

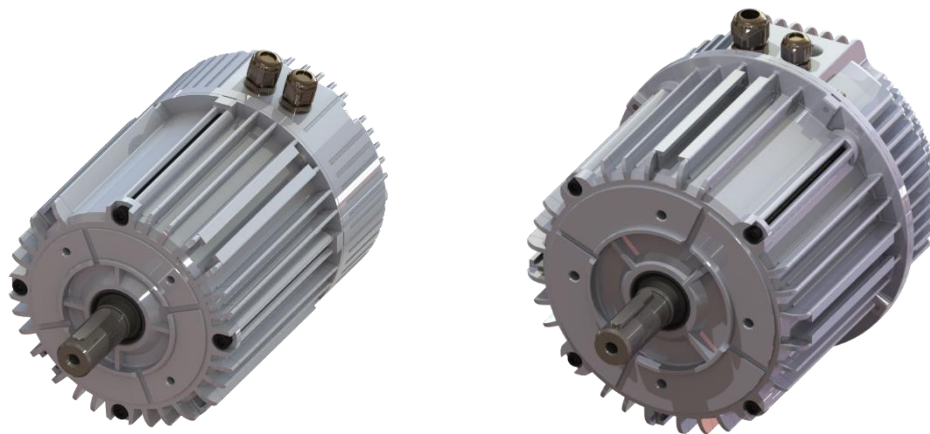
高效永磁同步电机

Electronically Commutated Motors

F 系列 ECI 电机

F Series of ECI Motor

Edition 3.0
(Feb. 12,2023)



产品概述

General information

- 产品简介

作为一家关注环境和节能的专业电机制造商，我们最重要的目标之一是帮助合作伙伴降低运行成本，提高使用寿命和盈利能力，并使生产更加环保。

F系列ECI电机是专为轴流风机应用而设计的PMS（永磁同步）电机，目前有两种机架尺寸：F80ECI#、F112ECI#，F80最大输出功率1.7kW，最大扭矩11Nm，F112最大输出功率3.77kW，最大扭矩30Nm

- 产品优势

- 采用铁氧体磁钢，价格更具竞争力；
- 极高的效率，平均值达到IE5标准，IEC60034-30-2-2016《交流调速电机的能效等级》。
- 在600至1800rpm的转速和功率范围内具有极高的效率。
- 紧凑轻巧的设计，拉伸壳体更有利于轴流风机应用。
- 多种安装形式：滑轨、底脚及与IEC尺寸一致的B14法兰。
- 相比需要外置变频器电机，操作简单、便捷。

- Product brief introduction

As a professional electric motors manufacturer who cares about environment and energy saving, one of our most important goals is to help our partners to reduce total life operation costs, increase profitability and make production more environmentally friendly. ECI motor is a PMS motor (permanent magnet synchronous) which is designed on the basis of IEC standards. At present, there are two frame sizes: F80ECI#、F112ECI#. The maximum output power of F80 is 1.7kW, the maximum torque is 11Nm. The maximum output power of F112 is 3.77kW, and the maximum torque is 30Nm

- Product advantage

- Using ferrite magnetic steel, the price is more competitive
- Extremely high efficiency, the average value reaches IE5 standard, Efficiency classes of variable speed AC motors (IEC60034-30-2-2016).
- It has extremely high efficiency in the speed and power range of 600 to 1800 rpm.
- Compact and lightweight design, stretching the shell is more conducive to the application of axial flow fan.
- Various installation forms: slide rail, foot and B14 flange with the same size as IEC.
- Compared with the external frequency converter motor, the operation is more easy and convenient.

防护等级

Degrees of Protection

- 根据 IEC60034-5 标准

IP65 (标准款), 全封闭电机, 防止任意方向的灰尘和喷水后不受损害。

F 系列 ECI 电机不配备外部风扇 (IC411), 如客户需在 IC410 环境下运行, 产品特性、输出和技术数据按客户要求提供。

- IEC 60034-5 standards

IP 65 (standard), totally enclosed motors, preventing dust in any direction and damage after spraying water.

F series ECI motor not equipped with external fan (IC411). If the customer needs to operate under IC410 environment, the product characteristics, output and technical data shall be provided according to the customer's requirements.

