

# AVTRON™ ENCODERS

## Cables and Connectors



**Continuous lengths up to 2000 feet Incremental and Absolute Assemblies & Stand-Alone Bulk Cable**

### Encoder Cable Assemblies

- | Incremental and absolute cable assemblies
- | Assemblies available with many connectors including: MIL MS 6, 7, & 10 pin, Mini TW 10 pin, Industrial EPIC, M12 and M23, and flying leads.
- | Custom lengths available in increments of 5 ft
  - | Up to 2000 ft of continuous cable possible
- | Shielded and twisted pairs for improved signal quality
- | Ultra-low capacitance option available
  - | Rated up to 105° C optional
    - | CE and UL Listed\*
  - | 1 Year No-Hassle Warranty

## CABLES AND CONNECTORS

Using a low quality cable in your encoder application can mean the difference between clear, reliable signal quality and weak, distorted signal. To ensure your encoder can produce the best signal possible in any application, Avtron offers high quality cables and connectors in a number of different variations and options!

For incremental encoders, all Avtron cables are shielded and have twisted pairs for the best signal possible. For cable runs longer than 100 feet, our special ultra-low capacitance cable is used so that your signal stays strong. Bulk cables can be ordered in lengths up to 2000 ft. and are offered with a variety of different connector options, including: 6 pin, 7 pin, & 10 pin MS, 10 pin TW, 8 pin M12, industrial EPIC, and more.

Avtron also offers an expansive catalogue of absolute cables in an assortment of communication protocols such as: Analog, Devicenet, CANopen, Profibus, Profinet, Ethernet IP, SSI, and plenty more! We also offer cables that support all your functions, from power to daisy chain to encoder communication.

Next time you buy an Avtron Encoder, pair your purchase with one of our high quality cable assemblies!

# OUTLINE DRAWING

# MORE CABLES AND CONNECTORS ADVANTAGES

Don't see what you need? Contact our factory for more options

**NO OUTLINE DRAWING AVAILABLE**

## CABLES AND CONNECTORS SPECIFICATIONS

### Incremental Cables

#### High Temp. Cable

**Conductor:** 22 AWG, 5 pairs, 7X30 stranding, Tinned Copper  
**Insulation:** PVC  
**Outer Jacket:** 0.035" pressure extruded PVC jacket  
**Overall Cable Diameter:** 0.325"  
**Operating Temperature:** -40° C to +105° C  
**Nominal Capacitance Conductor to Conductor:** 35 pF/ft  
**UL NEC:** CM    **UL CEC:** CMG

#### Ultra-Low Capacitance Cable

**Conductor:** 18 AWG, 1 pair, 19X30 TC SR PVC; 22 AWG, 4 pairs, 7X30 stranding TC  
**Insulation:** FPE  
**Outer Jacket:** 0.035-0.055" pressure extruded PVC jacket  
**Overall Cable Diameter:** 0.430"  
**Operating Temperature:** -30° C to +80° C  
**Nominal Capacitance Conductor to Conductor:** 12 pF/ft  
**UL AWM Style 2517    UL NEC/CEC:** CM

**Outer Shield:** Overall aluminum mylar shield & tinned copper braid

**Outer Shield Drain:** 24 AWG, 7X32 stranding, TC

**Maximum Operating Voltage:** 300 V

Check out our website for more detailed specifications, drawings, and installation instructions. [www.avtronencoders.com](http://www.avtronencoders.com)

### Absolute Cables

Contact Factory

\*Select options and bulk cable only. Contact factory for more information

## SELECTION GUIDE

Model	Bus	1st Connector	Cable Function	Temp. Rating <sup>1</sup>	Cable Material	2nd Connector	Length <sup>2</sup>
<b>CBL1</b>	<b>A</b> - Analog <b>B</b> - Incremental <b>C</b> - CANOpen <b>D</b> - Devicenet <b>E</b> - Ethernet IP/ Modbus TCP/ Profinet <b>L</b> - Parallel <b>P</b> - Profibus DP <b>S</b> - SSI	<b>AC</b> - M12 4/5 Pin <b>AE</b> - M12 8 Pin <b>AF</b> - M23 12 Pin <b>AG</b> - M27 26 Pin <b>AR</b> - M23 16 Pin <b>BA</b> - MS 10 Pin (Small Encoder Pinout) <b>BE</b> - MS 6 Pin w/o marker <b>CE</b> - MS 6 Pin w/ marker <b>BJ</b> - MS 7 Pin w/o marker <b>CJ</b> - MS 7 Pin w/ marker <b>BP</b> - 10 Pin Mini EPIC <b>CP</b> - 10 Pin Industrial EPIC <b>BR</b> - 10 Pin Mini Twistlock <b>BW</b> - No Connector, <100 ft <b>CW</b> - No Connector, >100 ft <b>B4</b> - MS 10 Pin (Large encoder pinout)	<b>1</b> - Bus In <b>2</b> - Bus Out <b>3</b> - Power	<b>X</b> - Standard Temp (<100 ft) <b>8</b> - 80° C Max., Special Low Capacitance (>100 ft)	<b>P</b> - PVC <b>T</b> - TPE	<b>W</b> - None, Flying Leads only <b>1</b> - Mini EPIC, 180° exit <b>D</b> - Daisy Chain <b>R</b> - RJ45 for Ethernet	<b>000.5</b> - 1.5 ft (0.5m) <b>001.0</b> - 3 ft (1m) <b>002.0</b> - 6 ft (2m) <b>003.0</b> - 10 ft (3m) <b>004.3</b> - 14 ft (4.3m) <b>005.0</b> - 16 ft (5m) <b>010.0</b> - 33 ft (10m) <b>015.0</b> - 49 ft (15m) <b>020.0</b> - 64 ft (20m) <b>025.0</b> - 82 ft (25m) <b>030.0</b> - 98 ft (30m) <b>040.0</b> - 130 ft (40m) <b>050.0</b> - 160 ft (50m) <b>060.0</b> - 196 ft (60m) <b>070.0</b> - 230 ft (70m) <b>080.0</b> - 260 ft (80m) <b>090.0</b> - 295 ft (90m) <b>100.0</b> - 324 ft (100m) <b>125.0</b> - 410 ft (125m) <b>130.0</b> - 426 ft (130m) <b>150.0</b> - 492 ft (150m) <b>152.4</b> - 500 ft (152.4m) <b>304.8</b> - 1000 ft (304.8m) <b>609.6</b> - 2000 ft (609.6m)

1. For cable lengths shorter than 100 ft, select option "X". Otherwise select option "8".  
 2. Custom cable lengths available by request up to a maximum of 2000 meters per spool.



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 All dimensions approximate.