	Supply voltage: Asymmetric (line against ground) Symmetric (line against line) Severity level 1 / evaluation criterion A Data lines: ^{1) 2)} Asymmetric (line against ground) Severity level 2 / evaluation criterion C Symmetric (line against line) Severity level 2 / evaluation criterion B
EN 61000-4-6:2007	VDE 0847-4-6	HF fields, conducted	Severity level 3 / evaluation criterion A 0.15...80...230 MHz
EN 61000-4-8:1993 + A1:2001	VDE 0847-4-8	Magnetic fields	Severity level 4 / evaluation criterion A

Footnotes, see page 3

The products comply with the following standards (continued):

1. EMC (electromagnetic compatibility), continued

Test according to generic standards **EN 61000-6-3:2007** and **EN 61000-6-4:2007**

			Transient emissions
EN 55022:2006 + A1: 2007	IEC/CISPR 16-2-1:2005-09 point 7.4.1 IEC/CISPR16-1-2:2006-08 point 4.3	Emission Radio interference voltage (direct voltage / power supply connection)	Limits according to EN 61000-6-4:2007 0.15...30 MHz Table 1 / line 2) ³⁾ Limits according to EN 61000-6-3:2007 0.15...30 MHz Table 1 / line 3) ³⁾
EN 55022:2006 + A1: 2007	IEC/CISPR 16-2-3:2006-07	Emission Radio interference field strength (housing, freely radiated)	Limits according to EN 61000-6-4:2007 30...230...1000 MHz Table 1 / line 1) ³⁾ Limits according to EN 61000-6-3:2007 30...230...1000 MHz Table 1 / line 1) ⁴⁾

Notes:

If not otherwise indicated, the data with regard to standard conformity apply for all control types of HNC100 series 3X. The installation instructions apply (top hat rail mounting structure, shield connections, cable laid bundled in the duct, application used according to standard cables, e.g. ProfiBus, CAN, etc.).

¹⁾ We recommend to use unshielded individual wires (here: DIGITAL-I/Os of HNC) only up to a maximum length of 30 m per wire. For lines which are longer than 30 m shielded cables must be used. The cable shield must be applied with low impedance according to the installation instructions.

²⁾ Evaluation criterion C on the basis of the protection and safety shut-down of the electronic system. The electronic system can be switched to operation mode by pressing the reset or Power OFF/ON button.

³⁾ Valid without restriction for all control types of VT-HNC100, component series 3X

⁴⁾ Valid for the following control types of VT-HNC100, component series 3X with the following requirements:

VT-HNC100-C-3X/P-I-00/000	Folding ferrite (WE 74271112) mounted on the supply line (U_B)
VT-HNC100-4-3X/P-I-00/000	Folding ferrite (WE 74271121) mounted on dig. I/O and PROFIBUS (L2DP)
VT-HNC100-C-3X/S-I-00/000	No further requirements
VT-HNC100-1-3X/S-I-00/000	Folding ferrite (WE 74271112) mounted on the supply line (U_B) and Folding ferrite (WE 74271121) mounted on dig. I/O

The presumption of conformity is given in the sense of the EMC directive 2004/108/EC and the EMVG (act on the electromagnetic compatibility of operating media) dated 02/26/2008.

The products comply with the following standards (continued):

2. Climate

Test according to EN 60068-2 / IEC 68-2 (environmental test)

EN 60068-2-1:1994		Cold test	2 cycles -5 °C Duration: 2 hours
EN 60068-2-2:1993		Dry heating test	2 cycles +55 °C Duration: 2 hours
EN 60068-2-1:1994 EN 60068-2-2:1993		Storage temperature	-25 °C, duration: 16 hours +85 °C, duration: 16 hours
	IEC 68-2-14:1986	Temperature change	2 cycles -5 °C to +55 °C Duration: 3 hours each at min. / max. temperature
EN 60068-2-30:1999		Humid heat, cyclic	Variant 2 +25 °C to +40 °C 93 % to 97 % of relative humidity 2 cycles á 24 hours

3. Mechanical load

Vibration and shock test according to EN 60068-2 / IEC 68-2 / DIN 40046 (environmental test)
Test on three axes (X/Y/Z)

EN 60068-2-6:1996			Vibrations, sinusoidal	20 cycles, 5...500 Hz with logarithmic frequency changing speed of 1 oct./min. 5 to 57 Hz, amplitude 0.3 mm (p-p) 57 to 500 Hz, amplitude 2 g
EN 60068-2-64:1995	IEC 68-2-36:1973	DIN 40046-24:1977	Vibrations (random) Broadband noise	20 to 500 Hz, Amplitude 0.01 g ² / Hz (2.2 g RMS) Testing time: 30 min
EN 60068-2-27:1993			Shock test	Half sine 15g / 11 ms, 3 x in positive/ 3 x in negative direction per axis, total of 18 individual shocks

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