

Frequency inverter

8200 vector

0.25 ... 90.0 kW

Created as a system

Global Drive



Lenze



Product information

8200 vector quick selection guide

400 V, 3-phase, normal operation, with integrated EMC filters ³⁾						
	Motor power [kW]	0.55	0.75	1.5	2.2	Technical data
Essential	Frequency inverter (base controller)	E82EV551K4C	E82EV751K4C	E82EV152K4C	E82EV222K4C	Chapter 2
	Control via digital/analog I/O (standard I/O PT function module) ¹⁾	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	Chapter 3
Optional	Control and diagnostics (Keypad XT operating module) ²⁾	EMZ9371BC				Chapter 3
	Mains choke	EZN3A1500H003		E82ZL22234B		Chapter 4

400 V, 3-phase, normal operation, with integrated EMC filters ³⁾							
	Motor power [kW]	3	4	5.5	7.5	11	Technical data
Essential	Frequency inverter (base controller)	E82EV302K4C	E82EV402K4C	E82EV552K4C	E82EV752K4C	E82EV112K4C	Chapter 2
	Control via digital/analog I/O (standard I/O PT function module) ¹⁾	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	Chapter 3
	Mains choke	-	-	-	-	ELN3-150H024	Chapter 4
Optional	Control and diagnostics (Keypad XT operating module) ²⁾	EMZ9371BC				Chapter 3	
	Mains choke	EZN3A0500H007	EZN3A0300H013		ELN3-0120H017	-	Chapter 4

¹⁾ See chapter 3 for additional I/O function modules and modules for fieldbus networking

²⁾ See chapter 3 for additional communication modules

³⁾ Limiting value class A up to 20 m motor cable length or limiting value class B, depending on controller type and chopper frequency

Product information

8200 vector quick selection guide

500 V, 3-phase, normal operation, with integrated EMC filters ³⁾						
	Motor power [kW]	0.55	0.75	1.5	2.2	Technical data
Essential	Frequency inverter (base controller)	E82EV551K4C	E82EV751K4C	E82EV152K4C	E82EV222K4C	Chapter 2
	Control via digital/analog I/O (standard I/O PT function module) ¹⁾	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	Chapter 3
	Brake resistor	ERBM470R100W ⁴⁾	ERBM470R100W ⁴⁾	ERBM370R150W ⁴⁾	ERBM240R200W ⁴⁾	Chapter 4
Optional	Control and diagnostics (Keypad XT operating module) ²⁾	EMZ9371BC				Chapter 3
	Mains choke	EZN3A1500H003		E82ZL22234B		Chapter 4

500 V, 3-phase, normal operation, with integrated EMC filters ³⁾							
	Motor power [kW]	3	4	5.5	7.5	11	Technical data
Essential	Frequency inverter (base controller)	E82EV302K4C	E82EV402K4C	E82EV552K4C	E82EV752K4C	E82EV112K4C	Chapter 2
	Control via digital/analog I/O (standard I/O PT function module) ¹⁾	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	E82ZAFSC010	Chapter 3
	Mains choke	-	-	-	-	ELN3-150H024	Chapter 4
Optional	Control and diagnostics (Keypad XT operating module) ²⁾	EMZ9371BC					Chapter 3
	Mains choke	EZN3A0500H007	EZN3A0300H013		ELN3-0120H017	-	Chapter 4

