

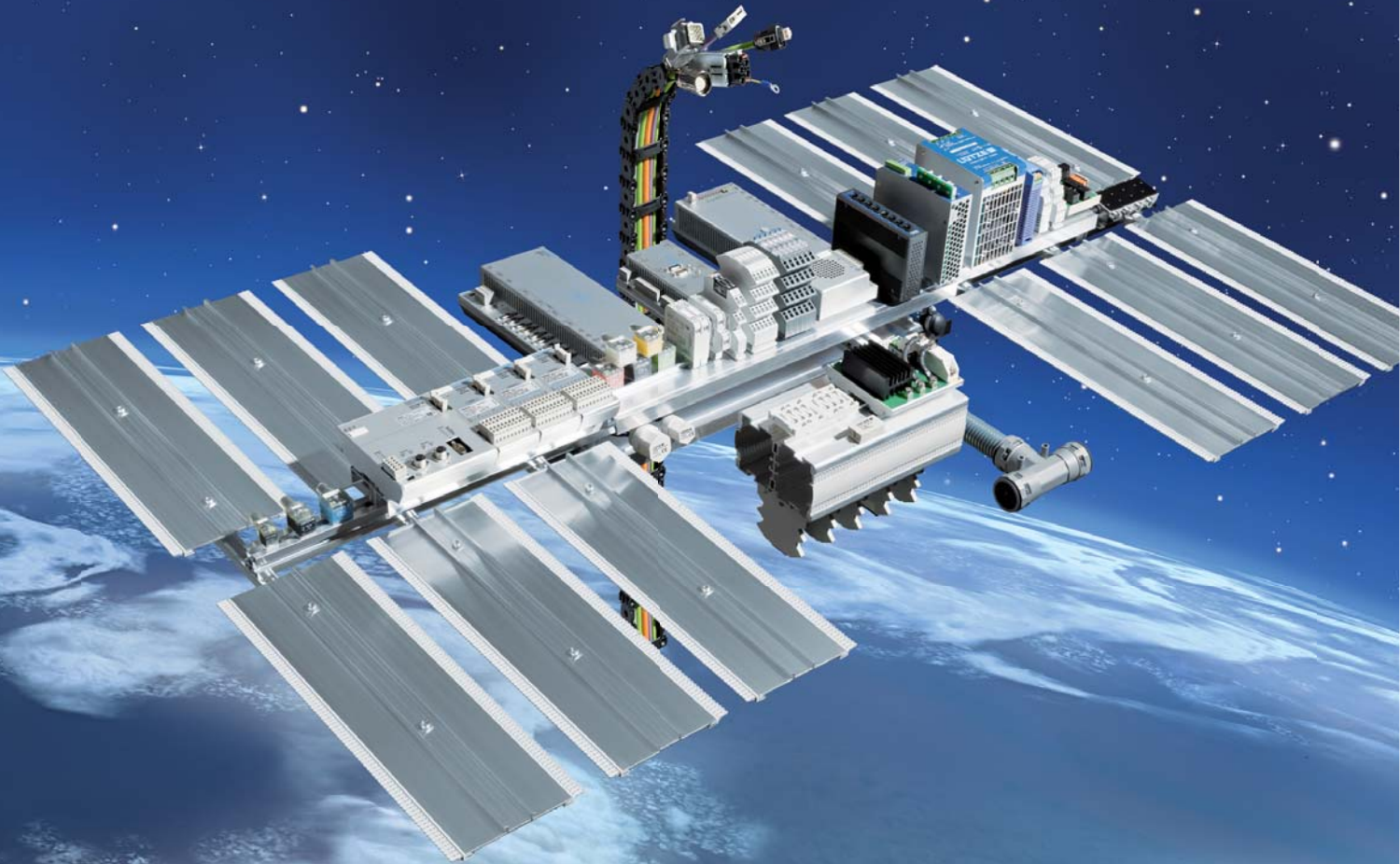


■ Connectivity Solutions

Cable assemblies according to Allen-Bradley standard 2090

Efficiency in Automation

Cable • Connectivity • Cabinet • Control



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Welcome to LUTZE

Cable Solutions



As an experienced specialist in automation technology, with solutions for flexible and high flexing cables, cable assemblies, interfaces, current control and cabinet wiring, we have had a focus on efficiency for many years.

Connectivity Solutions



LUTZE Servo Cable Assemblies according to Allen-Bradley.

LUTZE has a long standing reputation as a manufacturer of factory automation cables. These high performance cables are now available pre-assembled to connect your Allen-Bradley servo drive systems.

Cabinet Solutions



LUTZE servo cable assemblies are fully compatible with Allen-Bradley drive systems. Many standard lengths are available from stock, and custom lengths in 0.5 meter increments can be produced with short lead times.

The product offering includes all power and feedback sizes. In addition, raw cable is available for field assembly. There is no minimum order amount, delivery times are short and there is a cost-effective price/performance ratio.

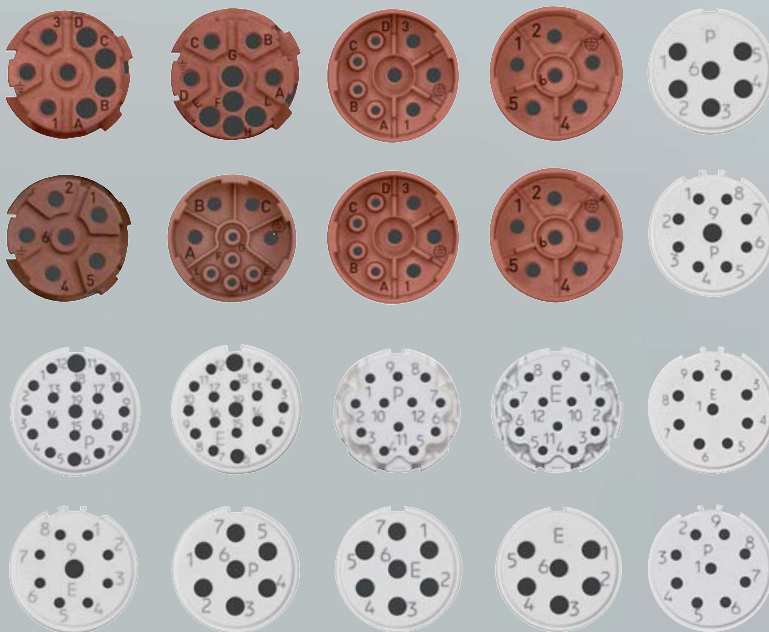
Control Solutions



For more information on our solutions, please visit www.lutze.com



Always the right connection **LUTZE** cable assembly



Standard Cable Assembly Solutions

LUTZE manufactures servo assemblies compatible with Allen-Bradley, Siemens, and Bosch-Rexroth servo systems.

LUTZE is an expert in flexible and high flexing cables for industrial automation. All LUTZE servo assemblies are made with premium LUTZE cable, ensuring long life and high performance.

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Advantages of LUTZE Tamper-proof Connector

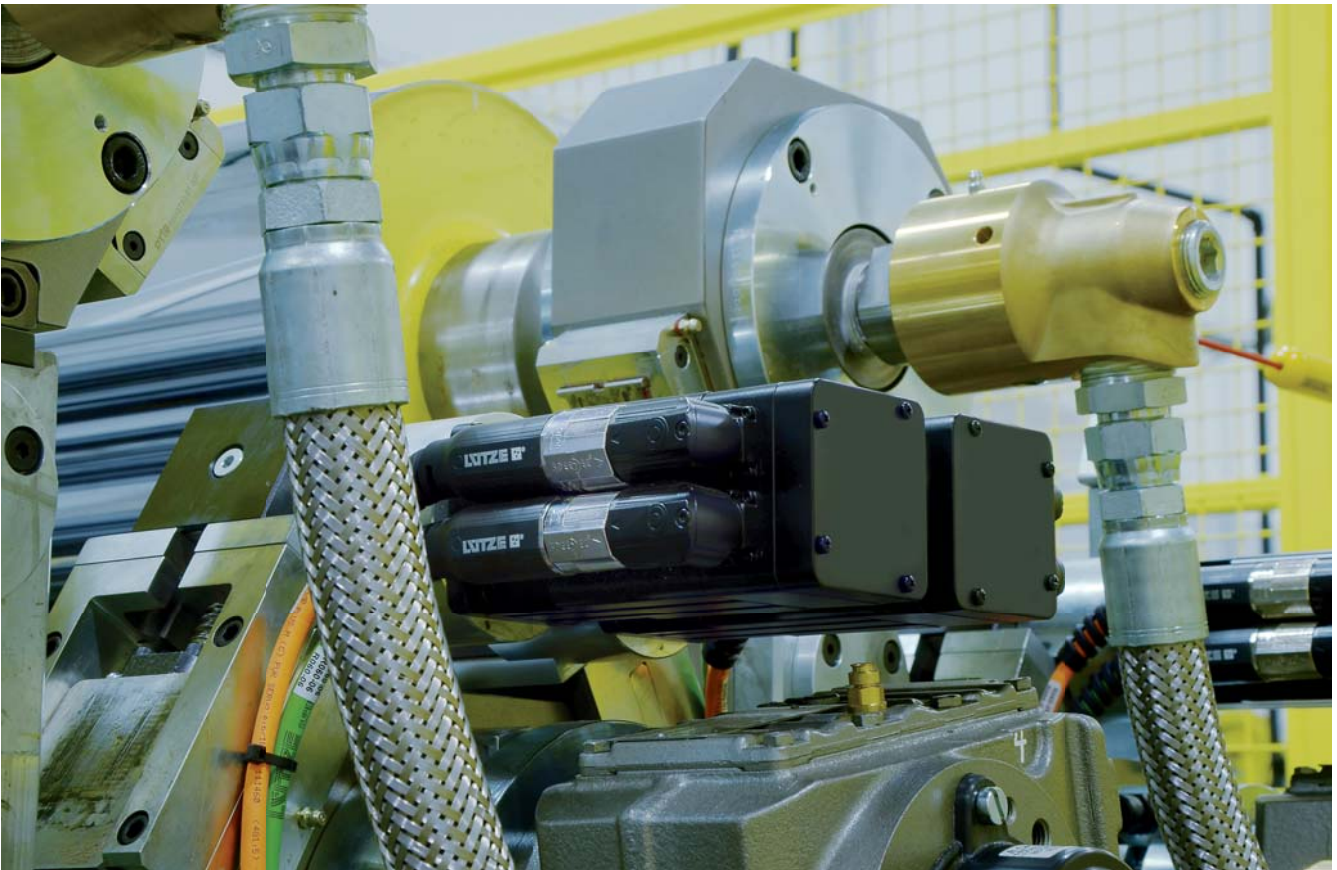
LUTZE covers the full range of connectors needed for the specific servo systems including power, feedback and single configurations.

