

## Servo cable according to SIEMENS® standard 6FX 8PLUS

Continuous flex servo cable with PUR jacket; shielded



Servo cables according to SIEMENS® standard 6FX 8PLUS are continuous flexing, oil-resistant, UL, CSA, VDE & CE rated power supply, feedback and signal cables for signal transmission or motor connections. They are designed for dynamic performance in cable chains. Servo cable according to SIEMENS® standard 6FX 8PLUS replaces SIEMENS® standard 6FX 7008 and 8008.

### Recommended applications

Power drive systems; sensor leads for signal transmission and motor connections; connections between servo controllers, encoders/resolvers, and motors; assembly lines; all machines utilizing servo motors

### Approvals



### Construction

**Conductors:** signal cables: tinned copper • power cables: bare copper

**Pairs:** twisted together; shielded with tinned copper braid and non-woven wrap

**Insulation:** polypropylene

**Shielding:** tinned copper braid; non-woven wrap

**Jacket:** feedback/signal: polyurethane; green • servo/motor: polyurethane; orange

### Application advantage

- High dynamic performance in cable chains:
  - Acceleration up to 50 m/s<sup>2</sup>
  - Travel speed up to 5 m/s
  - Travel lengths up to 100 m
- Abrasion-, cut- and oil-resistant; halogen-free, flame-retardant, and flexible at low temperatures

| Cable attributes |       | page 648 |       |
|------------------|-------|----------|-------|
| OIL              | OR-05 | FLAME    | FR-02 |
| MOTION           | CF-04 | MECH.    | MP-05 |

| Complete the installation   |                              |
|-----------------------------|------------------------------|
| EPIC® POWER LS1<br>page 441 | EPIC® SIGNAL M23<br>page 446 |

| ÖLFLEX® CONNECT solution          |  |
|-----------------------------------|--|
| ÖLFLEX® CONNECT SERVO<br>page 607 |  |

### Technical data

|  |   |
|--|---|
| <p> <b>Minimum bend radius:</b></p> <ul style="list-style-type: none"> <li>- power cable:           <ul style="list-style-type: none"> <li>- for continuous flexing:               <ul style="list-style-type: none"> <li>- 16 - 6 AWG: 7.5 x cable diameter</li> <li>- 4 - 1 AWG: 10 x cable diameter</li> </ul> </li> <li>- for stationary use: 4 x cable diameter</li> </ul> </li> <li>- signal cable:           <ul style="list-style-type: none"> <li>- for continuous flexing: 8 x cable diameter</li> <li>- for stationary use: 4 x cable diameter</li> </ul> </li> </ul> | <p> <b>Conductor stranding:</b> Class 6 super fine wire</p>   |
| <p> <b>Temperature range:</b></p> <ul style="list-style-type: none"> <li>- for continuous flexing: -20°C to +60°C</li> <li>- for stationary use: -50°C to +80°C</li> </ul>   | <p> <b>Color code:</b></p> <ul style="list-style-type: none"> <li>- feedback/signal cables: see following color chart</li> <li>- motor/servo cables:           <ul style="list-style-type: none"> <li>- 16 - 14 AWG: V/L2; U/L1/C/L+; W/L3/D/L- plus green/yellow ground</li> <li>- 12 - 1 AWG: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground</li> <li>- control pair: black &amp; white</li> </ul> </li> </ul> |
| <p> <b>Nominal voltage:</b></p> <ul style="list-style-type: none"> <li>- signal conductors: 30V</li> <li>- power/control conductors: 1000V</li> </ul>  | <p> <b>Approvals:</b></p> <ul style="list-style-type: none"> <li>UL: AWM 21223<br/>AWM 20236 (sensor leads)</li> <li>Canada: CSA AWM I/II A/B 1kV 80°C FT1</li> <li>Additional: based on VDE specifications<br/>CE &amp; RoHS</li> </ul>  |
| <p> <b>Test voltage:</b></p> <ul style="list-style-type: none"> <li>- signal conductors: 500V</li> <li>- power conductors: 4000V</li> </ul>  |   |

Servo cable according to SIEMENS® standard 6FX 8PLUS

color code: feedback/signal cable

| Part number | Conductor description | Color code   |
|-------------|-----------------------|--|
| 00277101    | 26 AWG/8pr            | white/yellow & white/green<br>white/red & white/orange<br>white/black & white/brown<br>gray & white • blue & violet<br>yellow & green • red & orange • black & brown |
| 00277111    | 22 AWG/4pr            | brown & black • red & orange<br>yellow & green • blue & violet   |
|             | 20 AWG/4c             | white/blue • white/black<br>white/red • white/yellow   |
| 00277121    | 26 AWG/3pr            | yellow & green • black & brown • red & orange  |
|             | 20 AWG/2c             | black • red  |
| 00277131    | 26 AWG/3pr            | yellow & green • black & brown • red & orange  |
|             | 26 AWG/4c             | gray • blue • white/yellow • white/black   |
|             | 20 AWG/1pr            | brown/red & brown/blue   |

| Part number | Conductor description | Color code  |
|-------------|-----------------------|---|
| 00277141    | 26 AWG/3pr            | yellow & green • black & brown • red & orange   |
|             | 26 AWG/4c             | gray • blue • white/yellow • white/black  |
|             | 26 AWG/4c             | brown/yellow • brown/gray<br>green/black • green/red  |
|             | 20 AWG/2c             | brown/red • brown/blue  |
| 00277151    | 26 AWG/4pr            | black & brown • red & orange<br>yellow & green • blue & violet  |
| 00277161    | 26 AWG/2pr            | red & orange • black & brown  |
| 00277171    | 26 AWG/12c            | black • brown • red<br>orange • yellow • green • blue<br>violet • gray • white •<br>white/black • white/brown |

