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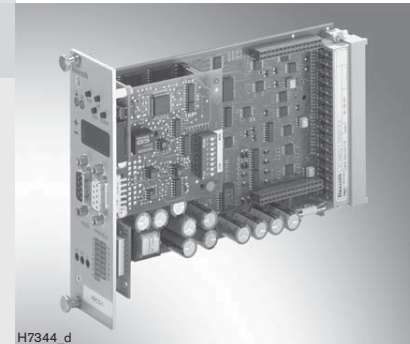
Rexroth
Bosch Group

Digital command value and controller card VT-HACD-1-1X/V0/1-0-0

RE 30143-Z/06.06 1/4

Supplementary information

Notes on the change-over of
digital command value card VT-SWKD-1-1X/V0,
material number R900065731,
to digital command value and controller card
VT-HACD-1-1X/V0/1-0-0



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The digital command value and controller card VT-HACD-1-1X/V0/1-0-0 can be used as **substitute** for digital command value card VT-SWKD-1-1X/V0, if the preconditions described in this supplementary information are fulfilled.

In order to simplify the **substitution**, the digital command value and controller card VT-HACD-1-1X/V0/1-0-0 is provided with the basic configuration required for the use as substitute (Mode 1 block call-ups). However, application-specific parameters must be newly entered (see page 2, Overview of differences).

For comprehensive information about the digital command value and controller card VT-HACD-1-1X/V0/1-0-0, see:

- Data sheet RE 30143
- Installation and operating instructions RE 30143-B
- Commissioning instructions/programming RE 30143-01-B

WARNING!



Unintended machine movements in the case of improper use of the substitute Personal injury and damage to property are possible

- ⇒ Several electrical connections are not compatible.
Before commissioning, the wiring must be adapted according to the tables on page 3.
Parameterise the analogue inputs and outputs for voltage or current as on the replaced card.
If required, you have also to adjust the program of a higher-level control.

Advantages of the digital command value and controller card VT-HACD-1-1X/V0/1-0-0

- Convenient and clearly structured operator and configuration software BODAC
- Diagnostics option (multiplot function)
- Configurable test output
- Front display with keys for parameterisation and changes as well as for diagnostics purposes
- Analogue inputs for voltage (± 10 V, 0...10 V) and current 0...20 mA, 4...20 mA) can be software-switched without jumpers
- Versatile options for logical operations of signals and change-overs
- Alternating control (e.g. closed-loop position control with overriding pressure/force control) possible
- Use as controller card with PIDT1-controller and optional active damping
- Numerous setting options for command value adjustment
- Use of digital SSI position measuring systems or of incremental encoders
- Due to RS232 standard interface, no converter required
- Use of a standard 1:1 connecting cable

Overview of differences

VT-SWKD-1-1X/V0	VT-HACD-1-1X/V0/1-0-0
Software BODIV	Operator and configuration software BODAC ¹⁾ Note: An existing BODIV parameter file must be converted manually. BODIV parameter files cannot be uploaded.
Communication with the PC via RS485 interface, converter required for connection to PC	Communication with PC via RS232 interface; only an interface cable is required ²⁾
Operation and parameterisation alternatively with control units BB3 or BF1	Operation and parameterisation exclusively with a PC
Command value input ± 20 mA to E1 and E4 possible	No command value input ± 20 mA
Command value input ± 10 V to E2 and E5 and 4...20 mA to E3	All analogue inputs can be parameterised individually for ± 10 V, 0...10 V, 4...20 mA or 0...20 mA
Characteristic curve adjustment before the controller	Characteristic curve adjustment after the controller
Time-controlled ramps	Velocity-controlled ramps
Inputs Control 1 (freezing of the I-component) and Control 2 (change-over open/closed-loop controlling)	No longer used
Isolated relay output for fault message	Non-isolated "OK output"
48-pin edge connector, form F	64-pin multi-point male connector, form G, can be plugged into 48-pin multi-point female connector (previously used card holder can still be used)

The differences in the electrical pin assignment are listed in the tables on page 3.

¹⁾ Free download: www.boschrexroth.com/HACD

²⁾ e.g. KABELSATZ VT-HACD-1X/03,0/HACD-PC, material number **R900776897** or commercial 1:1 connecting cable

Differences in the electrical pin assignment

Explanations:

☐ These fields indicate, where particular care has to be taken with regard to re-wiring, parameterisation and/or signal input in order to prevent malfunction.

