



# How we set up the new standards for Lithium battery systems

## eFLEX 5.4

When Fortress Power CTO, Eric Wang set out to create an innovative new product, he thought about the needs of the consumer.

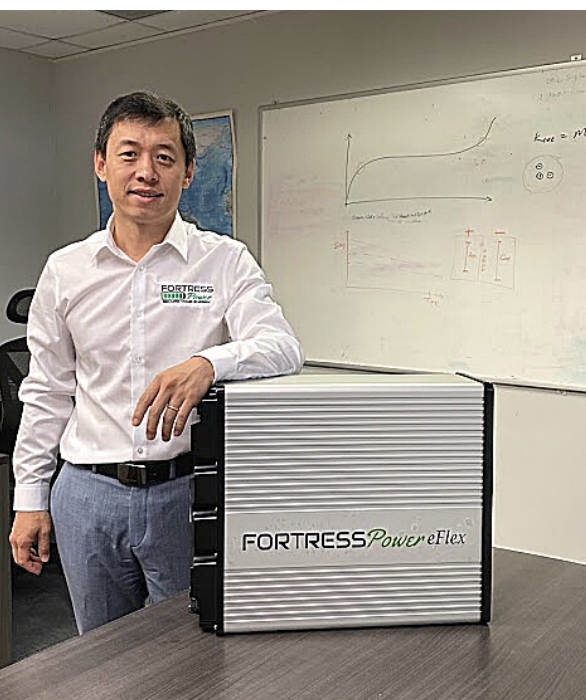
What did our customers need from our products?

He thought about one product to fit a multitude of applications so that our customers got more than they expected. This required the new battery to have:

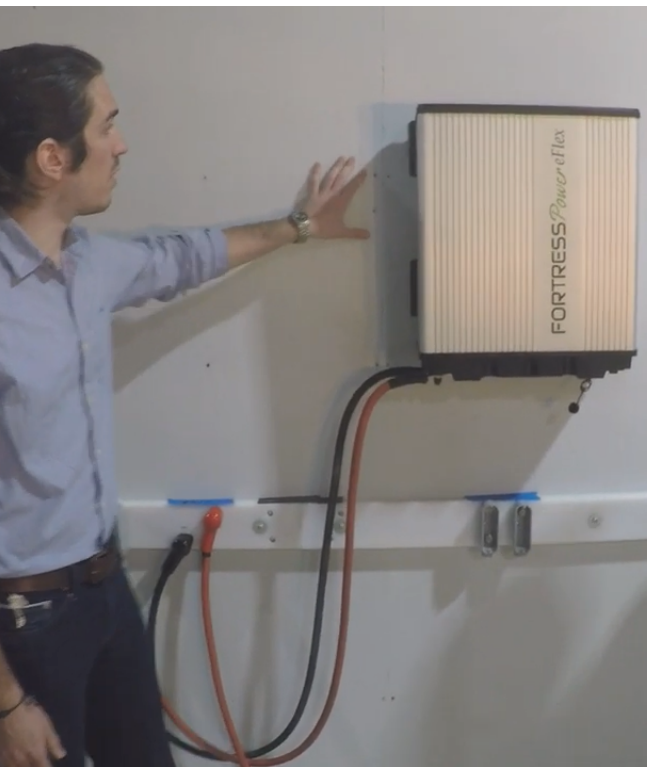
- High Power Output
- Highly Scalable Solution
- High IP rating for Climate Resistance
- A Battery Management System (BMS) that is smart enough to keep the longevity of the battery system
- Must be aesthetically pleasing



The Solid State relay-based BMS allows a single unit to surge 5kW for 60 minutes and 6.6kW for 5 seconds. If you need more Power Output, simply stack more units in parallel. You can stack 15 units max. and connect them to one inverter. For our clients in the tropical regions, the IP 65 rated waterproof Aluminum enclosure should give you peace of mind.



Traditionally the inverter determines when to stop charging and discharging the battery by measuring the battery voltage. The challenge is using the battery's voltage to calculate the its State of Charge (SoC), which could cause a variation greater than +10%. Therefore, we built the Bridge Modbus into our new eFlex 5.4, to enable communication with multiple brand inverters. Consequently, we incorporated a few new features to the eFlex 5.4. We programmed an algorithm into the smart BMS, so it records the battery voltage, charging/discharging current, and internal resistance to qualify the State of Charge. The BMS sends SoC, Voltage, Current and Temperatures to the inverter - which is the best way to guarantee a seamless operation and the longevity of the battery system.



When it comes down to customer/user experience, we want to go above and beyond. We're designing an affordable racking system with built-in Busbar to streamline paralleling multiple eFlex units. This saves the installer valuable time during installations. Our goal was for this battery system to be a one-person installation!

Furthermore, we're building a cloud based monitoring solution to enable you to keep track your battery from anywhere. You will also receive push messages if your system shuts off or your battery SoC is too low. Also, our engineers can access your battery system remotely at your request and help you with any technical questions or issues.

Fortress Power strives to bring the best products to our customers. This means the new battery, that Eric has created, must meet the utmost important criteria:

Durability  
Smart and Connectivity  
Standard Size but Versatile for Installation

The focus of the innovation was also the chemistry of the eFlex. It has been proven that Lithium Iron Phosphate (LFP) chemistry is the best for energy storage application in terms of safety, cycle time and cost.

Additionally, we choose a more robust and higher power density Prismatic Cells over Cylindrical Cells for both eFlex and eVault.

Finally, the eFlex name was chosen by our team to represent the flexibility of it's installation methods and applications as well as keeping it in the family of its big brother, eVault.

**FORTRESS** *Power* eFlex

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## All-In-One Solution Best Lithium Technology Smart BMS

*If you have any questions regarding  
Fortress Power products, please  
contact us*

*email: [sales@fortresspower.com](mailto:sales@fortresspower.com)*

*phone: 1-877-497-6937*