



# HIGH VOLTAGE SURGE ARRESTER TYPE PROXAR-IVN AC IN SILICONE HOUSING

## CATALOGUE CHART

### APPLICATION

Surge arresters type **PROXAR-IVN AC** in silicone housing are intended for protection AC power engineering networks against multiple lightning and switching overvoltage's in HV substations, cables and transformers. This surge arrester is destined to all special technical requirements as well.

### OPERATING CONDITIONS

Surge arresters adapted for outdoor and indoor installation in temperate and tropical climate. The possibility to install in any working positions.

### ADVANTAGES

- Low residual voltage
- High energy input capacity
- Stable U-I characteristics even after absorbing multiple surges
- Housing resistant to rough handling
- Explosion and shatter – resistant design
- Pollution resistant and UV
- Ability to install in any position (vertically or horizontally)
- Maintenance free
- Low weight, easy transportation and storage
- Ability to work in horizontal position

### ADDITIONAL EQUIPMENT

Additional accessories include a base for mounting surge arresters, as well as line and grounding accessories (see: accessories for surge arresters).

### ELECTRICAL DETAILS

|                                                                            |                   |
|----------------------------------------------------------------------------|-------------------|
| Line discharge class according to IEC 60099-4: 2014                        | SH (Station High) |
| Line discharge class according to IEC 60099-4: 2009                        | Class 4           |
| System voltage (Um)                                                        | 3 – 145 kV        |
| Rated voltage (Ur)                                                         | 1 – 144 kV        |
| Rated discharge current In 8/20 μs                                         | 20 kA             |
| High current impulse Ihc 4/10 μs                                           | 100 kA            |
| Rated repetitive charge transfer rating Qrs                                | 2.4 C             |
| Rated thermal Energy Wth                                                   | 12.0 kJ/kV Ur     |
| Single impulse energy absorption capability (impulse duration 2 ms – 4 ms) | 6.0 kJ/kV Ur      |
| Long duration current impulse resistance, 2000 μs (based on Qrs)           | 1100 A            |
| Short circuit rating                                                       | 65 kA/0.2s        |
| Service conditions:                                                        |                   |
| - ambient temperature                                                      | -45 °C do +60 °C* |
| - altitude up to                                                           | 1000 m*           |
| - frequency                                                                | 48-62 Hz          |
| Mechanical strength:                                                       |                   |
| - SLL long-term load                                                       | 2400 Nm           |
| - SSL short-term load                                                      | 6000 Nm           |
| - torque                                                                   | 200 Nm            |
| - tensile                                                                  | 5 kN              |
| Mechanical strength: <sup>1)</sup>                                         |                   |
| - SLL long-term load                                                       | 1200 Nm           |
| - SSL short-term load                                                      | 1800 Nm           |
| - torque                                                                   | 200 Nm            |
| - tensile                                                                  | 5 kN              |

\*) for other values please contact the manufacturer;

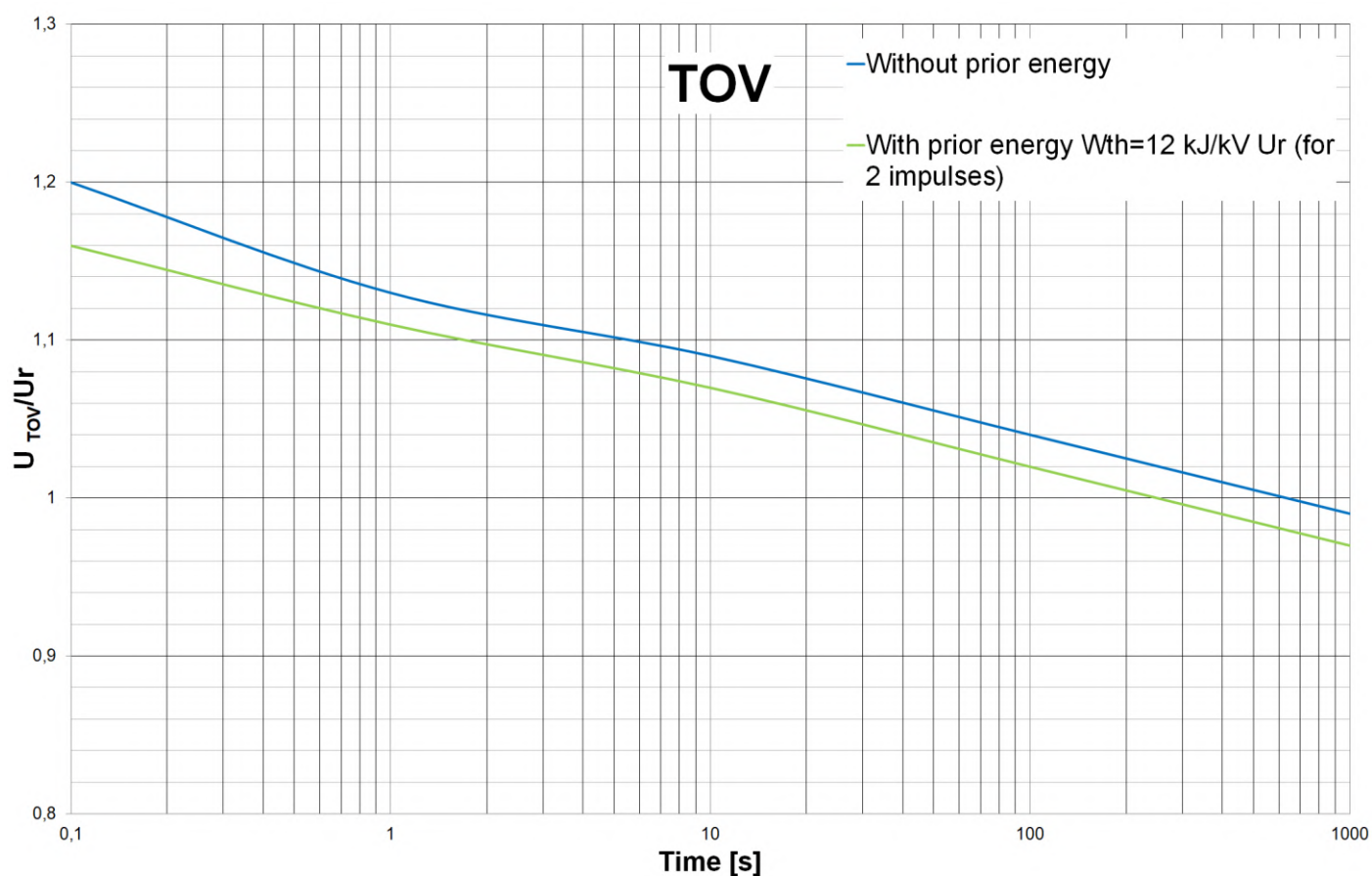
<sup>1)</sup> Only applies to drawing and housing No.1

