

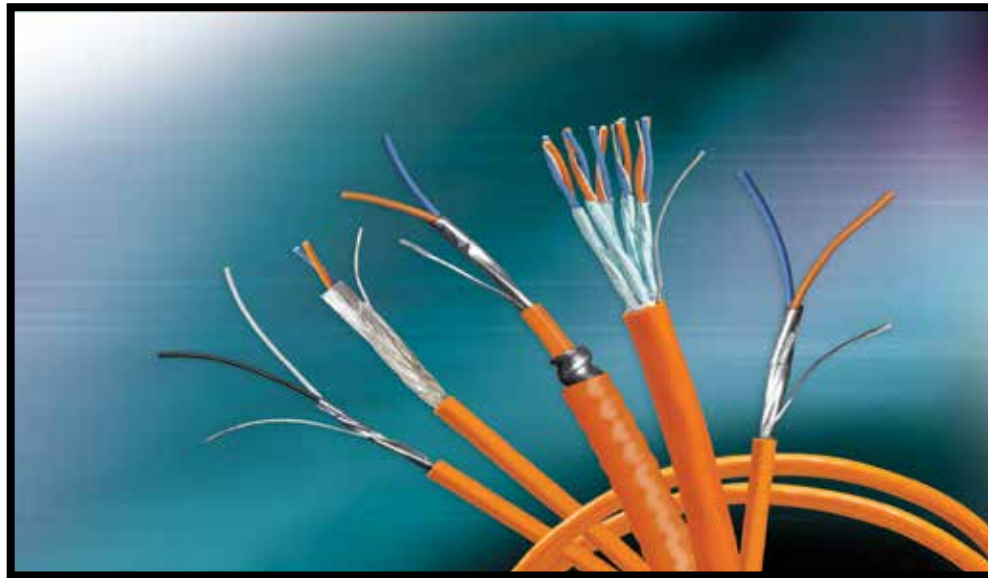


Product Bulletin

PB 244-R3

Fieldbus® Cables

Fieldbus Type A cables provide installation flexibility in many different environments, including outdoors and where multiple or extended cable runs are required. Fieldbus Type B and high-speed cables also available.



Belden® Offers a Complete Line of DataBus® Cables for FOUNDATION Fieldbus Applications with C(UL) and UL Tray Ratings, Expanded Multi-pair Capabilities and Expanded Temperature and Use Ratings

Why FOUNDATION Fieldbus?

FOUNDATION Fieldbus is the dominant industrial network in the oil, gas and petrochemical industries as well as most process industries. Belden Fieldbus cables are designed to withstand the destructive effects of temperature extremes, humidity/moisture, dust and oil. In harsh environments such as oil and gas extraction and refining sites, ultraviolet radiation from extensive exposure to the sun can shorten cable life. With the high cost of downtime in industrial applications, particularly in remote locations, investing in cable with proven performance and reliability can significantly reduce the likelihood of system failure.

With FOUNDATION Fieldbus, end users have the freedom to implement tightly integrated digital control based on a unified system architecture and a high-speed backbone (HSE) for plant operations. This, in turn, removes the constraints on device and sub-system interoperability.

Fieldbus Specification IEC 61158-2 (ISA/SP-50)

Fieldbus is an all-digital, serial, two-way communications protocol that standardizes the interconnection of field devices at a communications rate of 31.25 kB/s. The field devices are accessible to communication networks (running at 1 or 2.5 Mb/s), through linking devices. By distributing control into field devices, Fieldbus users reduce the amount of I/O and control equipment required. A Fieldbus-

compliant twisted-pair of wires carries signals between the field devices and the networks. Fieldbus also reduces the number of Intrinsically Safe (IS) barriers, cabinets, cables and connectors required. Since the wire pair can support multiple functions within a single device (such as diagnostics, control and auto error correction), the twisted-pair cable becomes an integral part of a more efficient, more reliable, and more cost-effective industrial control system.

Fieldbus Cabling Features

The number of devices possible on a Fieldbus link will vary depending on factors such as the power consumption of each device, the use of repeaters, signal attenuation, type of cable used and distance. The table below provides suggested transmission distances (cable lengths) for each type of cable.

