



FW3G500-2AGC-30L EC 轴流导风筒风机 操作手册

FW3G500-2AGC-30L EC Axial Fan with Wall Ring Operation Manual

版本 Edition: V1.0 / 适用型号 Applicable Model: FW3G500-2AGC-30L (电机 BLEC138)

一、安全须知 1. Safety Instructions

在设备上作业前，请仔细阅读本文档并遵守全部安全规定。本文档随设备一并交付，转交设备时须随附。

Please read this document carefully before working on the device and follow all safety instructions. This document forms part of the device and must be supplied with it.

1.1 危险等级 Hazard Levels

等级 Level	中文说明 Chinese	English
危险 Danger	危险情况即将出现，违规会导致重伤甚至死亡。	A hazardous situation that, if not avoided, will result in serious injury or death.
警告 Warning	危险情况可能出现，违规会导致重伤甚至死亡。	A hazardous situation that, if not avoided, could result in serious injury or death.
小心 Caution	危险可能出现，违规会导致轻/中度伤害或财产损失。	A hazardous situation that, if not avoided, may result in minor injury or property damage.
提示 Notice	危险可能出现，违规主要导致财产损失。	A hazardous situation that, if not avoided, may result in property damage.

1.2 人员资质 Personnel Qualification

- 本设备的安装、试运行及电气作业只允许电气专业人员执行；运输、安装、操作与维护须由经过授权指导的人员执行。

Installation, commissioning and electrical work may only be carried out by qualified electrical personnel. Transport, installation, operation and maintenance must be performed by persons who have received authorised instruction.

1.3 按照规定使用 Intended Use

- 本设备仅作为输送符合技术数据空气的**改装/内置设备**使用（装入终端设备），任何超出此用途的使用均视为违规使用。

This device is intended solely as a modification / built-in device (installed in end equipment) for conveying air complying with the technical data. Any use beyond this is regarded as improper use.

- ✓ 属于按规定使用：在允许的环境温度内使用 · 运行时配备所有保护装置（防护格栅等） · 遵守本安全说明 · 输送密度为 1.2 kg/m³ 的空气。
✓ Intended use includes: operation within the permitted ambient temperature · operation with all protective devices fitted (guard grille, etc.) · compliance with these safety instructions · conveying air with a density of 1.2 kg/m³.
- ✗ 特别禁止（违反规定使用）：输送研磨/切削颗粒空气 · 强腐蚀性空气（如盐雾） · 高粉尘空气 · 在可燃物质/组件附近运行 · 在爆炸环境运行 · 用作安全相关部件。
✗ Expressly prohibited (improper use): conveying air with abrasive or cutting particles · highly corrosive air (e.g. salt spray) · heavily dust-laden air · operation near flammable substances or components · operation in explosive atmospheres · use as a safety-related component.



1.4 电压和电流 Voltage & Current

⚠ 危险 设备上的电荷 → 电击

Charge on the device → electric shock

违规操作可能导致电击。

Improper handling may cause electric shock.

→ 对带电设备作业时请站在橡胶垫上。

Stand on a rubber mat when working on live equipment.

→ 切断所有电极电压后须等待 5 分钟，方可接触设备。

Wait 5 minutes after disconnecting all poles before touching the device.

→ 本设备放电电流 $\leq 3.5\text{mA}$ ；如大于 3.5mA 须使用固定接地线 ($\geq 10\text{mm}^2$ 或双股)。

Touch current $\leq 3.5\text{ mA}$; if $> 3.5\text{ mA}$ a permanent earth ($\geq 10\text{ mm}^2$ or two conductors) is required.

1.5 安全和防护功能 Safety & Protective Functions

⚠ 危险 缺少/失灵的保护装置

Missing or non-functioning protective device

手可能接触运行中的设备导致重伤。

Hands may reach into the running device and cause serious injury.

→ 仅允许在装好固定防护格栅/防护装置时运行；防护须能承受叶片动能。

Operate only with a fixed guard / protective grille fitted; it must withstand the blade kinetic energy.

→ 如保护装置缺失或失效，立即停用设备。

Stop the device immediately if a guard is missing or fails.

⚠ 危险 强电与弱电反接或并联

Power & control lines reversed or in parallel

将烧毁风机（本设备特性）。

This will burn out the fan (characteristic of this device).

→ 电源线与控制线必须严格分离，严禁反接/并联。

Power and control lines must be clearly separated; never reverse or parallel them.

1.6 机械运动 Mechanical Movement

⚠ 危险 旋转设备 / 转子叶轮

Rotating device / impeller

身体部分接触转子或叶轮可能受伤。

Parts of the body may be injured by contact with the rotor or impeller.

