

# Motion Series Plus Cable

- Ideal for Hi-Flex Motion Applications
- Shielded Power and Signal Wires in a Compact Flat Cable
- For 1, 2 or 3 Servo Axes

Cicoil's Motion Series Plus cable is available in a single axis design that may be ganged for 1, 2 or 3 axes servo motion. Each Motion Series Plus cable integrates 6 power conductors and 20 signal wires in a compact flat cable measuring just 0.75″ wide by 0.2″ thick. The Flexx-Sil™ encapsulation provides a solid, one-piece construction that creates a highly durable, flexible flat cable package.



### Cable

| Amp                 | No. of<br>Axes | Conductor Gauge |              | Dimensions [inches] |        | Part       |
|---------------------|----------------|-----------------|--------------|---------------------|--------|------------|
| Rating <sup>1</sup> |                | Power           | Signal       | Width               | Height | Number     |
| 8                   | 1              | 22 AWG/3 pr     | 28 AWG/10 pr | 0.75                | 0.20   | MCP-2000-1 |
|                     | 2              | 22 AWG/6 pr     | 28 AWG/20 pr | 1.50                | 0.20   | MCP-2000-2 |
|                     | 3              | 22 AWG/9 pr     | 28 AWG/30 pr | 2.25                | 0.20   | MCP-2000-3 |

#### Notes

1. Amp rating is the maximum value for each power conductor at room temperature of 70°F (21°C). Amp rating decreases as temperature increases.

## Cable Assemblies



| Cable Length | Part Number |
|--------------|-------------|
| (feet)       | Addition    |
| 3            | -CA003      |
| 6            | -CA006      |
| 12           | -CA012      |
|              |             |

#### Notes

- Append onto base cable Part Number for complete assembly. Example: MCP-2000-1-CA003
- 2. Connector ratings may differ from cable ratings; refer to manufacturer specifications.

# Dimensions

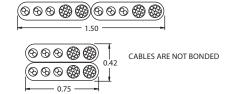
1 AXIS

MOTOR POWER & AUX
(22 AWG TWISTED PAIR SHIELDED) X3

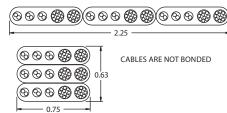
0.21

MOTOR FEEDBACK & AUX
(28 AWG, TWISTED PAIR SHIELDED X5) X2

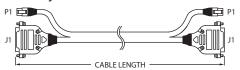
2 AXES



3 AXES



# connectors and length options. Assembly Dimensions



#### Connectors

- Power (P1): Tin Contact TE, P/N 770904-1
   9-Pos Housing TE, P/N 172169-1
- Signal (J1): 25-Pin Amphenol, P/N L717-DB25P Metallized Shell - TE, P/N 5748677-3

## Cable Specifications

All engineering values are nominal and subject to change.

# Mechanical

**Conductors:** Ultra flexible, finely stranded, tinned copper

**Shielding:** Ultra flexible, braided shields, with 90% nominal coverage

# Minimum Bend Radius:

- 6x cable height for intermediate flex
- 10x cable height for continuous flex Flex Life: 10,000,000 cycles nominal

Outer Jacket Durometer Rating: 65 (Shore A)

## Environmental

Temperature Rating: -65°C to +165°C

Moisture Rating: Submersible, Salt Water Resistant

Clean Room Rating: Class 1, Zero Particulates

Extreme Environments: Sunlight, UV Light, Alcohol, Chemical and Oil Resistant

### Electrical

Outer Jacket Dielectric Strength: 450 volts/mil (17.7 kv/mm)

See Electrical Rating Chart on Page 47

| Options                               | Page |
|---------------------------------------|------|
| Additional Conductors                 | 26   |
| Low Friction Options                  | 28   |
| StripMount™ Integrated Mounting Strip | 28   |
| Integrated Tubing                     | 29   |
| SuperTuff™ Jacket                     | 29   |
| Colored Jacketing                     | 29   |
| Strip and Tin Cable Ends              | 29   |
| FlexRail™ Self-Supporting Cable       | 30   |
| Complete Assembly                     | 31   |