Alpha Wire Industrial Series

Alpha Wire Industrial Series

Advanced cable products for industrial applications

From the factory floor to process control, the Alpha Wire Industrial Series (AWIS) cable line is well suited to the widest range of industrial applications. We offer a variety of cables for general needs such as control wiring in both stationary and moving components. We also offer application-specific configurations for use with drives, servo systems, and factory protocols.

AWIS cables are crafted for rugged, reliable performance in your industrial equipment. They are designed to handle even your toughest applications, whether your need is continuous flexing, superior oil and chemical resistance, or excellent mechanical and electrical performance.

Choose the AWIS cable with the properties you need:

- **TC-ER, PLTC, MTW, and WTTC ratings**
- **Oil and chemical resistance**
- **UV resistance**
- **Direct burial**
- **Abrasion resistance**
- **EMI protection**
- **High flex cycling**

AWIS cables give reliable performance

Series F Continuous Flex Control Cables

Rated for up to 20 million rolling flex cycles

Series M Control Cable

Excellent mechanical and electrical performance for stationary cable trays

Series P Enhanced Stationary Control Cable

Superior oil and chemical resistance plus easier routing and installation

Series SF Servo Control Cable

Maximum flexibility in servo control and power

Series V VFD Cables

Double-shielded for superior EMI performance

Series XM Flexible Control Cable

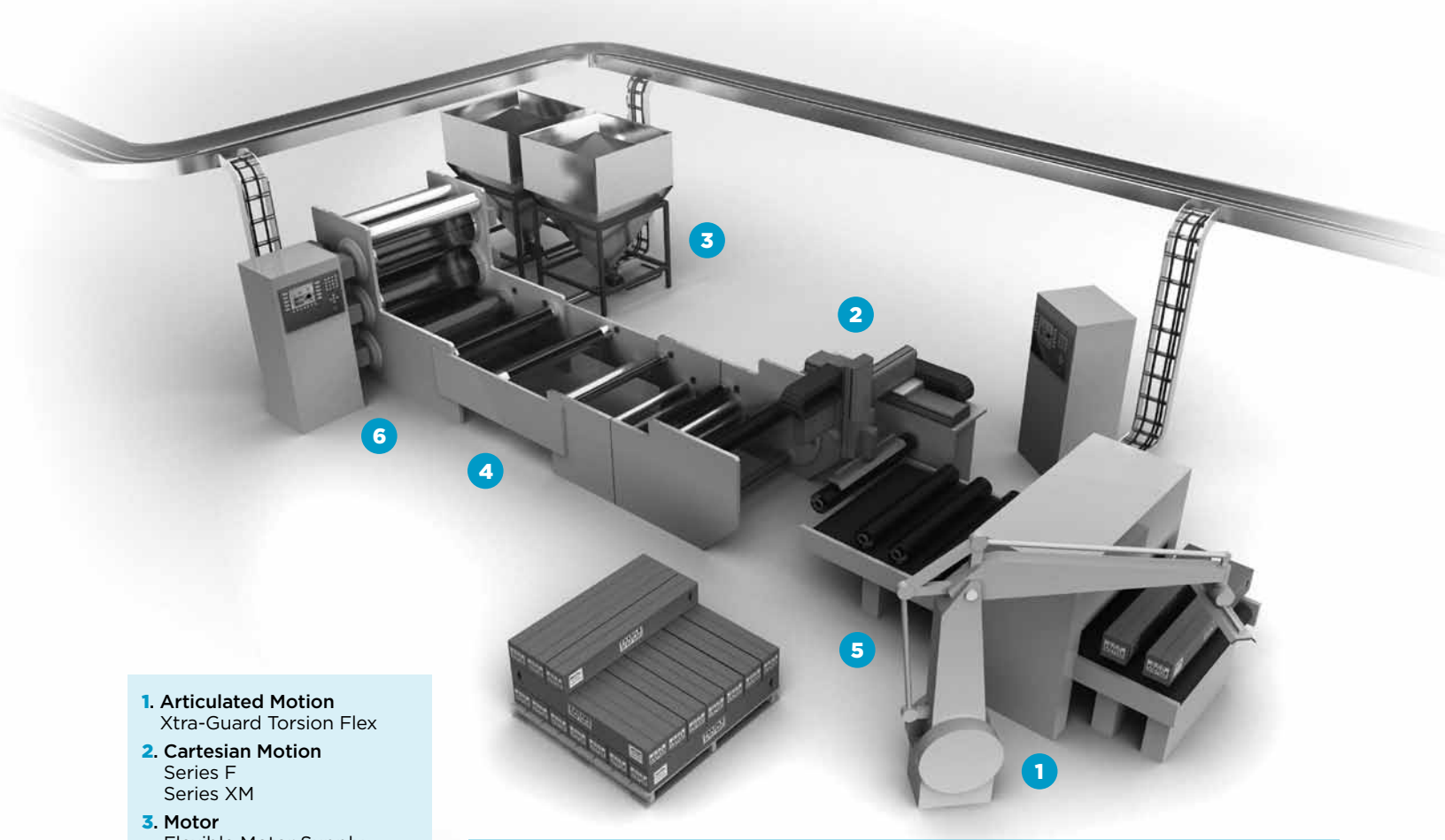
Tough PVC Cable for continuous flex control applications

