# MCU/MHC 250°C

Mineral Insulated Heating Cable

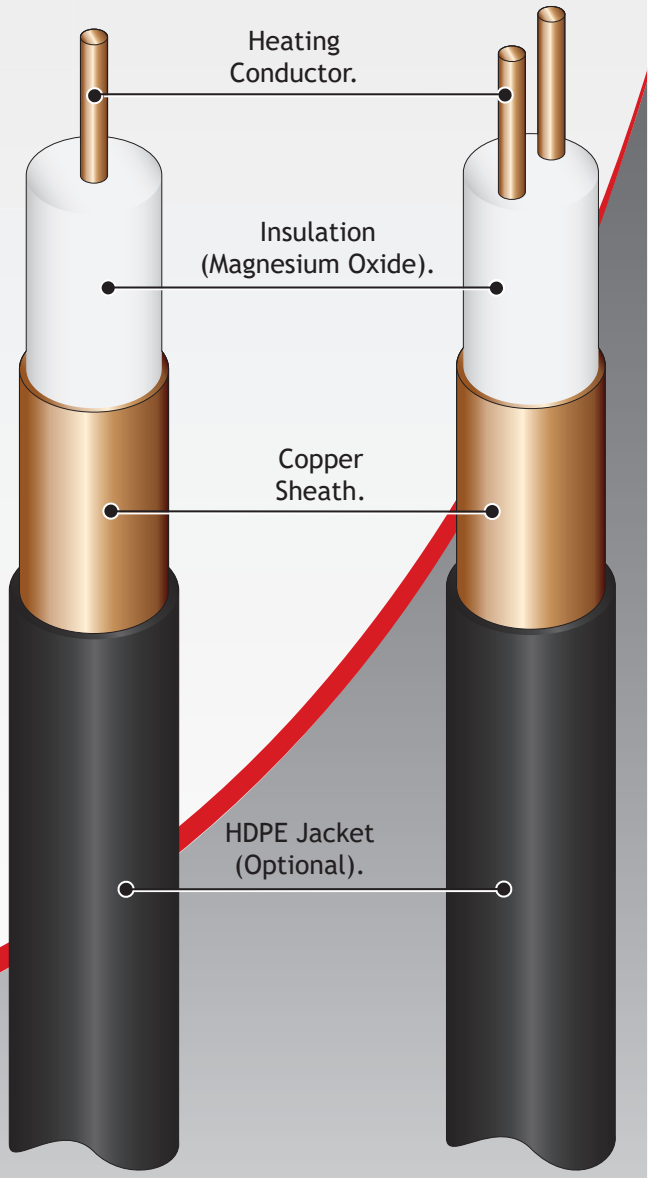
## MINERAL INSULATED

*Copper Sheathed - HDPE Jacket (Option)*

- Twin core or single core.
- Factory terminated.
- Suitable for use in safe and hazardous areas.
- Available for different voltages.

## FEATURES

The **MCU** range of copper sheathed Mineral Insulated (MI) heating cable has been developed to meet the specific need for a cable having a high temperature capability and electrical resistance values needed for long circuit lengths. To meet the requirement, HTL combined a copper sheath with heating conductors to enable an operating temperature of 250°C with resistance values from 1.7Ω/km up to 2000Ω/km per conductor. However, an HDPE outer sheath must be used when the cable is used in special situations, such as corrosion resistance or burying or snow melting application. HDPE jacketed copper-sheathed heating cables (MHC) have an operating temperature of 90°C. MI cables have excellent mechanical strength and are resistant to corrosion. They are series resistance heaters which must be designed to provide the required heat output.




