# **Detailed Specifications & Technical Data**



ENGLISH MEASUREMENT VERSION

### 8451 Multi-Conductor - Single-Pair Cable

For more Information please call

1-800-Belden1



#### **General Description:**

22 AWG stranded (7x30) TC conductors, polypropylene insulation, paper wrap, twisted pair, overall Beldfoil shield (100% coverage), 22 AWG stranded TC drain wire, PVC jacket.

Physical Characteristics (Overall)	
Conductor	
AWG: # Pairs AWG Stranding Conductor Material	
1 22 7x30 TC - Tinned Copper	
Total Number of Conductors:	2
Insulation	
Insulation Material:	
Insulation Material         Wall Thickness (in.)           PP - Polypropylene         .008	
Outer Shield Outer Shield Material:	
Outer Shield Trade Name Type Outer Shield Material	Coverage (%)
Beldfoil® (Z-Fold®) Tape Aluminum Foil-Polyester Tap	pe 100
Outer Shield Drain Wire AWG:	
AWG         Stranding         Drain Wire Conductor Material           22         7x30         TC - Tinned Copper	
Outer Jacket	
Outer Jacket Material:	
Outer Jacket Material PVC - Polyvinyl Chloride	
Overall Cable	
Overall Nominal Diameter: Pair Pair Pair	0.138 in.
Pair Pair Color Code Chart: Number Color 1 Black & Red	0.138 in.
Pair Pair Color Code Chart: Number Color	0.138 in.
Pair Pair Color Code Chart: Number Color 1 Black & Red	0.138 in. -20°C To +75°C
Pair Pair Color Code Chart: Number Color 1 Black & Red Mechanical Characteristics (Overall)	
Pair Pair Color Code Chart: Number Color 1 Black & Red Mechanical Characteristics (Overall) Operating Temperature Range:	-20°C To +75°C
Pair Pair Color Code Chart:          Number       Color         1       Black & Red         Mechanical Characteristics (Overall)         Operating Temperature Range:         Bulk Cable Weight:	-20°C To +75°C 15 lbs/1000 ft.
Pair Pair Color Code Chart:          Number Color         1       Black & Red         Mechanical Characteristics (Overall)         Operating Temperature Range:         Bulk Cable Weight:         Max. Recommended Pulling Tension:	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in.
Pair Pair Color Code Chart:          Number Color         1       Black & Red         Mechanical Characteristics (Overall)         Operating Temperature Range:         Bulk Cable Weight:         Max. Recommended Pulling Tension:         Min. Bend Radius/Minor Axis:	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in.
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in.
Pair Pair Color Code Chart:          Number Color         1       Black & Red         Mechanical Characteristics (Overall)         Operating Temperature Range:         Bulk Cable Weight:         Max. Recommended Pulling Tension:         Min. Bend Radius/Minor Axis:         Applicable Specifications and Agency Complianc         Applicable Standards & Environmental Programs	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>2e (Overall)</b>
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification:	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>ce (Overall)</b>
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification: CEC/C(UL) Specification:	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>ce (Overall)</b> CMR CMG
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification: CEC/C(UL) Specification: EU Directive 2011/65/EU (ROHS II):	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. cMR CMR CMG Yes
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification: CEC/C(UL) Specification: EU Directive 2011/65/EU (ROHS II): EU CE Mark:	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>ce (Overall)</b> CMR CMR CMG Yes Yes
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification: CEC/C(UL) Specification: EU Directive 2011/65/EU (ROHS II): EU CE Mark: EU Directive 2000/53/EC (ELV):	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>ce (Overall)</b> CMR CMG Yes Yes Yes
Pair Pair Color Code Chart: Number Color Black & Red Mechanical Characteristics (Overall) Operating Temperature Range: Bulk Cable Weight: Max. Recommended Pulling Tension: Min. Bend Radius/Minor Axis: Applicable Specifications and Agency Complianc Applicable Standards & Environmental Programs NEC/(UL) Specification: EU Directive 2011/65/EU (ROHS II): EU Directive 2000/53/EC (ELV): EU Directive 2002/95/EC (RoHS):	-20°C To +75°C 15 lbs/1000 ft. 27 lbs. 1.500 in. <b>ce (Overall)</b> CMR CMG Yes Yes Yes Yes

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### 8451 Multi-Conductor - Single-Pair Cable

CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Flame Test	
UL Flame Test:	UL1666 Vertical Shaft
CSA Flame Test:	FT4
Plenum/Non-Plenum	
Plenum (Y/N):	No
Electrical Characteristics (Overall)	
Nom. Characteristic Impedance:	
Impedance (Ohm) 45	
Nom. Inductance:	
Inductance (µH/ft) .17	
Nom. Capacitance Conductor to Conductor:	
Capacitance (pF/ft) 34	
Nom. Capacitance Cond. to Other Conductor & Shield:	
Capacitance (pF/ft) 67	
Nominal Velocity of Propagation:	
VP (%) 66	
Nominal Delay:	
Delay (ns/ft) 1.5	
Nom. Conductor DC Resistance:	
DCR @ 20°C (Ohm/1000 ft) 14.5	
Nominal Outer Shield DC Resistance: DCR @ 20°C (Ohm/1000 ft)	
14.1	
Max. Operating Voltage - UL: Voltage	
300 V RMS	
Max. Recommended Current: Current	
2.9 Amps per conductor @ 25°C	
Notes (Overall)	
(	

Notes: Unique paper separator facilitates jacket stripping.

#### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc	
8451 008U1000	1,000 FT	16.000 LB	GRAY		2 #22 PP SHLD PVC FR	
8451 008U500	500 FT	8.500 LB	GRAY		2 #22 PP SHLD PVC FR	
8451 0081000	1,000 FT	16.000 LB	GRAY	С	2 #22 PP SHLD PVC FR	
8451 008500	500 FT	8.000 LB	GRAY		2 #22 PP SHLD PVC FR	
8451 010U1000	1,000 FT	16.000 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 010U500	500 FT	8.500 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 010100	100 FT	2.200 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 0101000	1,000 FT	16.000 LB	BLACK	С	2 #22 PP SHLD PVC FR	
8451 01010000	10,000 FT	160.000 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 01015000	15,000 FT	240.000 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 010500	500 FT	8.000 LB	BLACK		2 #22 PP SHLD PVC FR	
8451 0105000	5,000 FT	80.000 LB	BLACK		2 #22 PP SHLD PVC FR	

Notes: C = CRATE REEL PUT-UP.

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