Fieldbus Type	Communication Rate	Transmission Distance Ft. / m
A	31.25 Kb/s	6,232 / 1900
B	31.25 Kb/s	3,936 / 1200
High Speed	1.0 MHz	2,460 / 750
	2.5 MHz	1,640 / 500

Belden Fieldbus cable features include:

- Compliant with Fieldbus Spec IEC 61158-2 (ISA/SP-50)
- Excellent electrical characteristics
- Low capacitance (for long runs)
- Versions in 22, 18, 16 and 14 AWG stranded tinned copper conductors
- Standard multi-pair cables available in 2 to 24 pairs and up to 50 pairs depending on construction.
- Versions available with Beldfoil® shields and Beldfoil Plus Braid shields
- PLTC/ITC-ER, PLTC, and TC-ER versions as well as C(UL) CIC Type TC are available.
- Easily identifiable Orange jacket
- Blue jacket available for Intrinsically Safe applications
- Suitable for use in Class 1, Div. 2 applications
- RoHS compliant and CE approved
- CMX-Outdoor rated as listed

Fieldbus High Speed Ethernet (HSE) Cables

Fieldbus has chosen Ethernet for HSE control backbone 100Mb/s transmissions. To help you with your selection of Category 5e and Category 6 cables, Belden offers its DataTuff® Industrial Ethernet Cable Selection Guide. For more information on Belden DataTuff cables, please call Belden or ask for the Industrial Ethernet New Product Bulletin.

C(UL) Tray-rated Cables

Belden offers C(UL) and UL tray-rated cable. This Type A cable offers Belden reliability in harsh environments such as the oil sands of Canada. The single- and multi-pair cables come with XLP insulation and comply with both Canadian and US regulatory requirements. XLP offers improved cut through and chemical resistance compared to other insulators.

Custom Cable Constructions

As always with Belden industrial cables, custom constructions are available:

- Aluminum or Steel Interlocked Armor
- CPE jacket or LSOH jacket
- Various jacket colors
- Alternate Black and White color-coded pairs
- Multi-pair Type A, 300V, individually and overall shielded and PVC jacketed with up to 50-pair capability
- Multi-pair Type B 22 AWG, PLTC-rated, individually and/or overall shielded

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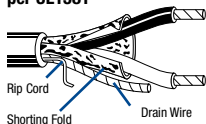
DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m

Fieldbus • 18 AWG Stranded (7x26) TC • Beldfoil (100% Shield Coverage) • TC Drain Wire

Polyolefin Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)

Type A 300V 105°C -55°C Cold Bend per UL1581	3076F	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	1	250 500 1000 2500 5000†	76.2 152.4 304.8 762.0 1524.0	14.0 25.5 48.0 117.5 245.0	6.4 11.6 21.8 53.3 111.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	100% Beldfoil Shield	.292	7.42	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
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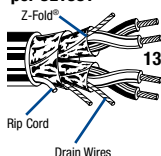
123076F — Aluminum Interlocked Armor
133076F — Steel Interlocked Armor
YM47023 — CPE Jacketed Version
YM46698 — Black & White Color-coded Pairs
YM47090 — Various Jacket Colors

Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383 • C(UL); 600V AWM VIII AB
* Blue is only available in 1,000 ft. put-up † Final put-up length may vary ±10% from length shown.

Fieldbus • 18 AWG Stranded (7x26) TC + Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

Polyolefin Insulation • Orange or Intrinsically Safe Blue/Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange and Numbered)

MULTI-PAIR Type A 300V 105°C -55°C Cold Bend per UL1581	1327A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	2	1000 1640	304.8 500.0	93.0 152.5	42.2 69.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.44	11.18	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
MULTI-PAIR Type A 300V 105°C -55°C Cold Bend per UL1581	1328A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	5	1000 1640	304.8 500.0	164.0 288.6	74.5 131.0	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.55	13.87	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26



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DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

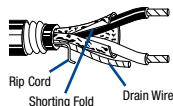
Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m
Fieldbus • 18 AWG Stranded (7x26) TC + Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires																		
Polyolefin Insulation • Orange or Intrinsically Safe Blue/Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange and Numbered)																		
1329A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	8	1000 1640	304.8 500.0	295.0 442.8	133.9 201.0	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.67	17.02	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	
1330A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	12	1000 1640	304.8 500.0	387.0 598.6	179.7 271.8	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.81	20.57	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	
1331A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	16	1000 1640	304.8 500.0	494.0 788.8	224.3 358.1	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.92	23.37	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	
1332A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	20	1000 1640	304.8 500.0	589.0 936.4	267.4 425.1	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.02	25.91	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	
1333A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	24	1000 1640	304.8 500.0	675.0 1110.3	306.5 504.1	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.14	28.96	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	
1359A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMGFT4	50	1000*	304.8	715.0	324.3	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.61	40.90	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26	