Single Conductor Cable

Dual Conductor Cable

CE 2776 IEC IECEx Ex

HEAT TRACE

*The* Heat Tracing Authority™

MCU 21052024

# SPECIFICATION

**MAXIMUM WITHSTAND:** MCU: 250°C (482°F)
MHC: 90°C (194°F)

**AMBIENT TEMPERATURE RANGE:** MCU: -80°C to +40°C (-112°F to +104°F)
MHC: -25°C to +40°C (-13°F to +104°F)

**MINIMUM INSTALLATION TEMPERATURE:** MCU: -80°C (-112°F)
MHC: -25°C (-13°F)

**APPROVAL DETAILS:**

ATEX - CML 18ATEX3388
IECEx - CML 18.0205

**ATEX & IECEx MARKINGS:**

Ⓔx II 2 G D
Ex 60079-30-1 IIC T1 to T6 Gb
Ex 60079-30-1 IIIC T450°C to T85°C Db

EN IEC 60079-0:2018
EN 60079-30-1:2017

IEC 60079-0: 2017
IEC/IEEE 60079-30-1: 2015

## HEATING CABLE ORDERING CODE

| Digit | M | CU-B | 16N6300/60/152/240/E1 |
|---|---|---|---|
| | 1 | 2 | 3 4 5 6 7 |

| Digit number | Description | |
|---|---|---|
| 1 | Sheath Material | CU - Copper |
| 2 | Cable Configuration | See Cable Configurations |
| 3 | Cable Reference | See Tables 1, 2, 3 & 4 |
| 4 | Cable Length | In meters (m) |
| 5 | Cable Wattage | In watt (W) |
| 6 | Operational Voltage | In volt (V) |
| 7 | Gland Size | See Table 4 - Gland Size |

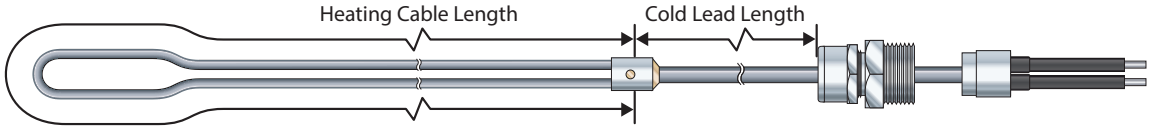
## HEATING CABLE DECODING

| Digit | 1 | 6 | K | 800 |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |

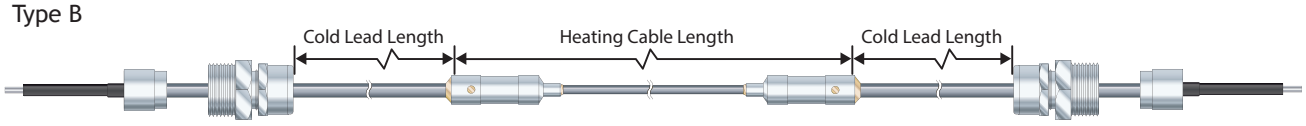
| Digit number | Description | |
|---|---|---|
| 1 | Number of Conductors | 1 or 2 |
| 2 | Maximum Voltage Rating | 3=300V, 6=600V |
| 3 | Conductor Material | C,K |
| 4 | Cable Resistance×1000 | 800=0.8Ω/m×1000 |