# ELECTRICAL DATA

| TYPE<br>PROXAR-IVN AC | Rated<br>voltage<br><br>Ur<br>kV | Maximum<br>continuous<br>operating<br>voltage<br><br>Uc<br>kV | TOV <sup>2)</sup>   |                      | Residual voltage in [kV] pk at a specified impulse current |              |            |            |            |               |           |           |
|-----------------------|----------------------------------|---------------------------------------------------------------|---------------------|----------------------|------------------------------------------------------------|--------------|------------|------------|------------|---------------|-----------|-----------|
|                       |                                  |                                                               | rms<br><br>1s<br>kV | rms<br><br>10s<br>kV | Wave<br>1/... μs<br><br>20kA<br>kV                         | Wave 8/20 μs |            |            |            | Wave 30/60 μs |           |           |
|                       |                                  |                                                               |                     |                      |                                                            |              |            |            |            |               |           |           |
|                       |                                  |                                                               |                     |                      |                                                            | 5kA<br>kV    | 10kA<br>kV | 20kA<br>kV | 40kA<br>kV | 500A<br>kV    | 1kA<br>kV | 2kA<br>kV |
| 1.0                   | 1.0                              | 0.8                                                           | 1.1                 | 1.1                  | 4.3                                                        | 2.3          | 2.4        | 2.6        | 2.8        | 2.0           | 2.1       | 2.2       |
| 1.2                   | 1.2                              | 1.0                                                           | 1.3                 | 1.3                  | 4.8                                                        | 2.7          | 2.9        | 3.1        | 3.4        | 2.4           | 2.5       | 2.6       |
| 1.5                   | 1.5                              | 1.2                                                           | 1.7                 | 1.6                  | 5.6                                                        | 3.4          | 3.6        | 3.9        | 4.2        | 3.0           | 3.1       | 3.2       |
| 1.7                   | 1.7                              | 1.4                                                           | 1.9                 | 1.8                  | 6.2                                                        | 3.9          | 4.1        | 4.4        | 4.8        | 3.5           | 3.5       | 3.7       |
| 2.0                   | 2.0                              | 1.6                                                           | 2.2                 | 2.1                  | 7.0                                                        | 4.6          | 4.8        | 5.2        | 5.6        | 4.1           | 4.2       | 4.3       |
| 2.2                   | 2.2                              | 1.8                                                           | 2.4                 | 2.4                  | 7.5                                                        | 5.0          | 5.3        | 5.7        | 6.2        | 4.5           | 4.6       | 4.7       |
| 2.5                   | 2.5                              | 2.0                                                           | 2.8                 | 2.7                  | 8.3                                                        | 5.7          | 6.0        | 6.5        | 7.0        | 5.1           | 5.2       | 5.4       |
| 2.7                   | 2.7                              | 2.2                                                           | 3.0                 | 2.9                  | 8.8                                                        | 6.2          | 6.5        | 7.0        | 7.6        | 5.5           | 5.6       | 5.8       |
| 3.0                   | 3.0                              | 2.4                                                           | 3.3                 | 3.2                  | 9.6                                                        | 6.8          | 7.2        | 7.8        | 8.4        | 6.1           | 6.2       | 6.5       |
| 3.2                   | 3.2                              | 2.6                                                           | 3.6                 | 3.4                  | 10.2                                                       | 7.3          | 7.7        | 8.3        | 9.0        | 6.5           | 6.7       | 6.9       |
| 3.5                   | 3.5                              | 2.8                                                           | 3.9                 | 3.7                  | 11.0                                                       | 8.0          | 8.4        | 9.1        | 9.8        | 7.1           | 7.3       | 7.5       |
| 3.7                   | 3.7                              | 3.0                                                           | 4.1                 | 4.0                  | 11.5                                                       | 8.4          | 8.9        | 9.6        | 10.4       | 7.5           | 7.7       | 8.0       |
| 4.0                   | 4.0                              | 3.2                                                           | 4.4                 | 4.3                  | 12.3                                                       | 9.1          | 9.6        | 10.4       | 11.2       | 8.1           | 8.3       | 8.6       |
| 4.5                   | 4.5                              | 3.6                                                           | 5.0                 | 4.8                  | 13.6                                                       | 10.3         | 10.8       | 11.7       | 12.6       | 9.1           | 9.4       | 9.7       |
| 5.0                   | 5.0                              | 4.0                                                           | 5.6                 | 5.4                  | 15.0                                                       | 11.4         | 12.0       | 13.0       | 14.0       | 10.2          | 10.4      | 10.8      |
| 6.0                   | 6.0                              | 4.8                                                           | 6.7                 | 6.4                  | 17.6                                                       | 13.7         | 14.4       | 15.5       | 16.8       | 12.2          | 12.5      | 12.9      |
