



CoolBLUE
Inductive Absorbers
from MH&W International Corp.



MOTOR CONTROLLERS
Low Voltage, Variable Speed Motor Controllers

PART 2-PRODUCTS

LOW-VOLTAGE VARIABLE SPEED MOTOR CONTROLLERS

- Required high frequency current protection, induction absorber
 - All VFD's shall be provided with protection for the motor bearings and other electronic equipment by supplying CoolBLUE Inductive Absorbers and NaLA Line Absorbers or approved equal
 - Inductive absorbers shall have inner cores constructed of nanocrystalline tape, processed to a permeability no less than 30,000
 - External core construction should be Zytel FR70G25 V0 NNC10 with RAL 5012 Blue Pigment
 - Inductive absorbers shall have a Currie temp of 600°C, and an RTI temp of 120°C.
 - Inductive Absorbers are non-wearable components and do not require any maintenance

APPLICATION GUIDE:

CoolBLUE® Part Number	Power Range Per Drive Rated Horsepower	Number of Cores per Cable Length*			
		1-150ft	151-300ft	301-450ft	451-900ft**
CBO43HP1/4-50A4	1/4 to 10	2	4	6	8
CBO43HP1/4-50A4	11 to 50	4	4	6	8
CBO68HP51-100A6	51 to 100	4	4	6	8
CBO155HP101-428A12	101 to 428	4	4	6	8
CBR166HP429-1631A16	429 to 1631	4	4	6	8
CBO326HP1632+A23	1632 and over	4	4	6	8

NaLA® Part Number	Power Range Per Drive Rated Horsepower	Number of Cores per Cable Length* Cores per cable			
		1-150ft	151-300ft	301-450ft	451-900ft**
N18HP1/4-10	1/4 to 10	2	3	4	5
N18HP11-40	11 to 40	1	2	3	4
N29HP41-102	41 to 102	1	2	3	4
N57HP103-428	103 to 428	1	2	3	4
N75HP429-1631	429 to 1631	1	2	3	4
N123HP1632+	1632 and over	1	2	3	4

Notes:

- 1 - Data above is for information/guideline purposes.
 - 2 - All cables/phases must travel through the CoolBLUE® cores. NaLA® cores are installed around each individual power cable, regardless of how many cables. Per application guide, NaLA® cores are per cable. No ground or shielding through cores!
 - 3 - On motors up to 10hp, two turns are needed through the CoolBLUE® cores (pass cable through cores twice).
 - 4 - It is important to use the correct number and type of cores.
 - 5 - For servo and DC motors, please call CoolBLUE® Engineering.
 - 6 - Install cores on load side of drive for typical motor applications. Cores may be installed on line side of VFD as well to reduce conductive and radiated emissions back to the power grid.
 - 7 - CoolBLUE® offers brackets, and cable ties to hold cores in place. Please call CoolBLUE® Engineering for alternative methods.
- * Cable length between drive and motor must be multiplied by the number of cables per phase, to calculate the total cable length to be used in above guide for CoolBLUE®. The actual length of each cable, is used in the NaLA® guide.
- ** For cable runs over 950ft, contact CoolBLUE® Engineering.
Contact your local CoolBLUE® Engineer for detailed information.

PART 3- EXECUTION

INSTALLATION

- Install CoolBLUE Inductive Absorbers on the leads between the VFD and the motor, as close to the VFD as possible, per manufactures guide lines.
 - Common Mode Cores: All motor leads must pass through the center of all cores. No grounding wires should be through the cores, and all shielding must be pulled back to allow installation of the cores over unshielded cable.
 - NaLA Line absorbers: Install over each individual motor cable, after the CoolBLUE Inductive Absorbers, as close as possible. Each cable should have the correct amount of NaLA per cable, as shown in CoolBLUE application guide. No grounding wires should be through the cores, and all shielding must be pulled back to allow installation of the cores over unshielded cable.
 - Proper grounding must be adhered to

COMMON MOTOR REQUIREMENTS FOR 3-PHASE MOTORS

PART 2-PRODUCTS

GENERAL REQUIREMENTS – INDUCTIVE ABSORBERS

- All motors operated on a variable frequency drive shall be protected by inductive absorbers, installed on the leads between the VFD and the motor. See specification for inductive absorbers in the PART 2-PRODUCTS, LOW-VOLTAGE VARIABLE SPEED MOTOR CONTROLLERS
- Inductive absorbers protect bearings and other electronic equipment from damaging high frequency currents created by the IGBT's in the VFD.
- Provide CoolBLUE inductive absorbers and NaLA Line Absorbers or approved equal
- Proper grounding must be adhered to

Reference to Inductive Absorbers should be made as a note in the VFD Schedules. Part numbers and quantities can be referenced based off HP size, cable size and cable length that has been determined.

For engineering assistance and/or pricing and availability for CoolBLUE and NaLA, contact the local distributor of CoolBLUE products.