

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

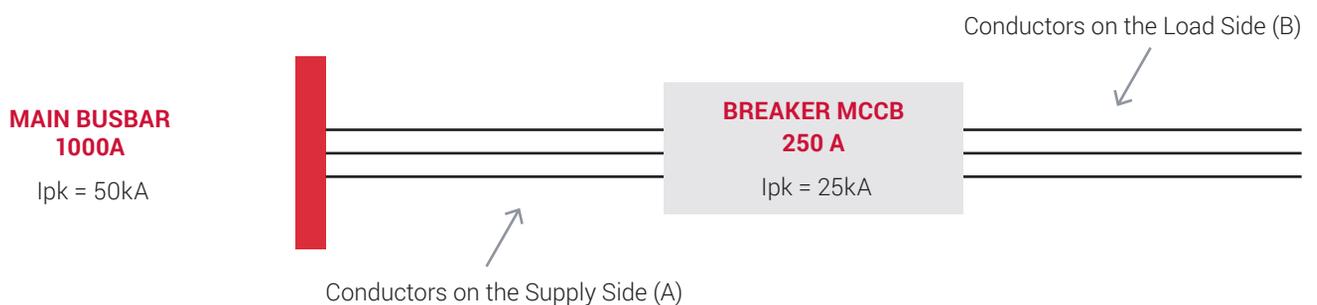
nVent ERIFLEX IBSB Advanced conductors have been tested according to IEC 61439-1 per DNV-GL.



The results of this testing are show below as:

| CROSS-SECTION | INSULATED BRAIDED CONDUCTOR | NOMINAL CURRENT RATING | RATED SHORT-CIRCUIT PEAK (I _{pk}) | THERMAL SHORT CIRCUIT STRENGTH (0.2sec) |
|--------------------|-----------------------------|------------------------|---|---|
| 25mm ² | IBSBADV25 / IBSADV25 | 125A / 160A | 14kA | 10.7kA |
| 50mm ² | IBSB ADV 50 | 250A | 30kA | 20.2kA |
| 70mm ² | IBSB ADV 70 | 300A | 30kA | 22.4kA |
| 100mm ² | IBSB ADV 100 | 350A | 70kA | 40.6kA |
| 120mm ² | IBSB ADV 120 | 400A | 70kA | 40.6kA |
| 185mm ² | IBSB ADV 185 | 500A | 70kA | 66.3kA |
| 240mm ² | 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 I_{pk} rating of 25kA for a nominal current rating of 250A, an IBSB ADV 50 ($I_{pk}=30kA$, $I_N=250A$) 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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