ISABELLENHÜTTE

Press Information
Isabellenhütte 8 / 2020

D-Dillenburg August 6, 2020

The latest "secret weapon" in EV racing

Huff EV dragster is first to beat 200 mph using unique battery management strategy

IVT-S integration from Isabellenhütte delivers critical data to better balance current draw and torque demand

During a midnight test run at the Tuscon Dragway on May 14, 2020 Steve Huff became the first human to move faster than 200 mph (320 km/h) in an electric dragster. named "Current Technology 2.0."

Built by Huff Motorsports of SeaTac, WA, the dragster (aptly named "Current Technology") is—so far—the only electric car to top 200 mph on the quarter-mile. Huff broke the record on his second pass of the night. His previous speed record in this dragster was 185MPH.

AEM Performance Electronics of Hawthorne, CA, was tasked with designing most of the LV control systems. To manage battery power (without needing an on-board battery management system) they leveraged a "smart-shunt" technology from Isabellenhütte known as the IVT-S.

AEM's Jayson Glanville recalls:

> The vehicle arrived at AEM with an immense amount of power available from the four Phi-Power motors coupled with the four Cascadia PM250 inverters, and it was our job to provide the controls that would not only manage this power but apply it in a fashion that would propel the dragster down the ¼ mile at maximum velocity and tractive force.
>
> The vehicle did not have an onboard BMS available for the VCU to grab the data from and while the inverters report current per inverter, we had no means of measuring the total current consumed by the system.

> Thankfully, we were previously introduced to the Isabellenhütte IVT-S Smart Shunt and this dragster's configuration presented the perfect opportunity to implement it. Integration of the IVT-S was simple, with the shunt module installed in-line with the negative HV line and a single HV sense wire to the positive HV side.

After speaking with one of Isabellenhütte USA's engineers, Glanville leveraged the Isabellenhütte smart shunts to allow the VCU to monitor both pack current and voltage for pre-charge purposes and minimum pack voltage de-ratings (to limit the current draw and torque demand if the voltage of the HV battery fell below allowable limits.) The shunt integrated seamlessly with the VCU300 via CAN and provided the data and information they needed to break the speed record.

"The Isabellenhütte technology was the bridge that provided the critical data we needed to effectively control the dragster's power," Glanville says. "It allowed AEM to help Huff Motorsports make history by safely breaking the 200 MPH mark for the very first time with an EV in the ¼ mile!

###

About AEM Performance Electronics

AEM creates innovative products that set the standard in the performance aftermarket, delivering the highest level of product integrity and making advanced technologies accessible to the racing masses. They demonstrate a deep appreciation for every racer, enthusiast and distribution partner who chooses to trust their products.
www.aemelectronics.com

About Isabellenhütte USA

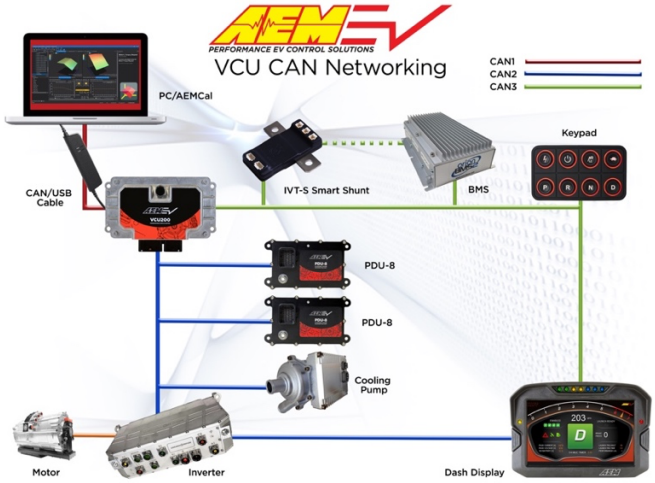
Isabellenhütte USA is headquartered in Swansea MA, and has developed an industry-wide reputation for providing high quality products and unparalleled customer support. They are known world-wide in industries ranging from aerospace and medical to energy and automotive.

www.isabellenhuetteusa.com

About Steve Huff

Steve Huff of Huff Motorsports is a 20+ year veteran of racing with teams on 2 wheels, 4 wheels and no wheels (hydroplane). He is a 14-time record setting racer on Top Fuel, Pro Drag and Land Speed racing motorcycles.

Technical Illustration courtesy of AEM Performance Electronics:



Media Contact:

Uwe Keller, General Manager
ISABELLENHÜTTE // USA
937-926-1636
uwe.keller@isabellenhuetteusa.com