



SERVICE MANUAL FOR FREQUENCY CONTROL SYSTEM

Travelmaster 5

SUPDOC_SM_TDN010-0.ORD 10.7.2013

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SWF Krantechnik GmbH

Postbox 310410
68264 Mannheim
Germany

Boehringer Straße 4
68307 Mannheim
Germany

tel +49(0)621 789-900
fax +49(0)621 789 90-100
Info@swfkrantechnik.com
www.swfkrantechnik.com

Original instructions

English

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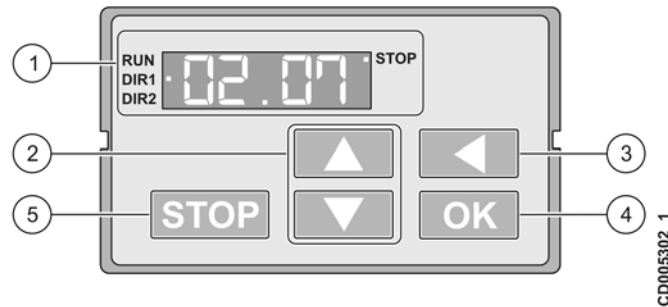
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4.2.1 Display panel

The display panel contains:

- Display (1) indicating status, electrical values, operating, or fault parameters
- Navigation buttons (2-5) to view, select, and change the wanted items.



- 1 – Display
- 2 – UP and DOWN button
- 3 – LEFT button
- 4 – OK button
- 5 – STOP button

See chapter “User interface” for more detailed information of display options and navigating in the menu.

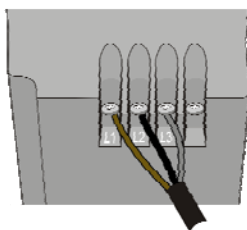
4.2.2 Terminals



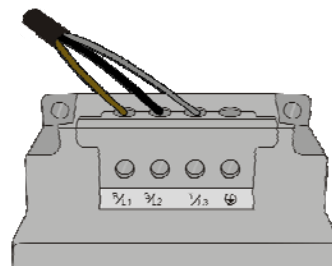
WARNING

To avoid an electrical shock, disconnect the mains supply. Before working on the terminals of frequency converter, wait at least 5 minutes after the cooling fan has stopped and indicators have switched off.

The frequency converter power module has terminals for 3-phase power supply and 3-phase motor supply. Frequency converters of the higher current rating also have terminals for an external braking resistor.















Power supply terminals of frame A



Power supply terminals of frames B, C, and D

6.3.3 Changing a parameter value

1	Press Left repeatedly until output value F (frequency), U (voltage), or I (current) is shown.		
2	Press OK.		
3	Press UP or DOWN button repeatedly until the correct parameter group (gg) is shown.		
4	Press OK.		
5	Press UP or DOWN button repeatedly until the correct parameter (pp) is shown.		
6	Press OK.		
7	Press UP or DOWN button repeatedly until the correct parameter value is shown.		
8	Press OK. The value is stored and applied.		

00-09	Parameter lock			1 = disabled	Parameter modifying on keypad 0 = enabled 1 = disabled
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7.2.2 General

Code	Parameter name	Unit	Range	Default	Description
01-01	Accel time	s	0.1 - 30.0	4.5	Acceleration time from zero to nominal frequency of motor. Set: according the crane calculation
01-02	Decel time	s	0.1 - 30.0	4.5	Deceleration time from nominal frequency of motor to zero. Set: according the crane calculation
01-03	MinFrequency	Hz	0.0 - MaxFrequency	10	Minimum driving frequency Set: according the crane calculation
01-04	MaxFrequency	Hz	MinFrequency – Motor nominal frequency	From motor type plate	Maximum driving frequency Set: according the crane calculation
01-05	Slowdown frequency	Hz	0.0 - MaxFrequency	15	Maximum driving frequency in slowdown area Set: according the crane calculation
01-06	InputSet		0 - 5		Selection of digital input function: 0: EP slow & stop 1: EP slow 2: MS slow & stop 3: MS slow 4: CAN slow & stop 5: CAN slow Set: according the application