| 7.0                   | 7.0                              | 5.6                                                           | 7.8                 | 7.5                  | 20.3                                                       | 16.0         | 16.8       | 18.1       | 19.6       | 14.2          | 14.6      | 15.1      |
| 8.0                   | 8.0                              | 6.4                                                           | 8.9                 | 8.6                  | 22.9                                                       | 18.2         | 19.2       | 20.7       | 22.4       | 16.2          | 16.6      | 17.2      |
| 9.0                   | 9.0                              | 7.2                                                           | 10.0                | 9.6                  | 25.6                                                       | 20.5         | 21.6       | 23.3       | 25.2       | 18.3          | 18.7      | 19.4      |
| 10                    | 10                               | 8.0                                                           | 11.1                | 10.7                 | 28.3                                                       | 22.8         | 24.0       | 25.9       | 28.0       | 20.3          | 20.8      | 21.5      |
| 11                    | 11                               | 8.8                                                           | 12.2                | 11.8                 | 31.6                                                       | 25.1         | 26.4       | 28.5       | 30.8       | 22.3          | 22.9      | 23.7      |
| 12                    | 12                               | 9.6                                                           | 13.3                | 12.8                 | 34.3                                                       | 27.4         | 28.8       | 31.1       | 33.6       | 24.4          | 25.0      | 25.8      |
| 13                    | 13                               | 10.4                                                          | 14.4                | 13.9                 | 36.9                                                       | 29.6         | 31.2       | 33.7       | 36.4       | 26.4          | 27.0      | 28.0      |
| 14                    | 14                               | 11.2                                                          | 15.5                | 15.0                 | 39.6                                                       | 31.9         | 33.6       | 36.3       | 39.2       | 28.4          | 29.1      | 30.1      |
| 15                    | 15                               | 12.0                                                          | 16.7                | 16.1                 | 42.3                                                       | 34.2         | 36.0       | 38.9       | 42.0       | 30.5          | 31.2      | 32.3      |
| 16                    | 16                               | 12.8                                                          | 17.8                | 17.1                 | 45.5                                                       | 36.5         | 38.4       | 41.4       | 44.8       | 32.5          | 33.3      | 34.4      |
| 17                    | 17                               | 13.6                                                          | 18.9                | 18.2                 | 48.1                                                       | 38.8         | 40.8       | 44.0       | 47.6       | 34.5          | 35.4      | 36.6      |
| 18                    | 18                               | 14.4                                                          | 20.0                | 19.3                 | 50.8                                                       | 41.0         | 43.2       | 46.6       | 50.4       | 36.5          | 37.4      | 38.7      |
| 19                    | 19                               | 15.2                                                          | 21.1                | 20.3                 | 53.5                                                       | 43.3         | 45.6       | 49.2       | 53.2       | 38.6          | 39.5      | 40.9      |
| 20                    | 20                               | 16.0                                                          | 22.2                | 21.4                 | 56.1                                                       | 45.6         | 48.0       | 51.8       | 56.0       | 40.6          | 41.6      | 43.0      |
| 21                    | 21                               | 16.8                                                          | 23.3                | 22.5                 | 58.8                                                       | 47.9         | 50.4       | 54.4       | 58.8       | 42.6          | 43.7      | 45.2      |
| 22                    | 22                               | 17.6                                                          | 24.4                | 23.5                 | 61.4                                                       | 50.2         | 52.8       | 57.0       | 61.6       | 44.7          | 45.8      | 47.3      |
| 23                    | 23                               | 18.4                                                          | 25.5                | 24.6                 | 64.7                                                       | 52.4         | 55.2       | 59.6       | 64.4       | 46.7          | 47.8      | 49.5      |
| 24                    | 24                               | 19.2                                                          | 26.6                | 25.7                 | 67.3                                                       | 54.7         | 57.6       | 62.2       | 67.2       | 48.7          | 49.9      | 51.6      |
| 25                    | 25                               | 20.0                                                          | 27.8                | 26.8                 | 70.0                                                       | 57.0         | 60.0       | 64.8       | 70.0       | 50.8          | 52.0      | 53.8      |
| 26                    | 26                               | 20.8                                                          | 28.9                | 27.8                 | 72.6                                                       | 59.3         | 62.4       | 67.3       | 72.8       | 52.8          | 54.1      | 55.9      |
| 27                    | 27                               | 21.6                                                          | 30.0                | 28.9                 | 75.3                                                       | 61.6         | 64.8       | 69.9       | 75.6       | 54.8          | 56.2      | 58.1      |
| 28                    | 28                               | 22.4                                                          | 31.1                | 30.0                 | 78.0                                                       | 63.8         | 67.2       | 72.5       | 78.4       | 56.8          | 58.2      | 60.2      |
