

中国民用航空局
CIVIL AVIATION ADMINISTRATION OF CHINA

型号合格证数据单
TYPE CERTIFICATE DATA SHEET

编号/No: TC0104A-HD

版次/Revision: 0

型别/Model: ARK80

批准人/Approved By:

张军平

职务/Title: 局长

日期/date: 2025-11-25

本数据单是型号合格证（编号：TC0104A-HD）的组成部分，它规定了获得该型号合格证的产品满足中国民用航空规章相关适航要求的条件和限制。

This data sheet, which is part of Type Certificate (No. TC0104A-HD), prescribes condition and limitation under which the product for which the Type Certificate was issued meets the airworthiness requirements of the China Civil Aviation Regulation.

型号合格证持有人/Type Certificate Holder:

江西丰羽顺途科技有限公司/Jiangxi Fengyu Shuntu Technology Co., Ltd.

江西省赣州市南康区龙岭镇新屋村/Xinwu, Longling, Nankang, Ganzhou, Jiangxi

第一部分：ARK80 型别技术数据/SECTION A: Model ARK80 TECHNICAL DATA

A I. 概述/General

1. 产品型别/Model: ARK80
- a) 航空器，型别/Aircraft，Model: ARK80
- b) 地面控制站，型号/Ground Control Station, Type: FY-UOCS
2. 类别/Category: 限用类航空器/Restricted category aircraft
3. 型号合格证申请日期/Date of Application for TC: 2024-06-19
4. 型号合格证批准日期/TC Issue Date: 2025-11-25

A II. 生产依据 Production Basis

依据生产许可证（PC）生产，生产许可证编号：待定

Production in accordance with the Production Certificate（PC），Production Certificate Number: TBD

A III. 审定基础/Certification Basis

《中型民用无人驾驶航空器系统适航标准及符合性指导材料（试行）》（AC-92-AA-2024-02）中适用的适航要求 /Applicable airworthiness requirements in Medium Civil Unmanned Aircraft Systems Airworthiness Standard and Compliance Guidance Materials (Trail) (AC-92-AA-2024-02)

A IV. 技术特性和使用限制/Technical Characteristics and Operational Limitations

1. 设计定义/Design Definition

详见《方舟 ARK80 无人机系统设计特征与使用场景说明报告》（ARK80-01-USDR-01，版本 6.0 及后续经批准的版本）

Refer to ARK80 UAV System Design and Concept of Operations (CONOPS) Report(ARK80-01-USDR-01, Version 6.0 and the subsequent approved versions)

2. 航空器/Aircraft

- a) 外形尺寸/Dimension
- 机臂、桨叶展开（with arms and propellers unfolded）: 3297×4800×1082 mm
- 机臂展开、桨叶折叠、起落架收回（with arms unfolded, propellers folded and landing gear up）: 2295×4800×874 mm
- 机臂折叠、拆除机翼、起落架收回（with arms folded, wings removed and landing gear up）: 2060×661×874 mm
- b) 重量/Weight
- 最大起飞重量（海平面附近）/Max. take-off weight-NSL: 120kg
- 最大载重（海平面附近）/Max. payload-NSL: 20kg（标准四电池模式，含货舱）
- （ Standard four battery mode, Carogo pod included）
- 30kg（标准三电池模式，含货舱）
- （ Standard three battery mode, Carogo pod included）
- 其余海拔高度-载重详见《方舟 ARK80 无人驾驶航空器系统飞行手册》（ARK80-01-AFM-01，版本 1.0 及后续经批准的版本）

