Flex Cable Portfolio

AlphaWire

Cables you trust. Service you deserve.

More Flexibility in Cable Choice and Performance

Alpha Wire's extensive line of flex cable is designed to deliver exceptional performance and reliability in the most strenuous of environments. Whether you are installing new systems or maintaining existing ones, these cables combine ruggedness with high flex or continuous flex capabilities. Our flex cables are used for a wide variety of flexing applications such as assembly equipment, conveyer systems, motion control, and robotic systems. These cables are available in a variety of configurations, allowing exactly the right cable to be selected for your application.

Flexible cable is available from stock in most industry-standard sizes and constructions, in cut-to-length put-ups, so you can order how much you want, when you need it.

For more information, contact our Inside Sales Department at 1-800-52 ALPHA.

Find the Cable You Need

Consult with Alpha Wire's engineering team for assistance in developing the ideal wire and cable solution for your equipment needs—from withstanding extreme temperatures, abrasion, and chemical exposure to providing exceptional reliability in continuous and high-flex pick-and-place applications with cable having up to 20 million rolling flex cycles.

The performance you need . . .

- **Flexibility ranging from 1 million to 20 million flex cycles**
- **Resistance to harsh chemicals and temperature extremes**
- **Shielding options for excellent EMI resistance**
- **Smaller, lighter cabling to save space and weight**
- **Minimums as low as 100' on custom cable are ideal for R&D and prototyping**

The service you deserve . . .

- **Broad inventory in stock**
- **Same-day shipping**
- **Small put-ups available**
- **Extensive distributor network**
- **Online Cable Design Center**
- **Extensive custom cable design and manufacturing capabilities**

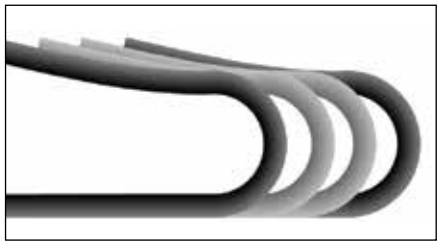
The reliability you demand . . .

- **Long flex life for motion control**
- **Low noise for signal integrity**
- **High pull strength for easy use**
- **Ultra-fine wire constructions for enhanced flexibility**

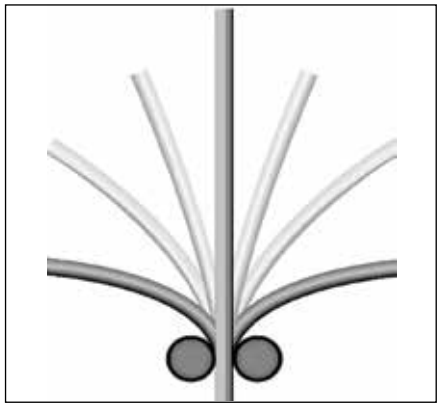
The stresses and strains placed on cables in medium-to-high flex applications ranging from conveyors and transfer shuttles to high-speed pick-and-place robotic systems and automated material handling equipment can quickly lead to equipment failure.

Specifying the correct cable from the outset reduces the risk of cable failure and ensures that productivity and performance are protected. Alpha Wire offers a broad spectrum of flexible cable to satisfy virtually any application need.

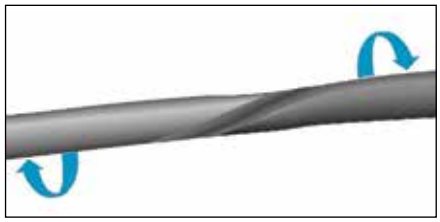
- **Rolling flex,** such as C-track or Cartesian motions



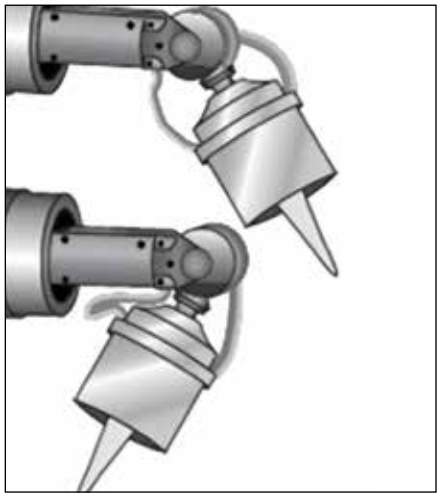
- **Bending flex** or "tic-toc," such as hinged panels



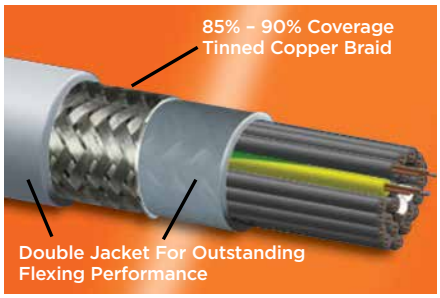
- **Torsional flex,** such as twisting



- **Variable/random motion flex**



Shielding options include braid, spiral wrap copper, foil + braid, and foil/spiral. Our high-flex shielding options include a double-jacket configuration with 85% braid coverage to achieve high shielding effectiveness while maintaining the desired flexibility. For torsional flex applications, we offer spiral wound shielding with 90% coverage.



Applications

- Cartesian robots
- Articulated multi-axis robots
- Automation networking
- Machine tools
- Automotive assembly equipment
- Conveyor systems
- Control panels
- Flex and static track
- Transfer shuttles
- Sensor/actuator-to-controller connections
- Material-handling equipment
- Medical devices

Xtra-Guard® Flex Cable: A family of cables designed to provide excellent performance in high-flex, high torsion, and continuous-flex applications, such as motion control and robotics.

EcoFlex® Control Cable: Smaller, lighter, 100% recyclable flex control—the perfect fit for medical devices and semiconductor fabrication equipment.

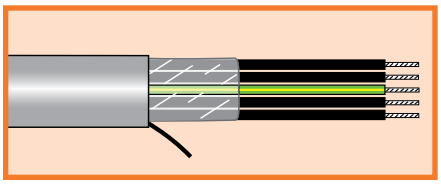
Series XM Flex Control Cable: Durable flex control cable exhibiting excellent resistance to abrasion and hazardous fluids and proven in a broad range of industrial applications.

Series F Continuous Flex Control Cable: Industry-leading mechanical and electrical performance for high-flex cable track applications and rated for up to 20 million rolling flex cycles.

