



### NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby LLC. For up-to-date product literature, visit horizonhobby.com and click on the support tab for this product.

### MEANING OF SPECIAL LANGUAGE

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

**NOTICE:** Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

**CAUTION:** Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

**WARNING:** Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.



**WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.



**CAUTION:** This product can become extremely hot when in use, which could lead to burns.

**Age Recommendation: Not for children under 14 years. This is not a toy.**



**CAUTION:** Failure to exercise caution while using this product and comply with the following precautions could result in product malfunction and/or void the warranty.

Thank you for purchasing a Kinexsis™ Indoor Outrunner motor. Kinexsis Indoor Outrunner motors are designed to deliver clean and quiet power for a range of 3D, sport and scale airplanes.

### FEATURES

- High-torque, direct drive alternative to inrunner brushless motors
- Quiet, lightweight operation
- High-quality construction with ball bearings and hardened steel shaft

**NOTICE:** The maximum operating temperature is 220°F (104°C). The maximum burst current duration is 60 seconds. Decrease the throttle to let the motor cool after operation at maximum current levels and to prevent overheating.

### BATTERY CHOICES

We recommend Kinexsis™ batteries for the Kinexsis Indoor Outrunner motors, depending on the airplane application. Battery technology is constantly changing and manufacturers are improving and updating older packs with new ones. Please refer to your model's manual or our website for recommended batteries.

### OPERATING THE MOTOR

1. This brushless motor requires a sensorless brushless speed control (electronic speed control or ESC). Failure to use the correct ESC may result in damage to the motor and/or speed control. Refer to your ESC instructions for correct operation with this motor and a propeller.
2. Install the included bullet connectors on the motor and ESC using solder and heat shrink insulation (to prevent short circuiting). The 3 motor wires can be connected in any order to the 3 ESC output wires or output port on an ESC.
3. Make sure the motor turns in the correct direction for your model. Change the direction the motor turns by changing the connection of any 2 motor wires on the ESC.
4. Install a balanced propeller on the motor after you ensure the motor turns in the proper direction.
5. Make sure the motor is mounted on the model to ensure good air circulation during operation. The motor generates heat when operated at maximum power. The user is responsible to make sure the motor does not overheat. Overheating the motor is not covered under any warranty.
6. Never cut or otherwise change the length or size of the motor wires. Remove the connectors by heating and removing solder.

**NOTICE:** Any modification of the motor that is not approved by Horizon, including changing the motor wires, may damage the motor. It will also void the warranty and result in refusal of service by Horizon.



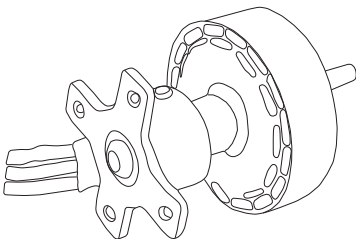
**CAUTION:** Always keep hands and loose items away from the propeller when the motor is connected to power. Failure to do so could result in personal injury and/or property damage.

### INSTALLATION

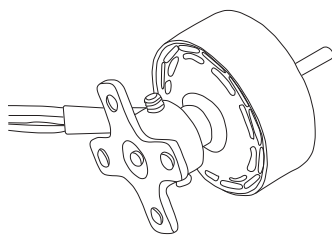
Attachment options are available, such as installing the motor in the fuselage or (when using cowlings) attaching the motor using after market standoffs.

1. Refer to the model plans for the recommended motor installation position. Align and center the motor mount on the firewall for correct propeller clearance.
2. Trial-fit the aluminum X-mount against the front of the firewall of your model and use a pen to mark the locations of the four screw holes.
3. Drill appropriate size holes to fit blind nuts (not included). Always be sure to maintain the proper thrust line and account for adequate prop/spinner clearance for your model.
4. Install 4 blind nuts on the inner side of the firewall.
5. Attach the aluminum X-mount to the firewall using the blind nuts (not included) and 4 washers (not included).

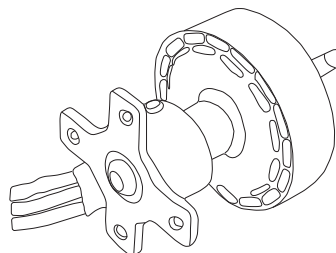
**IMPORTANT:** At final assembly, apply a small amount of blue threadlock to all screws and bolts (with the exception of the prop mounting screws) to keep these fasteners from becoming loose.