- Other altitude-payload in ARK80 UAV System Flight Manual (ARK80-01-AFM-01, Version 1.0 and the subsequent approved versions)
- c) 重心范围/C.G. range
- | | |
|----------------|------------------------|
| 重心前限: | 基准点前 0.07m |
| Forward limit: | 0.07m forward of datum |
| 重心后限: | 基准点后 0.07m |
| Aft limit: | 0.07m aft of datum |
- 重心基准点: 详见《方舟 ARK80 无人机驾驶航空器系统飞行手册》(ARK80-01-AFM-01, 版本 1.0 及后续经批准的版本)
- Datum: refer to ARK80 UAV System Flight Manual ARK80-01-AFM-01, Version 1.0 and the subsequent approved versions)
- d) 飞行模式/Flight Mode
- | | |
|-----------------------------------|------------------------|
| 航线飞行 (自动控制): | 地面控制站 |
| Route flight (automatic control): | Ground Control Station |
- e) 飞行精度/Flight control accuracy
- | | |
|-------------------------|-----------------------------|
| 位置保持精度/Track accuracy: | ≤10m (水平方向
/horizontal); |
| | ≤15m (垂直方向/vertical) |
| 速度精度/Velocity accuracy: | ≤0.3m/s |
- f) 最大起飞海拔高度/Max. take-off altitude (above sea level)
- 3000m (最大起飞重量/MTOW 100kg)
- g) 最大飞行海拔高度/Max. flight altitude (above sea level)
- 3300m (最大起飞重量/MTOW 100kg)
- h) 最大航程/Max. operating range
- 60km (标准四电池模式载重 20kg/Standard Four Battery Mode with Payload 20kg)
- 30km (标准三电池模式载重 30kg/Standard Three Battery Mode with Payload 30kg)
- 其余海拔高度-航程详见《方舟 ARK80 无人机驾驶航空器系统飞行手册》(ARK80-01-AFM-01, 版本 1.0 及后续经批准的版本)
- Other altitude-range in ARK80 UAV System Flight Manual (ARK80-01-AFM-01, Version 1.0 and the subsequent approved versions)
- i) 速度/Speed
- | | |
|---------------------------------------|--------------|
| 最大巡航速度/Max. cruising speed: | 20~24m/s IAS |
| 最大垂直上升速度/Max. vertical climb speed: | 3m/s |
| 最大垂直下降速度/Max. vertical descent speed: | 2m/s |
| 最大着陆速度/Max. landing speed | 1.5m/s |
- j) 最大抗风性能/Max. wind resistance
- 13.9m/s
- k) 环境温度限制/Environmental Temperature Limit
- | | |
|---------------------------|----------|
| 工作温度/Working Temperature: | -20℃~45℃ |
| 储存温度/Storage Temperature: | -20℃~45℃ |
- 详见《方舟 ARK80 无人机驾驶航空器系统飞行手册》(ARK80-01-AFM-01, 版本 1.0 及后续经批准的版本)

Details in ARK80 UAV System Flight Manual (ARK80-01-AFM-01, Version 1.0 and the subsequent approved versions)	
l) 整机防护等级/Aircraft Dust and Water-resistance rating	
IP54	
m) 旋翼电机/Rotor Motor	
型别/Model:	10030-95kv
装机数量/No. of Installed Units:	8
KV 值/KV value:	95
额定电压/Rated Voltage:	42-63V
额定功率/Rated Power:	2095W
最大功率/Max. Power:	6979W
电机最高安全温度/T_max (safe.):	150℃
n) 尾推电机/Tail Thrust Motor	
型别/Model:	10030-130kv
装机数量/No. of Installed Units:	1
KV 值/KV value:	130
额定电压/Rated Voltage:	42-63V
额定功率/Rated Power:	1980W
最大功率/Max. Power:	5000W
电机最高安全温度/T_max (safe.):	150℃
o) 电调/ESC	
型别/Model:	GEN-ESC-140
装机数量/No. of Installed Units:	9
最大工作电流(持续)/I_max (cont.):	70A
最大工作电压/V_max:	63V
电调最高安全温度/T_max (safe.):	120℃
p) 升力-旋翼/Lift Rotor Propeller	
型别/Model:	R4314
装机数量/No. of Installed Units:	8 对 / 8 pairs
直径/Diameter×螺距/Pitch:	43 in × 14 in
q) 推力-螺旋桨/Tail Thrust Propeller	
型别/Model:	P2616
装机数量/No. of Installed Units:	1
直径/Diameter×螺距/Pitch:	26 in × 16 in
r) 动力电池/Battery	
类型/Type:	锂离子电池 / Li-ion
型别/Model:	S13XNP0290J-P2
装机数量/No. of Installed Units:	3~4
标称电压/V_nom:	47.71V
额定容量 (0.5C 倍率放电) /C_rated(0.5C discharge):	58Ah(25℃)
启动温度/T_start up:	0℃~45℃

