

Seamless Transition



Lenze is here to support you every step of the way during your product migration. Together, we can discuss how to meet your needs, while ensuring the supply of replacement parts and the possibility of repairs.

We also invite you to discuss your OEM and end user requirements with your Lenze sales engineer now and safeguard the future of your business.

Important phaseout dates:

- Final delivery of all orders 4/30/2019
- Replacement drives or repairs available until 4/30/2025

The i500 advantages:

- Compact design for applications where space means money
- Zero clearance side by side upright mounting, without de-rating
- Modular and scalable functionality
- Interactive commissioning, tuning and flexible/swappable diagnostics
- Integrated functions like C1/C2 EMC filter, mains chokes, EPM and EPM copier
- Save even more energy with VFC-ECO mode



Product Comparisons

High Level Comparison

Series	SCF	SCM	SMV	i510	i550
Enclosure	IP20	IP20	IP31 / NEMA 1	IP20	IP20
Output frequency	0-240 Hz	0-240 Hz	0-500 Hz	0-599 Hz	0-599 Hz
Torque rating	CT	CT	CT, VT + torque control	CT, VT + torque control w/speed limitation	CT, VT + torque control w/speed limitation
Drive type	V/Hz	V/Hz	Asynchronous motors: V/Hz (linear, quadratic) Enhanced V/Hz SLV (open loop vector)	Asynchronous Motors: V/Hz (linear, quadratic) SLVC (open loop vector) Synchronous motors: SL-PSM (open-loop for PMAC motors)	Asynchronous Motors: V/Hz (linear, quadratic) SLVC (open loop vector) SC-ASM (closed loop vector) Synchronous motors: SL-PSM (open-loop for PMAC motors)
Fully integrated keypad	No	No	Yes	Optional/modular	Optional/modular
Serial communications	Limited	None	Modular	Modbus RTU, CANopen variants available	Modular control units, several variants
Available Hp ratings based on input					
120V 1Ph	N/A	0.33 to 1.5 Hp	0.33 to 1.5 Hp	N/A	0.33 to 1.5 Hp
208/240V 1Ph	N/A	0.33 to 3.0 Hp	0.33 Hp	0.33 to 3.0 Hp (integrated EMC filter)	0.33 to 3 Hp (integrated EMC filter)
208/240V 1/3Ph	0.25 to 5.0 Hp	N/A	0.33 to 3.0 Hp	0.33 to 3.0 Hp	0.33 to 3.0 Hp
208/240V 3Ph	1.0 to 20 Hp	0.5 to 15 Hp	5.0 to 20 Hp	0.5 to 7.5 Hp	0.5 to 7.5 Hp
400/480V 3Ph	0.5 to 30 Hp	0.5 to 15 Hp	0.5 to 60 Hp	0.5 to 15 Hp (integrated EMC filter)	0.5 to 150 Hp (integrated EMC filter)
600V 3Ph	1.0 to 25 Hp	N/A	1.0 to 60 Hp	N/A	N/A

NOTE: Single-phase – (1Ph); Single-phase and three-phase – (1/3Ph); Three-phase – (3Ph)

Sub Micro Drives Cross to Sub Micro SMVector Drives

		Input Line Voltage							
		SCM	SMV	SCM	SMV	SCM	SMV	SCM	SMV
		120V 1Ph	120 – 240V 1Ph	208 – 240V 1Ph		208 – 240V 3Ph		400 – 480V 3Ph	
Hp	kW	Model		Model		Model		Model	
0.33	0.25	SM004S	ESV251N01SXB	SM204S	ESV251N02SXB*	N/A	ESV251N02SXB*	N/A	N/A
0.5	0.37	SM005S	ESV371N01SXB	SM205S	ESV371N02YXB	SM205	ESV371N02YXB	SM405	ESV371N04TXB
0.75	0.55	N/A	N/A	SM208S	N/A	N/A	ESV751N02YXB	N/A	N/A
1.0	0.75	SM010S	ESV751N01SXB	SM210S	ESV751N02YXB	SM210	ESV751N02YXB	SM410	ESV751N04TXB
1.5	1.1	SM015S	ESV112N01SXB	SM215S	ESV112N02YXB	SM215	ESV112N02YXB	SM415	ESV112N04TXB
2.0	1.5			SM220S	ESV152N02YXB	SM220	ESV152N02YXB	SM420	ESV152N04TXB
3.0	2.2			SM230S	ESV222N02YXB	SM230	ESV222N02YXB	SM430	ESV222N04TXB
5.0	4.0					SM250	ESV402N02TXB	SM450	ESV402N04TXB
7.5	5.5					SM275	ESV552N02TXB	SM475	ESV552N04TXB
10	7.5					SM2100	ESV752N02TXB	SM4100	ESV752N04TXB
15	11					SM2150	ESV113N02TXB	SM4150	ESV113N04TXB