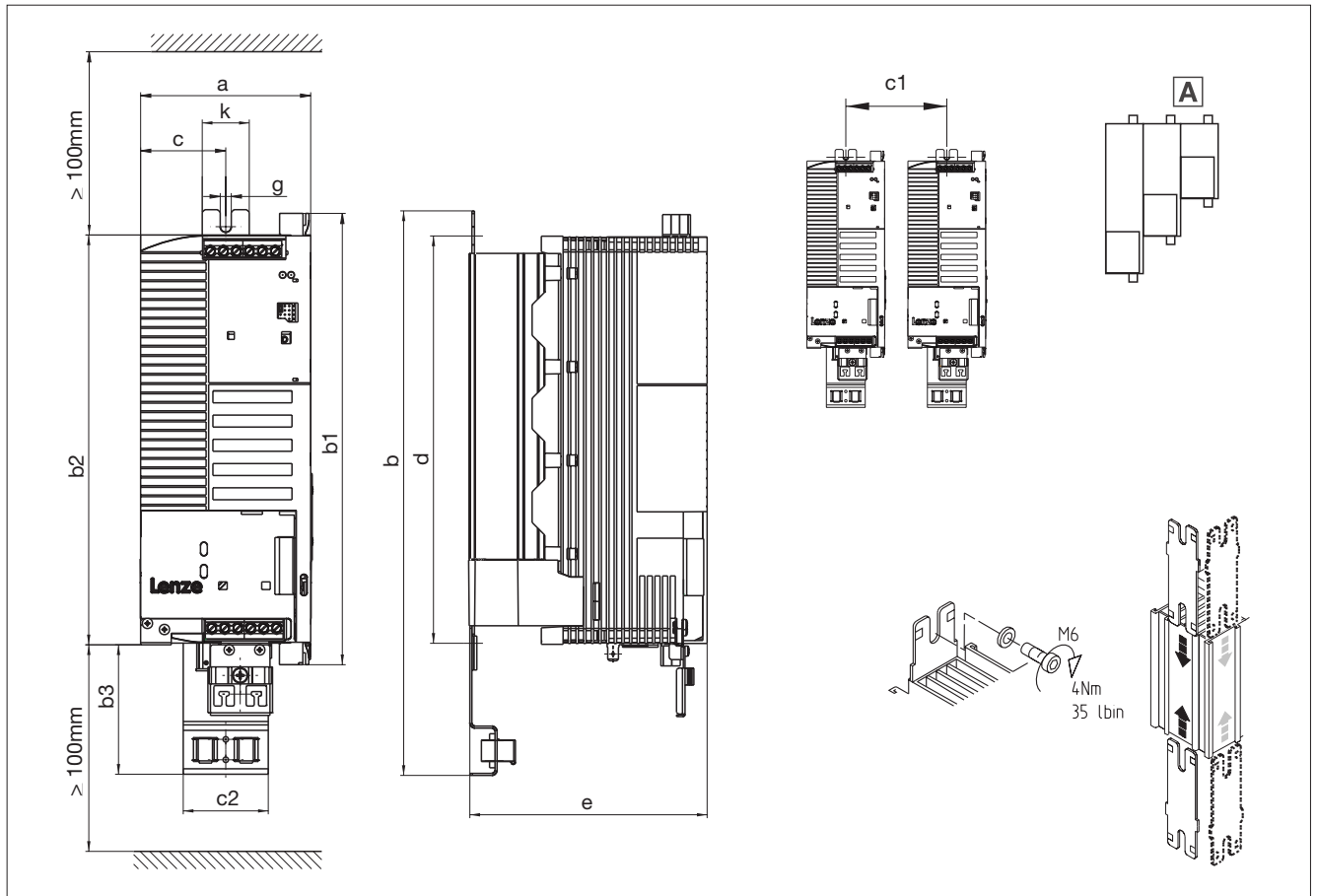
¹⁾ See chapter 3 for additional I/O function modules and modules for fieldbus networking

²⁾ See chapter 3 for additional communication modules

³⁾ Limiting value class A up to 20 m motor cable length or limiting value class B, depending on controller type and chopper frequency

⁴⁾ For mains voltages from 484 V (-0 %) ... 550 V (+0 %): Operation is only permitted with brake resistor. (As an alternative, a frequency inverter without integrated EMC filter can be used – see pages 1-12)

Standard mounting - 8200 vector 3.0 ... 11.0 kW



8200 vector	Dimensions [mm]											
Type	a	b	b1	b2	b3	c	c1	c2	d	e	g	k
E82EV302K2C E82EV402K2C	100	333	268	240	78	50	103	50	255	140	6.5	28
E82EV552K2C ¹⁾ E82EV752K2C ¹⁾	125	333 359 ²⁾					62.5					
E82EV302K4C E82EV402K4C E82EV552K4C	100	333				50	103 103 103		255	140		
E82EV752K4C ¹⁾ E82EV113K4C ¹⁾	125	333 359 ²⁾				62.5	128 128		255 280...295 ²⁾	140 162 ²⁾		

