



Data Cables

Industrial Use Data Cables

Electrically radiated noise frequently present in factory floor environments can interfere with device-to-device communication circuits, causing delayed signals or data loss. One important factor in establishing a good, reliable communication circuit is cable selection. AutomationDirect offers high quality, low-capacitance data cables designed with impedances specific for communication applications in industrial environments. The tinned copper conductors are twisted pairs that help reduce electrical noise sensitivity and are available in one-, two-, three-, or four-pair color-coded versions. The polyethylene conductor insulation provides a very high insulation resistance with a low, stable dielectric constant that results in lower capacitance and excellent propagation velocity for superior signal transmission.

To protect from radiated or conducted electromagnetic interference (EMI), these data cables have shields consisting of an overall foil shield with drain wire and some are available with a woven braided layer. The overall foil shield has 100% cable coverage for excellent protection against higher frequency noise. A drain wire is provided to easily terminate and ground the foil shield. On the RS-422 data cables a second shield layer consists of a woven braid that is ideal for minimizing low frequency interference while providing superior structural integrity to the overall cable.

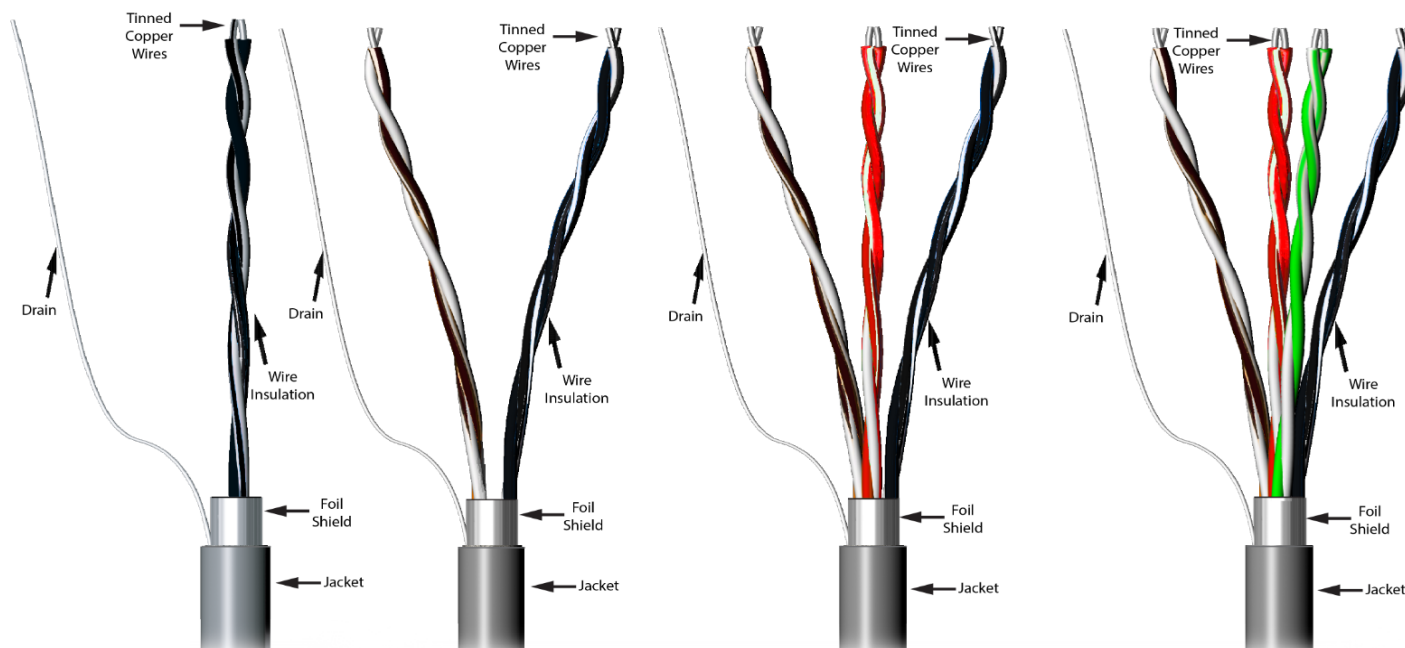


Features

- Low capacitance data cables for RS-232, RS-422, and RS-485 applications in industrial environments
- Color-coded tinned copper twisted-pair conductors to reduce electrical noise sensitivity
- Shielded with tinned copper drain wire
- Rugged gray PVC jacket provides durability in demanding installations
- UL CM available in multipliable AWM Styles
- Cut-to-length in 1-foot increments
- Low 25-foot minimum length



