6.2.3 Cable cross–sections that can be connected

The cable cross–sections that can be connected are listed in Table 6-3:

Table 6-3 Cable cross–sections that can be connected at the infeed module (line supply connection)

MLFB		Connection cross–section [mm²]													1)	2)
		1,5	2,5	4	6	10	16	25	35	50	70	95	120	150		[Nm]
6SN1143–1BB00–0FA□	120 kW													X	M6	25...30
6SN1143–1BB00–0EA□	80 kW											X			M6	15...20
6SN1145–1BA01–0DA□	55 kW											X			M6	15...20
6SN1145–1BB00–0DA□	55 kW											X			M6	15...20
6SN1145–1BA02–0CA□	36 kW									X					M6	6...8
6SN1145–1BA01–0BA□	16 kW					X									M5	1,5...1,8
6SN114□–1A□01–0BA□	28 kW									X					M6	6...8
6SN1145–1AA01–0AA□	10 kW					X									M5	1,5...1,8
6SN1146–1AB00–0BA□	5 kW	X	X	X	X										M5	0,7...0,8
Key		Terminal area for flexible cable with end sleeves (with or without plastic collars)														
		Terminal area for flexible cables with terminal pin														
	X	IP20 is guaranteed when correctly used, e.g. insulated pin–type cable lugs														

1) Size of the screw for the protective conductor connection

2) Tightening torque of the terminals or connectors

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Supply voltage and frequency

Switches S1.1 and S1.4 (see Chapter 6.3) are used to adapt the line infeed modules to the prevailing line supply conditions.

The converter system is designed for operation on grounded line supplies TN–S and TN–C (IEC 60364–1 VDE 0100–300). For other line supply types, a transformer with separate windings in vector group yn on the secondary side must be connected upstream (refer to Chapter 7 for the dimensioning).

Table 6-8 Supply voltage and frequency

NE-Module	S1.1, S1.4 = OFF Un = 3AC 400 V	S1.1 = ON Un = 3AC 415 V	S1.4 = ON Un = 3AC 480 V
Line voltage: U1, V1, W1	3AC 400 V ± 10%	3AC 415 V ± 10%	3AC 480 V + 6% –10%
With derating P_{rated} and P_{max} 1)	3AC 380 V ± 15%		
DC link voltage	DC 600 V	DC 625 V	DC 580...710 V
Frequency	45...65 Hz		55...65 Hz

1) See Table 6-9, Technical data I/R modules
This means that the operational reliability is increased even when connected to weak line supplies!

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Table 6-9 Technical specifications, I/R modules

Internal cooling **External cooling** **Hose cooling**	**6SN11 45-** **6SN11 46-** **6SN11 45-**	**1BA0□-0BA□** **1BB0□-0BA□** **-**	**1BA0□-0CA□** **1BB0□-0CA□** **-**	**1BA0□-0DA□** **1BB0□-0DA□** **1BB0□-0DA□**	**1BB0□-0EA□** **1BB0□-0EA□** **1BB0□-0EA□**	**1BB0□-0FA□** **1BB0□-0FA□** **1BB0□-0FA□**
Infeed/regenerative feedback Rated power (S1) S6 power Peak power (400 V)	 kW kW kW	 16 21 35	 36 47 70	 55 71 91	2) 80 104 131	2) 120 156 175
Sinusoidal operation input currents (AC_{RMS})	Use for dimensioning the installation, not for calculating the power!					
Rated current (400 V)	A_{rms}	27	60.5	92.5	134	202
Squarewave operation input currents (AC_{RMS})	Use for dimensioning the installation, not for calculating the power!					
Rated current (400 V)	A_{rms}	30	67	102	149	223
	Use for dimensioning the installation, not for calculating the power! (calculated)					
Rated current (400 V) unregulated operation	A_{rms}	33	74	114	165	248
Connection data Voltage (power)	 V_{rms}	refer to Chapter 6.4.1, Table 6-8				
Voltage (electronics)	V	refer to Chapter 6.4.1, Table 6-8				
Power supply	V_{rms}	At the DC link with 600/625/680 V DC or supplied in parallel, AC and DC connection or DC connection only.				
Frequency	Hz	50 to 60 ±10%				
Connection cross–section	mm^2	Max. 16	Max. 50	Max. 95	Max. 95	Max. 150
Output voltage	V	regulated: 600/625; unregulated: 490...680 (line supply–dependent)				
Module width	mm	100	200	300	300	300
Type of cooling Internal cooling (volumetric flow rate)	 m^3/h	 Fan 56	 Fan 112	 Fan 112	 Built–on fan 400 3)	 Built–on fan 1) 400 3)
External cooling 1)		Fan	Fan	Mounting frame (Bestell-Nr. 6SN1162–0BA04–0EA□) with fan assembly and built–on fan (6SN1162–0BA02–0AA2		
Hose cooling		–	–	Kit for hose cooling with fan		
Losses Internal cooling External cooling Hose cooling	 W W (int./ext.) W (int./ext.)	 320 50/270 –	 585 50/535 –	 745 115/630 115/630	 1280 190/1090 190/1090	 1950 290/1660 290/1660
Efficiency η		0.97	0.97	0.97	0.97	0.97
Weight Internal cooling External cooling Hose cooling	 kg kg kg	 10.5 10.5 –	 15.5 15.5 –	 26 26 26	 26 26 26	 29 29 29