	工作环境温度/T_amb:	-20℃~45℃
	自加热/ Self-heating:	否/No
s)	降落伞/Parachute	
	类型/Type:	方形降落伞 Square parachute
	型别/Model:	DPA-FZ80 (P1)
	装机数量/No. of Installed Units:	1
	开伞方式/Parachute opening mode:	手动和自动开伞/Manual and Automatic trigger
	最低开伞高度/Min. opening height:	80m AGL
t)	负载/Payload	
	类型/Type:	货舱/Cargo pod
	件号/Part number:	AK80A06V01
	装机数量/No. of Installed Units:	1
	内部容积/Internal volume:	144L
3.	地面控制站/ Ground Control Station	
a)	型别/Model	
	FY-UOCS	
b)	控制模式/Control mode	
	一机一控/Single GCS control single UAV	
	一控多机/Single GCS control multiple UAVs	
	最小飞行机组/Minimum Flight Crew	
	2人/机 (2 pilot/UAV)	
c)	最大人机比/Max. Pilot/UAV Ratio:	
	2人/10机 (2 Pilot/ 10 UAVs)	
4.	指挥控制数据链路/Command and Control Data Link	
a)	主数据链路/Main data link	
	工作频率/Operating frequency:	1430-1444MHz
	有效作用距离 (无干扰、无阻挡)	SRRC: 30km
	ETR (w/o interference and blockage):	
b)	4G	
	有效作用距离 (无干扰、无阻挡)	4G 信号有效覆盖范围内
	ETR (w/o interference and blockage):	/Within 4G signal effective range
c)	应急链路	
	工作频率/Operating frequency:	450-466MHz
	有效作用距离 (无干扰、无阻挡)	30km
	ETR (w/o interference and blockage):	
5.	使用限制/Operational Limitations	
a)	航空器载货运行/Aircraft cargo operation	

- b) 禁止载人/Prohibited from carrying people

c) 视距内运行和视距外运行/VLOS and BVLOS

d) 不在已知风速超过 13.9m/s、暴雨、中/大雪、轻/中/重强度结冰或极端天气（包括但不限于闪电）环境运行 /Operation is prohibited in environments with known wind speed exceeding 13.9m/s, torrential rain, moderate/heavy snow, light/moderate/severe icing or extreme weather (including but not limited to lightning)

e) 昼间和夜间运行/Daytime and nighttime operation

f) 不在人口密集区域上空飞行/Not flying over densely populated areas.

g) 除非经空中交通管理机构批准，不在融合空域飞行/Non-converged airspace unless approved by the Air Traffic Management authority.
- 其他限制详见《方舟 ARK80 无人机驾驶航空器系统飞行手册》（ARK80-01-AFM-01，版本 1.0 及后续经批准的版本）
- Other Limitations refer to ARK80 UAV System Flight Manual (ARK80-01-AFM-01，Version 1.0 and the subsequent approved versions)

AV. 批准的技术资料/Approved Technical Documents

1. 《方舟 ARK80 无人机驾驶航空器系统飞行手册》（ARK80-01-AFM-01，版本 1.0 及后续经批准的版本）
ARK80 UAV System Flight Manual (ARK80-01-AFM-01, version 1.0 and subsequent approved versions)
2. 《方舟 ARK80 无人机驾驶航空器系统维护手册》（ARK80-01-MM-01，版本 4.0 及后续经批准的版本）
ARK80 UAV System Maintenance Manual (ARK80-01-MM-01, version 4.0 and subsequent approved versions)
3. 《方舟 ARK80 无人机系统设计特征与使用场景说明报告》（ARK80-01-USDR-01，版本 6.0 及后续经批准的版本）
ARK80 UAV System Design and Concept of Operations (CONOPS) Report(ARK80-01-USDR-01, Version 6.0 and the subsequent approved versions)

AVI. 注释/Notes

注 1/Note 1：本数据单中参数，如无条件特别说明，均按静止空气和海平面标准大气条件给出/The parameters in this data sheet, unless otherwise specified, are given under conditions of still air and standard atmospheric conditions at sea level.

第二部分：管理信息/SECTION B:ADMINISTRATIVE INFORMATION

B I. 型号持有人记录/Type Certificate Holder Record

江西丰羽顺途科技有限公司
Jiangxi Fengyu Shuntu Technology Co., Ltd.

B II. 修订记录/Change Records

型号合格证数据单编号/TCDS No	版次/Revision	主要修订内容/Highlight	修订日期/Date
TC0104A-HD	0	初次颁发	