MTE Corporation
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microNexus™ Filter Specification

1. General
   - 1.1 The microNexus filter shall incorporate both differential mode and common mode filtering into a single sinewave filter.
   - 1.2 The microNexus filter shall be three-phase, rated 380V/480V (+/- 10%), rated for 2A to 22A, and consist of suitable values of inductance and capacitance.
   - 1.3 The microNexus filter shall be listed per UL-508, marked per CE, and certified per CSA C22.2.
   - 1.4 The microNexus filter shall be manufactured by MTE Corporation as the SNU series.
2. Performance
   - 2.1 The microNexus filter shall be rated for nominal system voltage (380V/480V, +/- 10%) and full load current (2A to 22A).
   - 2.2 The microNexus filter shall have maximum insertion loss of 10% at 60 Hz.
   - 2.3 The microNexus filter shall provide specified functionality with output cable lengths up to 4572 m.
   - 2.4 The microNexus filter shall be rated to operate in ambient temperatures from -40°C to 40°C in enclosed conditions.
   - 2.5 The microNexus filter shall operate at rated current with a maximum average winding temperature rise of 135°C.
   - 2.6 An over temperature switch is provided to indicate adverse filter heating.
   - 2.7 The microNexus filter shall be capable of continuously operating at 100% of rated current.
   - 2.8 The microNexus filter shall be capable of one (1) minute of operation at 150% of rated current.
   - 2.9 The microNexus filter shall function properly for inverter switching frequencies at 4kHz.
   - 2.10 The microNexus filter shall have Total Harmonic Voltage Distortion (THVD) performance below 5% at 4kHz.
   - 2.11 The microNexus filter shall support drive output frequencies from 6Hz to 75Hz without derating. Drive output frequencies from 75Hz to 120Hz shall be supported with derating.
   - 2.12 The microNexus filter shall be no less than 98% energy efficient.
   - 2.13 The microNexus filter shall have a common mode attenuation of -20dB (>90% PWM common mode RMS voltage reduction) at 4kHz.

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2.14 The microNexus filter shall have sound pressure of not more than 75 dB at one (1) m when operated at 4kHz.
2.15 The microNexus filter shall function as rated at altitudes up to 1000 m.
2.16 The microNexus filter shall have an insulation system to provide 3000 V RMS of dielectric strength coil-to-coil and coil-to-core.

3. Construction
3.1 The microNexus filter construction shall utilize copper wire or copper foil for the windings.
3.2 The microNexus filter shall utilize a class N insulation system, maximum temperature 200°C.
3.3 The microNexus filter shall have a core to carry the magnetic flux comprised of laminations of electrical grade silicon steel.
3.4 The core of the microNexus filter shall be locked in place using steel banding.
3.5 All terminations shall be copper alloy taps or UL-recognized terminal blocks.
3.6 The microNexus filter shall be vacuum-dipped and baked with epoxy resin.
3.7 The microNexus filter shall be suitable for mounting within a low-voltage variable frequency drive enclosure.
3.8 The microNexus filter enclosure shall be constructed of 304 stainless steel. Openings shall be provided for sufficient convective air flow for cooling. Forced air cooling shall not be required to provide adequate cooling.
3.9 The microNexus filter shall be provided in IP20 enclosed configurations.
3.10 The microNexus filter enclosure shall have the following mounting provisions:
i. The enclosure shall have the ability to be fastened vertically or horizontally to a panel or wall.
ii. The front of the enclosure, when mounted vertically, shall have provisions for a Rockwell 520 Series drive to be mounted to the enclosure with thread forming screws.