Applications

- **Medium-to high-flex equipment**
- **Factory equipment interconnects**
- **Robotics**
- **Machine tools**
- **Automotive assembly equipment**
- **Conveyor systems**
- **Control panels**
- **Transfer shuttles**
- **Solar farms**
- **Automated pick-and-place systems**
- **PLC controlled equipment**
- **Automated handling systems**
- **Control/monitoring of speed and position**

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Reliable productivity from the factory floor to process controls



1. **Articulated Motion**
   Xtra-Guard Torsion Flex
2. **Cartesian Motion**
   Series F
   Series XM
3. **Motor**
   Flexible Motor Supply
4. **Static Control Cabling**
   Series M
   Series P
5. **Servomotors**
   Series SF
6. **VFD**
   Series V

Alpha Wire's industrial cables are well suited to the widest range of industrial applications from the factory floor to process controls to wind turbines. We offer a range of cables for general needs such as control wiring in both stationary and moving components. We also offer application-specific configurations for use with motors, drives, and servo systems.

General Application	Cable	Advantages
Stationary	Series M	PVC jacket Oil resistant (Oil Res. I)
Stationary/ Minimal Flex	Series P	TPE jacket Improved oil and chemical resistance (Oil Res. I/II)
Moderate Flexing	Xtra-Guard Standard Flex (65000 Series)	1 million flex cycles PVC jacket
High Flexing	Series XM	12 million flex cycles Oil resistant (Oil Res. I)
	Series F	20 million flex cycles Improved oil and chemical resistance (Oil Res. I/II)
	Xtra-Guard Continuous Flex Data (86000 Series)	6 million flex cycles PVC jacket
	Xtra-Guard Continuous Flex Control (85000 Series)	14 million flex cycles PVC jacket
	Xtra-Guard Torsional Flex (87000 Series)	1 million flex cycles TPE insulation, polyurethane jacket
Servomotors/ Drives	Series SF	TPE jacket Enhanced flexibility for easy installation and routing Improved oil and chemical resistance (Oil Res. I/II) With or without brake/ground pairs
VFD Systems	Series V	Oil resistant (Oil Res. I) Low capacitance for extended runs XLPE insulation for improved dielectric properties Excellent corona resistance Uniform geometry for reduced common-mode current
Motor Supply	Flexible Motor Supply	PVC jacket Oil resistant (Oil Res. I) Suited to light-duty flexing and VFD applications

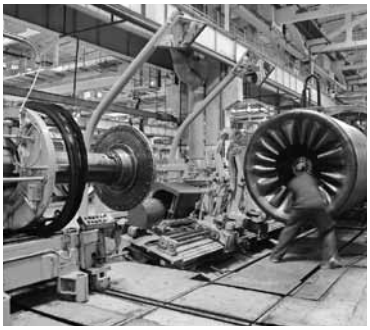
Superior Cable by Design

Alpha industrial cables are designed to perform better, providing consistent, reliable operation. The result is more uptime, fewer errors, and precise operation of equipment. Our cables are designed and built to uncompromising standards so you get consistency and uniformity in every cable.

Superior Service by Design

Beyond our well-earned reputation for high-quality, premium-grade products, our commitment to service aims to make specifying and getting the cable you need both fast and easy.

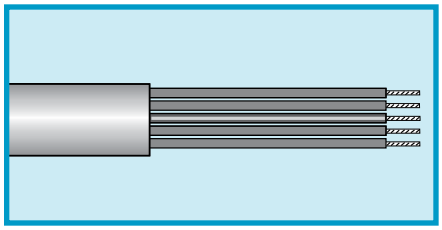
- **Global availability**
- **Large in-stock inventory**
- **Flexible ordering, with small and large put-ups available**
- **Fast shipping—usually the same day**
- **1500 distributor locations worldwide**
- **Engineering support**
- **Extensive on-line tools to select and specify cable**
- **Custom designs with on-line Cable Design Center™**
- **Fast turnarounds on custom designs**