	Xtra-Guard Flex Cables				Industrial Series		EcoGen™ Series
	Standard Flex (65000 Series)	**Continuous Flex** (85000 Series)	**Continuous Flex Data** (86000 Series)	**Torsion Flex** (87000 Series)	**Series XM**	**Series F**	**EcoFlex**
Flex Cycles (Million)	1	14	6	1	12	20	1
Flex Type	Bending Random	Rolling Bending Random	Rolling Bending Random	Torsion	Rolling Bending Random	Rolling Bending Random	Rolling Bending Random
Duty Cycle	Low-Moderate	High	High	High	Moderate-High	High	Moderate
Voltage	600	600	300	600	600/1000	600	600
Insulation	PVC	PVC	SR-PVC	TPES	PVC/Nylon	PVC/Nylon	mPPE
Jacket	PVC	PVC	PVC	PU	PVC	PVC	mPPE
Shielding Options	Unshielded Braid (85%): Double Jacketed	Unshielded Braid (85%): Double Jacketed	Unshielded Foil + Spiral (90%) Foil + Braid (90%)	Unshielded Spiral (90%)	Unshielded Braid (85%)	Unshielded	Unshielded Braid (85%) Foil + Braid (70%)
Wire Range (AWG)	20 to 2	20 to 2	28 to 22	24 to 10	8 to 18	18 to 8	28 to 10
Conductor Count (Max)	50	50	24	7	65	65	18
Temperature Range, Flexing	-5°C to +90°C	-5°C to +90°C	-10°C to +105°C	-10°C to +80°C	-5°C to +90°C	-5°C to +90°C	-40°C to 105°C
UL MTW	—	—	—	—	✔	—	—
UL WTTC	—	—	—	—	✔	—	—
UL TC-ER	—	—	—	—	✔	✔	—
UL PLTC	—	—	—	—	—	✔	—
UL Oil Res.	✔	✔	✔	—	✔	I/II	—
UL Sun Res.	—	—	—	—	✔	✔	—
UL AWM	2587	2587	2261	20234	—	—	21819, 21492
VDE 0472 Oil Res.	✔	✔	—	—	—	—	—
CSA AWM	I/II A/B FT1	I/II A/B FT1	I/II A/B FT4	I/II A/B FT1	I/II A/B FT4	✔	I/II A/B FT1
CSA CIC/TC	—	—	—	—	—	✔	—
ISO 10993-5	✔	✔	✔	✔	—	—	✔

Xtra-Guard® Standard Flex Control Cable

Light to Moderate Flex Applications
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE
RoHS and REACH
NFPA 79 Compliant
ISO 10993-5

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor (3 conductor and greater)
- Jacket color: slate

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Oil-resistant PVC jacket

Shielding Options

- Unshielded
- Tinned copper braid shield, 85% coverage over PVC inner jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Unshielded

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65002	2	0.238	6.05	0.035	0.89
65003	3	0.251	6.38	0.035	0.89
65004	4	0.272	6.91	0.035	0.89
65005	5	0.305	7.75	0.038	0.97
65007	7	0.327	8.31	0.038	0.97
65009	9	0.416	10.57	0.040	1.02
65012	12	0.433	11.00	0.045	1.14
65018	18	0.527	13.39	0.055	1.40
65025	25	0.615	15.62	0.055	1.40

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65602	2	0.284	7.21	0.035	0.89
65603	3	0.300	7.62	0.035	0.89
65604	4	0.328	8.33	0.035	0.89
65605	5	0.361	9.17	0.035	0.89
65607	7	0.390	9.91	0.035	0.89
65609	9	0.509	12.93	0.041	1.04
65612	12	0.536	13.61	0.049	1.24
65618	18	0.632	16.05	0.050	1.27
65625	25	0.756	19.20	0.055	1.40
65641	41	0.959	24.36	0.075	1.90
65650	50	1.079	27.41	0.083	2.11

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65802	2	0.258	6.55	0.035	0.89
65803	3	0.272	6.91	0.035	0.89
65804	4	0.296	7.52	0.035	0.89
65805	5	0.326	8.28	0.035	0.89
65807	7	0.351	8.92	0.035	0.89
65809	9	0.445	11.30	0.035	0.89
65812	12	0.470	11.94	0.043	1.09
65818	18	0.567	14.40	0.050	1.27
65825	25	0.666	16.92	0.050	1.27
65834	34	0.769	19.53	0.060	1.52
65841	41	0.835	21.21	0.063	1.60
65850	50	0.967	24.56	0.083	2.11

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65402	2	0.330	8.38	0.044	1.12
65403	3	0.351	8.92	0.045	1.14
65404	4	0.404	10.26	0.055	1.40
65405	5	0.439	11.15	0.055	1.40
65407	7	0.479	12.17	0.058	1.47
65409	9	0.609	15.47	0.063	1.60
65412	12	0.667	16.94	0.085	2.16
65418	18	0.783	19.89	0.090	2.29
65425	25	0.953	24.21	0.110	2.79

Xtra-Guard® Standard Flex Control Cable

Unshielded

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65203	3	0.436	11.07	0.067	1.70
65204	4	0.500	12.70	0.080	2.03
65205	5	0.553	14.05	0.086	2.18
65207	7	0.592	15.04	0.086	2.18

8 AWG (8.32 mm²)

Stranding: 65/26 (65 x 0.40 mm)
Insulation thickness: 0.032 (0.81 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65904	4	0.691	17.55	0.085	2.16
65905	5	0.765	19.43	0.090	2.29

4 AWG (21.5 mm²)

Stranding: 168/26 (168 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65504	4	1.080	27.43	0.100	2.54
65505	5	1.207	30.66	0.110	2.79

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65103	3	0.516	13.11	0.080	2.03
65104	4	0.568	14.43	0.084	2.13
65105	5	0.629	15.98	0.090	2.29

6 AWG (13.44 mm²)

Stranding: 105/26 (105 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65704	4	0.891	22.63	0.100	2.54
65705	5	0.985	25.02	0.105	2.67

2 AWG (34.05 mm²)

Stranding: 266/26 (266 x 0.40 mm)
Insulation thickness: 0.047 (1.19 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65304	4	1.273	32.33	0.120	3.05
65305	5	1.428	36.27	0.135	3.43

Xtra-Guard® Standard Flex Control Cable

Braid Shielded

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65003CY	3	0.339	8.61	0.035	0.89
65007CY	7	0.409	10.39	0.035	0.89
65012CY	12	0.521	13.23	0.040	1.02
65025CY	25	0.712	18.08	0.050	1.27

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65603CY	3	0.388	9.86	0.035	0.89
65604CY	4	0.416	10.57	0.035	0.89
65605CY	5	0.449	11.40	0.035	0.89
65607CY	7	0.484	12.29	0.035	0.89
65612CY	12	0.640	16.26	0.052	1.32
65618CY	18	0.767	19.48	0.062	1.57
65625CY	25	0.901	22.89	0.067	1.70

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65203CY	3	0.530	13.46	0.060	1.52
65204CY	4	0.616	15.65	0.066	1.68
65205CY	5	0.671	17.04	0.073	1.85

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65803CY	3	0.360	9.14	0.035	0.89
65804CY	4	0.384	9.75	0.035	0.89
65805CY	5	0.414	10.52	0.035	0.89
65807CY	7	0.439	11.15	0.035	0.89
65812CY	12	0.568	14.43	0.045	1.14
65818CY	18	0.671	17.04	0.053	1.35
65825CY	25	0.776	19.71	0.053	1.35

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65403CY	3	0.443	11.25	0.042	1.07
65404CY	4	0.486	12.34	0.047	1.19
65405CY	5	0.537	13.64	0.052	1.32
65407CY	7	0.581	14.76	0.057	1.45
65412CY	12	0.732	18.59	0.062	1.57
65418CY	18	0.890	22.61	0.083	2.11

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm)

