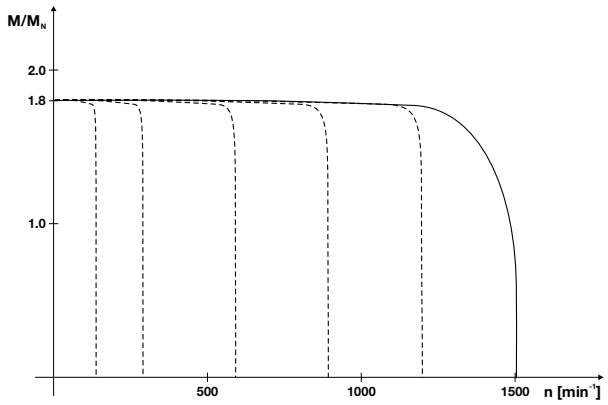
Control

Control types	V/f characteristic control (linear/square-law), vector control, torque selection		
Chopper frequency			
0.25 ... 11 kW	2 kHz, 4 kHz, 8 kHz, 16 kHz with optimised noise level		
15 ... 90 kW	1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, optionally with optimised noise level or optimised power loss		
Torque characteristic			
Maximum torque 0.25 ... 11 kW	1.8 x M_r for 60s	if rated motor power = rated controller power	
Maximum torque 15 ... 90 kW	1.8 x M_r for 60s 2.1 x M_r for 3 s after controller enable		
Setting range	1:10	over the speed range of 3 ... 50 Hz, accuracy < 8 %	
Torque/speed characteristic			
Vector control (sensorless speed control)			
Minimum output frequency	1.0 Hz (0 ... M_r)		
Setting range	1 : 50	Ref. to 50 Hz and M_r	
Accuracy	± 0.5 %	over the speed range 3 ... 50 Hz	
Smooth running	± 0.1 Hz		
Output frequency			
Field	- 650 Hz ... + 650 Hz		
Absolute resolution	0.02 Hz		
Normalised resolution	Parameter data: 0.01 %, process data: 0.006 % (= 2^{14})		
Digital setpoint selection			
Accuracy	± 0.0001 %		
Analog setpoint selection			
Linearity	± 0.5 %	related to instantaneous value	
Temperature sensitivity	+ 0.3 % (0 ... +60 °C)	related to instantaneous value	
Offset	± 0 %		
A/D converter	Resolution 10 bits		
	Fault 1 digit	≡ 0.1 % related to final value	

Inputs and outputs

Analog inputs **Analog outputs**			
	With standard I/O	1 input, optionally bipolar 1 output	
	With application I/O	2 inputs, optionally bipolar 2 inputs, optionally bipolar	
Digital inputs **Digital outputs**			
	With standard I/O	4 inputs	optionally 1 frequency input single-track 0 ... 10 kHz or double-track 0 ... 1 kHz
		1 input for controller inhibit 1 output	
	With application I/O	6 inputs	optionally 1 frequency input single-track/double-track 0 ... 100 kHz;
		1 input for controller inhibit 2 outputs, 1 frequency output 50 Hz ... 10 kHz	
Cycle times			
	Digital inputs	1 ms	
	Digital outputs	4 ms	
	Analog inputs	2 msec	
	Analog outputs	4 ms (smoothing time: τ = 10 ms)	
Relay output			
	0.25 ... 11 kW	1 relay output (changeover contact)	AC 250 V/3 A, DC 24 V/2 A ... 240 V/0.16 A
	15 ... 90 kW	2 relay outputs (changeover contact)	AC 250 V/3 A, DC 24 V/2 A ... 240 V/0.22 A
Operation in generator mode			
	0.25 ... 11 kW	Integrated brake transistor	
	15 ... 90 kW	With brake chopper 8253 or 9352	

4.3 Operation with rated power (normal operation)

4.3.1 Rated data for mains voltage 230 V

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**0.25**	**0.37**
		P_r [hp]	0.34	0.5
8200 vector type		EMC filter integrated	**E82EV251K2C0xx**	**E82EV371K2C0xx**
		Without EMC filter	**E82EV251K2C2xx**	**E82EV371K2C2xx**
Mains voltage		U_{mains} [V]	1/N/PE AC 180 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %	
Alternative DC supply		U_{DC} [V]	not possible	
Data for operation with 1/N/PE AC 230 V				
Rated mains current				
without mains choke		I_{mains}[A]	3.4	5.0
with mains choke		I_{mains} [A]	3.0	4.2
Output power U, V, W		**S_r [kVA]**	**0.68**	**1.0**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	DC bus operation not possible	
Rated output current at chopper frequency	2 kHz sin	I_r [A] [5]	1.7	2.4
	4 kHz sin			
	8 kHz sin	**I_r [A]**	**1.7**	**2.4**
	16 kHz sin [4]	I_r [A]	1.1	1.6
Max. permissible output current for 60 s at chopper frequency [3]	2 kHz sin	I_{max} [A]	2.5	3.6
	4 kHz sin			
	8 kHz sin	**I_{max} [A]**	**2.5**	**3.6**
	16 kHz sin [4]	I_{max} [A]	1.7	2.3
Output voltage				
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz	
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz	
Power loss (operation with I_{r8})		P_V [W]	30	40
Required mains choke		Type	-	-
Dimensions		H x W x D [mm]	120 x 60 x 140	
Weight		m [kg]	0.8	0.8

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

[3] Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

[4] Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

[5] Possible for other types with different application conditions: Operation with increased rated output current and the same load change (📖 4.4-1)

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**0.55**		**0.75**		**1.5**		**2.2**	
		P_r [hp]	0.75		1.0		2.0		3.0	
8200 vector type		EMC filter integrated	**E82EV551K2C0xx**		**E82EV751K2C0xx**		**E82EV152K2C0xx**		**E82EV222K2C0xx**	
		Without EMC filter	**E82EV551K2C2xx**		**E82EV751K2C2xx**		**E82EV152K2C2xx**		**E82EV222K2C2xx**	
Mains voltage		U_{mains} [V]	1/N/PE AC 180 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 % 3/PE AC 100 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %							
Alternative DC supply		U_{DC} [V]	DC 140 V - 0 % ... 370 V + 0 %							
Data for operation with 1/N/PE (3/PE) AC 230 V or DC 325 V			1/N/PE	3/PE	1/N/PE	3/PE	1/N/PE	3/PE	1/N/PE [1]	3/PE
Rated mains current										
without mains choke		I_{mains} [A]	6.0	3.9	9.0	5.2	15.0	9.1	-	12.4
with mains choke		I_{mains} [A]	5.6	2.7	7.5	3.6	12.5	6.3	18.0	9.0
Output power U, V, W		**S_r [kVA]**	**1.2**		**1.6**		**2.8**		**3.8**	
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	-	0.3	-	0.1	-	1.1	-	0.4
Rated output current at chopper frequency	2 kHz sin	I_r [A] [5]	3.0		4.0		7.0		9.5	
	4 kHz sin									
	8 kHz sin	**I_r [A]**	**3.0**		**4.0**		**7.0**		**9.5**	
	16 kHz sin [4]	I_r [A]	2.0		2.6		4.6		6.2	
Max. permissible output current for 60 s at chopper frequency [3]	2 kHz sin	I_{max} [A]	4.5		6.0		10.5		14.2	
	4 kHz sin									
	8 kHz sin	**I_{max} [A]**	**4.5**		**6.0**		**10.5**		**14.2**	
	16 kHz sin [4]	I_{max} [A]	2.9		3.9		6.9		9.3	
Output voltage										
without mains choke/mains filter		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz							
with mains choke/mains filter		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz							
Power loss (operation with I_{r8})		P_v [W]	50		60		100		130	
Required mains choke		Type	-		-		-		ELN1-0250H018	-
Dimensions		H x W x D [mm]	180 x 60 x 140				240 x 60 x 140			
Weight		m [kg]	1.2				1.6			

