

Technical data

MICROMASTER 430 inverter

Mains voltage and Power ranges		3 AC 380 V to 480 V ± 10 %	7.5 kW to 250 kW (variable torque)				
Power frequency		47 Hz to 63 Hz					
Output frequency	7.5 kW to 90 kW 110 kW to 250 kW	0 Hz to 650 Hz 0 Hz to 267 Hz					
Power factor		≥ 0.95					
Inverter efficiency		7.5 kW to 90 kW 96 % to 97 % 110 kW to 250 kW 97 % to 98 % (Further information is available on the Internet at: http://support.automation.siemens.com/WW/view/en/22978972)					
Overload capability	7.5 kW to 90 kW 110 kW to 250 kW	Overload current 1.4 x rated output current (i.e. +140 % overload capability) for 3 s, and 1.1 x rated output current (i.e. 110 % overload capability) for 60 s, cycle time 300 s Overload current 1.5 x rated output current (i.e. 150 % overload capability) for 1 s and 1.1 x rated output current (i.e. 110 % overload capability) for 60 s, cycle time 300 s					
Inrush current		Less than rated input current					
Control method		Linear V/f characteristic; quadratic V/f characteristic; multipoint characteristic (programmable V/f characteristic); flux current control (FCC), energy saving mode					
Pulse frequency	7.5 kW to 90 kW 110 kW to 250 kW	4 kHz (standard) 2 kHz to 16 kHz (in 2 kHz steps) 2 kHz (standard) 2 kHz to 4 kHz (in 2 kHz steps)					
Fixed frequencies		15, programmable					
Skip frequency ranges		4, programmable					
Setpoint resolution		0.01 Hz digital; 0.01 Hz serial; 10 bit analog					
Digital inputs		6 fully programmable isolated digital inputs; switchable PNP/NPN					
Analog inputs		2 programmable analog inputs • 0 V to 10 V, 0 mA to 20 mA and –10 V to +10 V (AIN1) • 0 V to 10 V and 0 mA to 20 mA (AIN2) • both can be used as 7th/8th digital input					
Relay outputs		3, programmable, 30 V DC/5 A (resistive load); 250 V AC/2A (inductive load)					
Analog outputs		2, programmable (0/4 mA to 20 mA)					
Serial interfaces		RS-485, optional RS-232					
Motor cable length	7.5 kW to 90 kW without output choke with output choke 110 kW to 250 kW without output choke with output choke	max. 50 m (shielded); max. 100 m (unshielded) see variant dependent options max. 200 m (shielded); max. 300 m (unshielded) see variant dependent options					
Electromagnetic compatibility		7.5 kW to 90 kW Inverter with internal filter Class A available For inverters without filter 7.5 kW to 15 kW EMC filter, Class B to EN 55 011 available as an option 18.5 kW to 90 kW EMC filter, Class B from Schaffner available as an option 110 kW to 250 kW EMC filter, Class A available as an option					
Braking		DC braking, compound braking					
Degree of protection		IP20					
Operating temperature range		7.5 kW to 90 kW –10 °C to +40 °C (+14 °F to +104 °F) 110 kW to 250 kW 0 °C to +40 °C (+32 °F to +104 °F)					
Storage temperature		–40 °C to +70 °C (–40 °F to +158 °F)					
Relative humidity		95 % (non-condensing)					
Installation altitude	7.5 kW to 90 kW 110 kW to 250 kW	Up to 1000 m above sea level without derating Up to 2000 m above sea level without derating					
Standard SCCR (Short Circuit Current Rating) ¹⁾		FSC: 10 kA FSD, FSE, FSF, FSFX, FSGX: 65 kA					
Protection features for		undervoltage, overvoltage, overload, earth faults, short-circuits, stall prevention, locked motor protection, motor overtemperature, inverter overtemperature, parameter change protection					
Conformity with standards		7.5 kW to 90 kW  ,  ,  , c-tick  110 kW to 250 kW  available soon,  available soon, 					
CE marking		Conformity with low-voltage directive 73/23/EEC					
Cooling-air volumetric flow required, dimensions and weights (without options)		Frame size (FS)	Cooling-air volumetric flow required (l/s)/(CFM)	H	x W	x D (mm)	Weight, approx. (kg)
		C	54.9/116.3	245	x 185	x 195	5.7
		D	2 x 54.9/2 x 116.3	520	x 275	x 245	17
		E	2 x 54.9/2 x 116.3	650	x 275	x 245	22
		F without filter	150/317.79	850	x 350	x 320	56
		F with filter	150/317.79	1150	x 350	x 320	75
		FX	225/478.13	1400	x 326	x 356	116
		GX	440/935	1533	x 326	x 545	174

1) For footnote, see page 2.

