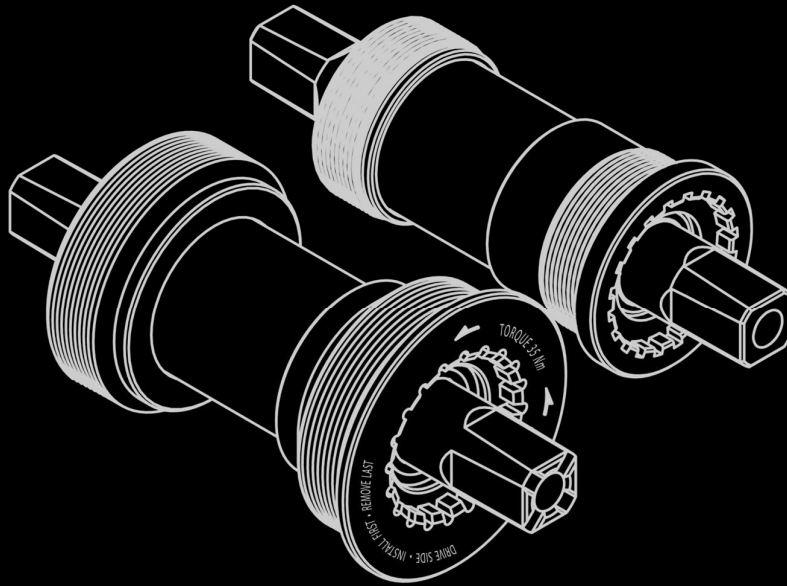




Product Manual

ST-SQ-1



Original Instruction

Version 230619

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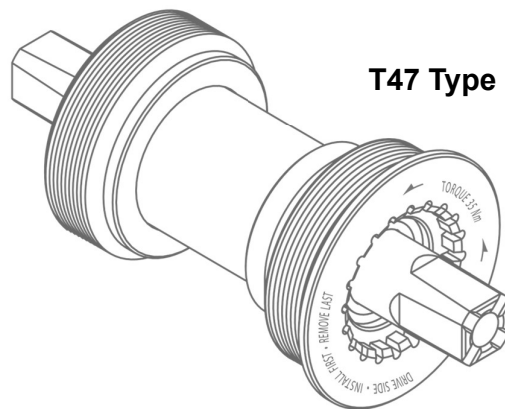
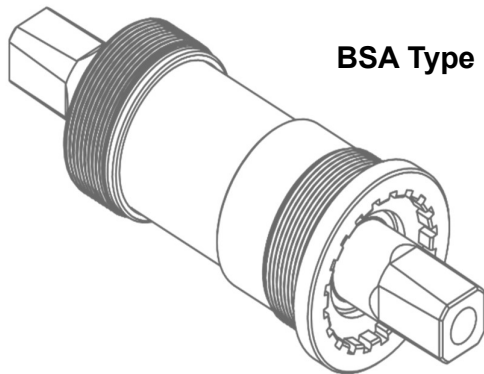
Introduction

This manual is intended primarily for the trained technician to install, disassemble, or maintain the Hyena e-bike system only. Please read all the safety warnings and instructions carefully. Failure to follow the warnings and instructions may result in death or severe injuries. Save this manual for future reference.