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) With different application conditions for other types possible: Operation with increased rated output current and the same load change (📖 4.4-1)

Technical data

Operation with rated power (normal operation)

Rated data for mains voltage 230 V

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**3.0**	**4.0**	**5.5**	**7.5**
		P_r [hp]	4.1	5.4	7.5	10.2
8200 vector type		EMC filter integrated	**E82EV302K2C0xx**	**E82EV402K2C0xx**	**E82EV552K2C0xx**	**E82EV752K2C0xx** 1)
		without EMC filter	**E82EV302K2C2xx**	**E82EV402K2C2xx**	**E82EV552K2C2xx**	**E82EV752K2C2xx** 1)
Mains voltage		U_{mains} [V]	3/PE AC 100 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply		U_{DC} [V]	DC 140 V - 0 % ... 370 V + 0 %			
Data for operation with 3/PE AC 230 V or DC 325 V						
Rated mains current	without mains choke	I_{mains} [A]	15.6	21.3	29.3	-
	with mains choke	I_{mains} [A]	12.0	16.0	21.0	28.0
Output power U, V, W		**S_r [kVA]**	**4.8**	**6.6**	**9.0**	**11.4**
Output power $+U_G$, $-U_G$ 2)		P_{DC} [kW]	0.9	0.8	1.1	0
Rated output current at chopper frequency	2 kHz sin	I_r [A] 5)	12.0	19.8	22.5	28.6
	4 kHz sin					
	8 kHz sin	**I_r [A]**	**12.0**	**16.5**	**22.5**	**28.6**
	16 kHz sin 4)	I_r [A]	7.8	10.7	14.6	18.6
Max. permissible output current for 60 s at chopper frequency 3)	2 kHz sin	I_{max} [A]	18.0	24.8	33.8	42.9
	4 kHz sin					
	8 kHz sin	**I_{max} [A]**	**18.0**	**24.8**	**33.8**	**42.9**
	16 kHz sin 4)	I_{max} [A]	11.7	16.1	21.9	27.9
Output voltage	without mains choke/mains filter	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
	with mains choke/mains filter	U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})		P_V [W]	150	190	250	320
Required mains choke		Type	-	-	-	ELN3-0088H035
Dimensions		H x W x D [mm]	240 x 100 x 140		240 x 125 x 140	
Weight		m [kg]	2,9		3.6	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) With different application conditions for other types possible: Operation with increased rated output current and the same load change (📖 4.4-1)

Fuses and cable cross-sections (operation with rated power, mains voltage 230 V)

			Operation without mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**Mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV251K2C	0.25	1/N/PE AC 2/PE AC 180 ... 264 V; 45 ... 65 Hz	M10 A	C10 A	1.5	10 A	16	≥ 30 mA [2]
E82EV371K2C	0.37		M10 A	C10 A	1.5	10 A	16	
E82EV551K2C	0.55		M10 A	B10 A	1.5	10 A	16	
E82EV751K2C	0.75		M16 A	B16 A	2.5	15 A	14	
E82EV152K2C	1.5		M20 A	B20 A	2 x 1.5	20 A	2 x 16	
E82EV222K2C	2.2		Operation only with mains choke					
E82EV551K2C	0.55	3/PE AC 100 ... 264 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 30 mA [3]
E82EV751K2C	0.75		M10 A	B10 A	1.5	10 A	16	
E82EV152K2C	1.5		M16 A	B16 A	2.5	15 A	14	
E82EV222K2C	2.2		M16 A	B16 A	2.5	15 A	14	
E82EV302K2C	3.0		M20 A	B20 A	4	20 A	12	≥ 300 mA [4] ≥ 30 mA [5]
E82EV402K2C	4.0		M25 A	B25 A	4	25 A	10	
E82EV552K2C	5.5		M35 A	-	6 [6]	35 A	8	
E82EV752K2C	7.5		Operation only with mains choke					

			Operating with mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**Mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV251K2C	0.25	1/N/PE AC 2/PE AC 180 ... 264 V; 45 ... 65 Hz	M10 A	C10 A	1.5	10 A	16	≥ 30 mA [2]
E82EV371K2C	0.37		M10 A	C10 A	1.5	10 A	16	
E82EV551K2C	0.55		M10 A	B10 A	1.5	10 A	16	
E82EV751K2C	0.75		M10 A	B10 A	1.5	10 A	16	
E82EV152K2C	1.5		M16 A	B16 A	2 x 1.5	15 A	2 x 16	
E82EV222K2C	2.2		M20 A	B20 A	2 x 1.5	20 A	2 x 16	
E82EV551K2C	0.55	3/PE AC 100 ... 264 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 30 mA [3]
E82EV751K2C	0.75		M6 A	B6 A	1	5 A	18	
E82EV152K2C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV222K2C	2.2		M10 A	B10 A	1.5	10 A	16	
E82EV302K2C	3.0		M16 A	B16 A	2.5	15 A	14	≥ 300 mA [4] ≥ 30 mA [5]
E82EV402K2C	4.0		M20 A	B20 A	4	20 A	12	
E82EV552K2C	5.5		M25 A	B25 A	4	25 A	10	
E82EV752K2C	7.5		M35 A	-	6 [6]	35 A	8	

① Fuse

② E.l.c.b.

1) Use UL-approved cables, fuses and fuse holders only.
UL fuse: voltage 240 V, tripping characteristic "H" or "K5"

2) Pulse-current or universal-current sensitive earth leakage circuit breaker

3) All-current sensitive e.l.c.b.

4) All-current sensitive e.l.c.b. for use with E82EVxxxK2C0xx

5) All-current sensitive e.l.c.b. for use with E82EVxxxK2C2xx

6) Flexible cable can only be connected using pin end connectors.

