

### 3EK7 specifications according to IEC 60099-4 standard

#### Electrical Characteristics

| Rated voltage<br>$U_r$<br>kV | Continuous operating voltage<br>$U_c$<br>kV | Arrester type      | Designation | Nominal discharge current<br>$I_n$<br>kA | Charge transfer rating<br>$Q_{rs}$<br>C | Thermal charge transfer rating<br>$Q_{th}$<br>C | Maximum values of the residual voltages at discharge currents of the following impulses |                              |                            |                            |                            |                             |                             |
|------------------------------|---|--------------------|-------------|--|---|---|---|------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
|                              |   |                    |             |  |   |   | 30/60 $\mu$ s<br>125 A<br>kV  | 30/60 $\mu$ s<br>500 A<br>kV | 8/20 $\mu$ s<br>1 kA<br>kV | 8/20 $\mu$ s<br>3 kA<br>kV | 8/20 $\mu$ s<br>5 kA<br>kV | 8/20 $\mu$ s<br>10 kA<br>kV | 8/20 $\mu$ s<br>20 kA<br>kV |
| 3.0                          | 2.4   | 3EK7 030 - 4 C B 4 | DH          | 10                                       | 0.5                                     | 1.1   | 5.8   | 6.1                          | 6.5                        | 7.1                        | 7.4                        | 8.0                         | 9.1                         |
| 6.0                          | 4.8   | 3EK7 060 - 4 C B 4 | DH          | 10                                       | 0.5                                     | 1.1   | 11.6  | 12.2                         | 13.0                       | 14.2                       | 14.8                       | 15.9                        | 18.3                        |
| 9.0                          | 7.2   | 3EK7 090 - 4 C B 4 | DH          | 10                                       | 0.5                                     | 1.1   | 17.4  | 18.4                         | 19.6                       | 21.2                       | 22.2                       | 23.9                        | 27.4                        |
| 12                           | 9.6   | 3EK7 120 - 4 C C 4 | DH          | 10                                       | 0.5                                     | 1.1   | 23.2  | 24.5                         | 26.1                       | 28.3                       | 29.6                       | 31.8                        | 36.6                        |
| 15                           | 12.0  | 3EK7 150 - 4 C C 4 | DH          | 10                                       | 0.5                                     | 1.1   | 29.0  | 30.6                         | 32.6                       | 35.4                       | 37.0                       | 39.8                        | 45.7                        |
| 18                           | 14.4  | 3EK7 180 - 4 C D 4 | DH          | 10                                       | 0.5                                     | 1.1   | 34.8  | 36.7                         | 39.1                       | 42.5                       | 44.4                       | 47.7                        | 54.9                        |
| 21                           | 16.8  | 3EK7 210 - 4 C D 4 | DH          | 10                                       | 0.5                                     | 1.1   | 40.6  | 42.9                         | 45.6                       | 49.5                       | 51.8                       | 55.7                        | 64.0                        |
| 24                           | 19.2  | 3EK7 240 - 4 C E 4 | DH          | 10                                       | 0.5                                     | 1.1   | 46.4  | 49.0                         | 52.2                       | 56.6                       | 59.1                       | 63.6                        | 73.1                        |
| 27                           | 21.6  | 3EK7 270 - 4 C E 4 | DH          | 10                                       | 0.5                                     | 1.1   | 52.2  | 55.1                         | 58.7                       | 63.7                       | 66.5                       | 71.6                        | 82.3                        |
| 30                           | 24.0  | 3EK7 300 - 4 C F 4 | DH          | 10                                       | 0.5                                     | 1.1   | 58.0  | 61.2                         | 65.2                       | 70.8                       | 73.9                       | 79.5                        | 91.4                        |
| 33                           | 26.4  | 3EK7 330 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 63.8  | 67.3                         | 71.7                       | 77.8                       | 81.3                       | 87.5                        | 101                         |
| 36                           | 28.8  | 3EK7 360 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 69.6  | 73.5                         | 78.2                       | 84.9                       | 88.7                       | 95.4                        | 110                         |
| 39                           | 31.2  | 3EK7 390 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 75.4  | 79.6                         | 84.7                       | 92.0                       | 96.1                       | 103                         | 119                         |
| 42                           | 33.6  | 3EK7 420 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 81.2  | 85.7                         | 91.3                       | 99.1                       | 104                        | 111                         | 128                         |
| 45                           | 36.0  | 3EK7 450 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 87.1  | 91.8                         | 97.8                       | 106                        | 111                        | 119                         | 137                         |
| 48                           | 38.4  | 3EK7 480 - 4 C H 4 | DH          | 10                                       | 0.5                                     | 1.1   | 92.9  | 97.9                         | 104                        | 113                        | 118                        | 127                         | 146                         |
| 51                           | 40.8  | 3EK7 510 - 4 C J 4 | DH          | 10                                       | 0.5                                     | 1.1   | 98.7  | 104                          | 111                        | 120                        | 126                        | 135                         | 155                         |
| 54                           | 43.2  | 3EK7 540 - 4 C J 4 | DH          | 10                                       | 0.5                                     | 1.1   | 104   | 110                          | 117                        | 127                        | 133                        | 143                         | 165                         |
| 60                           | 48.0  | 3EK7 600 - 4 C J 4 | DH          | 10                                       | 0.5                                     | 1.1   | 116   | 122                          | 130                        | 142                        | 148                        | 159                         | 183                         |