型号命名方式

Model number nomenclature

F **112** **ECI** **24** **V** **09** **C2** **B14** **T1** **F**
1 **2** **3** **4** **5** **6** **7** **8** **9** **10**

位置 Position	字符 Character	描述 Description
1	“F”	产品平台: Product platform: F: 风机系列 F: Fan Series
2	“112”	基座尺寸: Frame size: 80、112
3	“ECI”	ECI: 集成驱动的永磁电机 ECI: permanent magnet motor with integrated drive
4	“24”	额定扭矩: Rated torque: 24 = 24 N.m

5	“V”	冷却方式： Cooling method: V = 通风应用，无风扇和风扇罩 V = Ventilation applications, without fan and fan hood
6	“09”	最大转速： Maximum speed: 09 = 900 rpm
7	“C2”	电源线出线方式： Power line connection method: C2 = 无接线盒，尾端出线 C2 = No terminal box, power line from NDE C3 = 无接线盒，电源线具有专用接头 C3 = No terminal box, Power line with special connector
8	“B14”	安装方式： Mounting method: B14, B34
9	“T1”	电压代码： Voltage code: T1 = 3PH, 360-460V T2 = 3PH, 200-240V S1 = 1PH, 200-240V
10	“F”	特殊要求： Special requirement: F = 内置保护器 F = Internal protector

电机型谱

Motor Model list

机座 Frame	型号 Model	最大扭矩 Max. torque (N. m)	最大速度 Max. speed (r/min)	输出功率 Power (kW)	工作电压 Voltage
80	F80ECI09	9	1800	1.7	3ph~360-460V
80	F80ECI11	11	1500	1.7	3ph~360-460V
80	F80ECI11	11	900	1.0	3ph~360-460V
112	F112ECI24	24	1500	3.77	3ph~360-460V
112	F112ECI28	28	1150	3.37	3ph~360-460V
112	F112ECI24	24	1200	3.0	3ph~360-460V
112	F112ECI16	16	1500	2.5	3ph~360-460V
112	F112ECI30	30	650	2.04	3ph~360-460V
112	F112ECI24	24	700	1.76	3ph~360-460V
80	F80ECI11	11	1200	1.38	1ph~200-240V
112	F112ECI21	21	700	1.54	1ph~200-240V
112	F112ECI24	24	900	2.26	3ph~200-240V

* 电机详细数据见数据表，如转矩、电流、效率等。

* F 系列 ECI 电机默认由三相电源供电，电压为 360-460Vac。部分负载情况下，电机也可选配 3ph@200-240Vac 或 1ph@200-240Vac 进行供电，

* F 系列电机必须在强制风冷条件下运行 (TEAO)。

* 不配备外部风扇 (IC411)。

* See the data sheet for the detailed data of the motor, such as torque, current, efficiency, etc.

* F series ECI motors are powered by three-phase power supply by default, and the voltage is 360-460vac. Under partial load, the motor can also be selected 3ph@200 -240VAC or 1ph@200 -240VAC for power supply.

* F series motors must be operated under forced air cooling conditions (TEAO).

* Without external Fan (IC411).

电机铭牌

Motor nameplate

- 电机基本信息及控制线定义

- **Basic information of motor and
Control line definition**

No. : *****					Power terminal and cable T1:Brown T2:Blue T3:Black PE:Yellow/Green	Control terminal and cable Speed output: White On/Off: Red 12VDC output: Yellow 0-10VDC input: Blue Common: Black Modbus: A-Green,B-Grey
Type : F112ECI30V07C2B14T1						
V/Hz/Ph~: 360-460V,50/60Hz,3ph					ON/OFF:Red+ Yellow CW/CCW:Yellow+Brown	
SF1.0	IP65	CL.F	CONT/S1	Air Over		
30Nm	650rpm	2.0kW	3.9A	EFF.88%		
15.4kg	Manufacturer Data :****_**_**					

说明:

铭牌图片仅供格式参考，最终数据以实际铭牌为准。

Remark:

The format of the rating plate is for reference only.
The final data will be subject to the actual rating plate.