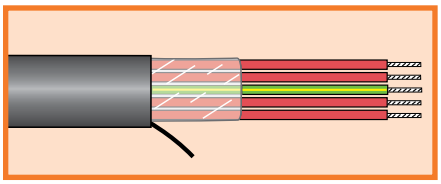
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
65103CY	3	0.630	16.00	0.070	1.78
65104CY	4	0.684	17.37	0.070	1.78
65105CY	5	0.757	19.23	0.077	1.96
65107CY	7	0.823	20.90	0.083	2.11

8 to 2 AWG (8.32 to 34.05 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
65904CY	4	8	8.32	65/26	65 x 0.40	0.822	20.88	0.075	1.90	0.032	0.81
65704CY	4	6	13.44	105/26	105 x 0.40	1.062	26.97	0.100	2.54	0.047	1.19
65504CY	4	4	21.55	168/26	168 x 0.40	1.251	31.78	0.100	2.54	0.047	1.19
65304CY	4	2	34.05	266/26	266 x 0.40	1.453	36.91	0.110	2.79	0.047	1.19

Xtra-Guard® Continuous Flex Control Cable

C-Track or High Flexing Applications Up to 14 Million Flex Cycles
600 V Unshielded, Multiconductor



UL AWM 2587
CSA AWM I/II A/B FT1
CE
RoHS and REACH
NFPA 79 Compliant
ISO 10993-5

Operating Temperature

- -5°C to +90°C (flexing)
- -40°C to +90°C (stationary)

Conductor Color Coding

- Numbered red conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Finely stranded bare copper conductors
- Lubricated PVC insulation
- Tinned copper braid shield, 85% coverage over PVC inner jacket
- Oil-resistant PVC jacket

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Unshielded

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85003	3	0.272	6.91	0.035	0.89
85004	4	0.297	7.54	0.035	0.89
85005	5	0.323	8.20	0.035	0.89
85007	7	0.388	9.86	0.040	1.02
85012	12	0.460	11.68	0.045	1.14
85018	18	0.548	13.92	0.050	1.27
85025	25	0.691	17.55	0.065	1.65
85034	34	0.746	18.95	0.065	1.65

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85603	3	0.331	8.41	0.035	0.89
85604	4	0.362	9.19	0.035	0.89
85605	5	0.396	10.06	0.035	0.89
85607	7	0.478	12.14	0.040	1.02
85612	12	0.573	14.55	0.045	1.14
85618	18	0.674	17.12	0.045	1.14
85625	25	0.862	21.89	0.065	1.65
85634	34	0.936	23.77	0.065	1.65
85650	50	1.161	29.49	0.085	2.16

12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85204	4	0.527	13.39	0.070	1.78
85207	7	0.729	18.52	0.100	2.54

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85803	3	0.298	7.57	0.035	0.89
85804	4	0.326	8.28	0.035	0.89
85805	5	0.355	9.02	0.035	0.89
85807	7	0.438	11.13	0.045	1.14
85812	12	0.520	13.21	0.050	1.27
85815	15	0.577	14.66	0.050	1.27
85818	18	0.608	15.44	0.050	1.27
85825	25	0.767	19.48	0.065	1.65
85834	34	0.830	21.08	0.065	1.65

14 AWG (2.16 mm²)

Stranding: 266/38 (266 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85404	4	0.424	10.77	0.050	1.27
85407	7	0.582	14.78	0.070	1.78

10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85104	4	0.590	14.99	0.070	1.78
85107	7	0.816	20.73	0.100	2.54

Xtra-Guard® Continuous Flex Control Cable

Unshielded

8 to 2 AWG (8.62 to 33.86 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
85904	4	8	8.62	266/32	266 x 0.20	0.721	18.31	0.070	1.78	0.032	0.81
85704	4	6	13.38	413/32	413 x 0.20	0.935	23.75	0.085	2.16	0.047	1.19
85504	4	4	21.55	665/32	665 x 0.20	1.076	27.33	0.085	2.16	0.047	1.19
85304	4	2	33.86	1045/32	1045 x 0.20	1.250	31.75	0.085	2.16	0.047	1.19

Braid Shielded

20 AWG (0.51 mm²)

Stranding: 63/38 (63 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85003CY	3	0.350	8.89	0.035	0.89
85004CY	4	0.375	9.53	0.035	0.89
85005CY	5	0.411	10.44	0.040	1.02
85007CY	7	0.482	12.24	0.040	1.02
85010CY	10	0.545	13.84	0.040	1.02
85012CY	12	0.564	14.33	0.050	1.27
85018CY	18	0.662	16.81	0.060	1.52
85025CY	25	0.812	20.62	0.070	1.78

18 AWG (0.85 mm²)

Stranding: 105/38 (105 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85803CY	3	0.376	9.55	0.035	0.89
85804CY	4	0.414	10.52	0.040	1.02
85805CY	5	0.453	11.51	0.040	1.02
85807CY	7	0.532	13.51	0.045	1.14
85812CY	12	0.634	16.10	0.060	1.52
85818CY	18	0.725	18.42	0.060	1.52
85825CY	25	0.908	23.06	0.080	2.03

16 AWG (1.36 mm²)

Stranding: 168/38 (168 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85603CY	3	0.419	10.64	0.035	0.89
85604CY	4	0.460	11.68	0.040	1.02
85605CY	5	0.500	12.70	0.040	1.02
85607CY	7	0.602	15.29	0.055	1.40
85612CY	12	0.700	17.78	0.060	1.52
85615CY	15	0.769	19.53	0.060	1.52
85618CY	18	0.805	20.45	0.060	1.52
85625CY	25	0.973	24.71	0.065	1.65
85634CY	34	1.087	27.61	0.085	2.16

14 AWG (2.16 mm²)

Stranding: 266/38 (266 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85404CY	4	0.528	13.41	0.050	1.27
85407CY	7	0.676	17.17	0.065	1.65

12 AWG (3.35 mm²)

Stranding: 413/38 (413 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85204CY	4	0.641	16.28	0.075	1.90
85207CY	7	0.836	21.23	0.100	2.54

10 AWG (5.34 mm²)

Stranding: 658/38 (658 x 0.10 mm)
Insulation thickness: 0.022 (0.56 mm)

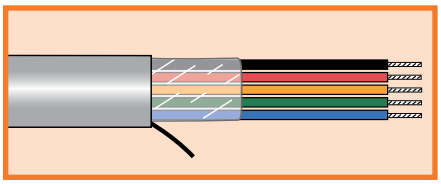
Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
85104CY	4	0.707	17.96	0.070	1.78
85107CY	7	0.947	24.05	0.100	2.54

8 to 2 AWG (8.62 to 33.86 mm²)

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness		Insulation Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm	Inch	mm
85904CY	4	8	8.62	266/32	266 x 0.20	0.882	22.40	0.085	2.16	0.032	0.81
85704CY	4	6	13.38	413/32	413 x 0.20	1.066	27.08	0.085	2.16	0.047	1.19
85504CY	4	4	21.55	665/32	665 x 0.20	1.227	31.17	0.085	2.16	0.047	1.19
85304CY	4	2	33.86	1045/32	1045 x 0.20	1.431	36.35	0.095	2.41	0.047	1.19

Xtra-Guard® Continuous Flex Data

C-Track or High Flexing Applications Up to 6 Million Flex Cycles
300 V, Multiconductor and Multipair



