

EV Comp Tech Book

Monday, June 6, 2022

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- ☐ 1. PCBs
- ☐ 2. All wire
 - ☐ a. Bmrs
 - ☐ b. Digi
- ☐ 3. Connectors
- ☐ 4. Electrical insulating materials (gauge data sheets)
 - ☐ a. GP03
 - ☐ b. Mica paper
 - ☐ c. Polypropylene
 - ☐ d. Kapton tape
- ☐ 5. Fire shield
- ☐ 6. Fiberglass
- ☐ 7. Plexiglass
- ☐ 8. Heat shrink
 - ☐ a. Black
 - ☐ b. Clear
 - ☐ c. Orange
- ☐ 9. 20 thou aluminum
- ☐ 10. Accumulator material

Most of the data sheets are in the ESF

Tech Book should include:

- 1. Physical samples
- 2. Data sheets ESF and other
- 3. Receipts (get from John, Bailey, and Mathew)
- 4. Bags (HV wire)

PCBs

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Physical Copys

Wire

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Conductors							
Manufacturer	Part Number	Size [mm²]	Voltage [V]	Ampacity [A]	Max Temp [C]	Datasheet	Location Used
Champlain	EXRAD – XHV/XLE-35	35	1000	255	150	https://www.champcable.com/wp-content/uploads/2019/05/214.-EXRAD-150-HVFX-XLE-Shielded-Thick-Wall-Battery-CableR1.pdf	Tractive System High Current Path
Champlain	EXRAD – XHV/XLE-50	50	1000	339	150	https://www.champcable.com/wp-content/uploads/2019/05/214.-EXRAD-150-HVFX-XLE-Shielded-Thick-Wall-Battery-CableR1.pdf	Tractive System High Current Path
Kennesaw Motorsports	Module Series Busbar	72	N/A	200	100	N/A	Series connections on accumulator segments
Thermax	M22759/5-20-*	0.74	600	2.5	200	https://www.carlisleit.com/wp-content/pdfs/prodinfo/M22759.pdf	Sub 1A connections inside accumulator and beyond
Kennesaw Motorsports	Module Series Busbar	120	N/A	200	100	N/a	Tractive System High Current Path
Tensility	30-017xx	0.82	600	2.5	105	https://tensility.s3.amazonaws.com/uploads/pdf/30-01732.pdf	Low Current, HV

Connectors

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Connectors								
Manufacturer	Part Number	Voltage [V]	Ampacity [A]	Wire Size [mm²]	Datasheet			Location Used
TE	DT04-2P-RT06	250	13	1.59	https://www.te.com/usa-en/product-DT04-2P-L012.datasheet.pdf			12/24 out
TE	1-1586019-8	600	13	1.2	https://www.te.com/usa-en/product-1-1586019-8.datasheet.pdf			Thermistor
TE	MTA 100	250	5	0.3	https://www.te.com/usa-en/product-4-643813-0.datasheet.pdf			Voltage Sense
Amphenol	SLPPB35BN OX	1000	200	35	https://www.amphenol-industrial.com/images/catalogs/SurLok%20Plus%20Brochure.pdf			Maintenance Plug
TE	DT04-12PA-L012	250	13	2.23	https://www.te.com/usa-en/product-DT04-12PA-L012.datasheet.pdf			Accumulator LV I/O
TE	AMP+ HVP 800	850	200	50	https://www.te.com/commerce/DocumentDelivery/DDEController?Action=showdoc&DocId=Catalog+Section%7F1654294-4%7F1704%7Fpdf%7FEnglish%7FENG_CS_1654294-4_1704.pdf%7F1-2141154-2			HVD, high current tractive system path
Altech Corporation	CXDB35/10A	600	41	.2-10	https://www.altechcorp.com/DINblocks/SpringClampTechnology/spct-PDFS/TerminalBlocks_2016NEW%2079.pdf			Low-power HV to TSAL, IMD, DC-DC, AVI, BMS, Precharge
Amphenol	SLPIRBTPNOx	1000	200	72	https://www.amphenol-industrial.com/images/catalogs/SurLok%20Plus%20Brochure.pdf			Maintenance Plug
Molex	SL Series	600	3	0.34	https://www.molex.com/pdm_docs/ps/PS-70400-001.pdf#page9			Low-power HV to TSAL, IMD, DC-DC, AVI, BMS, Precharge
Cannon	APD-59AP-HV	500	3	0.82	https://drive.google.com/file/d/1gXhRFVotILLASNX12F10qsv-GVsJcyeL/view?usp=sharing			Out from Accumulator to TSMPs
Staubli	23.3000-22	1000	24	0.82	https://www.farnell.com/datasheets/2827859.pdf			TSMP

Fire/Electrical Insulators

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Insulating Materials									
Manufacturer	Part Number	Thickness [mm]	Dielectric strength [V/mm]	Voltage Rating [V]	Max Temp [C]	Flammability Rating	Datasheet		Location Used
GPO 3	1494	1	17700	17700	130	V-0	https://www.redseal.com/materials/gpo-3		Module Isolation
McMaster	87545K351	3.175	50000	158750	90	V-0	https://www.mcmaster.com/87545K351/		Top of segment
Polystone	W01	9.525	500	4762.5	172	V-0	https://www.curbellplastics.com/Research-Solutions/Technical-Resources/Technical-Resources/Polystone-G-HDPE-Polystone-P-Polypropylene		Around Cells
Fiberglass	Cycom 2265	0.127	10300	1308.1	121	V-0	https://www.e-aircraftsupply.com/MSDS/101538cytec%20CYCOM%202265%20tds.pdf		Isolate Fuse and AIRs
Mcmaster	85825K41	0.1016	20000	2032	498	V-0	https://www.mcmaster.com/85825K41/		Pole Isolation

Heat Shrink

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Black: <https://www.te.com/usa-en/product-CAT-R21-T79024177.html?q=&n=42395&d=616883%20707614%20707004&type=products&samples=N&inStoreWithoutPL=false&instock=N> (Highly Fire-Resistant)

Orange: <https://www.te.com/usa-en/product-CAT-R21-R529C.html?q=&n=42395&d=616890%20707614&type=products&samples=N&inStoreWithoutPL=false&instock=N> (Flame-Retardant)

Clear:
<https://www.digikey.com/en/products/detail/3m/FP301-1-8-6-CLEAR-10-10-PC-PKS/3864878>

Aluminum

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Accumulator Materials

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