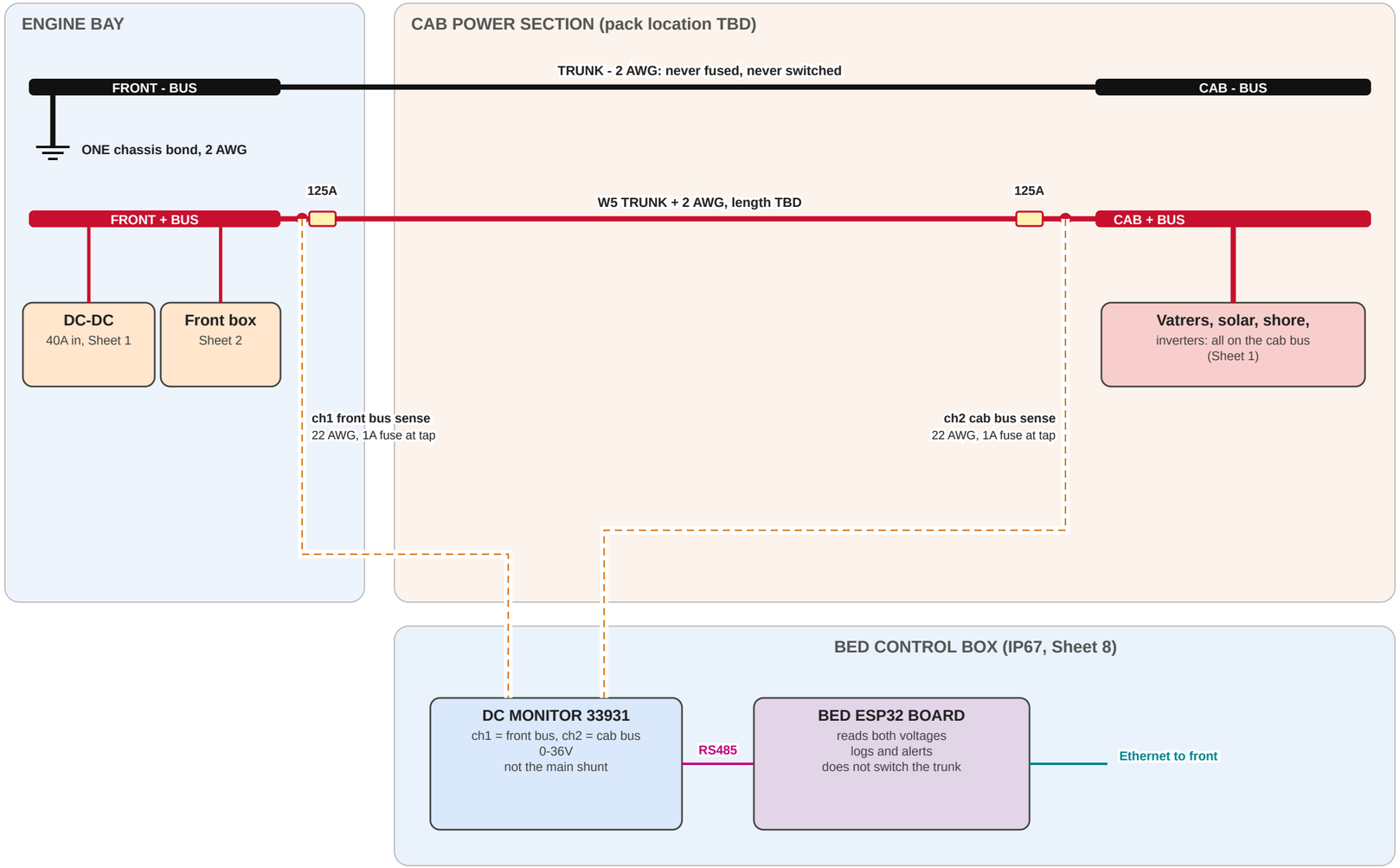
SHEET 6: TRUNK AND BANK MONITOR (DRAFT)

One fused link between the front bus and the cab bus · no FEENCE, no contactor, nothing switched · carries 125A at most, never inverter current



+ power · - power · voltage sense · RS485 · Ethernet

AUTOMATIC CHECKS, ALL SHEETS: 43 pass · 6 warnings · 1 failure

! Trunk drop about 0.40V at 64A, guessing 20 ft: measure, may need 1/0

WHAT THE TRUNK DOES

Plain fused link. Nothing on it opens or closes in normal use.
Back to the Vatrers: DC-DC charge, up to 40A.
Forward to the front box: about 64A estimated with everything on.
Inverters stay on the cab bus, so their current never uses the trunk.

REMOVED

FEENCE and W3 · contactor · RLY-O5 · RLY-PC · pre-charge resistor
Merge bands and sequence · combiner override switch
Bed board DO1, DO2 and DI1 are now spare.
Chassis bond moved to the front - bus (it was at the FEENCE).

MAIN DISCONNECT

It opens the packs from the cab bus.
It does not make the system dead on its own. DC-DC, MPPT and shore charger all stay connected on the bus side.
Before work: engine off, shore unplugged, solar off, then open it.

FAULTS

Front-V and cab-V more than about 1V apart: a trunk fuse is open.
Engine off: front box is dark. Engine on: DC-DC holds the front bus but nothing reaches the packs. Bed board logs it.
Network is front-fed, so that alert may not send until it is fixed.
Packs off (BMS trip): front box and ESP32 go dark. No front backup.
BMS recovery: remove load, rest 30 minutes. Still off: 0V-capable charger, or a 12-14.6V battery in parallel for about a minute.
Load shedding: build doc 5.4, not changed here.

CONFIRM

Trunk length is a guess (20 ft). Measure, then recheck the drop.
Test that the DC-DC starts with the packs low.
Pack location is not settled. Cable lengths wait on that.