Communication check with an multi-tester

DVM+2 Communication voltage check

F1

F2

Note : Apply power to the system !
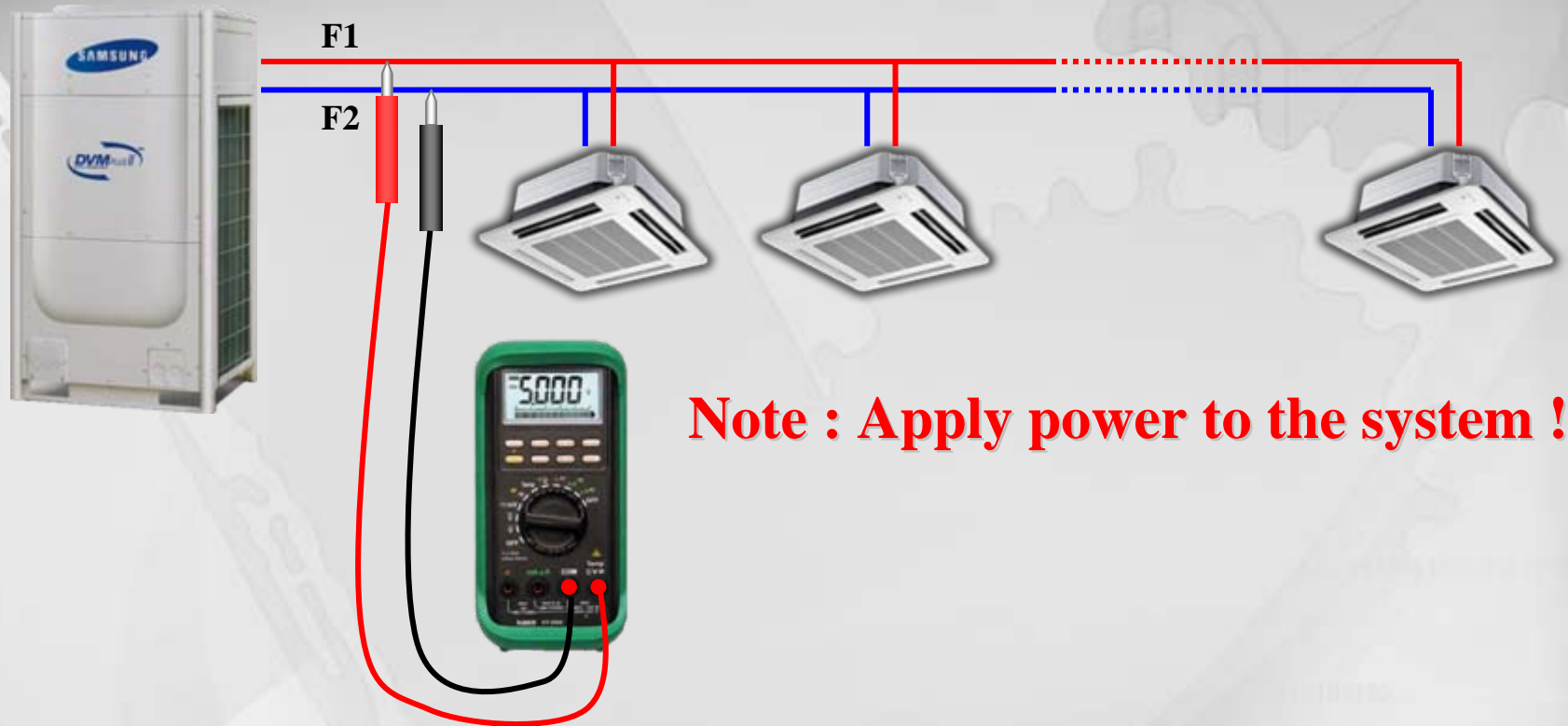
1. Use an multi-tester to check communication voltage between RS485 channels like F1-F2, F3-F4, R1-R2, C1-C2…… (Set the multi-tester to the AC voltage measuring mode)
2. With power applied, check the voltage to get the varying range of about 0.0~2.0VAC. If the voltage stays at the specific value like 3.5V and rarely vary, or range is too small like 0.0~hundreds of mV, communication channel has started to get damaged.
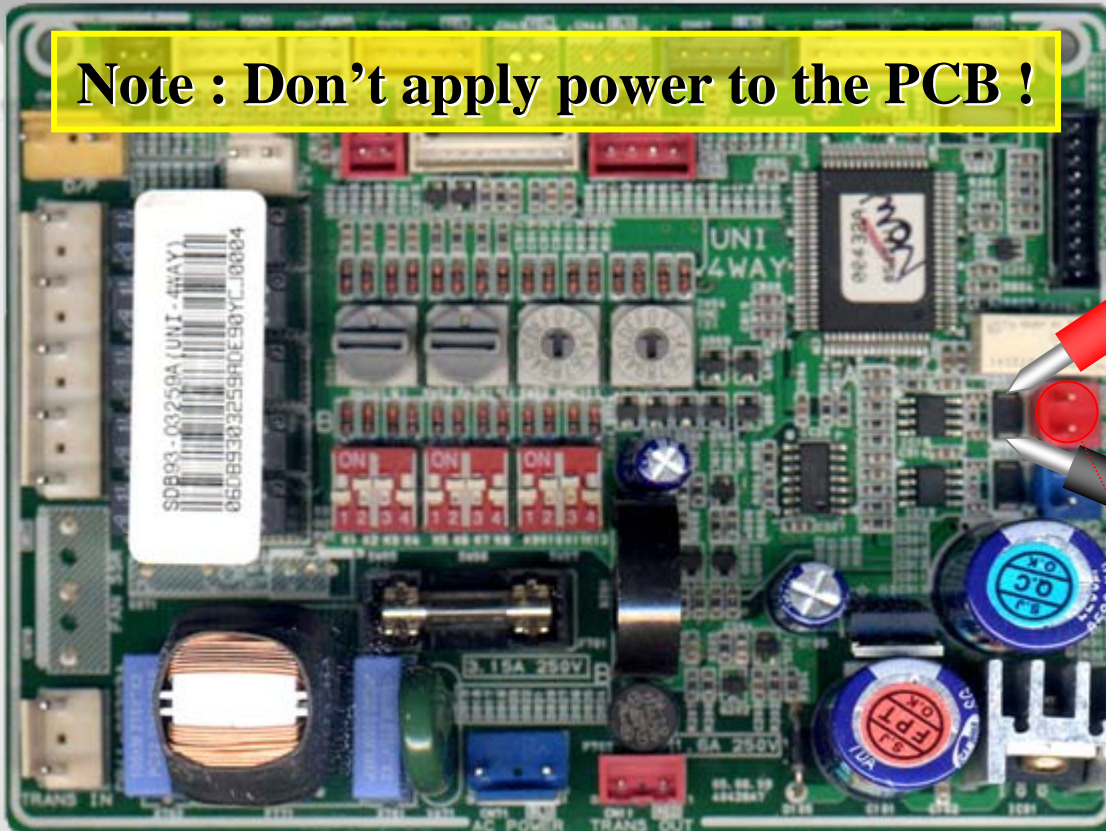
DVM+2 Communication impedance check