Certain connectors provide integrated kink protection via spiral plastic sleeve. All connectors ensure proper 360° EMC shielding, thus meeting and exceeding requirements of the demanding industrial applications.

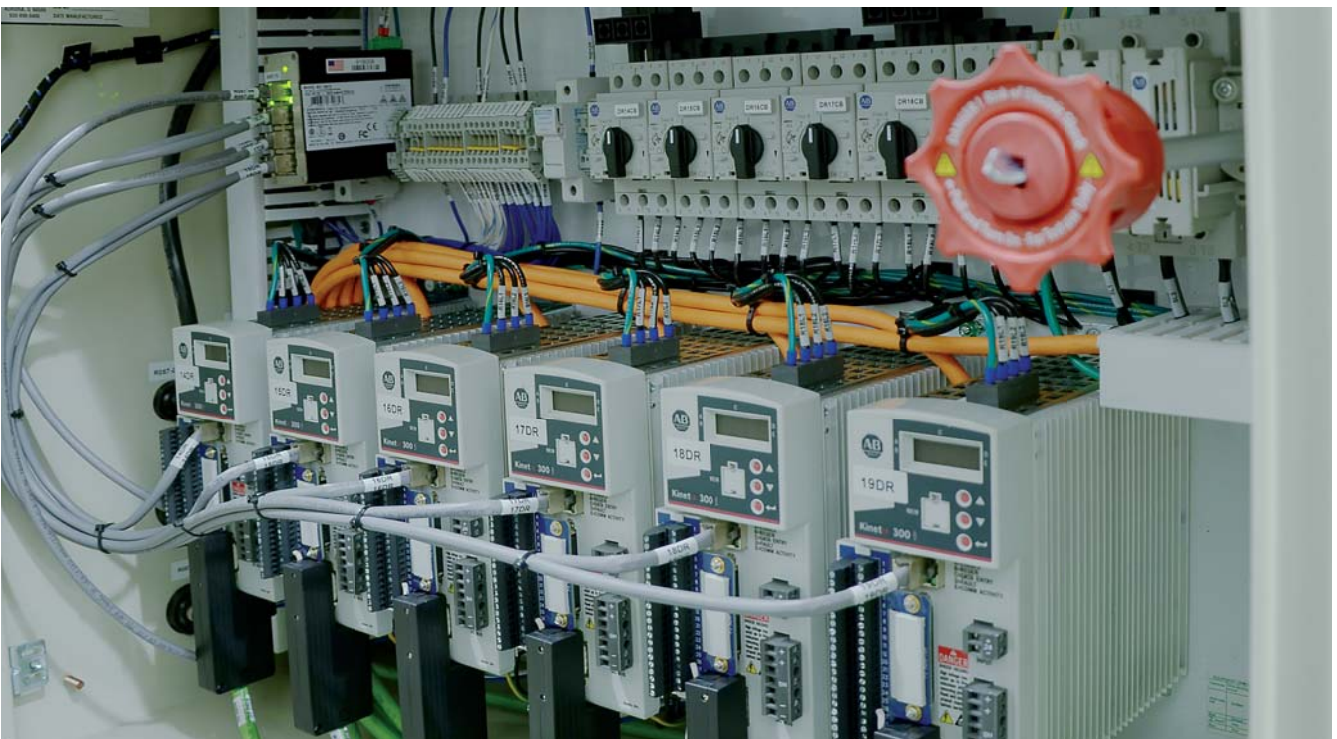
Other benefits:

- Tamper-proof: to avoid unauthorized opening of the connector housing and incorrect field terminations
- Fully compatible with respective servo systems
- Short delivery times
- Protection class IP66/67

Applications



LUTZE power and feedback cable assemblies are designed for harsh industrial environments.



Wiring inside the cabinet: LUTZE cable assemblies are always system compatible and offer great flexibility.

Applications



Servomotor Cable Assemblies for stationary applications

According to Allen-Bradley 2090 standard



Application

- For Allen-Bradley standard
- Connecting lead especially for frequency converters and servo drives in machine and plant construction, transport and conveyor technology
- Conform with NFPA79 for machine tool wiring
- Very suitable for extreme operating conditions and high interference signals
- In dry, moist and wet environment
- Especially for industrial environments in mechanical and system engineering

Characteristics

- High active and passive interference resistance (EMC)
- Easy installation
- Largely resistant to mineral and vegetable-based cutting oils
- UV-resistant
- Silicone and talcum free
- RoHS compliant

Technical data

| | |
|--------------------------------|---|
| Rated voltage U_N | 1000 V Flexible Motor Supply 1000 V WTTC 600 V UL TC 600 V UL MTW 600 V UL AWM 105 °C |
| Test voltage | 4000 V |
| Insulation resistance at 20 °C | ≥ 500 MΩ×km |
| Temperature range fixed | -40 °C ... +90 °C (105 °C) |
| Temperature range moving | -5 °C ... +90 °C |
| Minimum bending radius fixed | 6×D |
| Minimum bending radius moving | 15×D |
| Certifications | UL Flexible Motor Supply Cable UL Type WTTC 1000 V UL Type TC-ER MTW 600 V UL AWM Style 20328 CE RoHS REACH Class 1 Div. 2 per NEC Art. 336, 392, 501 C(UL) TC and CIC FT4 UL 1277 Oil Res I and II |

Construction

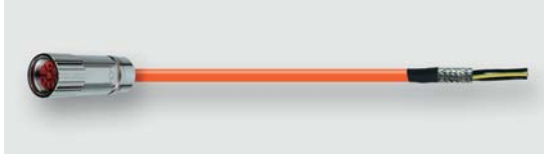
- Conductor: AWG conductor, CU-wire bare
- Conductor insulation: PVC/Nylon
- Conductor marking: brown, black, blue
- Ground conductor green/yellow according to DIN EN 50334
- Control pair: colour-coded black, white, with foil tape and braided shield
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: TPE
- Surface: matt, adhesion-free
- Jacket color: orange RAL 2003

| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer ∅ mm |
|----------------------------|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193966.1000 | 2090-CPWM7DF-16AA10 | 10.0 m | (4GAWG16) | 10.5 |
| 193956.1000 | 2090-CPWM7DF-14AA10 | 10.0 m | (4GAWG14) | 11.6 |
| 193352.1000 | 2090-CPWM7DF-12AA10 | 10.0 m | (4GAWG12) | 13.1 |
| 193306.1000 | 2090-CPWM7DF-10AA10 | 10.0 m | (4GAWG10) | 16.5 |
| 193353.1000 | 2090-CPWM7DF-08AA10 | 10.0 m | (4GAWG8) | 21.0 |
| 193960.1000 | 2090-CPBM7DF-16AA10 | 10.0 m | (4GAWG16+(2×AWG18)) | 12.1 |
| 193990.1000 | 2090-CPBM7DF-14AA10 | 10.0 m | (4GAWG14+(2×AWG18)) | 12.8 |
| 193356.1000 | 2090-CPBM7DF-12AA10 | 10.0 m | (4GAWG12+(2×AWG18)) | 14.2 |
| 193962.1000 | 2090-CPBM7DF-10AA10 | 10.0 m | (4GAWG10+(2×AWG18)) | 18.1 |
| 193357.1000 | 2090-CPBM7DF-08AA10 | 10.0 m | (4GAWG8+(2×AWG18)) | 22.5 |
| 193961.1000 | 2090-CPBM7DF-06AA10 | 10.0 m | (4GAWG6+(2×AWG18)) | 24.6 |
| 193362.1000 | 2090-CPBM7DF-04AA10 | 10.0 m | (4GAWG4+(2×AWG18)) | 29.5 |
| 193369.1000 | 2090-CPBM7DF-02AA10 | 10.0 m | (4GAWG2+(2×AWG18)) | 34.1 |

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Servomotor Cable Assemblies for continuous flexing

According to Allen-Bradley 2090 standard



Application

- Servo cables for Allen-Bradley drives
- Due to optimized cable construction optimally suited for continuous flexing applications in C-tracks
- Very good resistance against aggressive coolants and lubricants
- Especially for industrial environments in machines and plants

Characteristics

- High active and passive interference resistance (EMC)
- Silicone free
- RoHS compliant

