



# Stepping System Cables

## SureStep® Cables

| SureStep Series – Stepping System Cables |          |                               |                          |                                                                                                                                                 |                                        |                     |                     |
|------------------------------------------|----------|-------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|---------------------|
| Cable                                    | Price    | Purpose                       | Length                   | Use With                                                                                                                                        | Cable End Connectors                   | Drawing             |                     |
| <a href="#">STP-EXT-006</a>              | \$13.00  | motor to drive extension      | 6 ft                     | STP-MTR-xxxxx(x)                                                                                                                                | pigtail / Molex 43020-0401 connector   | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXT-010</a>              | \$14.50  |                               | 10 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXT-020</a>              | \$18.50  |                               | 20 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTH-006</a>             | \$26.50  |                               | 6 ft                     | STP-MTRH-xxxxx(x)                                                                                                                               | pigtail / Molex 39-01-2041 connector   | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTH-010</a>             | \$31.50  |                               | 10 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTH-020</a>             | \$38.00  |                               | 20 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTHW-006</a>            | \$52.00  |                               | 6 ft                     | STP-MTRHW-xxxxx(x)                                                                                                                              | Bulgin # PXP4011/06P/6065              | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTHW-010</a>            | \$63.00  |                               | 10 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTHW-020</a>            | \$95.00  |                               | 20 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTL-006</a>             | \$11.50  |                               | 6 ft                     | STP-MTRL-xxxxx(x)                                                                                                                               | pigtail / Molex 105308-22004 connector | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTL-010</a>             | \$14.50  |                               | 10 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTL-020</a>             | \$18.00  |                               | 20 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTW-006</a>             | \$51.00  |                               | 6 ft                     | STP-MTRW-xxxxx(x)                                                                                                                               | Bulgin # PXP4011/06P/6065              | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTW-010</a>             | \$62.00  |                               | 10 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXTW-020</a>             | \$90.00  |                               | 20 ft                    |                                                                                                                                                 |                                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-EXT42-006</a>            | \$26.00  |                               | motor to drive extension | 6 ft                                                                                                                                            | STP-MTRAC-42xxxx                       | 10-pin / pigtail    | <a href="#">PDF</a> |
| <a href="#">STP-EXT42-010</a>            | \$31.00  |                               |                          | 10 ft                                                                                                                                           |                                        |                     | <a href="#">PDF</a> |
| <a href="#">STP-EXT42-020</a>            | \$44.50  |                               |                          | 20 ft                                                                                                                                           |                                        |                     | <a href="#">PDF</a> |
| <a href="#">STP-EXT42H-006</a>           | \$26.00  | 6 ft                          |                          | STP-MTRACH-42xxxxx                                                                                                                              | <a href="#">PDF</a>                    |                     |                     |
| <a href="#">STP-EXT42H-010</a>           | \$31.00  | 10 ft                         |                          |                                                                                                                                                 | <a href="#">PDF</a>                    |                     |                     |
| <a href="#">STP-EXT42H-020</a>           | \$44.50  | 20 ft                         |                          |                                                                                                                                                 | <a href="#">PDF</a>                    |                     |                     |
| <a href="#">STP-232RJ11-CBL*</a>         | \$11.00  | programming/<br>communication | 10 ft                    | STP-DRV-4850, STP-DRV-80100                                                                                                                     | DB9 female / RJ11(6P4C)                | <a href="#">PDF</a> |                     |
| <a href="#">STP-232HD15-CBL-2**</a>      | \$17.00  | communication                 | 6.6 ft                   | STP-DRV-4850, STP-DRV-80100<br>DL06, D2-250-1, D2-260                                                                                           | HD 15-pin male / RJ12 6-pin<br>plug    | n/a                 |                     |
| <a href="#">STP-232RJ12-CBL-2**</a>      | \$10.50  | communication                 | 6.6 ft                   | STP-DRV-4850, STP-DRV-80100<br>DL05, CLICK                                                                                                      | RJ11 (6P4C) plug / RJ12<br>6-pin plug  | n/a                 |                     |
| <a href="#">STP-CBL-CA6</a>              | \$19.00  | control cable                 | 6 ft                     | STP-MTRD-17038<br>STP-MTRD-17038E                                                                                                               | 11-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-CA10</a>             | \$23.00  | control cable                 | 10 ft                    |                                                                                                                                                 | 11-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-CA20</a>             | \$33.50  | control cable                 | 20 ft                    |                                                                                                                                                 | 11-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EA6</a>              | \$19.00  | encoder cable                 | 6 ft                     | STP-MTRD-xxxxxE<br>STP-MTRA-ENC1, STP-MTRA-ENC3<br>STP-MTRA-ENC5, STP-MTRA-ENC7<br>STP-MTRA-ENC11, STP-MTRA-ENC13<br>(for line driver encoders) | 10-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EA10</a>             | \$23.00  | encoder cable                 | 10 ft                    |                                                                                                                                                 | 10-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EA20</a>             | \$33.50  | encoder cable                 | 20 ft                    |                                                                                                                                                 | 10-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EB3</a>              | \$60.00  | encoder cable                 | 3 ft                     | AMT112Q-V<br>AMT112S-V<br>(for both line driver and push-pull (totem)<br>encoders)                                                              | 17-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EB6</a>              | \$83.00  | encoder cable                 | 6 ft                     |                                                                                                                                                 | 17-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EB10</a>             | \$113.00 | encoder cable                 | 10 ft                    |                                                                                                                                                 | 17-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-EB20</a>             | \$187.00 | encoder cable                 | 20 ft                    |                                                                                                                                                 | 17-pin / pigtail                       | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-ED6</a>              | \$34.00  | encoder cable                 | 6 ft                     | STP-MTRA-ENC2, STP-MTRA-ENC4<br>STP-MTRA-ENC6, STP-MTRA-ENC8<br>STP-MTRA-ENC12, STP-MTRA-ENC14<br>(for push-pull (totem) encoders)              | 5-pin / pigtail                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-ED10</a>             | \$46.00  | encoder cable                 | 10 ft                    |                                                                                                                                                 | 5-pin / pigtail                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-CBL-ED20</a>             | \$55.00  | encoder cable                 | 20 ft                    |                                                                                                                                                 | 5-pin / pigtail                        | <a href="#">PDF</a> |                     |
| <a href="#">STP-CON-1</a>                | \$18.00  | replacement connector kit     | n/a                      | STP-DRV-4845 & -6575                                                                                                                            | -                                      | n/a                 |                     |
| <a href="#">STP-CON-2</a>                | \$18.00  | replacement connector kit     | n/a                      | STP-DRV-4850 & 80100                                                                                                                            | -                                      | n/a                 |                     |

