# DEVImulti™ PVC

**DEVImulti™ PVC** is a high-quality, 4-conductor cable with an outer sheath made of PVC and specially designed for frost protection of long pipes.

Additionally cable is used in multiple outdoor ground, frost protection, etc., applications.
Heating cable must be used together with an appropriate thermostat to secure against overheating and reduce energy consumption.
The cable is constructed of 4 identical conductors. The conductors can be connected in different ways (parallel and/or serial), meaning that the same cable can provide up to 11 different outputs, depending on the connection made.
**DEVImulti™ PVC** is very flexible and therefore perfectly suited for external installation on pipes, it can be supplied in 3 versions with different resistance values.
The cables are not approved for use in contact with water for human consumption.
**DEVImulti™** can be customized for the specific project, depending on voltage, required output, length of heating cable and length of cold leads.

***Note:*** *It is the full responsibility of the installer/designer to use proper cold lead dimensioned for the purpose and assembly sets that establish sufficient mechanical strength, flammability resistance and water tightness - and to design the heating unit with correct output for the specific application to avoid overheating of the cable or building materials.*

## Benefits:

- Easy to install
- Various Ohmic output
- Safe and robust
- Long life-time

## Standard compliance:

- IEC 60800:1992
- EN 50581:2012

5 YEAR WARRANTY Product

| Type | Value |
|---|---|
| Operation voltage, max. | Uo/U = 300/500 V~ |
| Construction | 4-conductor, round |
| Max. permissible use temperature, powered | 70 °C |
| Max. permissible use temperature, unpowered | 90 °C |
| Cable dimensions, max. | Ø 8 mm |
| Deformation strength, min. | 600 N |
| Pulling strength, min | 120 N |
| Conductor insulation | FEP |
| Filler sheath | PVC |
| Outer sheath: DEVImulti™ PVC | PVC, red |
| Screen | 1 mm² (16 x 0,286 mm) |
| Min. installation temperature | 0 °C |
| Bending Ø, min. | 6 x cable diameter |
| IP Class | IPX7 |

## Types: DEVImulti™ PVC (DMIH)

| Item no. | Resistance | Conductor Ø | Order length | EAN no. |
|---|---|---|---|---|
| 89999140 | 4 x 2,5 Ohm/m (Constantan wire) | 0,96 mm | 1000-1200 m (+/- 2%) | 5703466039359 |
| 89999142 | 4 x 0,220 Ohm/m (Brass wire) | 0,771 mm | | 5703466039366 |
| 89999144 | 4 x 0,027 Ohm/m (Copper wire) | 1,02 mm | | 5703466039373 |

## Accessories

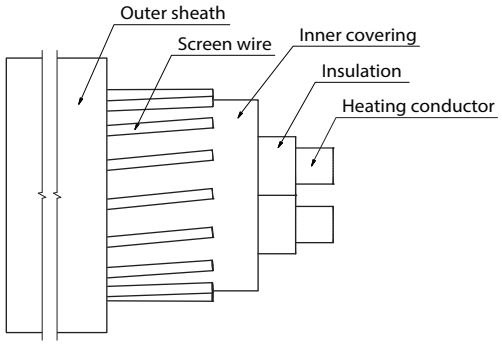
| Item no. | Type | Description | EAN no. |
|---|---|---|---|
| 19805712 | DEVIcrimp assembly set DK 4-cond, type C | Assembly set for 4-conductors cable for 2 connections: cold tail and end muff. | 5703466003855 |
| 19805480 | DEVIcrimp assembly set DK 4-cond, type C | Assembly set for 4-conductors cable for 1 connection: either cold tail or end muff. | 5703466003824 |
| 19805076 | Tape aluminium 38 mm x 50 m | Self-adhesive, with 2-colour warning label, max. 75 °C | 5703435003053 |

## Recommended maximum output per metre cable

| Installation | Output, max |
|---|---|
| Molded in concrete | 30 W/m |
| Mounted on plastic pipes below insulation with alufoil | 10 W/m |
| Mounted on metal pipes below insulation with alufoil | 20 W/m |
| Fitted in a drain pipe | 15 W/m |
| Mounted in water pipes (enclosed by water) | 30 W/m |

Always remember thermostat control – sensor placed on / in media.
***Notice:*** *plastic pipes can melt at too high cable linear output and max. 10 W/m should be recommended.*

## Cable construction




## Ohm values and lengths for couplings 1-11 with different outputs for for 4-conductor heating cable

**Coupling 1-10: 1 phase / 2 phase. Coupling 11: 3 phase (Y connection type).**
When designing and selecting the coupling method, ensure that the load is distributed equally between heat conductors as much as possible. Connection to one cable side marked "T" – twin connection end, connection to two cable sides marked "S" – single connection ends.