Observe national and regional regulations (e. g. VDE 0113, EN 60204)

4.3.2 Rated data for mains voltage 400 V

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**0.55**	**0.75**	**1.5**	**2.2**
		P_r [hp]	0.75	1.0	2.0	3.0
8200 vector type		EMC filter integrated	**E82EV551K4C0xx** [6]	**E82EV751K4C0xx** [6]	**E82EV152K4C0xx** [6]	**E82EV222K4C0xx** [6]
		Without EMC filter	**E82EV551K4C2xx**	**E82EV751K4C2xx**	**E82EV152K4C2xx**	**E82EV222K4C2xx**
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %			
Data for operation with 3/PE AC 400 V or DC 565 V						
Rated mains current						
without mains choke		I_{mains} [A]	2.5	3.3	5.5	7.3
with mains choke		I_{mains} [A]	2.0	2.3	3.9	5.1
Output power U, V, W		**S_r [kVA]**	**1.3**	**1.7**	**2.7**	**3.9**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	0.3	0.1	1.1	0.4
Rated output current at chopper frequency	2 kHz sin	I_r [A] [5]	1.8	2.4	4.7	5.6
	4 kHz sin					
	8 kHz sin	**I_r [A]**	**1.8**	**2.4**	**3.9**	**5.6**
	16 kHz sin [4]	I_r [A]	1.2	1.6	2.5	3.6
Max. permissible output current for 60 s at chopper frequency [3]	2 kHz sin	I_{max} [A]	2.7	3.6	5.9	8.4
	4 kHz sin					
	8 kHz sin	**I_{max} [A]**	**2.7**	**3.6**	**5.9**	**8.4**
	16 kHz sin [4]	I_{max} [A]	1.8	2.4	3.8	5.5
Output voltage						
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})		P_v [W]	50	60	100	130
Required mains choke		Type	-	-	-	-
Required brake resistor [6]		Type	ERBM470R100W		ERBM370R150W	ERBM240R200W
Dimensions		H x W x D [mm]	180 x 60 x 140		240 x 60 x 140	
Weight		m [kg]	1.2		1.6	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

[2] For operation with power-adapted motors additional power to be taken from the DC bus

[3] Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

[4] Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

[5] Possible for other types with different application conditions: Operation with increased rated output current and the same load change (📖 4.4-4)

[6] Operation at mains voltages 484 V - 0 % ... 550 V + 0 % is only permissible with brake resistor!

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**3.0**	**4.0**	**5.5**	**7.5**	**11**
		P_r [hp]	4.1	5.4	7.5	10.2	15
8200 vector type		EMC filter integrated	**E82EV302K4C0xx**	**E82EV402K4C0xx**	**E82EV552K4C0xx**	**E82EV752K4C0xx**	**E82EV113K4C0xx** 1)
		Without EMC filter	**E82EV302K4C2xx**	**E82EV402K4C2xx**	**E82EV552K4C2xx**	**E82EV752K4C2xx**	**E82EV113K4C2xx** 1)
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65Hz + 0 %				
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %				
Data for operation with 3/PE AC 400 V or DC 565 V							
Rated mains current							
without mains choke		I_{mains} [A]	9.0	12.3	16.8	21.5	-
with mains choke		I_{mains} [A]	7.0	8.8	12.0	15.0	21.0
Output power U, V, W		**S_r [kVA]**	**5.1**	**6.6**	**9.0**	**11.4**	**16.3**
Output power $+U_G$, $-U_G$ 2)		P_{DC} [kW]	1.7	0.8	1.1	1.5	0
Rated output current at chopper frequency	2 kHz sin	I_r [A] 5)	7.3	9.5	13.0	16.5	23.5
	4 kHz sin						
	8 kHz sin	**I_r [A]**	**7.3**	**9.5**	**13.0**	**16.5**	**23.5**
	16 kHz sin 4)	I_r [A]	4.7	6.1	8.4	10.7	13.0
Max. permissible output current for 60 s at chopper frequency 3)	2 kHz sin	I_{max} [A]	11.0	14.2	19.5	24.8	35.3
	4 kHz sin						
	8 kHz sin	**I_{max} [A]**	**11.0**	**14.2**	**19.5**	**24.8**	**35.3**
	16 kHz sin 4)	I_{max} [A]	7.0	9.1	12.6	16.0	19.5
Output voltage							
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz				
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz				
Power loss (operation with I_{r8})		P_v [W]	145	180	230	300	410
Required mains choke		Type	-	-	-	-	ELN3-150H024
Dimensions		H x W x D [mm]	240 x 100 x 140			240 x 125 x 140	
Weight		m [kg]	2.9			3.6	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) With different application conditions for other types possible: Operation with increased rated output current and the same load change (📖 4.4-4)

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**15**	**22**	**30**
		P_r [hp]	20	30	40
8200 vector type		With mains filter	**E82EV153K4B3xx**	**E82EV223K4B3xx**	**E82EV303K4B3xx**
		Without mains filter	**E82EV153K4B2xx**	**E82EV223K4B2xx** [1]	**E82EV303K4B2xx** [1]
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %		
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %		
Data for operation with 3/PE AC 400 V or DC 565 V					
Rated mains current					
Without mains choke		I_{mains} [A]	43.5	-	-
With mains choke		I_{mains} [A]	29.0	42.0	55.0
Output power U, V, W		**S_r [kVA]**	**22.2**	**32.6**	**41.6**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	10.2	4.0	0
Rated output current at chopper frequency	1 kHz sin	I_r [A] [5]	32	47	59
	2 kHz sin				
	4 kHz sin				
	8 kHz sin	I_r [A]	29	43	47 [6]
	16 kHz sin [4]	I_r [A]	21	30	35
	1 kHz	I_r [A] [5]	32	47	59
	2 kHz				
	4 kHz				
	8 kHz	**I_r [A]**	**32**	**47**	**59**
	16 kHz [4]	I_r [A]	24	35	44
Max. permissible output current for 60 s at chopper frequency [3]	1 kHz sin	I_{max} [A]	48	70.5	89
	2 kHz sin				
	4 kHz sin				
	8 kHz sin	I_{max} [A]	43	64	70 [6]
	16 kHz sin [4]	I_{max} [A]	31	46	53
	1 kHz	I_{max} [A]	48	70.5	89
	2 kHz				
	4 kHz				
	8 kHz	**I_{max} [A]**	**48**	**70.5**	**89**
	16 kHz [4]	I_{max} [A]	36	53	66
Output voltage					
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz		
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz		
Power loss (operation with I_{r8})		P_V [W]	430	640	810
Required mains choke		type]	-	ELN3-0075H045	ELN3-0055H055
Dimensions					
with mains filter		H x W x D [mm]	350 x 250 x 340		
without mains filter		H x W x D [mm]	350 x 250 x 250		
Weight					
with mains filter		m [kg]	34		
without mains filter		m [kg]	15		

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) With different application conditions for other types possible: Operation with increased rated output current and the same load change (📖 4.4-4)

6) Operation only with automatic chopper frequency reduction (C144 = 1). Ensure not to exceed the declared currents.