## CABLE CONFIGURATIONS

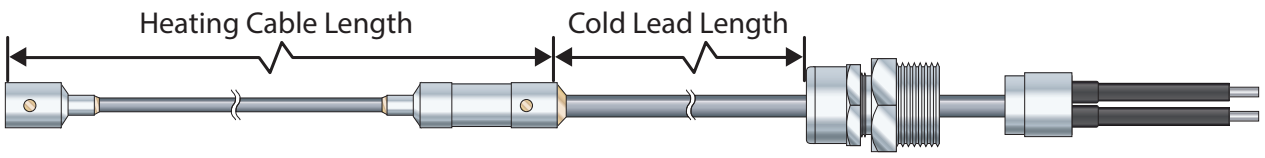
Type A



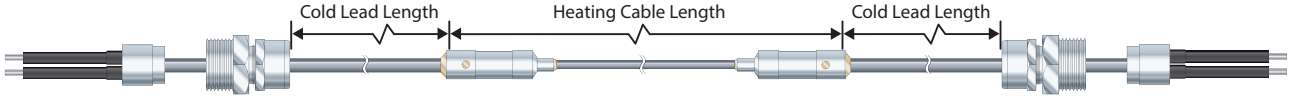

Type B




Type D




Type E



# SPECIFICATION

## TABLE 1 - CABLE REFERENCES (SINGLE CONDUCTOR 600V)

| CABLE REF. | DIAMETER (mm) | Ø HDPE (mm) | RESIST.at 20°C (Ω/m)* | NOMINAL LENGTH (m) | NOMINAL WEIGHT (Kg/km) |
|---|---|---|---|---|---|
| 16C1.7 | 7.3 | 9.7 | 0.0017 | 550 | 314.1 |
| 16C2.2 | 7.0 | 9.4 | 0.0022 | 600 | 282.3 |
| 16C2.9 | 6.4 | 8.8 | 0.0029 | 550 | 237.2 |
| 16C4 | 5.9 | 8.3 | 0.004 | 600 | 196.2 |
| 16C7 | 5.3 | 7.7 | 0.007 | 245 | 157.6 |
| 16C11 | 4.9 | 7.3 | 0.011 | 280 | 134.7 |
| 16C13 | 4.6 | 7.0 | 0.013 | 325 | 119.8 |
| 16C17 | 4.6 | 7.0 | 0.017 | 325 | 118.5 |
| 16C21 | 4.6 | 7.0 | 0.021 | 325 | 115.3 |
| 16C25 | 4.6 | 7.0 | 0.025 | 325 | 116.2 |
| 16C33 | 4.6 | 7.0 | 0.033 | 325 | 113.9 |
| 16C40 | 3.4 | 5.8 | 0.04 | 410 | 70.5 |
| 16C63 | 3.2 | 5.6 | 0.063 | 450 | 62.8 |
| 16K80 | 5.3 | 7.7 | 0.08 | 245 | 158.3 |
| 16K100 | 5.2 | 7.6 | 0.1 | 270 | 146.5 |
| 16K140 | 4.9 | 7.3 | 0.14 | 300 | 130.7 |
| 16K197 | 4.45 | 6.85 | 0.197 | 350 | 109.6 |
| 16K220 | 4.5 | 6.9 | 0.22 | 330 | 113.8 |
| 16K315 | 4.3 | 6.7 | 0.315 | 370 | 108.1 |
| 16K345 | 4.2 | 6.6 | 0.345 | 380 | 103.5 |
| 16K450 | 4.0 | 6.4 | 0.45 | 430 | 94.6 |
| 16K630 | 4.0 | 6.4 | 0.63 | 430 | 92.2 |
| 16K800 | 3.5 | 5.9 | 0.8 | 390 | 74.5 |
| 16K1250 | 3.7 | 6.1 | 1.28 | 350 | 78.5 |
| 16K2000 | 3.6 | 6.0 | 2.0 | 370 | 75.4 |

* Resistance is total for both conductors in series.

## TABLE 2 - CABLE REFERENCES (DUAL CONDUCTOR 600V)

| CABLE REF | DIAMETER (mm) | RESIST.at 20°C (Ω/m)* | NOMINAL LENGTH (m) | NOMINAL WEIGHT (Kg/km) |
|---|---|---|---|---|
| 26C3.4 | 12.9 | 0.0034 | 150 | 849.7 |
| 26C4.4 | 12.2 | 0.0044 | 160 | 748.6 |
| 26C5.8 | 11.3 | 0.0058 | 170 | 637.5 |
| 26C8.6 | 9.90 | 0.0086 | 180 | 489.5 |
| 26C11.4 | 9.30 | 0.0114 | 200 | 428.9 |
| 26C13.8 | 9.00 | 0.0138 | 210 | 399.2 |
| 26C17.2 | 8.60 | 0.0172 | 220 | 363.3 |
| 26C23 | 8.00 | 0.023 | 250 | 314.7 |
| 26C34.4 | 7.50 | 0.0344 | 280 | 275.4 |
| 26C49.2 | 7.10 | 0.0492 | 300 | 246.5 |
| 26K240 | 9.90 | 0.24 | 180 | 489.4 |
| 26K320 | 9.30 | 0.32 | 200 | 428.6 |
| 26K384 | 9.00 | 0.384 | 210 | 399.2 |
| 26K480 | 8.60 | 0.48 | 220 | 363.2 |
| 26K640 | 8.00 | 0.64 | 250 | 314.7 |
| 26K960 | 7.50 | 0.96 | 280 | 275.3 |