Specific Application	Connection	Alpha Cable
Stationary	Control panel to machine	Series M, Series P
Cartesian Robots	Source power	Series M, Series P
	Flex track	Series XM, Series F, XG Flex 85000, Series SF
	Tool mechanism	XG Flex 8700 0Series
Transfer Shuttles	Source power	Series M, Series P
	Flex track	Series XM, Series F, XG Flex 85000, Series SF
	Robot	XG Flex 87000 Series for end of arm tool
	Servomotor	Series SF
Gantry	Source power	Series M, Series P
	Track	Series XM, Series F, XG Flex 85000, Series SF
	Robot	XG Flex 87000 Series for end of arm tool
	Servomotor	Series SF
Pick and Place	Source power	XG Flex 87000 Series for end of arm tool
	Flex track	Series XM, Series F, XG Flex 85000 Series
	Servomotor	Series SF
	End of arm tool	XG Flex 87000 Series
Machine Tools	Source power	Series M, Series P
	Internal XYZ axis	Series XM, Series F, XG Flex 85000, SF Series
	Automated tool changer	Series XM, Series F, XG Flex 85000/86000 Series
	Servomotor	Series SF
	Drive systems	Series V VFD
Conveying Systems	Source power	Series M, Series P, XG Flex 65000
	Drive systems	Series V VFD
	Servomotor	Series SF
	Motor supply	Flexible Motor Supply
Packaging/ Material Handling	Source power	Series M, Series P
	Drives	Series V VFD
	Servomotor	Series SF
	Motor power/control	Motor Supply, Series M, Series P

Series F Continuous Flex Control Cables

High-Flex Cable Track Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
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

FIT® Tubing Recommendations

- FIT-600: Highly flexible, cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

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

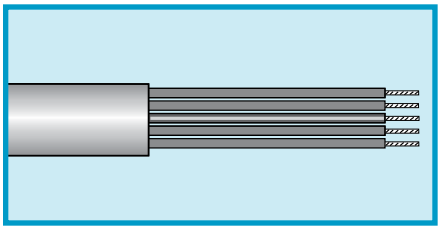
16 AWG (1.31 mm²)

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

Series F Continuous Flex Control Cables

High-Flex Cable Track Applications
600 V Unshielded, Multiconductor



UL TC-ER, PLTC
UL TFFN (18 – 16 AWG)
UL THHN (14 – 8 AWG)
CSA AWM I/II A/B FT4
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, except 14 AWG)

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

FIT® Tubing Recommendations

- FIT-600: Highly flexible, cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

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)

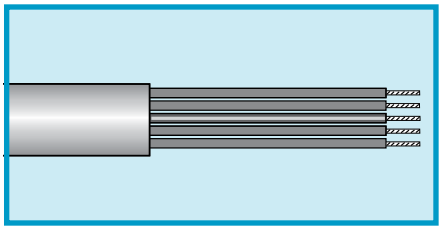
Stranding: 168/30 (168 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.006 (0.15 mm) nylon

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

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Series M Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER
UL MTW
UL WTTC (1000 V)
UL PLTC (300 V)
CSA AWM I/II A/B FT4
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

- Finely stranded bare copper conductors
- PVC/nylon insulation
- Slate PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code
- 90°C Dry/75°C Wet

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined cross-linked polyolefin

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 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
M18103KW	M18103LW	M18103RW	3	0.301	7.65	0.050	1.27
M18104KW	M18104LW	M18104RW	4	0.326	8.28	0.050	1.27
M18105KW	M18105LW	M18105RW	5	0.353	8.97	0.050	1.27
M18107KW	M18107LW	M18107RW	7	0.381	9.68	0.050	1.27
M18112KW	M18112LW	M18112RW	12	0.515	13.08	0.065	1.65
M18117KW	M18117LW	M18117RW	17	0.594	15.09	0.065	1.65
M18122KW	M18122LW	M18122RW	22	0.651	16.54	0.065	1.65
M18125KW	M18125LW	M18125RW	25	0.699	17.75	0.065	1.65
M18134KW	M18134LW	M18134RW	34	0.777	19.74	0.065	1.65
M18142KW	M18142LW	M18142RW	42	0.874	22.20	0.085	2.15
M18149KW	M18149LW	M18149RW	49	0.923	23.44	0.085	2.15
M18165KW	M18165LW	M18165RW	65	1.029	26.14	0.085	2.15

16 AWG (1.32 mm²)

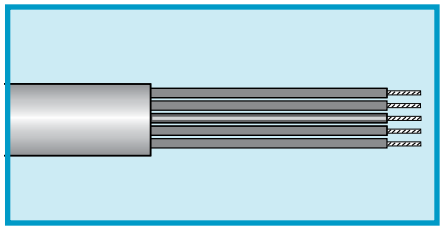
Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.10 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M16103KW	M16103LW	M16103RW	3	0.323	8.20	0.050	1.27
M16104KW	M16104LW	M16104RW	4	0.350	8.89	0.050	1.27
M16105KW	M16105LW	M16105RW	5	0.380	9.65	0.050	1.27
M16107KW	M16107LW	M16107RW	7	0.421	10.69	0.055	1.39
M16112KW	M16112LW	M16112RW	12	0.557	14.14	0.065	1.65
M16117KW	M16117LW	M16117RW	17	0.644	16.35	0.065	1.65
M16119KW	M16119LW	M16119RW	19	0.644	16.35	0.065	1.65
M16122KW	M16122LW	M16122RW	22	0.707	17.95	0.065	1.65
M16125KW	M16125LW	M16125RW	25	0.761	19.32	0.065	1.65
M16133KW	M16133LW	M16133RW	33	0.857	21.76	0.085	2.15
M16142KW	M16142LW	M16142RW	42	0.950	24.13	0.085	2.15
M16149KW	M16149LW	M16149RW	49	1.005	25.52	0.085	2.15
M16165KW	M16165LW	M16165RW	65	1.122	28.49	0.085	2.15

