

**STAR-SERIES**

The *easy configurable* High-Standard



Pioneering  
high voltage.

**STARIP®-Si+**  
24-245 kV

## Key benefits

- Proven design with cast-resin insulation (no oil)
- No maintenance required
- Can be operated in ambient temperatures down to  $-60^{\circ}\text{C}$

| STARIP®-Si+   | Dimensions | Drawing | Voltage range   |
|---|------------|---------|---|
| Rated highest voltage for Equipment Um, 50/60Hz                               | kV         | -       | 24   36   52   72,5   123   145   170   245           |
| Partial discharge level at test voltage                                       | pc         | -       | below background noise level of 2pC                   |
| Power-frequency withstand voltage 50Hz, 1.2min, dry                           | kV         | -       | 55   77   105   155   255   305   355   505           |
| Rated lightning impulse withstand voltage (BIL): 1.2/50 $\mu$ s               | kV         | -       | 125   170   250   325   550   650   750   1050        |
| Rated switching impulse withstand voltage (SIL): 250/2500 $\mu$ s             | kV         | -       | -   -   -   -   -   -   -   850                       |
| Maximum service current draw lead bolt: I <sub>max</sub> /450 mm <sup>2</sup> | A          | -       | 800   800   800   800   800   800   800   800         |
| Maximum service current with removable conductor: I <sub>max</sub>            | A          | -       | 1600   1600   1600   1600   1600   1600   1250   1250 |
| Maximum service current with solid conductor: I <sub>max</sub>                | A          | -       | 2500   2500   2000   2000   2000   2000   2000   1600 |
| Flashover distance  | mm         | SW      | 380   380   661   661   1138   1301   1451   2770     |
| Creepage distance: minimum  | mm         | -       | 1120   1120   2250   2250   3900   4500   5270   9300 |
| Creepage distance: referred tu Um   | mm/kv      | -       | 46.7   31.1   43.3   31.0   31.7   31.0   31.0   38.0 |

### Dimensions for oil-sided end

|                     |    |    |  |
|---------------------|----|----|--|
| Length at CT=0      | mm | L1 | 175   195   230   270   350   400   440   620  |
| Length at CT=300 mm | mm | L1 | 475   495   530   570   650   700   740   920  |
| Length at CT=500 mm | mm | L1 | 675   695   730   770   850   900   940   1120 |

### Connecting dimensions for draw lead bolt and removable conductor

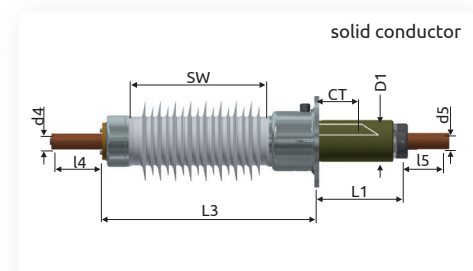
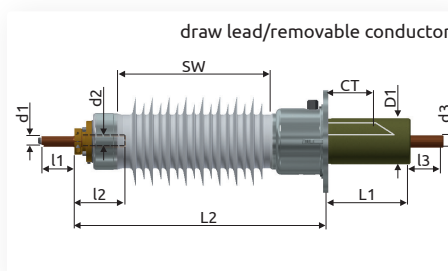
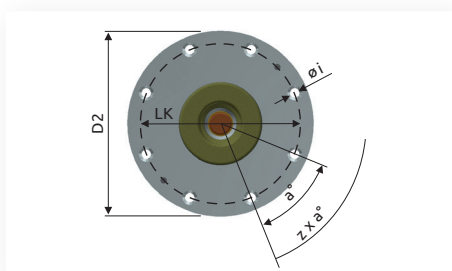
|  |    |      |   |
|--|----|------|---|
| Length of porcelain or composite insulator | mm | L2   | 667   667   948   948   1425   1588   1738   3117 |
| Top terminal draw lead bolt                | mm | d1x1 | $\varnothing$ 30 x 90                             |
| Top terminal removable conductor bolt      | mm | d1x1 | $\varnothing$ 30 x 125                            |
| Bottom terminal draw lead bolt             | mm | d2x2 | $\varnothing$ 38 x 150                            |
| Bottom terminal removable conductor        | mm | d3x3 | $\varnothing$ 35 x 90                             |

### Connecting dimensions for solid conductor

|  |    |      |   |
|--|----|------|---|
| Length of porcelain or composite insulator | mm | L3   | 640   640   921   921   1398   1561   1711   3085 |
| Top terminal                               | mm | d4x4 | $\varnothing$ 45 x 125                            |
| Bottom terminal                            | mm | d5x5 | $\varnothing$ 45 x 125                            |

|                            |    |    |   |
|----------------------------|----|----|---|
| Outside diameter of core   | mm | D1 | 100   100   100   100   130   130   143   182/130 |
| Outside diameter of flange | mm | D2 | 225   225   225   225   290   290   335   335     |
| Diameter of bolt circle    | mm | LK | 185   185   185   185   250   250   290   290     |
| Number of holes            | -  | z  | 8   8   8   8   8   8   12   12                   |
| Angle                      | °  | a  | 45   45   45   45   45   45   30   30             |
| Hole diameter              | mm | i  | 15   15   15   15   15   15   16   20             |

### Dimension Drawing



The dimensions are based on the silicone series; the bushing is also available in a porcelain version.

## RIP Dry-Type Transformer Bushings - with Porcelain or Silicone Insulator acc. to IEC 60137

We have fundamentally revised our proven STARIP transformer bushings and now offer them either with porcelain insulator (STARIP®+) or with composite silicone insulator (STARIP®-Si+). The bushings are designed for rated voltages of 24 to 245 kV and rated currents up to 2,500 A and can be optimally adapted to individual operating conditions.

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