NOTE 1: The SCL series features a "INPUT LINE FILTER" – please reference the NEMA 4X series for the correct model which includes the FILTER FEATURE. NOTE 2: *Single-phase input only.

SCF Series Cross to Sub Micro SMVector Drives

		Input Line Voltage							
		SCF	SMV with MOBUS**	SCF	SMV with MOBUS**	SCF	SMV with MOBUS**	SCF	SMV with MOBUS**
		208 – 240V 1/3Ph	208 – 240V 1/3Ph	208 – 240V 3Ph		400 – 480V		480 – 590V	
Hp	kW	Model		Model		Model		Model	
0.25	0.18	SF203Y	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.33	0.25	N/A	ESV251N02SXB*	N/A	N/A	N/A	N/A	N/A	N/A
0.5	0.37	SF205Y	ESV371N02YXB	N/A	N/A	SF405	ESV371N04TXB	N/A	N/A
1.0	0.75	SF210Y	ESV751N02YXB	SF210	N/A	SF410	ESV751N04TXB	SF510	ESV751N06TXB
1.5	1.1	SF215Y	ESV112N02YXB	SF215	ESV112N02YXB	SF415	ESV112N04TXB	N/A	N/A
2.0	1.5	SF220Y	ESV152N02YXB	SF220	ESV152N02YXB	SF420	ESV152N04TXB	SF520	ESV152N06TXB
3.0	2.2	SF230Y	ESV222N02YXB	SF230	ESV222N02YXB	SF430	ESV222N04TXB	SF530	ESV222N06TXB
5.0	4.0	SF250Y	Consult Technical Service	SF250	ESV402N02TXB	SF450	ESV402N04TXB	SF550	ESV402N06TXB
7.5	5.5			SF275	ESV552N02TXB	SF475	ESV552N04TXB	SF575	ESV552N06TXB
10	7.5			SF2100	ESV752N02TXB	SF4100	ESV752N04TXB	SF5100	ESV752N06TXB
15	11			SF2150	ESV113N02TXB	SF4150	ESV113N04TXB	SF5150	ESV113N06TXB
20	15			SF2200	ESV153N02TXB	SF4200	ESV153N04TXB	SF5200	ESV153N06TXB
25	18.5					SF4250	ESV183N04TXB	SF5250	ESV183N06TXB
30	22					SF4300	ESV223N04TXB	N/A	ESV223N06TXB

NOTE 1: *Single-phase (1Ph) input only.

NOTE 2: **Check Accessory for MODBUS MODULE NEEDED for DIRECT FEATURE CROSS; required MODBUS interface module for SMV models up to 10 Hp ESVZAR0 (sold separately).

Product Comparisons

Sub Micro Drives SCM Cross to i500 Drives – 120-240V Single-Phase (1Ph)

		Basic I/O		Standard I/O				Basic I/O		Standard I/O	
		SCM	i510	i550 (No STO)	i550 (STO)	SCM	i510	i550 (No STO)	i550 (STO)		
Input Line Voltage		120V 1Ph		120V-240V 1Ph		208-240V 1Ph		208-240V 1Ph			
Hp	kW	Model		Model		Model		Model			
0.33	0.25	SM004S	N/A	I55AE125A10V01000S	I55AE125A1AV01000S	SM204S	I51AE125B10V11000S	I55AE125B10V11000S	I55AE125B1AV11000S		
0.50	0.37	SM005S	N/A	I55AE137A10V01000S	I55AE137A1AV01000S	SM205S	I51AE137B10V11000S	I55AE137B10V11000S	I55AE137B1AV11000S		
0.75	0.55	N/A	N/A	N/A	N/A	SM208S	I51AE155B10V11000S	I55AE155B10V11000S	I55AE155B1AV11000S		
1.0	0.75	SM010S	N/A	I55AE175A10V01000S	I55AE175A1AV01000S	SM210S	I51AE175B10V11000S	I55AE175B10V11000S	I55AE175B1AV11000S		
1.5	1.1	SM015S	N/A	I55AE211A10V01000S	I55AE211A1AV01000S	SM215S	I51AE211B10V11000S	I55AE211B10V11000S	I55AE211B1AV11000S		
2.0	1.5					SM220S	I51AE215B10V11000S	I55AE215B10V11000S	I55AE215B1AV11000S		
3.0	2.2					SM230S	I51AE222B10V11000S	I55AE222B10V11000S	I55AE222B1AV11000S		

