

MICROMASTER 440

Technical data

MICROMASTER 440 inverter

Mains voltage and power ranges		CT (constant torque) 0.12 kW to 3 kW 0.12 kW to 45 kW 0.37 kW to 200 kW 0.75 kW to 75 kW	VT (variable torque) – 5.5 kW to 55 kW 7.5 kW to 250 kW 1.5 kW to 90 kW
Input frequency		47 Hz to 63 Hz	
Output frequency	0.12 kW to 75 kW 90 kW to 200 kW	0 Hz to 650 Hz (in V/f mode) 0 Hz to 267 Hz (in V/f mode)	0 Hz to 200 Hz (in vector mode) 0 Hz to 200 Hz (in vector mode)
Power factor		≥ 0.95	
Inverter efficiency		0.12 kW to 75 kW: 96 % to 97 %; 90 kW to 200 kW: 97 % to 98 %	
Overload capability		Overload current 1.5 x rated output current (i.e. 150 % overload capability) for 60 s, cycle time 300 s and 2 x rated output current (i.e. 200 % overload capability) for 3 s, cycle time 300 s	
– CT mode	0.12 kW to 75 kW 90 kW to 200 kW	Overload current 1.36 x rated output current (i.e. 136 % overload capability) for 57 s, cycle time 300 s and 1.6 x rated output current (i.e. 160 % overload capability) for 3 s, cycle time 300 s	
– VT mode	5.5 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 59 s, cycle time 300 s	
Inrush current		not higher than rated input current	
Control method		Vector control, torque control, linear V/f characteristic; quadratic V/f characteristic; Multipoint characteristic (programmable V/f characteristic); flux current control (FCC)	
Pulse frequency	0.12 kW to 75 kW 90 kW to 200 kW	4 kHz (standard); 16 kHz (standard with 230 V inverters 0.12 kW to 5.5 kW) 2 kHz to 16 kHz (in 2 kHz steps) 2 kHz (standard with VT mode); 4 kHz (standard with CT mode) 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 lengths	0.12 – 75 kW 90 – 250 kW	without output choke max. 50 m (shielded), max. 100 m (unshielded) max. 100 m (shielded), max. 150 m (unshielded) with output choke see variant dependent options	
Electromagnetic compatibility (see Selection and Ordering Data)		EMC filter, Class A or Class B to EN 55 011 available as an option Inverter with internal filter Class A available	
Braking		Resistance braking with DC braking, compound braking, integrated brake chopper (integrated brake chopper only with 0.12 kW to 75 kW inverters)	
Degree of protection		IP20	
Operating temperature (without derating)	0.12 kW to 75 kW 90 kW to 200 kW	CT: –10 °C to +50 °C (+14 °F to +122 °F) VT: –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	0.12 kW to 75 kW 90 kW to 200 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 over-temperature, inverter overtemperature, parameter change protection	
Compliance with standards		Ⓜ, cⓂ, CE, c-tick	
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)
		A	4.8/10.2
		B	24/51
		C	54.9/116.3
		D	2 x 54.9/2 x 116.3
		E	2 x 54.9/2 x 116.3
		F without filter	150/317.79
		F with filter	150/317.79
		FX	225/478.13
		GX	440/935
		H	173 x 73 x 149
		x W	202 x 149 x 172
		x D, max. (mm)	245 x 185 x 195
		Weight, approx. (kg)	56
			17
			22
			56
			75
			116
			176

CFM: Cubic Flow per Minute