

BiTmining[®] (N)TMCGCWOEU



Medium voltage, screened single core cable based on DIN VDE 0250-813



mining applications



industrial application



EN 60332-1-2



high flexibility



oxygen index



UV resistance



oil resistant
EN 60811-404

Technical data:

Thermal parameters:

Ambient temperature:

fixed installation: -40 °C to 80 °C

flexible operation: -25 °C to 80 °C

Max. permissible conductor temp.: 90 °C

Max. short-circuit temp. at conductor: 200 °C

De-rating factors: acc. to DIN VDE 0298-4

Mechanical parameters:

Max. tensile load per conductor: 15 N/mm²

Bending radius:

- fixed installation: $\geq 6 \times$ outer- \varnothing

- free moving: $\geq 10 \times$ outer- \varnothing

Design:

Main cores

Conductor: tinned copper wires, finely stranded, class 5 acc. to DIN EN/IEC 60228

Insulation:

- inner semi-conductive stress control layer
- EPR compound with improved electrical and mechanical characteristics based on DIN VDE 0207-20
- outer semi-conductive insulation shield layer

Protective conductor:

spirally applied tinned copper wires, design acc. to DIN VDE 0250-1

Outer sheath:

heavy duty rubber compound, type 5GM5 acc. to DIN VDE 0207-21, unrestricted use indoors, outdoors, resistance to ozone, UV and moisture, colour: red, inkjet marking

Application:

Flexible high voltage cable used in short lengths, e.g. as a connection in switch-gear or transformer houses where small bending radius is requested.

Chemical parameters:

Resistance to oil: DIN EN / IEC 60811-404

Behaviour in case of fire: DIN EN / IEC 60332-1-2

Weather resistance: unrestricted use indoors, outdoors, resistance to ozone, UV and moisture

Electrical parameters:

| Rated voltage U_r/U [kV] | 6/10 | 8.7/15 | 12/20 | 14/25 | 18/30 |
|---|--------|---------|---------|---------|---------|
| Maximum permissible operating voltage $U_{p,max}$ in AC systems [kV]: | 6.9/12 | 10.4/18 | 13.9/25 | 17.3/30 | 20.8/36 |
| Maximum permissible operating voltage $U_{p,max}$ in DC systems [kV]: | 9/18 | 13.5/27 | 18/36 | 22.5/45 | 27/54 |
| AC. test voltage acc. to DIN VDE 0250-813 [kV]: | 17 | 24 | 29 | 36 | 43 |

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BiTmining[®](N)TMCGCWOEU 6/10 kV

| n x mm ² | Maximum conductor resistance | Nominal diameter over insulation | Outer diameter min.-max. [mm] | Approximate cable weight [kg/km] | Current carrying capacity ¹⁾ |
|---------------------|------------------------------|----------------------------------|-------------------------------|----------------------------------|---|
| 1x16/16 | 1.24 | 12 | 20 – 23 | 655 | 116 |
| 1x25/16 | 0.795 | 13 | 21 – 24 | 785 | 135 |
| 1x35/16 | 0.565 | 14 | 22 – 25 | 880 | 169 |
| 1x50/16 | 0.393 | 16 | 24 – 27 | 1030 | 207 |
| 1x70/16 | 0.277 | 18 | 26 – 29 | 1305 | 268 |
| 1x95/16 | 0.210 | 19 | 28 – 31 | 1545 | 328 |
| 1x120/16 | 0.164 | 21 | 29 – 32 | 1780 | 383 |
| 1x150/25 | 0.132 | 23 | 32 – 35 | 2240 | 444 |
| 1x185/25 | 0.108 | 25 | 35 – 38 | 2600 | 510 |
| 1x240/25 | 0.0817 | 27 | 37 – 40 | 3090 | 607 |
| 1x300/25 | 0.0654 | 29 | 39 – 42 | 3865 | 703 |
| 1x400/35 | 0.0495 | 33 | 44 – 47 | 4945 | 823 |
| 1x500/35 | 0.0391 | 35 | 46 – 49 | 5925 | 946 |

BiTmining[®](N)TMCGCWOEU 8,7/15 kV

| n x mm ² | Maximum conductor resistance | Nominal diameter over insulation | Outer diameter min.-max. [mm] | Approximate cable weight [kg/km] | Current carrying capacity ¹⁾ |
|---------------------|------------------------------|----------------------------------|-------------------------------|----------------------------------|---|
| 1x16/16 | 1.24 | 12 | 20 – 23 | 655 | 116 |
| 1x25/16 | 0.795 | 13 | 21 – 24 | 785 | 135 |
| 1x35/16 | 0.565 | 14 | 22 – 25 | 880 | 169 |
| 1x50/16 | 0.393 | 16 | 24 – 27 | 1030 | 207 |
| 1x70/16 | 0.277 | 18 | 26 – 29 | 1305 | 268 |
| 1x95/16 | 0.210 | 19 | 28 – 31 | 1545 | 328 |
| 1x120/16 | 0.164 | 21 | 29 – 32 | 1780 | 383 |
| 1x150/25 | 0.132 | 23 | 32 – 35 | 2240 | 444 |
| 1x185/25 | 0.108 | 25 | 35 – 38 | 2600 | 510 |
| 1x240/25 | 0.0817 | 27 | 37 – 40 | 3090 | 607 |
| 1x300/25 | 0.0654 | 29 | 39 – 42 | 3865 | 703 |
| 1x400/35 | 0.0495 | 33 | 44 – 47 | 4945 | 823 |
| 1x500/35 | 0.0391 | 35 | 46 – 49 | 5925 | 946 |

