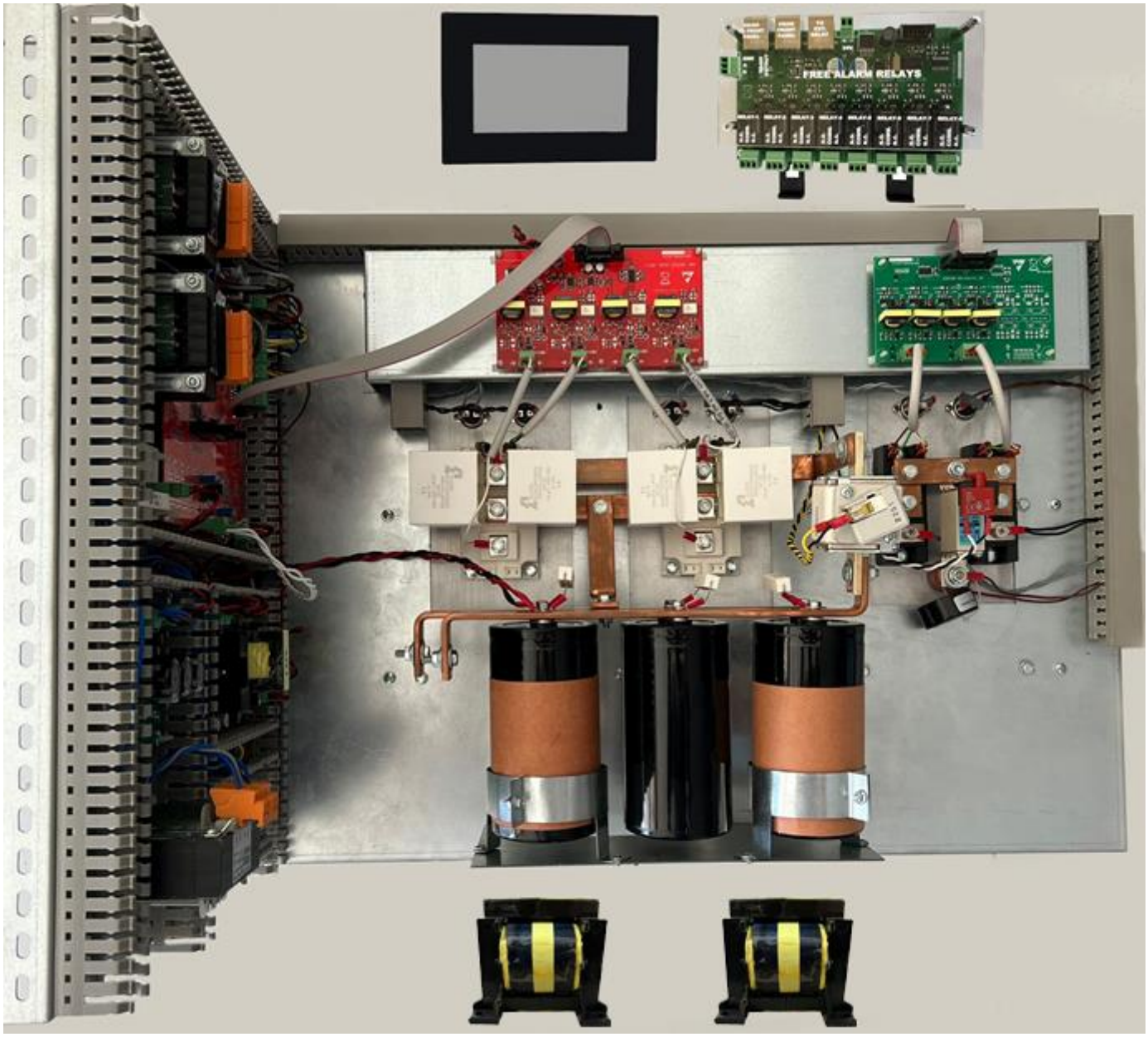
Quick Installation Guide for PESS Open Frame Devices



