FlexRack Technical Notes 8/02/21

- 1. Do not connect more than 400A of charging/discharging capacity to the FlexRack.
 - a. Ex. Two inverters with 185A max charge capability = 185A x 2 = 370A.
- 2. The FlexRack does not come with battery cables.
 - a. For battery-to-busbar cables, use 9" and 13" #4 AWG or greater flexible cable Both ends of 9" cable made with regular straight compression lugs.
 - i. One end of 13" cable requires compression lug with a 45 degree kick.
 - ii. #4AWG flexible cable is required for FlexRack-to-battery cable run to maintain NEC minimum bending radius.
 - b. When installing parallel inverters, parallel conductors require landing on both sides of the busbar bolt
 - i. When paralleling conductors, one negative inverter-to-battery conductor compression lug will require a 45 degree kick see example materials.
 - ii. Do not use "double barrel" universal terminal lugs inside the FlexRack. They are too large to maintain adequate clearance.
- 3. The Flexrack maintains a protected ½" clearance from cabinet side walls to energized parts components per NEC 310.10(3) even when the sidewall is deflected inward.
- 4. While the included 2.5" knockout is intended for parallel battery conductors to be run to directly to an inverter or raceway, you are welcome to use a hydraulic punch to knockout your own holes for parallel cable runs via conduit or cord grip.
- 5. The FlexRack busbar is not listed. Your AHJ may require a thermal scan at full operating capacity for 1 hour to demonstrate suitability. Here is our thermal scan after running an assembled FlexRack for 1 hour, maxing out the maximum eFlex amperage rating of 100A per eFlex):





Example Material List for 4 eFlex + 1 Battery Inverter

Note: You are welcome to use other equivalent parts by other manufacturers.

Item	Part Number	Quantity
3/8ths Compression Ring Lug AWG #4 Fine Stranded Straight	Burndy YAV4CLTC38FX Thomas&Betts 54140 SelTerm MDH0438	12 + extras
3/8ths Compression Ring Lug AWG #4 Fine Stranded 45 Degree	Burndy YAV4CLTC38FX45 Thomas&Betts 54140UF Panduit lcaf4-38h-l	4 + extras
9" AWG #4 Flexible Cable	CobraWire C9904B	4 + extras
13" AWG #4 Flexible Cable	CobraWire C9904B	4 + extras
3/8ths Compression Ring Terminal AWG #4/0 Regular Stranded Straight	Burndy YA28TC38 *Actual Wire Gauge Can Vary Depending on Inverter	2 + extras
X" AWG 4/0 Regular Stranded	*Actual Wire Gauge Can Vary Depending on Inverter **Wire Length depends on Inverter Location	2 x Length to Inverter

- Note 1: Part numbers are non-mandatory examples.
- Note 2: It is possible to reduce FlexRack-to-Inverter cable AWG if using flexible instead of stranded cable and abiding by NEC Table 400.5 Footnote 1.
- Note 3: Battery cables can be red + black colored or phased taped.
- Note 4: Verify crimp tool is rated to crimp wire gauge.

Example Material List for 4 eFlex + 2 Battery Inverter

same as above except...

3/8ths Compression Ring Terminal AWG #4/0 Regular Stranded Straight	Burndy YA28TC38 *Actual Wire Gauge Can Vary Depending on Inverter*	3 + extras
3/8ths Compression Ring Terminal AWG #4/0 Regular Stranded 45 Degree	Burndy YA28TC3845 *Actual Wire Gauge Can Vary Depending on Inverter*	1 + extras
X" AWG 4/0 Regular Stranded	*Actual Wire Gauge Can Vary Depending on Inverter **Wire Length depends on	2 x Length to Inverter

	Inverter Location	
--	-------------------	--