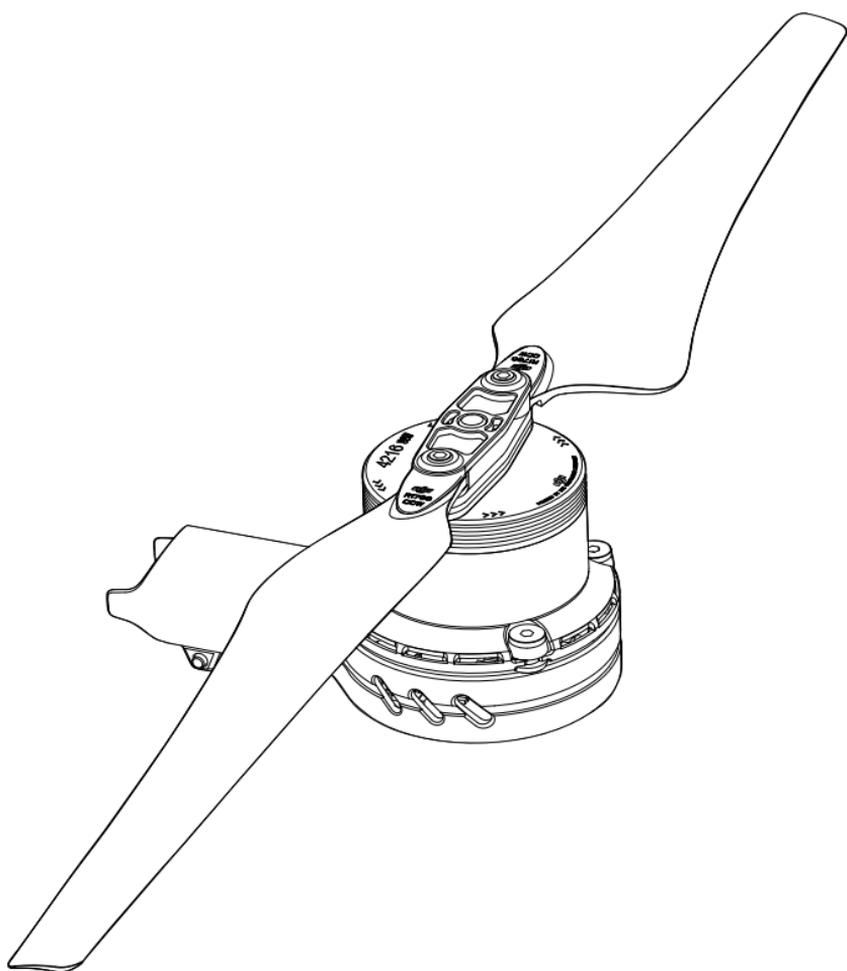


DJI E1200 Pro Tuned Propulsion System

User Manual

V1.2 2015.8



Disclaimer

Thank you for purchasing the E1200 Pro (hereinafter referred to as “product”). Read this disclaimer carefully before using this product. By using this product, you hereby agree to this disclaimer and signify that you have read it fully. Please install and use this product in strict accordance with the manual. DJI assumes no liability for damage(s) or injuries incurred directly or indirectly from using, installing or refitting this product improperly, including but not limited to using accessories not designated.

This device complies with part 15 of the FCC Rules.

DJI is the registered trademark of SZ DJI Technology Co., Ltd. (abbreviated as “DJI”). Names of product, brand, etc., appearing in this manual are trademarks or registered trademarks of their respective owner companies. This product and manual are copyrighted by DJI with all rights reserved. No part of this product or manual shall be reproduced in any form without the prior written consent or authorization of DJI.

This disclaimer is made in various language versions; in the event of divergence among different versions, English version shall prevail.

Warnings

When powered on, the motors and propellers will rotate very quickly and may cause serious damage or injury. Always be vigilant and make safety your top priority.

1. Always fly your aircraft at a safe distance from people, animals, power lines, and other obstacles.
2. Do not get close to or touch the motors or propellers when the unit is powered on.
3. Ensure that there are no short circuits or open circuits.
4. Before flying, ensure that the propellers and motors are installed correctly and that the propellers are unfolded.
5. Ensure that all dampers are in good condition before every flight. If they are not, they may adversely affect flight performance and should be replaced prior to flight.
6. Check to ensure that all parts of the aircraft are in good condition before flight. Do not fly with worn or damaged parts.
7. Only use compatible DJI parts.

