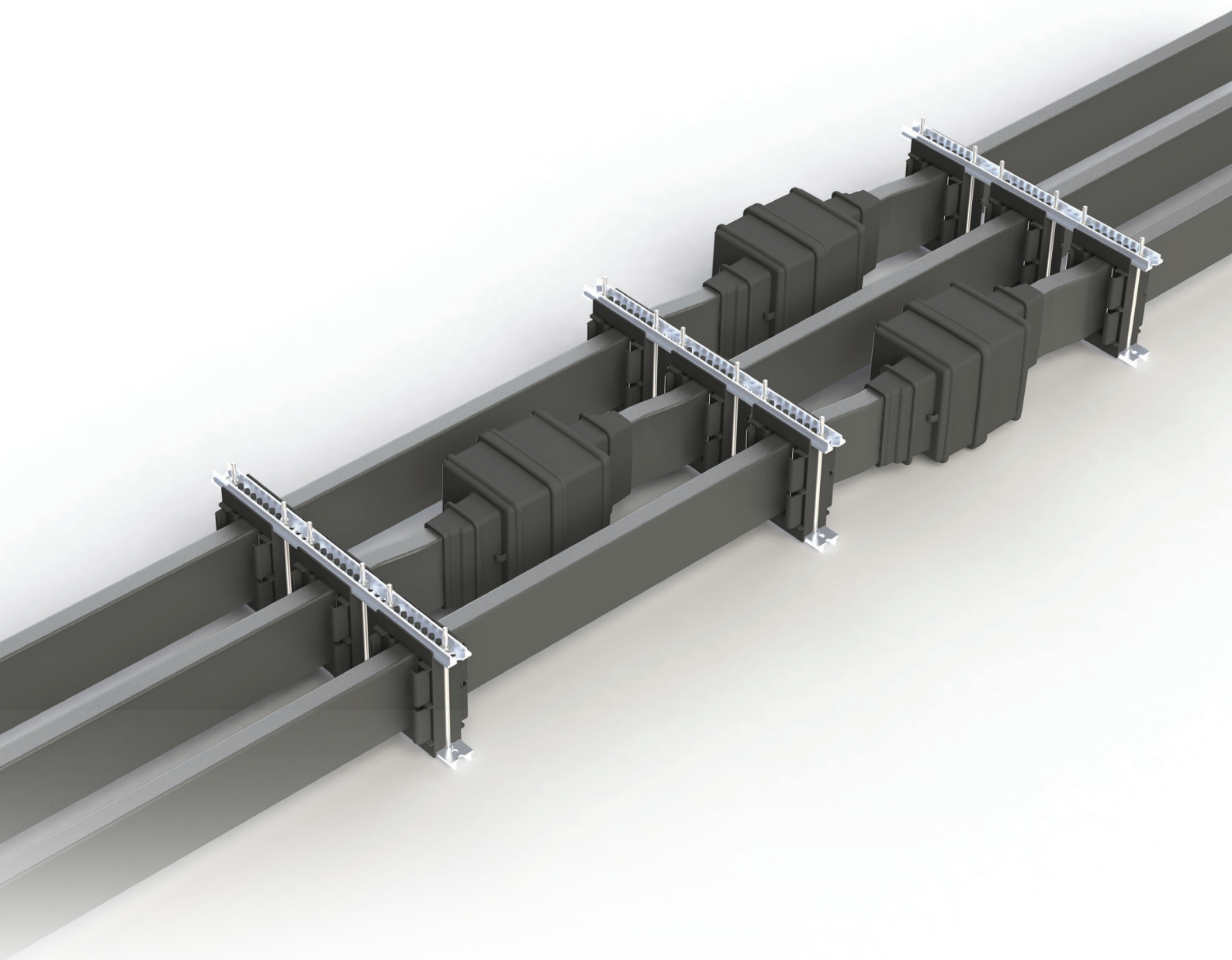
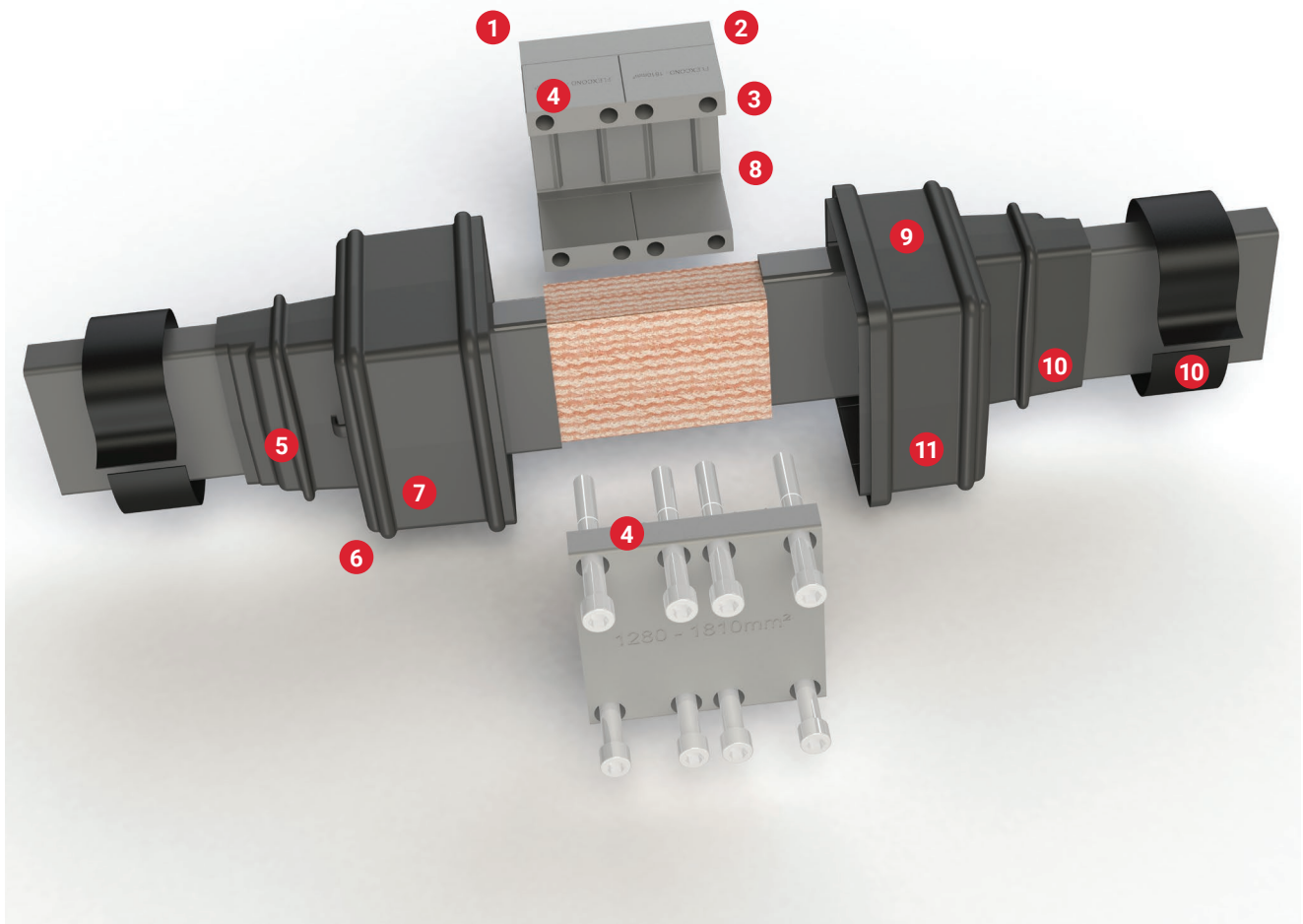