Technical data

| | |
|-------------------------------|--|
| Rated voltage U_N | 1000 V 80 °C |
| Rated voltage U_0/U | 600/1000 V |
| Test voltage | 4000 V |
| Temperature range fixed | -40 °C ... +80 °C |
| Temperature range moving | -25 °C ... +80 °C |
| Minimum bending radius fixed | 6×D |
| Minimum bending radius moving | 10×D |
| Burning behavior according to | VDE 0482 Part 265-2 IEC 60332-1 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | EN 50267-2-1 |
| Certifications | UL AWM 21223 |

Construction

- Conductor: CU-wire bare
- Conductor category: Superfinely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor marking: black/white, Type print
- Ground conductor green/yellow according to DIN EN 50334
- Control pair: colour-coded (bw, wb) or numbered (5/6/7/8), with foil tape and braided shield
- Overall stranding: conductors twisted without mechanical stress
- Overall wrapping: Fleece taping, over the cable core
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Surface: matt, adhesion-free
- Jacket color: orange RAL 2003

| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer \varnothing mm |
|-------------------|----------------------------|----------------|-------------------------------------|------------------------|
| DIN thread | | | | |
| 193951.1000 | 2090-XXNPMF-16S10 | 10.0 | (4G1.5+2×(2×0.75)) | 12.9 |
| 193950.1000 | 2090-XXNPMF-14Sxx | 10.0 | (4G2.5+2×(2×1.0)) | 14.2 |

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Servomotor Cable Assemblies for continuous flexing

According to Allen-Bradley 2090 standard



Application

- Servo cables for Allen-Bradley drives
- Due to optimized cable construction optimally suited for continuous flexing applications in C-tracks
- Very good resistance against aggressive coolants and lubricants
- Especially for industrial environments in machines and plants

Characteristics

- High active and passive interference resistance (EMC)
- Silicone free
- RoHS compliant

Technical data

| | |
|-------------------------------|--|
| Rated voltage U_N | 1000 V 80 °C |
| Rated voltage U_0/U | 600/1000 V |
| Test voltage | 4000 V |
| Temperature range fixed | -40 °C ... +80 °C |
| Temperature range moving | -25 °C ... +80 °C |
| Minimum bending radius fixed | 6×D |
| Minimum bending radius moving | 10×D |
| Burning behavior according to | IEC 60332-1 VDE 0482 Part 265-2 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | EN 50267-2-1 |
| Certifications | cURus UL AWM 21223 |

Construction

- Conductor: CU-wire bare
- Conductor category: Superfinely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor marking: Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- Ground conductor green/yellow according to DIN EN 50334
- Control pair: colour-coded (bw, wb) or numbered (5/6/7/8), with foil tape and braided shield
- Overall stranding: conductors twisted without mechanical stress
- Overall wrapping: Fleece taping, over the cable core
- Overall shield:
- Jacket material: PUR
- Surface: matt, adhesion-free
- Jacket color: orange RAL 2003

| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer Ø mm |
|----------------------------|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193309.1000 | 2090-CPWM7DF-16AF10 | 10.0 | (4G1.5) | 8.6 |
| 193307.1000 | 2090-CPWM7DF-10AF10 | 10.0 | (4G6.0) | 14.0 |
| 193989.1000 | 2090-CPBM7DF-10AF10 | 10.0 | (4G6.0+(2×1.5)) | 16.1 |
| 193991.1000 | 2090-CPBM7DF-16AF10 | 10.0 | (4G1.5+(2×1.5)) | 11.4 |
| 193308.1000 | 2090-CPWM7DF-14AF10 | 10.0 | (4G2.5) | 10.8 |
| 193957.1000 | 2090-CPBM7DF-14AF10 | 10.0 | (4G2.5+(2×1.5)) | 12.9 |
| 193311.1000 | 2090-CPWM7DF-08AF10 | 10.0 | (4G10) | 17.6 |
| 193355.1000 | 2090-CPBM7DF-08AF10 | 10.0 | (4G10+(2×1.5)) | 19.5 |
| DIN thread | | | | |
| 193985.1000 | 2090-CPBM4DF-16AF10 | 10.0 | (4G1.5+(2×1.5)) | 12.9 |
| 193303.1000 | 2090-CPWM4DF-16AF10 | 10.0 | (4G1.5) | 8.6 |
| 193983.1000 | 2090-CPBM4DF-14AF10 | 10.0 | (4G2.5+(2×1.5)) | 14.2 |
| 193301.1000 | 2090-CPWM4DF-14AF10 | 10.0 | (4G2.5) | 10.8 |
| Extension SpeedTec | | | | |
| 193996.1000 | 2090-CPBM7E7-16AF10 | 10.0 | (4G1.5+(2×1.5)) | 11.4 |
| 193994.1000 | 2090-CPBM7E7-10AF10 | 10.0 | (4G6.0+(2×1.5)) | 16.1 |
| 193360.1000 | 2090-CPBM7E7-14AF10 | 10.0 | (4G2.5+(2×1.5)) | 12.9 |
| 193361.1000 | 2090-CPBM7E7-08AF10 | 10.0 | (4G10+(2×1.5)) | 19.5 |

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Feedback Cable Assemblies for stationary installations

According to Allen-Bradley 2090 standard



| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer Ø mm |
|----------------------------|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193959.1000 | 2090-CFBM7DF-CEAA10 | 10.0 | (5×2×AWG22) | 9.9 |
| 193358.1000 | 2090-CFBM7DF-CEAA10 | 10.0 | (5×2×AWG22) | 9.9 |
| DIN thread | | | | |
| 193337.1000 | 2090-XXNFMF-S10 | 10.0 | (2×AWG16+2×AWG22+6×2×AWG26) | 13.6 |

Application

- Feedback cables for Allen-Bradley drives
- Conform with NFPA79 for machine tool wiring
- Very suitable for extreme operating conditions and high interference signals
- In dry, damp and wet environment
- Especially for industrial environments in mechanical and system engineering

Characteristics

- High active and passive interference resistance (EMC)
- Easy installation
- Specially developed TPE jacket for superior oil-resistance according to UL 1581
- Resistant to most mineral and vegetable-based cutting oils
- UV-resistant
- Silicone and talcum-free
- RoHS compliant

Technical data

| | |
|-------------------------------|---|
| Rated voltage U_N | 300 V UL PLTC-ER 300 V UL CM 600 V UL AWM 90 °C |
| Test Voltage | 1500 V |
| Temperature range fixed | -40 °C ... +90 °C (105 °C) |
| Temperature range moving | -5 °C ... +90 °C |
| Burning behavior according to | UL Vertical-Tray UL VW-1 |
| Oil resistant according to | UL 1581 |
| Oil resistance | 4 days in oil at 100 °C 60 days in oil at 75 °C |
| Certifications | PLTC-ER NEC 725, 760, 800 Class 1 Div. 2 per NEC CE UL cULus |

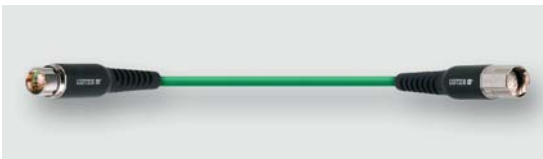
Construction

- Conductor: AWG conductor, CU-wire tin-plated
- Conductor insulation: Special PVC
- Conductor marking: Color coded
- Overall shield: Aluminium laminate, Foil shield, Braid shield, Tinned copper wires, optical cover approx. 85%, drain wire
- Jacket material: TPE
- Jacket color: green RAL 6018

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Feedback Cable Assemblies for continuous flexing

According to Allen-Bradley 2090 standard



Application

- Servo feedback cables for Allen-Bradley drives
- Due to optimized cable construction optimally suited for continuous flexing applications in C-tracks
- Very good resistance against aggressive coolants and lubricants
- Especially for industrial environments in machines and plants

Characteristics

- High active and passive interference resistance (EMC)
- Silicone free
- RoHS compliant

Technical data

| | |
|-------------------------------|--|
| Rated voltage U_N | 1000 V 80 °C |
| Temperature range fixed | -40 °C ... +80 °C |
| Temperature range moving | -25 °C ... +80 °C |
| Minimum bending radius fixed | 6×D |
| Minimum bending radius moving | 12×D |
| Burning behavior according to | IEC 60332-1 VDE 0482 Part 265-2 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | EN 50267-2-1 |
| Certifications | cULus UL AWM 21223 |

Construction

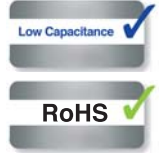
- Conductor: CU-wire bare
- Conductor category: Superfinely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor marking: Color coded
- Ground conductor green/yellow according to DIN EN 50334
G = with green/yellow ground conductor, × = without ground conductor
- Control pair:
- Overall stranding: conductors layered construction
- Overall wrapping: Fleece taping, over the cable core
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Surface: matt, adhesion-free
- Jacket color: green RAL 6018

| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer Ø mm |
|----------------------------|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193977.1000 | 2090-CFBM7DF-CEAF10 | 10.0 | (5×2×AWG22) | 9.2 |
| 193958.1000 | 2090-CFBM7DF-CDAF10 | 10.0 | (2×AWG16+2×AWG22+ 6×2×AWG26) | 10.8 |
| 193350.1000 | 2090-CFBM7DD-CEAF10 | 10.0 | (5×2×AWG22) | 9.2 |
| DIN thread | | | | |
| 193973.1000 | 2090-CFBM4DF-CDAF10 | 10.0 | (2×AWG16+2×AWG22+ 6×2×AWG26) | 10.8 |
| Extension SpeedTec | | | | |
| 193979.1000 | 2090-CFBM7E7-CEAF10 | 10.0 | (5×2×AWG22) | 9.2 |
| 193978.1000 | 2090-CFBM7E7-CDAF10 | 10.0 | (2×AWG16+2×AWG22+ 6×2×AWG26) | 10.8 |

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Specifications are subject to change without prior notice.