7.2.3 Motor

Code	Parameter name	Unit	Range	Default	Description
02-01	Motor Nominal Voltage	V	50 - 500	From motor type plate	Nominal voltage of motor. Set: from motor type plate
02-02	Motor Nominal Frequency	Hz	10.0 - 600.0	From motor type plate	Nominal frequency of motor. Set: from motor type plate
02-03	Motor nominal current	A	0.0 – 2 x Nominal current of TDN	Number of motors x nominal current of one motor	Sum of Nominal current of motors. Set: Number of motors x nominal current of one motor
02-04	No-load current	A	0.0 – Nominal current of TDN	Number of motors x no load current of one motor	Current of motor without load. Set: Number of motors x no load current of one motor. If there is not lo in the name plate, set value to 0.
02-05	Current Limit	A	0.0 - 2xNominal current of TDN	1,5 x Nominal current of TDN	Maximum output current.
02-06	DC_Brake Current Level	A	0.0 – Nominal current of TDN		Current level during starting and stopping Set: Disc brake motors: 80% of sum of motor nominal currents Compact brake motors: number of motors x 3A, max 1.5 x nominal current of TDN
02-07	Motor Cos Phi		0.00 - 1.00	0.8	Nominal cos phi of motor. Set: from motor type plate

02-08	Auto-tuning		0 - 6		<p>0: Auto-tuning not done 1: Start auto-tuning 3: Auto-tuning completed successfully 4: Auto-tuning has failed 6: U/f parameters and Motor Stator Rs are modified after successful auto-tuning</p> <p>When set to value 1, auto-tuning will start, brake is not opened and motor will not run</p>
02-09	Motor Stator Rs	Ω			<p>Phase to phase resistance [ohms] of motor. Value is automatically set during auto-tuning. For compact brake motors, check value from chapter "Default parameters with compact brake motors".</p>
02-10	Motor Type		0 - 1		<p>0 = Normal, DC-brake 1 = Compact brake</p> <p>With 1 / Compact brake motors, auto-tuning will not change u/f-parameters nor Motor Stator Rs, check values from motor parameter table.</p>

7.2.4 U/f settings

Code	Parameter name	Unit	Range	Default	Description
03-01	Zero Frequency Voltage	%	0.0 - 40.0	Compact brake motors: from table Normal motors: perform Auto-tuning	Output voltage in per cents of motor nominal voltage at zero frequency. Set: Normal motor: Do auto-tuning. Compact brake motors: Check value from chapter "Default parameters with compact brake motors".
03-02	Mid-Point Voltage	%	0.00 - 100.0	Compact brake motors: from table Normal motors: perform Auto-tuning	Output voltage in per cents of motor nominal voltage at mid-point frequency. Set: Normal motor: Do auto-tuning. Compact brake motors: Check value from chapter "Default parameters with compact brake motors". Note: The value is automatically set upon auto-tuning.
03-03	Mid-Point Frequency	Hz	0.0 - 120.0	Compact brake motors: from table Normal motors: perform Auto-tuning	U/f curve mid-point frequency. Set: Normal motor: Do auto-tuning. Compact brake motors: Check value from chapter "Default parameters with compact brake motors".

7.2.5 Brake control

Code	Parameter name	Unit	Range	Default	Description
04-01	Brake Opening Delay	s	0.00 - 10.00	0.05	Delay after brake relay closing before frequency starts to increase.
04-02	Stop DC frequency	Hz	0.0 - 250	0.5	Frequency when Stop DC braking begins during stopping.
04-03	Start DC frequency	Hz	0.0 - 250.0	2.0	Frequency when Start DC braking ends during starting.
04-04	DC Brake Time During Stopping	s	0.00 - 5.00	0.10	DC braking time during stopping.
04-05	Brake Close Frequency	Hz	0.0 - MaxFrequency	0.5	Frequency when the brake relay (RA) opens during stopping.