| 29                    | 29                               | 23.2                                                          | 32.2                | 31.0                 | 80.6                                                       | 66.1         | 69.6       | 75.1       | 81.2       | 58.9          | 60.3      | 62.4      |
| 30                    | 30                               | 24.0                                                          | 33.3                | 32.1                 | 83.3                                                       | 68.4         | 72.0       | 77.7       | 84.0       | 60.9          | 62.4      | 64.5      |
| 33                    | 33                               | 26.4                                                          | 36.6                | 35.3                 | 91.8                                                       | 75.2         | 79.2       | 85.5       | 92.4       | 67.0          | 68.6      | 71.0      |
| 36                    | 36                               | 28.8                                                          | 40.0                | 38.5                 | 99.8                                                       | 82.1         | 86.4       | 93.2       | 100.8      | 73.1          | 74.9      | 77.4      |
| 39                    | 39                               | 31.2                                                          | 43.3                | 41.7                 | 108.3                                                      | 88.9         | 93.6       | 101.0      | 109.2      | 79.2          | 81.1      | 83.9      |
| 42                    | 42                               | 33.6                                                          | 46.6                | 44.9                 | 116.3                                                      | 95.8         | 100.8      | 108.8      | 117.6      | 85.3          | 87.4      | 90.3      |
| 45                    | 45                               | 36.0                                                          | 50.0                | 48.2                 | 124.3                                                      | 102.6        | 108.0      | 116.6      | 126.0      | 91.4          | 93.6      | 96.8      |
| 48                    | 48                               | 38.4                                                          | 53.3                | 51.4                 | 132.8                                                      | 109.4        | 115.2      | 124.3      | 134.4      | 97.4          | 99.8      | 103.2     |
| 51                    | 51                               | 40.8                                                          | 56.6                | 54.6                 | 140.8                                                      | 116.3        | 122.4      | 132.1      | 142.8      | 103.5         | 106.1     | 109.7     |
| 54                    | 54                               | 43                                                            | 59.9                | 57.8                 | 149                                                        | 123          | 130        | 140        | 151.2      | 110           | 112       | 116       |
| 60                    | 60                               | 48                                                            | 66.6                | 64.2                 | 165                                                        | 137          | 144        | 155        | 168.0      | 122           | 125       | 129       |
| 66                    | 66                               | 53                                                            | 73.3                | 70.6                 | 182                                                        | 150          | 158        | 171        | 184.8      | 134           | 137       | 142       |
| 72                    | 72                               | 58                                                            | 79.9                | 77.0                 | 198                                                        | 164          | 173        | 186        | 201.6      | 146           | 150       | 155       |
| 84                    | 84                               | 67                                                            | 93.2                | 89.9                 | 232                                                        | 192          | 202        | 218        | 235.2      | 171           | 175       | 181       |
| 96                    | 96                               | 77                                                            | 106.6               | 102.7                | 265                                                        | 219          | 230        | 249        | 268.8      | 195           | 200       | 206       |
| 102                   | 102                              | 82                                                            | 113.2               | 109.1                | 281                                                        | 233          | 245        | 264        | 285.6      | 207           | 212       | 219       |
| 108                   | 108                              | 86                                                            | 119.9               | 115.6                | 297                                                        | 246          | 259        | 280        | 302.4      | 219           | 225       | 232       |
| 120                   | 120                              | 96                                                            | 133.2               | 128.4                | 332                                                        | 274          | 288        | 311        | 342        | 244           | 250       | 258       |
| 132                   | 132                              | 106                                                           | 146.5               | 141.2                | 364                                                        | 301          | 317        | 342        | 376        | 268           | 275       | 284       |
| 138                   | 138                              | 110                                                           | 153.2               | 147.7                | 380                                                        | 315          | 331        | 357        | 393        | 280           | 287       | 297       |
| 144                   | 144                              | 115                                                           | 159.8               | 154.1                | 395                                                        | 328          | 346        | 373        | 410        | 292           | 300       | 310       |