F1

F2
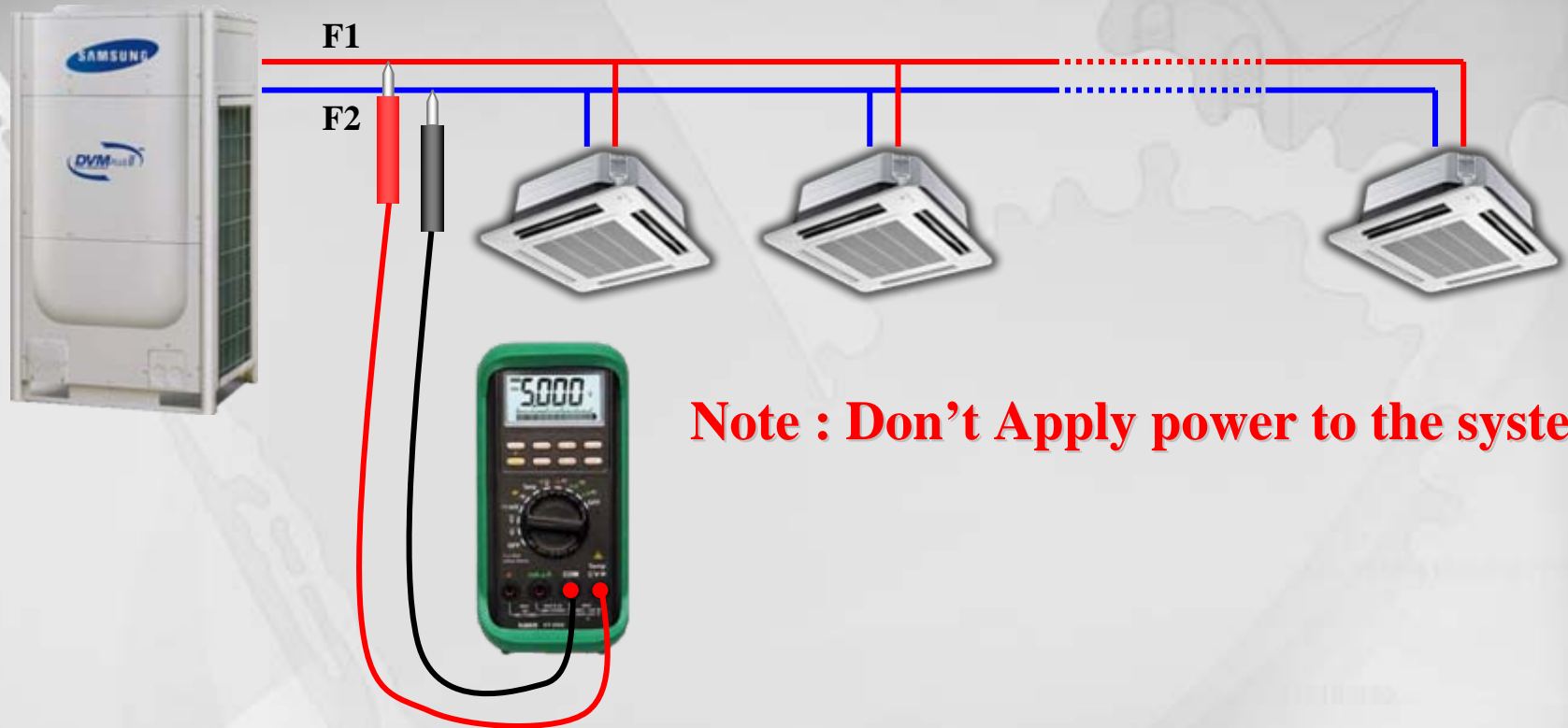
Note : Don't Apply power to the system !

