## Terminations for paper and polymeric insulated cables 1 kV



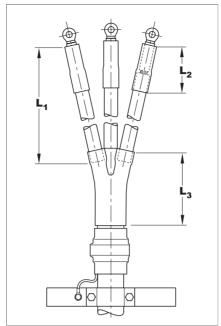
#### Cable

The terminations are designed for 3- and 4-core polymeric insulated cables with or without armour and 3- and 4-core paper insulated cables including cables with reduced neutral conductor.

For example: NAYY, NAYBY,
NAKBA,BBF, ABBF, RBF, ARBF,
ARBF, AABBY, ACBY, YAKY, XAKXS,
KRFtA, AYKY, CYKY, CNKODY, ANKOY,
ANKOPV, NAYY, NAYBY, NAKBA, PP
00-A, XP 00-A,N(A)YY, PP 41-A,
N(A)YBY, N(A)YC(W)Y,IPO 13,
N(A)KBA.

# Design of terminations for plastic cables

The cable crutch is sealed by an adhesive lined heat-shrinkable breakout. which is installed over the cores and the end of the oversheath. Heat-shrinkable tubings seal between the cable lug and the end of the core insulation. All materials are resistant to UV-light and weathering. A solderless earth connection system consisting of a roll spring and an earth braid is included in terminations for armoured cables. In case UV-light protection of the core insulation is required, a CGPT insulating tubing can be ordered separately. All terminations can be ordered as complete kits or as components. Kits with the modification code -L12 include mechanical lugs with a busbar connection hole for M12 connection bolts, with code -L16 for M16 bolts.



Dimensions L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub> see table page 17

# Design of terminations for paper cables

The cores of the paper cable are covered with heat-shrinkable tubings. All materials are resistant to UV-light, weathering and cable oil. The cable cores can be cut to the required length at the place of installation. A heat-shrinkable breakout and tubings prevent any moisture ingress or oil leakage at the end of the metal sheath or of the cable cores. The kit includes a solderless earth connection system for the metal sheath, consisting of a roll spring, an earth braid, copper mesh and insulating tubing. The kit includes supplementary materials for cable preparation. Kits with the modification code -L12 include mechanical lugs with a busbar connection hole for M12 connection bolts, with code -L16 for M16 bolts.

#### For 3-core cables

The termination includes in addition a solderless neutral connection system for the aluminium sheath, consisting of stainless steel hose clamps, an earth braid and a mechanical lug.



## Selection tables for paper insulated cables 1 kV

### Complete terminations for 3-core paper cables

| Cross<br>section | Ordering description<br>Core length L1 (mm)* |                            |                            | Dimensions (mm) |                |
|------------------|--|----------------------------|----------------------------|-----------------|----------------|
| (mm²)            | 250 x 4 = 1000                               | 750 x 4 = 3000             | 1000 x 4 = 4000            | L <sub>3</sub>  | L <sub>2</sub> |
| without lugs     | •  |                            |                            |                 |                |
| 25- 70           | GUST 01/3x 25- 70/ 250                       | GUST 01/3x 25- 70/ 750     | GUST 01/3x 25- 70/1000     | 165             | 80             |
| 70-120           | GUST 01/3x 70-120/ 250                       | GUST 01/3x 70-120/ 750     | GUST 01/3x 70-120/1000     | 215             | 100            |
| 120-240          | GUST 01/3x120-240/ 250                       | GUST 01/3x120-240/ 750     | GUST 01/3x120-240/1000     | 220             | 150            |
| including me     | echanical lugs                               |                            |                            |                 |                |
| 25- 70           | GUST 01/3x 25- 70/ 250-L12                   | GUST 01/3x 25- 70/ 750-L12 | GUST 01/3x 25- 70/1000-L12 | 255             | 80             |
| 70-120           | GUST 01/3x 70-120/ 250-L12                   | GUST 01/3x 70-120/ 750-L12 | GUST 01/3x 70-120/1000-L12 | 215             | 100            |
| 120-240          | GUST 01/3x120-240/ 250-L12                   | GUST 01/3x120-240/ 750-L12 | GUST 01/3x120-240/1000-L12 | 220             | 150            |

Note: All terminations kits include 1 mechanical lug for the neutral connection.

<sup>\*</sup> The core length L1 can be individually cut to the required length at the place of installation, minimum length is 100 mm. The sum of the core lengths L1 must not exceed 4 times the standard length L1 as given in the table.

| Cross<br>section | Ordering description<br>Core length L1 (mm)* |                            |                            | Dimensions (mm) |                |
|------------------|--|----------------------------|----------------------------|-----------------|----------------|
| (mm²)            | 250 x 4 = 1000                               | 750 x 4 = 3000             | 1000 x 4 = 4000            | $L_3$           | L <sub>2</sub> |
| without lugs     |  |                            |                            |                 |                |
| 4- 25            | GUST 01/4x 4- 25/ 250                        | GUST 01/4x 4- 25/ 750      | GUST 01/4x 4- 25/1000      | 95              | 50             |
| 16- 70           | GUST 01/4x 16- 70/ 250                       | GUST 01/4x 16- 70/ 750     | GUST 01/4x 16- 70/1000     | 165             | 80             |
| 70-150           | GUST 01/4x 70-150/ 250                       | GUST 01/4x 70-150/ 750     | GUST 01/4x 70-150/1000     | 215             | 100            |
| 120-240          | GUST 01/4x120-240/ 250                       | GUST 01/4x120-240/ 750     | GUST 01/4x120-240/1000     | 220             | 150            |
| including med    | chanical lugs                                |                            |                            |                 |                |
| 25- 70           | GUST 01/4x 25- 70/ 250-L12                   | GUST 01/4x 25- 70/ 750-L12 | GUST 01/4x 25- 70/1000-L12 | 255             | 80             |
| 70-150           | GUST 01/4x 70-150/ 250-L12                   | GUST 01/4x 70-150/ 750-L12 | GUST 01/4x 70-150/1000-L12 | 215             | 100            |
| 120-240          | GUST 01/4x120-240/ 250-L12                   | GUST 01/4x120-240/ 750-L12 | GUST 01/4x120-240/1000-L12 | 220             | 150            |

