

EM30

0,4 kW - 11 kW

UNIVERSAL INVERTER

Decentralized drive solution
for hard conditions



The EM30 shown in the picture is J2 size

■ HIGH-TECH MOTOR CONTROL CONCEPT

High-tech motor control concept, based on advanced DSP- technology V/Hz, SENSORLESS VECTOR with SPEED/TORQUE control, sensorless PMM synchronous motor control.

■ EASY SET-UP

Intelligent AUTOTUNING functions for easy set-up

■ RUGGED CONSTRUCTION & WALL MOUNTING

Rugged construction, all metal enclosure, thermally decoupled from motor, IP67/NEMA 4, shock proof(4G) – for motor- and wall mounting

■ LCD KEYDAD

Flexible configurable 4 line character LCD display

■ FIELD BUS SYSTEMS

ready for all common field bus systems

■ EMC FILTER

C3 class EMC filter build in, optional kit for internal C1 class filter available

■ MULTI-FUNCTIONS

Numerous standard inverter functions, to make it suitable for all kind of industrial and civil applications, and for retrofit as well- integrated PID controller

■ SOFTWARE TOOLS

Smart PC-tools, for inverter control, parametrization and troubleshooting. parameter-COPY-stick

■ WORLDWIDE STANDARDS

Approved for worldwide standards by independent bodies

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FRAMESIZE



J1 B 186 x H 266 x T 180

0,4 kW - 4,0 kW



J2 B 215 x H 325 x T 190

5,5 kW - 11 kW



J3 B 280 x H 380 x T 220

In development 15K_{W+}

Model	Motor power (KW)	Framesize	Remarks
EM30-0004 S2	0,4 kW - 2,5 A	J1	1-phase 220V
EM30-0007 S2	0,75 kW - 4,5 A	J1	1-phase 220V
EM30-0015 S2	1,5 kW - 7 A	J1	1-phase 220V
EM30-0022 S2	2,2 kW - 10 A	J1	1-phase 220V
EM30-0004 T2	0,4 kW - 2,5A	J1	3-phase 220V
EM30-0007 T2	0,75 kW - 4,5 A	J1	3-phase 220V
EM30-0015 T2	1,5 kW - 7 A	J1	3-phase 220V
EM30-0022 T2	2,2 kW - 10 A	J1	3-phase 220V
EM30-0007 T3	0,75 kW - 2A	J1	3-phase 380V
EM30-0015 T3	1,5 kW - 4A	J1	3-phase 380V
EM30-0022 T3	2,2 kW - 6,5A	J1	3-phase 380V
EM30-0030 T3	3,0 kW - 7 A	J1	3-phase 380V
EM30-0040 T3	4,0 kW - 9 A	J1	3-phase 380V
EM30-0055 T3	5,5 kW - 12 A	J2	3-phase 380V
EM30-0075 T3	7,5 kW - 17 A	J2	3-phase 380V
EM30-0110 T3	11 kW - 23 A	J2	3-phase 380V

TECHNICAL DATE

Power input	Rated input voltage	3-Phase 380V-460V (+/-15%) 1-Phase 220V~240V (±15%) 3-Phase 220V~240V (±15%)
	Input frequency	44...67 Hz
	EMC	Integrated C3 filter (industrial area), integrated C1 class filter optional
Motor output	Output voltage	0.....V-input
	Output frequency	0.....650 Hz
	Frequency resolution	0,01 Hz
	Overload capability	150% - 60 sec. / 10 min
Control Mode	Motor control algorithm	V/Hz-SpaceVector, SLV-SENSORLESS VECTOR with torque/speed control mode, CLV-Closed loop vector, Permanent Magnet Synchronous Motor PMSM SENSORLESS control
	Chopper frequency	0.8...16 kHz (fixed / random pattern)
	V/Hz curve	Linear, exponential, and user-programmable curve
	Starting torque	150% rated torque at 0,5 Hz (in SLV Mode)
	Torque compensation	Automatic / Manual
	Motor data input	Manual, from nameplate / AUTOTUNING
	Control range	1:100 in SLV mode,1:1000 in CLV mode,1:20 in PMSM mode
	Speed precision	+/- 0,5% (SLV),+/- 0,02% (CLV)
	Torque precision	+/- 5% (SLV)
	DC-Brake	User programmable functions
Brake chopper	Chopper transistor integrated	
Display	4 Line LCD Character	Programmable to display parameters and parameter values, inverter status and operating parameters
I/O Hardware	Analogue inputs	2 analogue inputs - 12 BIT: 0...10V, 0...5V, 0...(4)20 mA, all free scalable in gain and offset, and mathematically concatenable
	Analogue outputs	2 analogue outputs, programmable in gain and function (0...10V, 0(4)...20 mA)
	Digital outputs	2 relays with switchover contacts 5A 230V capability 1 OC digital output (24V 100 mA)
	Data link	Serial link RS 485 (MODBUS ASCII/RTU)
Special functions	Special functions	24V / 200 mA auxiliary power supply on terminals, 10V potentiometer power supply, 5V/100 mA power supply on modbus connector PTC / KLIXON motor protection
Electronic protections with fault history	Electrical	Over-voltage, under-voltage Over-current, overload, motor-overload, output short-circuit Input phase loss, motor phase unbalance
	Thermal	Heatsink overtemperature, I _{pt} motorprotection Motor PTC
Options	Display	IP66 Removable display / keypad units
	Brake chopper	Braking resistors for different load characteristics
	PC-software Parameter copy stick	Configuration-, control- an diagnosis-tool, parameter copy/duplicating stick
Environmental and operating conditions	Protection class	IP66 / NEMA4 - motor- /wall mounting
	Operating temperature	-10.....+40 °C - -40°C with automatic antifreeze control function (option)
	Humidity	0 to 98%, non-corrosive
	Altitude	1000 m, above 1% derating / 100m
Standards	EMC	EN61800-3(2004)
	Safety	EN61800-5-1 2003

APPLICATION



EM30 USED FOR VENTILATOR IN HIGH TEMPERATURE KITCHEN

Direct mounted on the motor terminal box, short motor cabling, reduced EMV problems, no shielded motor cables required. Compact design, high protection degree, robust full aluminium construction. Ready for installation in industrial and residential area (C1 filter as internal option available) For critical operating conditions (Heat, dirt/dust, humidity, vibration)



Compact blower/vacuum unit, inverter mounted directly on the motor, high protection degree. Short motor leads, no shielding required, reduced EMC problematique.



Pump inverter EM30P used for pump booster station