1. Use an multi-tester to check impedance between RS485 channels
   (Set the multi-tester to the impedance measuring mode)
2. Without power applied , check impedance to get the range of 100~120Ω.
   If impedance goes down to less than 50Ω, RS485 driver of an specific unit got damaged.
   If impedance is between 50 Ω and 100Ω, channel has begun to get affected
   Making additional impedance check by removing the specific unit is one of the
   troubleshooting ways.

Communication impedance check of indoor unit PCB
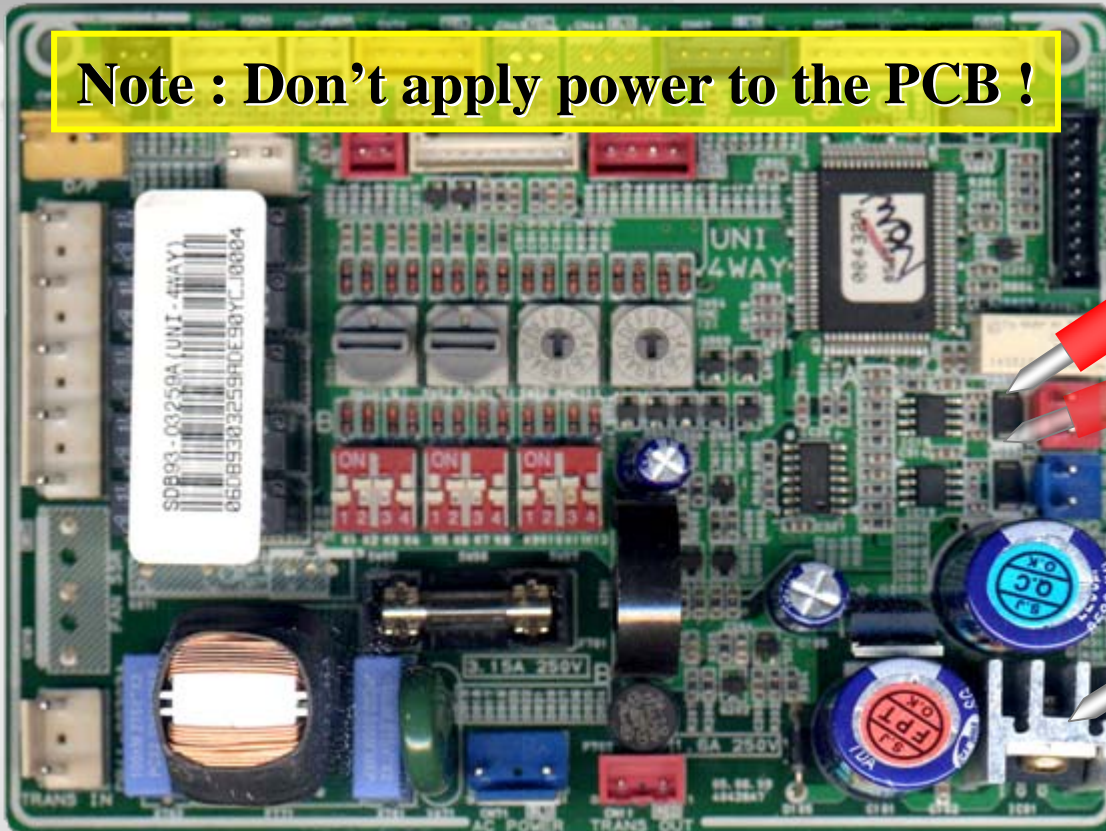

Note : Don't apply power to the PCB !

