



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?

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

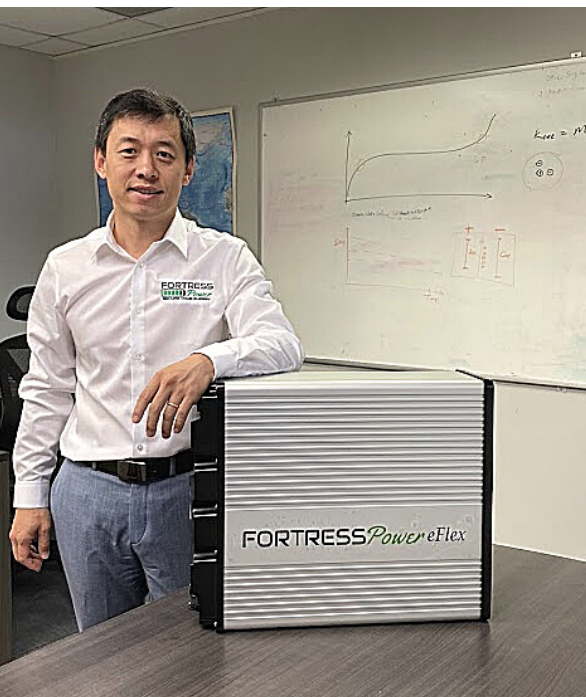
- High Power Output
- Highly Scalable Solution
- High IP rating for Climate Resistance
- A Battery Management System (BMS) that is smart enough to keep the longevity of the battery system
- Must be aesthetically pleasing

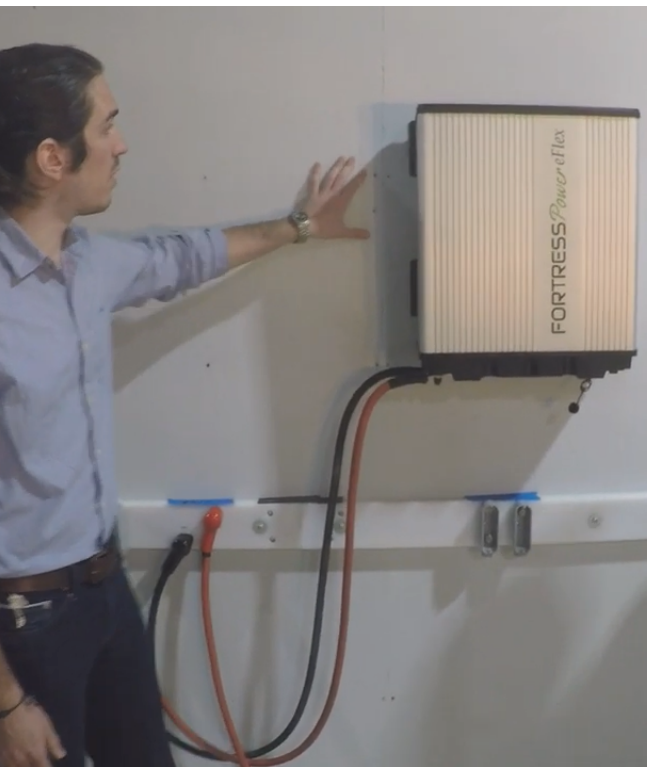


The Solid State relay-based BMS allows a single unit to surge 5kW for 60 minutes and 6.6kW for 5 seconds. If you need more Power Output, simply stack more units in parallel. You can stack up to 15 units and connect them to a single inverter. For our clients in the tropical regions, the IP 65 rated waterproof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

Fortress Power is building a cloud based monitoring solution, enabling 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. For your convenience, our engineers can access your battery system remotely at your request and help 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 upmost 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

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contact us
email: sales@fortresspower.com
phone: 1-877-497-6937*