nVent ERIFLEX IBS / IBSB Advanced

BENEFITS OF USING THIRD PARTY SHORT-CIRCUIT TESTED CONDUCTORS ACCORDING TO IEC 61439-1

From a Short circuit current perspective, IEC 61439-1 defines that the supply side conductor is sized according to the protective device (e.g MCCB) characteristics occurring on the load side. Therefore, the section of both side is rated with the same level of SCC.

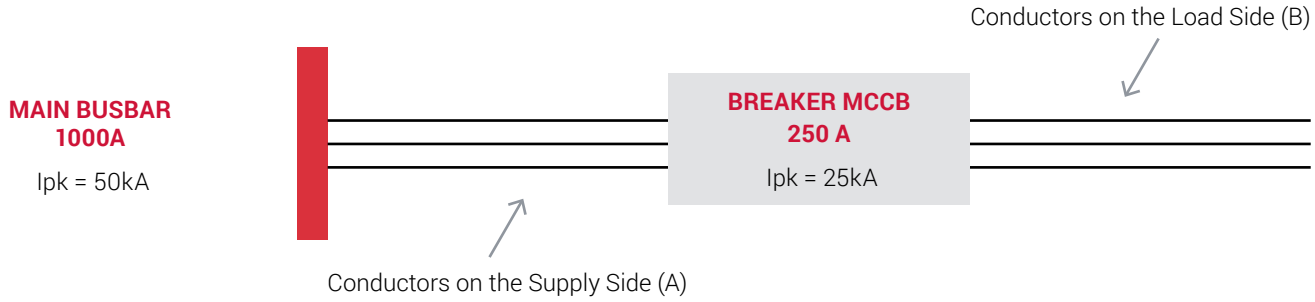
Reference: IEC 61439.1 article 8.6.1

nVent ERIFLEX IBSB Advanced conductors have been tested according to IEC 61439-1 per DNV-GL.

The results of this testing are show below as:

CROSS-SECTION	INSULATED BRAIDED CONDUCTOR	NOMINAL CURRENT RATING	RATED SHORT-CIRCUIT PEAK (Ipk)	THERMAL SHORT CIRCUIT STRENGTH (0.2sec)
25mm²	IBSBADV25 / IBSADV25	125A / 160A	14kA	10.7kA
50mm²	IBSB ADV 50	250A	30kA	20.2kA
70mm²	IBSB ADV 70	300A	30kA	22.4kA
100mm²	IBSB ADV 100	350A	70kA	40.6kA
120mm²	IBSB ADV 120	400A	70kA	40.6kA
185mm²	IBSB ADV 185	500A	70kA	66.3kA
240mm²	IBSB ADV 240	630A	80kA	87.2kA

PRATICAL EXAMPLE – How to size the conductors on the supply (A) and load (B) sides?



ANSWER

Since the short-circuit protective device has an Ipk rating of 25kA for a nominal current rating of 250A, an IBSB ADV 50 (Ipk=30kA, iN=250A) can be selected for both side of the Breaker (A) & (B).

NOTE: Article 8.6.1 also mentions that internal short-circuit between phases should be avoided. Using nVent ERIFLEX IBSBs resolves this issue by allowing the user to benefit from our reinforced (Class II) insulation (per IEC 8.6.4 and Table 4) which allows for direct contact between conductors and metal parts as well as between conductors, therefore making your installation easier, faster and more compact.

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