→ Arrows indicate the assignment of an input or output to another connection (pin).

DI... Digital input

DO... Digital output

E... or AI... Analogue input

A... or AO... Analogue output

Row z		
Pin	VT-SWKD-1-1X/V0	VT-HACD-1-1X/V0/1-0-0
2	n.c.	Do not assign!
4	n.c.	Do not assign!
6	n.c.	Do not assign!
8	n.c.	Do not assign!
10	Shield	Shield
12	n.c.	Do not assign!
14	n.c.	Do not assign!
16	n.c.	Do not assign!
18	n.c.	Do not assign!
20	System ground	System ground
22	n.c.	DO 3
24	n.c.	DO 4
26	n.c.	DO 5
28	n.c.	DO 6
30	UB +24V	UB +24V
32	L0 0V	L0 0V

Row b		
Pin	VT-SWKD-1-1X/V0	VT-HACD-1-1X/V0/1-0-0
2	Command value E2 + / ±10V	AI 3 + ¹⁾
4	Command value E2 - / ±10V	AI 3 - ¹⁾
6	Command value E3 + / 4...20mA	AI 2 + ¹⁾
8	Command value E3 - / 4...20mA	AI 2 - ¹⁾
10	Command value E5 + / ±10V	AI 1 + ¹⁾
12	Command value E5 - / ±10V	AI 1 - ¹⁾
14	Command value E1 +	AI 4 + ¹⁾
16	Command value E1 -	AI 4 - ¹⁾
18	Command value E4 +	AI 5 + ¹⁾
20	Command value E4 -	AI 5 - ¹⁾
22	Command value E6 + 4...20mA	AI 6 + ¹⁾
24	Command value E6 - 4...20mA	AI 6 - ¹⁾
26	n.c.	AO 3 (±10 V)
28	n.c.	Analogue GND
30	n.c.	Reference voltage -10V
32	Switching output 2	Reference voltage +10V

Row d		
Pin	VT-SWKD-1-1X/V0	VT-HACD-1-1X/V0/1-0-0
2	Comm. call-up 1	DI 1, binary 1 (= comm. call-up 1)
4	Comm. call-up 2	DI 2, binary 2 (= comm. call-up 2)
6	Comm. call-up 4	DI 3, binary 4 (= comm. call-up 4)
8	Comm. call-up 8	DI 4, binary 8 (= comm. call-up 8)
10	Comm. valid	DI 5, binary 16 (= Comm. call-up 16)
12	Ramp	DI 6, binary enable
14	Control 1	DI 7 Do not assign!
16	Control 2	DI 8 Do not assign!
18	Enable	Enable
20	Switching output 1	DO 1
22	Fault signal contact 1	OK
24	RS 485 +	Do not assign!
26	Fault signal contact 2	DO 2
28	RS485 -	Do not assign!
30	A1	AO 1 ²⁾
32	A2 ±10V	AO 2 (±10V)

Row f		
Pin	VT-SWKD-1-1X/V0	VT-HACD-1-1X/V0/1-0-0
2	n.c.	DO 7
4	n.c.	CLK + (SSI)
6	n.c.	CLK - (SSI)
8	n.c.	DATA + (SSI) / Ua1 (INC)
10	n.c.	DATA - (SSI) / /Ua1 (INC)
12	n.c.	Ua2 (INC)
14	n.c.	/Ua2 (INC)
16	n.c.	Ua0 (INC)
18	n.c.	/Ua0 (INC)
20	n.c.	Do not assign!
22	n.c.	Do not assign!
24	n.c.	Do not assign!
26	n.c.	Do not assign!
28	n.c.	Do not assign!
30	n.c.	Do not assign!
32	n.c.	Do not assign!

¹⁾ Analogue inputs AI1 to AI6 can be parameterised for ±10 V, 0...10 V (new), 4...20 mA, 0...20 mA, no longer possible: ±20 mA!

²⁾ Analogue output AO1 can be parameterised for ±10 V, 0...10 V (new), 4...20 mA, 0...20 mA, no longer possible: ±20 mA!

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