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r[kW]**	**45**	**55**	**75**	**90**
		P_r [hp]	60	75	100	120
8200 vector type		With mains filter	**E82EV453K4B3xx**	**E82EV553K4B3xx**	**E82EV753K4B3xx**	**E82EV903K4B3xx**
		Without mains filter	**E82EV453K4B2xx** [1]	**E82EV553K4B2xx** [1]	**E82EV753K4B2xx** [1]	**E82EV903K4B2xx** [1]
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %			
Data for operation with 3/PE AC 400 V or DC 565 V						
Rated mains current						
without mains choke		I_{mains} [A]	-	-	-	-
with mains choke		I_{mains} [A]	80.0	100	135	165
Output power U, V, W		**S_r [kVA]**	**61.7**	**76.2**	**103.9**	**124.7**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	5.1	0	28.1	40.8
Rated output current at chopper frequency	1 kHz sin	I_r [A] [5]	89	110	150	159 [6]
	2 kHz sin					
	4 kHz sin					
	8 kHz sin	I_r [A]	59 [6]	76 [6]	92 [6]	100 [6]
	16 kHz sin [4]	I_r [A]	46	60	67	72
	1 kHz	I_r [A] [5]	89	110	150	180
	2 kHz					
	4 kHz					
	8 kHz	**I_r [A]**	**89**	**110**	**150**	**171**
	16 kHz [4]	I_r [A]	54	77	105	108
Max. permissible output current for 60 s at chopper frequency [3]	1 kHz sin	I_{max} [A]	134	165	225	238[6]
	2 kHz sin					
	4 kHz sin					
	8 kHz sin	I_{max} [A]	88 [6]	114 [6]	138 [6]	150 [6]
	16 kHz sin [4]	I_{max} [A]	69	78	87	94
	1 kHz	I_{max} [A]	134	165	225	270
	2 kHz					
	4 kHz					
	8 kHz	**I_{max} [A]**	**134**	**165**	**225**	**221**
	16 kHz [4]	I_{max} [A]	81	100	136	140
Output voltage						
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})		P_v [W]	1100	1470	1960	2400
Required mains choke		Type	ELN3-0038H085	ELN3-0027H105	ELN3-0022H130	ELN3-0017H170
Dimensions						
with mains filter		H x W x D [mm]	510 x 340 x 375	591 x 340 x 375	680 x 450 x 375	
without mains filter		H x W x D [mm]	510 x 340 x 285	591 x 340 x 285	680 x 450 x 285	
Weight						
with mains filter		m [kg]	60	66	112	
without mains filter		m [kg]	34	37	59	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_{rx}

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) Possible for other types with different application conditions: Operation with increased rated output current and the same load change (📖 4.4-4)

6) Operation only with automatic chopper frequency reduction (C144 = 1). Ensure not to exceed the declared currents.

Operation with rated power (normal operation)

Rated data for mains voltage 400 V

Fuses and cable cross-sections (operation with rated power, mains voltage 400 V)

			Operation without mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV551K4C	0.55	3/PE AC 320 ... 440 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 300 mA [2] ≥ 30 mA [3]
E82EV751K4C	0.75		M6 A	B6 A	1	5 A	18	
E82EV152K4C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV222K4C	2.2		M10 A	B10 A	1.5	10 A	16	
E82EV302K4C	3.0		M16 A	B16 A	2.5	15 A	14	
E82EV402K4C	4.0		M16 A	B16 A	2.5	15 A	14	
E82EV552K4C	5.5		M25 A	B25 A	4	20 A	12	
E82EV752K4C	7.5		M32 A	B32 A	6 [4]	25 A	10	
E82EV113K4C	11		Operation only with mains choke					
E82EV153K4B	15		M63 A	-	25	63 A	4	≥ 300 mA
E82EV223K4B	22		Operation only with mains choke					
E82EV303K4B	30							
E82EV453K4B	45							
E82EV553K4B	55							
E82EV753K4B	75							
E82EV903K4B	90							

			Operation with mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV551K4C	0.55	3/PE AC 320 ... 440 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 300 mA [2] ≥ 30 mA [3]
E82EV751K4C	0.75		M6 A	B6 A	1	5 A	18	
E82EV152K4C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV222K4C	2.2		M10 A	B10 A	1.5	10 A	16	
E82EV302K4C	3.0		M10 A	B10 A	1.5	10 A	16	
E82EV402K4C	4.0		M16 A	B16 A	2.5	15 A	14	
E82EV552K4C	5.5		M20 A	B20 A	4	20 A	12	
E82EV752K4C	7.5		M20 A	B20 A	4	20 A	12	
E82EV113K4C	11		M32 A	B32 A	6 [4]	25 A	10	
E82EV153K4B	15		M35 A	-	10	35 A	8	≥ 300 mA
E82EV223K4B	22		M50 A	-	16	50 A	6	
E82EV303K4B	30		M80 A	-	25	80 A	3	
E82EV453K4B	45		M100 A	-	50	100 A	1	
E82EV553K4B	55		M125 A	-	50	125 A	0	
E82EV753K4B	75		M160 A	-	70	175 A	2/0	
E82EV903K4B	90		M200 A	-	95	200 A	3/0	

① Fuse

② E.l.c.b.

1) Use UL-approved cables, fuses and fuse holders only.
UL fuse: Voltage 500 ... 600 V, tripping characteristic "H" or "K5"

2) All-current sensitive e.l.c.b. for use with E82EVxxxK4C0xx

3) All-current sensitive e.l.c.b. for use with E82EVxxxK4C2xx

4) Flexible cable can only be connected using pin end connectors.

Observe national and regional regulations (e. g. VDE 0113, EN 60204)

4.3.3 Rated data for mains voltage 500 V

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**0.55**	**0.75**	**1.5**	**2.2**
		P_r [hp]	0.75	1.0	2.0	3.0
8200 vector type		EMC filter integrated	**E82EV551K4C0xx** [6]	**E82EV751K4C0xx** [6]	**E82EV152K4C0xx** [6]	**E82EV222K4C0xx** [6]
		Without EMC filter	**E82EV551K4C2xx**	**E82EV751K4C2xx**	**E82EV152K4C2xx**	**E82EV222K4C2xx**
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %			
Data for operation with 3/PE AC 500 V or DC 710 V						
Rated mains current						
without mains choke		I_{mains} [A]	2.0	2.6	4.4	5.8
with mains choke		I_{mains} [A]	1.4	1.8	3.1	4.1
Output power U, V, W		**S_r [kVA]**	**1.3**	**1.7**	**2.7**	**3.9**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	0.3	0.1	1.1	0.4
Rated output current at chopper frequency	2 kHz sin	I_r [A]	1.4	1.9	3.1	4.5
	4 kHz sin					
	8 kHz sin	**I_r [A]**	**1.4**	**1.9**	**3.1**	**4.5**
	16 kHz sin [4]	I_r [A]	0.9 [5]	1.2 [5]	2.0	2.9
Max. permissible output current for 60 s at chopper frequency [3]	2 kHz sin	I_{max} [A]	2.7	3.6	5.9	8.4
	4 kHz sin					
	8 kHz sin	**I_{max} [A]**	**2.7**	**3.6**	**5.9**	**8.4**
	16 kHz sin [4]	I_{max} [A]	1.35 [5]	1.85 [5]	3.0	4.4
Output voltage						
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})		P_v [W]	50	60	100	130
Required mains choke		Type	-	-	-	-
Required brake resistor [6]		Type	ERBM470R100W		ERBM370R150W	ERBM240R200W
Dimensions		H x W x D [mm]	180 x 60 x 140		240 x 60 x 140	
Weight		m [kg]	1.2		1.6	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

[2] For operation with power-adapted motors additional power to be taken from the DC bus

[3] Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

[4] Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

[5] Maximum motor cable length 10 m!