Sub Micro Drives SCM Cross to i500 Drives – 208-480V Three-Phase (3Ph)

		Basic I/O		Standard I/O				Basic I/O		Standard I/O	
		SCM	i510	i550 (No STO)	i550 (STO)	SCM	i510	i550 (No STO)	i550 (STO)		
Input Line Voltage		208 – 240V 3Ph		208 – 240V 3Ph ^{1,2}		400 – 480V 3Ph		400 – 480V 3Ph			
Hp	kW	Model		Model		Model		Model			
0.33	0.25	N/A	I51AE125D10V01000S	I55AE125D10V01000S	I55AE125D1AV01000S	N/A	N/A	N/A	N/A		
0.50	0.37	SM205	I51AE137D10V01000S	I55AE137D10V01000S	I55AE137D1AV01000S	SM405	I51AE137F10V11000S	I55AE137F10V11000S	I55AE137F1AV11000S		
0.75	0.55	N/A	I51AE155D10V01000S	I55AE155D10V01000S	I55AE155D1AV01000S	N/A	I51AE155F10V11000S	I55AE155F10V11000S	I55AE155F1AV11000S		
1.0	0.75	SM210	I51AE175D10V01000S	I55AE175D10V01000S	I55AE175D1AV01000S	SM410	I51AE175F10V11000S	I55AE175F10V11000S	I55AE175F1AV11000S		
1.5	1.1	SM215	I51AE211D10V01000S	I55AE211D10V01000S	I55AE211D1AV01000S	SM415	I51AE211F10V11000S	I55AE211F10V11000S	I55AE211F1AV11000S		
2.0	1.5	SM220	I51AE215D10V01000S	I55AE215D10V01000S	I55AE215D1AV01000S	SM420	I51AE215F10V11000S	I55AE215F10V11000S	I55AE215F1AV11000S		
3.0	2.2	SM230	I51AE222D10V01000S	I55AE222D10V01000S	I55AE222D1AV01000S	SM430	I51AE222F10V11000S	I55AE222F10V11000S	I55AE222F1AV11000S		
5.0	4.0	SM250	I51AE240C10V01000S	I55AE240C10V01000S	I55AE240C1AV01000S	SM450	I51AE240F10V11000S	I55AE240F10V11000S	I55AE240F1AV11000S		
7.5	5.5	SM275	I51AE255C10V01000S	I55AE255C10V01000S	I55AE255C1AV01000S	SM475	I51AE255F10V11000S	I55AE255F10V11000S	I55AE255F1AV11000S		
10	7.5	SM2100	NA	NA	NA	SM4100	I51AE275F10V11000S	I55AE275F10V11000S	I55AE275F1AV11000S		
15	11	SM2150	NA	NA	NA	SM4150	I51AE311F10V11000S	I55AE311F10V11000S	I55AE311F1AV11000S		

1) The 208 - 240V i500 part numbers for Hp up to 3.0, are 1/3Ph; Hp at 5.0 and 7.5 are 3Ph; 2) The 208 - 240V i500 part numbers for 1/3 Ph OPTION does NOT have integrated EMC filter