Single Cable Assemblies for stationary applications

According to Allen-Bradley 2090 standard



Application

- Combined power supply cable with motor supply, brake and digital feedback especially for SERVO drives in machine and plant construction, transport and conveyor technology
- Conforms to NFPA79 for machine tool wiring
- For systems using the HIPERFACE DSL communication protocol

Characteristics

- High active and passive interference resistance (EMC)
- Easy installation
- Low adhesion, abrasion resistant, nick resistant, tear propagation resistant
- Hydrolysis resistant, microbe resistant, and rot resistant
- Weathering, ozone and UV resistant (normal lighting conditions)
- Good resistance to use and salt water
- Excellent coolant and lubricant resistance
- Halogen free
- Silicone and talcum free
- RoHS compliant

Technical data

| | |
|--------------------------------|---|
| Rated voltage U_N | 1000 V Flexible VFD servo cable |
| Temperature range fixed | -40 °C ... +90 °C |
| Temperature range moving | -40 °C ... +90 °C |
| Minimum bending radius fixed | 6×D |
| Minimum bending radius moving | 6×D |
| Insulation resistance at 20 °C | ≥ 100 MΩ×km |
| Certifications | cULus Flexible VFD Servo Cable UL CE CSA UL 2277 Oil Res II RoHS REACH PLTC-ER |

Note

max. cable length according to Allen-Bradley specifications

Base cable for Kinetix® 5500 Drives max. 50 m
 Base cable for Kinetix® 5700 Drives max. 90 m
 Extension cable max. 30 m

Construction

- Conductor: AWG conductor, CU-wire tin-plated
- Conductor category: fine wire
- Conductor insulation: XLPE
- Conductor marking: Power conductors: brown, blue, black, Control pair: black/white, BUS element: white/blue, Ground conductor: green/yellow
- Conductor marking standard: IEC 60446 section 5.3.2, NFPA 79 2018 edition, article 13.2.2
- Ground conductor G = with green/yellow ground conductor, × = without ground conductor
- Control pair: with foil tape and braided shield
- Overall shield: braid shield, foil shield, tinned copper wires, drain wire, optical cover approx. 85%
- Overall stranding: elements stranded together
- Jacket material: Special TPE
- Jacket color: orange RAL 2003

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| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer Ø mm |
|--|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193318.1000 | 2090-CSBM1DF-18AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 14.9 |
| 193319.1000 | 2090-CSBM1DF-14AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 16.5 |
| 193320.1000 | 2090-CSWM1DF-18AA10 | 10.0 | (4GAWG18+(2×AWG22)) | 14.9 |
| 193321.1000 | 2090-CSWM1DF-14AA10 | 10.0 | (4GAWG14+(2×AWG22)) | 16.5 |
| 193322.1000 | 2090-CSBM1DF-10AA10 | 10.0 | (4GAWG10+(2×AWG18)+(2×AWG22)) | 18.8 |
| 193323.1000 | 2090-CSWM1DF-10AA10 | 10.0 | (4GAWG10+(2×AWG22)) | 18.8 |
| 193324.1000 | 2090-CSBM1DG-18AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 14.9 |
| 193325.1000 | 2090-CSBM1DG-14AA10 | 10.0 | (4GAWG14+(2×AWG18)+(2×AWG22)) | 16.5 |
| 193326.1000 | 2090-CSBM1DG-10AA10 | 10.0 | (4GAWG10+(2×AWG18)+(2×AWG22)) | 18.8 |
| 193327.1000 | 2090-CSWM1DG-18AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 14.9 |
| 193328.1000 | 2090-CSWM1DG-14AA10 | 10.0 | (4GAWG14+(2×AWG18)+(2×AWG22)) | 16.5 |
| Base cable with 2198-KITCON-DSL | | | | |
| 193329.1000 | 2090-CSBM1DE-18AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 14.9 |
| 193330.1000 | 2090-CSBM1DE-14AA10 | 10.0 | (4GAWG14+(2×AWG18)+(2×AWG22)) | 16.5 |
| 193331.1000 | 2090-CSWM1DE-18AA10 | 10.0 | (4GAWG18+(2×AWG22)) | 14.9 |
| 193332.1000 | 2090-CSWM1DE-14AA10 | 10.0 | (4GAWG14+(2×AWG22)) | 16.5 |
| 193333.1000 | 2090-CSBM1DE-10AA10 | 10.0 | (4GAWG10+(2×AWG18)+(2×AWG22)) | 18.8 |
| 193334.1000 | 2090-CSWM1DE-10AA10 | 10.0 | (4GAWG10+(2×AWG22)) | 18.8 |
| Extension SpeedTec | | | | |
| 193335.1000 | 2090-CSBM1E1-18AA10 | 10.0 | (4GAWG18+(2×AWG18)+(2×AWG22)) | 14.9 |
| 193336.1000 | 2090-CSBM1E1-14AA10 | 10.0 | (4GAWG14+(2×AWG18)+(2×AWG22)) | 16.5 |
| 193338.1000 | 2090-CSBM1E1-10AA10 | 10.0 | (4GAWG10+(2×AWG18)+(2×AWG22)) | 18.8 |

Single Cable Assemblies for continuous flexing

According to Allen-Bradley 2090 standard



Application

- Combined power supply cable with motor supply, brake and digital feedback especially for SERVO drives in machine and plant construction, transport and conveyor technology
- Due to special PUR jacket and TPE / HGI conductor insulation optimally suited for c-tracks, extremely rough operating conditions and aggressive coolants and lubricants
- For systems using the HIPERFACE DSL communication protocol

Characteristics

- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexible use
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Halogen free
- Silicone and talcum free
- RoHS compliant

Technical data

| | |
|-------------------------------|--|
| Rated voltage U_N | 1000 V 80 °C |
| Rated voltage U_0/U | 600/1000 V |
| Test voltage | 3000 V |
| Temperature range fixed | -40 °C ... +80 °C |
| Temperature range moving | -25 °C ... +80 °C |
| Minimum bending radius fixed | 5×D |
| Minimum bending radius moving | 7.5×D |
| Burning behavior according to | IEC 60332-1 DIN EN 50265-2 VDE 0482 Part 265-2 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | EN 50267-2-1 |
| Certifications | cURus UL AWM 21223 |

Note

max. cable length according to Allen-Bradley specifications

Base cable for Kinetix® 5500 Drives max. 50 m

Base cable for Kinetix® 5700 Drives max. 90 m

Extension cable max. 30 m

Construction

- Conductor: CU-wire bare
- Conductor category: Finely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor insulation: Special TPE
- Conductor marking: Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- Ground conductor green/yellow according to DIN EN 50334
G = with green/yellow ground conductor, x = without ground conductor
- Control pair: colour-coded black, white, with foil tape and braided shield
- Overall stranding: strands braided together
- Overall shield: braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: Special PUR
- Surface: matt, adhesion-free
- Jacket color: orange RAL 2003

*Allen-Bradley, Kinetix® and 2090 series article designations are trademarks of Rockwell Automation, Inc. and are for reference purposes only.

* UL approval and technical data shown apply to the cable used in the assemblies.

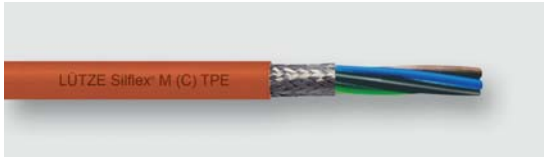
The product photos are not to scale and do not represent detailed images of the respective products.

Specifications are subject to change without prior notice.

| Part No. | Allen-Bradley designation* | Cable length m | Number of conductors/ cross-section | Outer Ø mm |
|--|----------------------------|----------------|-------------------------------------|------------|
| Base cable SpeedTec | | | | |
| 193366.1000 | 2090-CSBM1DF-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193364.1000 | 2090-CSBM1DF-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| 193371.1000 | 2090-CSWM1DF-18AF10 | 10.0 | (4G1.0+(2×AWG22)) | 11.8 |
| 193370.1000 | 2090-CSWM1DF-14AF10 | 10.0 | (4G2.5+(2×AWG22)) | 14.0 |
| 193375.1000 | 2090-CSBM1DF-10AF10 | 10.0 | (4G6+(2×1.0)+(2×AWG22)) | 17.8 |
| 193376.1000 | 2090-CSWM1DF-10AF10 | 10.0 | (4G6+(2×AWG22)) | 17.8 |
| 193300.1000 | 2090-CSBM1DG-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193302.1000 | 2090-CSBM1DG-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| 193304.1000 | 2090-CSBM1DG-10AF10 | 10.0 | (4G6+(2×1.0)+(2×AWG22)) | 17.8 |
| 193305.1000 | 2090-CSWM1DG-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193310.1000 | 2090-CSWM1DG-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| Base cable with 2198-KITCON-DSL | | | | |
| 193952.1000 | 2090-CSBM1DE-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193963.1000 | 2090-CSBM1DE-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| 193379.1000 | 2090-CSWM1DE-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193955.1000 | 2090-CSWM1DE-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| 193968.1000 | 2090-CSBM1DE-10AF10 | 10.0 | (4G6+(2×1.0)+(2×AWG22)) | 17.8 |
| 193967.1000 | 2090-CSWM1DE-10AF10 | 10.0 | (4G6+(2×1.0)+(2×AWG22)) | 17.8 |
| 193315.1000 | 2090-CSBM1DE-08AF10 | 10.0 | (4G10+(2×1.5)+(2×AWG22)) | 21.0 |
| 193316.1000 | 2090-CSBM1DE-06AF10 | 10.0 | (4G16+(2×1.5)+(2×AWG22)) | 26.0 |
| Extension SpeedTec | | | | |
| 193373.1000 | 2090-CSBM1E1-18AF10 | 10.0 | (4G1.0+(2×0.75)+(2×AWG22)) | 11.8 |
| 193374.1000 | 2090-CSBM1E1-14AF10 | 10.0 | (4G2.5+(2×1.0)+(2×AWG22)) | 14.0 |
| 193377.1000 | 2090-CSBM1E1-10AF10 | 10.0 | (4G6+(2×1.0)+(2×AWG22)) | 17.8 |