[6] Operation at mains voltages 484 V - 0 % ... 550 V + 0 % is only permissible with brake resistor!

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**3.0**	**4.0**	**5.5**	**7.5**	**11**
		P_r [hp]	4.1	5.4	7.5	10.2	15
8200 vector type		EMC filter integrated	**E82EV302K4C0xx**	**E82EV402K4C0xx**	**E82EV552K4C0xx**	**E82EV752K4C0xx**	**E82EV113K4C0xx** [1]
		Without EMC filter	**E82EV302K4C2xx**	**E82EV402K4C2xx**	**E82EV552K4C2xx**	**E82EV752K4C2xx**	**E82EV113K4C2xx** [1]
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65Hz + 0 %				
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %				
Data for operation with 3/PE AC 500 V or DC 710 V							
Rated mains current							
without mains choke		I_{mains} [A]	7.2	9.8	13.4	17.2	-
with mains choke		I_{mains} [A]	5.6	7.0	9.6	12.0	16.8
Output power U, V, W		**S_r [kVA]**	**5.1**	**6.6**	**9.0**	**11.4**	**16.3**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	1.7	0.8	1.1	1.5	0
Rated output current at chopper frequency	2 kHz sin	I_r [A]	5.8	7.6	10.4	13.2	18.8
	4 kHz sin						
	8 kHz sin	**I_r [A]**	**5.8**	**7.6**	**10.4**	**13.2**	**18.8**
	16 kHz sin [4]	I_r [A]	3.8	4.9	6.8	8.6	12.2
Max. permissible output current for 60 s at chopper frequency [3]	2 kHz sin	I_{max} [A]	11.0	14.2	19.5	24.8	35.3
	4 kHz sin						
	8 kHz sin	**I_{max} [A]**	**11.0**	**14.2**	**19.5**	**24.8**	**35.3**
	16 kHz sin [4]	I_{max} [A]	5.7	7.9	10.0	12.9	18.3
Output voltage							
without mains choke		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz				
with mains choke		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz				
Power loss (operation with I_{r8})		P_v [W]	145	180	230	300	410
Required mains choke		Type	-	-	-	-	ELN3-150H024
Dimensions		H x W x D [mm]	240 x 100 x 140			240 x 125 x 140	
Weight		m [kg]	2.9			3.6	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**18.5**	**30**	**37**
		P_r [hp]	25	40	49.5
8200 vector type		With mains filter	**E82EV153K4B3xx**	**E82EV223K4B3xx**	**E82EV303K4B3xx**
		Without mains filter	**E82EV153K4B2xx**	**E82EV223K4B2xx** 1)	**E82EV303K4B2xx** 1)
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %		
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %		
Data for operation with 3/PE AC 500 V or DC 710 V					
Rated mains current					
without mains choke/mains filter		I_{mains} [A]	43.5	-	-
with mains choke/mains filter		I_{mains} [A]	29.0	42.0	55.0
Output power U, V, W		**S_r [kVA]**	**26.6**	**39.1**	**49.9**
Output power $+U_G$, $-U_G$ 2)		P_{DC} [kW]	11.8	4.6	0
Rated output current at chopper frequency	1 kHz sin	I_r [A] 5)	30.5	45	56
	2 kHz sin				
	4 kHz sin				
	8 kHz sin	I_r [A]	27	41	44 5)
	16 kHz sin 4)	I_r [A]	19	28	30
	1 kHz	I_r [A]	32	47	56
	2 kHz				
	4 kHz				
	8 kHz	**I_r [A]**	**32**	**47**	**56**
	16 kHz 4)	I_r [A]	22	33	41
Max. permissible output current for 60 s at chopper frequency 3)	1 kHz sin	I_{max} [A]	46	66.5	65
	2 kHz sin				
	4 kHz sin				
	8 kHz sin	I_{max} [A]	41	61	65 5)
	16 kHz sin 4)	I_{max} [A]	29	42	45
	1 kHz	I_{max} [A]	48	70.5	84
	2 kHz				
	4 kHz				
	8 kHz	**I_{max} [A]**	**48**	**70.5**	**84**
	16 kHz 4)	I_{max} [A]	33	49	61
Output voltage					
without mains choke/mains filter		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz		
with mains choke/mains filter		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz		
Power loss (operation with I_{r8})		P_V [W]	430	640	810
Required mains choke		Type	-	ELN3-0075H045	ELN3-0055H055
Dimensions					
with mains filter		H x W x D [mm]	350 x 250 x 340		
without mains filter		H x W x D [mm]	350 x 250 x 250		
Weight					
with mains filter		m [kg]	34		
without mains filter		m [kg]	15		

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) Operation only with automatic chopper frequency reduction (C0144 = 1). Ensure not to exceed the declared currents.

Operation with rated power (normal operation)

Rated data for mains voltage 500 V

Typical motor power Three-phase AC asynchronous motor (4 pole)		**P_r [kW]**	**55**	**75**	**90**	**110**
		P_r [hp]	74	100	120	148
8200 vector type		With mains filter	**E82EV453K4B3xx**	**E82EV553K4B3xx**	**E82EV753K4B3xx**	**E82EV903K4B3xx**
		Without mains filter	**E82EV453K4B2xx** [1]	**E82EV553K4B2xx** [1]	**E82EV753K4B2xx** [1]	**E82EV903K4B2xx** [1]
Mains voltage		U_{mains} [V]	3/PE AC 320 V - 0 % ... 550 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply		U_{DC} [V]	DC 450 V - 0 % ... 775 V + 0 %			
Data for operation with 3/PE AC 500 V or DC 710 V						
Rated mains current						
without mains choke/mains filter		I_{mains} [A]	-	-	-	-
with mains choke/mains filter		I_{mains} [A]	80.0	100	135	165
Output power U, V, W		**S_r [kVA]**	**73.9**	**91.4**	**124**	**149**
Output power $+U_G$, $-U_G$ [2]		P_{DC} [kW]	5.9	0	32.4	47.1
Rated output current at chopper frequency	1 kHz sin	I_r [A] [5]	84	104	141	149 [5]
	2 kHz sin					
	4 kHz sin					
	8 kHz sin	I_r [A]	55 [5]	71 [5]	86 [5]	94 [5]
	16 kHz sin [4]	I_r [A]	39	55	60	63
	1 kHz	I_r [A]	84	105	142	171
	2 kHz					
	4 kHz					
	8 kHz	**I_r [A]**	**84**	**105**	**142**	**162**
	16 kHz [4]	I_r [A]	58	72	98	99
Max. permissible output current for 60 s at chopper frequency [3]	1 kHz sin	I_{max} [A]	126	156	212	223 [5]
	2 kHz sin					
	4 kHz sin					
	8 kHz sin	I_{max} [A]	82 [5]	107 [5]	169 [5]	141 [5]
	16 kHz sin [4]	I_{max} [A]	63	72	78	83
	1 kHz	I_{max} [A]	126	157	213	256
	2 kHz					
	4 kHz					
	8 kHz	**I_{max} [A]**	**126**	**157**	**213**	**211**
	16 kHz [4]	I_{max} [A]	75	94	128	130
Output voltage						
without mains choke/mains filter		U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
with mains choke/mains filter		U_M [V]	3~ 0 ... approx. 94 % U_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})		P_v [W]	1100	1470	1960	2400
Required mains choke		Type	ELN3-0038H085	ELN3-0027H105	ELN3-0022H130	ELN3-0017H170
Dimensions						
with mains filter		H x W x D [mm]	510 x 340 x 375	591 x 340 x 375	680 x 450 x 375	
without mains filter		H x W x D [mm]	510 x 340 x 285	591 x 340 x 285	680 x 450 x 285	
Weight						
with mains filter		m [kg]	60	66	112	
without mains filter		m [kg]	34	37	59	