电机参照图

Motor reference picture

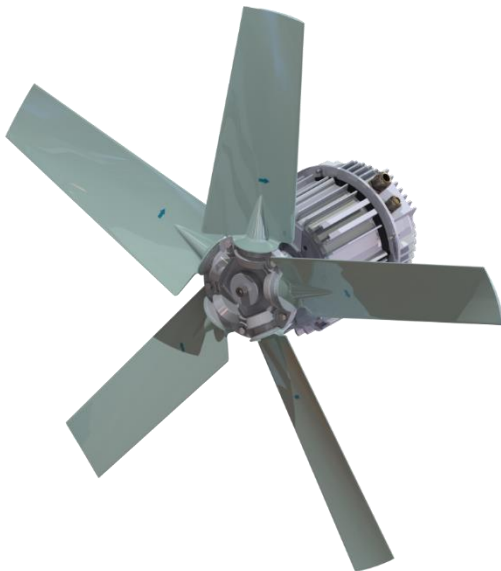
- 电机结构



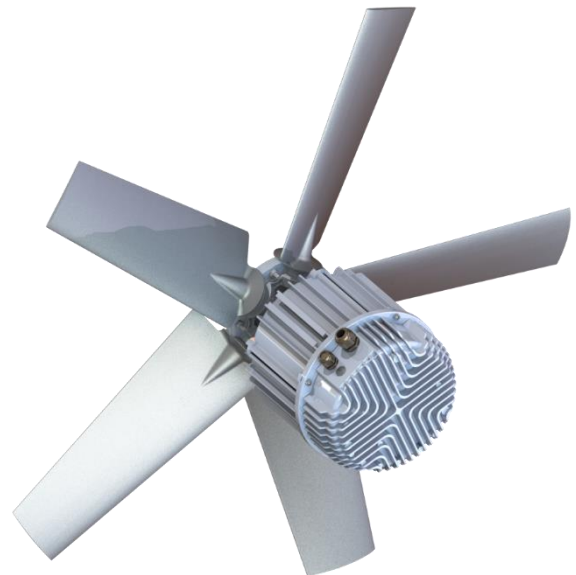
- Motor structure



- 应用视图



- Application view



ECI 电机的控制功能

ECI motor control function

- I/O 控制功能

驱动器设置有运行/停止（红色）、CW/CCW（棕色）和速度调节控制信号，还设置有速度反馈信号 FG 和报警开关信号 FO（选配）。客户可以使用这些控制信号来控制 ECI 电机的速度调节、启动和停止，使其具有正确的旋转方向和速度。需要强调的是，这些控制信号只有在没有 MODBUS 通信的场合下方才生效。

- Modbus 控制功能

ECI 电机配备 MODBUS 通信控制功能，可通过通信功能控制 ECI 电机的启动和停止、速度调节、转向调节、跳频、识别电机错误信号及通过通讯协议采集驱动器输出信号。

- 电源线定义

- I / O control function

The motor driver is equipped with the control signals of starting/ending (red), CW/CCW (brown) and speed regulation, as well as signal FG of speed feedback and switch signal FO of alarm (which is optional). The customer can use these control signals to control the speed regulation, start and end of ECI motor, so that it has the correct rotation direction and speed. It should be emphasized that these control signals only take effect when there is no MODBUS communication.

- Modbus control function

ECI motor is equipped with MODBUS communication control function, which can control the starting and ending of the motor, speed regulation, steering regulation, frequency hopping, identifying error signals of motor and collect output signals of the driver through communication protocol.

- Motor power line

项目 Item	功能 Fuction	导线颜色 Wire color	注释 Note
1	火线 T1	棕色 Brown	三相电 Three phase power
2	火线 T2	蓝色 Blue	三相电 Three phase power
3	火线 T3	黑色 Black	三相电 Three phase power
4	地线 PE	黄绿 Yellow/Green	

