

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 (Due to legal restrictions a limitation to 550 Hz is under preparation) 0 Hz to 267 Hz				
Power factor		≥ 0.95				
Inverter efficiency		96 % to 97 % 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	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				
	110 kW to 250 kW	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	4 kHz (standard) 2 kHz to 16 kHz (in 2 kHz steps)				
	110 kW to 250 kW	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	max. 50 m (shielded); max. 100 m (unshielded) see variant dependent options				
	110 kW to 250 kW without output choke with output choke	max. 200 m (shielded); max. 300 m (unshielded) see variant dependent options				
Electromagnetic compatibility		Inverter with internal filter Class A available				
	7.5 kW to 90 kW For inverters without filter	EMC filter, Class B to EN 55 011 available as an option				
	7.5 kW to 15 kW	EMC filter, Class B from Schaffner 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		–10 °C to +40 °C (+14 °F to +104 °F) 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	Up to 1000 m above sea level without derating				
	110 kW to 250 kW	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 110 kW to 250 kW				
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 3/7.

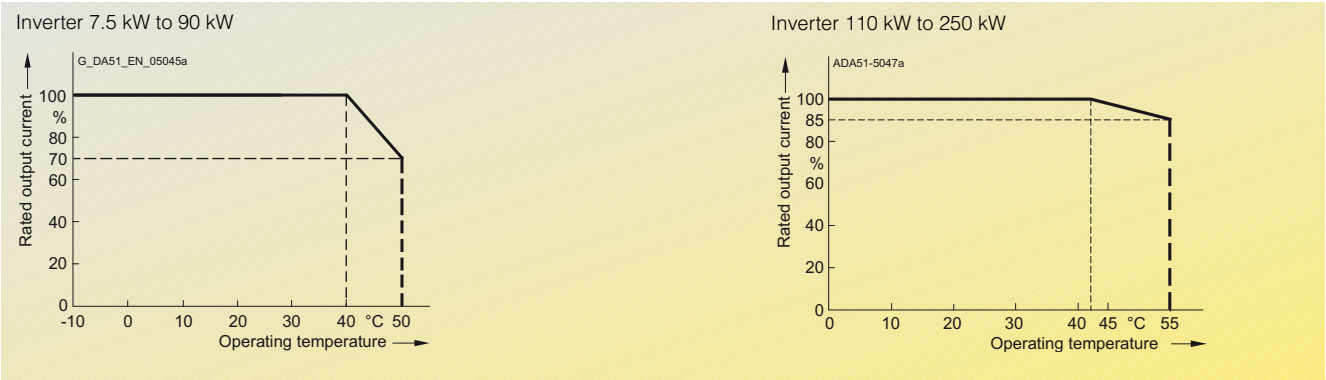
CFM: Cubic Feet per Minute

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



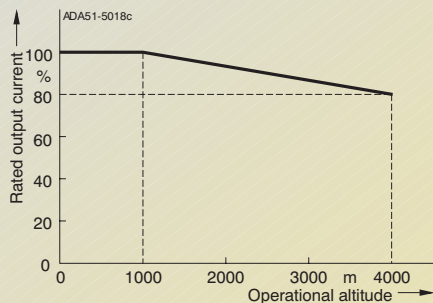
1) Applies to industrial control cabinet installations to NEC article 409/UL 508A.

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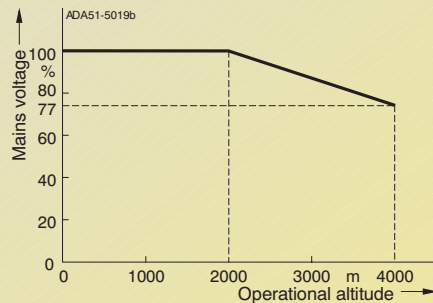
Derating data (continued)

Installation altitude above sea level

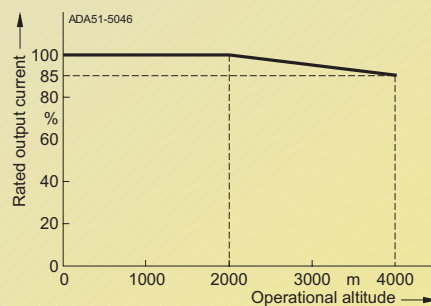
Permissible output current
in % of the rated output current
Inverter 7.5 kW to 90 kW



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