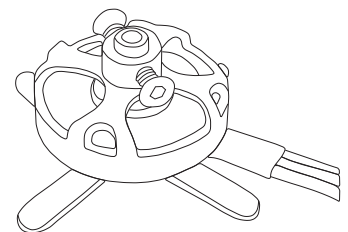
**KXSS1201**



**KXSS1202**



**KXSS1203**



**KXSS1204**



## SPECIFICATIONS

	KXSS1201	KXSS1202	KXSS1203	KXSS1204
<b>Diameter</b>	17.5mm (0.69 in)	22.3mm (0.88 in)	26.9mm (1.06 in)	30.1mm (1.19 in)
<b>Case Length</b>	21.8mm (0.86 in)	23.1mm (0.91 in)	32mm (1.26 in)	25.8mm (1.02 in)
<b>Number of Poles</b>	12	12	16	22
<b>Weight</b>	10 g (0.35 oz)	15 g (0.53 oz)	23 g (0.81 oz)	24 g (0.85 oz)
<b>Shaft Diameter</b>	2mm (0.08 in)	2mm (0.08 in)	3mm (0.12 in)	3mm (0.12 in)
<b>RPM/Volt (Kv)</b>	1800	1700	1700	1800
<b>Idle Current (I<sub>o</sub>)</b>	0.2A	0.3A	0.6A	0.6A
<b>Resistance (R<sub>i</sub>)</b>	.85 Ohm	.39 Ohm	.18 Ohm	.15 Ohm
<b>Continuous Current</b>	2.8A	3.5A	7.8A	9.4A
<b>Max Burst Current</b>	6A 60 Sec.	8A 60 Sec.	10A 60 Sec.	12A 60 Sec.
<b>Input Watts</b>	up to 35	up to 55	up to 90	up to 110
<b>Brushless ESC</b>	KXSS2401	KXSS2401	KXSS2402	KXSS2402
<b>Cells</b>	2 Li-Po	2 Li-Po	2-3 Li-Po	2-3 Li-Po
<b>Recommended Props</b>	@7.4V 7 x 3.5: 2.8 A, 140 g thrust 6 x 3: 2.0 A, 120 g thrust	@7.4V 7 x 3.5: 3.5 A, 190 g thrust 8 x 4.3: 6.1 A, 250 g thrust	@7.4V - 8 x 4.3: 8 A, 360 g thrust @11.1V - 7 x 3.5: 7.8 A, 450 g thrust	2s: 8x4,3 3s: 7x3,5

\*Proper cooling and airflow required

## LIMITED WARRANTY

**What this Warranty Covers** - Horizon Hobby, LLC (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

**What is Not Covered** - This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) installed service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

**Purchaser's Remedy** - Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

**Limitation of Liability** - HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

**Law** - These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

## WARRANTY SERVICES

**Questions, Assistance, and Services** - Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions

or assistance, please visit our website at [www.horizonhobby.com](http://www.horizonhobby.com), submit a Product Support Inquiry at <https://horizonhobby.quickbase.com/db/bghj7ey8c?a=GenNewRecord>, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

**Inspection or Services** - If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center). If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**NOTICE: Do not ship Li-Po batteries to Horizon. If you have any issue with a Li-Po battery, please contact the appropriate Horizon Product Support office.**

**Warranty Requirements** - For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

**Non-Warranty Service** - Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website [http://www.horizonhobby.com/content/\\_service-center\\_render-service-center](http://www.horizonhobby.com/content/_service-center_render-service-center).



**ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced.**

**Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.**

## WARRANTY AND SERVICE CONTACT INFORMATION

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	<a href="http://servicecenter.horizonhobby.com/RequestForm/">servicecenter.horizonhobby.com/RequestForm/</a>	4105 Fieldstone Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	<a href="http://www.quickbase.com/db/bghj7ey8c?a=GenNewRecord">www.quickbase.com/db/bghj7ey8c?a=GenNewRecord</a> 888-959-2306	
	Sales	<a href="mailto:sales@horizonhobby.com">sales@horizonhobby.com</a> 888-959-2306	