Legend

 Important

 Hints and Tips

If you encounter any problems or if you have any questions, please contact your local DJI authorized dealer or DJI Support.

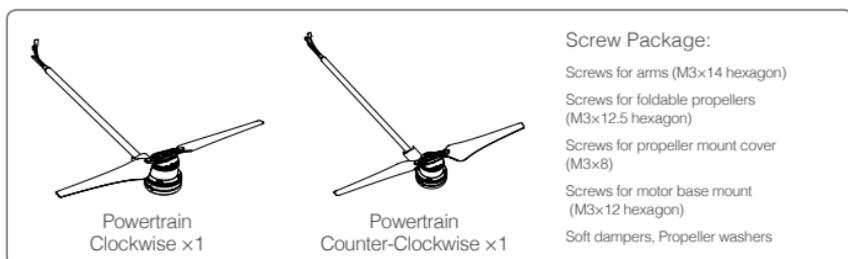
DJI Support Website:
www.dji.com/support



About

The E1200 Pro Tuned Propulsion System is a multirotor propulsion system that is designed for multi-rotor aircrafts with 7-15 kg weight limits. The E1200 Pro features enhanced efficiency, security and endurance. The design of the powertrain provides effective protection for the internal mechanisms while making assembly and configuration more convenient. The Z-Blade 17-inch foldable propellers are made using an advanced carbon-fiber-reinforced polymer, which reduces rotational inertia and enhances rigidity. New, upgraded motors promote efficient heat dissipation to improve endurance and reliability, even when flying in harsh environments. The Smart ESCs feature a sinusoidal drive, which provides greater efficiency and more agile dynamic response. High visibility LED indicators provide real-time motor status information, enhancing flight safety.

1. In the Box



2. Gain Value Settings

The new E1200 Pro ESC, features a sinusoidal drive, which replaces the traditional square wave drive to offer improved performance when accelerating and decelerating. To achieve the same sensitivity as older ESCs, which use a traditional square wave drive, reduce the gain values according to your flight control system and frame. The table below shows typical gain values when using the E1200 Pro with a DJI A2 flight control system and a DJI S900 multirotor flying platform with a takeoff weight of 8 kg:

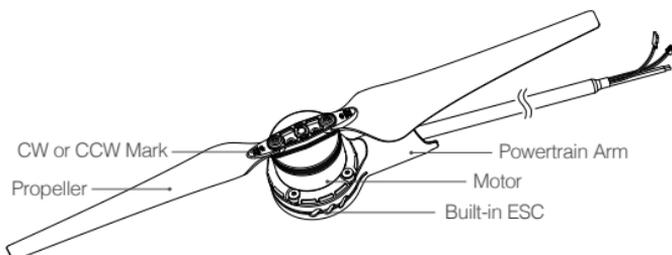
Basic			Attitude		
Pitch	Roll	Yaw	Pitch	Roll	Vertical
90%	90%	80%	130%	130%	100%

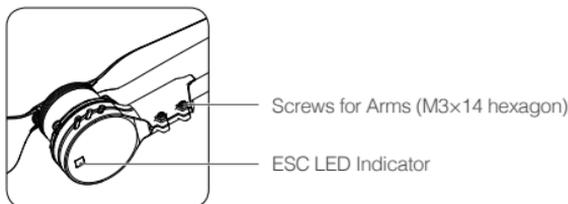
The data above is based on ESC firmware v1.5 or above

3. Mounting the Powertrains



- The powertrains are compatible with frame arm tubes that have a diameter of 25 mm. Only mount the powertrains to appropriate frame arm tubes.
- Identify the clockwise and counter-clockwise marks on the propellers and mount the powertrains to the corresponding arm tubes of your frame.





The arm fixation screws (M3×14 hexagon) should be adjusted using an appropriate hex key.

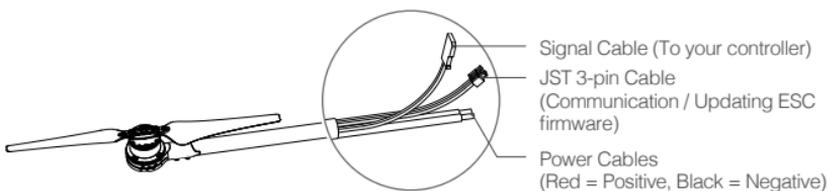
- 1) Loosen the two arm fixation screws (M3×14 hexagon) on the arm of the powertrain.
- 2) Pull the cables of the powertrain through the frame arm tube. Then insert the frame arm tube into the powertrain arm.
- 3) Align the components so that the propeller will be oriented upward after assembly is complete.
- 4) Tighten the two screws (M3×14 hexagon) on the arm of the powertrain.

