Cable sizing and over current protection

Array size:

10 12V, 51Watt modules

ISC = 3.25A

VOC = 20.7V

Batteries:

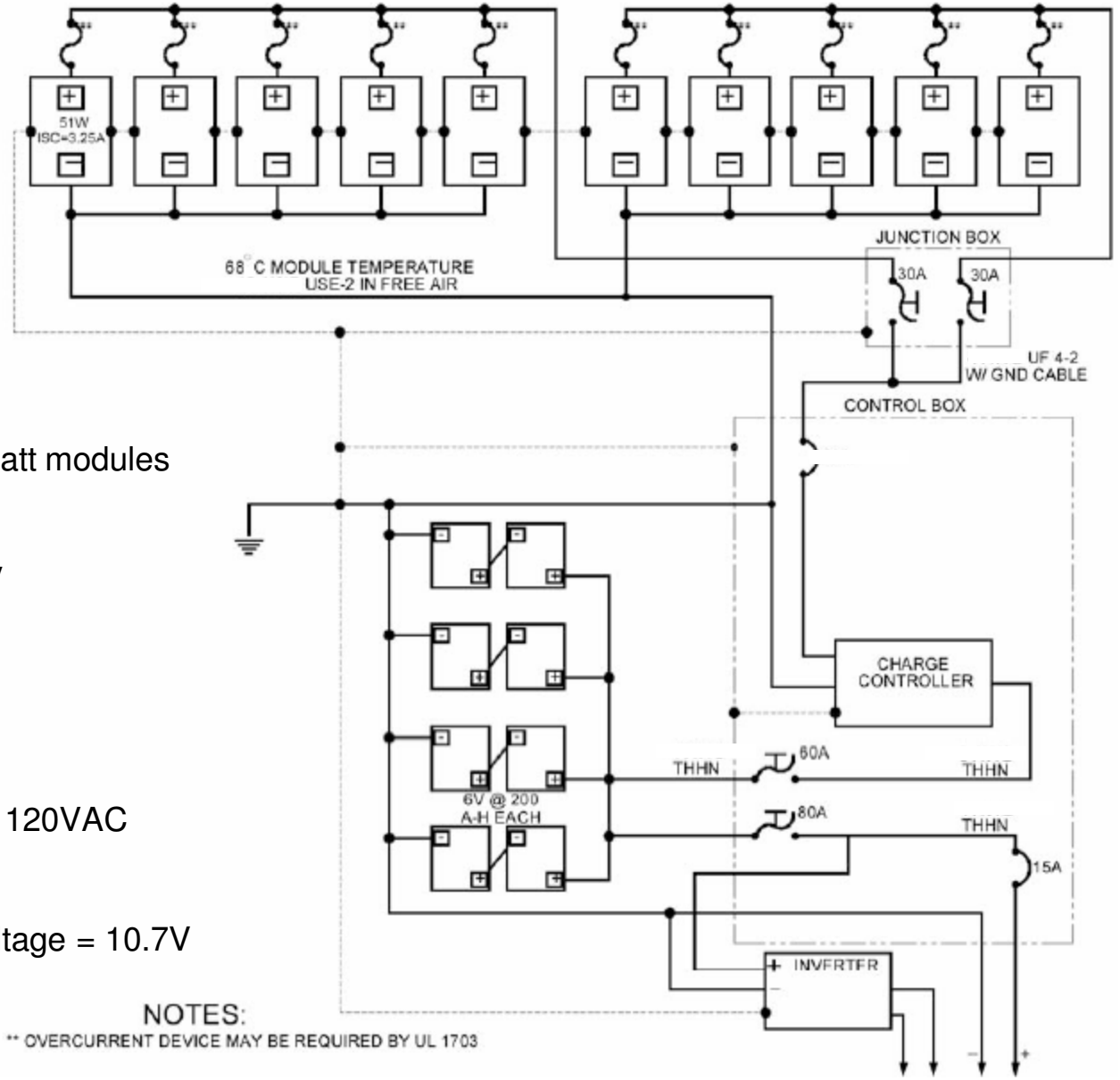
800 Ahr, 12V

Inverter:

500W rating, 120VAC

90% eff

Min input voltage = 10.7V



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Example 3 (do this as a homework problem):

- Size source circuit conductors for the two sub-arrays (USE-2 rated in free air, 68C ambient)
- Size the combined circuit conductors from junction box (UF conductor directly buried, 40C ambient)
- Size the inverter output conductor (THWN in conduit with 4 current carrying conductors, 40C ambient)
- Size the battery to inverter to conductors (THHN in free air, 40C ambient temperature)