Click on the above thumbnail or go to
<https://www.automationdirect.com/VID-WD-0016>
 for a short introduction on our cut to length cable



Data Cable Specifications

Series RS-232 Data Cable Specifications				
		Q8105-1	Q8504-1	Q8506-1
Conductor Gauge and Stranding		24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper
Pairs		1	2	3
Color Code	Pair 1	Black X Red	Black X Black/White	Black X Black/White
	Pair 2	N/A	White X White/Black	White X White/Black
	Pair 3	N/A	N/A	Red X White/Red
Insulation		Semi-Rigid PVC	Low Density Polyethylene	Low Density Polyethylene
Construction		Twisted pair, overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield
Shield/Drain		Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire
Jacket		Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC
Diameter		.155in Nominal	.235in Nominal	.235in Nominal
Minimum Bend Radius		1.55in (Install)	2.94in (Install)	2.35in (Install)
Cable Weight		13.9lbs/1000ft Approx.	23.6 lb/1000ft Approx.	28.8 lb/1000ft Approx.
Impedance		N/A	100 Ω /1,000	100 Ω /1,000
Capacitance		40 pF/ft mutual Nom. 74 pF/ft grounded Nom.	12.5 pF/ft Nom. 23.2 pF/ft Nom.	15.5 pF/ft Nom. 29.0 pF/ft Nom.
Resistance		26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max
Voltage		300V	300V	300V
Temperature Range		-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)
Plenum		No	No	No
UL Classification		CM or AWM Style 2464	CM/CL2 or AWM Style 2919	CM/CL2 or AWM Style 2919
Agency Approvals		UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame
Sample Print Legend		QUABBIN 8105 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 --RoHS --	QUABBIN 8504 (UL) TYPE CM 24 AWG 75C OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS --	QUABBIN 8506 (UL) TYPE CM 24 AWG 75C OR AWM 2448 --LOW VOLTAGE COMPUTER CABLE --CSA LL51726 TYPE CMG 60C --RoHS --

Series RS-232 Data Cable Specifications						
Part Number	Number of Twisted Pairs	AWG	Maximum O.D. (Inches $\pm 10\%$)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
Q8105-1	1	24	0.20	25	0.014	\$0.31
Q8504-1	2		0.24		0.023	\$0.51
Q8506-1	3		0.28		0.028	\$0.59