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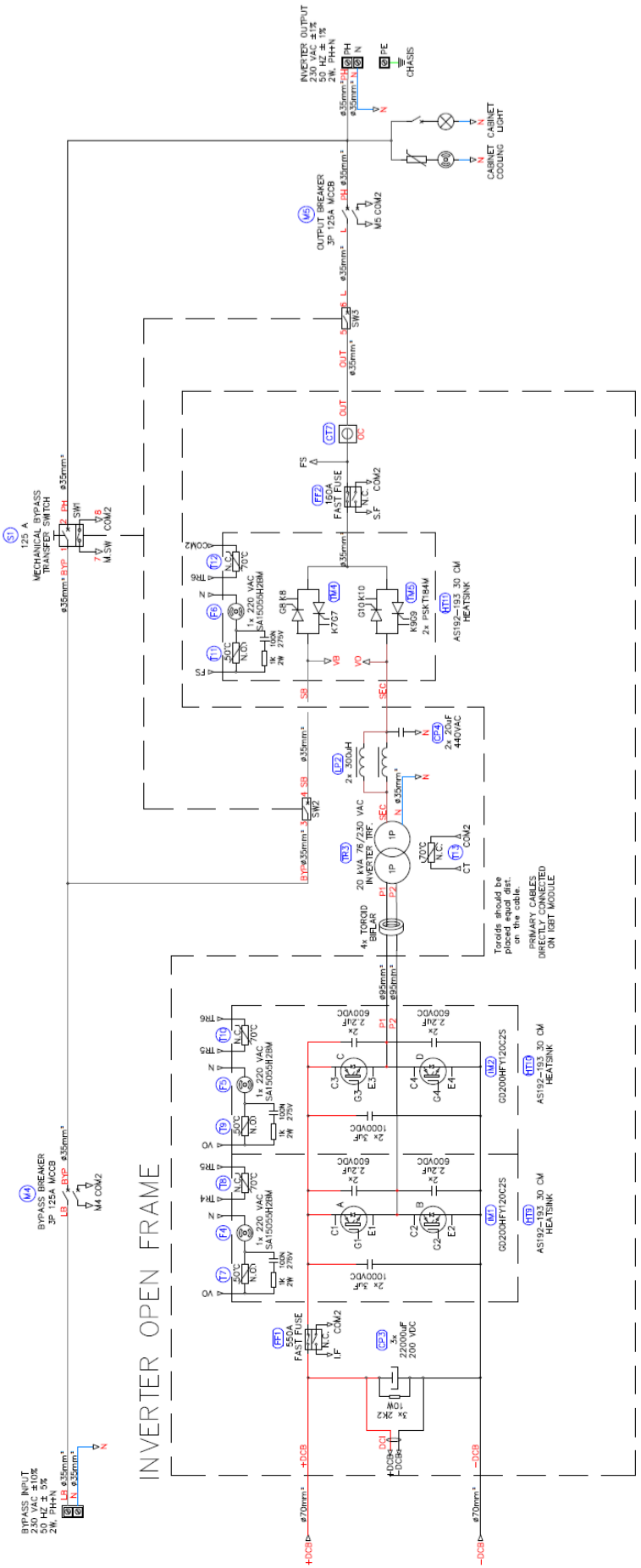
1. Table for Required Component

Components Supplied From PESS	Other Required Components
Open frame inverter device	Inverter transformer
Touch Screen Panel	Inverter output capacitor
Free alarm relay board	Circuit breaker
2x Inverter Output Inductor	Inverter cabinet
Mechnical bypass transfer switch	Cabinet cooling and lightining (optional)