BiTmining[®](N)TMCGCWOEU 12/20 kV

| n x mm ² | Maximum conductor resistance | Nominal diameter over insulation | Outer diameter min.-max. [mm] | Approximate cable weight [kg/km] | Current carrying capacity ¹⁾ |
|---------------------|------------------------------|----------------------------------|-------------------------------|----------------------------------|---|
| 1x25/16 | 0.795 | 16 | 24 – 27 | 900 | 135 |
| 1x35/16 | 0.565 | 17 | 26 – 29 | 1040 | 169 |
| 1x50/16 | 0.393 | 19 | 27 – 30 | 1220 | 207 |
| 1x70/16 | 0.277 | 21 | 29 – 32 | 1460 | 268 |
| 1x95/16 | 0.210 | 22.5 | 32 – 35 | 1785 | 328 |
| 1x120/16 | 0.164 | 24 | 33 – 36 | 2040 | 383 |
| 1x150/25 | 0.132 | 26 | 35 – 38 | 2435 | 444 |
| 1x185/25 | 0.108 | 28 | 38 – 41 | 2895 | 510 |
| 1x240/25 | 0.0817 | 30 | 40 – 43 | 3400 | 607 |
| 1x300/25 | 0.0654 | 32 | 42 – 45 | 4095 | 703 |
| 1x400/35 | 0.0495 | 36 | 46 – 49 | 5180 | 823 |
| 1x500/35 | 0.0391 | 38 | 50 – 53 | 6331 | 946 |
| 1x630/35 | 0.0292 | 44 | 55 – 58 | 7878 | 1088 |

¹⁾ acc. to IEC 60364-5-52, conductor temperature: 90 °C/Reference ambient temperature: 30 °C, free in air, based on installation method F, three loaded conductors trefoil, values for further installation methods on request

Cable Factory BITNER reserves the right to modify specifications without prior notification.

Note: on customer's request other cross sections or number of cores can be produced

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BiTmining[®](N)TMCGCWOEU 14/25 kV

| n x mm ² | Maximum conductor resistance | Nominal diameter over insulation | Outer diameter min.-max. [mm] | Approximate cable weight [kg/km] | Current carrying capacity ¹⁾ |
|---------------------|------------------------------|----------------------------------|-------------------------------|----------------------------------|---|
| 1x25/16 | 0.795 | 18 | 26 – 29 | 990 | 135 |
| 1x35/16 | 0.565 | 19 | 27 – 30 | 1110 | 169 |
| 1x50/16 | 0.393 | 20 | 28 – 31 | 1270 | 207 |
| 1x70/16 | 0.277 | 22 | 31 – 34 | 1595 | 268 |
| 1x95/16 | 0.210 | 24 | 33 – 36 | 1865 | 328 |
| 1x120/16 | 0.164 | 25 | 34 – 37 | 2120 | 383 |
| 1x150/25 | 0.132 | 27 | 37 – 40 | 2595 | 444 |
| 1x185/25 | 0.108 | 29 | 40 – 43 | 2985 | 510 |
| 1x240/25 | 0.0817 | 31 | 41 – 44 | 3480 | 607 |
| 1x300/25 | 0.0654 | 33 | 44 – 47 | 4195 | 703 |
| 1x400/35 | 0.0495 | 37 | 49 – 52 | 5420 | 823 |
| 1x500/35 | 0.0391 | 39 | 51 – 54 | 6430 | 946 |

BiTmining[®](N)TMCGCWOEU 18/30 kV

| n x mm ² | Maximum conductor resistance | Nominal diameter over insulation | Outer diameter min.-max. [mm] | Approximate cable weight [kg/km] | Current carrying capacity ¹⁾ |
|---------------------|------------------------------|----------------------------------|-------------------------------|----------------------------------|---|
| 1x25/16 | 0.795 | 20 | 28 – 31 | 1115 | 135 |
| 1x35/16 | 0.565 | 21 | 29 – 32 | 1220 | 169 |
| 1x50/16 | 0.393 | 23 | 32 – 35 | 1485 | 207 |
| 1x70/16 | 0.277 | 24 | 33.5 – 36.5 | 1750 | 268 |
| 1x95/16 | 0.210 | 26 | 35 – 38 | 2040 | 328 |
| 1x120/16 | 0.164 | 27 | 37.5 – 40.5 | 2380 | 383 |
| 1x150/25 | 0.132 | 29 | 40 – 43 | 2775 | 444 |
| 1x185/25 | 0.108 | 32 | 42 – 45 | 3160 | 510 |
| 1x240/25 | 0.0817 | 33 | 43 – 46 | 3675 | 607 |
| 1x300/25 | 0.0654 | 36 | 46 – 49 | 4400 | 703 |
| 1x400/35 | 0.0495 | 40 | 51 – 54 | 5635 | 823 |
| 1x500/35 | 0.0391 | 42 | 53 – 56 | 6660 | 946 |

¹⁾ acc. to IEC 60364-5-52, conductor temperature: 90 °C/Reference ambient temperature: 30 °C, free in air, based on installation method F, three loaded conductors trefoil, values for further installation methods on request

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