Direct burial rated; IEC 60332-3-24 (Cat C); IEEE 1202/383 • C(UL): 600V AWM I/II AB

* Available in color orange only, other colors quoted to order

Continuously Corrugated AL Armor • Polyolefin Insulation • PVC Inner and Orange Sunlight- and Oil-resistant PVC Outer Jacket

Type A 300V 105°C -40°C Cold Bend per UL1581		183076F	NEC: PLTC,	1	2000	609.6	322	146.1	18 AWG	100%	.562	14.30	100 @	66%	24.0	78.7	.039	.08	.26
			ITC, CMG							(7x26)	Beldfoil	Nominal	31.25						
			CMX-Outdoor							Tinned Copper	Shield	Core O.D.	KHz						
			CEC:							7.2Ω/M'		.292	7.42						
			CMG FT4						23.5Ω/km										



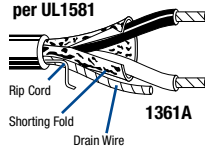
Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383

† Final put-up length may vary ±10% from length shown.

Fieldbus • 16 AWG Stranded (7x24) TC + Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

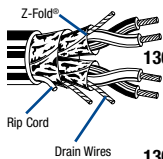
Polyolefin Insulation • Orange Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)

Type A 300V 105°C -55°C Cold Bend per UL1581	1360A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	1	1000	304.8			16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	100% Beldfoil Shield	.40	10.16	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1361A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	2	1000	304.8			16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.58	14.73	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26



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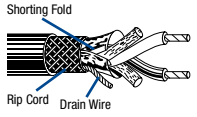
DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m
Fieldbus • 16 AWG Stranded (7x24) TC + Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires																		
Polyolefin Insulation • Orange Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)																		
	1362A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	5	1000	304.8	297.0	134.7	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.75	19.05	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1363A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	8	1000	304.8	401.0	181.9	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.91	23.11	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1364A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	12	1000	304.8	508.0	230.4	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	1Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.11	28.19	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1365A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	16	1000	304.8	650.0	294.8	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.23	31.24	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1366A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	20	1000	304.8	818.0	371.0	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.39	35.31	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26
	1367A	NEC: PLTC/ITC-ER CMG CMX-Outdoor CEC: CMG FT4	24	1000	304.8	1168.0	529.8	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.55	39.37	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.26

Note: 50 pair construction available as quote to order

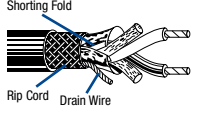
Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383 • C(UL); 600V AWM I/II AB

Fieldbus • 18 AWG Stranded (7x26) TC • Beldfoil (100% Shield Coverage) + 65% TC Braid • TC Drain Wire

Polyolefin Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)																		
	Type A	NEC:	1	394	120.1	21.7	9.9	18 AWG (7x26)	100%	.28	7.11	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	300V 105°C	PLTC/ITC-ER		1000	304.8	50.0	22.7	(7x26)	Beldfoil +									
	-55°C Cold Bend per UL1581	CMG		1640	500.0	80.4	36.5	Tinned Copper	65% TC									
		CMX-Outdoor CEC: CMG FT4		3280	1000.0	160.7	73.0	7.2Ω/M' 23.5Ω/km	Braid									

IEC 60332-3-24 (Cat C); IEEE 1202/383

Fieldbus • 16 AWG Stranded (7x24) TC • Overall Beldfoil (100% Shield Coverage) + 65% TC Braid • TC Drain Wire

Polyolefin Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)																		
	*Type A	NEC:	1	394	120.1	27.2	12.3	16 AWG (7x24)	100%	.34	8.64	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	300V 105°C	PLTC/ITC-ER		1000	304.8	65.0	29.5	(7x24)	Beldfoil +									
	-55°C Cold Bend per UL1581	CMG		1640	500.0	106.6	48.4	Tinned Copper	65% TC									
		CMX-Outdoor CEC: CMG FT4		3280	1000.0	213.2	96.8	4.5Ω/M' 14.9Ω/km	Braid									

IEC 60332-3-24 (Cat C); IEEE 1202/383

DCR = DC Resistance • FHDPE = Foamed High Density Polyethylene • PO = Polyolefin • TC = Tinned Copper
* Although Type A specification references nominal 18 AWG, Belden 1335A and 1336A meet all other Type A requirements.