→ 防止触摸设备；在装置上作业前等待所有部件停止。

Prevent contact; wait until all parts have stopped before working.

⚠ 警告 长发、下垂衣物、首饰

Long hair, loose clothing, jewellery

可能被卷入设备并导致受伤。

May be drawn into the device and cause injury.

→ 在可动部件作业时不得穿宽松衣物或佩戴首饰；用帽子束起长发。

Do not wear loose clothing or jewellery near moving parts; cover long hair.

※ 提示 不平衡引起异常振动



Vibration due to imbalance

可能损坏本设备。

May damage this device.

→ 排除不平衡状态，否则送厂处理。

Eliminate any imbalance or contact the factory for service.

1.7 排放 (噪音) Emissions (Noise)

▲ 警告 声压级可能大于 70 dB(A)

Sound pressure may exceed 70 dB(A)

噪音导致听力损伤的危险 (本品实测 79 dB(A))。

Risk of hearing damage due to noise (79 dB(A) measured for this product).

→ 采取技术防护措施。

Take technical protective measures.

→ 确保操作人员佩戴护耳罩等防护装备。

Ensure operators wear hearing protection such as ear muffs.

1.8 灼热表面 Hot Surfaces

- 小心：电子壳体高温可能烫伤——请确保有足够的接触保护。

Caution: the electronics housing can become hot and cause burns — ensure adequate contact protection.

1.9 运输与储存 Transport & Storage

- 小心：从包装取出时可能切伤/夹伤且负载较重 (本品 18kg, >10kg) ——请穿安全鞋、戴耐切割手套，超过 10kg 需两人抬起。

Caution: risk of cuts and crushing when unpacking, and the load is heavy (18 kg for this product, >10 kg) — wear safety shoes and cut-resistant gloves; loads over 10 kg must be lifted by two persons.

- 储存：装入原包装，置于干燥、防风雨、无污染环境，建议储存不超过一年，保持储存温度 (本品 -40~75°C)。

Storage: keep in the original packaging in a dry, weather-protected and contamination-free environment; storage for no longer than one year is recommended; observe the storage temperature (-40 to +75 °C for this product).

1.10 废弃处理 Disposal

- 请按当地法规合规处置，勿按生活垃圾丢弃。

Dispose of in accordance with local regulations; do not dispose of with household waste.

二、产品规格 2. Product Specifications

以下参数摘自 FW3G500-2AGC-30L 技术规格书 (V1.0)。The following data is quoted from the FW3G500-2AGC-30L Technical Specification (V1.0).

项目 Item	参数 Value
型号 Type	FW3G500-2AGC-30L
电机 Model	BLEC138 (永磁无刷外转子 / brushless external-rotor)
额定电压 Voltage	230 VAC (范围 184~270 VAC)
频率 Frequency	50/60 Hz