TPE Motor cables · stationary applications · shielded

LUTZE SILFLEX[®] M (C) TPE POWER TRAY CABLE Flexible Motor Cable for Allen-Bradley and other systems



Application

- Shielded multi-conductor cable for motor and servo motor applications
- Cable design for harsh industrial environments and operating conditions with high noise levels
- Improved insulation design with additional conductor stress relief layer as a power distortion suppressant
- Compliant with NFPA 79 for machine tool wiring
- TC-ER for use with cable trays without conduit, which can reduce material and labor costs
- UL Type 1000V Flexible Motor Supply Cable for Motor/Power applications
- Dry, damp and wet locations

Characteristics

- Conductor stress relief layer prevents premature cable failure and reduces corona effects, increasing reliability and lifetime
- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Very round cable with small diameter
- Specially formulated TPE jacket for superior oil resistance per Oil Res I and II
- Resistant to many mineral and vegetable based cutting oils
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc free and Silicone free

Technical data

| | |
|------------------------------|---|
| Rated voltage U_N | 600 V UL TC 600 V UL MTW 1000 V WTTC 1000 V Flexible Motor Supply 600 V UL AWM 105 °C |
| Temperature range fixed | -40 °C ... +90 °C |
| Minimum bending radius fixed | 6×D |
| Certifications | cULus TC-ER UL MTW WTTC Class 1 Div. 2 per NEC Art. 336, 392, 501 cUL TC CIC FT4 UL 1277 cURus |

Construction

- Conductor: AWG conductor CU-wire bare
- Conductor insulation: PVC/Nylon
- Conductor marking: brown, black, blue, green/yellow
Pair: black, white
- Ground conductor: green/yellow
- Overall shield: braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: TPE
- Jacket color: orange RAL 2003

| Part No. | Number of conductors/ cross-section | Outer ∅ mm | Outer ∅ inch | Weight Lbs/Mft | Cu-Index Lbs/Mft |
|--|--|---------------|-----------------|-------------------|---------------------|
| Construction without signal pair | | | | | |
| A3161604 | (4×AWG16) | 10.5 | 0.41 | 124 | 50 |
| A3161404 | (4×AWG14) | 11.6 | 0.455 | 159 | 71 |
| A3161204 | (4×AWG12) | 13.1 | 0.51 | 214 | 107 |
| A3161004 | (4×AWG10) | 16.5 | 0.65 | 321 | 161 |
| A3160804 | (4×AWG8) | 21.0 | 0.825 | 490 | 267 |
| Construction with one signal pair | | | | | |
| A3171604 | (4×AWG16+1×2×AWG18) | 12.1 | 0.477 | 161 | 72 |
| A3171404 | (4×AWG14+1×2×AWG18) | 12.8 | 0.505 | 196 | 92 |
| A3171204 | (4×AWG12+1×2×AWG18) | 14.2 | 0.581 | 263 | 128 |
| A3171004 | (4×AWG10+1×2×AWG18) | 18.1 | 0.716 | 380 | 191 |
| A3170804 | (4×AWG8+1×2×AWG18) | 22.5 | 0.89 | 568 | 285 |
| A3170604 | (4×AWG6+1×2×AWG18) | 25.5 | 1 | 786 | 417 |
| A3170404 | (4×AWG4+1×2×AWG18) | 29.5 | 1.162 | 1119 | 613 |
| A3170204 | (4×AWG2+1×2×AWG18) | 34.1 | 1.34 | 1543 | 983 |

Specifications are subject to change without prior notice.

PUR servo cables · continuous flexing · shielded

LUTZE SUPERFLEX® PLUS M (C) PUR SERVO 0.6/1 kV High Flexing Motor Cable for Siemens and other systems For highest requirements



Application

- Connection cable motor or motor/brake especially for frequency converters and SERVO drives in machine and plant construction, transport and conveyor technology
- Due to optimized cable construction optimally suited for continuous flexing applications in C-tracks
- Very good resistance against aggressive coolants and lubricants
- Especially for industrial environments in mechanical and system engineering

Characteristics

- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexible use
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzenes and kerosene
- Silicone free
- RoHS compliant

Technical data

| | |
|--------------------------------|--|
| UL style | AWM 21223 |
| Rated voltage UL | 1000 V |
| Rated voltage U_0/U | 600/1000 V |
| Test voltage | AC 4000 V |
| Insulation resistance at 20 °C | $\geq 500 \text{ M}\Omega \cdot \text{km}$ |
| Temperature range moving | -25 °C ... +80 °C |
| Temperature range fixed | -40 °C ... +80 °C |
| Minimum bending radius moving | $7.5 \times D \leq 16 \text{ mm}^2$ |
| | $10 \times D \geq 25 \text{ mm}^2$ |
| Minimum bending radius fixed | $5 \times D$ |

Burning behavior according to IEC 60332-1
DIN EN 60332-1-2
VDE 0482 322-1-2
UL 1581 Part 1080 VW-1
UL FT1

Halogen free according to DIN EN 60754-1
IEC 60754-1

Conformity CE
RoHS
REACH

Certifications cURus

Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 6, Superfinely stranded DIN VDE 0295, class 6
- Conductor insulation: Special TPE
- Conductor marking: black, with white print, U/L1/C/L+, V/L2, W/L3/D/L-, green/yellow
- Ground conductor: G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: conductors twisted without mechanical stress, layer pitch optimised, conductors twisted without mechanical stress
- Overall wrapping: Fleece taping
- Overall shield: braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Surface: adhesion-free, matt
- Jacket color: orange RAL 2003

| Part No. | Number of conductors/ cross-section | SIEMENS designation* | Outer \varnothing mm | Weight kg/100 m | Cu-Index kg/100 m |
|---|--|-------------------------|---------------------------|--------------------|----------------------|
| Construction without signal pair | | | | | |
| 111879 | (4G1.0) | | 7.4 | 10.8 | 6.5 |
| 111460 | (4G1.5) | 1BB11 | 8.6 | 11.7 | 8.3 |
| 111461 | (4G2.5) | 1BB21 | 10.8 | 17.3 | 13.0 |
| 111462 | (4G4) | 1BB31 | 12.2 | 24.5 | 19.3 |
| 111463 | (4G6) | 1BB41 | 14.0 | 36.5 | 27.5 |
| 111464 | (4G10) | 1BB51 | 17.6 | 54.9 | 45.0 |
| 111465 | (4G16) | 1BB61 | 21.2 | 84.9 | 72.0 |
| 111466 | (4G25) | 1BB25 | 25.0 | 129.9 | 108.0 |
| 111467 | (4G35) | 1BB35 | 28.8 | 169.2 | 152.4 |
| 111468 | (4G50) | 1BB50 | 33.9 | 244.2 | 216.8 |
| Construction with one signal pair (white, black) | | | | | |
| 111420 | (4G1.5+(2×1.5)) | 1BA11 | 11.6 | 21.0 | 14.9 |
| 111421 | (4G2.5+(2×1.5)) | 1BA21 | 12.9 | 23.5 | 19.3 |
| 111422 | (4G4+(2×1.5)) | 1BA31 | 14.5 | 32.0 | 25.5 |
| 111423 | (4G6+(2×1.5)) | 1BA41 | 16.1 | 43.0 | 33.9 |
| 111424 | (4G10+(2×1.5)) | 1BA51 | 19.5 | 68.0 | 52.6 |
| 111425 | (4G16+(2×1.5)) | 1BA61 | 23.6 | 95.6 | 77.3 |
| 111426 | (4G25+(2×1.5)) | 1BA25 | 28.5 | 136.5 | 113.0 |
| 111427 | (4G35+(2×1.5)) | 1BA35 | 31.0 | 274.6 | 159.0 |
| 111428 | (4G50+(2×1.5)) | 1BA50 | 34.5 | 373.7 | 224.0 |

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

TPE feedback cables · for stationary application · shielded

Feedback cables for Allen-Bradley and other systems



Application

- Incremental encoder cable and resolver cable for tachometer, brake sensor, speed sensor
- Cable design for harsh industrial environments and operating conditions with high noise level
- UL listed and NFPA 79 compliant
- Dry, damp and wet locations

Characteristics

- High active and passive interference resistance (EMC)
- Flexible for easy installation
- Specially formulated TPE jacket for superior oil resistance according to UL1581
- Resistant to many mineral & vegetable based cutting oils
- Non-wicking fillers
- Extended temperature range and premium durability
- Sunlight resistant
- Talc and Silicone free