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DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

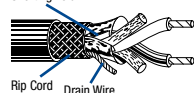
Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m

Fieldbus • 14 AWG Stranded (7x22) TC • Overall Beldfoil (100% Shield Coverage) + 65% TC Braid • TC Drain Wire

Polyolefin Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant PVC Jacket (Color Code: Blue, Orange)

Type A  300V 105°C -55°C Cold Bend per UL1581	1336A	NEC:	1	394	120.1	41.0	18.6	14 AWG	100%	.43	10.92	100 @	66%	24.0	78.7	.039	.091	.299
		PLTC/TC-ER		1000	304.8	103.0	46.8	(7x22)	Beldfoil +			31.25						
		CMG		1640	500.0	170.6	77.5	Tinned Copper	65% TC			KHz						
		CMX-Outdoor CEC: CMG FT4		3280	1000.0	351.0	159.4	2.8Ω/M' 9.3Ω/km	Braid									


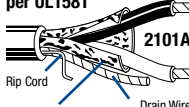
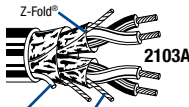
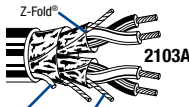
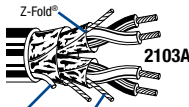
Shorting Fold



IEC 60332-3-24 (Cat C)

Fieldbus • 18 AWG Stranded (7x26) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)


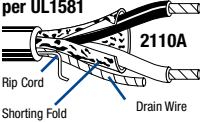
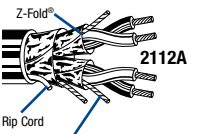
Type A  300V 105°C -55°C Cold Bend per UL1581	2100A	NEC: PLTC, TC-ER, CMG	1	1000 5000 †	304.8 1524.0	55.0 350.0	24.9 158.8	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	100% Beldfoil Shield	.319	8.10	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2101A	NEC: PLTC, TC-ER, CMG	2	1000 5000 †	304.8 1524.0	173.0 680.0	78.5 308.4	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.512	13.00	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
Single-pair 	2102A	NEC: PLTC, TC-ER, CMG	5	1000 5000 †	304.8 1524.0	312.0 1255.0	141.5 569.3	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.677	17.20	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2103A	NEC: PLTC, TC-ER, CMG	8	1000 5000 †	304.8 1524.0	407.0 1840.0	184.6 834.6	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.800	20.32	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
Multi-pair 	2104A	NEC: PLTC, TC-ER, CMG	12	1000 5000 †	304.8 1524.0	610.0 2900.0	276.7 1315.4	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.015	25.78	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2105A	NEC: PLTC, TC-ER, CMG	16	1000 5000 †	304.8 1524.0	742.0 3735.0	336.6 1694.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.126	28.60	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2106A	NEC: PLTC, TC-ER, CMG	20	1000 5000 †	304.8 1524.0	902.0 4445.0	409.1 2016.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.249	31.72	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2107A	NEC: PLTC, TC-ER, CMG	24	1000	304.8	965.0	427.7	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.389	35.28	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																
	2108A	NEC: PLTC/TC-ER, CMG	50	1000	304.8	2126.0	964.3	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.947	49.45	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		CMX-Outdoor CEC: CMG FT4 C(UL): CIC Type TC																

Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383

† Blue is only available in 1,000 ft. put-up † Final put-up length may vary ±10% from length shown.

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DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation			
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/100 Ft.	dB/100m	
Fieldbus • 16 AWG Stranded (7x24) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires																			
XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)																			
Type A 300V 105°C -55°C Cold Bend per UL1581		2109A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	1	1000 5000 †	304.8 1524.0	72.0 430.0	32.7 195.0	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	100% Beldfoil Shield	.365	9.27	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
			2110A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	2	1000 5000 †	304.8 1524.0	210.0 995.0	95.3 451.3	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	.0629	15.98	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091
	Single-pair	2111A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	5	1000 5000 †	304.8 1524.0	379.0 1750.0	171.9 793.8	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.789	20.04	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		2112A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	8	1000 5000 †	304.8 1524.0	612.0 2915.0	277.6 1322.2	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.982	24.94	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	Multi-pair	2113A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	12	1000 5000 †	304.8 1524.0	830.0 4025.0	376.5 1825.7	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.186	30.12	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		2114A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	16	1000	304.8	1011.0	458.6	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.321	33.55	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		2115A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	20	1000	304.8	1205.0	546.6	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.469	37.31	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		2116A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	24	1000	304.8	1465.0	664.5	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.638	41.61	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
		2117A	NEC: PLTC/ITC-ER CMG CEC: CMG FT4 C(UL): CIC Type TC	36	1000	304.8	2399.0	1088.2	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.952	49.58	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299

Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383

* Blue is only available in 1,000 ft. put-up † Final put-up length may vary ±10% from length shown.