Note: There is a possibility of manufacturing surge arresters for different voltages that are not listed in the table.

<sup>2)</sup>With prior energy 12 kJ/kV Ur



IEC power frequency voltage versus time (U-t)

characteristic TOV without prior energy

$U_{TOV}$  for  $t=1$  s  $1.130 U_r = 1.413 U_c$

$U_{TOV}$  for  $t=3$  s  $1.110 U_r = 1.388 U_c$

$U_{TOV}$  for  $t=10$  s  $1.090 U_r = 1.363 U_c$

IEC power frequency voltage versus time (U-t)

characteristic TOV with prior energy 12 kJ/kVUr; 15 kJ/kV Uc

$U_{TOV}$  for  $t=1$  s  $1.11 U_r = 1.388 U_c$

$U_{TOV}$  for  $t=3$  s  $1.09 U_r = 1.363 U_c$

$U_{TOV}$  for  $t=10$  s  $1.07 U_r = 1.338 U_c$

#### TECHNICAL DATA FOR HOUSING

| TECHNICAL DATA FOR HOUSING |                                 |                             |                       |                                               |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
|----------------------------|---------------------------------|-----------------------------|-----------------------|-----------------------------------------------|------------------------------------------------------------------------------------------|------------|----------------------------|------------------------------|---------|---------|--------|-------------------------------|-------------------------------|-------------------------|--------------|
| Us<br>kV                   | Type<br>PROXAR<br>IIIN AC<br>kV | External insulation         |                       | Minimal distances                             |                                                                                          | Dimensions |                            |                              |         |         |        | Variant of<br>drawing<br>Fig. | Operating<br>position<br>Fig. | Housing<br>number<br>No | Weight<br>kg |
|                            |                                 | 50 Hz<br>wet<br>(60s)<br>kV | 1.2/50μs<br>dry<br>kV | Distance<br>between<br>arresters<br>„b”<br>mm | Distance<br>between<br>arrester and<br>the nearest<br>grounded<br>structure<br>„a”<br>mm | H<br>mm    | Creepage<br>distance<br>mm | Flash-over<br>distance<br>mm | A<br>mm | B<br>mm | C<br>M |                               |                               |                         |              |
|                            | 1.0                             | 28                          | 75                    | 150                                           | 75                                                                                       | 165        | 318                        | 165                          | 148     | 96      | M12    | 1                             | 4, 5, 7                       | 01                      | 2.4          |
|                            | 1.2                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.5          |
|                            | 1.5                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.6          |
|                            | 1.7                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.6          |
|                            | 2.0                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.7          |
|                            | 2.2                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.7          |
|                            | 2.5                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.8          |
|                            | 2.7                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.8          |
|                            | 3.0                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.9          |
|                            | 3.2                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 2.9          |
|                            | 3.5                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 3.0          |
|                            | 3.7                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 3.1          |
|                            | 4.0                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 3.2          |
| 3.6                        | 4.5                             |                             |                       | 150                                           | 75                                                                                       |            |                            |                              |         |         |        |                               |                               |                         | 3.3          |
|                            | 5.0                             | 150                         | 85                    | 3.5                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
|                            | 6.0                             | 150                         | 95                    | 3.7                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
|                            | 7.0                             | 150                         | 100                   | 3.9                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
|                            | 8.0                             | 150                         | 110                   | 4.1                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
| 7.2                        | 9.0                             | 150                         | 115                   | 4.3                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |
|                            | 10.0                            | 170                         | 130                   | 4.5                                           |                                                                                          |            |                            |                              |         |         |        |                               |                               |                         |              |