4. System Connection

Tools Required

Tools: Electric soldering iron and soldering tin

Use: Soldering each powertrain's power cables



- 1) Solder the power cables of each powertrain to the frame's power system. Make sure that the solder points are strong and that there is no potential for short-circuits. The red cable should be affixed to the positive terminal and the black cable should be affixed to the negative terminal.
- 2) Connect the signal cable to your controller.



Make sure there are no short-circuits or open circuits.

5. Using the DJI ESC Assistant

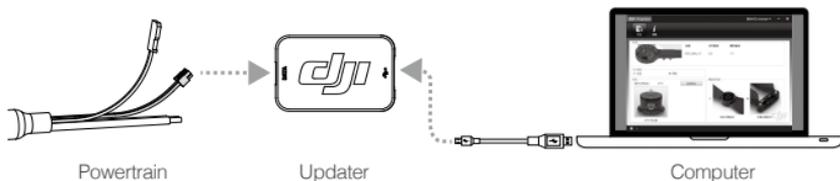
The DJI ESC Assistant is used to upgrade ESC firmware, configure the propulsion system, etc.



- An Updater is required and is not included with the E1200 Pro. To use the DJI ESC Assistant, connect the powertrain to a computer through the Updater, as shown below.

- Download the ESC Assistant:

<http://www.dji.com/product/e1200/download>



Before using the Updater, unplug any other serial devices that are connected to your computer, then follow the instructions below:

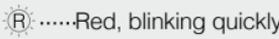
- 1) Download the ESC Assistant from the DJI website. Run the installer and follow the prompts to complete the installation process.

- 2) Plug the powertrain's JST 3-pin cable into the data port of the Updater and use a Micro-USB cable to connect the other end of the Updater to a computer. Turn on the ESC system by connecting it to a 6S LiPo battery and do not disconnect the powertrain from the computer until the configuration is complete.
- 3) Run the ESC Assistant software and wait for the ESC to connect to the program. Watch the indicators on the bottom of the screen. When the ESC has been successfully connected, the "Computer Connection" status will be solid green and the Data Exchange Indicator will blink blue.
- 4) Click on the "View" tab. In the "ESC" section, check the current firmware version and ensure that the installed firmware up-to-date. If it is not, click the link and follow the prompts to update it.



If the ESC is not automatically recognized by the DJI ESC Assistant (the indicators on the bottom of the screen show a solid green and an inactive blue), check whether there is more than one DJI Updater, FTDI USB adapter, or other developer tool (including, but not limited to, BeagleBone, Raspberry, Arduino, etc.), which may use the FTDI chipset, connected to the computer. If any of these FTDI devices are connected, simply unplug them and keep the DJI Updater connected to the computer. Then, restart the DJI ESC Assistant and the ESC system to form a successful connection.

6. ESC LED Indicator & Sound Description

LED Indicators	Sound	Description
 Yellow-Green, blinking in turn	None	Motor is being connected
 Red or Green, blinking slowly	♪1356	Ready
 Solid Red or Green	None	Motor starts normally
 Red-Yellow, blinking in turn	None	Self-test failure
	BB--BB--BB... BBB---BBB...	Input voltage is abnormal The motor parameters don't match the firmware data saved in the ESC
 Yellow, blinking quickly	BBBBBB...	Throttle stick is not at the bottom position
 Yellow, blinking slowly	B----B----B...	No signal input
 Solid Yellow	None	Motors are rotating at full throttle
 Red, blinking quickly	None	Error, land your aircraft immediately*

* You can learn more about an error by connecting the powertrain to the ESC Assistant.



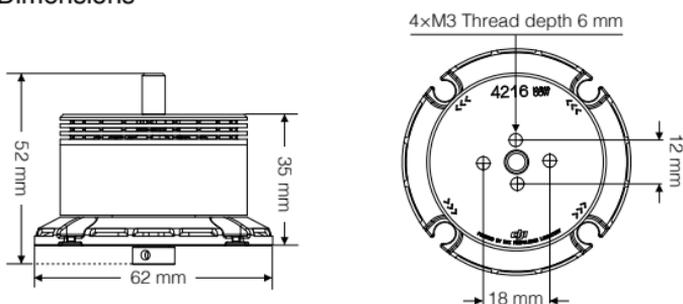
You can interpret the working status of the unit by observing the LEDs and listening to the sounds emitted from the ESC.

