

Settings of Soft starters and Frequency converters.

The settings for the AB SMC-3 softstarter are almost factory, Art4 uses 2 major types at the moment.

150-C25NBR 25A ~ 11 kW (1-10 DS Global/ 2-20DT / 350 SB UL)
150-C37NBR 37A ~ 18.5 kW (500 SB UL)

The Dipswitches are put in the next order.

DIPswitch nummer	Default	Art4/Blastrac
1	OFF	OFF
2	ON	ON
3	OFF	ON
4	OFF	OFF
5	ON	OFF
6	OFF	OFF
7	OFF	OFF
8	OFF	OFF
9	OFF	OFF
10	OFF	OFF
11	ON	ON
12	OFF	OFF
13	OFF	OFF
14	OFF	OFF
15	OFF	OFF
16	OFF	OFF

The dial has to be adjusted at 21.7 A at the 25A version and 34.0 A for the 37A version.

Dipswitches at the Soft starter



Dial for the thermal protection

Common Errors

The blinks of the led at the soft starter gives error information, check this when the machine stopped unwanted.

LED	Cause	
1 blink	Overload	The motor uses to much current
2 Blinks	Over temperature	To many starts in short period of time
		The ambient temperature is to high
		A lot of direct sunlight to the Electro box
3 Blinks	Phase sequence	The phase sequence is faulty, change the phases
4 Blinks	Phase los / open Load	No motor (or bad) connected
		One phase of the power supply lost
5 Blinks	Phase imbalance	Caused by bad power supply
		or bad connection in the power cable
		Check the current at the power supply, should be equal at al phases
6 Blinks	Shorted SCR	The internal relay inside the soft starter is shorted

The lenze frequency converters.

We use 4 types of frequency converters from Lenze.

18kW SMD basic, 1.5 kW, 0.55 kW version and an 0.25 kW SMD basic version.



1.5 kW version – LENZE - E82EV152K4B200



0.5 kW version LENZE - E82EV551K4C200

1.5 kW	2-20 DT
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The settings for the 1-10 DS global and the 2-20 DT are quite similar.

Drive parameters	2-20DT	1-10 DS Glb	
C0007/000	-2-	-2-	Dig. Inp
Old C0007/000	-0-	-0-	
C0008/000	-7-	-7-	Rel. outp
C0010/000	0 Hz	0 Hz	Min freq
C0011/000	50 Hz	50 Hz	Max freq
C0012/000	2,5 s	2.5 s	Accel. t
C0013/000	1 s	1 s	Deccel. t
C0015/000	50 Hz	50 Hz	
C0016/000	5 %	5%	Boost
C0017/000	0 Hz	0 Hz	
C0037/000	50 Hz	50 Hz	
C0087/000	1490 rpm	1490 rpm	Motor
C0088/000	2,80 A	1.4 A	Motor
C0089/000	50 Hz	50 Hz	Motor
C0090/000	400V	400V	Motor
C0091/000	0,8	0.77	Motor, cos phi
C0105/000	0.8 s	0.8 s	Quik stop
C0119/000	-1-	-1-	PTC inp
C0142/000	-3-	-3-	Start cond.
Old C0142/000	-0-	-0-	Start cond.
C0148/000	-1- (*)	-1- (*)	
C0410/001	-1-	-1-	
C0415/001	-6-	-6-	
C0415/002	-25-	-25-	
C0416/000	-2-	-2-	
C0417/001	-1-	-2-	

Since 1-12-2005 the settings for braking are changed. This also incorporates a small change in wiring.

The Settings for the 500 SB UL, 350 SB UL, 500-3006-E and 350-3006-E drive systems are all the same. There is only a slight difference in the right and left converter.

Drive parameter	Left	Right	
C0007/000	-14-	same	Dig Inp
C0010/000	10 Hz	same	Min speed
C0011/000	85 Hz	65 Hz	Max speed
C0012/000	3 s	same	accel. time
C0013/000	3 s	same	deccel. time
C0014/000	2	same	
C0015/000	50 Hz	same	
C0016/000	15 %	same	boost
C0087/000	1350 rpm	same	motor
C0088/000	1,10 A	same	motor
C0089/000	50 Hz	same	motor
C0090/000	400V	same	motor
C0091/000	0,79	same	motor Cos phi
C0105/000	0,5 s	same	Quikstop

In the attachment is an small description how to change a parameter in the lenze frequency converters.

Siemens Converters.

There are 2 used types, a 750W (1-10DE98 NS) and a 1500 W type 1-15DS,2D-20 and 2D-30

Parameter	Setting 1-10DE	Setting 1-15DS 2D20, 2D30	Discription
1120	2.5	2.5	Accel
1121	1	1	Deccel
1000	2	2	Potmeter input
700	2	2	block Keyboard controls
3	2	2	
702	12	12	
731	52,13(d)	52,13(d)	Rel 1 overtemp
732	52,12(c)	52,12(c)	Rel 2 Brake
601	1	1	Thermistor active
1215	1	1	enable break
1216	0	0	
1217	0	0	
304	400	400	V
305	3,64	4,85	A
307	0,75	1,1	kW
308	0,74	0,82	Cos Phi
310	50	50	Hz
311	1375	1385	U/min

Quick Commissioning

For the best performance the motor should be teached-in to the converter.

The most important parameters are:

- 304 Motor Voltage
- 305 Motor Current
- 307 Motor power in Watts
- 308 Cos Phi of the motor
- 310 Motor frequency
- 311 motor speed (rpm)

The next settings have to be done for teaching

Parameter 10 on 1

Take over,304, 305, 307, 308, 310, 311 from the motor identification tag

Put parameter 1910 on 1

Parameter 10 back tor 0

Start with thye travel switch, this let the motor beep a little, The converter is ready when it shows steady 1910, release the travel switch, the teach-in is done.

Lenze, SMD converters

This are very simple controllers from lenze, in the 1-8 DPS30 it is used entirely factory. In the 500 STD is also factory, except C37 which is put to 60 Hz.