INVERTER OPEN FRAME
BYPASS INPUT
230 VAC ±10%
50 HZ ± 5%
2Ø, PH+N
INVERTER OUTPUT
230 VAC ±1%
50 HZ ± 1%
2Ø, PH+N
PE
CHASIS
CABINET LIGHT
CABINET COOLING
OUTPUT BREAKER
3P 125A MCCB
M5 COM2
MECHANICAL BYPASS TRANSFER SWITCH
125 A
M.SW
BYPASS BREAKER
3P 125A MCCB
M4 COM2
FAST FUSE
160A
150A
S.F
I.F
20 kVA IGBT INVERTER RFF
230 VAC
4x TOROID BIPLAR
Toroids should be placed equal dist. on the cable.
PRIMARY CABLES DIRECTLY CONNECTED ON IGBT MODULE
2x 300uH
2x 20uF 440VAC
3x 22000uF 200 VDC
1x 220 VAC SA150S05H2BM
2x PSKT184W
AS192-193 30 CM HEATSINK
GD200HFY120C2S
+DCB
-DCB

2. Connection Points

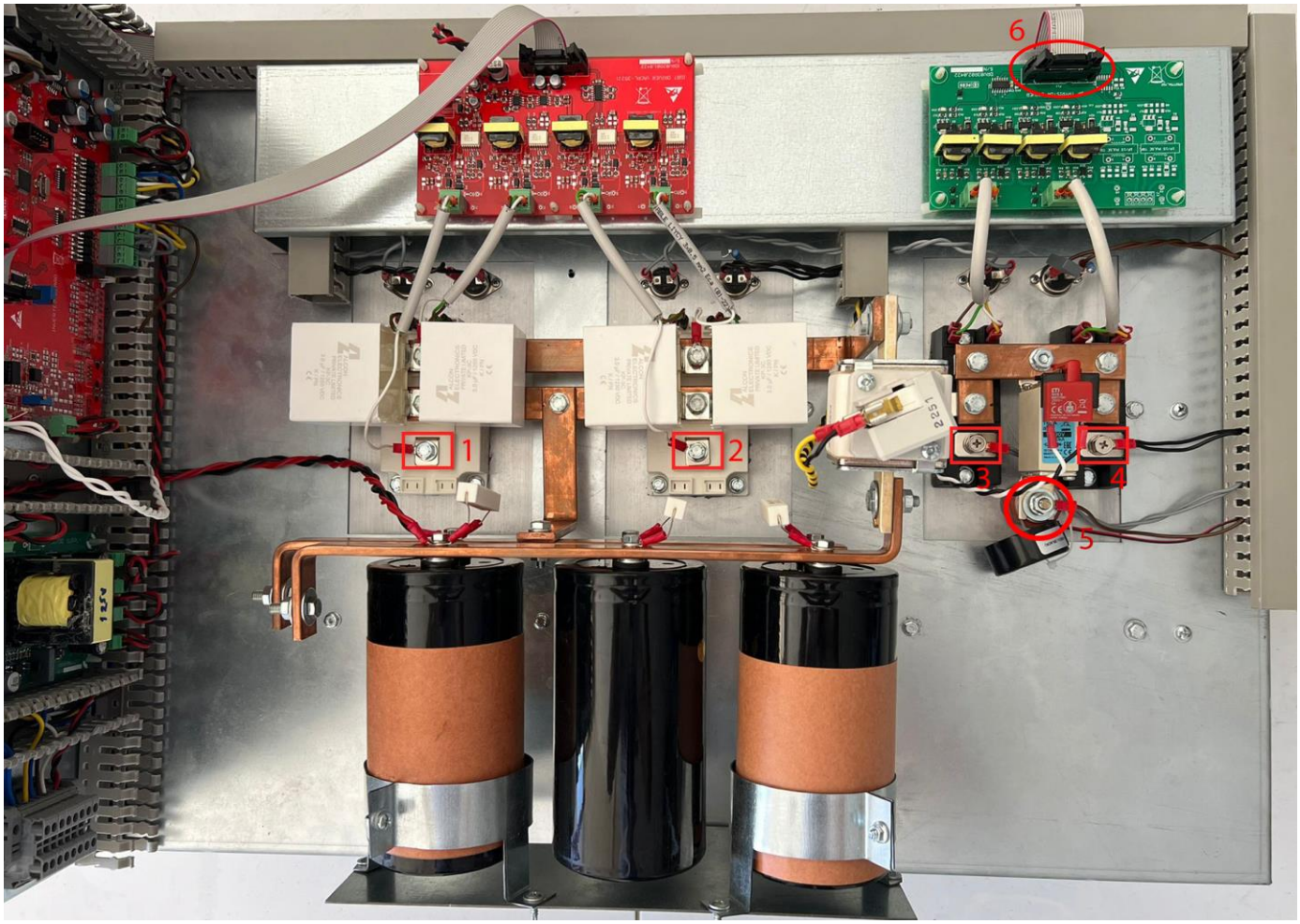


Figure 1 High Power Cable Connection Points

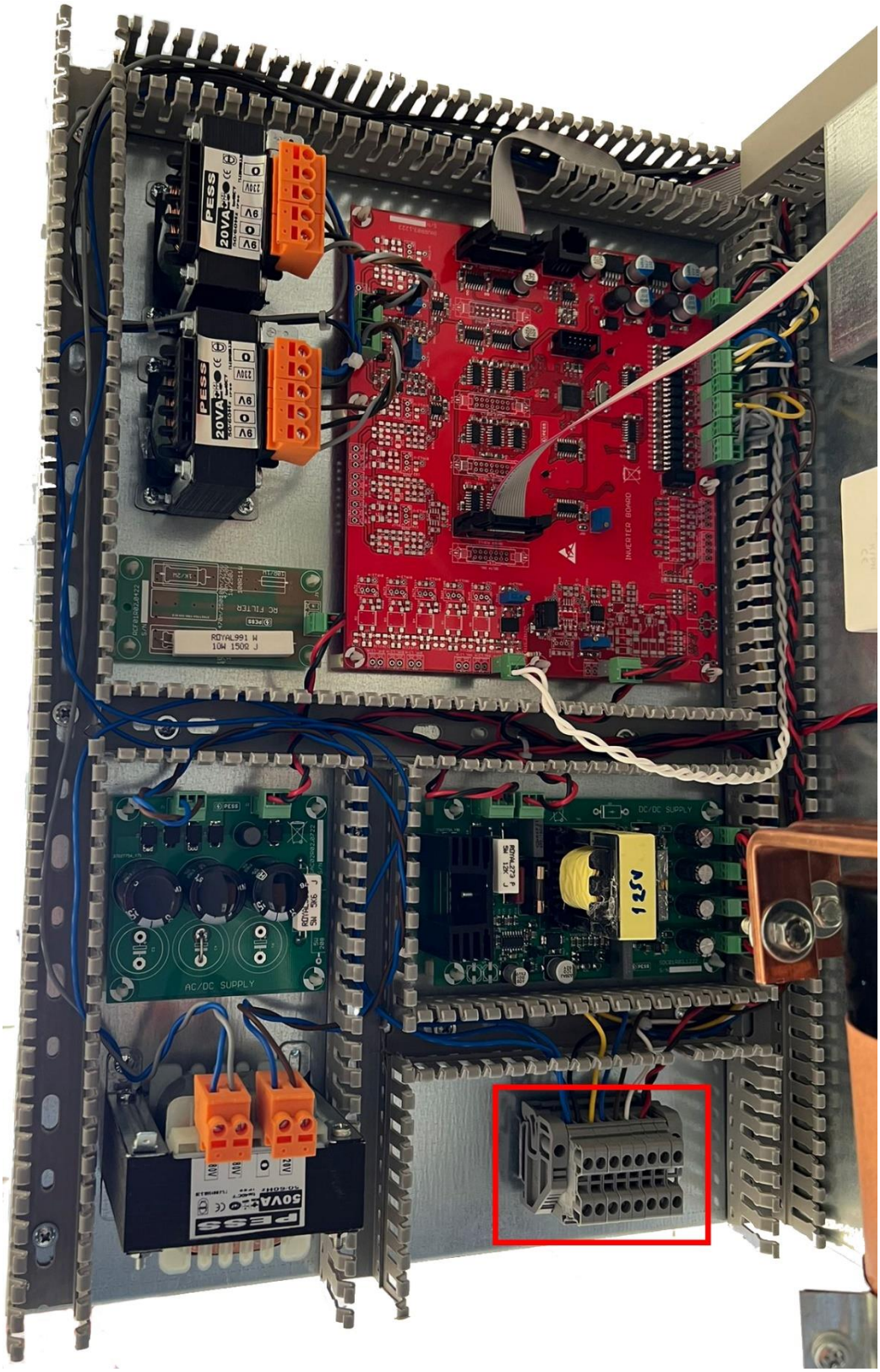


Figure 2 Low Power Signal Cable Connection Points

3. Cabling Description

Never energize the device before reading the turn-on process in heading 4. Otherwise, it may cause permanent damage !

Figure 1 shows high power cable connection points. Terminal 1 and 2 marked with a red rectangle in Figure 1 should be connected to the inverter primary terminals.

- This cable should be twisted pair.
- Four piece troid equally should be placed on the cable.
- This cable should be short as possible as for the best performance.

