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ELIY Power Announces Adoption of HY93 Lithium-Ion Starter Battery in Honda's Mass-Produced Motorcycles for the first time

ELIY Power Co., Ltd. (Head Office: Shinagawa-ku, Tokyo, Japan; President: Hiroichi Yoshida) today announced that its HY93 lithium-ion motorcycle starter battery has been adopted for the 「CBR1000RR Fireblade SP/SP2」 sport bike to be released by Honda Motor Co., Ltd. (Head Office: Minato-ku, Tokyo, Japan; President: Takahiro Hachigo). This will be the first time Honda uses a lithium ion battery as the starter battery for a mass-produced motorcycle.

Co-developed with Honda, HY93 is a lithium-ion motorcycle starter battery that is interchangeable with a lead-acid battery. The HY93 is based on the core technologies that ELIY Power has built up in the field of stationary batteries to offer world-leading safety*¹, long cycle life and wide operating temperature range. It meets all the requirements of a starter battery in terms of safety, excellent startability and long cycle life.

*1 First to acquire certification of the safety standards (Abuse Test Manual for Lithium-ion cells v. 2:2011) published by TÜV Rheinland Japan Ltd., a global third-party testing and certifying body.



*image for presentation purpose only

starter battery HY93



CBR1000RR Fireblade SP



CBR1000RR Fireblade SP2

◆Main Features

1. Interchangeable with a lead-acid battery, maintenance free and can be left unused for a long period of time

2. High level of safety recognized by Honda and TÜV Rheinland Japan Ltd., a global third-party testing and certifying body

◆Details of Features

1. Interchangeable with lead-acid battery, maintenance free and can be left unused for a long period of time^{*2}

In the past, lead-acid batteries have been used as motorcycle starter batteries. However, the drawback to lead-acid batteries is that they go flat if unused for a long period of time, requiring users to charge batteries regularly during winter or prolonged storage. Lead-acid batteries also have a short life and need to be replaced every few years. Lithium-ion batteries, on the other hand, have the advantage of being more compact and lightweight than lead-acid batteries, and having low self-discharge and a long cycle life. However, the downside is that when used as starter batteries, lithium-ion batteries are inferior to lead-acid batteries in terms of safety, engine starting performance at low temperatures and the deterioration was also a problem when charging at low temperatures. ELIY Power solved these issues with its own technologies and developed a starter battery that could start an engine in the wide temperature range from cold (-10°C) to hot (65°C). Even in an environment at -10°C, HY93 demonstrates powerful engine starting performance.

^{*2} There is no guarantee that the HY93 is maintenance free under all conditions since it relies on the dark current flowing through the vehicle when the engine is stopped.

2. High level of safety recognized by Honda and TÜV Rheinland Japan Ltd., a global third-party testing and certifying body

A starter battery is a product that may come into direct contact with users' hands and a high level of safety is, therefore, required. The HY93 battery cleared Honda's strict quality standards and also acquired safety certification^{*3} from TÜV Rheinland Japan Ltd., a global third-party testing and certifying body. The HY93 battery has a BMU (Battery Management Unit) built in the battery pack to enhance safety not only in terms of the battery but also in terms of system control. It also has a PPS (Polyphenylene sulfide) resin external coating, offering excellent durability and environment resistance.

^{*3} ECE R 136: 2016 Part II (Clause 6)、GB/T 31485: 2015 Clause 6.3.8、IEC 60529: 1989+A1+A2 Clause 14.2.6 (IPX6)

◆Main Specifications

Product Name/Model	HY93		
Size	W112×D70×H93 mm	Weight	1.05kg
Rated Capacity	4.5Ah	Rated Voltage	12V
Operating Temperature Range	-10°C ~ 65°C	CCA	85 A or more

ELIY Power has realized high safety of large-lithium-ion batteries and played a leading role in the energy storage market, developing long cycle life and wide operating temperature range. This safety and technology was recognized, and two years ago ELIY Power began co-development of starter batteries with Honda. In 2015, ELIY Power concluded a technical sponsor agreement with Honda Racing Corporation and conducted repeated testing under harsh conditions in actual motocross events. This motorcycle starter battery will further develop in terms of size and performance as the HY Series, and ELIY Power plans to enter the aftermarket for those who would like to replace their lead-acid battery with lithium-ion one in the near future.

- ◆ Honda :New Fireblades and CB1100s are Honda highlights at Intermot show in Cologne
<http://world.honda.com/news/2016/2161004beng.html>
- ◆ ELIY Power : Toray's PPS Resin for Motorcycle Starter Batteries
http://eliypower.co.jp/english/news/pdf/20160519_Release.pdf
- ◆ ELIY Power : ELIY PowerSigns Deal to be aTechnical Sponsor ofHonda Racing Corporation
http://eliypower.co.jp/english/news/pdf/20160216_Release.pdf

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