

⚠ Warnung

Lebensgefahr durch Berührung unter Spannung stehende Teile

Das vorliegende Gerät führt gefährliche Spannungen.
Beim Berühren unter Spannung stehender Teile erleiden Sie Tod oder schwere Körperverletzungen.
Beachten Sie die Hinweise in den Handbüchern des zugehörigen Umrichters.

⚠ Warning

Danger to life when live parts are touched

The present device conducts hazardous voltages.
Touching live components can result in death or severe injury.
Observe the notes in the manuals of the corresponding converter.

⚠ 警告

接触带电部件会引发生命危险

本设备会传导危险电压。
接触带电部件可能会造成人员重伤，甚至是死亡。
务必遵循变频器手册中的说明。

⚠ Attention

Danger de mort en cas de contact avec des pièces sous tension

L'appareil présente des tensions électriques dangereuses.
Tout contact avec des parties sous tension peut entraîner la mort ou des blessures graves.
Respecter les consignes figurant dans les manuels du variateur concerné.

⚠ Advertencia

Peligro de muerte al tocar piezas bajo tensión

En el presente equipo hay aplicadas tensiones peligrosas.
Tocar piezas que están bajo tensión puede provocar lesiones corporales graves o incluso la muerte.
Respete las indicaciones que se especifican en los manuales del convertidor correspondiente.

⚠ Avvertenza

Pericolo di morte per contatto con parti sotto tensione

In questo apparecchio sono presenti tensioni pericolose.
Il contatto con parti sotto tensione può provocare la morte o gravi lesioni.
Attenersi alle avvertenze contenute nei manuali del rispettivo convertitore.

Dimension and drill patterns PM240-2, IP20

Frame size	Dimensions (mm)					Air flow distances (mm) ¹⁾		Fixings		Drill pattern (mm)		
	Height without shield plate	with shield plate	Width	Depth	Max. depth with CU and OP	Above	Below	Screw	Tightening torque (NM)	a	b	c
FSA	196	276	73	165	250	80	100	M4	2.5	186	62.3	6
FSB	292	370	100	165	250	80	100	M4	2.5	281	80	6
FSC	355	432	140	165	250	80	100	M5	3.5	343	120	6

¹⁾ The Power Modules can be mounted side-by-side. Due to tolerance reasons, we recommend a lateral distance of about 1 mm.

Mains, Motor and Brake terminals

The Power Modules are fitted with detachable terminals. It can be removed from the Power Module by pressing the release catch. The connectors are not interchangeable.

Tightening torques:
FSA: 0.5 Nm (4.5 lbf.in)
FSB: 0.6 Nm (5.5 lbf.in)
FSC: 1.3 Nm (12 lbf.in)

Cable cross sections
FSA: 1.5 ... 2.5 mm² 16 ... 14 AWG
FSB: 1.5 ... 6 mm² 16 ... 10 AWG
FSC: 6 ... 16 mm² 10 ... 6 AWG