UL CM
UL AWM 2661
CSA AWM I/II A/B FT4
CSA CMG
CE
RoHS and REACH
NFPA 79 Compliant
ISO 10993-5

Operating Temperature

- -5°C to +105°C (flexing)
- -10°C to +105°C (stationary)

Conductor Color Coding

- See tables below
- Jacket color: slate

Materials

- Finely stranded tinned copper conductors
- Lubricated semi-rigid PVC insulation
- Oil-resistant PVC jacket

Shielding Options

- Unshielded
- Foil + spiral copper
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Tinned copper spiral shield, 90% coverage
- Foil + braid
  Aluminum/polyester foil shield, 25% overlap min.
  Foil facing outward
  Tinned copper braid, 85% coverage

Availability

100 ft (30.5 m)
500 ft (152 m)
1000 ft (305 m)
Bulk, cut to length

Color Coding: Multiconductor Cable

No.	Base Color	Stripe	No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black	—	9	Violet	—	17	White	Red
2	Red	—	10	Slate	—	18	White	Green
3	White	—	11	Pink	—	19	White	Yellow
4	Green	—	12	Tan	—	20	White	Blue
5	Orange	—	13	Red	Green	21	White	Brown
6	Blue	—	14	Red	Yellow	22	White	Orange
7	Brown	—	15	Red	Black	23	White	Slate
8	Yellow	—	16	White	Black	24	White	Violet

Color Coding: Multipair Cable

No.	Pair Colors	No.	Pair Colors	No.	Pair Colors
1	Black + Red	6	Black + Yellow	11	Red + Yellow
2	Black + White	7	Black + Orange	12	Red + Brown
3	Black + Green	8	Red + Green	13	Red + Orange
4	Black + Blue	9	Red + White	14	Green + Blue
5	Black + Brown	10	Red + Blue		

Xtra-Guard® Continuous Flex Data

Unshielded

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86002	2	0.154	3.91	0.040	1.02
86003	3	0.160	4.06	0.040	1.02
86004	4	0.170	4.32	0.040	1.02
86005	5	0.180	4.57	0.040	1.02
86007	7	0.203	5.16	0.040	1.02
86012	12	0.263	6.68	0.040	1.02
86018	18	0.262	6.65	0.040	1.02
86025	25	0.309	7.85	0.040	1.02

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86102	2	0.162	4.11	0.040	1.02
86103	3	0.168	4.27	0.040	1.02
86104	4	0.179	4.55	0.040	1.02
86105	5	0.191	4.85	0.040	1.02
86107	7	0.217	5.51	0.040	1.02
86112	12	0.283	7.19	0.040	1.02
86118	18	0.282	7.16	0.040	1.02
86125	25	0.335	8.51	0.040	1.02

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86202	2	0.172	4.37	0.040	1.02
86203	3	0.179	4.55	0.040	1.02
86204	4	0.191	4.85	0.040	1.02
86205	5	0.205	5.21	0.040	1.02
86207	7	0.233	5.92	0.040	1.02
86212	12	0.307	7.80	0.040	1.02
86218	18	0.307	7.80	0.040	1.02
86225	25	0.376	9.55	0.045	1.14

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86302	2	0.188	4.78	0.040	1.02
86303	3	0.197	5.00	0.040	1.02
86304	4	0.211	5.36	0.040	1.02
86305	5	0.227	5.77	0.040	1.02
86307	7	0.260	6.60	0.040	1.02
86312	12	0.347	8.81	0.040	1.02
86318	18	0.347	8.81	0.040	1.02
86325	25	0.426	10.82	0.045	1.14

Foil + Spiral Copper

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86002CY	2	0.174	4.42	0.040	1.02
86003CY	3	0.180	4.57	0.040	1.02
86004CY	4	0.190	4.83	0.040	1.02
86005CY	5	0.200	5.08	0.040	1.02
86007CY	7	0.223	5.66	0.040	1.02
86012CY	12	0.283	7.19	0.040	1.02
86018CY	18	0.282	7.16	0.040	1.02
86025CY	25	0.329	8.36	0.040	1.02

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86102CY	2	0.182	4.62	0.040	1.02
86103CY	3	0.188	4.78	0.040	1.02
86104CY	4	0.199	5.05	0.040	1.02
86105CY	5	0.211	5.36	0.040	1.02
86107CY	7	0.237	6.02	0.040	1.02
86112CY	12	0.303	7.70	0.040	1.02
86118CY	18	0.302	7.67	0.040	1.02
86125CY	25	0.355	9.02	0.040	1.02

Xtra-Guard® Continuous Flex Data

Foil + Spiral Copper

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86202CY	2	0.192	4.88	0.040	1.02
86203CY	3	0.199	5.05	0.040	1.02
86204CY	4	0.211	5.36	0.040	1.02
86205CY	5	0.225	5.72	0.040	1.02
86207CY	7	0.253	6.43	0.040	1.02
86212CY	12	0.327	8.31	0.040	1.02
86218CY	18	0.327	8.31	0.040	1.02
86225CY	25	0.396	10.06	0.045	1.14

22 AWG (0.38 mm2)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86302CY	2	0.208	5.28	0.040	1.02
86303CY	3	0.217	5.51	0.040	1.02
86304CY	4	0.231	5.87	0.040	1.02
86305CY	5	0.247	6.27	0.040	1.02
86307CY	7	0.280	7.11	0.040	1.02
86312CY	12	0.367	9.32	0.040	1.02
86318CY	18	0.367	9.32	0.040	1.02
86325CY	25	0.446	11.33	0.045	1.14

Foil + Braid, Multipair

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86401CY	1	0.186	4.72	0.040	1.02
86402CY	2	0.231	5.87	0.040	1.02
86403CY	3	0.240	6.10	0.040	1.02
86404CY	4	0.256	6.50	0.040	1.02
86405CY	5	0.274	6.96	0.040	1.02
86406CY	6	0.293	7.44	0.040	1.02
86408CY	8	0.331	8.41	0.040	1.02
86410CY	10	0.365	9.27	0.045	1.14
86414CY	14	0.381	9.68	0.045	1.14

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86501CY	1	0.194	4.93	0.040	1.02
86502CY	2	0.244	6.20	0.040	1.02
86503CY	3	0.254	6.45	0.040	1.02
86504CY	4	0.272	6.91	0.040	1.02
86505CY	5	0.292	7.42	0.040	1.02
86506CY	6	0.313	7.95	0.040	1.02
86508CY	8	0.355	9.02	0.040	1.02
86510CY	10	0.392	9.96	0.045	1.14
86514CY	14	0.426	10.82	0.053	1.35

24 AWG (0.20 mm²)

Stranding: 10/34 (10 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86601CY	1	0.204	5.18	0.040	1.02
86602CY	2	0.260	6.60	0.040	1.02
86603CY	3	0.272	6.91	0.040	1.02
86604CY	4	0.292	7.42	0.040	1.02
86605CY	5	0.314	7.98	0.040	1.02
86606CY	6	0.337	8.56	0.040	1.02
86608CY	8	0.385	9.78	0.040	1.02
86610CY	10	0.427	10.85	0.045	1.14
86614CY	14	0.463	11.76	0.053	1.35