nVent ERIFLEX Flexbus System

Splicing Blocks for Extended Flexbus Conductor Length



nVent ERIFLEX Flexbus Splicing Block Overview



- 1** Splice conductors to extend the connection length beyond 25 meters for 220, 360, 545, 640, 800, and 960 mm² Flexbus conductors, or beyond 15 meters for 1280 and 1810 mm² Flexbus conductors
- 2** Compact design
- 3** Quick and easy installation in vertical, horizontal, flat, or edge positions
- 4** Powder-painted aluminum (nonmagnetic) connector to prevent galvanic corrosion with the copper conductor braid. Nonmagnetic stainless steel screws
- 5** Made with soft TPE material.
- 6** Tested and certified to IEC 61 439-1 and IEC 60 364 standards. CE and UKCA marked
- 7** Cover material treated against rodent and termite attacks
- 8** Strong and robust design for high short-circuit resistance
- 9** Material compliant with UV exposure requirements
- 10** IP55 (dust and waterproof) insulated cover with self-fusing tape
- 11** Flexible insulated cover made with advanced technology material:
 - Class II insulation (reinforced insulation)
 - High-temperature resistance up to 115°C
 - Flame-retardant, low smoke, halogen-free
 - Voltage: 1000 VAC/1500 VDC (IEC)

Features and Benefits

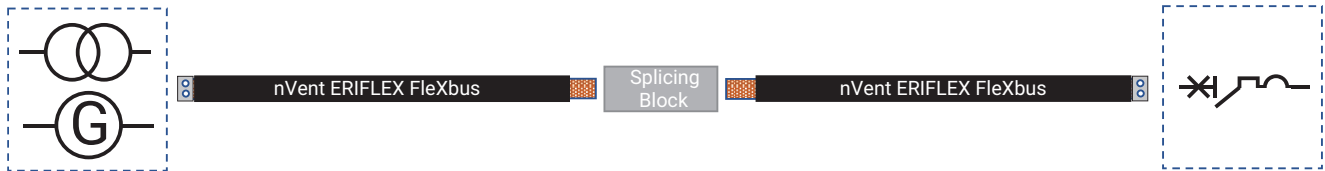
FleXbus Splicing Blocks are primarily utilized to extend FleXbus conductors of 220, 360, 545, 640, 800, and 960 mm² beyond 25 meters in length, and FleXbus conductors of 1280 and 1810 mm² beyond 15 meters in length.



