BELDEN
SENDING ALL THE RIGHT SIGNALS

Product: 9891

Transceiver 10BASE5, #22-3pr, #20-1pr, FHDPO, Isolated Shields, PVC Jkt, CM

Product Description

IEEE 802.3 Ethernet Transceiver 10BASE5, 20 and 22 AWG stranded tinned copper conductors, foam high-density polyethylene (22 AWG) and PVC (20 AWG) insulation, twisted pairs, tinned copper braid shield (95% coverage) drain wire, PVC jacket.

Technical Specifications

Product Overview

Suitable Applications:	IEEE 802.3 Transceiver Cable

Physical Characteristics (Overall)

Conductor

Element	AWG	Stranding	Material	Nominal Diameter	No. of Pairs
Pair(s)	22	7x30	TC - Tinned Copper	0.03 in	3
Pair(s)	20	7x28	TC - Tinned Copper	0.038 in	1

Conductor Count:	8

Insulation

Element	Material	Material Trade Name	Nominal Wall Thickness
Pair(s)	PE - Polyethylene (Foam)	Datalene®	0.017 in
Pair(s)	PVC - Polyvinyl Chloride		0.012 in

Color Chart

Number	Color
78 Ohm	Black & White
78 Ohm	Yellow & Orange
78 Ohm	Blue & Green
Power	Gray & Purple

Inner Shield Material

Element	Type	Layer	Material	Material Trade Name	Coverage [%]	Drainwire AWG
Pair(s)	Tape	1	Alum / Poly	Beldfoil® (Z-Fold®)	100 %	20
Pair(s)	Tape		Alum / Poly		100 %	

Outer Shield Material

Type	Material	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Braid	TC - Tinned Copper	95 %	TC - Tinned Copper	22	7x30

Outer Jacket Material

Material	Nominal Diameter	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.336 in	0.032 in

Electrical Characteristics

Conductor DCR

Element	Nominal Conductor DCR	Nominal Outer Shield DCR
22 AWG	14.7 Ohm/1000ft	1.8 Ohm/1000ft

20 AWG	9.5 Ohm/1000ft	

Capacitance

Element	Nom. Capacitance Conductor to Conductor	Nom. Capacitance Conductor to Other Conductor to Shield
22AWG pairs	16.7 pF/ft	29.5 pF/ft
22AWG pairs		

Impedance

Nominal Characteristic Impedance	Nominal Characteristic Tolerance	Nominal Characteristic Impedance Description
78 Ohm	± 5 Ohm	22AWG pairs

High Frequency (Nominal/Typical)

Nom. Insertion Loss
20 dB/100m

Delay

Max. Delay Skew	Nominal Delay	Nominal Velocity of Propagation (VP) [%]
78 ns/100m	1.3 ns/ft	78 %

Current

Element	Max. Recommended Current [A]
22 awg (10C Temperature Rise)	22 awg: 2 Amps per conductor @ 25°C & 20 awg: 2.5 Amps per conductor @ 25°C A
20 awg (10C Temperature Rise)	2.5 amps per conductor @ 25C ambient

Voltage

UL Description	UL Voltage Rating
UL type CM	300 V RMS (UL type CM)
UL AWM Style 2919	30 V RMS (UL AWM 2919)

Temperature Range

UL Temp Rating:	80°C (UL AWM Style 2919)
Operating Temp Range:	-20°C To +80°C

Mechanical Characteristics

Bulk Cable Weight:	65 lbs/1000ft
Max Recommended Pulling Tension:	160 lbs
Min Bend Radius/Minor Axis:	3.25 in

Standards

NEC Articles:	800
NEC/(UL) Specification:	CM
CEC/C(UL) Specification:	CM
UL AWM Style:	2919 (30 V 80°C)
CPR Euroclass:	Eca
IEEE Specification:	802.3 10Base5

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/96/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
EU RoHS Compliance Date (yyyy-mm-dd):	2005-04-01
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Indoor:	Yes

Flammability, LS0H, Toxicity Testing

UL Flammability:	UL1685 UL Loading

CSA Flammability:	FT1
ISO/IEC Flammability:	IEC 60332-1-2
UL voltage rating:	300 V RMS (CM)

Plenum/Non-Plenum

Plenum (Y/N):	No

Part Number

Variants

Item #	Color	UPC
9891 006100	Blue	612825260066
9891 0061000	Blue	612825260073
9891 006500	Blue	612825260080
9891 0065000	Blue	612825260097

Footnote:	C - CRATE REEL PUT-UP.
Footnote:	Z - FINAL PUT-UP MAY VARY (= OR -) 10% FOR SPOOLS OR REELS AND (+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN.

History

Update and Revision:	Revision Number: 0.326 Revision Date: 05-11-2020