Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

3109A Multi-Conductor - EIA Industrial RS-485 PLTC/CM

For more Information
please call

1-800-Belden1

General Description:

22 AWG stranded (7x30) tinned copper conductors, Datalene® insulation, twisted pairs, overall Beldfoil® shield (100% coverage) plus a tinned copper braid (65% coverage), drain wire, UV resistant PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material	Dia. (in.)
4	22	7x30	TC - Tinned Copper	.030

Total Number of Conductors: 8

Insulation

Insulation Material:

Insulation Trade Name	Insulation Material
Datalene®	FHDPE - Foam High Density Polyethylene

Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000
2		Braid	TC - Tinned Copper	65.000

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
22	7x30	TC - Tinned Copper

Outer Shield Drain Wire Diameter: .030

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cable

Overall Cabling Color Code Chart:

Number	Color
1	White/Blue Stripe & Blue/White Stripe
2	White/Orange Stripe & Orange/White Stripe
3	White/Green Stripe & Green/White Stripe
4	White/Brown Stripe & Brown/White Stripe

Overall Nominal Diameter: 0.448 in.

Mechanical Characteristics (Overall)

Operating Temperature Range:	-20°C To +60°C
Non-UL Temperature Rating:	60°C
Bulk Cable Weight:	96.400 lbs/1000 ft.
Max. Recommended Pulling Tension:	100 lbs.
Min. Bend Radius/Minor Axis:	5.500 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CM, PLTC Oil Res II
NEC Articles:	725, 800
CEC/C(UL) Specification:	CM
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	10/01/2005
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

Flame Test

UL Flame Test:	UL1685 UL Loading
CSA Flame Test:	FT1

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes

Plenum/Non-Plenum

Plenum (Y/N):	No

Surface Printing (Overall)

Electrical Characteristics (Overall)

Nom. Inductance:

Description	Inductance (µH/ft)
Pair	0.225

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
11.0

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)
20.9

Nominal Velocity of Propagation:

VP (%)
78

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
14.7

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
1.4

Nom. Attenuation:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Attenuation (dB/100 ft.)
	1			.5

Max. Operating Voltage - UL:

Voltage

300 V RMS

Max. Recommended Current:

Current
2.7 Amps per conductor @ 25°C

Input/Unfitted Impedance:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Impedance (Ohm)
	1			120

Notes (Overall)

Notes: Oil Resistance: Passes Oil Res II Per UL1277, Table 10.17. For CPE jacketed version order Part No. YR44768.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
3109A 0101000	1,000 FT	90.000 LB	BLACK	C	4 PR #22 FHDPE SH PVC
3109A 0102000	2,000 FT	180.000 LB	BLACK	C	4 PR #22 FHDPE SH PVC
3109A 0105000	5,000 FT	475.000 LB	BLACK		4 PR #22 FHDPE SH PVC

Notes:
C = CRATE REEL PUT-UP.

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