* See web store for maximum cut lengths



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Data Cable Specifications

Series RS-422 Data Cable Specifications						
		<u>Q8602-1</u>	<u>Q8604-1</u>	<u>Q8606-1</u>	<u>Q8804-1</u>	<u>Q8806-1</u>
Conductor Gauge and Stranding		24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper
Pairs		1	2	3	2	3
Color Code	Pair 1	Black X Red	Black X Red	Black X Red	Black X Red	Black X Red
	Pair 2	N/A	Black X White	Black X White	Black X White	Black X White
	Pair 3	N/A	N/A	Black X Green	N/A	Black X Green
Insulation		Foam Polypropylene	Foam Polypropylene	Foam Polypropylene	High Density Polyethylene	High Density Polyethylene
Construction		Twisted pair, overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield
Shield/Drain		Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Tinned Copper Braid over a Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Tinned Copper Braid over a Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire
Jacket		Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC
Diameter		.203in Nominal	.294in Nominal	.324in Nominal	.242in Nominal	.239in Nominal
Minimum Bend Radius		2.07in (Install)	2.94in (Install)	3.24in (Install)	2.42in (Install)	2.39in (Install)
Cable Weight		18.9lbs/1000ft Approx.	31.7 lb/1000ft Approx.	41.1 lb/1000ft Approx.	31.7 lb/1000ft Approx.	35.4 lb/1000ft Approx.
Impedance		120 Ω /1,000	100 Ω /1,000	100 Ω /1,000	100 Ω /1,000	100 Ω /1,000
Capacitance		12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom.	12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom.	12.5 pF/ft mutual Nom. 23.2 pF/ft grounded Nom.	18.0 pF/ft Nom. 32.0 pF/ft Nom.	18.0 pF/ft Nom. 32.0 pF/ft Nom.
Resistance		26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max
Voltage		300V	300V	300V	300V	300V
Temperature Range		-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)
Plenum		No	No	No	No	No
UL Classification		CM or AWM Style 2919 UL E69976 & E118830 RoHS	CM or AWM Style 2448 UL E69976 & E118830 RoHS	CM or AWM Style 2448 UL E69976 & E118830 RoHS	CM or AWM Style 2919 UL E69976 & E118830 RoHS	CM or AWM Style 2919 UL E69976 & E118830 RoHS
Agency Approvals		UL 1685 Vertical Tray, UL 1581 Cable Flame	UL 1685 Vertical Tray, UL 1581 Cable Flame	UL 1685 Vertical Tray, UL 1581 Cable Flame	UL 1685 Vertical Tray, UL 1581 Cable Flame	UL 1685 Vertical Tray, UL 1581 Cable Flame
Sample Print Legend		QUABBIN 8602 C(UL)US TYPE CM 24 AWG OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- RoHS --	QUABBIN 8604 TYPE CM C(UL)US 24 AWG SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- RoHS --	QUABBIN 8606 TYPE CM C(UL)US 24 AWG SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- RoHS --	QUABBIN 8804 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG -- RoHS --	QUABBIN 8806 (UL) TYPE CM 24 AWG SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG -- RoHS --

Series RS-422 Data Cable Specifications						
Part Number	Number of Twisted Pairs	AWG	Maximum O.D. (Inches $\pm 10\%$)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
<u>Q8602-1</u>	1	24	0.203	25	0.0189	\$0.34
<u>Q8604-1</u>	2		0.294		0.0317	\$0.75
<u>Q8606-1</u>	3		0.324		0.0411	\$0.88
<u>Q8804-1</u>	2		0.242		0.0317	\$0.73
<u>Q8806-1</u>	3		0.239		0.0354	\$0.82

* See web store for maximum cut lengths



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Data Cable Specifications

Series RS-422/485 Data Cable Specifications					
		<u>Q8302-1</u>	<u>Q8304-1</u>	<u>Q8606-1</u>	<u>Q8308-1</u>
Conductor Gauge and Stranding		24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper	24 AWG 7/32 stranded tinned copper
Pairs		1	2	3	4
Color Code	Pair 1	Black X Black/White	Black X Black/White	Black X Black/White	Black X Black/White
	Pair 2	N/A	White X White/Black	White X White/Black	White X White/Black
	Pair 3	N/A	N/A	Red X White/Red	Red X White/Red
	Pair 4				Green X White/Green
Insulation		Low Density Polyethylene	Low Density Polyethylene	Low Density Polyethylene	Low Density Polyethylene
Construction		Twisted pair, overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield	Twisted pairs cabled; overall shield
Shield/Drain		Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 24 AWG Stranded Tinned Copper Drain Wire
Jacket		Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC
Diameter		.238in Nominal	.250in Nominal	.258in Nominal	.298in Nominal
Minimum Bend Radius		2.38in (Install)	2.50in (Install)	2.58in (Install)	2.98in (Install)
Cable Weight		28.8lbs/1000ft Approx.	35.1 lb/1000ft Approx.	37.7 lb/1000ft Approx.	46.7 lb/1000ft Approx.
Impedance		100 Ω /1,000	110 Ω /1,000	110 Ω /1,000	110 Ω /1,000
Capacitance		15.5 pF/ft mutual Nom. 29 pF/ft grounded Nom.	14 pF/ft mutual Nom. 25.9 pF/ft grounded Nom.	13.5 pF/ft mutual Nom. 25.0 pF/ft grounded Nom.	13.0 pF/ft mutual Nom. 24.0 pF/ft grounded Nom.
Resistance		26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max	26.2 Ω DC per 1000 ft @ 20°C (68°F) max
Voltage		300V	300V	300V	300V
Temperature Range		-20°C to 80°C (-4°F to 176°F)	-20°C to 75°C (-4°F to 167 °F)	-20°C to 75°C (-4°F to 167 °F)	-20°C to 75°C (-4°F to 167 °F)
Plenum		No	No	No	No
UL Classification		CM or AWM Style 2448	CM or AWM Style 2448	CM or AWM Style 2448	CM or AWM Style 2919
Agency Approvals		UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame
Sample Print Legend		QUABBIN 8302 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 CMG 60C -- RoHS --	QUABBIN 8304 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS --	QUABBIN 8306 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS --	QUABBIN 8308 (UL) TYPE CM 24 AWG 75C SHIELDED OR AWM 2448 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS --

Series RS-422/485 Data Cable Specifications						
Part Number	Number of Twisted Pairs	AWG	Maximum O.D. (Inches $\pm 10\%$)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
<u>Q8302-1</u>	1	24	0.238	25	0.0288	\$0.65
<u>Q8304-1</u>	2		0.250		0.0351	\$0.80
<u>Q8606-1</u>	3		0.258		0.0377	\$0.88
<u>Q8308-1</u>	4		0.298		0.0467	\$1.05

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Data Cable Specifications

Twisted Pairs Data Cable Specifications				
		Q6135-1	Q6155-1	Q7380-1
Conductor Gauge and Stranding		20 AWG 7/28 stranded tinned copper	20 AWG 7/28 stranded tinned copper	22 AWG Solid
Pairs		3	3	3
Color Code	Pair 1	Black X Red	Black X Red	Black X Red
	Pair 2	Black X White	Black X White	Black X White
	Pair 3	Black X Green	Black X Green	Black X Green
Insulation		Semi-Rigid PVC	High Density Polyethylene	Semi-Rigid PVC
Construction		Twisted pair, unshielded	Twisted pairs cabled, individually shielded	Twisted pairs cabled, individually shielded
Shield/Drain		N/A	Aluminized Polyester Foil Shield with a 22 AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 22AWG Solid Tinned Copper Drain Wire
Jacket		Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC
Diameter		.264in Nominal	.325in Nominal	.270in Nominal
Minimum Bend Radius		2.64in (Install)	3.25in (Install)	2.70in (Install)
Cable Weight		42.3lbs/1000ft Approx.	54.5 lb/1000ft Approx.	39.3 lb/1000ft Approx.
Impedance		N/A	100 Ω /1,000	100 Ω /1,000
Capacitance		40 pF/ft mutual Nom. 74 pF/ft grounded Nom.	30.0 pF/ft Nom. 55.0 pF/ft Nom.	26.0 pF/ft Nom. 47.0 pF/ft Nom.
Resistance		10.4 Ω DC per 1000 ft @ 20°C (68°F) max	10.4 Ω DC per 1000 ft @ 20°C (68°F) max	17.2 Ω DC per 1000 ft @ 20°C (68°F) max
Voltage		300V	300V	300V
Temperature Range		-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)
Plenum		No	No	No
UL Classification		CM or AWM Style 2464	CM/CL2 or AWM Style 2919	CM/CL2 or AWM Style 2919
Agency Approvals		UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame
Sample Print Legend		QUABBIN 6135 (UL) TYPE CM 20 AWG OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 --RoHS --	QUABBIN 6155 (UL) TYPE CM 20 AWG 75C SHIELDED OR AWM 2919 -- LOW VOLTAGE COMPUTER CABLE -- CSA LL51726 TYPE CMG 60C -- RoHS --	QUABBIN 7380 (UL) TYPE CM 22 AWG SHIELDED OR AWM 2464 -- CSA LL51726 AWM I/II A/B 80C 300V FT4 -- RoHS --

