

Demo EMS Logger in a Minifridge

Applicable to:
Demo EMS Logger / Stationary Logger Rev. 2.x
Cooluli Generation 2 TEC cooler
(version with single DC input, not dual AC/DC inputs)

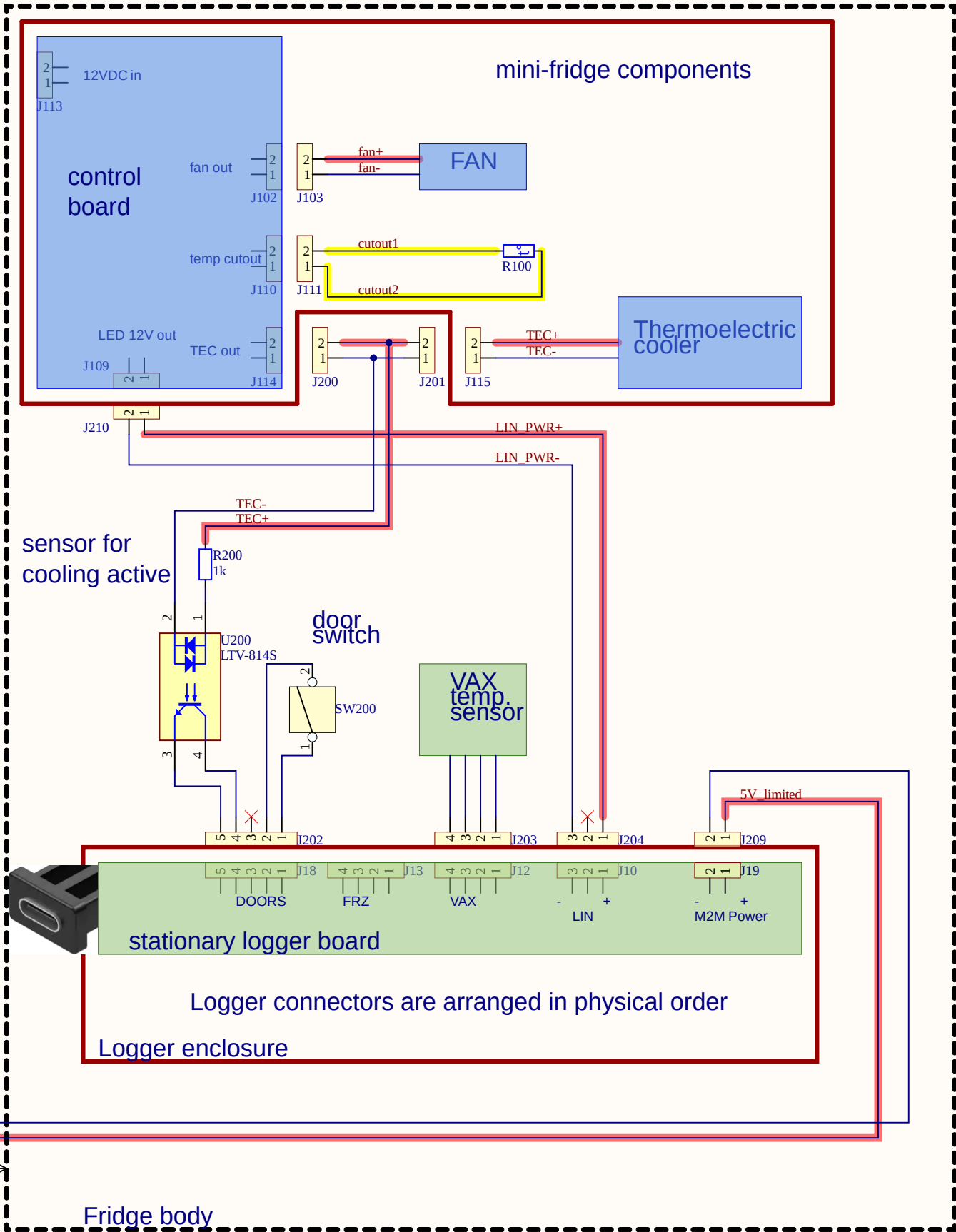
This schematic documents an installation of a New Horizons Demo EMS Logger in a thermoelectric-cooler (TEC) based minifridge. This minifridge is used as a stand-in for a proper vaccine refrigerator for ease of testing. Because these fridges are small and do not contain refrigerants, they are relatively easy and inexpensive to ship.

This documentation package contains other descriptions and photos of the installation. If you did not receive these materials, the whole package may be downloaded from <https://docs.2to8.cc>.

M2M Power Output
2.1mm/5.5mm barrel plug
center positive

Velleman CD021
power barrel jack

length outside
fridge >= 20 cm



Bill of Materials

Below are major components used in addition to a Demo EMS Logger PCB Rev. 2.x and a single vaccine compartment temperature sensor (see associated documentation packages for those PCBs).

- * J200 : TE/AMP 1-1123722-2
- * J201 : TE/AMP 3-1123723-2
- * J202 : JST, Inc. XHP-5 receptacle
- * J203 : JST, Inc. XHP-4, part of temperature sensor harness
- * J204 : JST, Inc. XHP-3 receptacle
- * J209, J210 : JST, Inc. XHP-2 receptacle
- * R200 : 1k 1/4W through-hole
- * SW200 : magnetic reed security switch, wired so that the circuit is open when the fridge door is closed.
- * U200 : LiteOn LTV-814S
- * power barrel cable: Tensility 10-01936

Also supplied to test laboratories for convenience, a power barrel jack with screw terminals: Velleman CD021.

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Title: Demo Logger MiniFridge		
Size: B	Sheet: mini_fridge	Revision: 2.1_gen2
Date: 6/4/2025	Sheet 1 of 1	Drawn by: Rod Hinman
File: mini_fridge.SchDoc		