

Altivar™ 212H••••S2 Variable Speed Drives in CES SmartCube Applications

Retain for future use.

Introduction

This data bulletin provides an introduction to Schneider Electric's Altivar 212 S2 drive—a product with extended current ratings developed for integration into Custom Environmental Solution's (CES) SmartCube.

CES pioneered the use of a multiple fan array to move air in place of the traditional single or dual fans. The company was the first to provide an integrated fan array solution combining an individual motor, fan, cabinetry, controls, and accessories. Together, these components meet the requirements of new construction and retrofit applications, while providing redundancy, quiet and vibration-free operation, energy efficiency, and low-cost maintenance and service.

Figure 1: Multiple Fan Array



The engineers at CES advanced this solution by developing the SmartCube. The SmartCube uses one AC drive per motor in the fan array, with the drive mounted directly in line with the fan and motor. See Figure 2. Schneider Electric partnered with CES to develop a unique Altivar 212 drive that could be integrated into the SmartCube configuration.

Figure 2: Altivar 212H••••S2 Drives in a SmartCube



What are the Agency Approvals for the Altivar 212 S2 Drive in this Application?

The Altivar 212H••••S2 drive is UL Listed and is included in UL File E116875. Edison Testing Laboratory (ETL) witnessed the test methods and the output data obtained during the testing conducted at CES laboratories and certified the CES air handling package.

The 400/480 V range has an integrated EMC filter for radiated and conducted emissions that complies with IEC 61800-3.

Are There Other Advantages of the Altivar 212 S2 Drive?

The Altivar 212 S2 drive's compact footprint, functionality, and network capabilities provide a best-in-class solution. In addition, the Reduced Harmonic Technology used in the power section of the Altivar 212 drive provides the harmonic reduction equivalence of a 3% line reactor without the efficiency losses of a line reactor. The Reduced Harmonic Technology reduces input line currents, improves power factor, and provides more efficient operation than typical AC drives.

Are There Other Advantages of Mounting the Drive Directly In Line with the Fan and Motor?

In addition to the optimized ratings, mounting the drive in line with the fan and motor requires less space than mounting a gang of drives elsewhere on the air handler. Mounting the drive near the motor allows for quick and easy diagnostics and eliminates long motor leads.

Is the Multi-Loader Tool and PCSoft™ Configuration Software Compatible with the Altivar 212 S2 Drive?

The standard Multi-Loader tool with V 3.12 firmware can be used to store, up-load, and download drive configurations. A unique version of PCSoft, Ver. 1.08, is available for use with the Altivar 212 S2 drive. This software is posted at www.schneider-electric.com.

Additional Information

Additional information about Altivar 212 drives and options is available from:

<http://products.schneider-electric.us/products-services/products/ac-drives-and-soft-starts/>

For information on:	See Schneider Electric document:
Reduced Harmonic Technology	8800DB0702
Operating and Cost Efficiency	8800DB1201
Altivar 212H••••S2 Drive Ratings	30072-454-81

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