Twisted Pairs Data Cable Specifications						
Part Number	Number of Twisted Pairs	AWG	Maximum O.D. (Inches $\pm 10\%$)	Minimum Cut Length (ft) *	Approximate Weight (lb/ft)	Price per foot
Q6135-1	3	20	0.264	25	0.0423	\$0.89
Q6155-1			0.325		0.0545	\$1.08
Q7380-1		22	0.270		0.0393	\$0.80

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Data Cable Specifications

Series RS-422/485 Data Cable Specifications				
		Q0356-1	Q0357-1	Q0358-1
Conductor Gauge and Stranding		24AWG 7/32 stranded tinned copper	22AWG 7/30 stranded tinned copper	20AWG 7/28 stranded tinned copper
Pairs		1.5	1.5	1.5
Color Code	Pair 1	Black X Black/White	Black X Black/White	Black X Black/White
	Ground	Green	Green	Green
Insulation		Low Density Polyethylene	Low Density Polyethylene	Low Density Polyethylene
Construction		Shielded twisted pair with green ground conductor and overall shield	Shielded twisted pair with green ground conductor and overall shield	Shielded twisted pair with green ground conductor and overall shield
Pair Shield/Drain		Aluminized Polyester Foil Shield with a 24AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 22AWG Stranded Tinned Copper Drain Wire	Aluminized Polyester Foil Shield with a 20AWG Stranded Tinned Copper Drain Wire
Overall Shield/Drain		Tinned Copper Braid 70% Minimum Coverage	Tinned Copper Braid 70% Minimum Coverage	Tinned Copper Braid 70% Minimum Coverage
Jacket		Chrome Gray PVC	Chrome Gray PVC	Chrome Gray PVC
Diameter		0.219 in Nominal	0.249 in Nominal	0.292 in Nominal
Minimum Bend Radius		2.19 in Nominal (install)	2.49 in Nominal (install)	2.92 in (install)
Cable Weight		24.8 lbs/1000ft Approx.	36.9 lbs/1000ft Approx.	49.7 lbs/1000ft Approx.
Impedance		100 Ω /1,000	101 Ω /1,000	102 Ω /1,000
Capacitance	Signal to Signal	18.0 pF/ft Nom.	18.0 pF/ft Nom.	18.0 pF/ft Nom.
	Signal to Ground	32.0 pF/ft Nom.	32.0 pF/ft Nom.	32.0 pF/ft Nom.
Resistance		26.2 Ω DC per 1000 ft @ 20°C (68°F) max	16.7 Ω DC per 1000 ft @ 20°C (68°F) max	10.4 Ω DC per 1000 ft @ 20°C (68°F) max
Voltage		300V	300V	300V
Temperature Range		-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)	-20°C to 80°C (-4°F to 176°F)
Plenum		No	No	No
UL Classification		CM or AWM Style 2448	CM or AWM Style 2448	CM or AWM Style 2448
Agency Approvals		UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame	UL E69976 & E118830 RoHS UL 1685 Vertical Tray, UL 1581 Cable Flame
Sample Print Legend		QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR)	QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR)	QUABBIN P/N 0356 3/C 24 AWG SHIELDED C(UL)US CM 75C OR AWM 2448 -- RoHS -- (LOT DESIGNATOR)

Twisted Pairs Data Cable Specifications						
Part Number	Number of Twisted Pairs	AWG	Maximum O.D. (Inches $\pm 10\%$)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
Q0356-1	1.5	24	0.219	25	0.0248	\$0.75
Q0357-1	1.5	22	0.249	25	0.0369	\$0.90
Q0358-1	1.5	20	0.292	25	0.0497	\$1.15

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