\* Programming/communication cable STP-232RJ11-CBL is available for spare or replacement purposes.  
(One cable is included with each software programmable drive.)

\*\* Refer to the ZIPLinks Wiring Solutions section for complete information regarding cables STP-232HD15-CBL-2 and STP-232RJ12-CBL-2.

## SureStep® Cables, *continued*

| SureStep Series – Stepping System Cables |         |                           |        |                  |                                |                     |
|------------------------------------------|---------|---------------------------|--------|------------------|--------------------------------|---------------------|
| Cable                                    | Price   | Purpose                   | Length | Use With         | Cable End Connectors           | Drawing             |
| <b><u>STP-CON-3</u></b>                  | \$36.50 | replacement connector kit | n/a    | STP-MTRD-xxxxR   | -                              | n/a                 |
| <b><u>STP-CON-4</u></b>                  | \$18.00 | replacement connector kit | n/a    | STP-DRVA-RC-050A | -                              | n/a                 |
| <b><u>STP-CON-5</u></b>                  | \$18.00 | replacement connector kit | n/a    | STP-DRV-4830     | -                              | <a href="#">PDF</a> |
| <b><u>STP-CON-6</u></b>                  | \$23.50 | replacement connector kit | n/a    | STP-DRVAC-24025  | -                              | n/a                 |
| <b><u>STP-485DB9-CBL-2</u></b>           | \$42.00 | 4-wire programming cable  | 6.5 ft | STP-MTRD-xxxxR   | DB9 / Phoenix 5-conductor plug | <a href="#">PDF</a> |