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Series M Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



UL TC-ER
UL MTW
UL WTTC (1000 V)
UL PLTC (300 V)
CSA AWM I/II A/B FT4
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, except 14 AWG)

Materials

- Finely stranded bare copper conductors
- PVC/nylon insulation
- Slate PVC jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I
- UL Direct Burial
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code
- 90°C Dry/75°C Wet

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321: Medium-wall, adhesive-lined cross-linked polyolefin

14 AWG (2.09 mm²)

Stranding: 41/30 (41 x 0.25 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
M14104KW	M14104LW	M14104RW	4	0.384	9.75	0.050	1.27
M14105KW	M14105KW	M14105RW	5	0.428	10.87	0.055	1.39
M14107KW	M14107LW	M14107RW	7	0.483	12.26	0.065	1.65
M14112KW	M14112LW	M14112RW	12	0.615	15.62	0.065	1.65
M14125KW	M14125LW	M14125RW	25	0.887	22.52	0.085	2.15

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 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
M12104KW	M12104LW	M12104RW	4	0.44	11.17	0.055	1.39
M12105KW	M12105LW	M12105RW	5	0.499	12.67	0.065	1.65
M12107KW	M12107LW	M12107RW	7	0.540	13.71	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
M10104KW	M10104LW	M10104RW	4	0.549	13.94	0.065	1.65
M10105KW	M10105LW	M10105RW	5	0.600	15.24	0.065	1.65
M10107KW	M10107LW	M10107RW	7	0.652	16.56	0.065	1.65

8 AWG (8.52 mm²)

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

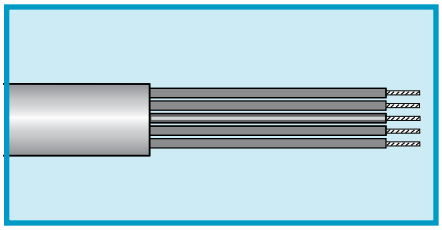
Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
M08104KW	M08104LW	M08104RW	4	0.724	18.38	0.065	1.65
M08105KW	M08105LW	M08105RW	5	0.795	20.19	0.065	1.65

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series P Enhanced Stationary Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



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

Operating Temperature
- -25°C to +90°C

Voltage Rating
- 600 V (TC-ER)
- 300 V (PLTC)

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
- Oil-resistant thermoplastic elastomer jacket

Features
- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius, static and dynamic
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability
Bulk, cut to length

FIT® Tubing Recommendations
- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

18 AWG (0.96 mm²)

Stranding: 19/30 (19 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP18103KW	MP18103LW	MP18103RW	3	0.313	7.95	0.050	1.27
MP18104KW	MP18104LW	MP18104LW	4	0.338	8.58	0.050	1.27
MP18105KW	MP18105LW	MP18105RW	5	0.365	9.27	0.050	1.27
MP18107KW	MP18107LW	MP18107RW	7	0.393	9.98	0.050	1.27
MP18112KW	MP18112LW	MP18112RW	12	0.527	13.39	0.065	1.65
MP18117KW	MP18117LW	MP18117RW	17	0.606	15.39	0.065	1.65
MP18122KW	MP18122LW	MP18122RW	22	0.663	16.84	0.065	1.65
MP18125KW	MP18125LW	MP18125RW	25	0.711	18.06	0.065	1.65
MP18134KW	MP18134LW	MP18134RW	34	0.789	20.04	0.065	1.65
MP18142KW	MP18142LW	MP18142RW	42	0.886	22.50	0.085	2.16
MP18149KW	MP18149LW	MP18149RW	49	0.935	23.75	0.085	2.16
MP18165KW	MP18165LW	MP18165RW	65	1.041	26.44	0.085	2.16

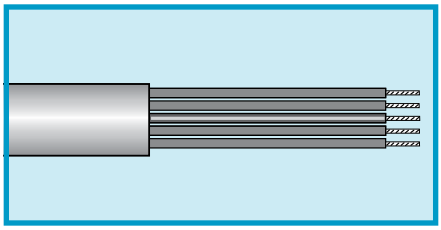
16 AWG (1.32 mm²)