Product Features

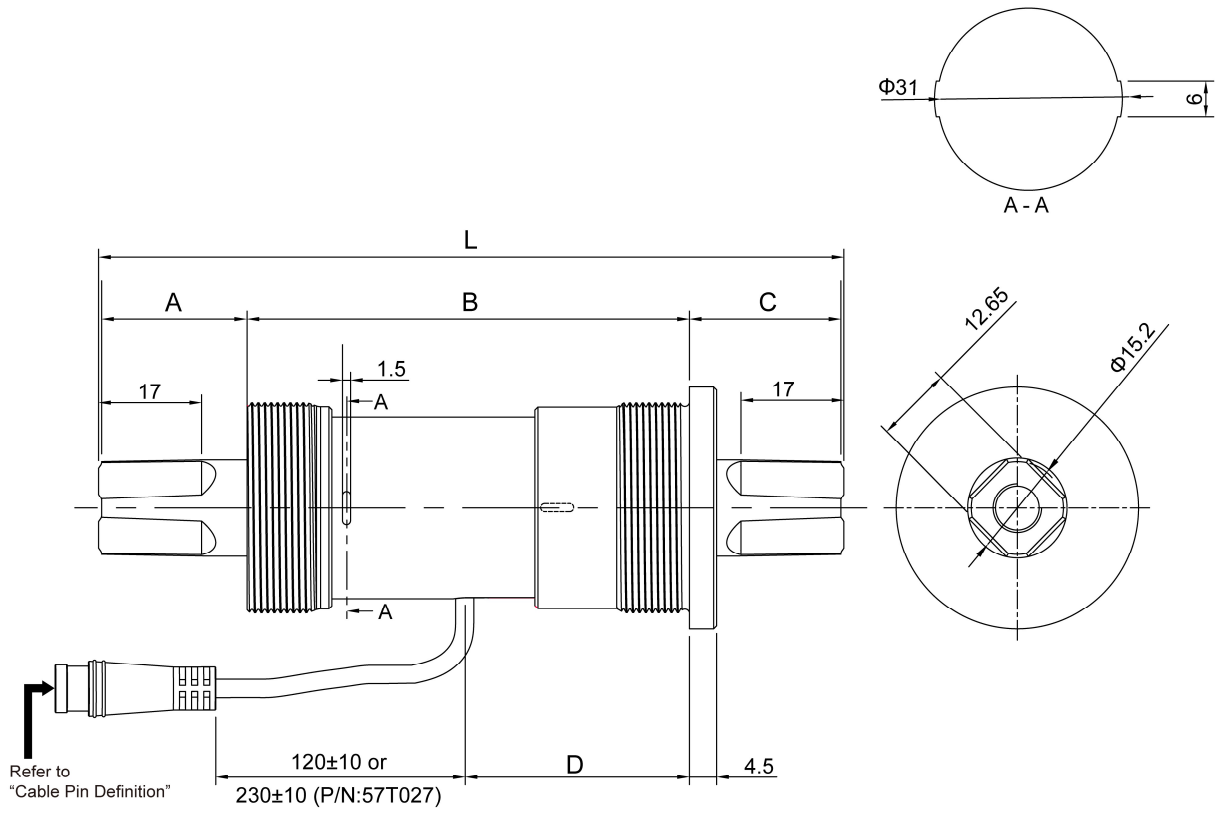
Product Description

The **ST-SQ-1** is a BB-type unilateral crank torque sensor used on Hyena system e-bikes to detect the pedal torque and rotation speed. It features a simple design and small size with high measurement accuracy and linear signal.



