

MD4-EC01-8S-60A

10" Long Range FPV Drone — 3115 KV900 Motor,
ArduPilot, 4S-8S

User Manual



rev: 260818
Made in Taiwan

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INTRODUCTION

The **MD4-EC01-8S-60A 10" Long Range FPV Drone** is a 10-inch long range and mapping FPV drone platform built around ArduPilot firmware, AM32 ESC passthrough, and 3115 KV900 motors. Wide 4S–8S battery support lets builders trade off between a lighter, snappier 4S setup and a high-endurance 8S configuration for extended-range flights.

PACKAGE CONTENTS

- 1x MD4-EC01-8S-60A
- 1x GPS Module
- 1x GPS Antenna
- 1x Signal 6-pin cable
- 1x FPV antenna 5.8G
- 4x Propeller

FEATURES

- Wide voltage range (4S–8S) — one airframe, two flight profiles: agile short-range on 4S or long-endurance mapping runs on 8S.
- ArduPilot-ready — full support for waypoint missions, Harmonic Notch Filter vibration tuning, and Mission Planner passthrough setup.
- High-torque 3115 KV900 motor.
- Modular AM32 ESC — 60A continuous rating with passthrough flashing for easy firmware updates.
- Long-range ELRS 915 MHz control link (FD-915RX), supporting reliable operation up to 10–15 km at standard packet rates with a compatible long-range TX module.
- Dimensions: 42x36x6 cm
- Product weight: 0.95kg

SPECIFICATIONS

Frame Specifications

- Wheelbase: 450 mm
- Frame weight: 350 g
- Plate thickness (top/bottom): 2.5 mm
- Arm thickness: 6.5 mm
- Internal stack height: 35 mm
- FC mounting holes: 30.5 × 30.5 mm
- Propeller size: 10 inch
- Motor mounting: 4×M3, Ø19.00 mm bolt circle

Propeller

- Size: 10 inch
- Blade count: 3

Flight Controller

- MCU: STM32H743 (ARM Cortex-M7 High-performance processor)
- IMU: ICM42688
- High-accuracy barometer: MS5611
- Flash Logging: 64MB
- Power Input: dual power input (Battery and USB)
- Interfaces: 6x Serial UARTs, 8x PWM I/O, 2x CAN Bus, 2x I2C Bus, 1x ADC
- Support Ardupilot and Betaflight
- Supports OSD 、 SC Card 、 power monitoring 、 GPS input, and multiple RC receiver protocols (PPM, SBUS, DSM, CRSF)

Electronic Speed Controller

- Maximum Continuous Operating Current: 60A
- Input voltage: supporting 4-8S battery input
- Protocols: Dshot150 / 300 / 600, Oneshot42 / 125, Multishot, PWM
- Protection: Equipped with high-frequency drive, enhancing response time and stability, offering a smoother flight experience.
- Dimension: 53mm*40mm
- Fixed Hole: Approx. 30.5mm x 30.5mm, M4

VTX

- 48CH 5.8G frequency range: (A.B.E.F.R.L; 5362MHz-5945MHz)
- Max power: 1.6W (five power level can be adjusted 100mW/ 200mW/ 400mW/ 800mW/ 1600mW)
- Protocol: IRC Tramp / Smart audio
- Antenna connector: MMCX
- Input voltage: DC 4V-36V, supporting 2-8S battery input
- Input Voltage & Dimensions: DC 4V - 36V (2S - 8S LiPo support), 32mm x 32mm x 6mm, weight 17g

ExpressLRS 915MHz Receiver

- IC: SX1276
- Operating frequency & power: 868MHz - 915MHz/ 100mW
- Antenna connector: IPEX 1

GPS and Compass

- Industry leading -167 dBm navigation sensitivity
- Navigation update rate up to 25 Hz
- Position accuracy: 2.0m CEP
- Cold starts: 29s
- LIS3MDL Compass

FPV Camera

- Sensor: 1/3" CMOS, Pixel Size: 3.75 x 3.75µm, Sensitivity: 6500mV/lux-sec
- Resolution: 720x480 60Hz
- FOV & Output: FOV-D(195°), FOV-H(162°), FOV-V(125°), NTSC/PAL, 4:3/16: 9 Switchable