D = From 2 m to 25 m for FleXbus conductors 220, 360, 545, 640, 800 and 960 mm²

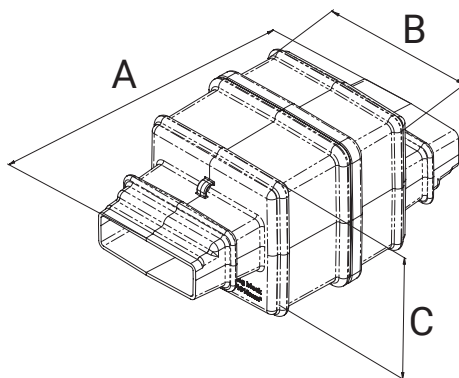
D = From 2 m to 15 m for FleXbus conductors 1280 and 1810 mm²

- Allows FleXbus conductors with ready-to-use palms on either side of the devices connection.
- Lighter, shorter conductors for easier installation.
- Allows to adapt the connection length directly at the Splicing block level.



Part Numbers, Dimensions, Weight and Packing Unit

| Part Number | Global Part Number | Description | A mm | B mm | C mm | Packing unit | Weight Kg |
|-------------|--------------------|--|------|------|------|--------------|-----------|
| 508163 | FLEXSB220-360 | FleXbus Splicing Block for conductor 220 and 360 mm ² | 264 | 111 | 120 | 1 pc | 2.1 |
| 508164 | FLEXSB545-640 | FleXbus Splicing Block for conductor 545 and 640 mm ² | 228 | 111 | 133 | 1 pc | 2.3 |
| 508165 | FLEXSB800-960 | FleXbus Splicing Block for conductor 800 and 960 mm ² | 322 | 169 | 150 | 1 pc | 5.7 |
| 508166 | FLEXSB1280 | FleXbus Splicing Block for conductor 1280 mm ² | 322 | 169 | 150 | 1 pc | 5.9 |
| 508167 | FLEXSB1810 | FleXbus Splicing Block for conductor 1810 mm ² | 322 | 169 | 150 | 1 pc | 6.2 |



Splicing Blocks Current/Ampacity

| Splicing Blocks Part Number | Splicing Blocks Global Part Number | Connected with Flexbus conductors cross section mm ² | Maximum Current Ratings** | | | | | | | | | | | | | | |
|-----------------------------|------------------------------------|---|---------------------------|--|--------------|--|--------------|--|--------------|--|--------------|--|--------------|--------------|--------|--------------|--|
| | | | Coef & Ampacity/Current | | | | | | | | | | | | | | |
| | | | 60°C Ambient | | 50°C Ambient | | 45°C Ambient | | 40°C Ambient | | 35°C Ambient | | 30°C Ambient | 25°C Ambient | | 20°C Ambient | |
| 508163 | FLEXSB220-360 | 220 | 473 A | | 546 A | | 579 A | | 606 A | | 639 A | | 666 A | 693 A | | 719 A | |
| | | 360 | 640 A | | 739 A | | 784 A | | 820 A | | 865 A | | | 901 A | | 937 A | |
| 508164 | FLEXSB545-640 | 545 | 800 A | | 924 A | | 980 A | | 1026 A | | 1082 A | | 1127 A | 1172 A | | 1217 A | |
| | | 640 | 875 A | | 1011 A | | 1073 A | | 1122 A | | 1184 A | | | 1233 A | | 1282 A | |
| 508165 | FLEXSB800-960 | 800 | 1088 A | | 1257 A | | 1333 A | | 1395 A | | 1471 A | | 1533 A | 1594 A | | 1656 A | |
| | | 960 | 1250 A | | 1444 A | | 1532 A | | 1603 A | | 1691 A | | | 1761 A | | 1831 A | |
| 508166 | FLEXSB1280 | 1280 | 1409 A | | 1627 A | | 1726 A | | 1805 A | | 1905 A | | 1984 A | | 2063 A | | |
| 508167 | FLEXSB1810 | 1810 | 1673 A | | 1932 A | | 2050 A | | 2144 A | | 2262 A | | 2356 A | | 2450 A | | |

**The correction factor for ambient air temperatures other than 30°C should be applied to the current-carrying capacities of Splicing Blocks in the air (From table B.52.14 of IEC 60364-5-52).

**These current and derating factor are valid for conductors and Splicing blocks, whether in a Flat or on Edge position, and for both vertical or horizontal mounting.

