

Alpha Wire Industrial Series Tray-Rated Cable

**INDUSTRIAL™
SERIES**
From AlphaWire



AlphaWire

Cables you trust. Service you deserve.

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Enhanced Design for Superior Performance in Variable Frequency Drives

Request free samples at www.alphawire.com/sample

Alpha Wire Industrial Series (AWIS)

Advanced Cable Products for Industrial Applications

**INDUSTRIAL
SERIES**
From AlphaWire



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 provide reliable performance

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 XM Flexible Control Cable

Tough PVC cable for continuous flex control applications

Series F Continuous Flex Control Cables

Rated for up to 20 million rolling flex cycles

Series SF Servo Control Cable

Maximum flexibility in servo control and power

Series V VFD Cables

Double-shielded for superior EMI performance

Series V-Flex VFD Cable

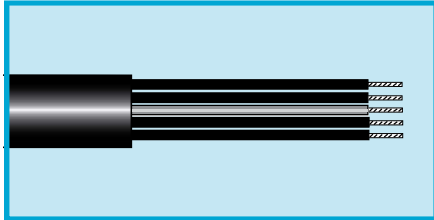
CSA-rated flexible VFD cable

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

Series XM Flexible Control Cable

Tough PVC Cable for High-Flex Cable Track Applications
(12 Million Life Cycles)
600/1000 V Unshielded, PVC/Nylon, PVC



Series XM Flexible Control Cable is the ideal choice for medium-to-high-flex applications of up to 12 million cycles. 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 WTTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE LVD 2006/95/EC

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

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
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
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

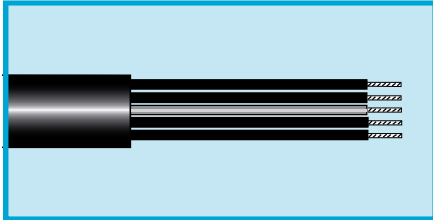
*Red insulation: AC circuits operating at less than line voltage
Blue insulation: DC circuits operating at less than line voltage
Black insulation: AC circuits operating at less than line voltage



Series XM Flexible Control Cable

Tough PVC Cable for High-Flex Cable Track Applications
(12 Million Life Cycles)

600/1000 V Unshielded, PVC/Nylon, PVC



UL TC-ER (600 V)
UL WTTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE LVD 2006/95/EC

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

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

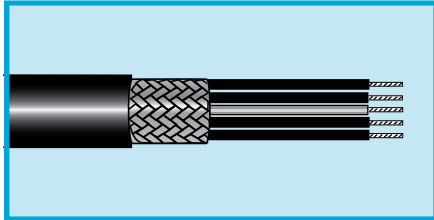
8 AWG (8.51 mm²)

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

Tough PVC Cable for High-Flex Cable Track Applications
(12 Million Life Cycles)
600/1000 V Braid Shielded, PVC/Nylon, PVC



UL TC-ER (600 V)
UL WTTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE LVD 2006/95/EC

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
- 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

*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
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

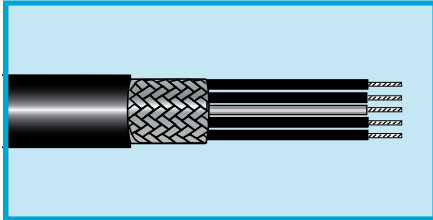
14 AWG (2.11 mm²)

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

Series XM Flexible Control Cable

Tough PVC Cable for High-Flex Cable Track Applications
(12 Million Life Cycles)
600/1000 V Braid Shielded, PVC/Nylon, PVC



UL TC-ER (600 V)
UL WTTTC (1000 V)
UL MTW (600 V)
CSA AWM I/II A/B FT4
CE LVD 2006/95/EC

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
- 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

*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 mm ²)							
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 mm ²)							
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 mm ²)							
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

An Extensive Range of Flexible Cable Solutions

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 and light-duty VFD applications. We offer an extensive 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.

In addition to our AWIS cable family, we offer tougher flexible alternatives in our Xtra-Guard® 65000, 85000, 86000 and 87000 Series cables with up to 14 million flex cycles. For a smaller, lighter flexible control cable, our EcoFlex® flexible control cable and EcoFlex® PUR continuous flex cable can provide up to 55% weight and 40% size savings, and both are completely recyclable. Our flexible motor supply cable provides exceptional performance in a variety of motor and drive applications. We can also create the ideal custom cable for your specific application.

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	EcoFlex Cable	100% recyclable mPPE insulation/jacket 1 million flex cycles RoHS and REACH compliant Size and weight reduction
	Xtra-Guard Standard Flex (65000 Series)	1 million flex cycles PVC jacket
High Flexing	EcoFlex PUR Continuous Flex	Polyurethane jacket, mPPE insulation 8 million flex cycles Zero halogen Saves space and weight
	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
Servomotors/Drives	Xtra-Guard Torsional Flex (87000 Series)	1 million flex cycles TPE insulation, polyurethane jacket
	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 Series V-Flex	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

Cables you trust. Service you deserve.

Every application is critical and cable failure is not an option when the safety of equipment and personnel is paramount. Specify Alpha cable for rugged, reliable performance, 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. Our custom cable orders are often shipped in less than a week, once again giving you products with more convenience and less delay.

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**!

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