Product Dimension

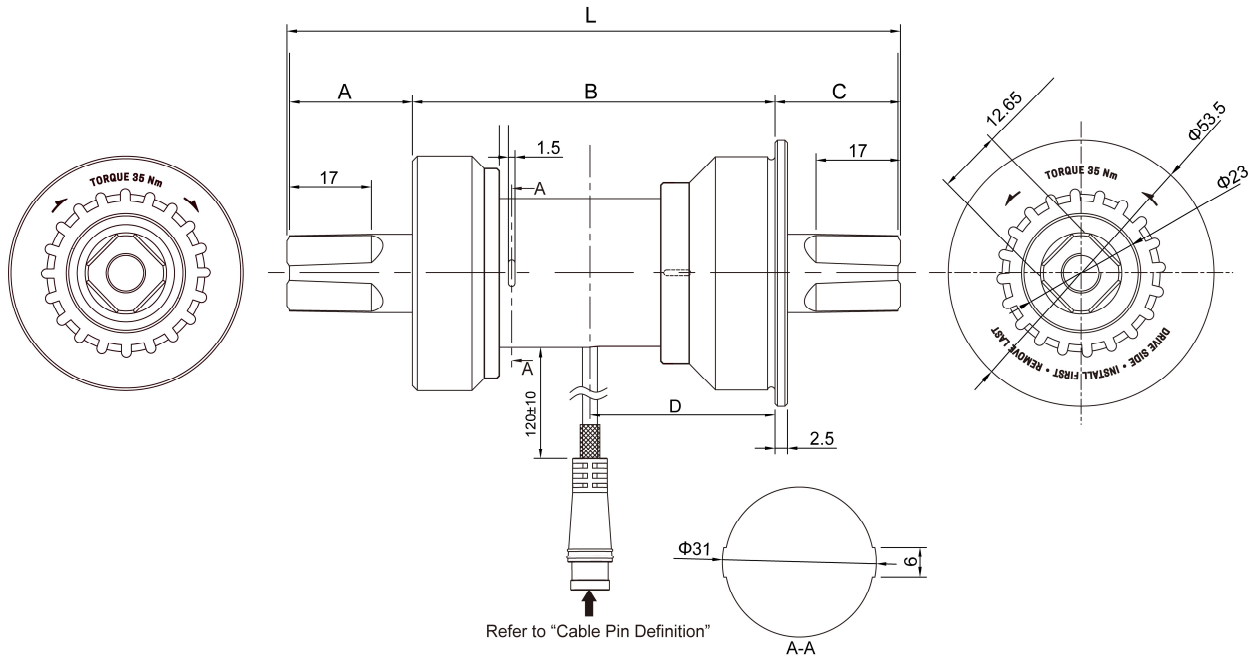
BSA Type



unit: mm

L	A	B	C	D	Product No.
Spindle length	Left side	Housing distance	Right side	Cable to BB(R)	
123 mm	26.5 mm	68 mm	28 mm	34 mm	57T008
123 mm	24.5 mm	74 mm	24.5 mm	37 mm	57T021
148 mm	22 mm	100 mm	25 mm	50 mm	57T027
123 mm	24.5 mm	74 mm	24.5 mm	37 mm	57T029

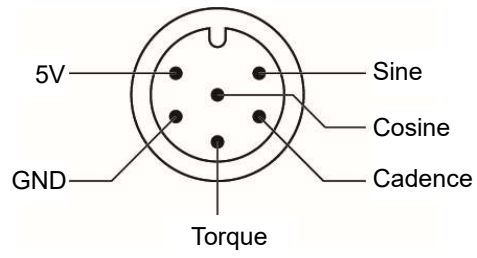
T47 Type



unit: mm

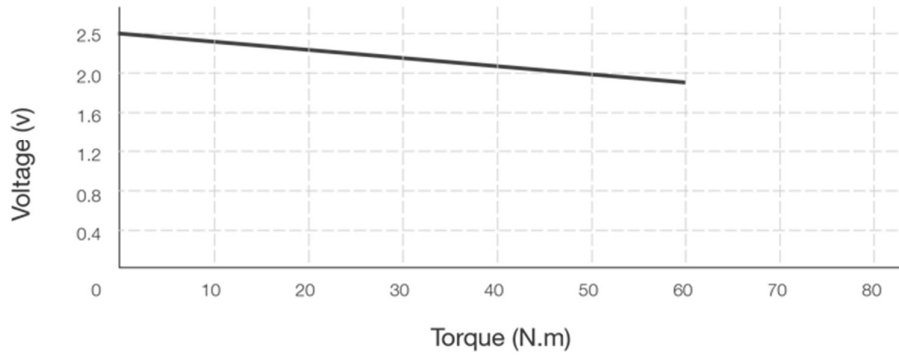
L	A	B	C	D	Product No.
Spindle length	Left side	Housing distance	Right side	Cable to BB(R)	
123 mm	24.75 mm	73 mm	24.75mm	37 mm	57T022
111.5 mm	20 mm	69 mm	21.5 mm	34.8 mm	57T025
123 mm	24.75 mm	73 mm	24.75mm	37 mm	57T030
111.5 mm	20 mm	69 mm	21.5 mm	34.8 mm	57T031

Cable Pin Definition

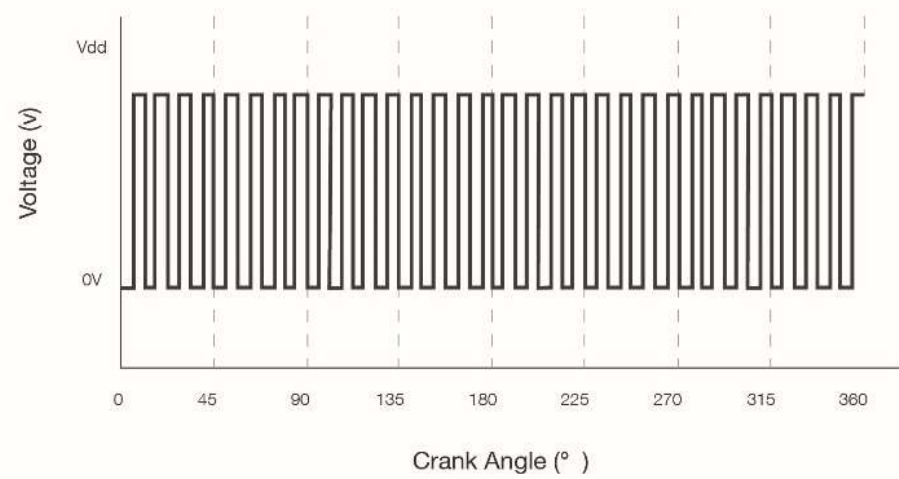


Signal Charts

Torque Signal



Cadence Signal



Technical Data

Function

Pedal force detection	Single side	Left side
Pedal cadence detection	32 signals	

Characteristic

Operating voltage	5.0 ± 0.5 V
Operating temperature	-20°C to +60°C @80%RH
Storage temperature	-20°C to +80°C @80%RH
Waterproof level	IP65
Applicable torque range	2-60Nm
Resolution	10mV/Nm
Output voltage	1.9 to 2.5V