<sup>\*</sup> The core length L1 can be individually cut to the required length at the place of installation, minimum length is 100 mm. The sum of the core lengths L1 must not exceed 4 times the standard length L1 as given in the table.

### Breakout and tubing components for paper cable terminations

| Cross section Ordering description |           |                    |                  | Dimensions (mm) |                |
|------------------------------------|-----------|--------------------|------------------|-----------------|----------------|
| (mm²)                              | Breakout  | Insulating tubing* | Sealing boot     | $L_3$           | L <sub>2</sub> |
| 4- 25                              | 502K033-S | MWTM 10/ 3-A/U     | MWTM 16/ 5- 50/S | 95              | 50             |
| 16- 35                             | 502K033-S | MWTM 16/ 5-A/U     | MWTM 25/ 8-100/S | 95              | 100            |
| 35- 70                             | 502K046-S | MWTM 25/ 8-A/U     | MWTM 25/ 8-100/S | 165             | 100            |
| 70-150                             | 502K016-S | MWTM 25/ 8-A/U     | MWTM 35/12-100/S | 215             | 100            |
| 185-300                            | 502K026-S | MWTM 35/12-A/U     | MWTM 50/16-150/S | 220             | 150            |

<sup>\*</sup> Tubing lengths depend on the local installation requirements, technical and ordering details of MWTM see page 88.

## Selection tables for plastic insulated cables 1 kV

## Complete terminations for 3- and 4-core plastic cables

| Terminations without lugs |                            |                     | Terminations including mechanical lugs |                           |                     |                        |                        |
|---------------------------|----------------------------|---------------------|--|---------------------------|---------------------|------------------------|------------------------|
| Cross                     | Ordering description       |                     | Cross                                  | Ordering description      |                     | Dimensions             |                        |
| section<br>(mm²)          | for cables<br>without armo | ur with tape armour | section<br>(mm²)                       | for cables without armour | with tape armour    | L <sub>3</sub><br>(mm) | L <sub>2</sub><br>(mm) |
| 4- 35                     | <b>EPKT 0015</b>           | EPKT 0015-CEE01     |  |                           |                     | 95                     | 50                     |
| 25- 70                    | EPKT 0031                  | EPKT 0031-CEE01     | 25- 70                                 | EPKT 0031-L12             | EPKT 0031-L12-CEE01 | 165                    | 100                    |
| 70-150                    | EPKT 0047                  | EPKT 0047-CEE01     | 50-150                                 | EPKT 0047-L12             | EPKT 0047-L12-CEE01 | 215                    | 100                    |
| 150-400                   | EPKT 0063                  | EPKT 0063-CEE01     | 120-240                                | EPKT 0063-L12             | EPKT 0063-L12-CEE01 | 220                    | 150                    |

**Note:** For 3-core cables the concentric neutral wires are sealed with sealing tape S1052 (details see page 95, length needed per termination approx. 50 mm) and insulated with MWTM tubing (see table for paper cables above). Sealing tape S1052 and MWTM tubing have to be ordered separately.

## Breakout and tubing components for plastic cable terminations

| Cross section (mm²) | Ordering description<br>Breakout | Insulating tubing* | Cross section (mm²) | Ordering description<br>Sealing boot | Dimensions (mm)<br>L <sub>3</sub> L <sub>2</sub> |     |
|---------------------|----------------------------------|--------------------|---------------------|--------------------------------------|--|-----|
| 1,5- 10             | 502S013-S                        | CGPT 9/ 3-0        | 1,5- 10             | MWTM 10/ 3- 50/S                     | 60   | 50  |
| 4- 35               | 502K033-S                        | CGPT 12/ 4-0       | 4- 35               | MWTM 16/ 5- 50/S                     | 95   | 50  |
| 25- 95              | 502K046-S                        | CGPT 18/ 6-0       | 25- 70              | MWTM 25/ 8-100/S                     | 165  | 100 |
| 50-150              | 502K016-S                        | CGPT 24/ 8-0       | 70-150              | MWTM 35/12-100/S                     | 215  | 100 |
| 120-400             | 502K026-S                        | CGPT 39/13-0       | 150-400             | MWTM 50/16-150/S                     | 220  | 150 |

<sup>\*</sup> For outdoor terminations the cores can be protected against weathering and UV-light with the insulating tubing CGPT. Tubing lengths depend on the local installation requirements, technical and ordering details of MWTM and CGPT tubing see page 88 and 89.