

Final Presentation Fall 2024





 \bigcirc @anteaterelectricracing







Top View



Side View

Accumulator – Module Packaging





Front View



Accumulator – Pack Topology & Specifications

Specifications:

- Voltage: 415Vdc Max 200Vdc min
- Capacity: 7.4 kWh
- Steady State Thermal Load: 2.08 kW / 7097 BTU/hr
- Output: 80kW continuous I 296kW peak (1s)



Isometric View





Isometric View









Top View



Side View

Accumulator – Pack Level Integration





Front View









Side View

Accumulator – Chassis Level Integration





Isometric View



Front View





2025 – Electric Safety **Form Submitted**

Next Steps

- **Receive Design Feedback**
- Iterate \bullet
- Build \bullet

Electronics



Go Back To: My Team's Document Submissions

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Electric Systems Form

Formula SAE Electric

Open Date: 10/14/2024 10:00:00 AM ET Due Date: 12/9/2024 11:59:59 PM ET No Submissions Accepted After: 6/16/2025 11:59:59 PM ET

View in my time zone

xls, xlsx file format 25 MB max

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Filename: ESF_Anteater_Electric_Racing_2025 (2).xlsx

Uploaded by: GabrielSchoene at 12/9/2024

Status: Submitted

Submission History:

Submitted On: 12/9/2024

ES	F_Anteater_Electric_Racing_2025 (2).xlsx
	Gabriel Schoene (Team Member)

Submitt



Electronics

Low Voltage Schematics

- Shutdown Circuit (Bottom Left)
- Charging Shutdown Circuit (Top Right)
- Tractive System Active Light (Bottom Right)











Electronics

Low Voltage Schematics – Cont

- lacksquare(Bottom Left)
- ullet(Top Right)







	Anteater Electric Racing					
	Formula SAE Electric at University of California, Irvine					
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High Voltage Schematics

- Tractive System Schematic (Top Right)
- Accumulator \bullet **Tractive System** (Right)
- **Charging Tractive** ulletSystem (Left)
- Started using GitHub repository for version control



Electronics



University of California, Irvine























Embedded









15km+ Wireless Data Transmission

Specially designed for outdoor uses, ideal for long distance wireless data transmission, covering a range of 15km+ , tested in the field.







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Embedded

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UCI School of Engineering University of California, Irvine









Powertrain





Motor Specifications:

- *Voltage*: 400Vdc
- Torque: 352Nm \bullet
- Output: 62kW continuous I 123kW peak lacksquare











KiloZott: Preshootout (v 6.6)









Side View

Chassis





41 in/1041mm

















Suspension











Suspension









Figure 1: Driver position in KZ Refit

Ergonomics









Figure 1: Steering system mounted on V6.4 Chassis

Ergonomics





Figure 2: 1:1 Steering system mounted on V6.4 Chassis Prototype







ISO Front

Aero-body v2, Chassis v7

Aerodynamics





ISO Rear







Aerodynamics





Front







Front Laminar flow around body (Good)

Aerodynamics



ISO Clean freestream to Rear wing (Good)







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- 331.16	
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Relative Pressure [Pa]	
Cut Plot 1: contours	

Side - Rear wing – Relative pressure (Unoptimized airfoil configuration)

Aerodynamics





Side - Rear wing – Flow trajectory (Endplates too small)





Target total downforce: 1500N @ 100 km/h

Preliminary total downforce: 864N @ 100km/h

- CD: 0.38 (Inapplicable)
- CL: 0.69 (62% of target)

Results disclaimer:

- Missing front wing, sidepods = less lift
- Empty interior = more drag

Aerodynamics



▲ = 538.94	
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Cut Plot 1: contours	
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Side (Relative pressure)







Operations and Outreach

Updates:

- ZotFunder
- Updated sponsor packet for 2025 season
- Increased social media activity

Next Quarter:

- Winter recruitment
- Website restructuring
- Event planning
- More outreach

UCI ZotFunder

Anteater Electric Racing 2024-2025



Share to Maximize



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ZotFunder

Page





Updated Sponsor

Packet