Technical data

| | |
|------------------------------|---|
| Rated voltage U_N | 300 V UL PLTC-ER 300 V UL CM 600 V UL AWM 90 °C |
| Test Voltage | 1500 |
| Temperature range moving | -5 °C ... +90 °C |
| Temperature range fixed | -40 °C ... +90 °C (105 °C) |
| Minimum bending radius fixed | 6×D |
| Oil resistant according to | UL 1581 |
| Oil resistance | 4 days in oil at 100 °C 60 days in oil at 75 °C |
| Certifications | A1410001: PLTC-ER NEC 725 Class 1 Div. 2 per NEC A1410002: UL Type CM NEC 800 |

Construction

- Conductor: AWG conductor CU-wire tin-plated
- Conductor insulation: Special PVC
- Overall wrapping: Fleece taping
- Overall shield: foil shield, braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: TPE
- Jacket color: green RAL 6018

| Part No. | Number of strands/cross-section/ strand colors | Outer \varnothing mm | Outer \varnothing inch | Weight Lbs/Mft | Cu-Index Lbs/Mft |
|----------|--|---------------------------|-----------------------------|-------------------|---------------------|
| A1410001 | (5×2×AWG22) 5×2×AWG22 black, black/white, red, red/white, green, green/white, yellow, yellow/ white, orange, orange/white | 10.0 | 0.395 | 102 | 40 |
| A1410002 | (1×2×AWG16+1×2×AWG22+6×2×AWG26) 1×2×AWG16 grey, grey/white 1×2×AWG22 orange, orange/white 6×2×AWG26 black, black/white, red, red/white, green, green/white, blue, blue/white, brown, brown/white, yellow, yellow/white | 11.8 | 0.465 | 143 | 54 |

* Allen-Bradley article designations are registered trademarks
Specifications are subject to change without prior notice.

PUR feedback cables · continuous flexing · shielded

LUTZE SUPERFLEX® PLUS (C) PUR FEEDBACK Feedback cables for Allen-Bradley and other systems For highest requirements in drive technology



Application

- Incremental encoder cable, connection cable for tacho sensor, brake sensor, speed sensor
- Due to optimized cable construction optimally suited for continuous flexing applications in C-tracks
- Very good resistance against aggressive coolants and lubricants
- Especially for industrial environments in mechanical and system engineering

Characteristics

- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexible use
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS compliant

Technical data

| | |
|--------------------------------|---|
| UL style | AWM 21223 |
| Rated voltage | 1000 V V |
| Test voltage | AC 2000 V |
| Insulation resistance at 20 °C | ≥ 200 MΩ×km |
| Temperature range moving | -25 °C ... +80 °C |
| Temperature range fixed | -40 °C ... +80 °C |
| Minimum bending radius moving | 7.5×D |
| Minimum bending radius fixed | 5×D |
| Burning behavior according to | IEC 60332-1 DIN EN 60332-1-2 VDE 0482 322-1-2 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | DIN EN 60754-1 IEC 60754-1 |
| Conformity | CE RoHS REACH |
| Certifications | cURus |

Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 6, Superfinely stranded DIN VDE 0295, class 6
- Conductor insulation: Special TPE
- Overall stranding: elements stranded together, layer pitch optimized, conductors twisted without mechanical stress
- Overall wrapping: Fleece taping
- Overall shield: braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Jacket color: green RAL 6018

| Part No. | Number of strands/cross-section/strand colors | Outer Ø mm | Weight kg/100 m | Cu-Index kg/100 m |
|---|---|------------|-----------------|-------------------|
| For Allen-Bradley system (and similar) | | | | |
| 111489 | (2×AWG16+2×AWG22+6×2×AWG26) 2×AWG16 grey, white/grey 2×AWG22 orange, white/orange 6×2×AWG26 black/white, black, red/white, red, green/white, green, blue/white, blue, brown/white, brown, yellow/ white, yellow | 10.8 | 18.0 | 12.0 |
| 111488 | (5×2×AWG22) (5×2×AWG22) black/white, black, red/white, red, green/white, green, grey/white, grey, orange/white, orange | 9.2 | 10.7 | 5.4 |

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

LUTZE SILFLEX® M VFD XLPE (C) TPE, Shielded

Combined power supply cable for servo motors with Hiperface DSL® Interface
Similar to Allen-Bradley 2090 and other servo system cables



Application

- Combined power supply cable with motor supply, brake and digital feedback especially for SERVO drives in machine and plant construction, transport and conveyor technology
- Cable design for harsh industrial environments and operating conditions with high noise levels
- Compliant with NFPA 79 for machine tool wiring
- Dry, damp and wet locations

Characteristics

- Specially formulated TPE jacket for superior oil resistance
- Resistant to many mineral and vegetable based cutting oils
- Non-wicking fillers
- Flame retardant
- Talc and Silicone free

Technical data

| | |
|----------------------------|---|
| Rated voltage UL | 1000 V |
| Temperature range fixed | -40 °C ... +90 °C |
| Bending radius | 6xD |
| Oil resistant according to | Oil Res II |
| Certifications | UL, CE, Flexible VFD Servo Cable, CSA, UL 2277, RoHS, REACH |

| Part No. | Number of conductors/cross-section | Outer Ø mm | Outer Ø inch | Weight Lbs/Mft | Cu-Index Lbs/Mft |
|----------|------------------------------------|------------|--------------|----------------|------------------|
| A3191804 | ((4AWG18+(2×AWG18)+(2×AWG22)) | 14.9 | 0.585 | 209 | 80 |
| A3191004 | ((4AWG10+(2×AWG18)+(2×AWG22)) | 18.8 | 0.74 | 373 | 197 |
| A3191404 | ((4AWG14+(2×AWG18)+(2×AWG22)) | 16.5 | 0.65 | 260 | 116 |

Construction

- Conductor: AWG conductor
- Conductor insulation: XLPE
- Conductor marking: Power: brown, black, blue, green/yellow
Control pair: black, white
Data pair: blue, white
- Ground conductor: green/yellow
- Overall stranding: elements stranded together
- Overall wrapping: Foil taping
- Overall shield: tinned copper wires, braid shield, optical cover approx. 85%, drain wire
- Jacket material: TPE
- Jacket color: orange RAL 2003

Specifications are subject to change without prior notice.

PUR servo cables · continuous flexing · shielded

LUTZE SUPERFLEX[®] PLUS M (C) PUR HYBRID SERVO 0,6/1 kV combined power supply cable for servo motors with Hiperface DSL[®] interface



Application

- Combined power supply cable with motor supply, brake and digital feedback especially for SERVO drives in machine and plant construction, transport and conveyor technology
- Due to Full PUR jacket and TPE / HGI conductor insulation optimally suited for c-tracks, extremely rough operating conditions and aggressive coolants and lubricants
- Especially for industrial environments in mechanical and system engineering

Characteristics

- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexible use
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzenes and kerosene
- Silicone free
- RoHS compliant

Technical data

| | |
|--------------------------------|---|
| UL style | AWM 21223 |
| Rated voltage U_0/U | 1000 V |
| Test voltage | 3000 V |
| Insulation resistance at 20 °C | $\geq 500 \text{ M}\Omega \times \text{km}$ |
| Temperature range moving | -40 °C ... +80 °C |
| Temperature range fixed | -40 °C ... +80 °C |
| Minimum bending radius moving | 7.5×D |
| Minimum bending radius fixed | 5×D |
| Burning behavior according to | DIN EN 60332-1-2 VDE 0482 322-1-2 IEC 60332-1-2 UL 1581 Part 1080 VW-1 UL FT1 |
| Halogen free according to | IEC 60754-1 |
| Conformity | CE RoHS |
| Certifications | cURus |

Construction

- Conductor: CU-wire tin-plated
- Conductor category: IEC 60228, Class 6, Superfinely stranded DIN VDE 0295, class 6
- Conductor insulation: Polyolefin
- Conductor marking: brown, black, blue, green/yellow
- Ground conductor: green/yellow according to DIN EN 50334
G = with green/yellow ground conductor, × = without ground conductor
- Overall stranding: elements stranded together, layer pitch optimised, conductors twisted without mechanical stress
- Overall wrapping: Fleece taping
- Overall shield: braid shield, tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Jacket color: orange

| Part No. | Number of conductors/cross-section | Outer \varnothing mm | Weight kg/100 m | Cu-Index kg/100 m |
|----------|------------------------------------|------------------------|-----------------|-------------------|
| 111640 | (4G1,0+(2×0,75)+(2×AWG22)) | 12.4 | 21.9 | 13.5 |
| 111641 | (4G1,5+(2×1,0)+(2×AWG22)) | 13.2 | 25.5 | 16.3 |
| 111642 | (4G2,5+(2×1,0)+(2×AWG22)) | 14.5 | 31.0 | 21.7 |
| 111643 | (4G4+(2×1,0)+(2×AWG22)) | 16.2 | 41.4 | 28.9 |
| 111644 | (4G6+(2×1,0)+(2×AWG22)) | 18.0 | 51.5 | 37.3 |
| 111645 | (4G10+(2×1,5)+(2×AWG22)) | 21.0 | 78.3 | 57.3 |
| 111646 | (4G16+(2×1,5)+(2×AWG22)) | 26.0 | 119.8 | 87.0 |