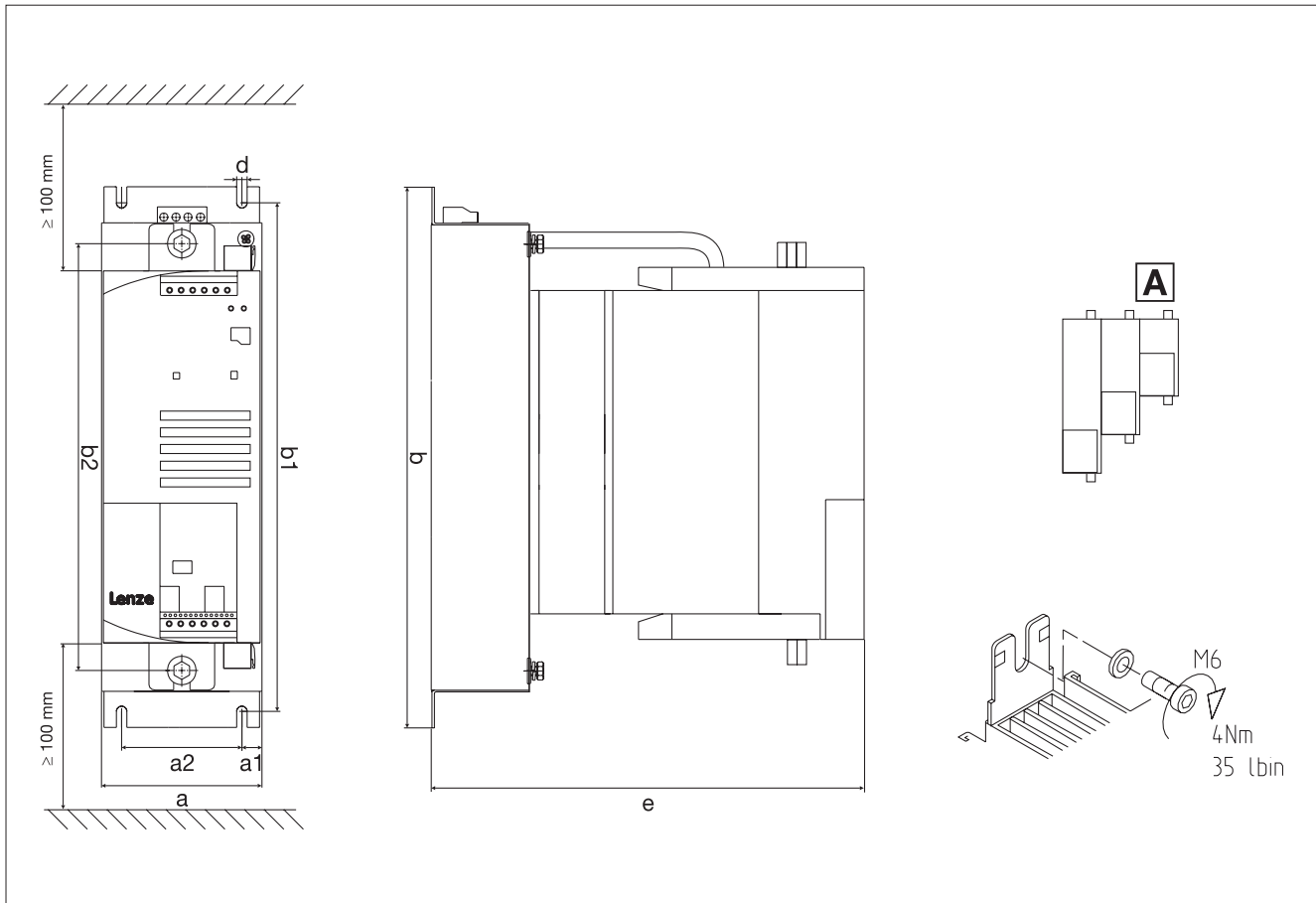
A Different sizes should only be mounted side by side with the largest furthest to the left and the smallest on the far right. A clearance of 3 mm must always be observed.