Check here and
you'll get infinite impedance

1. If impedance of over 1kΩ, RS485 driver on the board is good.
2. If impedance is measured less than 1kΩ, the driver has begun to get damaged

Communication impedance check of indoor unit PCB

Note : Don't apply power to the PCB !

Put on the heat sink.

② If impedance of over 1kΩ, F1 terminal of the RS485 driver is good.

② If impedance of over 1kΩ, F2 terminal of the RS485 driver is good.

Interface module MIM-B04A/B04AC, MIM-B13/B13C

Note : Don't apply power to the PCB !

F1-F2 Check

1. If impedance of over 1kΩ, RS485 driver on the board is good.
2. If impedance is measured less than 1kΩ, the driver has begun to get damaged

Note : Don't apply power to the PCB !

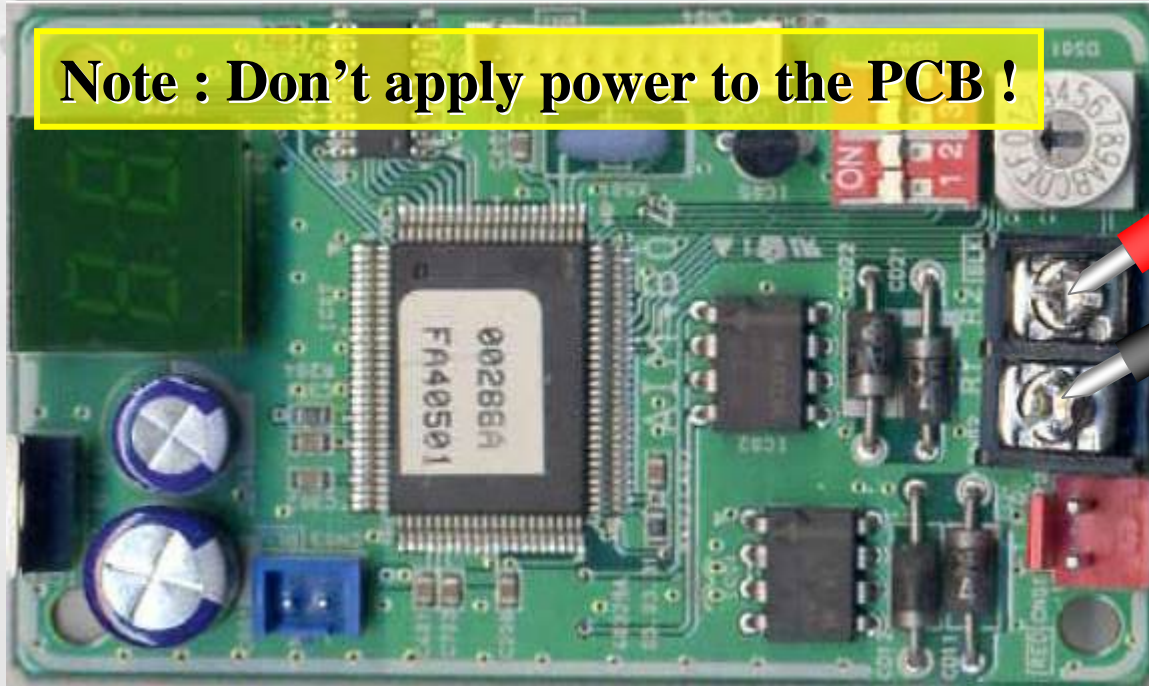Put on the heat sink.

① If impedance of over 1kΩ, F1 terminal of the RS485 driver is good.

② If impedance of over 1kΩ, F2 terminal of the RS485 driver is good.

Interface module MIM-B04A/B04AC, MIM-B13/B13C

Note : Don't apply power to the PCB !

R1-R2 Check

1. If impedance of over 1kΩ, RS485 driver on the board is good.
2. If impedance is measured less than 1kΩ, the driver has begun to get damaged

Note : Don't apply power to the PCB !

Put on the heat sink.

① **If impedance of over 1kΩ, F1 terminal of the RS485 driver is good.**

② **If impedance of over 1kΩ, F2 terminal of the RS485 driver is good.**