



Product: [7896Z](#)

DeviceBus®, 2 Pr #16+18 Str TC, XLPe+PP Ins, IS+OA TC Brd, LSZH-TS Jkt, 600V TC-ER-ST1

Product Description

DeviceBus® for ODVA DeviceNet™, 2 Pair 16+18AWG (19x29+19x30) Tinned Copper, XLPE+ PP Insulation, Individual Beldfoil® & OA Tinned Copper Braid(65%) Shield, LSZH Thermoset Outer Jacket, 600V TC-ER-ST1

Technical Specifications

Product Overview

Suitable Applications:	harsh environment, ODVA device-level communication, used with CIP (common Industrial Protocol) for control, configuration, and data collection between devices, such as sensors and actuators, and higher level devices such as PLC, and PC in industrial automation, bus topology, etc.
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Construction Details

Conductor

Element	Number of Element	Size	Stranding	Material
Power Pair(s)	1	16 AWG	19x29	TC - Tinned Copper
Data Pair(s)	1	18 AWG	19x30	TC - Tinned Copper

Insulation

Element	Material	Nom. Thickness	Color Code	Notes
Power Pair(s)	XLPE - Cross-Linked Polyethylene (Thermoset)	0.031 in (0.79 mm)	Red & Black	
Data Pair(s)	PP - Polypropylene	0.068 in (1.7 mm)	Blue & White	Flame Retardant

Inner Shield

Element	Shield Type	Material	Coverage
Power Pair(s)	Tape	Bi-Laminate (Alum+Poly)	100%
Data Pair(s)	Tape	Bi-Laminate (Alum+Poly)	100%

Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Braid	Tinned Copper (TC)	65%	16 AWG (19x29) TC

Outer Jacket

Material	Nom. Thickness	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant, Thermoset)	0.115 in (2.92 mm)	0.646 in (16.4 mm)

Overall Cable Diameter (Nominal):	0.646 in (16.4 mm)
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Electrical Characteristics

Electricals

Element	Nom. Conductor DCR	Nom. Capacitance Cond-to-Cond	Nom. Characteristic Impedence	Nom. Velocity of Prop.	Max. Current
Power Pair(s)	4.9 Ohm/1000ft (16 Ohm/km)				8 Amps per Conductor at 25°C
Data Pair(s)	6.9 Ohm/1000ft (23 Ohm/km)	14.7 pF/ft (48.2 pF/m)	120 Ohm	75%	

Nom. Outer Shield DCR:	1.8 Ohm/1000ft (5.9 Ohm/km)
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High Frequency

Element	Frequency [MHz]	Max. Insertion Loss (Attenuation)
Data Pair(s)	0.125	0.13 dB/100ft

	0.5	0.25 dB/100ft
	1	0.40 dB/100ft

Voltage

UL Voltage Rating
600 V (TC-ER-ST1)

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation
75°C Dry	-20°C to +75°C	-20°C To +75°C

Bend Radius

Stationary Min.	Installation Min.
6.0 in (150 mm)	6.0 in

Max. Pull Tension:	190 lbs (86 kg)
Bulk Cable Weight:	222 lbs/1000ft (330 kg/km)

Standards and Compliance

Environmental Suitability:	Indoor, Sunlight Resistance, Oil Resistance, Burial
Flammability / Reaction to Fire:	UL 1685 UL Loading, 1202, IEC 60332-3-22
NEC / UL Compliance:	Article 336, TC-ER-ST1
AWM Compliance:	I/II A/B
Marine Compliance:	ABS Type Approval 20-HS1959654-PDA
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE)
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Other Standard Compliance(s):	ODVA Cable V

Product Notes

Notes:	Meter marks on jacket to aid users in installation. ODVA DeviceNet is an Open DeviceNet Vendor Association, Inc. trademark.
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History

Update and Revision:	Revision Number: 0.266 Revision Date: 05-05-2023
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Part Numbers

Variants

Item #	Color	UPC
7896Z 0105000	Black	612825190868

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