Stranding: 26/30 (26 x 0.25 mm)
Insulation thickness: 0.016 (0.41mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP16103KW	MP16103LW	MP16103RW	3	0.335	8.51	0.050	1.27
MP16104KW	MP16104LW	MP16104RW	4	0.362	9.19	0.050	1.27
MP16105KW	MP16105LW	MP16105RW	5	0.392	9.96	0.050	1.27
MP16107KW	MP16107LW	MP16107RW	7	0.423	10.74	0.050	1.27
MP16112KW	MP16112LW	MP16112RW	12	0.569	14.45	0.065	1.65
MP16117KW	MP16117LW	MP16117RW	17	0.656	16.66	0.065	1.65
MP16122KW	MP16122LW	MP16122RW	22	0.719	18.26	0.065	1.65
MP16125KW	MP16125LW	MP16125RW	25	0.773	19.63	0.065	1.65
MP16133KW	MP16133LW	MP16133RW	33	0.869	22.07	0.085	2.16
MP16142KW	MP16142LW	MP16142RW	42	0.962	24.43	0.085	2.16
MP16149KW	MP16149LW	MP16149RW	49	1.017	25.83	0.085	2.16
MP16165KW	MP16165LW	MP16165RW	65	1.134	28.80	0.085	2.16

Series P Enhanced Stationary Control Cable

Stationary or Minimal Flex Applications
600 V Unshielded, Multiconductor



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

Operating Temperature
- -25°C to +90°C

Voltage Rating
- 600 V (TC-ER)
- 300 V (PLTC)

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
- Oil-resistant thermoplastic elastomer jacket

Features
- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius, static and dynamic
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability
Bulk, cut to length

FIT® Tubing Recommendations
- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

14 AWG (2.08 mm²)

Stranding: 41/30 (41 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP14104KW	MP14104LW	MP14104RW	4	0.396	10.06	0.050	1.27
MP14105KW	MP14105LW	MP14105RW	5	0.430	10.92	0.050	1.27
MP14107KW	MP14107LW	MP14107RW	7	0.495	12.57	0.065	1.65
MP14112KW	MP14112LW	MP14112RW	12	0.627	15.93	0.065	1.65
MP14125KW	MP14125LW	MP14125RW	25	0.899	22.83	0.085	2.16

12 AWG (3.31 mm²)

Stranding: 65/30 (65 x 0.25 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP12104KW	MP12104LW	MP12104RW	4	0.472	11.99	0.065	1.65
MP12105KW	MP12105LW	MP12105RW	5	0.511	12.98	0.065	1.65
MP12107KW	MP12107LW	MP12107RW	7	0.552	14.02	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 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP10104KW	MP10104LW	MP10104RW	4	0.561	14.25	0.065	1.65
MP10105KW	MP10105LW	MP10105RW	5	0.612	15.54	0.065	1.65
MP10107KW	MP10107LW	MP10107RW	7	0.664	16.87	0.065	1.65

8 AWG (8.52 mm²)

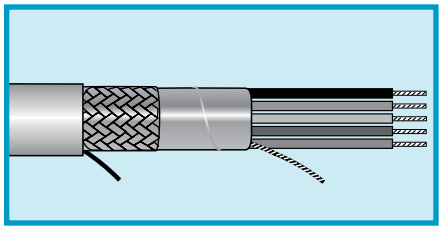
Stranding: 168/30 (105 x 0.25 mm)
Insulation thickness: 0.032 (0.81 mm) PVC/0.005 (0.010 mm) nylon

Part No.			Conductors	Nominal Diameter		Jacket Thickness	
Black Insul.	Blue Insul.	Red Insul.		Inch	mm	Inch	mm
MP08104KW	MP08104LW	MP08104RW	4	0.736	18.69	0.065	1.65
MP08105KW	MP08105LW	MP08105RW	5	0.807	20.50	0.065	1.65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series SF Flexible Servo Cable

600/1000 V, PVC/Nylon, TPE



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

Operating Temperature

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

Conductor Color Coding

- Chart KX (page 534) for multiconductor
- Chart A (page 528) for pairs

Materials

- Stranded tinned copper conductors
- PVC/nylon insulation
- Foil + braid shielding Aluminum/polyester foil Tinned copper braid, 85% coverage
- Orange thermoplastic elastomer jacket

Features

- UL Sunlight Resistant
- UL Oil Res. I/II
- 10x bend radius
- Two configurations
  1. Power cable
  2. Composite cable for power and control
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical/temperature-resistant cross-linked fluoroelastomer

Flexible Power Servo Cable

4 conductors for power/ground

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm
SF61118CY	4	18	0.96	19/30	19 x 0.25	0.382	9.70	0.055	1.40
SF61116CY	4	16	1.32	26/30	26 x 0.25	0.406	10.31	0.055	1.40
SF61114CY	4	14	2.09	41/30	41 x 0.25	0.440	11.18	0.055	1.40
SF61112CY	4	12	3.31	65/30	65 x 0.25	0.506	12.85	0.065	1.65
SF61110CY	4	10	5.32	105/30	105 x 0.25	0.603	15.32	0.065	1.65
SF61108CY	4	8	8.50	168/30	168 x 0.25	0.785	19.94	0.065	1.65