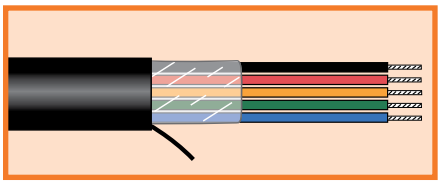
22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)

Part No.	Pairs	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
86701CY	1	0.220	5.59	0.040	1.02
86702CY	2	0.287	7.29	0.040	1.02
86703CY	3	0.301	7.65	0.040	1.02
86704CY	4	0.324	8.23	0.040	1.02
86705CY	5	0.350	8.89	0.040	1.02
86706CY	6	0.377	9.58	0.040	1.02
86708CY	8	0.443	11.25	0.045	1.14
86710CY	10	0.497	12.62	0.053	1.35
86714CY	14	0.527	13.39	0.053	1.35

Xtra-Guard® Torsional Flex

Torsional Cable with 360° Twisting
600 V, Multiconductor



UL AWM 20234
CSA AWM I/II A/B FT1
CE
RoHS and REACH
NFPA 79 Compliant
ISO 10993-5

Operating Temperature

- -10°C to +80°C (flexing)
- -30°C to +80°C (stationary)

Conductor Color Coding

- Numbered black conductors
- 1 yellow/green ground conductor
- Jacket color: black

Materials

- Stranded bare copper conductors
- Thermoplastic elastomer insulation
- Oil-resistant polyurethane jacket

Shielding Options

- Unshielded
- Tinned copper spiral shield, 90% coverage

Availability

Bulk, cut to length

Unshielded

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87003	3	0.227	5.77	0.050	1.27
87004	4	0.242	6.15	0.050	1.27
87005	5	0.259	6.58	0.050	1.27
87007	7	0.294	7.47	0.050	1.27

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87103	3	0.244	6.20	0.050	1.27
87104	4	0.261	6.63	0.050	1.27
87105	5	0.281	7.14	0.050	1.27
87107	7	0.321	8.15	0.050	1.27

20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87203	3	0.262	6.65	0.050	1.27
87204	4	0.281	7.14	0.050	1.27
87205	5	0.302	7.67	0.050	1.27
87207	7	0.347	8.81	0.050	1.27

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87303	3	0.283	7.19	0.050	1.27
87304	4	0.305	7.75	0.050	1.27
87305	5	0.329	8.36	0.050	1.27
87307	7	0.380	9.65	0.050	1.27

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87403	3	0.302	7.67	0.050	1.27
87404	4	0.327	8.31	0.050	1.27
87405	5	0.354	8.99	0.050	1.27
87407	7	0.410	10.41	0.050	1.27

14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87503	3	0.382	9.70	0.050	1.27
87504	4	0.417	10.59	0.050	1.27
87505	5	0.455	11.56	0.050	1.27
87507	7	0.535	13.59	0.050	1.27

12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87603	3	0.444	11.28	0.060	1.52
87604	4	0.483	12.27	0.060	1.52
87605	5	0.526	13.36	0.060	1.52
87607	7	0.618	15.70	0.060	1.52

10 AWG (5.22 mm²)

Stranding: 37/0.0167 (37 x 0.42 mm)
Insulation thickness: 0.030 (0.76 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87703	3	0.508	12.90	0.060	1.52
87704	4	0.555	14.10	0.060	1.52
87705	5	0.627	15.93	0.070	1.78
87707	7	0.737	18.72	0.070	1.78

Xtra-Guard® Torsional Flex

Spiral Shielded

24 AWG (0.23 mm²)

Stranding: 7/32 (7 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87003CY	3	0.246	6.25	0.050	1.27
87004CY	4	0.261	6.63	0.050	1.27
87005CY	5	0.278	7.06	0.050	1.27
87007CY	7	0.313	7.95	0.050	1.27

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87103CY	3	0.263	6.68	0.050	1.27
87104CY	4	0.280	7.11	0.050	1.27
87105CY	5	0.300	7.62	0.050	1.27
87107CY	7	0.340	8.64	0.050	1.27

20 AWG (0.62 mm²)

Stranding: 19/32 (19 x 0.20 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87203CY	3	0.281	7.14	0.050	1.27
87204CY	4	0.300	7.62	0.050	1.27
87205CY	5	0.321	8.15	0.050	1.27
87207CY	7	0.366	9.30	0.050	1.27

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87303CY	3	0.302	7.67	0.050	1.27
87304CY	4	0.324	8.23	0.050	1.27
87305CY	5	0.348	8.84	0.050	1.27
87307CY	7	0.399	10.13	0.050	1.27

16 AWG (1.32 mm²)

Stranding: 19/0.0117 (19 x 0.30 mm)
Insulation thickness: 0.016 (0.41 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87403CY	3	0.321	8.15	0.050	1.27
87404CY	4	0.346	8.79	0.050	1.27
87405CY	5	0.373	9.47	0.050	1.27
87407CY	7	0.429	10.90	0.050	1.27

14 AWG (2.07 mm²)

Stranding: 19/0.0147 (19 x 0.37 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87503CY	3	0.401	10.19	0.050	1.27
87504CY	4	0.436	11.07	0.050	1.27
87505CY	5	0.474	12.04	0.050	1.27
87507CY	7	0.554	14.07	0.050	1.27

12 AWG (3.29 mm²)

Stranding: 19/0.0185 (19 x 0.47 mm)
Insulation thickness: 0.027 (0.69 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87603CY	3	0.463	11.76	0.060	1.52
87604CY	4	0.502	12.75	0.060	1.52
87605CY	5	0.545	13.84	0.060	1.52
87607CY	7	0.637	16.18	0.060	1.52

10 AWG (5.22 mm²)

Stranding: 37/0.0167 (37 x 0.42 mm)
Insulation thickness: 0.030 (0.76 mm)

Part No.	Conductors	Nominal Diameter		Jacket Thickness	
		Inch	mm	Inch	mm
87703CY	3	0.527	13.39	0.060	1.52
87704CY	4	0.574	14.58	0.060	1.52
87705CY	5	0.646	16.41	0.070	1.78
87707CY	7	0.756	19.20	0.070	1.78

EcoFlex® Control Cable

600 V, Multiconductor

EcoFlex is the newest innovation in flexible control cables. By combining better performance and minimum environmental impact, EcoFlex uses its mPPE insulation and jacketing to provide all of the advantages in a smaller, lighter flexible control cable.