- 1) Side-by-side mounting is only possible with swivel bracket E82ZJ006 (accessories)
- 2) With E82ZJ006

Base controllers

Dimensions and mounting

Standard mounting - 8200 vector 3.0 ... 11.0 kW with substructure RFI filters



Schematic sketch: Representation without shield connection of motor and control cable.

8200 vector	Dimensions [mm]							
Type	a	a1	a2	b	b1	b2	d	e
E82EV302K2C200 E82EV402K2C200	100	12.5	75	337	317	255	6.5	200
E82EV552K2C200 E82EV752K2C200	125	25						
E82EV302K4C200 E82EV402K4C200 E82EV552K4C200	100	12.5						
E82EV752K4C200 E82EV113K4C200	125	25						

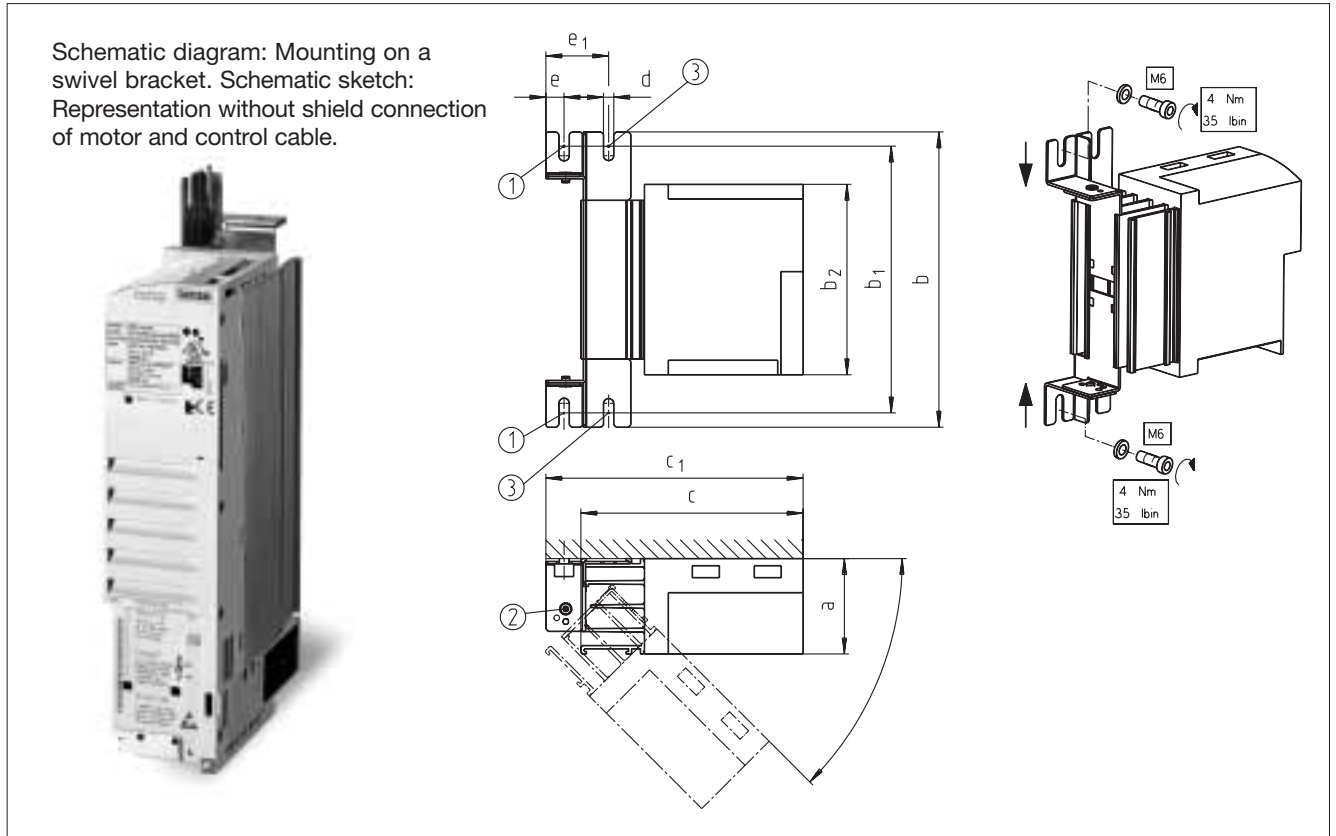
A Different sizes should only be mounted side by side with the largest furthest to the left and the smallest on the far right. A clearance of 3 mm must always be observed.