#### Mechanical Characteristics

| Height [H]<br>mm | Creepage distance<br>mm | Rated short-circuit current<br>$I_s$<br>kA | Lightning impulse withstand voltage<br>1.2/50 $\mu$ s<br>kV | Power frequency withstand voltage, wet<br>1 min.<br>kV | Specified short-term load SSL |                        | Specified long-term load SLL |                        | Approximate weight of arrester without accessories<br>kg | Flashover distance<br>mm | Insulating bracket<br>size |
|------------------|-------------------------|--|---|--|-------------------------------|------------------------|------------------------------|------------------------|--|--------------------------|----------------------------|
|                  |                         |  |   |  | arrester only<br>N            | with ins. bracket<br>N | arrester only<br>N           | with ins. bracket<br>N |  |                          |                            |
| 170              | 372                     | 20   | 104   | 49   | 2940                          | 470                    | 2050                         | 320                    | 1.5  | 180                      | short                      |
| 170              | 372                     | 20   | 104   | 49   | 2940                          | 470                    | 2050                         | 320                    | 1.6  | 180                      | short                      |
| 170              | 372                     | 20   | 104   | 49   | 2940                          | 470                    | 2050                         | 320                    | 1.6  | 180                      | short                      |
| 200              | 485                     | 20   | 122   | 57   | 2500                          | 400                    | 1750                         | 280                    | 1.9  | 210                      | short                      |
| 200              | 485                     | 20   | 122   | 57   | 2500                          | 400                    | 1750                         | 280                    | 2.0  | 210                      | short                      |
| 240              | 605                     | 20   | 144   | 67   | 2080                          | 330                    | 1450                         | 230                    | 2.3  | 248                      | long                       |
| 240              | 605                     | 20   | 144   | 67   | 2080                          | 330                    | 1450                         | 230                    | 2.4  | 248                      | long                       |
| 270              | 775                     | 20   | 166   | 77   | 1850                          | 290                    | 1290                         | 200                    | 2.7  | 286                      | long                       |
| 270              | 775                     | 20   | 166   | 77   | 1850                          | 290                    | 1290                         | 200                    | 2.8  | 286                      | long                       |
| 300              | 900                     | 20   | 184   | 86   | 1660                          | 260                    | 1160                         | 180                    | 3.1  | 318                      | long                       |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 3.9  | 418                      | long                       |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 4.0  | 418                      | long                       |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 4.1  | 418                      | -                          |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 4.1  | 418                      | -                          |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 4.2  | 418                      | -                          |
| 400              | 1230                    | 20   | 242   | 113  | 1250                          | 200                    | 870                          | 140                    | 4.3  | 418                      | -                          |
| 470              | 1420                    | 20   | 281   | 131  | 1060                          | 170                    | 740                          | 110                    | 4.9  | 484                      | -                          |
| 470              | 1420                    | 20   | 281   | 131  | 1060                          | 170                    | 740                          | 110                    | 5.0  | 484                      | -                          |
| 470              | 1420                    | 20   | 281   | 131  | 1060                          | 170                    | 740                          | 110                    | 5.1  | 484                      | -                          |

#### How to order

3EK7 IEC

Example 3EK7 360-4CH4

- 3EK7 ... Medium-voltage surge arrester
- 360 ... Rated voltage = 36 kV
- 4 ... LD class 1 [5 → LD class 2]
- C ... IEC
- H ... Housing type (H=400 mm)
- 4 ... Alternating sheds

Example 3EK7 360-4CH4-Z M11 P12 M81

-Z ... is indicating accessories

Accessories:

- M11 ... Line clamp (M=Line terminal)
- P12 ... NEMA insulating bracket (M=Ground terminal)
- M81 ... Bird protection cap

#### Dimensions 3EK7 IEC