EcoFlex Features

- **Compact cable for moderate flex applications**
- **Recyclable mPPE jacket and insulation**
- **-40°C to 105°C static, -5°C to 105°C flexing temperature range**
- **Up to 8x flexing bend radius**

EcoFlex Benefits

- **Up to 32% smaller than PVC**
- **Up to 55% lighter than PVC**
- **Up to 91% lower outgassing**
- **100% recyclable**
- **Rated for over 1 million flex life cycles**
- **Easier routing and handling**

UL AWM 21819 (600 V, 105°C)
UL AWM 21492 (300 V, 80°C)
CE
UL VW-1
RoHS Compliant
CSA AWM I/II A/B FT1
REACH Compliant
WEEE

Suitable for use in NFPA 79 Applications
IEC 60332-2 Flame Behavior
ISO 10993-5

Operating Temperature

- **-40°C to +105°C**

Materials

- **Stranded tin-plated copper conductors**
- **mPPE insulation**
- **mPPE slate jacket**

Availability

100 ft (30.5 m)
1000 ft (305 m)
Bulk, cut to length

Color Coding: Multiconductor Cable

No.	Base Color	Stripe	No.	Base Color	Stripe	No.	Base Color	Stripe
1	Black	—	10	Slate	—	19	White	Yellow
2	Red	—	11	Pink	—	20	White	Blue
3	White	—	12	Tan	—	21	White	Brown
4	Green	—	13	Red	Green	22	White	Orange
5	Orange	—	14	Red	Yellow	23	White	Slate
6	Blue	—	15	Red	Black	24	White	Violet
7	Brown	—	16	White	Black	25	White	Black + Red
8	Yellow	—	17	White	Red			
9	Violet	—	18	White	Green			

EcoFlex® Control Cable

Unshielded

28 AWG (0.09 mm²)

Stranding: 7/36 (7 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79061	2	0.142	3.61
79062	3	0.147	3.73

24 AWG (0.24 mm²)

Stranding: 19/36 (19 x 0.13 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79050	2	0.162	4.11
79051	3	0.169	4.29
79052	4	0.181	4.60
79053	6	0.207	5.26
79054	8	0.238	6.05
79055	10	0.257	6.53

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79001	2	0.184	4.67
79002	3	0.193	4.90
79003	4	0.207	5.26
79004	5	0.224	5.69
79005	7	0.240	6.10
79006	9	0.296	7.52
79007	12	0.303	7.70
79008	18	0.349	8.86

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.011 (0.28 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79019	2	0.236	5.99
79020	3	0.249	6.32
79021	4	0.270	6.86
79022	5	0.294	7.47
79023	7	0.319	8.10
79024	9	0.400	10.16
79025	12	0.411	10.44
79026	18	0.481	12.22

26 AWG (0.14 mm²)

Stranding: 7/34 (7 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79056	2	0.150	3.81
79057	3	0.156	3.96
79058	4	0.166	4.22
79059	6	0.189	4.80
79060	8	0.216	5.49

22 AWG (0.38 mm²)

Stranding: 19/34 (19 x 0.16 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79044	2	0.176	4.47
79045	3	0.184	4.67
79046	4	0.198	5.03
79047	6	0.228	5.79
79048	8	0.264	6.71
79049	10	0.286	7.26

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79010	2	0.208	5.28
79011	3	0.219	5.56
79012	4	0.236	5.99
79013	5	0.256	6.50
79014	7	0.277	7.04
79015	9	0.344	8.74
79016	12	0.353	8.97
79017	18	0.411	10.44

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.011 (0.28 mm)
Jacket thickness: 0.035 (0.81 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79028	2	0.266	6.76
79029	3	0.281	7.14
79030	4	0.307	7.80
79031	5	0.335	8.51
79032	7	0.364	9.25
79033	9	0.459	11.66
79034	12	0.473	12.01
79035	18	0.556	14.12

EcoFlex® Control Cable

Unshielded

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.012 (0.30 mm)
Jacket thickness: 0.035 (0.81 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79037	3	0.326	8.28
79038	4	0.358	9.09
79039	5	0.392	9.96
79040	7	0.428	10.87

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.012 (0.30 mm)
Jacket thickness: 0.035 (0.81 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79041	3	0.38	9.65
79042	4	0.423	10.74
79043	5	0.465	11.81

Braid Shielded

20 AWG (0.51 mm²)

Stranding: 10/30 (10 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79101	2	0.210	5.33
79102	3	0.219	5.56
79103	4	0.233	5.92
79104	5	0.250	6.35
79105	7	0.266	6.76
79106	9	0.321	8.15
79107	12	0.329	8.36
79108	18	0.376	9.55

18 AWG (0.81 mm²)

Stranding: 16/30 (16 x 0.25 mm)
Insulation thickness: 0.010 (0.25 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79109	2	0.236	5.99
79110	3	0.247	6.27
79111	4	0.264	6.71
79112	5	0.284	7.21
79113	7	0.305	7.75
79114	9	0.372	9.45
79115	12	0.381	9.68

16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.011 (0.28 mm)
Jacket thickness: 0.035 (0.89 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79116	2	0.262	6.65
79117	3	0.275	6.98
79118	4	0.296	7.52
79119	5	0.320	8.13
79120	7	0.345	8.76

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.011 (0.28 mm)
Jacket thickness: 0.035 (0.81 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79121	2	0.294	7.47
79122	3	0.309	7.85
79123	4	0.335	8.51
79124	5	0.363	9.22
79125	7	0.392	9.96

12 AWG (3.29 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.012 (0.30 mm)
Jacket thickness: 0.035 (0.81 mm)

Part Number	Conductors	Nominal Diameter	
		Inch	mm
79126	3	0.354	8.99
79127	4	0.386	9.80

Series XM Flex Control Cable

A Tougher Cable for Continuous Flex Applications
600/1000 V Unshielded, PVC/Nylon, PVC

INDUSTRIAL™ SERIES From AlphaWire

Series XM Flexible control cable is the ideal choice for medium-to-high-flex applications. Featuring a premium-grade PVC jacket, Series XM offers a durable, oil-resistant construction that prevents contamination from hazardous fluids and protects against abrasion. Plus, its optimum flexibility and performance allows it to support a variety of industrial applications, including:

- **High-speed pick-and-place robotic systems**
- **Automated material handling equipment**
- **Conveyors and transfer shuttles**
- **Flex track installations**

Series XM Cable Features

- **Stranded conductors for better flexibility**
- **Specially formulated PVC jacket and insulation for continuous flex applications and resistance to moisture, oils, coolants, and UV radiation**
- **Up to 65 conductors**
- **18 to 8 AWG wire range**
- **Shielded or unshielded**
- **Black, blue, or red insulation for AC and DC circuits**
- **Rated for up to 12 million flex life cycles**

UL TC-ER (600 V)
UL WTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE compliant

Operating Temperature

- **-30°C to +90°C (static)**
- **-5°C to +90°C (dynamic)**

Conductor Color Coding

- **Black, blue, or red numbered conductors with one green/yellow ground conductor**

Materials

- **Stranded bare copper conductors**
- **PVC/nylon insulation**
- **Black PVC jacket**

Shielding Options

- **Unshielded**
- **Tinned copper braid shield, 85% coverage**

Features

- **UL Oil Res. I**
- **UL Sunlight Resistant**
- **Suitable for NFPA 79 applications**

Availability

Bulk, cut to length

Unshielded

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1803R	XM1803L	XM1803K	3	0.308	7.82	0.050	1.27
XM1804R	XM1804L	XM1804K	4	0.333	8.46	0.050	1.27
XM1805R	XM1805L	XM1805K	5	0.360	9.14	0.050	1.27
XM1807R	XM1807L	XM1807K	7	0.418	10.62	0.050	1.27
XM1812R	XM1812L	XM1812K	12	0.485	12.32	0.050	1.27
XM1817R	XM1817L	XM1817K	17	0.597	15.16	0.065	1.65
XM1822R	XM1822L	XM1822K	22	0.656	16.66	0.065	1.65
XM1825R	XM1825L	XM1825K	25	0.717	18.21	0.065	1.65
XM1834R	XM1834L	XM1834K	34	0.775	19.69	0.065	1.65
XM1842R	XM1842L	XM1842K	42	0.874	22.20	0.085	2.16
XM1849R	XM1849L	XM1849K	49	0.965	24.51	0.085	2.16
XM1865R	XM1865L	XM1865K	65	1.052	26.72	0.085	2.16