| Us   | Type<br>PROXAR<br>IIIN AC | External insulation   |                 | Minimal distances                       |                                                                                    | Dimensions |                      |                        |     |     |     | Variant of<br>drawing | Operating<br>position | Housing<br>number | Weight |
|------|---------------------------|-----------------------|-----------------|-----------------------------------------|------------------------------------------------------------------------------------|------------|----------------------|------------------------|-----|-----|-----|-----------------------|-----------------------|-------------------|--------|
|      |                           | 50 Hz<br>wet<br>(60s) | 1.2/50µs<br>dry | Distance<br>between<br>arresters<br>„b” | Distance<br>between<br>arrester and<br>the nearest<br>grounded<br>structure<br>„a” | H          | Creepage<br>distance | Flash-over<br>distance | A   | B   | C   |                       |                       |                   |        |
| kV   | kV                        | kV                    | kV              | mm                                      | mm                                                                                 | mm         | mm                   | mm                     | mm  | mm  | M   | Fig.                  | Fig.                  | No                | kg     |
| 12   | 11                        | 77                    | 141             | 220                                     | 160                                                                                | 235        | 528                  | 247                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 02                | 12.6   |
|      | 12                        |                       |                 | 220                                     | 165                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 12.7   |
|      | 13                        |                       |                 | 230                                     | 175                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 12.8   |
|      | 14                        |                       |                 | 240                                     | 180                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 12.9   |
|      | 15                        |                       |                 | 250                                     | 190                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 13.0   |
| 17.5 | 16                        | 94                    | 173             | 260                                     | 205                                                                                | 291        | 760                  | 303                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 03                | 13.9   |
|      | 17                        |                       |                 | 270                                     | 210                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 14.0   |
|      | 18                        |                       |                 | 280                                     | 220                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 14.1   |
|      | 19                        |                       |                 | 280                                     | 225                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 14.2   |
|      | 20                        |                       |                 | 290                                     | 235                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 14.3   |
|      | 21                        |                       |                 | 300                                     | 240                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 14.4   |
| 24   | 22                        | 112                   | 205             | 310                                     | 250                                                                                | 347        | 992                  | 359                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 04                | 14.5   |
|      | 23                        |                       |                 | 320                                     | 265                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.3   |
|      | 24                        |                       |                 | 330                                     | 275                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.4   |
|      | 25                        |                       |                 | 340                                     | 280                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.5   |
|      | 26                        |                       |                 | 350                                     | 290                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.6   |
|      | 27                        |                       |                 | 350                                     | 295                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.7   |
|      | 28                        |                       |                 | 360                                     | 300                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.8   |
|      | 29                        |                       |                 | 370                                     | 310                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 15.9   |
|      | 30                        |                       |                 | 380                                     | 315                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 16.0   |
| 36   | 33                        | 129                   | 237             | 420                                     | 360                                                                                | 403        | 1225                 | 415                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 05                | 16.7   |
|      | 36                        |                       |                 | 440                                     | 380                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 17.0   |
|      | 39                        |                       |                 | 460                                     | 400                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 17.4   |
|      | 42                        | 147                   | 269             | 480                                     | 425                                                                                | 459        | 1457                 | 471                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 06                | 17.7   |
|      | 45                        |                       |                 | 500                                     | 445                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 18.0   |
| 52   | 48                        | 164                   | 301             | 530                                     | 475                                                                                | 515        | 1689                 | 527                    | 219 | 113 | M16 | 2                     | 4, 5, 7               | 07                | 18.5   |
|      | 51                        |                       |                 | 560                                     | 495                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 19.0   |
|      | 54                        |                       |                 | 600                                     | 535                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 20.5   |
| 72.5 | 60                        | 182                   | 334             | 640                                     | 580                                                                                | 571        | 1741                 | 583                    | 219 | 113 | M20 | 3                     | 4, 5, 6, 7            | 08                | 21.0   |
|      | 66                        |                       |                 | 720                                     | 655                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 22.0   |
|      | 72                        | 217                   | 398             | 760                                     | 700                                                                                | 683        | 2208                 | 695                    | 219 | 113 | M20 | 3                     | 4, 5, 6, 7            | 09                | 22.5   |
|      | 84                        |                       |                 | 890                                     | 835                                                                                |            |                      |                        |     |     |     |                       |                       |                   | 24.0   |
|      | 96                        | 304                   | 558             | 1020                                    | 960                                                                                | 963        | 3369                 | 975                    | 219 | 113 | M20 | 3                     | 4, 5, 6, 7            | 11                | 26.0   |
| 123  | 102                       |                       |                 | 1060                                    | 1005                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 26.5   |
|      | 108                       |                       |                 | 1110                                    | 1045                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 27.0   |
|      | 96                        | 339                   | 622             | 1020                                    | 960                                                                                | 1075       | 3834                 | 1087                   | 219 | 113 | M20 | 3                     | 4, 5, 6, 7            | 12                | 30.0   |
|      | 102                       |                       |                 | 1060                                    | 1005                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 30.5   |
|      | 108                       |                       |                 | 1110                                    | 1045                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 31.0   |
|      | 120                       |                       |                 | 1230                                    | 1170                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 32.0   |
|      | 132                       |                       |                 | 1320                                    | 1255                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 33.0   |
|      | 138                       |                       |                 | 1360                                    | 1300                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 34.0   |
| 145  | 120                       | 391                   | 718             | 1230                                    | 1170                                                                               | 1243       | 4530                 | 1255                   | 219 | 113 | M20 | 3                     | 4, 5, 6, 7            | 13                | 36.0   |
|      | 132                       |                       |                 | 1320                                    | 1255                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 37.0   |
|      | 138                       |                       |                 | 1360                                    | 1300                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 37.5   |
|      | 144                       |                       |                 | 1400                                    | 1345                                                                               |            |                      |                        |     |     |     |                       |                       |                   | 38.0   |