Mounting Parameter

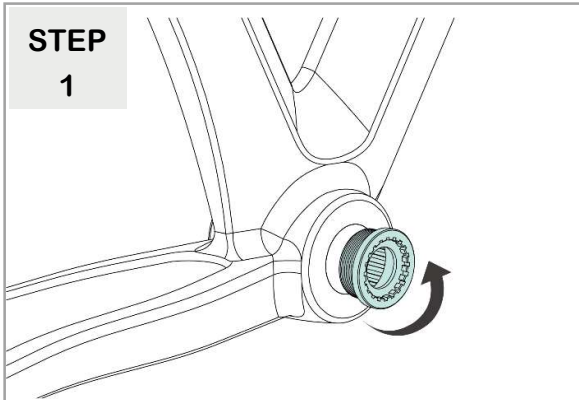
Spindle length	BSA type: 123/148 mm T47 type: 123/111.5 mm	Refer to the product dimension.
Spindle type	Square	
BB housing type	BSA/T47	
Cup thread	BSA type: 68/74/100 mm T47 type: 69/73 mm	Refer to the product dimension.
Cable length	120 mm	57T008, 57T021, 57T029
	230 mm	57T022, 57T025, 57T030, 57T031 57T027
Connector	JL-F-Z609AG	

Certification

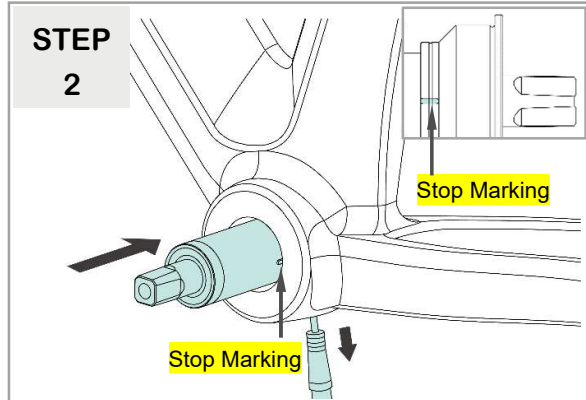
EN 15194:2017	Yes
EN 14764	Yes
EN 60529	Yes
RoHS	Yes

Mounting Instructions

- Use the proper bicycle tools during the installation or removal process.
- Fasten the product with the correct torque value during installation to avoid affecting signal accuracy.
- Carefully install this product is necessary, do not strike it with any tool such as a hammer or wrenches.
- **NOTE!** The image of the bike frame, bowl cup type, and cable direction seen in the manual may be different from the actual bike but will be enough to help you understand related sensor install instructions.
-  **Warning!** Do NOT use any tool with strong magnetic during assembly; this may lead to permanent damage.

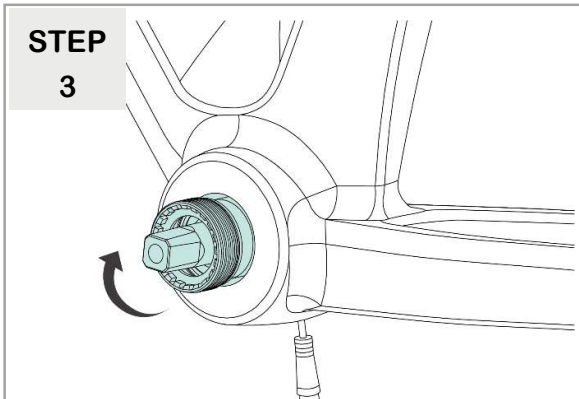


Insert and tighten the right side of the bottom bracket bowl cup with torque to 35 Nm.

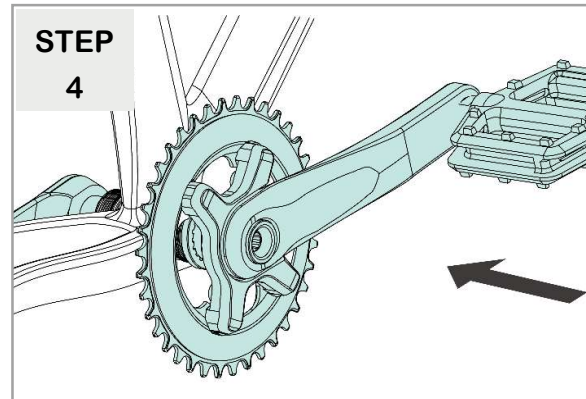


Insert the sensor from the left side and pull the cable from the bottom bracket's bottom hole.