Shielding methods

Air flow distances

Fitting CU to PM

Shield plate fitting PM240-2

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A 5 E 3 7 9 6 8 3 6 0

Feature	Specification
Line voltage	3 AC 380 V ... 480 V ± 10 % up to 2000 m installation altitude. 1 AC / 3 AC 200 V ... 240 V ± 10 % up to 2000 m installation altitude.
Output voltage	3 AC 0 V ... input voltage * 0.95
Input frequency	50 Hz ... 60 Hz, ± 3 Hz
Output frequency	0 Hz ... 550 Hz, depending on the control mode
Power factor λ	0.7 without line reactor; 0.85 with line reactor
Inrush current	< LO base load input current
Pulse frequency (factory setting)	4 kHz. Can be increased in 2 kHz steps up to 16 kHz. Increasing the pulse frequencies leads to an output current reduction.
Electromagnetic compatibility	Filtered devices comply with EN 61800-3 and are suitable for Category C2. For more details refer to the Hardware Installation Manual.
Braking methods	DC braking, Compound braking, Dynamic braking with integrated chopper plus external braking resistor
Environmental rating	Built-in units (open type equipment): IP20
Motor overload protection	This equipment is capable of providing internal motor overload protection according to UL61800-5-1. The protection level is 115%, 230% and 400% full load current of the equipment. This is adjusted via parameter P640 and assumes the equipment has had basic motor commissioning for the motor used as described in the documentation.
LO operating temperature ¹⁾	-10 °C ... 40 °C (14 °F ... 104 °F) without current derating / up to 60 °C (140 °F) with current derating
HO operating temperature ¹⁾	-10 °C ... 50 °C (14 °F ... 122 °F) without current derating / up to 60 °C (140 °F) with current derating
Storage temperature	- 40 °C ... + 70 °C (- 40 °F ... + 158 °F)
Installation altitude above sea level	Up to 1000 m (3300 ft) without derating/ Up to 4000 m (13000 ft) with derating
Humidity	< 95 % RH - non-condensing
Environmental conditions	Suitable for environmental class 3C2 according to IEC 60721-3-3 against damaging chemical substances
Pollution	For open type equipment according to pollution degree level 2. Protection against conductive pollutions required e.g. using an IP54 cabinet. For enclosed type equipment according to pollution degree level 3.
Shock and vibration	Transport in the transport packaging according to Class 2M3 of IEC 60721-3-2. See Hardware Installation Manual for further specifications.
Line impedance	200 V units: Uk ≥ 2 %, for lower values, a line reactor must be used. 400 V units: Uk ≥ 1 %, for lower values, a line reactor must be used.
Short Circuit Current Rating (SCCR)	Suitable for use on a circuit capable of delivering not more than 100 kA rms symmetrical amperes; 240/480 V AC maximum when protected by Class J fuses. Further suitable protective devices including the associated SCCR can be found in: https://support.industry.siemens.com/cs/ww/en/view/109801083

¹⁾ according to UL, operation with temperatures > 50 °C (122 °F) is not permitted at all

 **CAUTION - Cable cross-section for grounding:** The earth cable must be at least as big as the power cables.

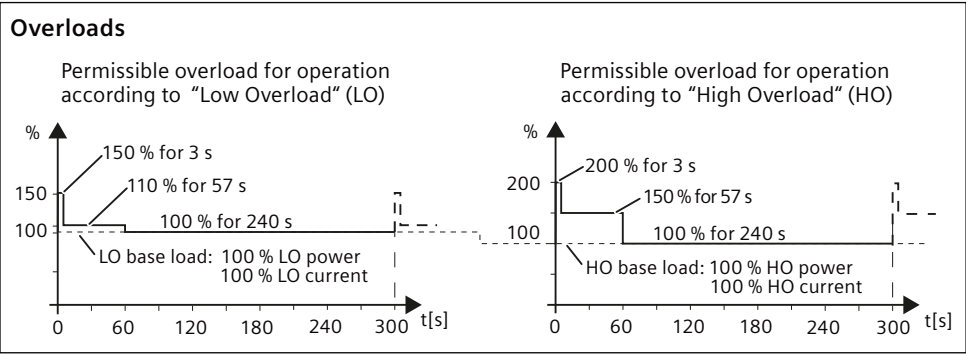
For United States / Canadian installations (UL/cUL): In order that the system is UL/cUL-compliant, use UL/cUL-certified J-type fuses. Use 75° C copper wire only.

Voltage	Maximum motor cable length					
	EMC C2			No EMC category		
	units with internal C2 filter	units with external C1 filter, without output reactor	units with external C1 filter, with output reactor	units without filter, without output reactor	units without filter, with output reactor	
	Shielded	Shielded	Shielded	Shielded/unshielded	Shielded	Unshielded
200 V	50 m	50 m	---	150 m	150 m	225 m
400 V	50 m ¹⁾	50 m ²⁾	150 m ³⁾	150 m	150 m ³⁾	225 m ⁴⁾

¹⁾ For a low-capacitance motor cable: FSB 100 m, FSC 150 m
²⁾ For a low-capacitance motor cable: FSA 150 m, FSB 100 m, FSC 100 m
³⁾ 150 m for voltages in the range 380 V ... 415 V,
100 m for voltages in the range 440 V ... 480 V
⁴⁾ 225 m for voltages in the range 380 V ... 415 V,
150 m for voltages in the range 440 V ... 480 V