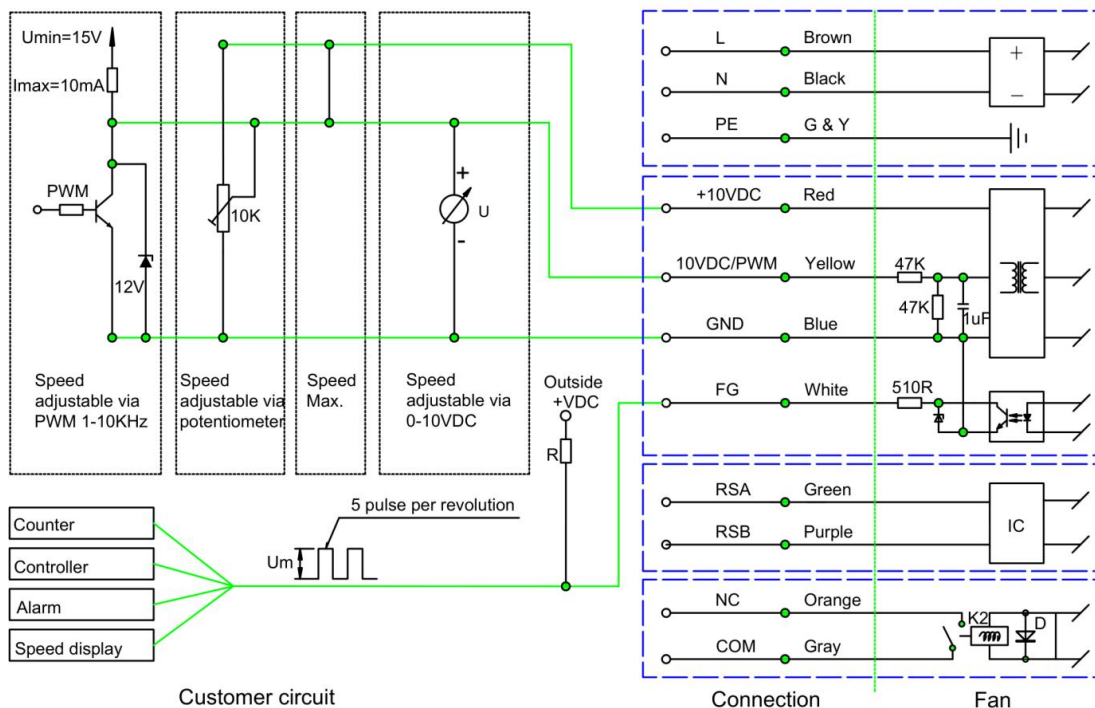
额定电流 Current	3.9 A $\pm 10\%$
转速 Speed	1750 min ⁻¹ $\pm 5\%$
功率 Power	900 W $\pm 10\%$
声压级 Sound Pressure	79 dB(A) $\pm 5\%$
最大风量 Max. Air Flow	6090.98 CFM / 10350 m ³ /h
绝缘/防护 Insulation/Protection	Class B / IP44
控制/信号 Control / Signal	0~10VDC / PWM / Modbus-485 FG 测速 5 脉冲/转
叶轮/转子直径 Impeller/Rotor	500 mm / 137 mm
叶片/材料 Blades / Material	5 叶轮冷轧钢板 / 端盖铝合金 5 Impeller cold-rolled steel / End cover aluminium alloy
轴承/表面 Bearing / Surface	滚珠轴承 / 转子电泳黑 Ball bearing / Rotor e-coated black
温度/湿度 Temp / Humidity	工作 -25~60°C; 储存 -40~75°C; 湿度 5~95% RH Operating -25~60°C; Storage -40~75°C; Humidity 5~95% RH
重量 Weight	18 kg (含导风圈 / with wall ring)
认证 Certificates	CE / RoHS / ISO9001 / ErP2026

三、接线说明 3. Wiring Connection

标配 0-10V/PWM 控制; 可选 Modbus-485 (RS485) (详见规格书/联系技术人员)。Default 0-10V/PWM; Modbus RTU over RS485 optional.

3.1 线缆定义 Cable Definitions

类别 Category	线色 Wire	功能 Function
电源 Power #18AWG	L 棕 Brown	火线 50/60Hz Line
	N 黑 Black	零线 50/60Hz Neutral
	PE 黄绿 G&Y	接地 Protective earth
控制 Control #20AWG	+10VDC 红 Red	电压输出 +10VDC, max.10mA Voltage output
	0-10V/PWM 黄 Yellow	控制输入 0~10VDC 或 PWM 1~10kHz Control input
	FG 白 White	测速 5 脉冲/转 Tach, 5 pulse/rev
	GND 蓝 Blue	负极 / GND
	NC 橙 Orange COM 灰 Gray	报警开关 Alarm switch
	RSA 绿 RSB 紫	RS485 (Modbus) 接口 RS485 interface



POWER					CONTROL					
Brown	Black	G&Y	Orange	Gray	Red	Blue	Yellow	White	Green	Purple
L	N	PE	NC	COM	+10V	GND	0-10V/PWM	FG	485A	485B

Note: It is strictly prohibited to connect power and control together! They must be clearly separated!

备注 Remarks:

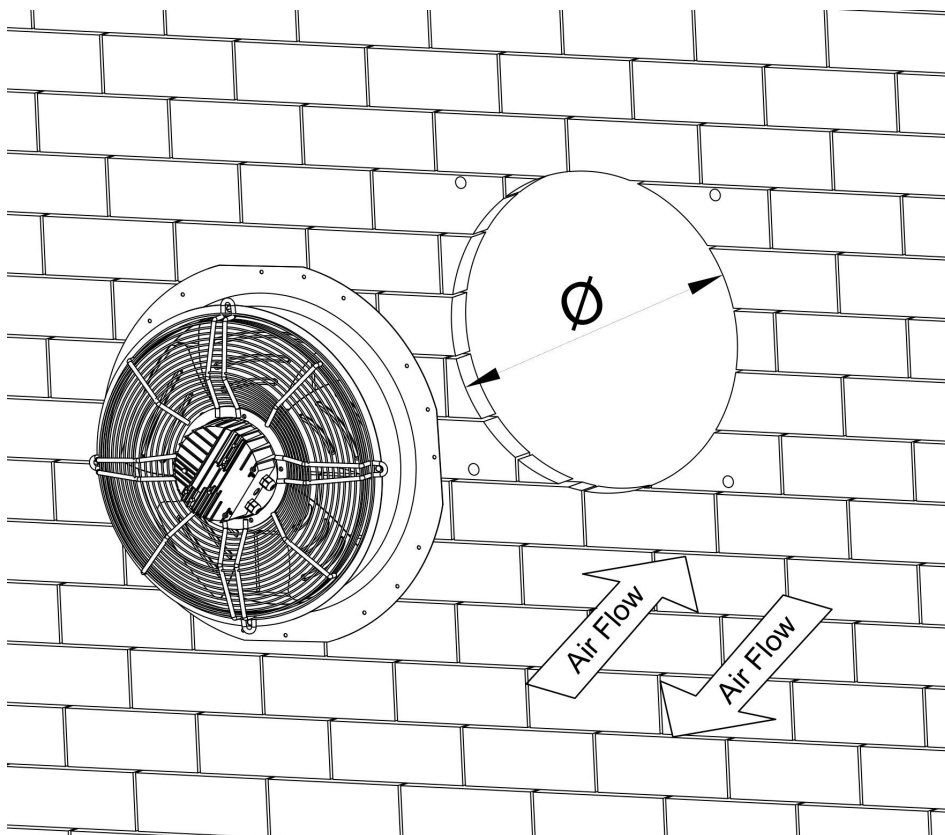
- I . 电源线标准长度见下图。电源线长度可定制
- I . Standard cable length Refer to the figure below. The length of cable can be customized
- II . 标准为 0-10V/PWM 控制，可随意更换 Modbus485 通信协议，详细 Modbus485 通信协议内容请联系技术人员
- II . Conventional mode is 0-10V/PWM control.Modbus RTU over RS485 is available as an option.Please contact technical personnel for detailed Modbus485 protocol.

⚠ 关键提示 Important

强电（电源）与弱电（控制）严禁反接或并联！两者必须清晰分离。

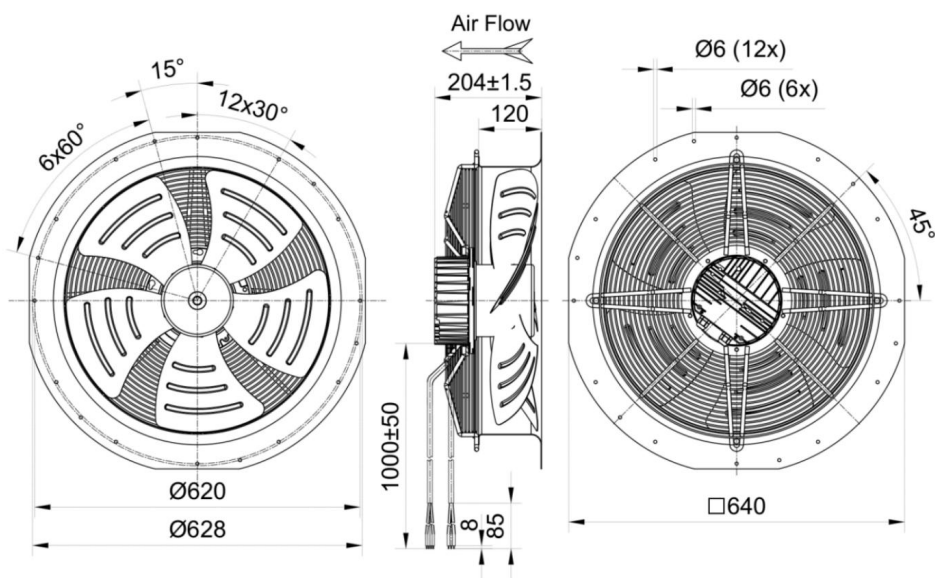
It is strictly prohibited to connect power and control together or in reverse! They must be clearly separated.