Printed in bold = Data for operation at 8 kHz chopper frequency (Lenze setting)

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Chopper frequency is reduced to 4 kHz if ϑ_{max} reaches - 5 °C

5) Operation only with automatic chopper frequency reduction (C0144 = 1). Ensure not to exceed the declared currents.

Fuses and cable cross-sections (operation with rated power, mains voltage 500 V)

8200 vector		mains	Operation without mains choke					FI
			Installation to EN 60204-1			Installation to UL [1]		
Type	[kW]		①	②	L1, L2, L3, PE [mm²]	①	L1, L2, L3, PE [AWG]	
E82EV551K4C	0.55	3/PE AC 320 ... 550 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 300 mA [2] ≥ 30 mA [3]
E82EV751K4C	0.75		M6 A	B6 A	1	5 A	18	
E82EV152K4C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV222K4C	2.2		M10 A	B10 A	1.5	10 A	16	
E82EV302K4C	3.0		M16 A	B16 A	2.5	15 A	14	
E82EV402K4C	4.0		M16 A	B16 A	2.5	15 A	14	
E82EV552K4C	5.5		M25 A	B25 A	4	20 A	12	
E82EV752K4C	7.5		M32 A	B32 A	6 [4]	25 A	10	
E82EV113K4C	11		Operation only with mains choke					
E82EV153K4B	15		M63 A	-	25	63 A	4	≥ 300 mA
E82EV223K4B	22		Operation only with mains choke					
E82EV303K4B	30							
E82EV453K4B	45							
E82EV553K4B	55							
E82EV753K4B	75							
E82EV903K4B	90							

8200 vector		mains	Operation with mains choke					FI
			Installation to EN 60204-1			Installation to UL [1]		
Type	[kW]		①	②	L1, L2, L3, PE [mm²]	①	L1, L2, L3, PE [AWG]	
E82EV551K4C	0.55	3/PE AC 320 ... 550 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 300 mA [2] ≥ 30 mA [3]
E82EV751K4C	0.75		M6 A	B6 A	1	5 A	18	
E82EV152K4C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV222K4C	2.2		M10 A	B10 A	1.5	10 A	16	
E82EV302K4C	3.0		M10 A	B10 A	1.5	10 A	16	
E82EV402K4C	4.0		M16 A	B16 A	2.5	15 A	14	
E82EV552K4C	5.5		M20 A	B20 A	4	20 A	12	
E82EV752K4C	7.5		M20 A	B20 A	4	20 A	12	
E82EV113K4C	11		M32 A	B32 A	6 [4]	25 A	10	
E82EV153K4B	15		M35 A	-	10	35 A	8	≥ 300 mA
E82EV223K4B	22		M50 A	-	16	50 A	6	
E82EV303K4B	30		M80 A	-	25	80 A	3	
E82EV453K4B	45		M100 A	-	50	100 A	1	
E82EV553K4B	55		M125 A	-	50	125 A	0	
E82EV753K4B	75		M160 A	-	70	175 A	2/0	
E82EV903K4B	90		M200 A	-	95	200 A	3/0	

① Fuse

② E.l.c.b.

1) Use UL-approved cables, fuses and fuse holders only.
UL fuse: Voltage 500 ... 600 V, tripping characteristic "H" or "K5"

2) All-current sensitive e.l.c.b. for use with E82EVxxxK4C0xx

3) All-current sensitive e.l.c.b. for use with E82EVxxxK4C2xx

4) Flexible cable can only be connected using pin end connectors.

Observe national and regional regulations (e. g. VDE 0113, EN 60204)

4.4 Operation with increased rated power

Under the application conditions described here the controller can be operated in continuous operation with a motor of higher performance. The overload capacity is reduced to 120 %.

Typical applications are pumps with square-law load characteristic or blowers.

Note!

Operation with increased rated power is only permissible

- with the drive controllers mentioned
- within the mains voltage range mentioned
- with the chopper frequency mentioned
- with the prescribed fuses, cable cross-sections and mains chokes

4.4.1 Rated data for mains voltage 230 V

Maximum motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**0.37**	**0.75**		**1.1**		**2.2**	
	P_r [hp]	0.5	1.0		1.5		3.0	
8200 vector type	EMC filter integrated	**E82EV251K2C0xx**	**E82EV551K2C0xx** [1]		**E82EV751K2C0xx** [1]		**E82EV152K2C0xx**	
	Without EMC filter	**E82EV251K2C2xx**	**E82EV551K2C2xx** [1]		**E82EV751K2C2xx** [1]		**E82EV152K2C2xx**	
Mains voltage	V_{mains} [V]	1/N/PE AC 180 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 % 3/PE AC 100 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %						
Alternative DC supply	U_{DC} [V]	not possible	DC 140 V - 0 % ... 370 V + 0 %					
Data for operation with 1/N/PE (3 PE) AC 230 V or DC 325 V		1/N/PE	1/N/PE	3/PE	1/N/PE	3/PE	1/N/PE	3/PE
Rated mains current								
without mains choke	I_{mains} [A]	4.1	-	-	-	-	18.0	10.4
with mains choke	I_{mains} [A]	3.6	6.7	3.3	9.0	4.4	15.0	7.6
Output power U, V, W	S_r [kVA]	0.8	1.4		1.9		3.3	
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	DC bus operation not possible	0.1		0		0.4	
Rated output current at chopper frequency 2 kHz sin / 4 kHz sin	I_r [A]	2.0	3.6		4.8		8.4	
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin / 4 kHz sin	I_{max} [A]	2.5	4.5		6.0		10.5	
Output voltage								
without mains choke	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz						
with mains choke	U_M [V]	3~ 0 ... approx. 94 % V_{mains} / 0 ... 650 Hz						
Power loss (operation with I_{N24})	P_v [W]	30	50		60		100	
Required mains choke	Type	-	ELN1-0500H005		ELN1-0500H009	E82ZL75132B	-	
Dimensions	H x W x D [mm]	120 x 60 x 140	180 x 60 x 140				240 x 60 x 140	
Weight	m [kg]	0.8	1.2				1.6	