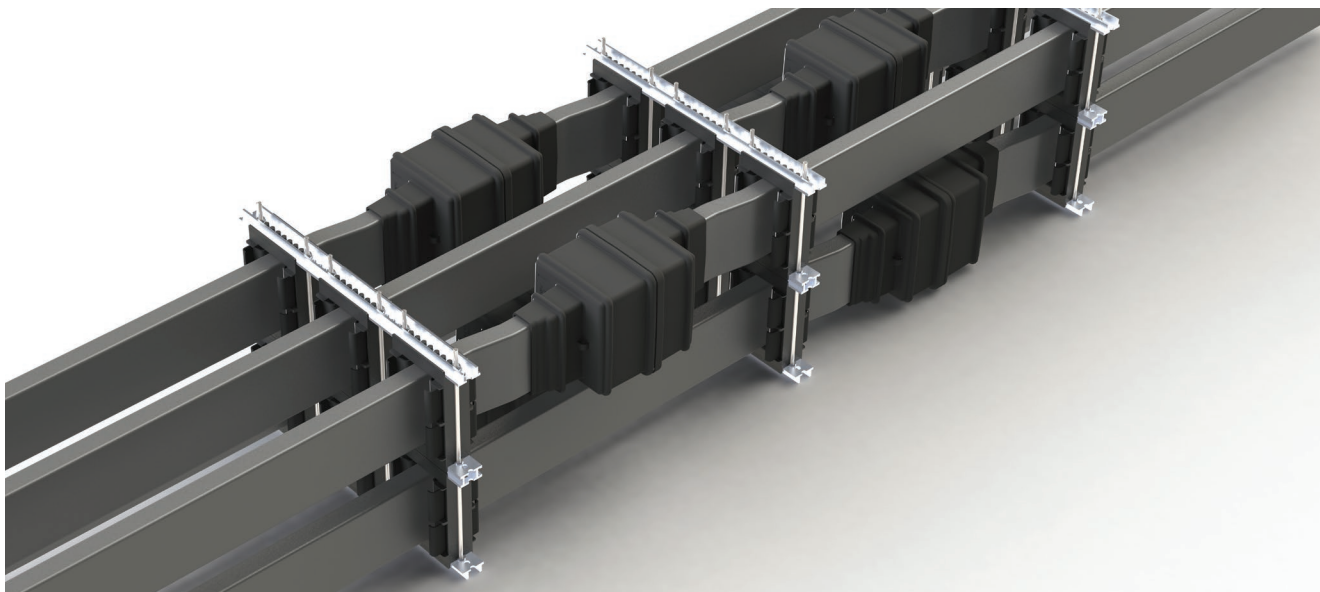
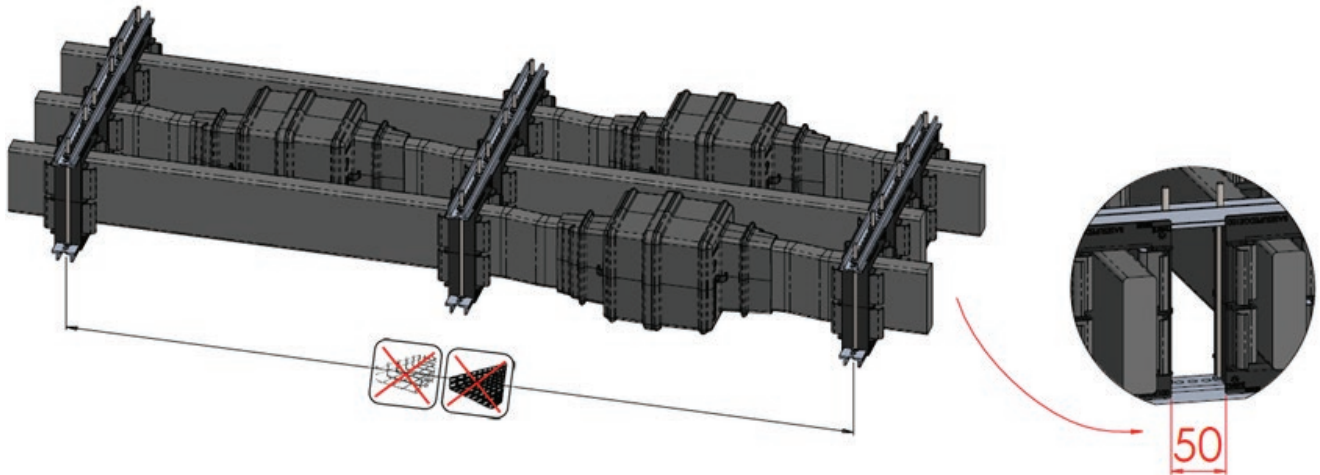
**At Frequency: DC/50 Hz/60 Hz.