Series XM Flex Control Cable

INDUSTRIAL™ SERIES From AlphaWire

Unshielded

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1603R	XM1603L	XM1603K	3	0.334	8.48	0.050	1.27
XM1604R	XM1604L	XM1604K	4	0.362	9.19	0.050	1.27
XM1605R	XM1605L	XM1605K	5	0.393	9.98	0.050	1.27
XM1607R	XM1607L	XM1607K	7	0.459	11.66	0.050	1.27
XM1612R	XM1612L	XM1612K	12	0.565	14.35	0.065	1.65
XM1617R	XM1617L	XM1617K	17	0.657	16.69	0.065	1.65
XM1619R	XM1619L	XM1619K	19	0.691	17.55	0.065	1.65
XM1622R	XM1622L	XM1622K	22	0.724	18.39	0.065	1.65
XM1625R	XM1625L	XM1625K	25	0.793	20.14	0.065	1.65
XM1633R	XM1633L	XM1633K	33	0.899	22.83	0.085	2.16
XM1642R	XM1642L	XM1642K	42	0.966	24.54	0.085	2.16
XM1649R	XM1649L	XM1649K	49	1.069	27.15	0.085	2.16
XM1665R	XM1665L	XM1665K	65	1.168	29.67	0.085	2.16

14 AWG (2.11 mm²)

Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1403R	XM1403L	XM1403K	3	0.366	9.30	0.050	1.27
XM1404R	XM1404L	XM1404K	4	0.398	10.11	0.050	1.27
XM1405R	XM1405L	XM1405K	5	0.464	11.79	0.065	1.65
XM1407R	XM1407L	XM1407K	7	0.539	13.69	0.065	1.65
XM1412R	XM1412L	XM1412K	12	0.627	15.93	0.065	1.65

12 AWG (3.38 mm²)

Stranding: 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1203R	XM1203L	XM1203K	3	0.431	10.95	0.050	1.27
XM1204R	XM1204L	XM1204K	4	0.501	12.73	0.065	1.65
XM1205R	XM1205L	XM1205K	5	0.545	13.84	0.065	1.65
XM1207R	XM1207L	XM1207K	7	0.640	16.26	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1003R	XM1003L	XM1003K	3	0.487	12.37	0.050	1.27
XM1004R	XM1004L	XM1004K	4	0.565	14.35	0.065	1.65
XM1005R	XM1005L	XM1005K	5	0.618	15.70	0.065	1.65
XM1007R	XM1007L	XM1007K	7	0.729	18.52	0.065	1.65

8 AWG (8.51 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM0803R	XM0803L	XM0803K	3	0.671	17.04	0.065	1.65
XM0804R	XM0804L	XM0804K	4	0.737	18.72	0.065	1.65

Series XM Flex Control Cable

INDUSTRIAL™ SERIES From AlphaWire

Braid Shielded

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1803RCY	XM1803LCY	XM1803KCY	3	0.336	8.53	0.050	1.27
XM1804RCY	XM1804LCY	XM1804KCY	4	0.361	9.17	0.050	1.27
XM1805RCY	XM1805LCY	XM1805KCY	5	0.388	9.86	0.050	1.27
XM1807RCY	XM1807LCY	XM1807KCY	7	0.446	11.33	0.050	1.27
XM1812RCY	XM1812LCY	XM1812KCY	12	0.549	13.94	0.050	1.27
XM1817RCY	XM1817LCY	XM1817KCY	17	0.631	16.03	0.065	1.65
XM1822RCY	XM1822LCY	XM1822KCY	22	0.697	17.70	0.065	1.65
XM1825RCY	XM1825LCY	XM1825KCY	25	0.758	19.25	0.065	1.65
XM1834RCY	XM1834LCY	XM1834KCY	34	0.856	21.74	0.065	1.65
XM1842RCY	XM1842LCY	XM1842KCY	42	0.915	23.24	0.085	2.16
XM1849RCY	XM1849LCY	XM1849KCY	49	1.006	25.55	0.085	2.16

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1603RCY	XM1603LCY	XM1603KCY	3	0.362	9.19	0.050	1.27
XM1604RCY	XM1604LCY	XM1604KCY	4	0.390	9.91	0.050	1.27
XM1605RCY	XM1605LCY	XM1605KCY	5	0.421	10.69	0.050	1.27
XM1607RCY	XM1607LCY	XM1607KCY	7	0.517	13.13	0.050	1.27
XM1612RCY	XM1612LCY	XM1612KCY	12	0.599	15.21	0.065	1.65
XM1617RCY	XM1617LCY	XM1617KCY	17	0.698	17.73	0.065	1.65
XM1619RCY	XM1619LCY	XM1619KCY	19	0.732	18.59	0.065	1.65
XM1622RCY	XM1622LCY	XM1622KCY	22	0.765	19.43	0.065	1.65
XM1625RCY	XM1625LCY	XM1625KCY	25	0.874	22.20	0.065	1.65
XM1633RCY	XM1633LCY	XM1633KCY	33	0.940	23.88	0.085	2.16
XM1642RCY	XM1642LCY	XM1642KCY	42	1.007	25.58	0.085	2.16
XM1649RCY	XM1649LCY	XM1649KCY	49	1.110	28.19	0.085	2.16

Series XM Flex Control Cable

INDUSTRIAL™ SERIES From AlphaWire

Braid Shielded

14 AWG (2.11 mm²)

Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1403RCY	XM1403LCY	XM1403KCY	3	0.394	10.01	0.050	1.27
XM1404RCY	XM1404LCY	XM1404KCY	4	0.426	10.82	0.050	1.27
XM1405RCY	XM1405LCY	XM1405KCY	5	0.492	12.50	0.065	1.65
XM1407RCY	XM1407LCY	XM1407KCY	7	0.573	14.55	0.065	1.65
XM1412RCY	XM1412LCY	XM1412KCY	12	0.661	16.79	0.065	1.65

12 AWG (3.38 mm²)

Stranding: 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1203RCY	XM1203LCY	XM1203KCY	3	0.459	11.66	0.050	1.27
XM1204RCY	XM1204LCY	XM1204KCY	4	0.529	13.44	0.065	1.65
XM1205RCY	XM1205LCY	XM1205KCY	5	0.579	14.71	0.065	1.65
XM1207RCY	XM1207LCY	XM1207KCY	7	0.674	17.12	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.13 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM1003RCY	XM1003LCY	XM1003KCY	3	0.551	14.00	0.050	1.27
XM1004RCY	XM1004LCY	XM1004KCY	4	0.599	15.21	0.065	1.65
XM1005RCY	XM1005LCY	XM1005KCY	5	0.652	16.56	0.065	1.65
XM1007RCY	XM1007LCY	XM1007KCY	7	0.770	19.56	0.065	1.65

8 AWG (8.51 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Red	Blue	Black		Inch	mm	Inch	mm
XM0803RCY	XM0803LCY	XM0803KCY	3	0.712	18.08	0.065	1.65
XM0804RCY	XM0804LCY	XM0804KCY	4	0.778	19.76	0.065	1.65

Series F Continuous Flex Control Cable

High-Flex Cable Track Applications
600 V Unshielded, Multiconductor

INDUSTRIAL™ SERIES From AlphaWire

Alpha Wire's Series F continuous flex control cable offers industry-leading mechanical and electrical performance for high-flex cable track applications.