* Resistance is total for both conductors in series.

## TABLE 3 - CABLE REFERENCES (DUAL CONDUCTOR 300V)

| CABLE REF | DIAMETER (mm) | RESIST.at 20°C (Ω/m)* | NOMINAL LENGTH (m) | NOMINAL WEIGHT (Kg/km) |
|---|---|---|---|---|
| 23C3.4 | 12.4 | 0.0034 | 200 | 797.2 |
| 23C4.4 | 11.3 | 0.0044 | 220 | 660.6 |
| 23C5.8 | 10.4 | 0.0058 | 240 | 555.8 |
| 23C8.6 | 9.00 | 0.0086 | 260 | 417.6 |
| 23C11.4 | 8.40 | 0.0114 | 280 | 361.3 |
| 23C13.8 | 8.00 | 0.0138 | 300 | 326.9 |
| 23C17.2 | 7.60 | 0.0172 | 320 | 294.1 |
| 23C23 | 7.10 | 0.023 | 340 | 256.2 |
| 23C34.4 | 6.60 | 0.0344 | 360 | 220.5 |
| 23C49.2 | 6.20 | 0.0492 | 380 | 194.4 |
| 23K160 | 10.4 | 0.16 | 220 | 556.4 |
| 23K240 | 9.00 | 0.24 | 240 | 417.5 |
| 23K320 | 8.40 | 0.32 | 265 | 361.0 |
| 23K384 | 8.00 | 0.384 | 280 | 326.9 |
| 23K480 | 7.70 | 0.48 | 300 | 300.6 |
| 23K640 | 7.10 | 0.64 | 320 | 256.3 |
| 23K960 | 6.50 | 0.96 | 350 | 214.7 |

**Note:** For the required voltage 600 V above application, please contact us.
* Resistance is total for both conductors in series.

## TABLE 4 - GLAND SIZE

| | Design A, D, E | | | Design B | | |
|---|---|---|---|---|---|---|
| Max.voltage | Max.current | Gland size | | Max.current | Gland size | |
| (V) | (amps) | (NPT) | (Metric) | (amps) | (NPT) | (Metric) |
| 600 | 15 | 1/2” | M20 | 20 | 1/2” | M20 |
| 600 | 20 | 1/2” | M20 | 25 | 1/2” | M20 |
| 600 | 30 | 3/4” | M25 | 40 | 3/4” | M25 |
| 600 | 50 | 3/4” | M25 | 70 | 3/4” | M25 |
| 600 | 70 | 3/4” | M25 | 100 | 3/4” | M25 |

**Note1:** 2-meter-long cold lead is supplied with heating cable. For special requirement, please contact us.

## TABLE 5 - CORROSION RESISTANCE

| SUBSTANCE | MCU | MHC |
|---|---|---|
| Sulphuric Acid | Not Recommended | Good-Excellent |
| Hydrochloric Acid | Not Recommended | Good-Excellent |
| Hydrofluoric Acid | Acceptable | Acceptable |
| Phosphoric Acid | Acceptable | Acceptable |
| Nitric Acid | Not Recommended | Acceptable |
| Organic Acid | Acceptable | Not Recommended |
| Alkalis | Acceptable | Acceptable |
| Sea Water | Not Recommended | Acceptable |
| Chloride | Check for specific data | Acceptable |

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