NOTE: Please pay attention to the direction of the "Stop Marking" as shown.



Insert and tighten the bracket bowl cup of the left side bottom with torque to 35 Nm.



Install the chainwheel and cranks.

Safety Instructions

Instructions Pertaining To A Risk Of Fire, Electric Shock, Or Injury To Persons

WARNING! When using the **ST-SQ-1 Torque Sensor**, basic precautions should always be followed, including the following:

- Read all the instructions before using the product.
- Close supervision is necessary to reduce the risk of injury when the product is used near children.
- Do NOT put fingers or hands into the product.
- Do NOT use this product if the flexible power cord or output cable is frayed, has broken insulation, or any other signs of damage.
- All the component leads shall use original Hyena components.
- This product is not intended to be used at ambient temperatures less than -10°C (14°F) or above ambient temperatures of 60°C (140°F).
- Do NOT immerse the product or any e-system component in water.
- Do NOT place the product or any e-system component near fire or heat.
- Always turn off the e-bike system and remove the battery before installing, disassembling, or modifying any components on the e-bike.
- Do NOT store the product at ambient temperatures less than -20°C (-4°F) or above ambient temperatures of 80°C (176°F).
- Cover the product to prevent sunlight damage if you keep it stored at any place for more than a week.
- Store the product on a fireproof surface without contact with water, heat, or sand.
- Do NOT place any heavy item on the product or any e-system component.
- Do NOT place the product or any e-system component in the car trunk for over a day.
- Do NOT load or move the product in the rain whenever possible, and make sure it has no moisture or mildew before loading it.
- Do NOT drop the product from over 30cm (11.81 inches).

Important Notice

- This product manual is intended primarily for the trained technician to install, disassemble, or maintain the e-bike.
- Users not professionally trained for bicycle assembly should not attempt to install, disassemble or modify the components themselves.
- All Hyena e-system manuals and technical documents are accessible online at “www.hyena-ebike.com”.
- The term “battery” is used in these instructions to mean all original Hyena e-Bike batteries.
- Read and observe the safety warnings and directions contained in all the Hyena e-bike system operating instructions and in the operating instructions of your e-bike.

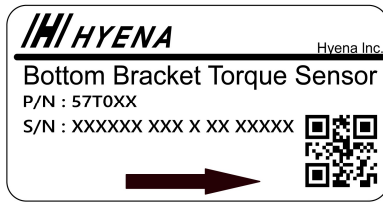
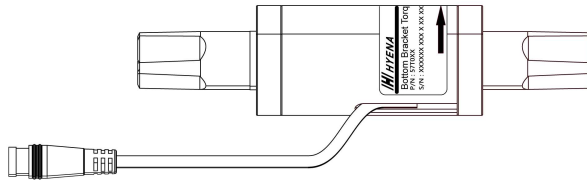
Moving and Storage Instructions

CAUTION! Do NOT place the sensor near any strong magnets or magnetic tools in any situation, as this may lead to changes within the spindle’s magnetic field. Furthermore, it causes the sensor to lose its functionality permanently!

- Please keep the product and all e-system components in their original package and keep tools or other metal objects away from them during storage and moving.
- If you did not keep the original packaging, they can be packed in solid cartons with proper packing materials such as bubble wrap or soft cloth, and label the cartons “Fragile.”

Product Label

You can find the Product Description, Product Number, and Series Number on the product label of the torque sensor.



Maintenance

- Do NOT clean the product or any e-system component with detergent or organic solvent. Only clean the product with a water-dampened soft cloth.
- Do NOT clean the product or any e-system component with pressured water.

Disposal

- In accordance with Directive 2012/19/EU, electronic devices that are no longer usable and defective/ drained batteries must be collected separately and recycled in an environmentally friendly manner.



This symbol is only valid within the European Union. Follow local regulations when disposing of used batteries. If you are not sure, consult the place of purchase or a bicycle dealer

- The e-system drive unit, including the motor, controller, battery, speed sensor, torque sensor, HMI, accessories, and packaging, should be disposed of in an environmentally correct manner.
- Do NOT dispose of e-bikes and their components with household waste.

SAVE THESE INSTRUCTIONS

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