



Product: [9841ELZ](#)

Life Cycle Status: Capability

RS-485, 1 Pr #24 Str TC, PE Ins, OS+TC Brd, LSZH Jkt, Eca



[Request Sample](#)

Product Description

RS-485, 1 Pair, 24 AWG stranded (7x32) Tinned Copper conductors, Polyethylene insulation, twisted pairs, overall Beldfoil® (100% coverage) + Tinned Copper braid shield (90% coverage), 24 AWG stranded Tinned Copper drain wire, LSZH jacket, CPR Eca

Technical Specifications

Product Overview

Suitable Applications:	RS-485, POS; Computer communications; Low Voltage Analog Signals (4-20ma, 0-10v, ...); Low Voltage Digital Control (24v, ...); Line Level Audio; Panel Wiring; serial communication (RS-485 standard) comprising of PLCs, VFDs, HMIs, motors, RTU, SCADA, etc. within noisy environments over long distance, etc.
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Construction Details

Conductor

Element	No. of Elements	Size	Stranding	Material
Pair(s)	1	24 AWG	7x32	TC - Tinned Copper

Insulation

Element	Material	Nom. Thickness	Nom. Insulation Diameter	Color Code
Pair(s)	PE - Polyethylene	0.56 mm (0.022 in)	1.73 mm (0.0681 in)	White/Blue & Blue/White

Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Tape	Bi-Laminate (Alum+Poly)	100%	24 AWG (7x32) TC
Braid	Tinned Copper (TC)	90%	

Outer Jacket

Material	Nom. Thickness	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	0.6 mm (0.024 in)	5.50 mm (0.217 in)

Overall Cable Diameter (Nominal):	5.50 mm (0.217 in)
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Electrical Characteristics

Electricals

Element	Nom. Conductor DCR	Nom. Capacitance Cond-to-Cond	Nom. Capacitance Cond-to-Other (Conds + Shield)	Nom. Characteristic Impedence	Nom. Velocity of Prop.	Max. Current
Pair(s)	78.7 Ohm/km (24.0 Ohm/1000ft)	42 pF/m (13 pF/ft)	78 pF/m	120 Ohm	66%	2.1 Amps per Conductor
Nom. Outer Shield DCR:	11.0 Ohm/km (3.35 Ohm/1000ft)					

High Frequency (Nominal/Typical)

Element	Frequency [MHz]	Nom. Insertion Loss (Attenuation)
Pair(s)	1	1.97 dB/100m (0.600 dB/100ft)

Voltage

Voltage Rating
300 V

Mechanical Characteristics

Temperature

Operating	Installation	Storage
-20°C To +70°C	-10°C To +70°C	-20°C To +70°C

Bend Radius

Stationary Min.	Installation Min.
28 mm (1.1 in)	55 mm (2.2 in)

Max. Pull Tension:	328 N (73.7 lbf)
Bulk Cable Weight:	40 kg/km (27 lbs/1000ft)

Standards and Compliance

Environmental Suitability:	Indoor - Euroclass Eca, Indoor, Non-Halogenated
Flammability / Reaction to Fire:	IEC 60332-1-2
CPR Compliance:	CPR Euroclass: Eca
ISO/IEC Compliance:	IEC 61034-2 - Smoke Density Min Transmittance = 60%
CENELEC Compliance:	EN 50290-2-20
European Halogen Free Standards:	IEC 62821-1 Halogen Free Compliance = Yes, IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 2.5 µS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2)
UK Regulation Compliance:	UKCA Mark
Other Standard Compliance(s):	DMX-512

Product Notes

Notes:	This is a preliminary Technical Design Specification (TDS). The minimum business quantity to offer is 3km for the first order. This product will have Gray as standard color and 305mt as standard put-ups. Additional options for colors and put-ups are available on special request. The estimated production lead time for the first order will be similar to the production lead time of 9841NH. Please liaise with your Belden representative for confirmation.
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History

Update and Revision:	Revision Number: 0.7 Revision Date: 07-24-2025
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