Note: It is possible to make a surge arrester in a different housing than the catalogue version. Us – maximum system voltage

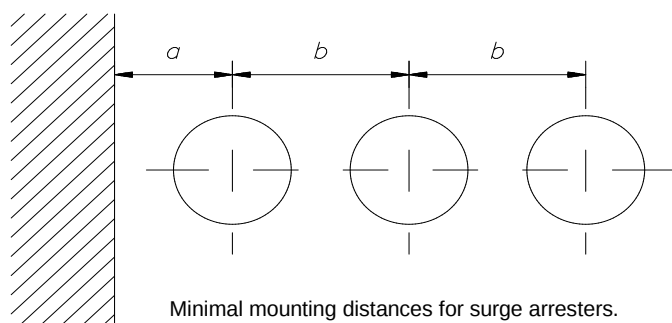




Fig. 1

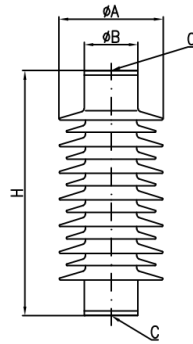


Fig. 2

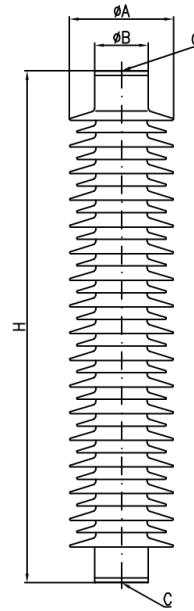


Fig. 3

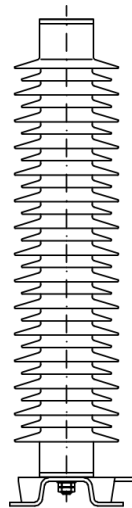


Fig. 4

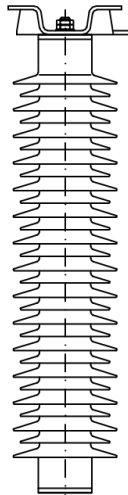


Fig. 5

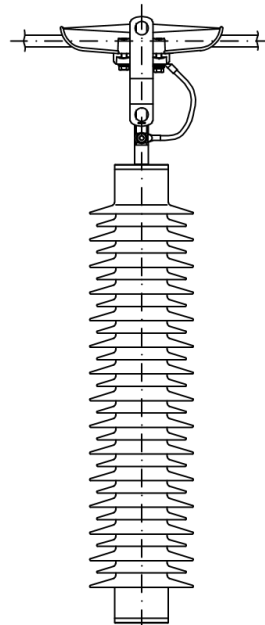


Fig. 6

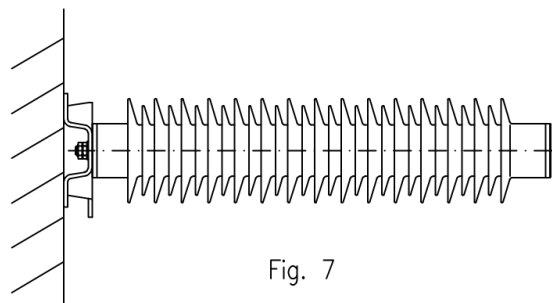


Fig. 7

The above figures show the configuration of the surge arresters housing (fig. 1; 2, 3). The drawings No 4 – 7 presents different system of assembling surge arresters. Drawings No 4 presents vertical system of assembling. Drawings No 5 presents reverse system of assembling surge arrester. Drawing No 6 presents suspension system of assembly line surge arrester. Drawings No 7 presents horizontal system of assembling. Below the figures are presenting different options line and earth accessories available for use in surge arrester type PROXAR-IVN AC. For horizontal working configuration of surge arresters is this same option like for vertical working.

