

METRIC MEASUREMENT VERSION

## 7896A Multi-Conductor - DeviceBus® for ODVA DeviceNet™

For more Information  
please call

1-800-Belden1



### General Description:

16 and 18 AWG stranded tinned copper conductors, PVC/Nylon insulation (power), F-R Polypropylene insulation (data), individually foil shielded (100% coverage) plus an overall tinned copper braid (65% coverage, sunlight/oil-resistant PVC jacket).

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
1	16	19x29	TC - Tinned Copper
1	18	19x30	TC - Tinned Copper

Total Number of Conductors: 4

#### Insulation

Insulation Material:

Insulation Material	AWG
PVC/Nylon - Polyvinyl Chloride/Nylon	16
FRPP - Flame Retardant Polypropylene	18

#### Inner Shield

Inner Shield Material:

Layer #	Inner Shield Trade Name	Type	Inner Shield Material	Coverage (%)
16 AWG Pair	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100
18 AWG Pair	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

#### Outer Shield

Outer Shield Material:

Type	Outer Shield Material	Coverage (%)
Braid	TC - Tinned Copper	65

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
16	19x29	TC - Tinned Copper

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (mm)
PVC - Polyvinyl Chloride	1.524

#### Overall Cable

Overall Nominal Diameter: 13.335 mm

#### Pair

Pair Color Code Chart:

Number	Color
1 (16 AWG)	Red & Black
2 (18 AWG)	Blue & White

### Mechanical Characteristics (Overall)

Installation Temperature Range: -25°C To +75°C

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Operating Temperature Range:	-40°C To +75°C
Non-UL Temperature Rating:	75°C
Bulk Cable Weight:	200.907 Kg/Km
Max. Recommended Pulling Tension:	845.158 N
Min. Bend Radius/Minor Axis:	127 mm

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	TC-ER
CSA Specification:	AWM I/II A/B
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 RoHS Compliance Date (mm/dd/yyyy):	10/13/2005
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
Other Specification:	ODVA Cable V

#### Flame Test

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

#### Suitability

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)
18 AWG Pair Only	.5			120

#### Nom. Capacitance Conductor to Conductor:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Capacitance (pF/m)
18 AWG Pair Only	1			48.2307

#### Nominal Velocity of Propagation:

Description	VP (%)
18 AWG Pair Only	64

#### Maximum Delay:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Delay (ns/m)
18 AWG Pair Only				5.2496

#### Nom. Conductor DC Resistance:

Description	DCR @ 20°C (Ohm/km)
16 AWG	16.0769
18 AWG	22.6389

#### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)

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5.9058

### Max. Attenuation:

( )	Description	Freq. (MHz)
0.42653	18 AWG Pair Only	.125
0.82025		.500
1.3124		1.00

### Max. Operating Voltage - UL:

**Voltage**  
600 V RMS

### Max. Recommended Current:

Description	Current
15 AWG	8.0 Amps per conductor at 25°C

## Notes (Overall)

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

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7896A T5U1000	1,000 FT	165.000 LB	GRAY T5U	C	2 #16 PVC/NYL,2#18 FRPP SH PVC
7896A T5U2000	2,000 FT	340.000 LB	GRAY T5U	C	2 #16 PVC/NYL,2#18 FRPP SH PVC
7896A T5U500	500 FT	89.000 LB	GRAY T5U	C	2 #16 PVC/NYL,2#18 FRPP SH PVC

### Notes:

C = CRATE REEL PUT-UP.

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