Belden

Product: BRA3X09U

MachFlex™ Robotic Lite 10866 and 21330 Cable, 1000 V, 3x 2.5 mm² Str BC, PP Ins, Unshielded, PUR Jkt

Product Description

MachFlex™ Robotic Lite 10866 and 21330 Cable, 1000 V, 3x 2.5 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
2.5 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):	8.6 mm (0.34 in)

Electrical Characteristics

Electricals

Max. Conductor DCR
7.98 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:	107

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

© 2026 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.