- When connecting the main power cables to the IGBT module, make sure that the white thin cable used for IGBT Fail detection is placed above the main power cable and that it is not damaged during the tightening process.

- If you forget to connect the white thin cable used for IGBT fail detection, the device will not work properly.

Terminal 3 is the static bypass input. Connect the live phase cable coming from the static bypass line to terminal 3. Sure about the thyristor module it is not damaged during the tightening process.

The live cable coming from the secondary of the inverter transformer must be connected to terminal number 4 in Figure 1. Sure about the thyristor module it is not damaged during the tightening process.

Terminal number 5 shows the output of the inverter.

- When connecting the output cable to this point, do not forget to pass this cable through the current transformer.

- Do not forget to reconnect the brown output feedback cable. This cable should be above the main power cable.

- When tightening the bolts, be careful not to damage the thyristor module and the thin feedback cable.

  Other high power cables should be connected according to the schematic.

Figure 2 shows electronic control side of the inverter device. In this section, it is sufficient to connect only to the terminals marked with a red rectangle. Except from this, no changes should be made to the electronic control cables.

Figure 3 shows the pinout of the ground terminal block in the inverter control block. The cable to be used for neutral must be at least 1.5 mm2. Other electronic control cables can be 0.5 mm2.

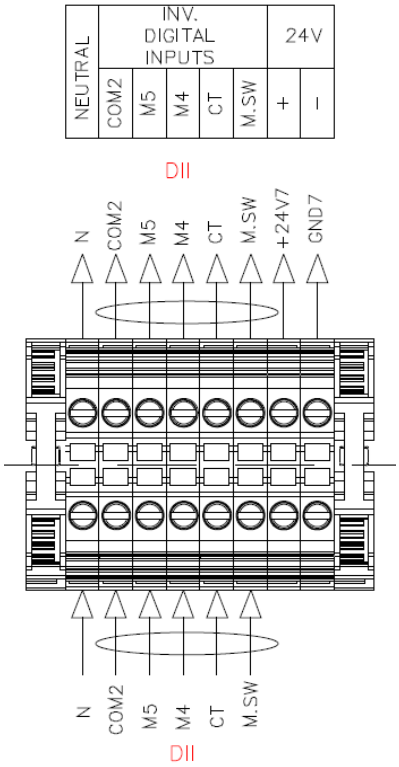


Figure 3 Inverter Electronic Control Terminal Pinout

4. Turn-On Process

Before commissioning the device, make sure that the inverter voltage and bypass voltage are synchronized. **If an attempt is made to switch between sources while the inverter and bypass voltages are asynchronous, it will cause permanent damage to the inverter.**

Therefore, **before energizing the device, connector number 6 in figure 1 must be removed**. Then, after power is applied, the voltage at terminals 3 and 4 should be measured. If the measured voltage value is 20V or below, the inverter and bypass can be considered synchronous.

If the inverter and bypass voltages are not synchronous, the cables connected to terminals 1 and 2 shown in figure 1 should be interchanged.

Connector number 6 should never be connected unless the inverter and bypass voltages are synchronized.

After the synchronization process is completed, the device can be powered off and connector number 6 can be reconnected.