Installation Configurations and Dimensions

| Splicing block for 220 to 640 mm ² Flexbus conductors | | Splicing block for 800 to 1810 mm ² Flexbus conductors | |
|--|-------------------------------|---|-------------------------------|
| Horizontal/Flat | Vertical/On Edge | Horizontal/Flat | Vertical/On Edge |
| <p>220-360² : 120 545-640² : 133 107.5, 111, 137.5</p> | <p>133, 137.5, 111.5, 111</p> | <p>168.5, 187.5, 113.5, 150</p> | <p>150, 168.5, 163.5, 150</p> |

Cooling and Spacing Between Conductors

Flexbus Conductors and Splicing Blocks have been designed and tested to be supported by our Flexbus supports. These supports ensure a proper distance of 50 mm between conductors and Splicing Blocks for effective air cooling. No cable tray or other structure should be installed below the Splicing Block.



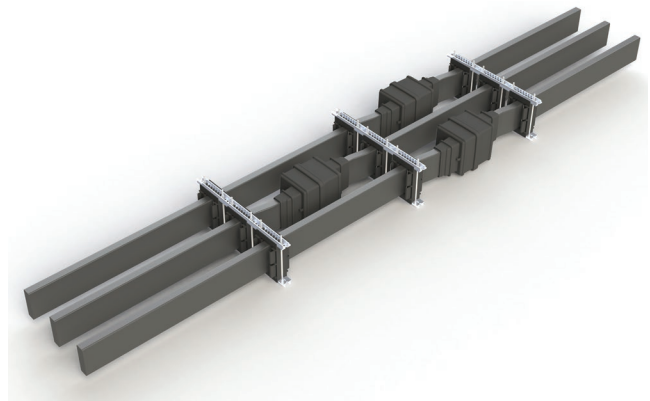
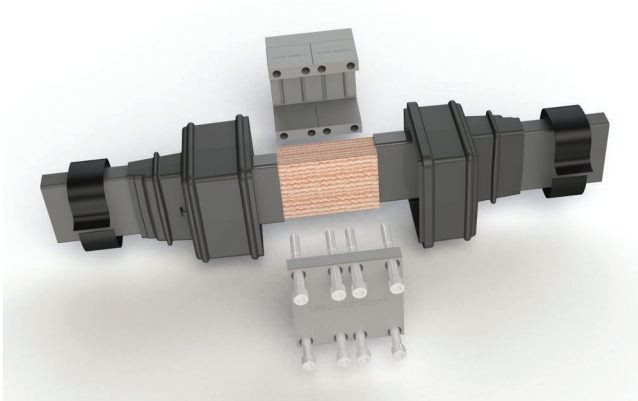
Short-Circuit: Fixing and Securing

Electromagnetic Forces (I_{pk}) are induced in conductors and splicing blocks by the currents flowing through them. When parallel conductors are longer than the distance between them, the force is evenly distributed along the conductors and splicing blocks. The force is attractive when the currents in the two conductors flow in the same direction, resulting in a “pull” mechanical effect. Conversely, when the currents flow in opposite directions, the forces are repulsive, resulting in a “push” mechanical effect.

The table below indicates the maximum short-circuit resistance of the splicing blocks, with a recommended distance between supports of 450 mm for 220, 360, 545, and 640 mm² conductors, and 600 mm for 800, 960, 1280, and 1810 mm² conductors.

| Splicing block for 220 to 640 mm ² Flexbus conductors | | | | Splicing block for 800 to 1810 mm ² Flexbus conductors | | |
|--|----------------------------|----------------------------|---|---|----------------------------|---|
| | Conductor arrangement | I _{cc} max (rms)* | I _{cc} max (I _{pk})* | Conductor arrangement | I _{cc} max (rms)* | I _{cc} max (I _{pk})* |
| 1 conductor per phase | – | 48.5 kA | 101.8 kA | – | 45.8 kA | 96.2 kA |
| 2 conductors per phase | Respected/Symmetric | 92.7 kA | 203.9 kA | Respected/Symmetric | 87.5 kA | 192.5 kA |
| | Not respected/Non Symetric | 69.5 kA | 152.9 kA | Not respected/Non Symetric | 64.3 kA | 141.4 kA |
| 3 conductors per phase | Respected/Symmetric | 127.5 kA | 280.5 kA | Respected/Symmetric | 118.2 kA | 260.0 kA |

* Possibility to improve the withstanding against short circuit by increasing distance between phases. Please contact our technical representative if needed.



Short-Circuit: Thermal Insulation Resistance

A Thermal Phenomenon (I_{cw}) occurs due to the ampacity carried in the conductive parts. The increase in temperature of the conductor and splicing block is related to the resistance of the conductor material, cross-section, ampacity, and duration. If not properly selected, this phenomenon can damage the splicing block or conductor insulation. The characteristics of the splicing block or conductor are quantified by a maximum admissible ampacity (I_{cw}).