| Coupling diagrams | Rx = 0,027 Ohm/m | | | | | | Rx = 0,22 Ohm/m | | | | | | Rx = 2,5 Ohm/m | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $R_\Sigma$ Ohm/m | p, W/m | 230 V | | 400 V | | $R_\Sigma$ Ohm/m | 230 V | | | 400 V | | $R_\Sigma$ Ohm/m | 230 V | | | 400 V | |
| | | | L, m | P, W* | L, m | P, W* | | p, W/m | L, m | P, W* | L, m | P, W* | | p, W/m | L, m | P, W* | L, m | P, W* |
| 1 T | 0,108 | **30** | **128** | 3833 | **222** | 6667 | 0,88 | **30** | **45** | 1343 | **78** | 2335 | 10 | **30** | **13,3** | 398 | **23,1** | 693 |
| | | **20** | **156** | 3130 | **272** | 5443 | | **20** | **55** | 1096 | **95** | 1907 | | **20** | **16,3** | 325 | **28,3** | 566 |
| | | **15** | **181** | 2711 | **314** | 4714 | | **15** | **63** | 950 | **110** | 1651 | | **15** | **18,8** | 282 | **32,7** | 490 |
| | | **10** | **221** | 2213 | **385** | 3849 | | **10** | **78** | 775 | **135** | 1348 | | **10** | **23,0** | 230 | **40,0** | 400 |
| 2 S | 0,081 | **30** | **148** | 4426 | **257** | 7698 | 0,66 | **30** | **52** | 1551 | **90** | 2697 | 7,5 | **30** | **15,3** | 460 | **26,7** | 800 |
| | | **20** | **181** | 3614 | **314** | 6285 | | **20** | **63** | 1266 | **110** | 2202 | | **20** | **18,8** | 376 | **32,7** | 653 |
| | | **15** | **209** | 3130 | **363** | 5443 | | **15** | **73** | 1096 | **127** | 1907 | | **15** | **21,7** | 325 | **37,7** | 566 |
| | | **10** | **256** | 2556 | **444** | 4444 | | **10** | **90** | 895 | **156** | 1557 | | **10** | **26,6** | 266 | **46,2** | 462 |
| 3 S | 0,0675 | **30** | **162** | 4849 | **281** | 8433 | 0,55 | **30** | **57** | 1699 | **98** | 2954 | 6,25 | **30** | **16,8** | 504 | **29,2** | 876 |
| | | **20** | **198** | 3959 | **344** | 6885 | | **20** | **69** | 1387 | **121** | 2412 | | **20** | **20,6** | 411 | **35,8** | 716 |
| | | **15** | **229** | 3429 | **398** | 5963 | | **15** | **80** | 1201 | **139** | 2089 | | **15** | **23,8** | 356 | **41,3** | 620 |
| | | **10** | **280** | 2799 | **487** | 4869 | | **10** | **98** | 981 | **171** | 1706 | | **10** | **29,1** | 291 | **50,6** | 506 |
| 4 T | 0,054 | **30** | **181** | 5421 | **314** | 9428 | 0,44 | **30** | **63** | 1899 | **110** | 3303 | 5 | **30** | **18,8** | 563 | **32,7** | 980 |
| | | **20** | **221** | 4426 | **385** | 7698 | | **20** | **78** | 1551 | **135** | 2697 | | **20** | **23,0** | 460 | **40,0** | 800 |
| | | **15** | **256** | 3833 | **444** | 6667 | | **15** | **90** | 1343 | **156** | 2335 | | **15** | **26,6** | 398 | **46,2** | 693 |
| | | **10** | **313** | 3130 | **544** | 5443 | | **10** | **110** | 1096 | **191** | 1907 | | **10** | **32,5** | 325 | **56,6** | 566 |
| 5 T | 0,0405 | **30** | **209** | 6260 | **363** | 10887 | 0,33 | **30** | **73** | 2193 | **127** | 3814 | 3,75 | **30** | **21,7** | 651 | **37,7** | 1131 |
| | | **20** | **256** | 5111 | **444** | 8889 | | **20** | **90** | 1791 | **156** | 3114 | | **20** | **26,6** | 531 | **46,2** | 924 |
| | | **15** | **295** | 4426 | **513** | 7698 | | **15** | **103** | 1551 | **180** | 2697 | | **15** | **30,7** | 460 | **53,3** | 800 |
| | | **10** | **361** | 3614 | **629** | 6285 | | **10** | **127** | 1266 | **220** | 2202 | | **10** | **37,6** | 376 | **65,3** | 653 |
| 6 T | 0,036 | **30** | **221** | 6640 | **385** | 11547 | 0,2933 | **30** | **78** | 2326 | **135** | 4045 | 3,333 | **30** | **23,0** | 690 | **40,0** | 1200 |
| | | **20** | **271** | 5421 | **471** | 9428 | | **20** | **95** | 1899 | **165** | 3303 | | **20** | **28,2** | 563 | **49,0** | 980 |
| | | **15** | **313** | 4695 | **544** | 8165 | | **15** | **110** | 1645 | **191** | 2860 | | **15** | **32,5** | 488 | **56,6** | 849 |
| | | **10** | **383** | 3833 | **667** | 6667 | | **10** | **134** | 1343 | **234** | 2335 | | **10** | **39,8** | 398 | **69,3** | 693 |
| 7 T | 0,027 | **30** | **256** | 7667 | **444** | 13333 | 0,22 | **30** | **90** | 2686 | **156** | 4671 | 2,5 | **30** | **26,6** | 797 | **46,2** | 1386 |
| | | **20** | **313** | 6260 | **544** | 10887 | | **20** | **110** | 2193 | **191** | 3814 | | **20** | **32,5** | 651 | **56,6** | 1131 |
| | | **15** | **361** | 5421 | **629** | 9428 | | **15** | **127** | 1899 | **220** | 3303 | | **15** | **37,6** | 563 | **65,3** | 980 |
| | | **10** | **443** | 4426 | **770** | 7698 | | **10** | **155** | 1551 | **270** | 2697 | | **10** | **46,0** | 460 | **80,0** | 800 |