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

Notes

Cable Installation of static cables

Proper handling and installation of static cables

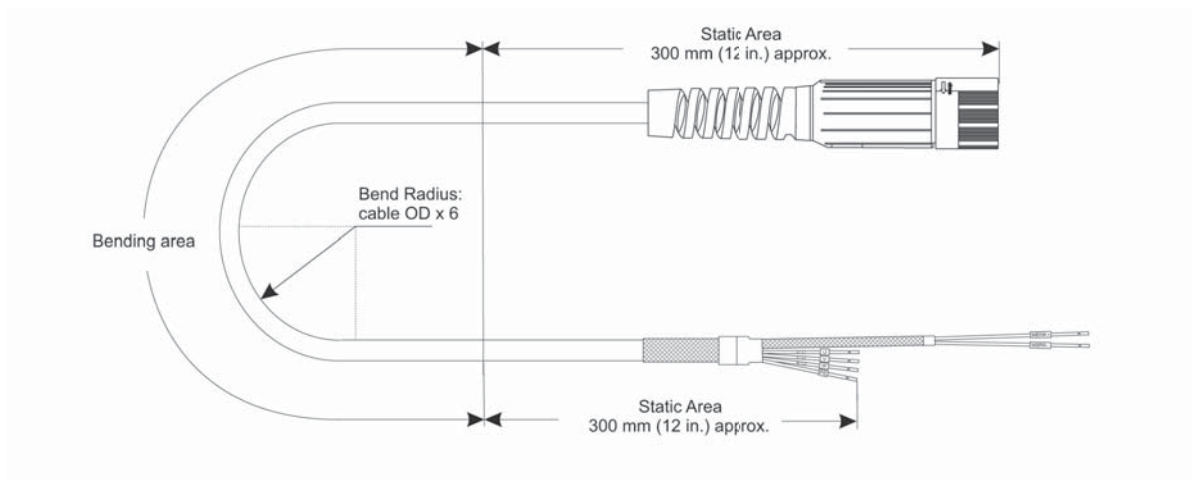
Installing the cable assembly:

1. The minimum bend radius for the utilized LÜTZE cable is 6 x cable OD.

NEC requirements may require a greater bend radius, see NEC article 300.34

2. Bending shall not occur within the static area (relaxation zone) in order to avoid strain on the connector or terminals.

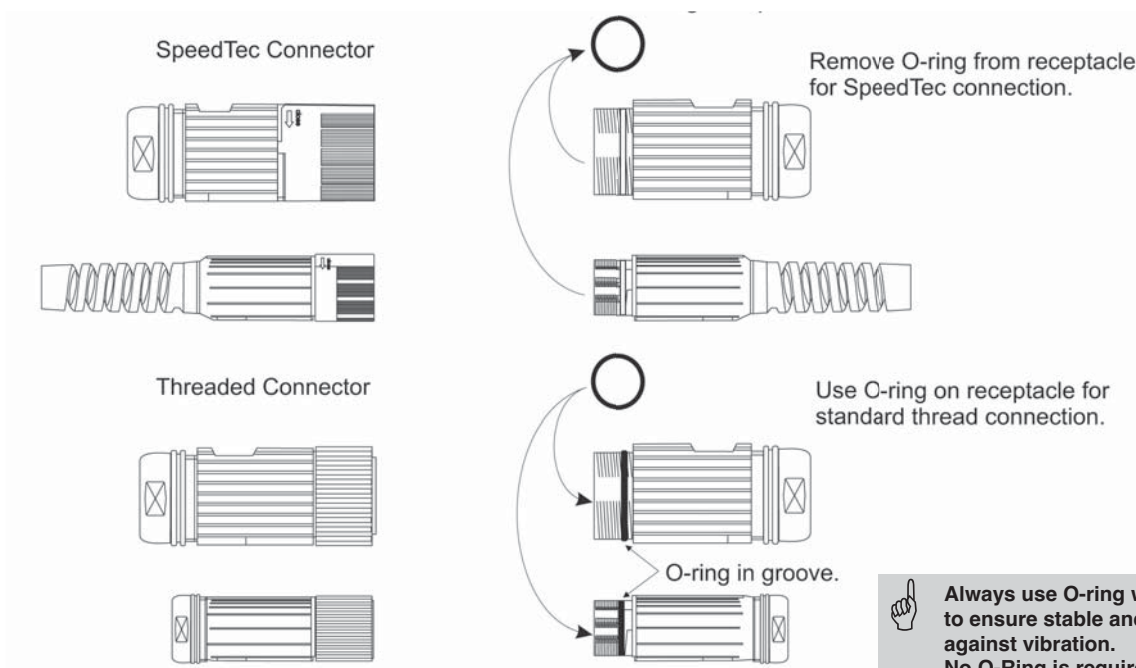
Do not bend the cable within the static area.



Use of O-ring: Standard thread vs. SpeedTec

Remove O-ring on the motor receptacle when using a cable with a SpeedTec connector.

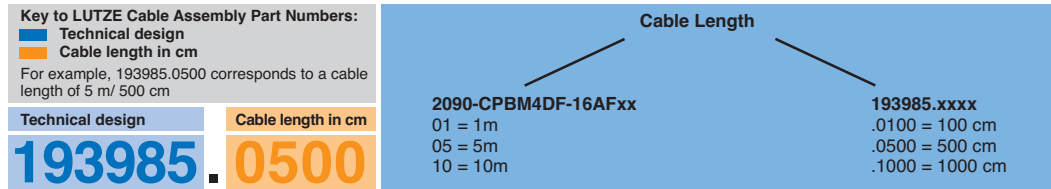
The connector type on the cable determines whether an O-ring is required on the receptacle.



Always use O-ring with threaded connectors to ensure stable and secure connection against vibration. No O-Ring is required with SpeedTec connectors.

Key to LUTZE Part Number

The LUTZE Part Number consists of two blocks:



LUTZE cable assemblies are fully compatible with Rockwell Allen-Bradley systems. Further information and downloads available at www.lutze.com

| Feedback | | | | |
|------------|-------------------------|-----------------|-------------|-----------------------------|
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CFBM7DF-CEAAxx | 193959.xxxx | A1410001 | (5x2xAWG22) |
| | 2090-CFBM7DD-CEAAxx | 193358.xxxx | A1410001 | (5x2xAWG22) |
| DIN thread | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-XXNPMF-Sxx | 193337.xxxx | A1410002 | (2XAWG16+2XAWG22+6X2XAWG26) |

| Motor | | | | |
|------------|-------------------------|-----------------|-------------|-----------------------|
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPWM7DF-16AAxx | 193966.xxxx | A3161604 | (4GAWG16) |
| | 2090-CPWM7DF-14AAxx | 193956.xxxx | A3161404 | (4GAWG14) |
| | 2090-CPWM7DF-12AAxx | 193352.xxxx | A3161204 | (4GAWG12) |
| | 2090-CPWM7DF-10AAxx | 193306.xxxx | A3161004 | (4GAWG10) |
| | 2090-CPWM7DF-08AFxx | 193353.xxxx | A3160804 | (4GAWG08) |
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPBM7DF-16AAxx | 193960.xxxx | A3171604 | (4GAWG16 + (2xAWG18)) |
| | 2090-CPBM7DF-14AAxx | 193990.xxxx | A3171404 | (4GAWG14 + (2xAWG18)) |
| | 2090-CPBM7DF-12AAxx | 193356.xxxx | A3171204 | (4GAWG12 + (2xAWG18)) |
| | 2090-CPBM7DF-10AAxx | 193962.xxxx | A3171004 | (4GAWG10 + (2xAWG18)) |
| | 2090-CPBM7DF-08AAxx | 193357.xxxx | A3170804 | (4GAWG8 + (2xAWG18)) |
| | 2090-CPBM7DF-06AAxx | 193961.xxxx | A3170604 | (4GAWG6 + (2xAWG18)) |
| | 2090-CPBM7DF-04AAxx | 193362.xxxx | A3170404 | (4GAWG4 + (2xAWG18)) |
| | 2090-CPBM7DF-02AAxx | 193369.xxxx | A3170204 | (4GAWG2 + (2xAWG18)) |
| DIN thread | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-XXNPMF-16Sxx | 193951.1000 | 111271 | (4G1,5+2x(2x0,75)) |
| | 2090-XXNPMF-14Sxx | 193950.1000 | 111279 | (4G2,5+2x(2x1,0)) |

Cable Installation of continuous flexing cables

Proper handling and installation of flexing cables

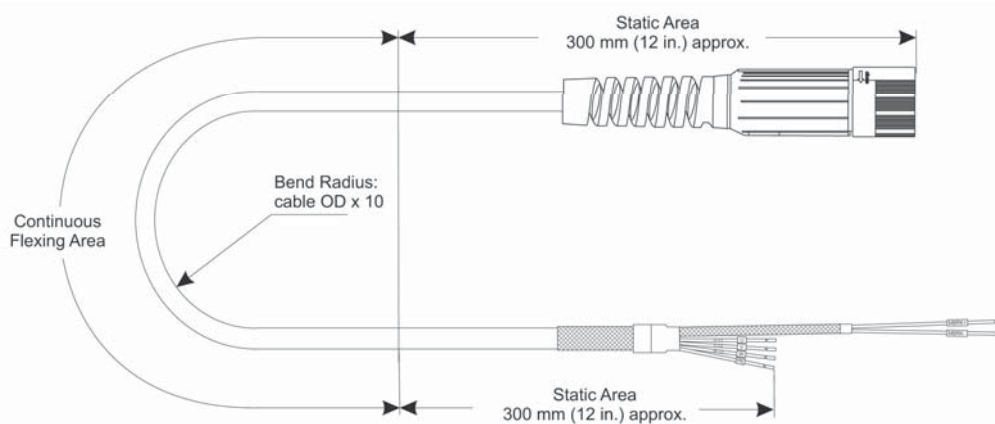
Continuous flexing cables require special handling and installation techniques. To ensure the longest possible life span for your cable assembly, it is important to follow installation procedures precisely.