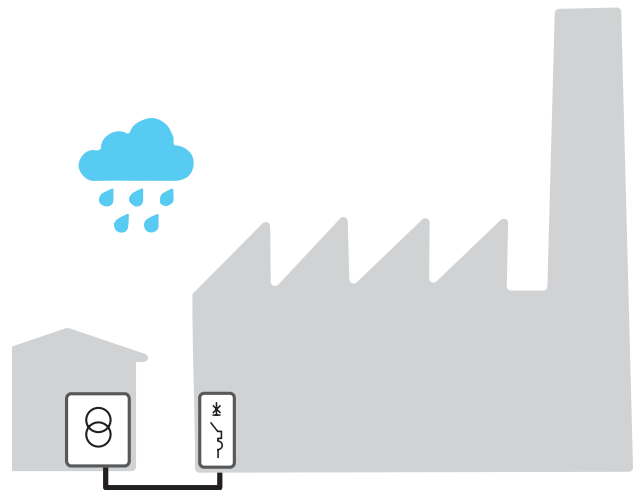
| Splicing block connected with Flexbus conductor type | Cross Section mm ² | Thermal short-circuit strength (I _{cw}) | | | |
|--|-------------------------------|---|---------------|---------------|-------------|
| | | kA 0.2 second | kA 0.5 second | kA 0.8 second | kA 1 second |
| FLEXCOND220 | 1 x 220 mm ² ▯ | 32.5 | 20.5 | 16.2 | 14.5 |
| FLEXCOND360 | 1 x 360 mm ² ▯ | 45.9 | 29.0 | 22.9 | 20.5 |
| FLEXCOND545 | 1 x 545 mm ² ▯ | 69.5 | 43.9 | 34.7 | 31.1 |
| FLEXCOND640 | 1 x 640 mm ² ▯ | 81.6 | 51.6 | 40.8 | 36.5 |
| FLEXCOND800 | 1 x 800 mm ² ▯ | 102.0 | 64.5 | 51.0 | 45.6 |
| FLEXCOND960 | 1 x 960 mm ² ▯ | 122.4 | 77.4 | 61.2 | 54.7 |
| FLEXCOND1280 | 1 x 1280 mm ² ▯ | 163.1 | 103.2 | 81.6 | 73.0 |
| FLEXCOND1810 | 1 x 1810 mm ² ▯ | 230.7 | 145.9 | 115.3 | 103.2 |
| FLEXCOND220 x 2 | 2 x 220 mm ² ▯▯ | 56.1 | 35.5 | 28.0 | 25.1 |
| FLEXCOND360 x 2 | 2 x 360 mm ² ▯▯ | 91.8 | 58.0 | 45.9 | 41.0 |
| FLEXCOND545 x 2 | 2 x 545 mm ² ▯▯ | 138.9 | 87.9 | 69.5 | 62.1 |
| FLEXCOND640 x 2 | 2 x 640 mm ² ▯▯ | 163.1 | 103.2 | 81.6 | 73.0 |
| FLEXCOND800 x 2 | 2 x 800 mm ² ▯▯ | 203.9 | 129.0 | 102.0 | 91.2 |
| FLEXCOND960 x 2 | 2 x 960 mm ² ▯▯ | 244.7 | 154.8 | 122.4 | 109.4 |
| FLEXCOND1280 x 2 | 2 x 1280 mm ² ▯▯ | 326.3 | 206.4 | 163.1 | 145.9 |
| FLEXCOND1810 x 2 | 2 x 1810 mm ² ▯▯ | 461.4 | 291.8 | 230.7 | 206.3 |
| FLEXCOND800 x 3 | 3 x 800 mm ² ▯▯▯ | 305.9 | 193.5 | 152.9 | 136.8 |
| FLEXCOND960 x 3 | 3 x 960 mm ² ▯▯▯ | 367.1 | 232.2 | 183.5 | 164.2 |
| FLEXCOND1280 x 3 | 3 x 1280 mm ² ▯▯▯ | 489.4 | 309.5 | 244.7 | 218.9 |
| FLEXCOND1810 x 3 | 3 x 1810 mm ² ▯▯▯ | 692.1 | 437.7 | 346.0 | 309.5 |

Water and Dust Resistance

The Splicing Block has been tested according to IEC 60529 (The IP Code, or Ingress Protection code) and has obtained an **IP55 classification**:

- This means it offers **solid particle protection**, being dust-protected (ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the safe operation of the equipment).
- It also provides **liquid ingress protection** against water jets (water projected by a nozzle (6.3 mm) against the enclosure from any direction shall have no harmful effects).

However, the FleXbus Splicing Block is not designed to be a permanent or temporary water submerged junction.