| Coupling diagrams | Rx = 0,027 Ohm/m | | | | | | Rx = 0,22 Ohm/m | | | | | | Rx = 2,5 Ohm/m | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $R_\Sigma$ Ohm/m | p, W/m | 230 V | | 400 V | | $R_\Sigma$ Ohm/m | 230 V | | | 400 V | | $R_\Sigma$ Ohm/m | 230 V | | | 400 V | |
| | | | L, m | P, W* | L, m | P, W* | | p, W/m | L, m | P, W* | L, m | P, W* | | p, W/m | L, m | P, W* | L, m | P, W* |
| 8 S | 0,0135 | **30** | **361** | 10842 | **629** | 18856 | 0,11 | **30** | **127** | 3798 | **220** | 6606 | 1,25 | **30** | **38** | 1127 | **65** | 1960 |
| | | **20** | **443** | 8853 | **770** | 15396 | | **20** | **155** | 3101 | **270** | 5394 | | **20** | **46** | 920 | **80** | 1600 |
| | | **15** | **511** | 7667 | **889** | 13333 | | **15** | **179** | 2686 | **311** | 4671 | | **15** | **53** | 797 | **92** | 1386 |
| | | **10** | **626** | 6260 | **1089** | 10887 | | **10** | **219** | 2193 | **381** | 3814 | | **10** | **65** | 651 | **113** | 1131 |
| 9 S | 0,009 | **30** | **443** | 13279 | **770** | 23094 | 0,0733 | **30** | **155** | 4652 | **270** | 8090 | 0,8333 | **30** | **46** | 1380 | **80** | 2400 |
| | | **20** | **542** | 10842 | **943** | 18856 | | **20** | **190** | 3798 | **330** | 6606 | | **20** | **56** | 1127 | **98** | 1960 |
| | | **15** | **626** | 9390 | **1089** | 16330 | | **15** | **219** | 3289 | **381** | 5721 | | **15** | **65** | 976 | **113** | 1697 |
| | | **10** | **767** | 7667 | **1333** | 13333 | | **10** | **269** | 2686 | **467** | 4671 | | **10** | **80** | 797 | **139** | 1386 |
| 10 S | 0,00675 | **30** | **511** | 15333 | **889** | 26667 | 0,055 | **30** | **179** | 5372 | **311** | 9342 | 0,625 | **30** | **53** | 1593 | **92** | 2771 |
| | | **20** | **626** | 12520 | **1089** | 21773 | | **20** | **219** | 4386 | **381** | 7628 | | **20** | **65** | 1301 | **113** | 2263 |
| | | **15** | **723** | 10842 | **1257** | 18856 | | **15** | **253** | 3798 | **440** | 6606 | | **15** | **75** | 1127 | **131** | 1960 |
| | | **10** | **885** | 8853 | **1540** | 15396 | | **10** | **310** | 3101 | **539** | 5394 | | **10** | **92** | 920 | **160** | 1600 |
| 11 TY | 3x0,027 (0,009) Y type | **30** | **256** | 7667 | **444** | 13333 | 3x0,027 (0,009) Y type | **30** | **90** | 2686 | **156** | 4671 | 3x0,027 (0,009) Y type | **30** | **26,6** | 797 | **46,2** | 1386 |
| | | **20** | **313** | 6260 | **544** | 10887 | | **20** | **110** | 2193 | **191** | 3814 | | **20** | **32,5** | 651 | **56,6** | 1131 |
| | | **15** | **361** | 5421 | **629** | 9428 | | **15** | **127** | 1899 | **220** | 3303 | | **15** | **37,6** | 563 | **65,3** | 980 |
| | | **10** | **443** | 4426 | **770** | 7698 | | **10** | **155** | 1551 | **270** | 2697 | | **10** | **46,0** | 460 | **80,0** | 800 |

***Notice:** Some cables have super high output and correct size of power cold lead should be chosen according to local norms and regulations. Normally do not allowed more than 10 A for a 1,5 mm² cold lead, 16 A for a 2,5 mm² cold lead.*