Note:
See chapter 4 for details of the base filter as an accessory.

Swivel bracket

On housings with a shallow installation depth the frequency inverter can be mounted with a swivel bracket. The frequency inverter can be swivelled out sideways, e.g.

through 90°, for installation, adjustment and diagnostic purposes (mechanism locks at 45°, 90°, 135°, 180°).



① Bolt here ② Pivot point ③ Bolt here to keep the frequency inverter fixed in the 0°-position

8200 vector	Dimensions [mm]									Order ref.
Type	a	b	b ₁	b ₂	c	c ₁	d	e	e ₁	
E82EV251K2C E82EV371K2C	60	186	160...175	120	140	162	6.5	11.5	39	E82ZJ001
E82EV551K2C E82EV751K2C		246	220...235	180						
E82EV152K2C E82EV222K2C		306	280...295	240						
E82EV551K4C E82EV751K4C		246	220...235	180						
E82EV152K4C E82EV222K4C		306	280...295	240						
E82EV302K2C E82EV402K2C	100	306	280...295	240	140	162	6.5	11.5	39	E82ZJ005
E82EV552K2C E82EV752K2C	125									E82ZJ006
E82EV302K4C E82EV402K4C E82EV552K4C	100									E82ZJ005
E82EV752K4C E82EV113K4C	125									E82ZJ006

Note:

- The bracket must be used for secure side mounting on the following devices:
230 V: 1.5/2.2/5.5 kW, 400 V: 7.5/11.0 kW.
- For installation according to EMC standard mounting is preferable to swivel bracket mounting.

Version for “safe stop” safety technology

The “safe stop” special version supports the “safe stop” safety function, providing protection against unexpected start-up in accordance with the requirements of EN 954-1 “Control Category 3” and EN 1037. The safety relay electrically isolates the voltage supply to the optocoupler for the purposes of pulse transmission to the IGBT. It must be activated externally with +24 V DC.

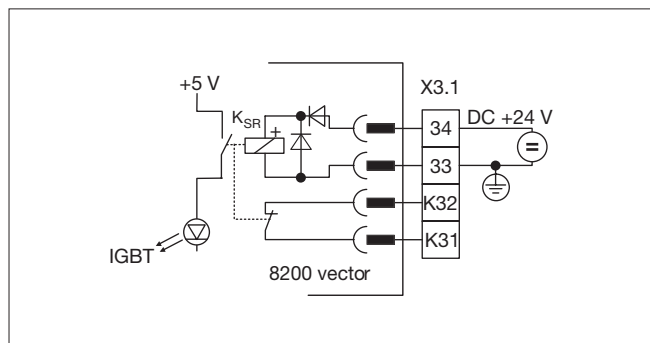
In comparison to the solution using a motor contactor, this variant offers the following advantages:

- An external motor contactor is not required
- Reduces wiring
- Space saving
- Improved EMC: The motor cable shield must not be interrupted

With the “safe stop” function, an “emergency stop” is not possible without additional measures:

- There is no electrical isolation between the motor and the drive controller and no “service switch” or “repair switch”
- Electrical isolation is required for an “emergency stop” e.g. by means of a central mains contactor

Note: The “safe standstill” 8200 vector frequency inverter is a special version. It is available on request.



Terminal assignment		Data		
33	Reference potential for the input Emergency stop	Safety relay	Coil voltage at +40°C	+24 V DC (+19.5...36 V)
34	Emergency stop input		Current at 24 V DC	30 mA
			Test voltage contact τ coil	1500 V AC _{rms} for 1 min
			Test voltage contact τ contact	1500 V AC _{rms} for 1 min
			Electr. service life at rated load	~10 ⁷ operating cycles
			Mechanical service life	~10 ⁷ operating cycles
K31	Feedback contact	Feedback contact	Switching voltage	24 V DC
K32			Continuous current	5...700 mA

8200 vector		
Type/Order ref. 1)	Voltage [V]	Power [kW]
E82EV302K4C040	3 ~ 400V	3.0
E82EV402K4C040		4.0
E82EV552K4C040		5.5
E82EV752K4C040		7.5
E82EV113K4C040		11.0
E82EV153K4B241		15.0
E82EV223K4B241		22.0
E82EV303K4B241		30.0
E82EV453K4B241		45.0
E82EV553K4B241		55.0
E82EV753K4B241		75.0
E82EV903K4B241		90.0

¹⁾ The technical data corresponds to that for E82EVxxx inverters (see page 2-8).

