

Alpha Wire Industrial Series Tray-Rated Cable

**INDUSTRIAL™
SERIES**
From AlphaWire



AlphaWire

Cables you trust. Service you deserve.

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Request free samples at www.alphawire.com/sample

Alpha Wire Industrial Series (AWIS)

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 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

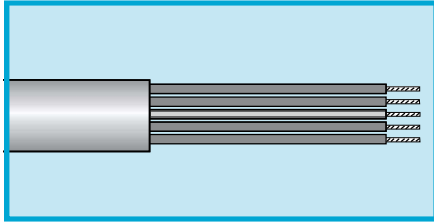
CSA-rated flexible VFD cable

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 P Enhanced Stationary Control Cable

Highly Flexible Oil/Chemical-Resistant TPE Control Cable for 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
CSA CIC/TC
CE LVD 2006/95/EC

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 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

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	MP18104RW	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 (0.41 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
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

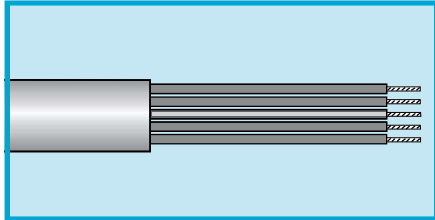
Series P cables combine the exceptional oil and chemical resistance of Series M cable with a specially formulated thermoplastic elastomer jacket for additional flexibility, making it easier to install and route the cable in tight spaces. The cable can be used in flex applications where travel distances and flexing speeds are low.

*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 P Enhanced Stationary Control Cable

Highly Flexible Oil/Chemical-Resistant TPE Control Cable for 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
CSA CIC/TC
CE LVD 2006/95/EC

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 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



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 (168 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

*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

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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