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Mineral Insulated (MI) Cables

Series: GCM

Srl.	Products	Model
1	Mineral Insulated (MI) RTD Cable	GCM-RT
2	Mineral Insulated (MI) Thermocouple Cable	GCM-TC
5	Mineral Insulated (MI) Signal Cables	GCM-SC
6	Mineral Insulated (MI) Heating Cable	GCM-HC
7	Mineral Insulated (Mi) Fire Survival Electrical Cable	GCM-EC
Note: Part of our development programs, product specifications, photos, drawings, dimensions and other information provided in catalogue/website may change without any notice.		

1) Metal Sheathed Mineral (Compact MgO) Insulated RTD Cable specifications:

Model: GCM-RT

No. of Conductors : 2, 3, 4, 6, 8
Conductor Material : Copper, Nickel, Constantan, Inconel-600
Sheath Dia : 3mm, 3.2mm, 4.5mm, 4.8mm, 6mm, 6.4mm, 8mm, 9mm, 10mm, 12.7mm
Sheath Material : SS304, SS316, SS316L, SS316Ti, SS321, SS310, Inconel-600

Copper conductors are a common choice for temperature measurements up to 400°C. It is having a very stable resistance vs temperature relation.

Nickel conductors are a perfect choice for temperature measurements up to 600°C. Due to its higher annealing temperature, it can be used at much higher temperatures. Furthermore, the material can withstand hazardous conditions also.

Constantan conductors are a perfect choice for temperature measurements up to 650°C. It is having a very stable resistance for a wide temperature range since it is a copper-nickel alloy.

Inconel-600 conductors have a high corrosion resistance and perfect choice for temperature measurements up to 1050°C.

2) Metal Sheathed Mineral (Compact MgO) Insulated Thermocouple Cable specifications:

Model: GCM-TC

Type K (NiCr-Ni) available in IEC EN60584 class 1, ASTM E230 special limits or AMS2750 E, It is the most common thermocouple for range -270°C to +1260°C. In general, it has a wide temperature range, it is reliable and economically priced. Sheath materials are SS304, SS310, SS316, SS316L, SS316Ti, SS321, SS347, SS(HRS)446, Inconel-600, Inconel-601, Pyrosil, Hastalloy-X in 0.25mm to 12.7mm dia.

Type N (NiCrSil-NiSil) available in IEC EN60584 class 1, ASTM E230 special limits or AMS2750 E, It is a very common thermocouple for range -270°C to +1260°C. It shares the same accuracy and temperature range as the type “K” but type “N” is more stable. Sheath materials are SS310, SS316, SS316L, SS316Ti, SS321, SS347, SS(HRS)446, Inconel-600, Inconel-601, Pyrosil, Hastalloy-X in 0.5mm to 12.7mm dia.

Type J (Fe-CuNi) available in IEC EN60584 class 1, ASTM E230 special limits or AMS2750 E, It is a widely used thermocouple for range -210°C to +750°C. In general, it is economically priced and it has a smaller

temperature range compared to other thermocouple and it is well suited for oxidizing environments. Sheath materials are SS304, SS310, SS316L, SS321, Inconel-600 in 0.5mm to 12.7mm dia.

Type E (NiCr-CuNi) available in IEC EN60584 class 1 & ASTM E230 special limits, It is a high-accuracy thermocouple for a moderate temperature range -270°C to +900°C. In general, it has a smaller temperature range compared to other thermocouples and it is well suited for cryogenic use due to the high output 68 µV/°C. Sheath materials are SS304, SS310, SS316L, SS321, Inconel-600 in 0.5mm to 12.7mm dia.

Type T (Cu-CuNi) available in IEC EN60584 class 1 & ASTM E230 special limits, it is used for range -270°C to +370°C. In general, it has a small temperature range in comparison with other thermocouples and it is well suited for cryogenic use due to its high stability. Sheath materials are SS304, SS316L, SS321, Inconel-600 in 0.5mm to 8mm dia.

Type S (Pt10%Rh-Pt) available in ASTM E230 special limits, it is particularly used at high temperatures for range -50°C to +1480°C. Type "S" shares almost the same characteristics as type "R", but type "R" has a higher Seebeck coefficient than type "S"'. Sheath materials are SS310, Inconel-600 or Pt10%Rh and Pt20%Rh in 1mm to 6mm dia.

Type R (Pt13%Rh-Pt) available in ASTM E230 special limits, it is particularly used at high temperatures range -50°C to +1480°C. Type "R" shares almost the same characteristics as type "S", but type "R" has roughly 12% higher Seebeck coefficient than type "S" over much of the temperature range. Sheath materials are SS310, Inconel-600 or Pt10%Rh and Pt20%Rh in 1mm to 6mm dia.

Type B (Pt30%Rh-Pt6%Rh) available in ASTM E230 special limits, it is particularly used at extremely high temperatures -870°C to +1700°C. Type "B" has some similarities with type "S" & "R" thermocouples, but has lower output than these types of thermocouples at temperatures below 600°C. Sheath materials are Inconel-600 or Pt10%Rh and Pt200%Rh in 1mm to 6mm dia.

Recommended ranges are K (0 to +1100°C), T (-185 to +300°C), J (+20 to +700°C), N (0 to +1250°C), E (0 to +800°C), R (0 to +1600°C), S (0 to +1500°C), B (+100 to +1700°C), G (+20 to +2320°C), G/W (up to 2600°C), C/W5 (+50 to +1820°C), D/W3 (+50 to +2100°C)

3) "Mineral Insulated Signal Cables" (Model: GCM-SC), can be used to transport signals through the harshest environments like radiation, vacuum, high/low temperatures and highly corrosive mediums.

4) "Mineral Insulated Heating Cable" (Model: GCM-HC), High strength metal sheathed, highly compressed magnesium oxide (MgO) insulated heat tracing cable available in Copper, Cupronickel, Stainless Steel, Inconel-600, Incoaloy-825, single or dual core heating resistance (ohms/m) determines the power output per unit length.

5) "Mineral Insulated Fire Survival Electrical Cable" (Model: GCM-EC), the copper conductor or conductors, highly compressed magnesium oxide insulation (MgO) and the Copper or Incoloy-825 metal sheathed. The melting point of the copper conductor and sheath is 1083°C and the high purity MgO is 2800°C. MI Cable will continue to function reliably in environmental up to 1000°C. This is the unique ability of MI wiring cable.