1) For a module width of 300 mm with external cooling, mounting frames are required that must be ordered separately. The fan assembly required to mount the built–on fan is included in the scope of supply of the mounting frame. The built–on fan must be ordered separately! Mounting frames are also available for smaller module widths. However, these are not required if openings are cut out in the rear cabinet panel for the module heatsinks as shown in this Configuration Manual.
2) External power supply for main contactor control required (see Chapter 6.2.5).
3)) Must be separately ordered: Mounted fan, 6SN1162–0BA02–0AA2
4) See the diagram with pipe cooling in Chapter 2.7.1, Fig. 2-7

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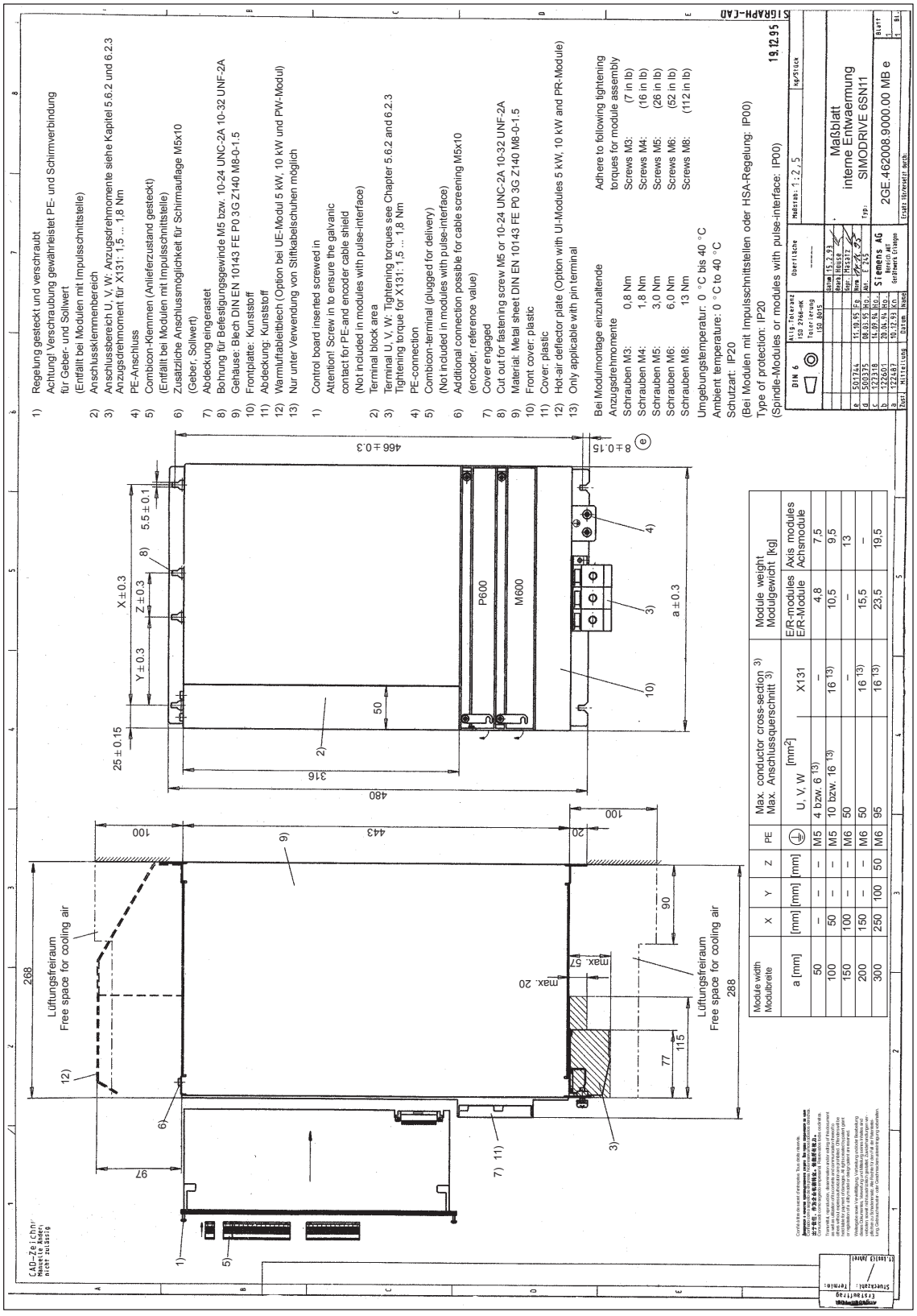