7. Specifications

Max Thrust	3900 g/rotor @ 25 V Sea Level
Takeoff Weight Recommended	1200 ~ 1400 g/rotor @ Sea Level
Battery Recommended	6S LiPo

Powertrain Weight (Single)	345 g
Powertrain Cable Length	740 mm
Compatible Arm Tube Diameter	25 mm
Working Temperature	-10 ~ 60°C
ESC	
Max Allowable Voltage	26 V
Max Allowable Current (Persistent)	40 A
Signal Frequency	30 ~ 450 Hz
Battery	6S LiPo
Motor	
Stator Size	42x16 mm
KV	310 rpm/V
Weight	205 g
Propeller	
Diameter / Thread Pitch	17x6.0 inch

Motor Dimensions



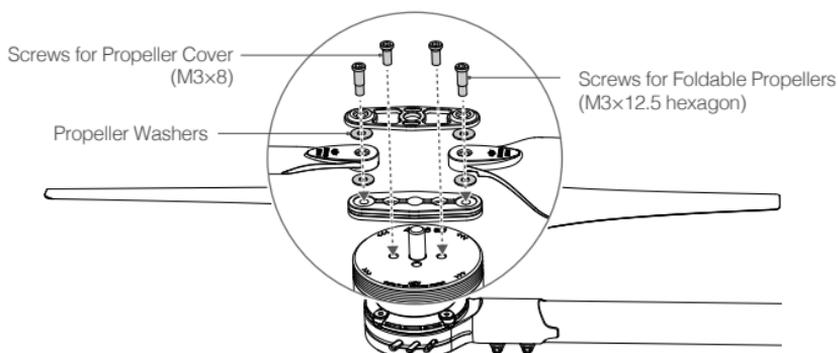
8. FAQ

Remounting the Propellers

- 1) Use two foldable propeller mounting screws (M3x12.5 hexagon), the two propeller cover mounting screws (M3x8), and the four propeller washers to remount the propellers.
- 2) First apply thread locker to the thread of the propeller mount, then tighten the screws until the propeller blades are securely clamped and can rotate freely.

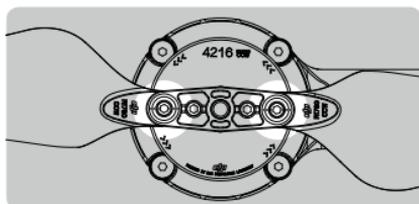


Loose screws cannot be securely locked in place with thread locker.



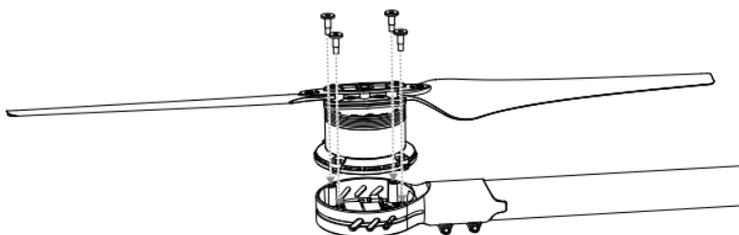
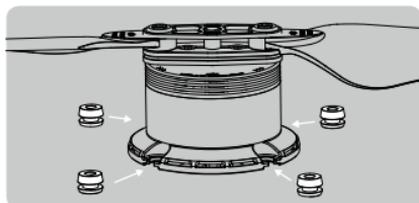
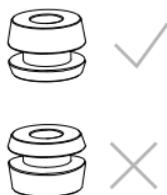
Propeller Precautions

Check the markers on the screws and propeller covers before every flight. If the propellers are loose, the markers will provide a visual cue, indicating that the screws should be tightened.



Assembling Motor Vibration Absorbers

Affix the motor vibration dampers, as shown below. First insert the dampers, then tighten the four screws on motor base mount (M3×12 hexagon). The assembly process is identical for both the clockwise and counter-clockwise propellers.



Ensure that all dampers are in good condition before every flight. If they are not, they may adversely affect flight performance and should be replaced immediately.

The content is subject to change.

Download the latest version from
<http://www.dji.com/product/e1200>



If you have any questions about this document, please contact DJI by sending a message to DocSupport@dji.com.

© 2015 DJI. All Rights Reserved.