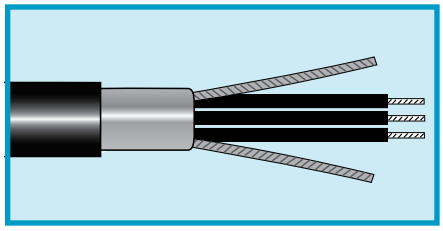
Flexible Composite Servo Cable

4 conductors for power/ground +2 individually shielded pairs for brake or temperature control

Part No.	Conductors	Wire Size		Stranding		Nominal Diameter		Jacket Thickness	
		AWG	mm²	AWG	mm	Inch	mm	Inch	mm
SF61220CY	4 +2 pairs	16 pwr 18 pr	1.32 0.96	26/30 19/30	26 x 0.25 19 x 0.25	0.590	14.99	0.065	1.65
SF61221CY	4 +2 pairs	14 pwr 18 pr	2.09 0.96	41/30 19/30	41 x 0.25 19 x 0.25	0.618	15.70	0.065	1.65
SF61222CY	4 +2 pairs	12 pwr 16 pr	3.31 1.32	65/30 26/30	65 x 0.25 26 x 0.25	0.674	17.12	0.065	1.65
SF61223CY	4 +2 pairs	10 pwr 16 pr	5.37 1.32	105/30 26/30	105 x 0.25 26 x 0.25	0.757	19.23	0.065	1.65
SF61224CY	4 +2 pairs	8 pwr 16 pr	8.50 1.32	168/30 26/30	168 x 0.25 26 x 0.25	0.943	23.95	0.085	2.16

Series V VFD Control Cables

Enhanced Design for Superior Performance in Variable-Frequency Drives 600/1000 V Shielded



Series V cables for variable-frequency drives (VFD) set the standard in high-performance and reliable connectivity. Their specially formulated cross-linked polyethylene insulation provides superior corona resistance, low capacitance for longer runs, and excellent low-temperature properties.

A symmetrical design places the ground wires in the interstices of the conductors for uniform conductor-to-ground capacitance and impedance.

Smaller gauge cable feature a combination foil/braid shield to offer exceptional EMI/RFI protection in noisy environments. On larger gauge cable, a double copper tape is used to provide the same noise-free operation.

This uniformity reduces the probability of motor damage from common-mode current.

Alpha Series V VFD cables are compatible with drives from all major manufacturers.

UL RHW-2 (16 – 2 AWG)
UL XHHW-2
UL TC-ER
UL 1000V Flexible Motor Supply Cable
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amendment 93/68/EEC
Pennsylvania MHSA

Operating Temperature

- -40°C to +90°C

Conductor Color Coding

- Black, numbered

Materials

- Stranded tinned copper conductors
- Stranded tinned copper ground wires
- Cross-linked polyethylene insulation
- Shielding
  16 – 4 AWG:
  Aluminum/polyester/aluminum foil and tinned copper braid with 85% coverage
  2 – 4/0 AWG:
  Double-layer copper tape
- Black premium PVC jacket

Voltage

- 600 V (UL TC-ER)
- 1000 V (UL Motor Supply)

Features

- UL Direct Burial
- UL Sunlight Resistant
- 10x bend radius
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, made to order

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321V: Low-shrink-temperature, flame-retardant cross-linked polyolefin

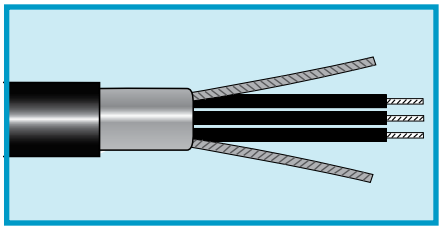
Three-Conductor VFD Cables

Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16316	16	1.32	26/30	26 x 0.25	Foil/Braid	0.046	1.17	0.050	1.27	0.468	11.89
V16314	14	2.09	41/30	41 x 0.25	Foil/Braid	0.046	1.17	0.065	1.65	0.538	13.67
V16312	12	3.31	65/30	65 x 0.25	Foil/Braid	0.046	1.17	0.065	1.65	0.578	14.68
V16310	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.642	16.31
V16308	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.065	1.65	0.798	20.27
V16306	6	13.57	133/27	133 x 0.36	Foil/Braid	0.061	1.55	0.085	2.15	0.924	23.47
V16304	4	21.58	133/25	133 x 0.45	Foil/Braid	0.061	1.55	0.085	2.15	1.050	26.67
V16302	2	34.32	133/23	133 x 0.57	Tape	0.061	1.55	0.085	2.15	1.157	29.39
V16001	1	43.28	133/22	133 x 0.64	Tape	0.056	1.42	0.085	2.15	1.197	30.48
V16000	1/0	54.58	133/21	133 x 0.72	Tape	0.056	1.42	0.085	2.15	1.294	32.77
V16020	2/0	68.85	133/20	133 x 0.81	Tape	0.056	1.42	0.085	2.15	1.399	35.56
V16030	3/0	86.9	133/19	133 x 0.91	Tape	0.056	1.42	0.085	2.15	1.517	38.53
V16040	4/0	109	133/18	133 x 1.02	Tape	0.056	1.42	0.085	2.15	1.653	41.98