Fig. 12-22 Internal cooling, module width 50/100/150/200/300 mm

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611D Control (High Performance)	6SN1118-0DK23-0AA1	CONTROL UNIT
611D Control (High Performance)	6SN1118-0DK23-0AA2	CONTROL UNIT
611D Control	6SN1118-0DM11-0AA1	CONTROL UNIT
611D Control	6SN1118-0DM13-0AA1	CONTROL UNIT
611D Control	6SN1118-0DM21-0AA0	CONTROL UNIT
611D Control	6SN1118-0DM23-0AA0	CONTROL UNIT
611D Control	6SN1118-0DM31-0AA1	CONTROL UNIT
611D Control	6SN1118-0DM31-0AA2	CONTROL UNIT
611D Control	6SN1118-0DM33-0AA1	CONTROL UNIT
611D Control	6SN1118-0DM33-0AA2	CONTROL UNIT
611U Control	6SN1118-0NH01-0AA1	CONTROL UNIT
611U Control	6SN1118-0NH11-0AA1	CONTROL UNIT
611U Control	6SN1118-0NJ01-0AA1	CONTROL UNIT
611U Control	6SN1118-0NJ01-0AA2	CONTROL UNIT
611U Control	6SN1118-0NK01-0AA1	CONTROL UNIT
611U Control	6SN1118-0NK01-0AA2	CONTROL UNIT
611U Control	6SN1118-1NH01-0AA1	CONTROL UNIT
611U Control	6SN1118-1NJ01-0AA1	CONTROL UNIT
611U Control	6SN1118-1NJ01-0AA2	CONTROL UNIT
611U Control	6SN1118-1NK01-0AA1	CONTROL UNIT
611U Control	6SN1118-1NK01-0AA2	CONTROL UNIT
611A Control	6SN1121-0BA11-0AA1	CONTROL UNIT
611A Control	6SN1122-0BA11-0AA1	CONTROL UNIT
611A/D Line Module 28kW	6SN1145-1AA00-0CA0	CONVERTER
611A/D Line Module 10kW	6SN1145-1AA01-0AA2	CONVERTER
611A/D Line Module 16kW	6SN1145-1BA01-0BA2	CONVERTER
611A/D Line Module 55kW	6SN1145-1BA01-0DA1	CONVERTER
611A/D Line Module 36kW	6SN1145-1BA02-0CA2	CONVERTER
611A/D Line Module 55kW	6SN1145-1BB00-0DA1	CONVERTER
611A/D Line Module 80kW	6SN1145-1BB00-0EA1	CONVERTER
611A/D Line Module 120kW	6SN1145-1BB00-0FA1	CONVERTER
611A/D Line Module 5kW	6SN1146-1AB00-0BA1	CONVERTER
611A/D Line Module 28kW	6SN1146-1AB00-0CA0	CONVERTER
611A/D Line Module 55kW	6SN1146-1BB00-0DA1	CONVERTER
611A/D Line Module 80kW	6SN1146-1BB00-0EA1	CONVERTER
611A/D Line Module 120kW	6SN1146-1BB00-0FA1	CONVERTER
611A/D Line Module 16kW	6SN1146-1BB01-0BA2	CONVERTER
611A/D Line Module 36kW	6SN1146-1BB02-0CA2	CONVERTER

