

Section-Rated Bussing Versus Fully-Rated Bussing Class 2110

Retain for future use.

Introduction

In the electrical industry, there are often misconceptions regarding section rated bussing as compared to fully rated bussing. Even though section-rated bussing is a common practice amid medium voltage equipment, some questions arise when the concept is integrated into low voltage equipment. This data application bulletin outlines the common applications of section-rated bussing and clarifies the use of this practice in the I-Line™ Combo Panelboard.

What is Section-Rated Bussing?

Section rated bussing is sometimes referred to as tapering the bus. Bus tapering refers to the practice that manufacturers use to minimize costs of highly competitive products. Bus tapering has been used for decades and is commonly seen in switchboards, switchgear and motor control centers (MCCs). In an MCC application, the main bus or cross bus is rated for 2000 A; however, each vertical bus section may be rated for as little as 600 A. This example illustrates a common application of tapering the bus within an electrical distribution system.

Are there any issues that are directly related to section-rated bussing in the I-Line Combo Panelboard?

In regards to panelboard distribution systems, section-rated bussing does not pose any problems. The manufacturer knows that the load on any individual section will not be exceeded. Referring to the MCC example from above, a vertical section of an MCC will commonly include a section filled with size 1 or 2 starters, which would be the maximum fill rate. According to the 2008 edition of the NEC section 430.250, a size 2 (25Hp) motor would have a full load current of 34 A. If six starters filled a section, the full load current would be 204 A (6 x 34 A). If twelve starters filled a section, the full load current would only be 408 A. Either example would meet UL standards because the requirements allow for, and test to, a standard that includes reducing the bus size within equipment.

The same concept applies to the I-Line Combo Panelboard. Therefore, the I-Line Combo Panelboard is available in fully rated or section-rated configurations. The same principles are used not only in medium voltage equipment but in low voltage applications as explained above. The I-Line Combo Panelboard offers a fully rated bussing solution up to 800 A and section-rated bussing solutions up to 1200 A. Having these two options will allow each customer to select the option that is suitable for their requirements or application.

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