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series V VFD Control Cables

Enhanced Design for Superior Performance in Variable-Frequency Drives 600/1000 V Shielded



Series V cables for variable-frequency drives (VFD) set the standard in high-performance and reliable connectivity. Their specially formulated cross-linked polyethylene insulation provides superior corona resistance, low capacitance for longer runs, and excellent low-temperature properties.

A symmetrical design places the ground wires in the interstices of the conductors for uniform conductor-to-ground capacitance and impedance.

Smaller gauge cable feature a combination foil/braid shield to offer exceptional EMI/RFI protection in noisy environments. On larger gauge cable, a double copper tape is used to provide the same noise-free operation.

This uniformity reduces the probability of motor damage from common-mode current.

Alpha Series V VFD cables are compatible with drives from all major manufacturers.

UL RHW-2 (16 – 2 AWG)
UL XHHW-2
UL TC-ER
UL 1000V Flexible Motor Supply Cable
CSA AWM I/II A/B FT4
CE LVD 73/23/EEC Amendment 93/68/EEC
Pennsylvania MHSA

Operating Temperature

- -40°C to +90°C

Conductor Color Coding

- Black, numbered

Materials

- Stranded tinned copper conductors
- Stranded tinned copper ground wires
- Cross-linked polyethylene insulation
- Shielding
  16 – 4 AWG:
  Aluminum/polyester/aluminum foil and tinned copper braid with 85% coverage
  2 – 4/0 AWG:
  Double-layer copper tape
- Black premium PVC jacket

Voltage

- 600 V (UL TC-ER)
- 1000 V (UL Motor Supply)

Features

- UL Direct Burial
- UL Sunlight Resistant
- 10x bend radius
- Suitable for use in Class I, Division 2 locations per Article 501 of the National Electric Code

Availability

Bulk, made to order

FIT® Tubing Recommendations

- FIT-221: General-purpose cross-linked polyolefin
- FIT-321V: Low-shrink-temperature, flame-retardant cross-linked polyolefin

Four-Conductor VFD Cable

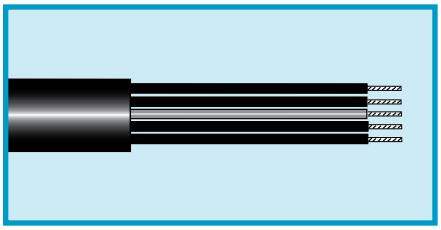
Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16016	16	1.32	26/30	26 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.547	13.89
V16014	14	2.09	41/30	41 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.584	14.83
V16012	12	3.31	65/30	65 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.633	16.08
V16010	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.085	2.15	0.746	18.95
V16008	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.086	2.15	0.920	23.37
V16006	6	13.57	133/27	133 x 0.36	Foil/Braid	0.061	1.55	0.086	2.15	1.017	25.83
V16004	4	21.58	133/25	133 x 0.45	Foil/Braid	0.061	1.55	0.086	2.15	1.157	29.39
V16002	2	34.32	133/23	133 x 0.57	Foil/Braid	0.061	1.55	0.088	2.15	1.308	33.22

Four-Conductor VFD Cable with 14 AWG (2.09) Brake Pair

Part No.	Wire Size		Stranding		Shielding	Insulation Thickness		Jacket Thickness		Nominal Diameter	
	AWG	mm²	AWG	mm		Inch	mm	Inch	mm	Inch	mm
V16116	16	1.32	26/30	26 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.717	18.21
V16114	14	2.09	41/30	41 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.743	18.87
V16112	12	3.31	65/30	65 x 0.25	Foil/Braid	0.047	1.19	0.065	1.65	0.785	19.94
V16110	10	5.37	105/30	105 x 0.25	Foil/Braid	0.047	1.19	0.085	2.15	0.875	22.23
V16108	8	8.53	133/29	133 x 0.28	Foil/Braid	0.061	1.55	0.085	2.15	1.032	26.21

Series XM Flexible Control Cable

600/1000 V Unshielded, PVC/Nylon, PVC



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.