| Part number                  | Conductor description                                   | SIEMENS® part number | Nominal outer diameter |      | Copper weight lbs/mft | Approx. weight lbs/mft | EPIC® POWER LS1+ configuration | EPIC® SIGNAL M23 # of contacts |
|------------------------------|---|----------------------|------------------------|------|-----------------------|------------------------|--------------------------------|--------------------------------|
|                              |   |                      | in                     | mm   |                       |                        |                                |                                |
| <b>Feedback/signal cable</b> |   |                      |                        |      |                       |                        |                                |                                |
| 00277101                     | 26 AWG/8pr  | 6FX8008-1BD11        | 0.307                  | 7.8  | 36                    | 57                     | —                              | 16                             |
| 00277111                     | 22 AWG/4pr + 20 AWG/4c                                  | 6FX8008-1BD21        | 0.350                  | 8.9  | 52                    | 81                     | —                              | 12                             |
| 00277121                     | 3 x (26 AWG/1pr) +<br>2 x (20 AWG/1c)                   | 6FX8008-1BD31        | 0.350                  | 8.9  | 46                    | 76                     | —                              | 9                              |
| 00277131                     | 3 x (26 AWG/1pr) +<br>26 AWG/4c + 20 AWG/1pr            | 6FX8008-1BD41        | 0.346                  | 8.8  | 44                    | 68                     | —                              | 12                             |
| 00277141                     | 3 x (26 AWG/1pr) + 26 AWG/4c +<br>20 AWG/2c + 26 AWG/4c | 6FX8008-1BD51        | 0.370                  | 9.4  | 58                    | 93                     | —                              | 16                             |
| 00277151                     | 26 AWG/4pr  | 6FX8008-1BD61        | 0.252                  | 6.4  | 23                    | 36                     | —                              | 8+1                            |
| 00277161                     | 26 AWG/2pr  | 6FX8008-1BD71        | 0.197                  | 5.0  | 16                    | 24                     | —                              | 6                              |
| 00277171                     | 26 AWG/12c  | 6FX8008-1BD81        | 0.272                  | 6.9  | 32                    | 51                     | —                              | 12                             |
| 00277992                     | 26 AWG/2pr + 21 AWG/1pr                                 | 6FX8008-2DC00        | 0.283                  | 7.2  | 26                    | 50                     | —                              | 6                              |
| <b>Motor cable</b>           |   |                      |                        |      |                       |                        |                                |                                |
| 0027784                      | 16 AWG/4c   | 6FX8008-1BB11-Plus   | 0.359                  | 9.1  | 61                    | 101                    | 5+PE                           | —                              |
| 0027785                      | 14 AWG/4c   | 6FX8008-1BB21-Plus   | 0.418                  | 10.6 | 89                    | 148                    | 5+PE                           | —                              |
| 0027786                      | 12 AWG/4c   | 6FX8008-1BB31-Plus   | 0.469                  | 11.9 | 138                   | 202                    | 5+PE                           | —                              |
| 0027787                      | 10 AWG/4c   | 6FX8008-1BB41-Plus   | 0.571                  | 14.5 | 212                   | 302                    | —                              | —                              |
| 0027788                      | 8 AWG/4c  | 6FX8008-1BB51-Plus   | 0.690                  | 17.5 | 328                   | 444                    | —                              | —                              |
| 0027789                      | 6 AWG/4c  | 6FX8008-1BB61-Plus   | 0.851                  | 21.6 | 517                   | 679                    | —                              | —                              |
| <b>Servo cable</b>           |   |                      |                        |      |                       |                        |                                |                                |
| 0027790                      | 16 AWG/4c + (16 AWG/1pr)                                | 6FX8008-1BA11-Plus   | 0.457                  | 11.6 | 98                    | 155                    | 3+PE+4                         | —                              |
| 0027791                      | 14 AWG/4c + (16 AWG/1pr)                                | 6FX8008-1BA21-Plus   | 0.528                  | 13.4 | 126                   | 202                    | 3+PE+4                         | —                              |
| 0027792                      | 12 AWG/4c + (16 AWG/1pr)                                | 6FX8008-1BA31-Plus   | 0.583                  | 14.8 | 174                   | 255                    | 3+PE+4                         | —                              |
| 0027793                      | 10 AWG/4c + (16 AWG/1pr)                                | 6FX8008-1BA41-Plus   | 0.662                  | 16.8 | 245                   | 356                    | —                              | —                              |
| 0027794                      | 8 AWG/4c + (16 AWG/1pr)                                 | 6FX8008-1BA51-Plus   | 0.764                  | 19.4 | 376                   | 514                    | —                              | —                              |
| 0027795                      | 6 AWG/4c + (16 AWG/1pr)                                 | 6FX8008-1BA61-Plus   | 0.910                  | 23.1 | 548                   | 732                    | —                              | —                              |
| 0027796                      | 4 AWG/4c + (16 AWG/1pr)                                 | 6FX8008-1BA25-Plus   | 1.048                  | 26.6 | 784                   | 1028                   | —                              | —                              |
| 0027797                      | 2 AWG/4c + (16 AWG/1pr)                                 | 6FX8008-1BA35-Plus   | 1.217                  | 30.9 | 1044                  | 1371                   | —                              | —                              |
| 0027798                      | 1 AWG/4c + (16 AWG/1pr)                                 | 6FX8008-1BA50-Plus   | 1.340                  | 34.0 | 1470                  | 1855                   | —                              | —                              |

( ) = shielded

\* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

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