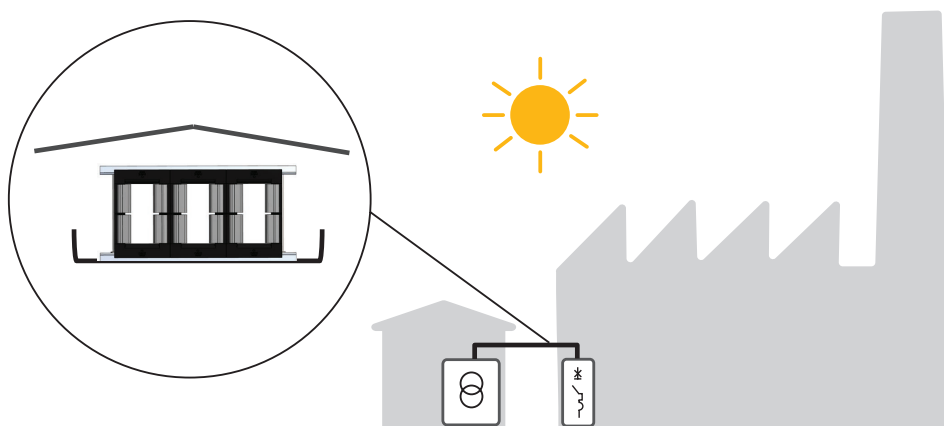


UV Resistance

The advanced material of the FleXbus Splicing Block has been tested according to the AN3 UV radiation level for high UV exposure (IEC 60364-5-52 – Low voltage electric installation, Chapter 522.11: Solar radiation (AN)). The results show that the **material is compliant for UV exposure**, with its mechanical properties (tensile strength and elongation at break) retaining good performance after 1000 hours of exposure.

Despite these positive test results, it is recommended to protect the FleXbus Splicing Block from UV exposure using a protective cover that does not touch the splicing block and allows for normal cooling.

This approach is more economical than applying the 0.85 x in additional derating factor as per IEC 60287-1-1 standard (Electric cables – Calculation of the current rating – Part 1-1: Current rating equations (100% load factor) and calculation of losses – General – Chapter 1.4.4: Cables directly exposed to solar radiation).



Rodent and Termite Protection



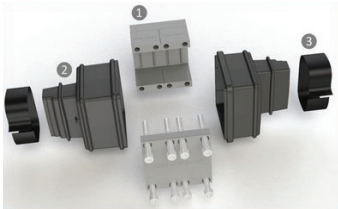
An additive/masterbatch is incorporated into the insulated cover of the Flexbus splicing block during injection to ensure long-lasting effectiveness through the controlled release of active ingredients.

Our additive/masterbatch is:

- Non-toxic, non-hazardous, non-dangerous, environmentally friendly and low odor.
- Complies with REACH and RoHS regulations
- Tested according to GB/T 34016-2017 (Generality of rat and termite proof wires and cables) by the China National Center for Quality Supervision and Test of Electric Wire and Cable.