|                                                                                                                                          |                                                                                                                                   |                                                                                                                                                |                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| LINE ACCESSORIES                                                                                                                         | <p>LINE TERMINAL 1 (Stainless steel)</p> <p>Weight:<br/>~0.85kg</p>                                                               | LINE ACCESSORIES                                                                                                                               | <p>LINE TERMINAL 2 (Stainless steel)</p> <p>Weight:<br/>~0.42kg</p>                    |
| LINE ACCESSORIES                                                                                                                         | <p>LINE TERMINAL 3 (Stainless steel)</p> <p>Weight:<br/>~0.60kg</p> <p>LINE TERMINAL 4 (Aluminium)</p> <p>Weight:<br/>~0.27kg</p> | LINE ACCESSORIES                                                                                                                               | <p>LINE TERMINAL 5 (Hot-dip galvanized/Stainless steel)</p> <p>Weight:<br/>~3.15kg</p> |
| LINE ACCESSORIES                                                                                                                         | <p>LINE TERMINAL 6 (Stainless steel)</p> <p>Weight:<br/>~0.06kg</p>                                                               | EARTH ACCESSORIES                                                                                                                              | <p>EARTH TERMINAL 1 (Stainless steel)</p> <p>Weight:<br/>~0.68kg</p>                   |
| EARTH ACCESSORIES                                                                                                                        | <p>EARTH TERMINAL 2 (Stainless steel)</p> <p>Weight:<br/>~0.25kg</p>                                                              | EARTH ACCESSORIES                                                                                                                              | <p>EARTH TERMINAL 6 (Stainless steel)</p> <p>Weight:<br/>~0.06kg</p>                   |
| <p>MOUTING BASE 1 (Hot-dip galvanized)</p> <p>Weight:<br/>~3.75kg</p> <p>MOUTING BASE 3 (Stainless steel)</p> <p>Weight:<br/>~2.84kg</p> |                                                                                                                                   | <p>INSULATING BASE 2 (Hot-dip galvanized)</p> <p>Weight:<br/>~4.98kg</p> <p>INSULATING BASE 4 (Stainless steel)</p> <p>Weight:<br/>~4.08kg</p> |                                                                                        |

Fig. 8. Equipment for surge arrester type PROXAR-IVN AC

Order configurator\*\*:

\*\*\*) Empty fields to be filled.

| 1                 | 2 | 3         | 4 | 5 | 6 | 7 | 8 | 9 |
|-------------------|---|-----------|---|---|---|---|---|---|
| <b>PROXAR-IVN</b> |   | <b>AC</b> |   |   |   |   |   |   |

1. Type of product  
**PROXAR-IVN**

2. Rated voltage  $U_r$   
See table – ELECTRICAL DATA **Ur**

3. Voltage type  
Alternating voltage (48 – 62 Hz) **AC**

4. Assembly (according fig. 4, 5, 6, 7)

|                       |          |
|-----------------------|----------|
| – Vertical (fig. 4)   | <b>1</b> |
| – Reversed (fig. 5)   | <b>2</b> |
| – Suspended (fig. 6)  | <b>3</b> |
| – Horizontal (fig. 7) | <b>4</b> |

5. Base (according fig. 10)

|                                          |          |
|------------------------------------------|----------|
| – Without base                           | <b>0</b> |
| – Mounting base 1 (Hot-dip galvanized)   | <b>1</b> |
| – Insulating base 2 (Hot-dip galvanized) | <b>2</b> |
| – Mounting base 3 (Stainless steel)      | <b>3</b> |
| – Insulating base 4 (Stainless steel)    | <b>4</b> |

6. Line terminal (according fig. 8)

|                         |          |
|-------------------------|----------|
| – without line terminal | <b>0</b> |
| – line terminal 1       | <b>1</b> |
| – line terminal 2       | <b>2</b> |
| – line terminal 3       | <b>3</b> |
| – line terminal 4       | <b>4</b> |
| – line terminal 5       | <b>5</b> |
| – line terminal 6       | <b>6</b> |

7. Earth terminal (according fig. 8)

|                          |          |
|--------------------------|----------|
| – without earth terminal | <b>0</b> |
| – earth terminal 1       | <b>1</b> |
| – earth terminal 2       | <b>2</b> |
| – earth terminal 6       | <b>6</b> |

8. Housing number  
See table – TECHNICAL DATA FOR HOUSING **Housing number**

9. Design

|                                                     |          |
|-----------------------------------------------------|----------|
| – standard                                          | <b>0</b> |
| – non-standard (to be agreed with the manufacturer) | <b>X</b> |

Order example:

| 1                 | 2         | 3         | 4        | 5        | 6        | 7        | 8         | 9        |
|-------------------|-----------|-----------|----------|----------|----------|----------|-----------|----------|
| <b>PROXAR-IVN</b> | <b>96</b> | <b>AC</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>1</b> | <b>12</b> | <b>0</b> |

**PROXAR-IVN 96 AC 1231120** – 3 pcs.

Description: Surge arrester type **PROXAR-IVN** with rated voltage  $U_r=96\text{kV}$  for **AC** system in vertical mounting version -1 with insulating base 2 (hot-dip galvanized) - 2, line terminal - 3, earth terminal - 1, housing number - 12, in standard design **0**.

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**www.protektel.pl**  
**POLAND**



Check out our [high voltage surge arresters](#)  
 Check out our [medium voltage surge arresters](#)

#### ATTENTION

Note: The manufacturer reserves the right to change technical data or designee without prior notice.  
**PROXAR®** is a registered trademark of the latest family of surge arresters made by Protektel