[1] Operation only with mains choke

[2] For operation with power-adapted motors additional power to be taken from the DC bus

[3] Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

Maximum motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**4.0**	**7.5**
	P_r [hp]	5.4	10.2
8200 vector type	EMC filter integrated	**E82EV302K2C0xx**	**E82EV552K2C0xx** [1]
	Without EMC filter	**E82EV302K2C2xx**	**E82EV552K2C2xx** [1]
Mains voltage	V_{mains} [V]	3/PE AC 100 V - 0 % ... 264 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %	
Alternative DC supply	V_{DC} [V]	DC 140 V - 0 % ... 370 V + 0 %	
Data for operation with 3/PE AC 230 V or DC 325 V			
Rated mains current			
without mains choke	I_{mains} [A]	18.7	-
with mains choke	I_{mains} [A]	14.4	25.2
Output power U, V, W	S_r [kVA]	5.7	10.8
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	0	0
Rated output current at chopper frequency 2 kHz sin	I_r [A]	14.4	27.0
Rated output current at chopper frequency 4 kHz sin	I_r [A]	14.4	27.0
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin	I_{max} [A]	18.0	33.8
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz sin	I_{max} [A]	18.0	33.8
Output voltage			
without mains choke	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz	
with mains choke	U_M [V]	3~ 0 ... approx. 94 % V_{mains} / 0 ... 650 Hz	
Power loss (operation with I_{N24})	P_v [W]	150	250
Required mains choke	Type	-	ELN3-088H035
Dimensions	H x W x D [mm]	240 x 100 x 140	240 x 125 x 140
Weight	m [kg]	2.9	3.6

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

Fuses and cable cross-sections (operation with increases rated power, mains voltage 230 V)

			Operation without mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**Mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV251K2C	0.25	1/N/PE AC 180 ... 264 V; 45 ... 65 Hz	M10 A	C10 A	1.5	10 A	16	≥ 30 mA [2]
E82EV551K2C	0.55		Operation only with mains choke					
E82EV751K2C	0.75		Operation only with mains choke					
E82EV152K2C	1.5		M20 A	B20 A	2 x 1.5	20 A	2 x 16	
E82EV551K2C	0.55	3/PE AC 100 ... 264 V; 45 ... 65 Hz	Operation only with mains choke					≥ 30 mA [3]
E82EV751K2C	0.75		Operation only with mains choke					
E82EV152K2C	1.5		M16 A	B16 A	2.5	15 A	14	
E82EV302K2C	3.0		M25 A	B25 A	4	25 A	10	≥ 300 mA [4]
E82EV552K2C	5.5		Operation only with mains choke					≥ 30 mA [5]

			Operation with mains choke					
			Installation to EN 60204-1			Installation to UL [1]		
8200 vector		**Mains**	①	②	L1, L2, L3, PE	①	L1, L2, L3, PE	**FI**
Type	[kW]				[mm²]		[AWG]	
E82EV251K2C	0.25	1/N/PE AC 180 ... 264 V; 45 ... 65 Hz	M10 A	C10 A	1.5	10 A	16	≥ 30 mA [2]
E82EV551K2C	0.55		M10 A	B10 A	1.5	10 A	16	
E82EV751K2C	0.75		M10 A	B10 A	1.5	10 A	16	
E82EV152K2C	1.5		M16 A	B16 A	2 x 1.5	15 A	2 x 16	
E82EV551K2C	0.55	3/PE AC 100 ... 264 V; 45 ... 65 Hz	M6 A	B6 A	1	5 A	18	≥ 30 mA [3]
E82EV751K2C	0.75		M10 A	B10 A	1.5	10 A	16	
E82EV152K2C	1.5		M10 A	B10 A	1.5	10 A	16	
E82EV302K2C	3.0		M20 A	B20 A	4	20 A	12	≥ 300 mA [4]
E82EV552K2C	5.5		M32 A	B32 A	6 [6]	35 A	8	≥ 30 mA [5]

① Fuse

② E.l.c.b.

1) Use UL-approved cables, fuses and fuse holders only.
UL fuse: voltage 240 V, tripping characteristic "H" or "K5"

2) Pulse-current or universal-current sensitive earth leakage circuit breaker

3) All-current sensitive e.l.c.b.

4) All-current sensitive e.l.c.b. for use with E82EVxxxK2C0xx

5) All-current sensitive e.l.c.b. for use with E82EVxxxK2C2xx

6) Flexible cable can only be connected using pin end connectors.

Observe national and regional regulations (e. g. VDE 0113, EN 60204)

4.4.2 Rated data for mains voltage 400 V

Maximum motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**0.75**	**1.1**	**3.0**
	P_r [hp]	1.0	1.5	4.0
8200 vector type	EMC filter integrated	**E82EV551K4C0xx**	**E82EV751K4C0xx** [1]	**E82EV222K4C0xx** [1]
	Without EMC filter	**E82EV551K4C2xx**	**E82EV751K4C2xx** [1]	**E82EV222K4C2xx** [1]
Mains voltage	V_{mains} [V]	3/PE AC 320 V - 0 % ... 440 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %		
Alternative DC supply	V_{DC} [V]	DC 450 V - 0 % ... 625 V + 0 %		
Data for operation with 3/PE AC 400 V or DC 565 V				
Rated mains current				
without mains choke	I_{mains} [A]	2.9	-	-
with mains choke	I_{mains} [A]	2.4	2.8	6.1
Output power U, V, W	S_r [kVA]	1.5	2.0	4.6
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	0.1	0	0
Rated output current at chopper frequency 2 kHz sin	I_r [A]	2.2	2.9	6.7
Rated output current at chopper frequency 4 kHz sin	I_r [A]	2.2	2.9	6.7
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin	I_{max} [A]	2.7	3.6	8.4
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz sin	I_{max} [A]	2.7	3.6	8.4
Output voltage				
without mains choke	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz		
with mains choke	U_M [V]	3~ 0 ...approx. 94 % V_{mains} / 0 ... 650 Hz		
Power loss (operation with I_{r8})	P_v [W]	50	60	130
Required mains choke	Type	-	EZN3A1500H003	E82ZL22234B
Dimensions	H x W x D [mm]	180 x 60 x 140		240 x 60 x 140
Weight	m [kg]	1.2		1.6

