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 110 kW to 250 kW	96 % to 97 % 97 % to 98 %
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 without 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 For inverters without filter 7.5 kW to 15 kW 18.5 kW to 90 kW 110 kW to 250 kW	Inverter with internal filter Class A available EMC filter, Class B to EN 55 011 available as an option EMC filter, Class B from Schaffner available as an option 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 110 kW to 250 kW	–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 110 kW to 250 kW	Up to 1000 m above sea level without derating Up to 2000 m above sea level without derating
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	cULus, cULus, CE, c-tick cULus available soon, cULus available soon, CE
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	150/317.19	850 x 350 x 320	56
F with filter	150/317.19	1150 x 350 x 320	75
FX	225/478.13	1400 x 326 x 356	116
GX	440/935	1533 x 326 x 545	176

CFM: Cubic Feet per Minute

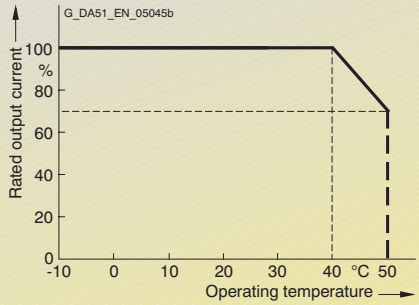
Derating data

Pulse frequency

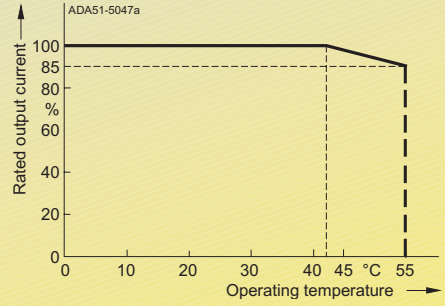
Output (for 3 AC 400 V)	**Rated output current in A** for a pulse frequency of							
kW	2 kHz	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
7.5	19.0	19.0	17.1	15.2	13.3	11.4	9.5	7.6
11.0	26.0	26.0	24.7	23.4	20.8	18.2	15.6	13.0
15.0	32.0	32.0	28.8	25.6	22.4	19.2	16.0	12.8
18.5	38.0	38.0	36.1	34.2	30.4	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

Inverter 7.5 kW to 90 kW



Inverter 110 kW to 250 kW



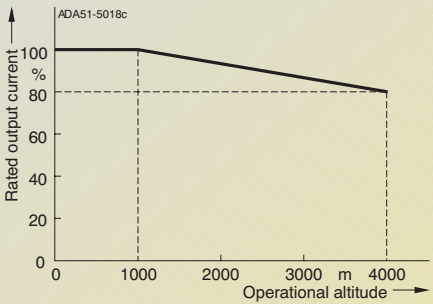
Technical data

Derating data (continued)

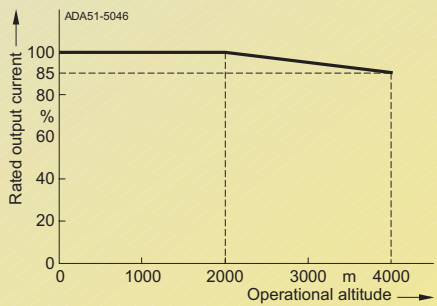
Installation height above sea level

Permissible output current
in % of the rated output current

Inverter 7.5 kW to 90 kW

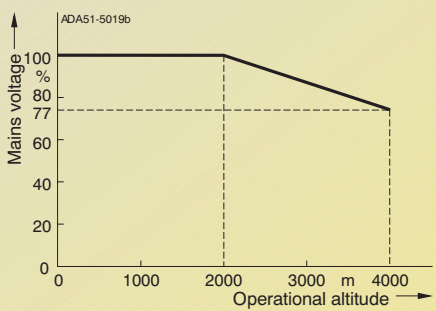


Inverter 110 kW to 250 kW



Permissible mains voltage
in % of the max. possible mains voltage

Inverter 7.5 kW to 90 kW



Inverter 110 kW to 250 kW