Fieldbus • 18 AWG Stranded (7x26) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

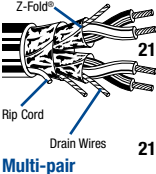
XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)																		
Type A 600V 105°C -55°C Cold Bend per UL1581	2118A	NEC: TC-ER C(UL): CIC Type TC	1	1000 5000 †	304.8 1524.0	55.0 350.0	24.9 158.8	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	100% Beldfoil Shield	.319	8.10	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2119A	NEC: TC-ER C(UL): CIC Type TC	2	1000 5000 †	304.8 1524.0	173.0 680.0	78.5 308.4	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	100% Beldfoil Shield	0.512	13.00	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
Single-pair 	2120A	NEC: TC-ER C(UL): CIC Type TC	5	1000 5000 †	304.8 1524.0	312.0 1255.0	141.5 569.3	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.677	17.20	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299

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DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m
Fieldbus • 18 AWG Stranded (7x26) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires																		
XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)																		
 Multi-pair	2121A	NEC: TC-ER C(UL): CIC Type TC	8	1000 5000 †	304.8 1524.0	407.0 1840.0	184.6 834.6	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.800	20.32	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2122A	NEC: TC-ER C(UL): CIC Type TC	12	1000 5000 †	304.8 1524.0	610.0 2900.0	276.7 1315.4	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.015	25.78	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2123A	NEC: TC-ER C(UL): CIC Type TC	16	1000 5000 †	304.8 1524.0	742.0 3735.0	336.6 1694.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.126	28.60	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2124A	NEC: TC-ER C(UL): CIC Type TC	20	1000 5000 †	304.8 1524.0	902.0 4445.0	409.1 2016.2	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.249	31.72	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2125A	NEC: TC-ER C(UL): CIC Type TC	24	1000	304.8	965.0	437.7	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.389	35.28	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2126A	NEC: TC-ER C(UL): CIC Type TC	50	1000	304.8	2126.0	964.3	18 AWG (7x26) Tinned Copper 7.2Ω/M' 23.5Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.947	49.45	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299

Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383

* Blue is only available in 1,000 ft. put-up † Final put-up length may vary ±10% from length shown.

Fieldbus • 16 AWG Stranded (7x24) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)

<p>Type A 600V 105°C -55°C Cold Bend per UL1581</p> <p>Single-pair</p>	2127A	NEC: TC-ER C(UL): CIC Type TC	1	1000 5000 †	304.8 1524.0	72.0 430.0	32.7 195.0	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	100% Beldfoil Shield	.365	9.27	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2128A	NEC: TC-ER C(UL): CIC Type TC	2	1000 5000 †	304.8 1524.0	250.0 995.0	113.4 451.3	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.629	15.98	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2129A	NEC: TC-ER C(UL): CIC Type TC	5	1000 5000 †	304.8 1524.0	379.0 1750.0	171.9 793.8	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.789	20.04	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2130A	NEC: TC-ER C(UL): CIC Type TC	8	1000 5000 †	304.8 1524.0	612.0 2915.0	277.6 1322.2	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	0.982	24.94	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2131A	NEC: TC-ER C(UL): CIC Type TC	12	1000 5000 †	304.8 1524.0	830.0 4025.0	376.5 1825.7	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.186	30.12	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2132A	NEC: TC-ER C(UL): CIC Type TC	16	1000	304.8	1011.0	458.6	16 AWG (7x24) Tinned Copper 3.7Ω/M' 12.2Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.321	33.55	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299

Industrial Data Solutions® — Industrial Data

DataBus for Fieldbus IEC 61158-2 (ISA/SP-50)