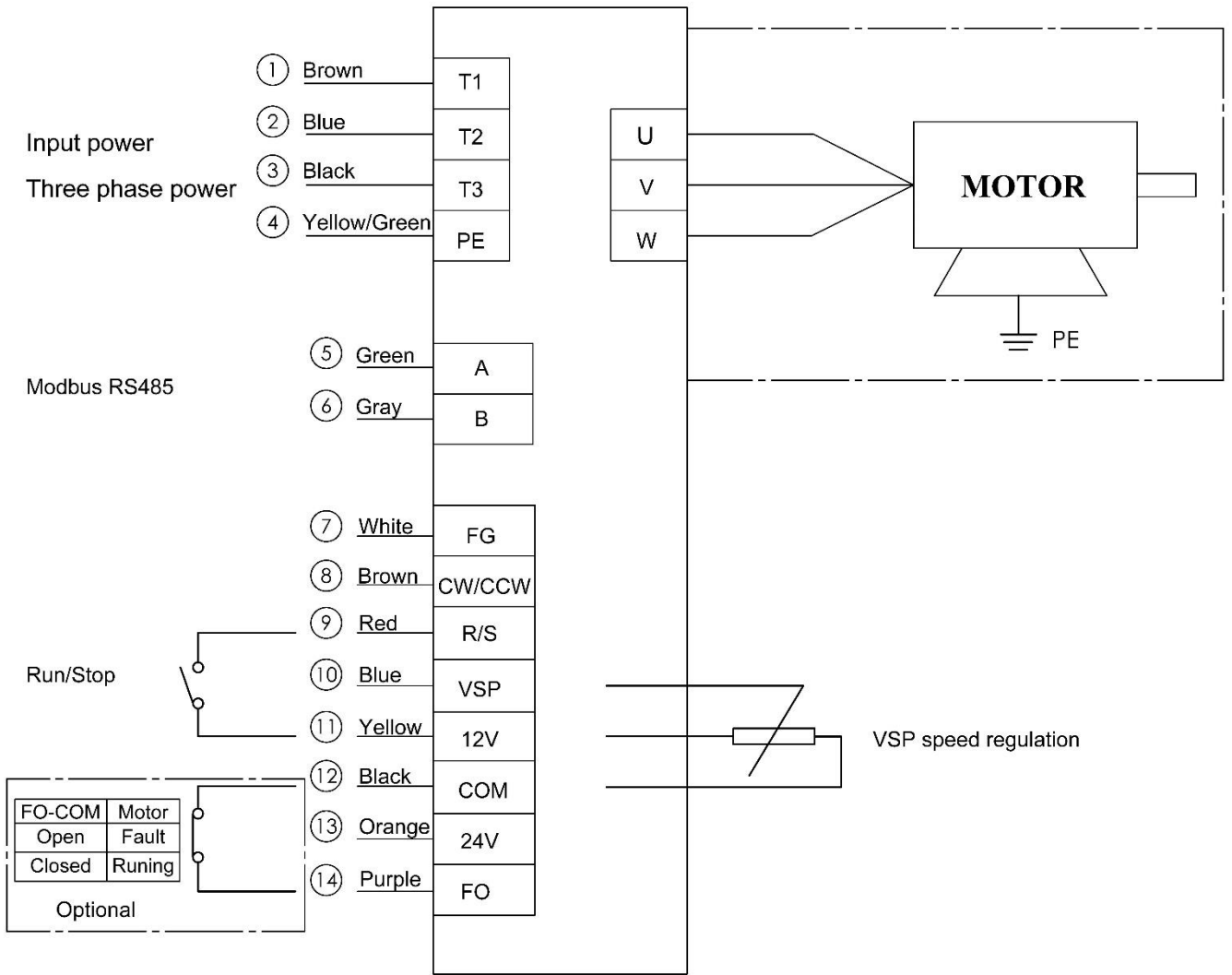
- 控制线定义

- Control line definition

项目 Item	功能 Fuction	导线颜色 Wire color	注释 Note
5	RS485 A	绿色 Green	Modbus 485
6	RS485 B	灰色 Gray	Modbus 485
7	转速输出 Speed output	白色 White	每转 3 个脉冲 3 puls per rev
8	正反转 CW/CCW	棕色 Brown	正转：棕色，反转：棕色+黄色 CW: Brown, CCW:Brown+Yellow
9	启动/停止 Run/Stop	红色 Red	启动：红色+黄色 Run:Red+Yellow
10	0-10V 直流输入 DC 0-10V input	蓝色 Blue	转速控制 Speed control
11	12V 直流输出 DC 12V output	黄色 Yellow	
12	COM	黑色 Black	
13	24V 直流输出 DC 24V output	橙色 Orange	
14	报警信号 FO	紫色 Purple	紫色+黑色 Purple+Black

