Belden

Product: BRA3X12U

MachFlex™ Robotic Lite 10866 and 21330 Cable, 1000 V, 3x 10 mm² Str BC, PP Ins, Unshielded, PUR Jkt

Product Description

MachFlex™ Robotic Lite 10866 and 21330 Cable, 1000 V, 3x 10 mm² Str BC, PP Ins, Unshielded, PUR Jkt, UL/cUL AWM 10866 and 21330 certified

Technical Specifications

Product Overview

Suitable Applications:	Signal and control wiring for industrial robots and automated machinery: sensors, I/O, tool and gripper signals, and encoder-free control circuits in dress packs of articulated-arm, SCARA and gantry robots, in cable carriers (drag chains), and on other continuously moving machine parts. Suited to repeated torsion up to ±180° per metre of free cable length and to continuous flexing. Typical uses: automotive and general manufacturing, electrical and electronics assembly, machine tools, and fixed handling and storage systems.

Construction Details

Conductor

Size	Stranding	Material	Notes
10 mm²	Stranded	BC - Bare Copper	Extra fine stranded

Insulation

Material	Color Code
PP - Polypropylene	As per DIN 47100 or VDE 0293

Insulation Table Notes:	Single core comply to AWM Style 10866 for both single and multi-core cables.

Outer Jacket

Material
PUR - Polyurethane

Outer Jacket1 Table Notes:	Jacket Color : Black ; Put-up length: 100 m or 500 m
Overall Cable Diameter (Nominal):	15.6 mm (0.614 in)

Electrical Characteristics

Electricals

Max. Conductor DCR
1.91 Ohm/km at 20°C

Voltage

UL Voltage Rating
1000 V

Voltage Rating Table Notes:	2.5 kV ac

Mechanical Characteristics

Temperature

Installation	Continuous Flexing
-40°C to +80°C	-20°C to +80°C

Trailing/Flexing Properties

Motion	Number of Cycles	Torsion Angle
Torsion/Twisting	10,000,000	180 °

Table Notes:	Cable uniquely designed for both torsion and drag chain motions. Torsion Test +/-180º/m: Min. 10 million cycles ; Drag chain : Min. 5 million cycles (Traversing distance: 5m; Speed: 3m/s; Bending radius: 10 x D)

Bend Radius

Installation Min.
5xOD

Bend Radius Table Notes:	Flexing Min. 10xOD
Bulk Cable Weight:	372

Standards and Compliance

Environmental Suitability:	Indoor/Outdoor, Indoor, Outdoor, Non-Halogenated, UV Resistance, Oil Resistance
Flammability / Reaction to Fire:	Horizontal flame test
CEC / C(UL) Compliance:	CSA C22.2 No.210, C22.2 No.210
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2)
Other Standard Compliance(s):	UL 758

Product Notes

Notes:	UL AWM Style 10866 (single core cable), UL AWM Style 21330, AWM I/II A/B

History

Update and Revision:	Revision Number: 0.2 Revision Date: 10-23-2026

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