Raspberry pi CM4 extension board requirements

- If it is possible and dimensions does not go very large you should aim for 2-layer PCB board
- This PCB board eventually ends up enclosure with DIN rail connector (it depends little bit from your work… for example maybe we can use this enclosure https://www.hammfg.com/part/1593wbk)
- 5x- Relay output with opto-isolator (output side needs to handle 230v input voltage)
- 2x rs485 ports (should have ESD protection)
- 2x ESD protected rj45 ports (with LED-s) - point is.. if I'm getting one cat cable to the junction box then I don't need to have separate ethernet switch over there for next device.
- 1x M.2 connector the 2242 B key slot enables the use of SSDs, often with B+M key configuration, as well as network modules, which can then use the onboard micro SIM card. 1.5mm base height for the connected module. Network cards are more often available as 3042 format, which is also compatible. An adapter can be purchased separately to connect up to 2280 M key NVMe SSDs.
- 1x Sim card slot for use with compatible M.2 modules. Push-push type connector.
- Input voltage – I think it needs to be 12v DC (you need to tell me what is needed there) – I'm going to use external power source.
- Connector for cooling fan
- 1x Micro sd card slot
- 1x USB port
- All the input/output ports (rs485 -3pin" a,b, gnd", power – 2pin "+ ,-", relays – 3pin "NO, C ,NC ") should have removable connectors
- Relays with connectors should be opposite side from other inputs (so that the low current inputs do not mix with possible 230V outputs) also relays should be by
- I'm hoping to order pcb from https://jlcpcb.com/capabilities/pcb-capabilities so over there you can get some important information
- In the end I want from you: schematic, PCB, BOM, Gerbers, source files (in Kicad)