Low values Power		Output current	High values Power		Output current	Rated (LO) input current	Frame Size	Order No. *)	Line fuses		
kW	hp	A	kW	hp	A	A			Siemens		UL, J-type
PM240-2, Built-in units, 3 AC 380 V ... 480 V											
0.55	0.75	1.7	0.37	0.50	1.3	2.3	FSA	6SL3210-1PE11-8_L1	3NA3803	(10 A)	10 A
0.75	1.00	2.2	0.55	0.75	1.7	2.9	FSA	6SL3210-1PE12-3_L1	3NA3803	(10 A)	10 A
1.10	1.50	3.1	0.75	1.00	2.2	4.1	FSA	6SL3210-1PE13-2_L1	3NA3805	(16 A)	15 A
1.50	2.00	4.1	1.10	1.50	3.1	5.5	FSA	6SL3210-1PE14-3_L1	3NA3805	(16 A)	15 A
2.20	3.00	5.9	1.50	2.00	4.1	7.7	FSA	6SL3210-1PE16-1_L1	3NA3805	(16 A)	15 A
3.00	4.00	7.7	2.20	3.00	5.9	10.1	FSA	6SL3210-1PE18-0_L1	3NA3805	(16 A)	15 A
4.00	5.00	10.2	3.00	4.00	7.7	13.3	FSB	6SL3210-1PE21-1_L0	3NA3812	(32 A)	35 A
5.50	7.50	13.2	4.00	5.00	10.2	17.2	FSB	6SL3210-1PE21-4_L0	3NA3812	(32 A)	35 A
7.50	10.00	18.0	5.50	7.50	13.2	22.2	FSB	6SL3210-1PE21-8_L0	3NA3812	(32 A)	35 A
11.00	15.00	26.0	7.50	10.00	18.0	32.6	FSC	6SL3210-1PE22-7_L0	3NA3820	(50 A)	50 A
15.00	20.00	32.0	11.00	15.00	26.0	39.9	FSC	6SL3210-1PE23-3_L0	3NA3820	(50 A)	50 A
PM240-2, Built-in units, 1 AC/3 AC 200 V ... 240 V											
0.55	0.75	3.2	0.37	0.50	2.3	7.5(1 AC)/4.2(3 AC)	FSA	6SL3210-1PB13-0_L0	3NA3805	(16 A)	15 A
0.75	1.00	4.2	0.55	0.75	3.2	9.6(1 AC)/5.5(3 AC)	FSA	6SL3210-1PB13-8_L0	3NA3805	(16 A)	15 A
1.10	1.50	6	0.75	1.00	4.2	13.5(1 AC)/7.8(3 AC)	FSB	6SL3210-1PB15-5_L0	3NA3812	(32 A)	35 A
1.50	2.00	7.4	1.10	1.50	6	18.1(1 AC)/9.7(3 AC)	FSB	6SL3210-1PB17-4_L0	3NA3812	(32 A)	35 A
2.20	3.00	10.4	1.50	2.00	7.4	24.0(1 AC)/13.6(3 AC)	FSB	6SL3210-1PB21-0_L0	3NA3812	(32 A)	35 A
3.00	4.00	13.6	2.20	3.00	10.4	35.9(1 AC)/17.7(3 AC)	FSC	6SL3210-1PB21-4_L0	3NA3820	(50 A)	50 A
4.00	5.00	17.5	3.00	4.00	13.6	43.0(1 AC)/22.8(3 AC)	FSC	6SL3210-1PB21-8_L0	3NA3820	(50 A)	50 A
PM240-2, Built-in units, 3 AC 200 V ... 240 V											
5.50	7.50	22.0	4.00	5.00	17.5	28.6	FSC	6SL3210-1PC22-2_L0	3NA3820	(50 A)	50 A
7.50	10.00	28.0	5.50	7.50	22.0	36.4	FSC	6SL3210-1PC22-8_L0	3NA3820	(50 A)	50 A

*) _: A = filtered unit, U = unfiltered unit



Data regarding the power loss in accordance with Ecodesign Regulation (EU) 2019/1781 and IEC 61800-9-2

You can find data regarding power loss of our products on the Internet:

<https://support.industry.siemens.com/cs/ww/en/view/94059311>



Declaration of Conformity:

The Declaration of Conformity can be found at the following link:

<https://support.industry.siemens.com/cs/ww/en/ps/13225/cert>



... or follow the link:

<https://support.industry.siemens.com/cs/ww/en/ps/13224/man>

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