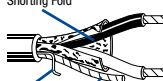

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Weight		Conductor (stranding) Nom. DCR	Shielding Materials	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Maximum Attenuation		
				Ft.	m	Lbs.	kg			Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m
Fieldbus • 16 AWG Stranded (7x24) TC • Individually Foil Shielded Pairs + Overall Beldfoil (100% Shield Coverage) • TC Drain Wires																		
XLP Insulation • Orange or Intrinsically Safe Blue Sunlight- and Oil-resistant TPE Jacket (Color Code: Blue, Orange)																		
	2133A	NEC: TC-ER C(UL): C1C Type TC	20	1000	304.8	1205.0	546.6	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.469	37.31	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2134A	NEC: TC-ER C(UL): C1C Type TC	24	1000	304.8	1465.0	664.5	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.638	41.61	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299
	2135A	NEC: TC-ER C(UL): C1C Type TC	36	1000	304.8	2399.0	1088.2	16 AWG (7x24) Tinned Copper 4.5Ω/M' 14.9Ω/km	Individually Foil Shielded Pairs + 100% Overall Beldfoil Shield	1.952	49.58	100 @ 31.25 KHz	66%	24.0	78.7	.039	.091	.299

Direct burial rated • IEC 60332-3-24 (Cat C); IEEE 1202/383

* Blue is only available in 1,000 ft. put-up † Final put-up length may vary ±10% from length shown.

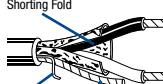

Fieldbus • 22 AWG Stranded (7x30) TC • Beldfoil (100% Shield Coverage) • TC Drain Wire

Polyolefin Insulation • Orange Sunlight-resistant PVC Jacket (Color Code: Blue, Orange)

Type B 300V 105°C Shorting Fold 		3077F	NEC: PLTC;	1	500†	152.4	11.0	5.0	22 AWG	100%	.196	4.97	100@	66%	23.5	77.1	.039	.152	.499
			ITC, CM CEC: CMG FT1		1000†	304.8	23.0	10.4	(7x30) Tinned Copper 17.1Ω/M' 56.1Ω/km	Beldfoil Shield	31.25 KHz								
<div>123077F — Aluminum Interlocked Armor</div> <div>133077F — Steel Interlocked Armor</div> <div>CPE and LSOH Jacket Optional</div>																			

† Final put-up length may vary ± 10% from length shown.

Polyolefin Insulation • Orange Sunlight-resistant PVC Jacket (Color Code: Blue, Orange)

High Speed 300V 105°C Shorting Fold 		3078F	NEC: PLTC, CM CEC: CM FT1	1	250	76.2	10.0	4.5	22 AWG (7x30) Tinned Copper 17.1Ω/M' 56.1Ω/km	100% Beldfoil Shield	.351	8.92	150@ 1 MHz	78%	8.5	27.9	.250	.198	.649
					500	152.4	23.0	10.4	.625								.305	1.00	
					1000	304.8	44.0	20.0	1.250								.396	1.30	
					2500	762.0	115.0	52.2	3.125								.609	2.00	

123078F — Aluminum Interlocked Armor
133078F — Steel Interlocked Armor
CPE and LSOH Jacket Optional

* Although Type A specification references nominal 18 AWG, Belden 1335A and 1336A meet all other Type A requirements.

**600V TC-ER Fieldbus Type A

18 AWG Stranded TC • Individually Foil Shielded Pairs • Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

• Insulated Green/Yellow PVC Ground

Polyolefin Insulation • Orange Sunlight-resistant PVC Jacket (Color Code: Blue, Orange and Numbered)

TC-ER CM FT1 IEC60332-3C	No. of Pairs	1	2	5	8	12	16	20	24
	Part Number	1337A	1338A	1339A	1340A	SI1341A	SI1342A	SI1343A	SI1344A

**300V LSZH Fieldbus Type A

18 AWG Stranded TC • Individually Foil Shielded Pairs • Overall Beldfoil (100% Shield Coverage) • TC Drain Wires

Polyolefin Insulation • Orange Sunlight-resistant PVC Jacket (Color Code: Blue, Orange and Numbered)

PLTC ITC CM FT1 IEC60332-3C	No. of Pairs	1	2	5	8	12	16	20	24
	Part Number	S3076NH	S1327NH	S1328NH	S1329NH	S1330NH	S1331NH	S1332NH	S1333NH

DCR = DC Resistance • FHDPE = Foamed High Density Polyethylene • LSZH = Low Smoke Zero Halogen • TC = Tinned Copper

** Minimum order quantity applies.