

# SIMOREG 6RA70 DC MASTER

## Technical Data



### Converters for four-quadrant operation

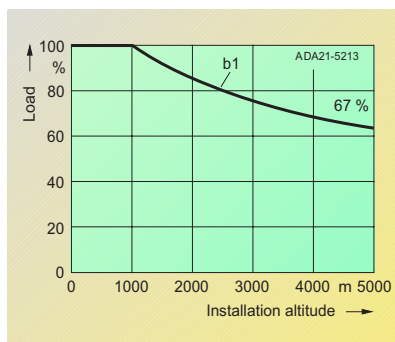
#### 3-ph. AC 830 V, 950 A to 1900 A, 4Q and 3-ph. AC 950 V, 2200 A, 4Q

Type	6RA70□□-6LV62-0	6RA70□□-4LV62-0	6RA70□□-4MV62-0
<b>Rated supply voltage armature<sup>1)</sup></b>	<b>V</b> 3-ph. AC 830 (+10% / -20%)	<b>88</b>	<b>93</b> <b>95</b> <b>96</b>
<b>Rated input current armature<sup>2)</sup></b>	<b>A</b> 788	1244	1575   1824
<b>Rated supply voltage electronics supply</b>	<b>V</b> 2-ph. AC 380 (-25%) to 460 (+15%); $I_n=1$ A or 1-ph. AC 190 (-25%) to 230 (+15%); $I_n=2$ A (-35% for 1 min)		
<b>Rated supply voltage fan</b>	<b>V</b> 3-ph. AC 400 (±10%) 50 Hz 3-ph. AC 460 (±10%) 60 Hz	3-ph. AC 400 (±10%) 50 Hz 3-ph. AC 460 (±10%) 60 Hz	
<b>Nominal fan current</b>	<b>A</b> 1.0 <sup>8)</sup>	1.25 <sup>8)</sup>	1.0 <sup>8)</sup> 1.25 <sup>8)</sup>
<b>Air flow rate</b>	<b>m<sup>3</sup>/h</b> 1300	1300	2400   2400
<b>Fan noise level</b>	<b>dBA</b> 83	87	83   87
<b>Rated supply voltage field<sup>1)</sup></b>	<b>V</b> 2-ph. AC 460 (+15% / -20%)		
<b>Rated frequency</b>	<b>Hz</b> 45 to 65 <sup>9)</sup>		
<b>Rated DC voltage<sup>1)</sup></b>	<b>V</b> 875	1000	
<b>Rated DC current</b>	<b>A</b> <b>950</b>	<b>1500</b>	<b>1900</b> <b>2200</b>
<b>Overload capability<sup>5)</sup></b>	Max. 1.8 times rated DC current		
<b>Rated output</b>	<b>kW</b> 831	1313	1663   2200
<b>Power loss at rated DC current (approx.)</b>	<b>W</b> 4870	7153	8700   11370
<b>Rated DC voltage field<sup>1)</sup></b>	<b>V</b> Max. 375		
<b>Rated DC current field</b>	<b>A</b> <b>30</b>	<b>40</b>	<b>85</b>
<b>Operational ambient temperature</b>	<b>°C</b> 0 to 40 at $I_{rated}$ <sup>3)</sup> separately cooled		
<b>Storage and transport temperature</b>	<b>°C</b> -25 to +70		
<b>Installation altitude above sea level</b>	≤ 1000 m at rated DC current <sup>4)</sup>		
<b>Dimensions (H x W x D)</b>	<b>mm</b> 780 x 410 x 362	880 x 450 x 500	
<b>See dimension drawing on Page</b>	9/9		9/10
<b>Weight (approx.)</b>	<b>kg</b> 85	145	

- The armature/field supply voltage can be less than the rated supply voltage armature/field (set with Parameter P078; for converters with 400 V rated voltage, input voltages of up to 85 V are permissible). The output voltage is reduced accordingly. The specified output DC voltage can be guaranteed up to undervoltages 5 % below the supply voltage (rated supply voltage armature/field).
- Values apply to output rated DC current.
- Load factor K1 (DC current) as a function of the coolant temperature (see P077 Operating Instructions, Section 11).  
K1 > 1 only permissible where  $K1 * K2 \leq 1st.$  overall reduction factor  $K = K1 * K2$  (for K2 see Footnote 4).

Ambient or coolant temperature	Load factor K1	
	In devices with self-cooling	In devices with enhanced cooling
≤ +30 °C	1.18	1.10
+35 °C	1.12	1.05
+40 °C	1.06	1.00
+45 °C	1.00	0.95
+50 °C	0.94	0.90 <sup>a)</sup>
+55 °C	0.88	
+60 °C	0.82 <sup>b)</sup>	

- In spite of derating, converters of ≥ 400 A with enhanced cooling may be operated at an ambient or coolant temperature of 50 °C **only** if the rated supply voltage of the converter fan is safely within the limited tolerance range of 400 V +10% -15%.
- Not permissible when T400 or OP1S are used.
- Load values K2 as a function of the installation altitude (see P077 Operating Instructions, Section 11). Overall reduction factor  $K = K1 * K2$  (for K1 see Footnote 3).



Curve b1: Reduction factor of load values (DC current) at installation altitudes above 1000 m.

Installation altitude m	1000	2000	3000	4000	5000
	Reduction factor K2	1.0	0.835	0.74	0.71

The supply voltages for all electric circuits are possible for site altitudes up to 5000 m with basic insulation, with the exception of converters for rated supply voltages:

Installation altitude	Rated supply voltage	
	830 V	950 V
up to 4000 m	max. 830 V	950 V
up to 4500 m	max. 795 V	933 V
up to 5000 m	max. 727 V	881 V

- See Section 5.
- For UL systems, a Siemens motor protection circuit-breaker Type 3RV1011-0KA1 or 3RV1011-1AA1, adjusted to 1.25 A for the fan motor Type RH28M-2DK.3F.1R must be installed in 6RA7090, 6RA7091, 6RA7093 and 6RA7095 converters with a rated voltage of 400 V or 575 V.
- Operation in the extended frequency range of 23 Hz to 110 Hz is possible on request.