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

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

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

Features

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

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

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

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

14 AWG (2.11 mm²)

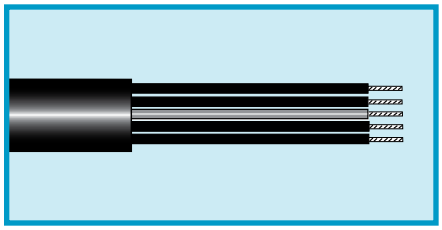
Stranding: 105/34 (105 x 0.16 mm)
Insulation thickness: 0.016 (0.41 mm) PVC/0.005 (0.13 mm) nylon

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

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series XM Flexible Control Cable

600/1000 V Unshielded, PVC/Nylon, PVC



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.

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

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

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

Features

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

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

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

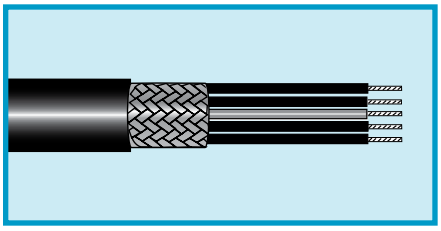
8 AWG (8.51 mm²)

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 Flexible Control Cable

600/1000 V Braid Shielded, PVC/Nylon, PVC



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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

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Tinned copper braid shield, 85% coverage
- Black PVC jacket

Features

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

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

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

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

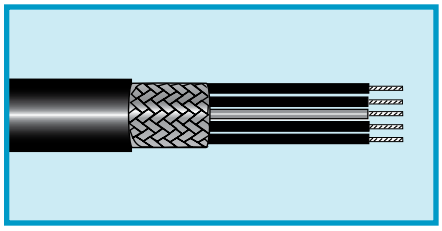
*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

RoHS Compliant CA PROP 65

Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.

Series XM Flexible Control Cable

600/1000 V Braid Shielded, PVC/Nylon, PVC



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.

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

- Chart KW, RW, LW (pages 533-535)
- Black, blue, or red* numbered conductors with one green/yellow ground conductor

Materials

- Stranded bare copper conductors
- PVC/nylon insulation
- Tinned copper braid shield, 85% coverage
- Black PVC jacket

Features

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

Availability

Bulk, cut to length

FIT® Tubing Recommendations

- FIT-600: Highly flexible cross-linked elastomer
- FIT-650: Chemical- and temperature-resistant fluoroelastomer

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

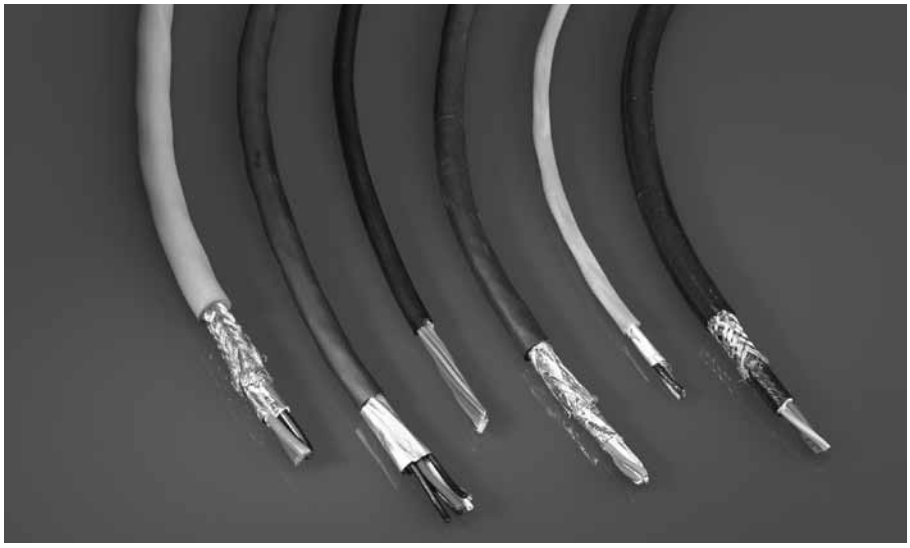
8 AWG (8.51 mm²)

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

*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage

The Right Cable . . . Just the Way You Want It



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Alpha Wire has a long heritage of supplying a wide range of wire, cable, tubing, and accessories for varying applications. We understand that despite the breadth and depth of our product portfolio, sometimes you require a cable as unique as the application. We make it easy to configure a custom cable.

We can also help you fashion the perfect cable to meet application parameters. The Alpha Wire Cable Design Center® allows you to quickly and easily modify any standard Alpha cable specification to your own application requirements. Count on the cable and application experts at Alpha Wire for guidance.

With our quick quotes and fast production turnaround, we will have your custom cable to you in no time.

- **Meet special application requirements**
- **Increase system reliability with application-specific configurations**
- **Speed installation by reducing the number of different cables needed**
- **Get the best match of electrical, mechanical, and environmental properties**
- **Build composite cables with a mixture of conductor sizes, insulations, and shielding**
- **Spec your design fast with the on-line Cable Design Center™**
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Specifications subject to change. For complete specifications and availability, visit www.alphawire.com.