

METRIC MEASUREMENT VERSION

2104A Multi-Conductor - DataBus® ISA/SP-50 FOUNDATION Fieldbus or PROFIBUS Cable



For more Information
please call

1-800-Belden1



General Description:

12 pair, 18 AWG stranded (7x26) tinned copper conductors, XLP insulation, individual and overall Beldfoil® shields (100% coverage), tinned copper drain wire, sunlight- and oil-resistant FR-PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
12	18	7x26	TC - Tinned Copper

Total Number of Conductors: 24

Insulation

Insulation Material:

Insulation Material
XLP - Cross-linked Polyolefin

Inner Shield

Inner Shield Material:

Inner Shield Trade Name	Type	Inner Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

Inner Shield Drain Wire AWG:

AWG	Stranding	Conductor Material
20	7x28	TC - Tinned Copper

Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire	Conductor Material
18	7x26		TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
FR PVC - Polyvinyl Chloride

Outer Jacket Ripcord: Yes

Overall Cable

Overall Nominal Diameter: 25.781 mm

Pair

Pair Color Code Chart:

Number	Color
1	Blue & Orange Numbered 1
2	Blue & Orange Numbered 2
3	Blue & Orange Numbered 3
4	Blue & Orange Numbered 4

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5	Blue & Orange Numbered 5
6	Blue & Orange Numbered 6
7	Blue & Orange Numbered 7
8	Blue & Orange Numbered 8
9	Blue & Orange Numbered 9
10	Blue & Orange Numbered 10
11	Blue & Orange Numbered 11
12	Blue & Orange Numbered 12

Mechanical Characteristics (Overall)

Operating Temperature Range:	-25°C Cold Impact, -40°C To +90°C, -55°C Cold Bend
UL Temperature Rating:	90°C Wet/Dry
Installation Temperature Rating:	-25°C
Bulk Cable Weight:	708.383 Kg/Km
Max. Recommended Pulling Tension:	3162.670 N
Min. Bend Radius/Minor Axis:	260.350 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC(UL) Specification:	CMG, ITC, PLTC-ER
CSA Specification:	AWM I A/B II A/B, C22.2 #230 Type TC; C22.2#239 Type CIC
EU Directive 2011/65/EU (ROHS II):	Yes
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Other Specification:	IEC 61158-2 (ISA/SP-50) Type A

Flame Test

UL Flame Test:	UL1685 FT4 Loading
CSA Flame Test:	FT4
IEC Flame Test:	60332-3-24 (Category C)

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes
Sunlight Resistance:	Yes
Oil Resistance:	Yes

Plenum/Non-Plenum

Plenum (Y/N):	No
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Electrical Characteristics (Overall)

Unaveraged Impedance:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Impedance (Ohm)
	.03125			100

Nom. Inductance:

Inductance (µH/m)

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0.722

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
72.182

Maximum Capacitance Unbalance:

Capacitance (pF/m)
3.9372

Nominal Velocity of Propagation:

VP (%)
64.000

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
19.2267

Nom. Attenuation:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Attenuation (dB/100m)
	.039			0.26248

Max. Attenuation:

()	Freq. (MHz)	Attenuation (dB/100m)
0.298571	0.039	0.299

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Operating Voltage - Other:

Voltage	Description
300V RMS	CSA CIC type TC

Max. Recommended Current:

Description	Current
Per Conductor	5.4 Amps

Other Electrical Characteristic 1: Max Propagation Delay Change From 7.812 kHz to 39.06 kHz: 518 pS/ft

Other Electrical Characteristic 2: 31.25 KBits/sec

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2104A 0031000	1,000 FT	610.000 LB	ORANGE		300V/PR/12/18AWG/7T/XLPE/ORGBL
2104A 0035000	5,000 FT	2,900.000 LB	ORANGE		300V/PR/12/18AWG/7T/XLPE/ORGBL
2104A 0061000	1,000 FT	610.000 LB	BLUE, LIGHT		300V/PR/12/18AWG/7T/XLPE/ORGBL
2104A 0065000	5,000 FT	2,900.000 LB	BLUE, LIGHT		300V/PR/12/18AWG/7T/XLPE/ORGBL

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Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 2014/35/EU).