Accessories

Cable protection

Fuses for operation with mains choke

Fuses or circuit-breakers can be used to protect cables. Depending on the mains current supply of each frequency

inverter, the following current ratings are required for the protection devices:

8200 vector		Normal operation (150% overload)					Operation with increased power rating (120% overload)				
Type ¹⁾	Voltage [V]	Fuse		Circuit-breaker VDE	Cable cross-section		Fuse		Circuit-breaker VDE	Cable cross-section	
		VDE	UL		mm ²	AWG	VDE	UL		mm ²	AWG
E82EV251K2C	1~ 230	M10 A	10 A	C10 A	1.5	16	M10 A	10 A	C10 A	1.5	16
E82EV371K2C		M10 A	10 A	C10 A	1.5	16	-	-	-	-	-
E82EV551K2C		M10 A	10 A	B10 A	1.5	16	M10 A	10 A	B10 A	1.5	16
E82EV751K2C		M10 A	10 A	B10 A	1.5	16	M16 A	15 A	B16 A	2.5	14
E82EV152K2C		M16 A	15 A	B16 A	2 x 1.5	2 x 16	M20 A	20 A	B20 A	2 x 1.5	2 x 16
E82EV222K2C		M20 A	20 A	B20 A	2 x 1.5	2 x 16	-	-	-	-	-
E82EV551K2C	3~ 230	M6 A	5 A	B6 A	1	18	M6 A	5 A	B6 A	1	18
E82EV751K2C		M6 A	5 A	B6 A	1	18	M10 A	10 A	B10 A	1.5	16
E82EV152K2C		M10 A	10 A	B10 A	1.5	16	M10 A	10 A	B10 A	1.5	16
E82EV222K2C		M10 A	10 A	B10 A	1.5	16	-	-	-	-	-
E82EV302K2C		M16 A	15 A	B16 A	2.5	14	M20 A	20 A	B20 A	4	12
E82EV402K2C		M20 A	20 A	B20 A	4	12	-	-	-	-	-
E82EV552K2C		M25 A	25 A	B25 A	4	10	M32 A	35 A	B32 A	6	8
E82EV752K2C		M35 A	35 A	-	6	8	-	-	-	-	-
E82EV551K4C	3~ 400	M6 A	5 A	B6 A	1	18	M6 A	5 A	B6 A	1	18
E82EV751K4C		M6 A	5 A	B6 A	1	18	M6 A	5 A	B6 A	1	18
E82EV152K4C		M10 A	10 A	B10 A	1.5	16	-	-	-	-	-
E82EV222K4C		M10 A	10 A	B10 A	1.5	16	M10 A	10 A	B10 A	1.5	16
E82EV302K4C		M10 A	10 A	B10 A	1.5	16	M10 A	10 A	B10 A	1.5	16
E82EV402K4C		M16 A	15 A	B16 A	2.5	14	M16 A	15 A	B16 A	2.5	14
E82EV552K4C		M20 A	20 A	B20 A	4	12	-	-	-	-	-
E82EV752K4C		M20 A	20 A	B20 A	4	12	-	-	-	-	-
E82EV113K4C		M32 A	25 A	B32 A	6	10	-	-	-	-	-
E82EV153K4C201	3~ 400	M35 A	35 A	-	10	8	M50 A	50 A	-	16	6
E82EV223K4C201		M50 A	50 A	-	16	6	M63 A	63 A	-	25	4
E82EV303K4C201		M80 A	80 A	-	25	3	M80 A	80 A	-	25	3
E82EV453K4C201		M100 A	100 A	-	50	1	M125 A	125 A	-	50	0
E82EV553K4C201		M125 A	125 A	-	50	0	M160 A	175 A	-	70	2/0
E82EV753K4C201		M160 A	175 A	-	70	2/0	M160 A	175 A	-	70	2/0
E82EV903K4C201		M200 A	200 A	-	95	3/0	M200 A	200 A	-	95	3/0

Please observe national and regional regulations

¹⁾ Also valid for E82CVxxxKx and E82DVxxxKx devices

For operation in UL approved installations, use only standard UL approved cables, fuses and fuse holders. UL fuse: Voltage 240 V or 500 V...600 V, tripping characteristic "H" or "K5".



