FN 5040/ FN 5045 (Output Filter)
FN 5040HV (Output Filter)

Failure Analysis

August 2020
Failure Analysis

1. Intended use

The sine wave filter or the inductance unit (with separate capacitor bank) shall in principle be mounted horizontally in order to respect a proper heat dissipation flow. To ensure an optimum ventilation and thermal radiation, it is recommended to leave enough space towards surrounding equipment, walls or components in all directions. A minimum free space below and above the filter of >150 mm and >50 mm aside is required. The separate capacitor bank can be mounted aside the inductance with a minimum air distance of 50 mm. Due to the heat dissipation of the inductance it is not recommended to mount the capacitor bank above or on top of the inductance.

Note
More technical information of FN 5040/ FN 5045 and FN 5040HV can be found from the datasheets of the products available at www.schaffner.com.

2. Personnel qualification

Installation of the FN 5040 / FN 5045 / FN 5040HV, inspections for proper operation, and certain troubleshooting measures may only be performed by qualified personnel. All other measures may be performed by people who have read these instructions.

Attention!
Before starting to work on the Output Filter, ensure that it is disconnected from the grid

1. Tool list (standard kit)
   - Camera
   - Multimeter (for example Fluke)
   - Screwdriver set
2. General condition

Take a picture of the label to get the filter datas.

- Label

Take a picture of the front including near surroundings, check the basic condition outside.

- Front
- Near surrounding
- Basic condition outside

3. Application & Installation

Specify the type & values of the load & external fuses or forward a schematic diagram.

Load:______________________________

Load Values:________________________
Check and indicate how the Output Filter is connected.

- U1,V1,W1 connected to drive?
  Yes [ ] No [ ]

- U2,V2,W2 connected to Motor?
  Yes [ ] No [ ]

Specify the environmental conditions: Ambient temperature in °C & humidity. Also indicate device temperature during operation.

Ambient temperature: _____ °C
Humidity: _____ %RH

Any other Schaffner filters are installed in same application:
Type & Qty: _______________________
No: [ ]

Any other problems detected on these other filters, same/other problems happen in the past:
__________________________________
4. Measurements

Perform the DC resistance measurement between U1 – U2, V1 – V2 and W1 – W2. Enter the measurement result:

1. _______ Ω
2. _______ Ω
3. _______ Ω

Perform the continuity test with multimeter between PE and each phase. In the case of a passage, contact Schaffner Service.

Perform the capacitance test with the multimeter between U2- V2; V2- W2; U2- W2. Enter the measurement result:

1. _______ F
2. _______ F
3. _______ F
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