SCF Series Cross to i500 Drives – 208-480V Single- and Three-Phase (1/3Ph) and Three-Phase (3Ph)

		with MODBUS			with MODBUS			with MODBUS		
		SCF	i510	i550 (No STO)	SCF	i510	i550 (No STO)	SCF	i510	i550 (No STO)
Input Line Voltage		208 – 240V 1/3Ph			208 – 240V 1/3Ph ²			208 – 240V 3Ph		
Hp	kW	Model			Model			Model		
0.25	0.18	SF203Y	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.33	0.25	N/A	I51AE125B10V01001S	I55AE125D10V01003S	N/A	N/A	N/A	N/A	N/A	N/A
0.5	0.37	SF205Y	I51AE137B10V01001S	I55AE137D10V01003S	N/A	N/A	N/A	SF405	I51AE137F10V11001S	I55AE137F10V11003S
1.0	0.75	SF210Y	I51AE175B10V01001S	I55AE175D10V01003S	SF210	N/A	N/A	SF410	I51AE175F10V11001S	I55AE175F10V11003S
1.5	1.1	SF215Y	I51AE211B10V01001S	I55AE211D10V01003S	SF215	N/A	N/A	SF415	I51AE211F10V11001S	I55AE211F10V11003S
2.0	1.5	SF220Y	I51AE215B10V01001S	I55AE215D10V01003S	SF220	N/A	N/A	SF420	I51AE215F10V11001S	I55AE215F10V11003S
3.0	2.2	SF230Y	I51AE222B10V01001S	I55AE222D10V01003S	SF230	N/A	N/A	SF430	I51AE222F10V11001S	I55AE222F10V11003S
5.0	4.0	SF250Y	N/A	N/A	SF250	I51AE240C10V01001S	I55AE240C10V01003S	SF450	I51AE240F10V11001S	I55AE240F10V11003S
7.5	5.5				SF275	I51AE255C10V01001S	I55AE255C10V01003S	SF475	I51AE255F10V11001S	I55AE255F10V11003S
10	7.5				SF2100	N/A	N/A	SF4100	I51AE275F10V11001S	I55AE275F10V11003S
15	11				SF2150	N/A	N/A	SF4150	I51AE311F10V11001S	I55AE311F10V11003S
20	15				SF2200	N/A	N/A	SF4200	N/A	I55AE315F10V11003S
25	18.5							SF4250	N/A	I55AE318F10V11003S
30	22							SF4300	N/A	I55AE322F10V11003S

1) The 208 - 240V i500 part numbers for Hp up to 3.0 are 1/3Ph; Hp at 5.0 and 7.5 are 3Ph; 2) The 208 - 240V i500 part numbers for 1/3Ph OPTION does NOT have integrated EMC filter

i500 Ratings and Sizes

		Dimensions – in (mm)
Size	Max. Hp (kW)	H x W x D
1	0.5 (0.37)	6 x 2.4 x 5.12 (155 x 60 x 130)
2	1.0 (0.75)	7.1 x 2.4 x 5.12 (180 x 60 x 130)
3	3.0 (2.2)	9.8 x 2.4 x 5.12 (250 x 60 x 130)
4	7.5 (5.5)	9.8 x 3.5 x 5.12 (250 x 90 x 130)
5	15.0 (11.0)	10.8 x 4.7 x 5.12 (276 x 120 x 130)
6	30.0 (22.0)	13.6 x 8.0 x 8.7 (347 x 204.5 x 222)
7	60.0 (45.0)	17.1 x 9.8 x 9.0 (450 x 250 x 230)
8	100 (75.0)	24.5 x 9.8 x 10.4 (623 x 250 x 265)
9	150 (110)	30.51 x 10.16 x 11.97 (775 x 258 x 304)



Power Ratings	
Voltage	Hp (kW)
110/120V 1Ph	1.5 (1.1)
230/240V 1Ph	3.0 (2.2)
230/240V 1/3Ph	3.0 (2.2)
230/240V 3Ph	0.5 to 3.0 (0.37 to 2.2)
400/480V 3Ph	150 (110)

Inverter i500 and SMV Training Support

Online Courses (featuring i500)

At your convenience from anywhere, at any time.

To access visit: www.lenze.com > Training > Online training

SMV Support Portal

Step-by-step guidance for SMV program set-up, wiring and troubleshooting.

To access go to: <https://lenze.yonyx.com>

Lenze Americas' YouTube Channel (featuring i500 and SMV)

[YouTube.com](https://www.youtube.com/channel/UC...) > Lenze Americas

For on-site training send requests to: ChannelPrograms.us@lenze.com