Fuse holders for operation with mains choke

8200 vector		Fuse				Fuse holder	
Type ²⁾	Voltage [V]	Current rating	Size	Order ref.	Required number	Order ref.	Required number
E82EV251K2C	1~ 230	M10A	10 x 38	EFSM-0100AWE	1	EFH10001	1
E82EV371K2C		M10A	10 x 38	EFSM-0100AWE	1	EFH10001	1
E82EV551K2C		M10A	10 x 38	EFSM-0100AWE	1	EFH10001	1
E82EV751K2C		M10A M16A ¹⁾	10 x 38 10 x 38 ¹⁾	EFSM-0100AWE EFSM-0160AWE ¹⁾	1 1 ¹⁾	EFH10001 EFH10001 ¹⁾	1 1 ¹⁾
E82EV152K2C		M16A M20A ¹⁾	10 x 38 10 x 38 ¹⁾	EFSM-0160AWE EFSM-0200AWE ¹⁾	1 1 ¹⁾	EFH10001 EFH10001 ¹⁾	1 1 ¹⁾
E82EV222K2C		M20A	10 x 38	EFSM-0200AWE	1	EFH10001	1
E82EV551K2C	3~ 230	M6A	10 x 38	EFSM-0060AWE	3	EFH10001	3
E82EV751K2C		M6A M10A ¹⁾	10 x 38 10 x 38 ¹⁾	EFSM-0060AWE EFSM-0100AWE ¹⁾	3 3 ¹⁾	EFH10001 EFH10001 ¹⁾	3 3 ¹⁾
E82EV152K2C		M10A	10 x 38	EFSM-0100AWE	3	EFH10001	3
E82EV222K2C		M10A	10 x 38	EFSM-0100AWE	3	EFH10001	3
E82EV302K2C		M16A M20A ¹⁾	10 x 38 10 x 38 ¹⁾	EFSM-0160AWE EFSM-0200AWE ¹⁾	3 3 ¹⁾	EFH10001 EFH10001 ¹⁾	3 3 ¹⁾
E82EV402K2C		M20A	10 x 38	EFSM-0200AWE	3	EFH10001	3
E82EV552K2C		M25A M32A ¹⁾	14 x 51 14 x 51 ¹⁾	EFSM-0250AXH EFSM-0320AWH ¹⁾	3 3 ¹⁾	EFH10002 EFH10002 ¹⁾	3 3 ¹⁾
E82EV752K2C		M32A	14 x 51	EFSM-0320AWH	3	EFH10002	3
E82EV551K4C		3~ 400	M6A	10 x 38	EFSM-0060AWE	3	EFH10001
E82EV751K4C	M6A		10 x 38	EFSM-0060AWE	3	EFH10001	3
E82EV152K4C	M10A		10 x 38	EFSM-0100AWE	3	EFH10001	3
E82EV222K4C	M10A		10 x 38	EFSM-0100AWE	3	EFH10001	3
E82EV302K4C	M10A		10 x 38	EFSM-0100AWE	3	EFH10001	3
E82EV402K4C	M16A		10 x 38	EFSM-0160AWE	3	EFH10001	3
E82EV552K4C	M20A		10 x 38	EFSM-0200AWE	3	EFH10001	3
E82EV752K4C	M20A		10 x 38	EFSM-0200AWE	3	EFH10001	3
E82EV113K4C	M32A		14 x 51	EFSM-0320AWH	3	EFH10002	3