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Anhang EMV
Appendix EMC

zur EU-Konformitätserklärung
to EU-Declaration of Conformity

Nr. / No. 664.MENRo.I.02.1801.004

Produktfamilie: **SIMODRIVE**
Product family:

Die Übereinstimmung der bezeichneten Produkte mit den Vorschriften der Richtlinie 2014/30/EU wird nachgewiesen durch die vollständige Einhaltung folgender Normen.
Conformity of the products designated below with the regulations of Directive 2014/30/EU is verified by adherence to the following standards.

Harmonisierte Europäische Normen:
Harmonized European Standards:

Referenznummer	Ausgabedatum
Reference number	*Edition*
EN 61800-3	**2004+A1:2012**

Die Installationshinweise gemäß Handbuch sind zu beachten.
The installation instructions according to the manual have to be followed.

Die Produktfamilie, für die die CE-Kennzeichnung bzgl. 2014/30/EU gilt, besteht aus folgenden Komponenten:
The product family to which the CE marking applies with respect to 2014/30/EU consists of the following components:

Bezeichnung *Denomination*	**Bestell-Nr.** *Order No.*	**Beschreibung** *Description*
611 Pulse Resistor (25kW)	6SN1113-1AA00-0DA0	BRAKING RESISTOR
611 Pulse Resistor (25kW)	6SN1113-1AB01-0BA1	BRAKING RESISTOR
611A Feed Module	6SN1114-0AA01-0AA0	CONTROL MODULE
611A Feed Module	6SN1114-0AA01-0BA0	CONTROL MODULE
611A Feed Module	6SN1114-0AA02-0AA0	CONTROL MODULE
611 I/O-Module (8IN/8OUT)	6SN1114-0NA00-0AA0	I/O-MODULE
611 PROFIBUS MODULE	6SN1114-0NB00-0AA2	COMMUNICATION
611 PROFIBUS MODULE	6SN1114-0NB01-0AA1	COMMUNICATION
611D Amplifier	6SN1115-0AA12-0AA0	OPTION MODULE
611D Control	6SN1115-0BA11-0AA1	CONTROL UNIT
611A Control	6SN1118-0AA11-0AA1	CONTROL UNIT
611A Control	6SN1118-0AD11-0AA1	CONTROL UNIT
611A Control	6SN1118-0AE11-0AA1	CONTROL UNIT
611D Control	6SN1118-0DG21-0AA1	CONTROL UNIT
611D Control	6SN1118-0DG22-0AA1	CONTROL UNIT
611D Control	6SN1118-0DG23-0AA1	CONTROL UNIT
611D Control	6SN1118-0DH21-0AA1	CONTROL UNIT
611D Control	6SN1118-0DH22-0AA1	CONTROL UNIT
611D Control	6SN1118-0DH23-0AA1	CONTROL UNIT
611D Control (High Performance)	6SN1118-0DJ21-0AA1	CONTROL UNIT
611D Control (High Performance)	6SN1118-0DJ21-0AA2	CONTROL UNIT
611D Control (High Performance)	6SN1118-0DJ23-0AA1	CONTROL UNIT
611D Control (High Performance)	6SN1118-0DJ23-0AA2	CONTROL UNIT