Motor-3115 KV900

- Motor code: 3115 · 900KV
- Outer dimensions (Ø × L): 37.2 × 51.1 mm
- Pole/slot count: 12N14P
- KV: 900 KV
- Shaft diameter: 5 mm
- Motor mounting: 4×M3, Ø19.00 mm bolt circle
- Motor wires: 18 AWG, 250 mm
- Phase resistance: 38.08 mΩ
- Rated voltage: 4S–8S (14.8V–29.6V)
- Weight (incl. wires): 113.1 g

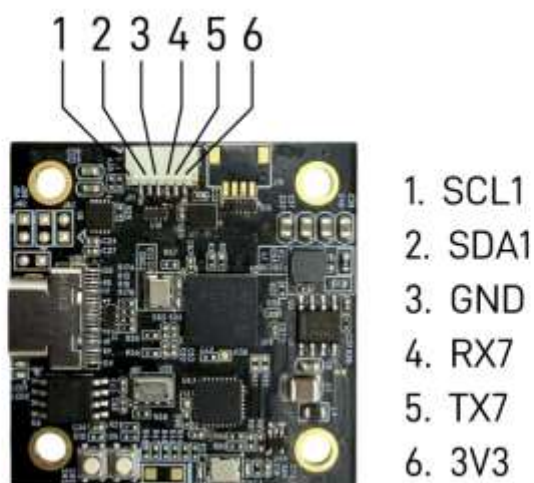
Theoretical No-Load RPM (KV × V)

- 4S (14.8V): 13,300 RPM
- 6S (22.2V): 20,000 RPM
- 8S (29.6V): 26,600 RPM

Payload Capacity

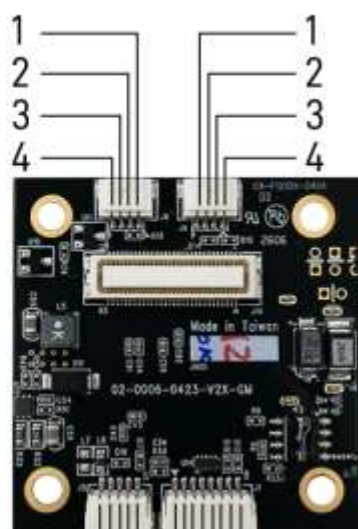
- Maximum payload capacity, including the battery, is 4 kg. This is the total payload the airframe can carry in addition to its own structure, flight controller, ESCs, VTX, and motors.

PIN DESCRIPTION



Camera

- 1. VIDEOIN
- 2. GND
- 3. 5V
- 4. NC

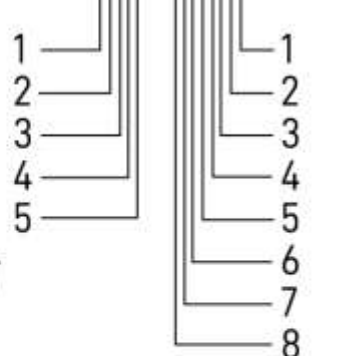


ELRS 915Mhz RX module

- 1. GND
- 2. 5V
- 3. RX1
- 4. TX1

VTX

- 1. 10V
- 2. GND
- 3. TX3
- 4. VIDEOOUT
- 5. RX3



ESC

- 1. GND
- 2. VIN
- 3. PWM1
- 4. PWM2
- 5. PWM3
- 6. PWM4
- 7. RX8
- 8. BATC

CONFIGURATION

ELRS Web Configuration

1. Steps to Access the Web Configuration Interface

Before powering on the ExpressLRS receiver, make sure your ExpressLRS transmitter module is turned off. If the transmitter is on, the receiver may automatically bind to it, preventing Wi-Fi access.

- (1) Turn on your computer's Wi-Fi.

Make sure the wireless adapter is enabled.

- (2) Wait for the list of available networks to appear.

The system will automatically scan for nearby Wi-Fi networks.

- (3) Look for a network named "**ExpressLRS RX**".

It may take a few seconds to appear.

- (4) Click on ExpressLRS RX and enter the password "**expresslrs**" to connect.

- (5) Once connected, open a web browser and go to "**http://10.0.0.1**".

This will open the ExpressLRS configuration page.

Note: LED Indicator

LED Behavior	Mode	Explanation
Slow Blink	ELRS Mode	Receiver is in ELRS mode, waiting to bind or already bound (but no signal).
Fast Blink	Wi-Fi Mode	Receiver is in Wi-Fi mode, ready for configuration via web interface.

WARRANTY

The SELLER warrants the **MD4-EC01-8S-60A 10" Long Range FPV Drone** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surges.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables are limited to a 30 day warranty and cable must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the MD4-EC01-8S-60A features and specifications is subject to change without further notice.**