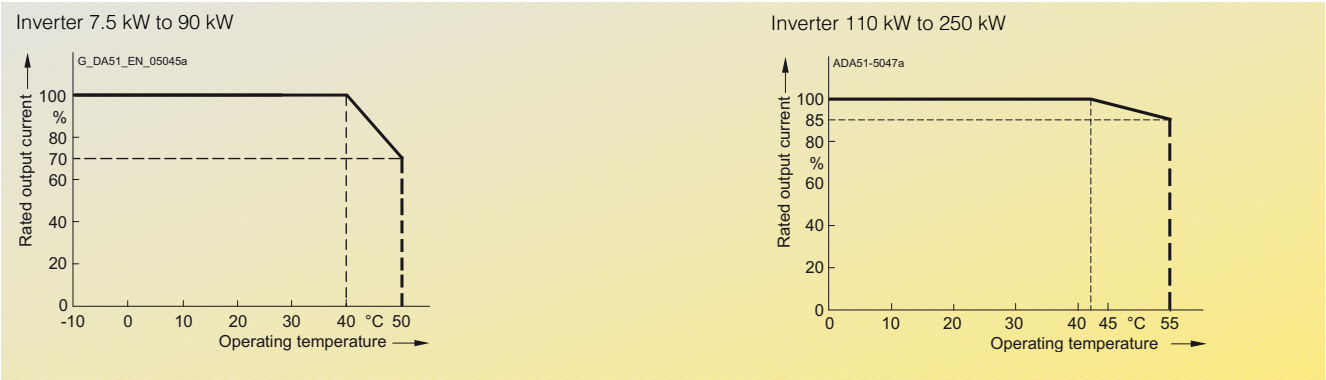
CFM: Cubic Feet per Minute

Derating data

Pulse frequency

Output (for 3 AC 400 V) kW	Rated output current in A for a pulse frequency of							
	2 kHz	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
7.5	19.0	19.0	17.1	15.2	13.3	11.4	9.5	7.6
11.0	26.0	26.0	24.7	23.4	20.8	18.2	15.6	13.0
15.0	32.0	32.0	28.8	25.6	22.4	19.2	16.0	12.8
18.5	38.0	38.0	36.1	34.2	30.4	26.6	22.8	19.0
22	45.0	45.0	40.5	36.0	31.5	27.0	22.5	18.0
30	62.0	62.0	55.8	49.6	43.4	37.2	31.0	24.8
37	75.0	75.0	71.3	67.5	60.0	52.5	45.0	37.5
45	90.0	90.0	81.0	72.0	63.0	54.0	45.0	36.0
55	110.0	110.0	93.5	77.0	63.3	49.5	41.3	33.0
75	145.0	145.0	123.3	101.5	83.4	65.3	54.4	43.5
90	178.0	178.0	138.0	97.9	84.6	71.2	62.3	53.4
110	205.0	180.4	–	–	–	–	–	–
132	250.0	220.0	–	–	–	–	–	–
160	302.0	265.8	–	–	–	–	–	–
200	370.0	325.6	–	–	–	–	–	–
250	477.0	419.8	–	–	–	–	–	–

Operating temperature



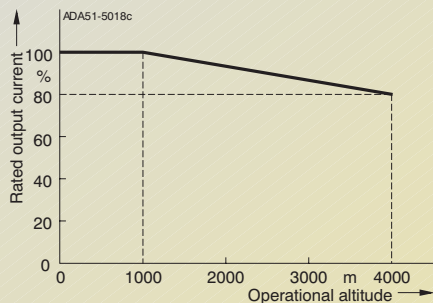
1) Applies to industrial control cabinet installations to NEC article 409/UL 508A.

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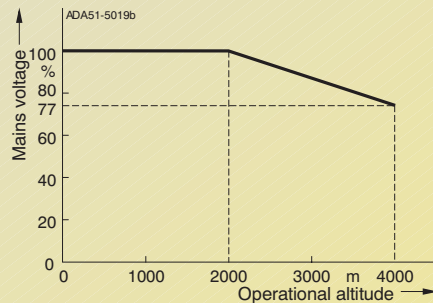
Derating data (continued)

Installation altitude above sea level

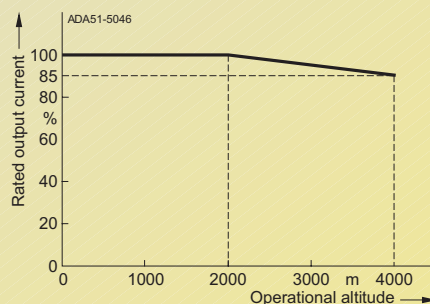
Permissible output current
in % of the rated output current
Inverter 7.5 kW to 90 kW



Permissible mains voltage
in % of the max. possible mains voltage
Inverter 7.5 kW to 90 kW



Inverter 110 kW to 250 kW



Inverter 110 kW to 250 kW