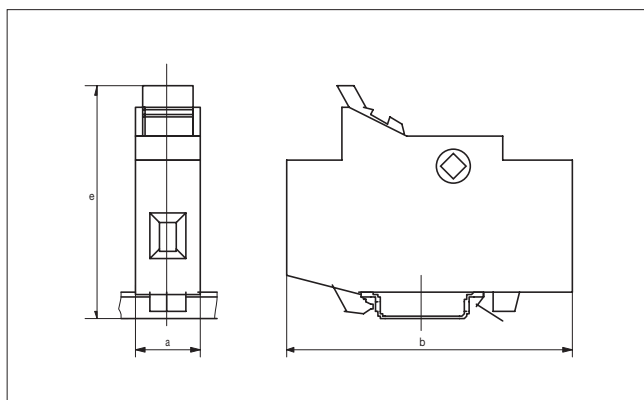
¹⁾ For operation with increased power rating (120% overload)

²⁾ Also valid for E82CVxxxKx and E82DVxxxKx devices

Note:

We recommend using standard fuses (not in the scope of supply) for types E82EV153K4C...E82EV903K4C.

Fuse holder dimensions



Type	a [mm]	b [mm]	e [mm]	Fuse dimensions
EFH10001	17.5	81	68	10 x 38
EFH10002	26	95	85	14 x 51

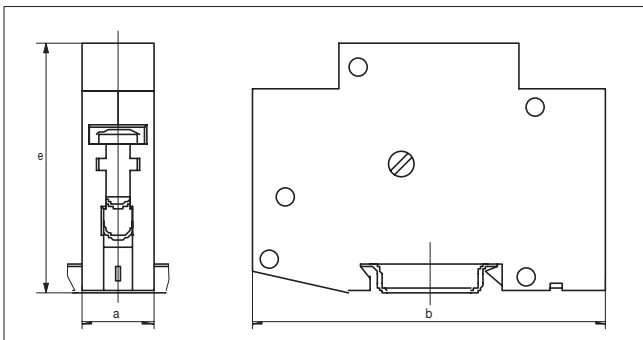
Circuit-breakers for operation with mains choke

8200 vector		Circuit-breakers			
Type ²⁾	Voltage [V]	Current rating	Order ref.	Required number	
E82EV251K2C	1~ 230	C10A	EFA1C10A	1	
E82EV371K2C		C10A	EFA1C10A	1	
E82EV551K2C		B10A	EFA1B10A	1	
E82EV751K2C		B10A B16A ¹⁾	EFA1B10A EFA1B16A ¹⁾	1 1 ¹⁾	
E82EV152K2C		B16A B20A ¹⁾	EFA1B16A EFA1B20A ¹⁾	1 1 ¹⁾	
E82EV222K2C		B20A	EFA1B20A	1	
E82EV551K2C	3~ 230	B6A	EFA3B06A	1	
E82EV751K2C		B6A B10A ¹⁾	EFA3B06A EFA3B10A ¹⁾	1 1 ¹⁾	
E82EV152K2C		B10A	EFA3B10A	1	
E82EV222K2C		B10A	EFA3B10A	1	
E82EV302K2C		B16A B20A ¹⁾	EFA3B16A EFA3B20A ¹⁾	1 1 ¹⁾	
E82EV402K2C		B20A	EFA3B20A	1	
E82EV552K2C		B25A B32A ¹⁾	EFA3B25A EFA3B32A ¹⁾	1 1 ¹⁾	
E82EV752K2C		-	-	-	-
E82EV551K4C		3~ 400	B6A	EFA3B06A	1
E82EV751K4C	B6A		EFA3B06A	1	
E82EV152K4C	B10A		EFA3B10A	1	
E82EV222K4C	B10A		EFA3B10A	1	
E82EV302K4C	B10A		EFA3B10A	1	
E82EV402K4C	B16A		EFA3B16A	1	
E82EV552K4C	B20A		EFA3B20A	1	
E82EV752K4C	B20A		EFA3B20A	1	
E82EV113K4C	B32A		EFA3B32A	1	

¹⁾ For operation with increased power rating (120% overload)

²⁾ Also valid for E82CVxxxKx and E82DVxxxKx devices

Miniature circuit-breaker dimensions



Type	a [mm]	b [mm]	e [mm]
EFA1xxxxA	17.5	90	63
EFA3BxxxA	53	90	63



EFA1xxxxA



EFA3BxxxA