- 电机接线图

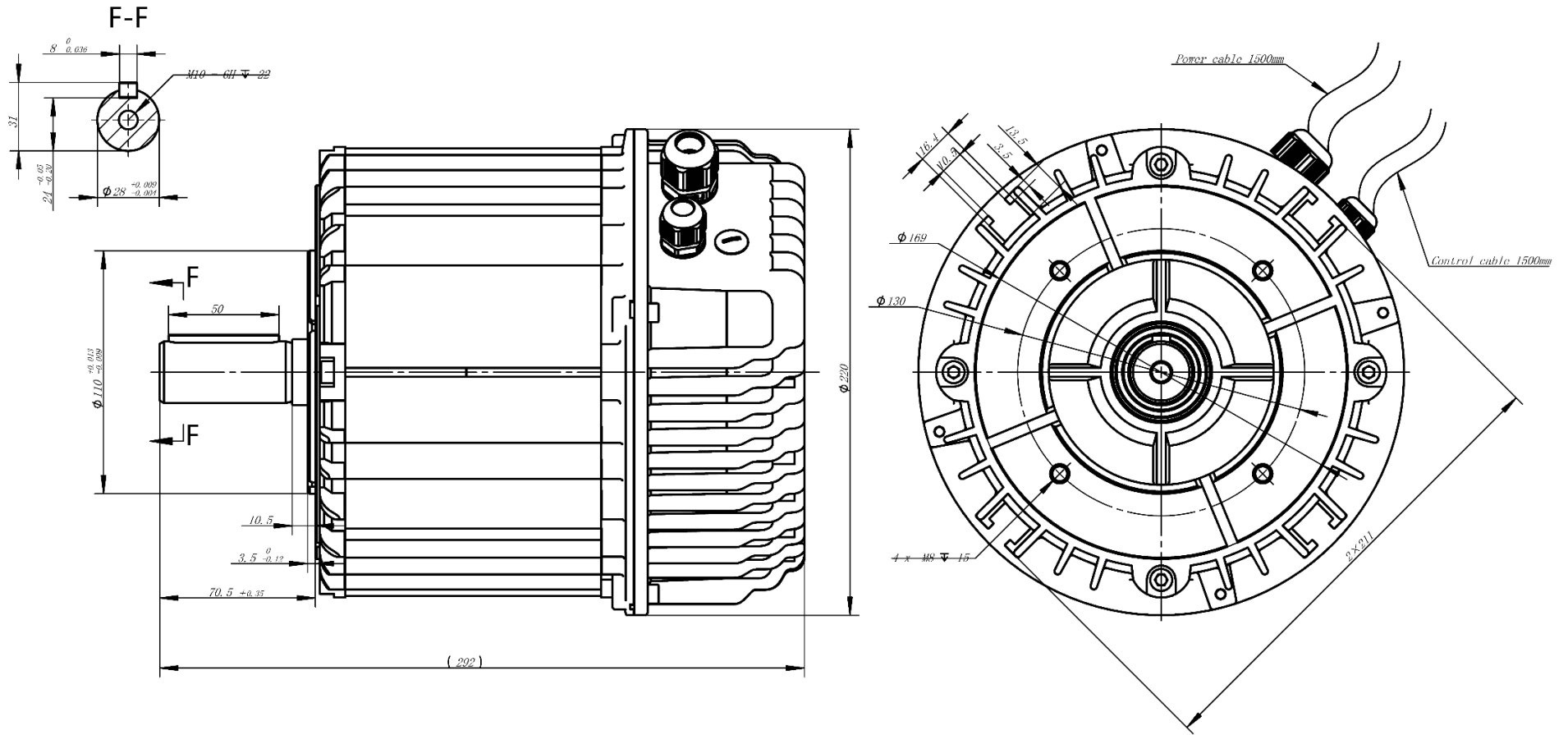
- Wiring diagram of motor



外形图及安装尺寸

Dimension drawings

- F112ECIXB14X



F80EC1XB14X

