

TB206 (Rev3) - How to use Quencharcs/Snubbers for Noise Suppression

Overview

This document describes where to properly install snubbers to suppress electrical noise being generated by an inductive load, which can produce false inputs and errors in a CNC control.

To make your CNC machine run more reliably, installing snubbers is recommended on the following components:

- all contactor coils
- 3-phase motors and pumps that are operated by a contactor (i.e. carousel & swing-arm motors, flood & lube pumps, and chip conveyors)
- single-phase lube pumps
- holding brake coils for motors
- air solenoid valves

Installing Arc Suppressor/Snubber Network

Snubbers are essentially an insurance against electrical noise. Snubbers are typically a circuit containing a resistor in series with a capacitor. Centroid recommends using the 0.1uF 100 ohm 600V rated Quencharc snubber as shown in Picture 1 but a 0.12uF 47 ohm 550V Fotek snubber as shown in Picture 3 will also work fine.

Picture 1: Pakron Quencharc Supressor (Centroid PN: 1819)



Item Description: SNUBBER CAP .1 UFD WITH BUILT IN 100 OHM RES (QUENCHARC)
Centroid PN: 1819
Manufacturer Part Number: 104M06QC100

Use one snubber for single phase motors or for solenoid coils like air valves

Picture 2: Quencharc assembly for 3-Phase motor (Centroid PN: 12610)



Use three snubbers for three phase motors (**WARNING:** not for servos nor inverter driven motors)

Picture 3: Fotek Suppressor



Fotek unit contains three snubbers in one

Any motor that is commanded by a drive rather than a contactor **IS NOT REQUIRED** to have a snubber installed on its phases.

Snubbers can be installed on the contactor terminals but are **NOT** as effective.

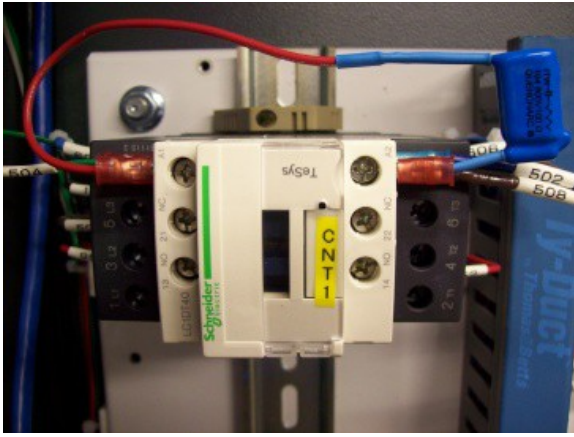
Picture 4: Snubber installed on swing-arm motor



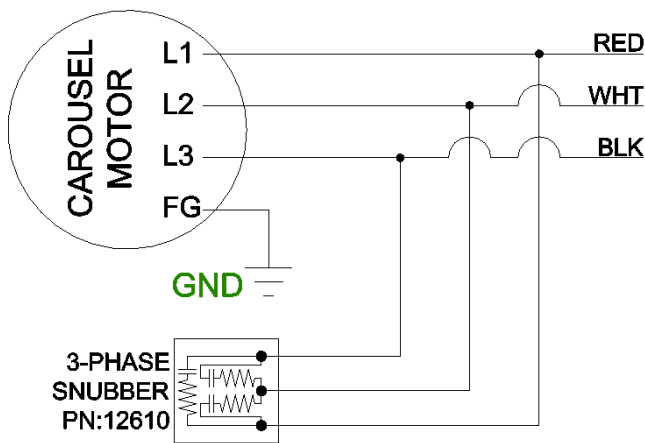
Tool changer carousel motors have been found to be especially noisy.

Every contactor **MUST** have its own snubber installed across its relay coil as shown in Picture 5. Just because there is a snubber installed across the contactor's coil, **DOES NOT** give a valid reason to not install a snubber across the motor.

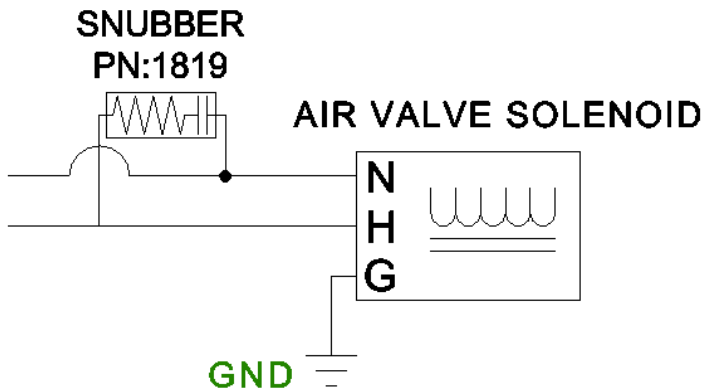
Picture 5: Snubber installed on contactor coil



Picture 6: Wire diagrams of snubber installation



Picture 7: Diagram showing snubber installed across air valve/solenoid/coil



Document History

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