



Product: [MRTC10C21U](#)

MachFlex™ Robotic Multi-Core Control, 10 C 21 AWG Str TC, ETFE Ins, PVC Outer Jkt

Product Description

MachFlex™ Robotic Multi-Core Control & Signal Cable, 10 Conductor 21 AWG Stranded Tinned Copper, ETFE Insulation, PVC Outer Jacket

Technical Specifications

Product Overview

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|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | MachFlex Robotic AWM 2517, Multi-Core Cables are meeting the high demands of the robotic industry on the cabling of continuous moving machinery and the corresponding robotic components. These cables are specially designed for high mechanical requirements, they can withstand highly dynamic bending and torsional movements, and can be used in crucial industrial environments |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Construction Details

Conductor

| Element | No. of Elements | Size | Stranding | Material |
|--------------|-----------------|--------|-----------|--------------------|
| Conductor(s) | 10 | 21 AWG | Stranded | TC - Tinned Copper |

Insulation

| Material | Color Code |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ETFE - Ethylene Tetrafluoroethylene | Black, White, Red, Green, Orange, Blue, White with Black Strips, Red with Black Strips, Green with Black Strips, Orange with Black Strips |

Outer Jacket

| Material | |
|-----------------------------------|------------------|
| PVC - Polyvinyl Chloride | |
| Overall Cable Diameter (Nominal): | 6.8 mm (0.27 in) |

Electrical Characteristics

Electricals

| Max. Conductor DCR |
|-------------------------------|
| 46.9 Ohm/km (14.3 Ohm/1000ft) |

Voltage

| UL Voltage Rating |
|--------------------------------|
| 300 V (Max. Operating Voltage) |

Mechanical Characteristics

Temperature

| Operating | |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -40°C to +105°C | |
| Table Notes: | ±90° Bending: Min. 8 million cycles (Speed: 60 cycles/min.; Bending radius: 7.5D) ; Drag Chain: Min. 25 million cycles (Traversing distance: 350mm; Speed: 70 cycles/min; Bending radius: 6D) ; Vertical Torsion Test +/-180°/m: Min. 8 million cycles ; Horizontal Torsion Test +/-90°/m: Min. 8 million cycles. |
| Bulk Cable Weight: | 83.9 kg/km (56.4 lbs/1000ft) |

Standards and Compliance

| | |
|----------------------------|-------------------------------------------------|
| Environmental Suitability: | Indoor/Outdoor, Indoor, Outdoor, Oil Resistance |
|----------------------------|-------------------------------------------------|

| | |
|----------------------------------|----------------------------------|
| Flammability / Reaction to Fire: | FT1, FT4, VW-1, IEC 60332-1-2 |
| AWM Compliance: | AWM 2517 |
| CEC / C(UL) Compliance: | CSA C22.2 No.210 |
| European Directive Compliance: | EU Directive 2011/65/EU (RoHS 2) |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |

Product Notes

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|--------|---------------------------------------------------------------------------------------------|
| Notes: | UL certification : UL 13. Suitability -Oil Resistant : IRM 902 120x18hrs, IRM 903 120x18hrs |
|--------|---------------------------------------------------------------------------------------------|

History

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|----------------------|-------------------------------------------------|
| Update and Revision: | Revision Number: 0.22 Revision Date: 05-31-2024 |
|----------------------|-------------------------------------------------|

Part Numbers

Variants

| Item # | Color | Length |
|--------------------|--------|--------|
| MRTC10C21U G8U100M | Gray | 100 m |
| MRTC10C21U G8U200M | Gray | 200 m |
| MRTC10C21U G8U300M | Gray | 300 m |
| MRTC10C21U 003100M | Orange | 100 m |
| MRTC10C21U 003200M | Orange | 200 m |
| MRTC10C21U 003300M | Orange | 300 m |

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