四、安装与运行环境 4. Installation & Operating Environment

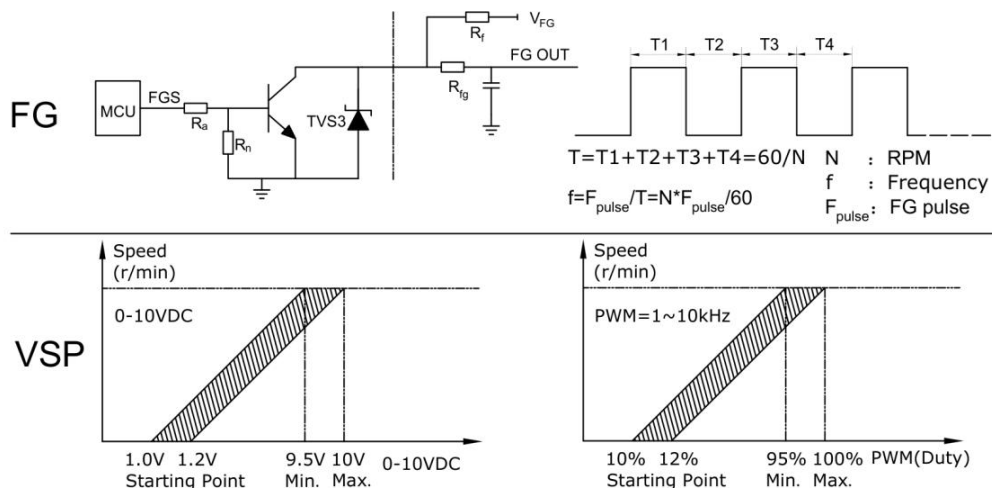


安装要点 Installation Notes

- ① 安装方向无限制；风机标有气流与旋转方向标识，安装时请核对。Installation position: any direction; check the airflow/rotation symbols before install.
- ② 请结合重量（18kg）与运行振动安全固定，防脱落。Mount securely, considering its weight and operating vibration.
- ③ 进风口预留足够空间，防异物进入；必要时加装防护格栅。Keep air vents clear and prevent foreign objects; fit a guard if needed.
- ④ 引线勿接触旋转叶轮，并做好防静电措施。Keep lead wires clear of rotating blades; take anti-static precautions.



备注 Remarks:



五、维护保养 5. Maintenance, Troubleshooting & Periodic Inspection

- ① 维护/检查须由专业人员执行，先断电并等待叶轮完全停止（切断电压 5 分钟后接触端子）。Maintenance must be by qualified personnel after power-off and full stop (wait 5 minutes before touching terminals).
- ② 定期清洁叶轮与进风口积尘；勿水洗，勿用汽油/稀释剂等有机溶剂。Clean impeller & inlet; do not wash with water or use organic solvents.
- ③ 检查引线磨损与紧固件，异常请返厂维修。Check lead wires & fasteners; return to factory if abnormal.
- ④ 长时间停机（如储存）建议开机运行约 2 小时以蒸发冷凝水并润滑轴承。After long idle, run ~2 h to evaporate condensation and lubricate the bearing.

5.1 故障排查、可能原因与补救措施 Troubleshooting



故障 Symptom	可能原因 Possible cause	补救措施 Remedy
电机不转 Motor not running	机械卡止 / 缺电 / 缺控制信号 Mechanical blockage / no power supply / no control signal	排除卡止；检查并恢复供电；提供控制信号 Remove blockage; check and restore power supply; provide control signal
叶轮运转不平稳 Unstable running	旋转部件不平衡 Imbalance of rotating parts	清洁；若仍不平衡则更换设备 Clean; if imbalance persists, replace the device
电子/电机温度过高 Overheating	环境温度过高 / 缺冷却 / 运行点不允许 Ambient temperature too high / insufficient cooling / impermissible operating point	降低环境温度；将控制输入降为 0 复位 Reduce ambient temperature; reset by lowering the control input to 0
报警 (NC/COM) 触发 Alarm triggered	欠压/堵转/过热等保护 Undervoltage / locked rotor / overtemperature protection	检查供电与负载，排除故障后重新启动 Check power supply and load; restart after clearing the fault

5.2 定期安全技术检查 Periodic Safety Inspection

检查项 Item	方法 Method	频率 Frequency
接触防护是否完好 Contact protection intact	目检 Eye	至少每半年 At least every 6 months
设备损坏情况 Damage to the device	目检 Eye	至少每半年 At least every 6 months
设备固定是否牢固 Secure mounting of the device	目检 Eye	至少每半年 At least every 6 months
连接导线固定情况 Securing of connecting cables	目检 Eye	至少每半年 At least every 6 months
接地线连接 Earth conductor connection	目检 Eye	至少每半年 At least every 6 months
导线绝缘装置 Cable insulation	目检 Eye	至少每半年 At least every 6 months

六、联系方式 6. Contact

联系 Contact	信息 Info
销售 Sales	Eiden@fanova-tech.com +86 17768077282 (WhatsApp/WeChat)
技术 TEngr	Dannis@fanova-tech.com TEL +86 (512) 6615 2110
官网 Website	www.fanovamotor.com
地址 Address	江苏省苏州市相城区黄埭镇春丰路 502 号 No.502 Chunfeng Road, Huangdai Town, Xiangcheng District, Suzhou, China

本手册为基础操作手册，详细技术参数以《技术规格书》为准。This is a basic operation guide; refer to the Technical Specification for detailed data.