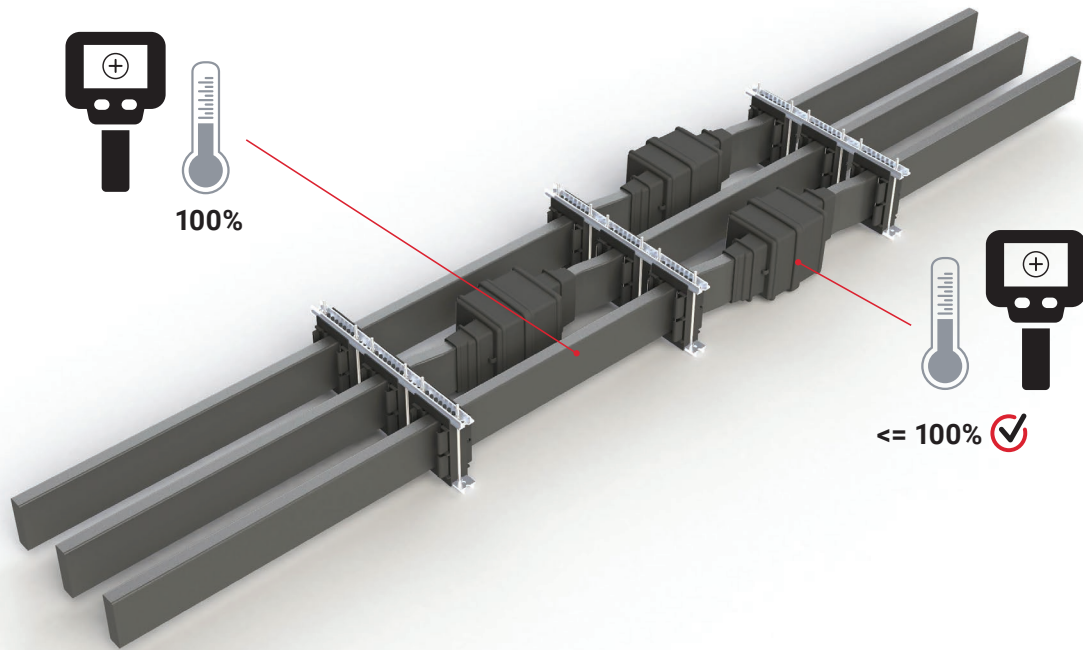


Technical Specifications

| Flexbus Advanced Splicing Blocks | | |
|---|--|--|
| 1 Conductive part – Aluminum connector | Material: | Powder Painted Aluminum 6061-T6 |
| | Screws: | Non-magnetic Stainless Steel hardware |
| 2 Insulated cover | Material: | Thermoplastic Elastomer (TPE) |
| | Class: | Class II (IEC 61 439-1 chapter 8.6.4 and Table 4 and IEC 60364-4-41 chapter 410.3.3 and 412) |
| | Ingress Protection Class IP | IP55 with Self-fusing tape. |
| | Dielectric Strength: | 20 kV/mm |
| | Flammability Rating: | UL® 94V-0 IEC® 60695-2-12 (Glow Wire Test 960°C) |
| | Halogen Free Rating: | UL® 2885 IEC® 60754-1 IEC® 62821-2 |
| | Low Smoke Rating: | UL® 2885 IEC® 61034-2 ISO 5659-2 |
| | Typical Insulation Elongation: | > 500% |
| | Typical Insulation Thickness: | 3 mm |
| | Nominal Voltage: | IEC: 1,000 VAC; 1,500 VDC |
| | Working Temperature: | -50 to 115°C (-58 to 239°F) |
| | Minimum Installation Temperature | +5°C (41°F) |
| | UV Rating | UL 2556 and UL 854 IEC 60364-2-52 Chapter 522.11: AN3 Level ISO 4892-2 |
| Rodent and Termite proof | Tested as per GB/T 34016-2017 & DIN EN 117 | |
| 3 Self fusing tape | Material: | Ethylene Propylene Rubber (EPR) |
| | Dielectric Strength: | 20 kV/mm |
| | Typical Insulation Thickness: | 1,65 mm |
| Certifications and compliance | Complies With: | IEC® 60695-2-12 (Glow Wire Test 960°C) IEC® 61439.1 Class II: IEC® 61439.1 and IEC 60364 CE RoHS EN 45545: HL3 classification |
| Installation usage | International: | IEC 60364 |
| | Europe: | HD384 |
|  | National: | AS 3008 ÔNORM RGIE – AREI NBR 5410 CSN NFC 15-100 DIN VDE 0100 CEI 64-8 NEN 1010 NP (2002) REBT SS 436 40 00 NIBT-NIN BS 7671 |

Maintenance

The nVent ERIFLEX Flexbus Splicing Block is maintenance-free product. However, in many countries, all industrial and commercial building installations, as well as installations in buildings used for public gatherings, must be periodically retested by authorized agents. If needed, a thermal camera is recommended to check the temperature of the splicing block. When installed correctly, in accordance with the installation instructions, the temperature of the splicing block under load will be equal to or lower than that of the connected Flexbus conductors. If the temperature of the splicing block is higher than that of the connected conductors, the insulating protective cover should be removed, and the assembly and tightening torque applied to the terminal block should be checked.



More Technical Information



More Technical Information

All other technical data is consistent across the entire Flexbus conductor range.

Please download our comprehensive nVent ERIFLEX Flexbus Catalogue and Technical Guide:

✓ [English](#)

✓ [German](#)

✓ [Spanish](#)

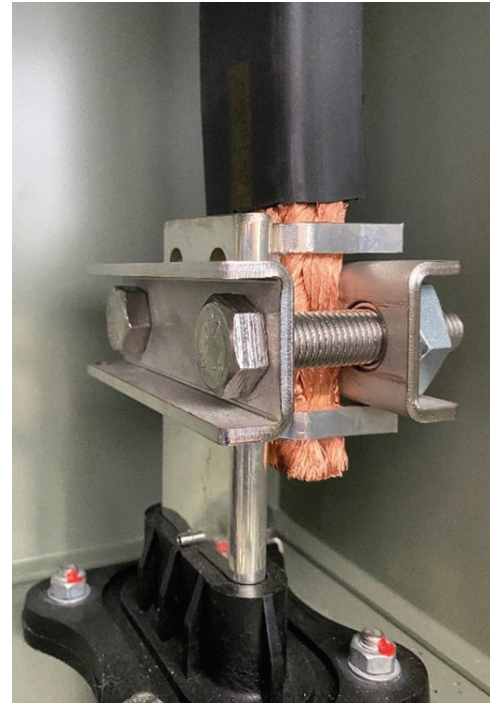
✓ [French](#)

✓ [Italian](#)

✓ [Dutch](#)



nvent
ERIFLEX



nVent.com



Our powerful portfolio of brands:

CADDY ERICO HOFFMAN ILSCO RAYCHEM SCHROFF