



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. (mm)
4	22	7x30	TC - Tinned Copper	0.762

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: 11.379 mm

### Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +60°C

Non-UL Temperature Rating: 60°C

Bulk Cable Weight: 143.462 Kg/Km

Max. Recommended Pulling Tension: 444.820 N

Min. Bend Radius/Minor Axis: 139.700 mm

### 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

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

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)

Surface Printing: BELDEN 3109A E34972 4PR22 SHIELDED (UL) CM OR PLTC SUN RES OR C(UL) CM --- FT1

### Electrical Characteristics (Overall)

#### Nom. Inductance:

Description	Inductance (µH/m)
Pair	0.738

#### Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
36.091

#### Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/m)
68.5729

#### Nominal Velocity of Propagation:

VP (%)
78

#### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
48.2307

#### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)
8.301

#### Nom. Attenuation:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Attenuation (dB/100m)
	1			1.6405

#### 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

## METRIC MEASUREMENT VERSION

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

**Notes:**

C = CRATE REEL PUT-UP.

Revision Number: 2    Revision Date: 03-09-2017

© 2017 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 herein 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 "AS IS" 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 EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure 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. This 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.