Designed for a variety of flexing styles, Series F cable has been tested to exceed over 20 million rolling flex cycles, making it ideal for both single-axis and multi-axis motion control and robotic applications where continuous flexing is required.

UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
CSA CIC
CE LVD 73/23/EEC Amend. 93/68/EEC

Operating Temperature

- **-25°C to +90°C (static)**
- **-5°C to +90°C (dynamic)**

Conductor Color Coding

- **Red, blue, or black insulation, numbered**
  1 green/yellow green conductor
  1 white-striped neutral
  (12 conductors or greater)

Materials

- **Stranded bare copper conductors**
- **PVC/nylon insulation**
- **Black oil-resistant thermoplastic elastomer jacket**

Features

- **UL Sunlight Resistant**
- **UL Oil Res. I/II**
- **10x bend radius**
- **Over 20 million rolling flex cycles**
- **Tic-tock and twist test per MIL-C-13777G**
- **Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code**

Availability

Bulk, cut to length

Unshielded

18 AWG (0.83 mm²)

Stranding: 41/34 (41 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F18003KW	F18003LW	F18003RW	3	0.308	7.82	0.050	1.27
F18004KW	F18004LW	F18004RW	4	0.333	8.46	0.050	1.27
F18005KW	F18005LW	F18005RW	5	0.360	9.14	0.050	1.27
F18007KW	F18007LW	F18007RW	7	0.418	10.62	0.050	1.27
F18012KW	F18012LW	F18012RW	12	0.515	13.08	0.065	1.65
F18017KW	F18017LW	F18017RW	17	0.597	15.16	0.065	1.65
F18022KW	F18022LW	F18022RW	22	0.656	16.66	0.065	1.65
F18025KW	F18025LW	F18025RW	25	0.717	18.21	0.065	1.65
F18034KW	F18034LW	F18034RW	34	0.775	19.69	0.065	1.65
F18042KW	F18042LW	F18042RW	42	0.874	22.20	0.085	2.16
F18049KW	F18049LW	F18049RW	49	0.965	24.51	0.085	2.16
F18065KW	F18065LW	F18065RW	65	1.052	26.72	0.085	2.16

Series F Continuous Flex Control Cable

INDUSTRIAL SERIES From AlphaWire

Unshielded

16 AWG (1.31 mm²)

Stranding: 65/34 (65 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F16003KW	F16003LW	F16003RW	3	0.334	8.48	0.050	1.27
F16004KW	F16004LW	F16004RW	4	0.362	9.19	0.050	1.27
F16005KW	F16005LW	F16005RW	5	0.393	9.98	0.050	1.27
F16007KW	F16007LW	F16007RW	7	0.489	12.42	0.065	1.65
F16012KW	F16012LW	F16012RW	12	0.565	14.35	0.065	1.65
F16017KW	F16017LW	F16017RW	17	0.657	16.69	0.065	1.65
F16019KW	F16019LW	F16019RW	19	0.691	17.55	0.065	1.65
F16022KW	F16022LW	F16022RW	22	0.724	18.39	0.065	1.65
F16025KW	F16025LW	F16025RW	25	0.793	20.14	0.065	1.65
F16033KW	F16033LW	F16033RW	33	0.899	22.83	0.085	2.16
F16042KW	F16042LW	F16042RW	42	0.966	24.54	0.085	2.16
F16049KW	F16049LW	F16049RW	49	1.069	27.15	0.085	2.16
F16065KW	F16065LW	F16065RW	65	1.168	29.67	0.085	2.16

14 AWG (2.11 mm²)

Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F14004KW	F14004LW	F14004RW	4	0.398	10.11	0.050	1.27
F14005KW	F14005LW	F14005RW	5	0.434	11.02	0.050	1.27
F14007KW	F14007LW	F14007RW	7	0.539	13.69	0.065	1.65
F14012KW	F14012LW	F14012RW	12	0.628	15.95	0.065	1.65

12 AWG (3.38 mm²)

Stranding: 168/34 (168 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F12004KW	F12004LW	F12004RW	4	0.501	12.73	0.065	1.65
F12005KW	F12005LW	F12005RW	5	0.545	13.84	0.065	1.65
F12007KW	F12007LW	F12007RW	7	0.640	16.26	0.065	1.65

10 AWG (5.32 mm²)

Stranding: 105/30 (105 x 0.25 mm)
Insulation thickness: 0.022 (0.56 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F10004KW	F10004LW	F10004RW	4	0.565	14.35	0.065	1.65
F10005KW	F10005LW	F10005RW	5	0.618	15.70	0.065	1.65
F10007KW	F10007LW	F10007RW	7	0.729	18.52	0.065	1.65

8 AWG (8.51 mm²)

Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
F08004KW	F08004LW	F08004RW	4	0.740	18.80	0.065	1.65

The cables you trust. The service you deserve.

Every application is critical and cable failure is not an option. Specify Alpha cable for all flexing applications, since the integrity of your system is only as robust as the products you use.

Custom cable is standard

Alpha Wire goes one step further: manufacturing custom cables to meet unique applications—offering specific conductor counts, shielding options, jacket materials, and versatile product designs.

Service and support, second-to-none

Selecting the correct cable for your critical application is essential to overall system reliability, performance, and safety. So we make it easy for you to select the right Alpha cable for your specific application. Our online resources include a wire and cable selection guide, technical information, full product catalog, and a distributor locator to make it easy to select and get the cable you need.

Can't find what you're looking for? Design the cable to your specification. It's easy, just visit **www.alphawire.com!**

GLOBAL HEADQUARTERS
711 Lidgerwood Avenue
Elizabeth, NJ 07207-0711 USA
Toll Free: 1-800-52 ALPHA
Tel: 1-908-925-8000
Fax: 1-908-925-5411
E-mail: info@alphawire.com

EUROPE
Alpha Wire International
Saxon House
1 Downside | Sunbury-on-Thames
Middlesex | United Kingdom | TW16 6RT
Tel: 01 932 772 422
Fax: 01 932 772 433
E-mail: europe@alphawire.com

ASIA PACIFIC
Alpha Wire
Silver Center | Room 1708
North Shanxi Road 1388
Shanghai | China | 200060
Tel: +86-21-61498201/61498205
Fax: +86-21-61498001
E-mail: apac@alphawire.com

AlphaWire
Cables you trust. Service you deserve.

©2015 Alpha Wire. All rights reserved. Specifications subject to change. EcoFlex and Xtra-Guard are trademarks of Alpha Wire.
Consult Alpha Wire for latest specifications.

Lit. No. FlexCbl-1501
Supersedes: New