1. Do not flex cable against original bend. If needed, let cable relax before installation.
2. Refrain from twisting the cable during installation and check that the cable is laying straight in the drag chain.
3. Allow for balanced weight distribution in the drag chain.

4. Use horizontal/vertical dividers to split the drag chain into separate cavities to avoid tangling of the cables.

Desired cavity size depends on cable diameter and should be adjusted to each application separately.

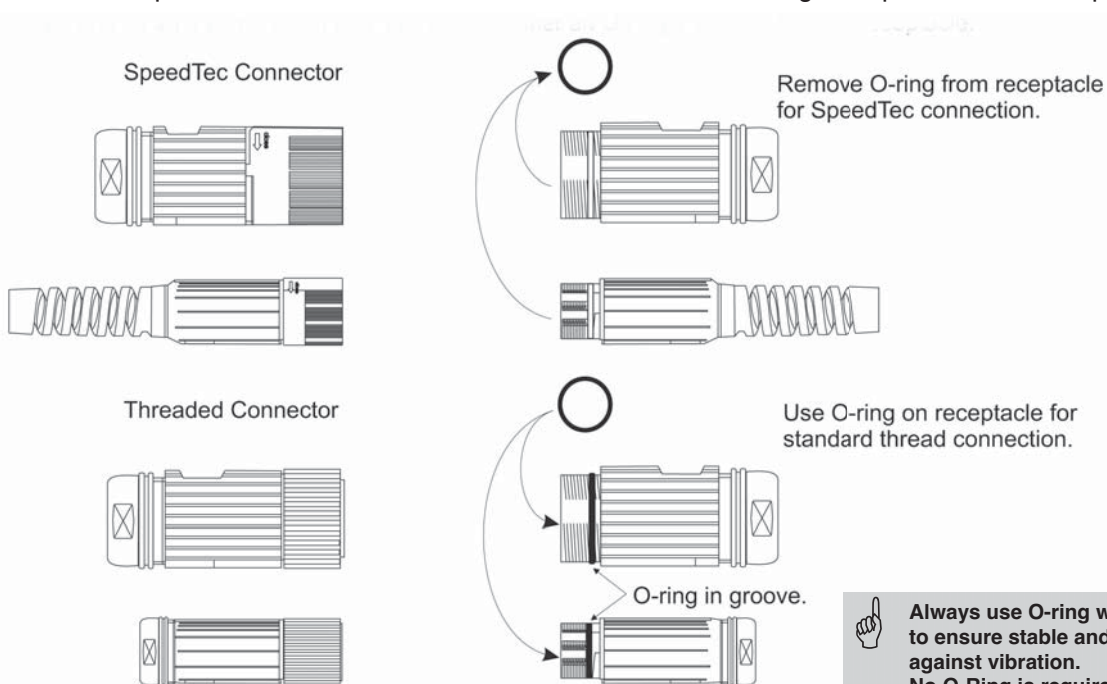
5. Observe minimum bend radius for optimal performance.
6. Ensure proper strain relief at both ends of the drag chain. Observe minimum Static Area lengths.



Use of O-ring: Standard thread vs. SpeedTec

Remove O-ring on the motor receptacle when using a cable with a SpeedTec connector.

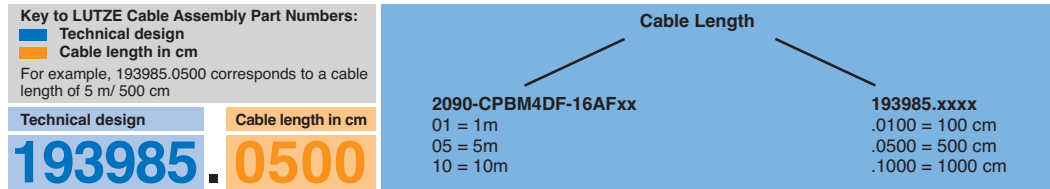
The connector type on the cable determines whether an O-ring is required on the receptacle.



Always use O-ring with threaded connectors to ensure stable and secure connection against vibration. No O-Ring is required with SpeedTec connectors.

Key to LUTZE Part Number

The LUTZE Part Number consists of two blocks:



LUTZE cable assemblies are fully compatible with Rockwell Allen-Bradley systems. Further information and downloads available at www.lutze.com

| Feedback | | | | |
|---------------------------------|-------------------------|-----------------|----------------------------|-----------------------------|
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CFBM7DF-CDAFxx | 193958.xxxx | 111489 | (2XAWG16+2XAWG22+6X2XAWG26) |
| | 2090-CFBM7DF-CEAFxx | 193977.xxxx | 111488 | (5x2xAWG22) |
| | 2090-CFBM7DD-CEAFxx | 193350.xxxx | 111488 | (5x2xAWG22) |
| DIN thread | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CFBM4DF-CDAFxx | 193973.xxxx | 111489 | (2XAWG16+2XAWG22+6X2XAWG26) |
| Extension | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CFBM7E7-CDAFxx | 193978.xxxx | 111489 | (2XAWG16+2XAWG22+6X2XAWG26) |
| | 2090-CFBM7E7-CEAFxx | 193979.xxxx | 111488 | (5x2xAWG22) |
| Motor | | | | |
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPWM7DF-16AFxx | 193309.xxxx | 111460 | (4G1,5) |
| | 2090-CPWM7DF-14AFxx | 193308.xxxx | 111461 | (4G2,5) |
| | 2090-CPWM7DF-10AFxx | 193307.xxxx | 111463 | (4G6) |
| | 2090-CPWM7DF-08AFxx | 193311.xxxx | 111464 | (4G10) |
| DIN thread | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPWM4DF-16AFxx | 193303.xxxx | 111460 | (4G1,5) |
| | 2090-CPWM4DF-14AFxx | 193301.xxxx | 111461 | (4G2,5) |
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPBM7DF-16AFxx | 193991.xxxx | 111420 | (4G1,5)+(2x1,5) |
| | 2090-CPBM7DF-14AFxx | 193957.xxxx | 111421 | (4G2,5)+(2x1,5) |
| | 2090-CPBM7DF-10AFxx | 193989.xxxx | 111423 | (4G6)+(2x1,5) |
| | 2090-CPBM7DF-08AFxx | 193355.xxxx | 111424 | (4G10)+(2x1,5) |
| DIN thread | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPBM4DF-16AFxx | 193985.xxxx | 111420 | (4G1,5)+(2x1,5) |
| | 2090-CPBM4DF-14AFxx | 193983.xxxx | 111421 | (4G2,5)+(2x1,5) |
| Extension | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CPBM7E7-16AFxx | 193996.xxxx | 111420 | (4G1,5)+(2x1,5) |
| | 2090-CPBM4E7-14AFxx | 193360.xxxx | 111421 | (4G2,5)+(2x1,5) |
| | 2090-CPBM7E7-10AFxx | 193994.xxxx | 111423 | (4G6)+(2x1,5) |
| | 2090-CPBM4E7-08AFxx | 193361.xxxx | 111424 | (4G10)+(2x1,5) |
| Hybrid | | | | |
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CSBM1DG-18AFxx | 193300.xxxx | 111599 | (4G1,0+(2x0,75)+(2xAWG22)) |
| | 2090-CSBM1DG-14AFxx | 193302.xxxx | 111601 | (4G2,5+(2x1,0)+(2xAWG22)) |
| | 2090-CSBM1DG-10AFxx | 193304.xxxx | 111603 | (4G6+(2x1,0)+(2xAWG22)) |
| | 2090-CSWM1DG-18AFxx | 193305.xxxx | 111599 | (4G1,0+(2x0,75)+(2xAWG22)) |
| | 2090-CSWM1DG-14AFxx | 193310.xxxx | 111601 | (4G2,5+(2x1,0)+(2xAWG22)) |
| Base cable with 2198-KITCON-DSL | | | | |
| Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type | |
| 2090-CSBM1DE-18AFxx | 193952.xxxx | 111599 | (4G1,0+(2x0,75)+(2xAWG22)) | |
| 2090-CSBM1DE-14AFxx | 193963.xxxx | 111601 | (4G2,5+(2x1,0)+(2xAWG22)) | |
| 2090-CSWM1DE-18AFxx | 193379.xxxx | 111599 | (4G1,0+(2x0,75)+(2xAWG22)) | |
| 2090-CSWM1DE-14AFxx | 193955.xxxx | 111601 | (4G2,5+(2x1,0)+(2xAWG22)) | |
| 2090-CSBM1DE-10AFxx | 193968.xxxx | 111603 | (4G6+(2x1,0)+(2xAWG22)) | |
| 2090-CSWM1DE-10AFxx | 193967.xxxx | 111603 | (4G6+(2x1,0)+(2xAWG22)) | |
| Extension | | | | |
| Speed Tec | Allen-Bradley Part. No. | LUTZE Part. No. | LUTZE Cable | Type |
| | 2090-CSBM1E1-18AFxx | 193373.xxxx | 111599 | (4G1,0+(2x0,75)+(2xAWG22)) |
| | 2090-CSBM1E1-14AFxx | 193374.xxxx | 111601 | (4G2,5+(2x1,0)+(2xAWG22)) |
| | 2090-CSBM1E1-10AFxx | 193377.xxxx | 111603 | (4G6+(2x1,0)+(2xAWG22)) |

Notes

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