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

Operation with increased rated power

Rated data for mains voltage 400 V

Maximum motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**4.0**	**5.5**	**11**
	P_r [hp]	5.4	7.5	15
8200 vector type	EMC filter integrated	**E82EV302K4C0xx**	**E82EV402K4C0xx** [1]	**E82EV752K4C0xx** [1]
	Without EMC filter	**E82EV302K4C2xx**	**E82EV402K4C2xx** [1]	**E82EV752K4C2xx** [1]
Mains voltage	V_{mains} [V]	3/PE AC 320 V - 0 % ... 440 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %		
Alternative DC supply	V_{DC} [V]	DC 450 V - 0 % ... 625 V + 0 %		
Data for operation with 3/PE AC 400 V or DC 565 V				
Rated mains current				
without mains choke	I_{mains} [A]	10.8	-	-
with mains choke	I_{mains} [A]	8.4	10.6	18.0
Output power U, V, W	S_r [kVA]	6.0	7.9	13.7
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	0.7	0	0
Rated output current at chopper frequency 2 kHz sin / 4 kHz sin	I_r [A]	8.7	11.4	19.8
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin / 4 kHz sin	I_{max} [A]	11.0	14.2	24.8
Output voltage				
without mains choke	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz		
with mains choke	U_M [V]	3~ 0 ...approx. 94 % V_{mains} / 0 ... 650 Hz		
Power loss (operation with I_{r8})	P_v [W]	145	180	300
Required mains choke	Type	-	EZN3A0300H013	ELN3-0150H024
Dimensions	H x W x D [mm]	240 x 100 140		240 x 125 x 140
Weight	m [kg]	2.9		3.6

1) Operation only with mains choke

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

Maximum motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**22**	**30**	**37**
	P_r [hp]	30	40	50
8200 vector type	With mains filter	**E82EV153K4B3xx**	**E82EV223K4B3xx**	**-**
	Without mains filter	**E82EV153K4B2xx** [1]	**E82EV223K4B2xx** [1]	**E82EV303K4B2xx** [1] [4]
Mains voltage	U_{mains} [V]	3/PE AC 320 V - 0 % ... 440 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %		
Alternative DC supply	U_{DC} [V]	DC 450 V - 0 % ... 625 V + 0 %		
Data for operation with 3/PE AC 400 V or DC 565 V				
Rated mains current				
without mains choke/mains filter	I_{mains} [A]	-	-	-
with mains chokde/mains filter	I_{mains} [A]	39.0	50.0	60.0
Output power U, V, W	S_{N4} [kVA]	29.8	39.5	46.4
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	10.2	4.0	0
Rated output current at chopper frequency 1 kHz sin	I_r [A]	32	47	59
Rated output current at chopper frequency 2 kHz sin	I_r [A]	32	47	59
Rated output current at chopper frequency 4 kHz sin	I_r [A]	32	47	59
Rated output current at chopper frequency 1 kHz	I_r [A]	43	56	66
Rated output current at chopper frequency 2 kHz	I_r [A]	43	56	66
Rated output current at chopper frequency 4 kHz	I_r [A]	43	56	66
Max. permissible output current for 60 s at chopper frequency [3] 1 kHz sin	I_{max}[A]	48	70.5	89
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin	I_{max}[A]	48	70.5	89
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz sin	I_{max}[A]	48	70.5	89
Max. permissible output current for 60 s at chopper frequency [3] 1 kHz	I_{max} [A]	48	70.5	89
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz	I_{max} [A]	48	70.5	89
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz	I_{max} [A]	48	70.5	89
Output voltage				
without mains choke/mains filter	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz		
with mains chokde/mains filter	U_M [V]	3~ 0 ... approx. 94 % V_{mains} / 0 ... 650 Hz		
Power loss (operation with I_{r8})	P_v [W]	430	640	810
Required mains choke	type]	ELN3-0075H045	ELN3-0055H055	ELN3-0055H055
Dimensions				
with mains filter	H x W x D [mm]	350 x 250 x 340		
without mains filter	H x W x D [mm]	350 x 250 x 250		
Weight				
with mains filter	m [kg]	34		
without mains filter	m [kg]	15		

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Maximum permissible ambient operating temperature +35 °C

Operation with increased rated power

Rated data for mains voltage 400 V

Typical motor power Three-phase AC asynchronous motor (4 pole)	**P_r [kW]**	**55**	**75**	**90**	**110**
	P_r [hp]	75	100	120	148
8200 vector type	With mains filter	-	**E82EV553K4B3xx** [4]	-	-
	Without mains filter	**E82EV453K4B2xx** [1]	**E82EV553K4B2xx** [1] [4]	**E82EV753K4B2xx** [1]	**E82EV903K4B2xx** [1] [4]
Mains voltage	V_{mains} [V]	3/PE AC 320 V - 0 % ... 440 V + 0 % ; 45 Hz - 0 % ... 65 Hz + 0 %			
Alternative DC supply	U_{DC} [V]	DC 450 V - 0 % ... 625 V + 0 %			
Data for operation with 3/PE AC 400 V or DC 565 V					
Rated mains current					
without mains choke/mains filter	I_{mains} [A]	-	-	-	-
with mains chokde/mains filter	I_{mains} [A]	97.0	119	144	185
Output power U, V, W	**S_{r8} [kVA]**	**74.8**	**91.5**	**110**	**142**
Output power $+U_G$, $-U_G$ [2]	P_{DC} [kW]	5.1	0	28.1	40.8
Rated output current at chopper frequency 1 kHz sin	I_r [A]	89	110	150	159 [5]
Rated output current at chopper frequency 2 kHz sin	I_r [A]	89	110	150	159 [5]
Rated output current at chopper frequency 4 kHz sin	I_r [A]	89	110	150	159 [5]
Rated output current at chopper frequency 1 kHz	I_r [A]	100	135	159	205
Rated output current at chopper frequency 2 kHz	I_r [A]	100	135	159	205
Rated output current at chopper frequency 4 kHz	I_r [A]	100	135	159	205
Max. permissible output current for 60 s at chopper frequency [3] 1 kHz sin	I_{max} [A]	134	165	225	238 [5]
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz sin	I_{max} [A]	134	165	225	238 [5]
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz sin	I_{max} [A]	134	165	225	238 [5]
Max. permissible output current for 60 s at chopper frequency [3] 1 kHz	I_{max} [A]	134	165	225	270
Max. permissible output current for 60 s at chopper frequency [3] 2 kHz	I_{max} [A]	134	165	225	270
Max. permissible output current for 60 s at chopper frequency [3] 4 kHz	I_{max} [A]	134	165	225	270
Output voltage					
without mains choke/mains filter	U_M [V]	3~ 0 ... V_{mains} / 0 ... 650 Hz			
with mains chokde/mains filter	U_M [V]	3~ 0 ... approx. 94 % v_{mains} / 0 ... 650 Hz			
Power loss (operation with I_{r8})	P_V [W]	1100	1470	1960	2400
Required mains choke	Type	ELN3-0027H105	ELN3-0022H130	ELN3-0017H170	ELN3-0014H200
Dimensions					
with mains filter	H x W x D [mm]	510 x 340 x 375	591 x 340 x 375	680 x 450 x 375	
without mains filter	H x W x D [mm]	510 x 340 x 285	591 x 340 x 285	680 x 450 x 285	
Weight					
with mains filter	m [kg]	60	66	112	
without mains filter	m [kg]	34	37	59	

1) Operation only with mains choke or mains filter

2) For operation with power-adapted motors additional power to be taken from the DC bus

3) Currents for periodic load change: 1 min overcurrent with I_{max} and 2 min basic load with 75 % I_r

4) Maximum permissible ambient operating temperature +35 °C

5) Operation only with automatic chopper frequency reduction (C144 = 1). Ensure not to exceed the declared currents.