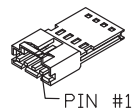
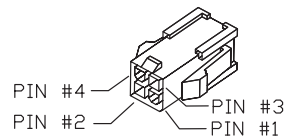
### STP-EXT(x)-0xx Extension Cable Wiring Diagram

EXT &amp; EXTH CABLES

| PIN# | COLOR |
|------|-------|
| 1    | RED   |
| 2    | WHITE |
| 3    | GREEN |
| 4    | BLACK |

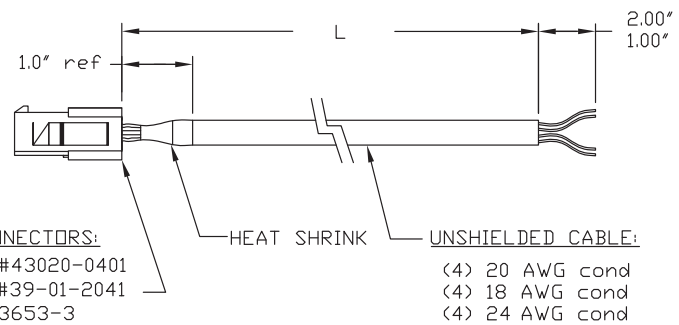
EXTL CABLES

| PIN# | COLOR |
|------|-------|
| 1    | RED   |
| 2    | WHITE |
| 3    | GREEN |
| 4    | BLACK |

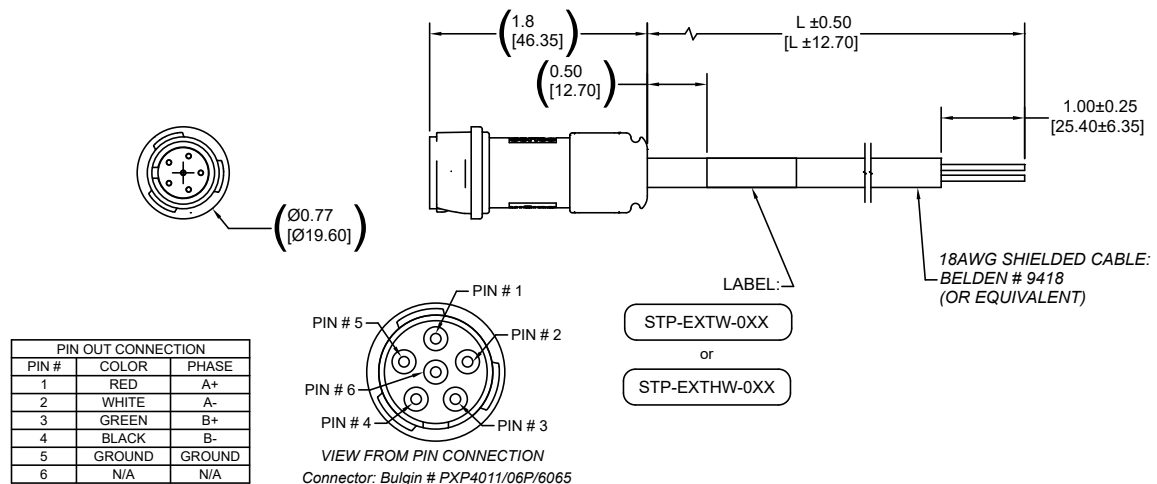


## CONNECTORS:

EXT: Molex #43020-0401  
 EXTH: Molex #39-01-2041  
 EXTL: TE #103653-3



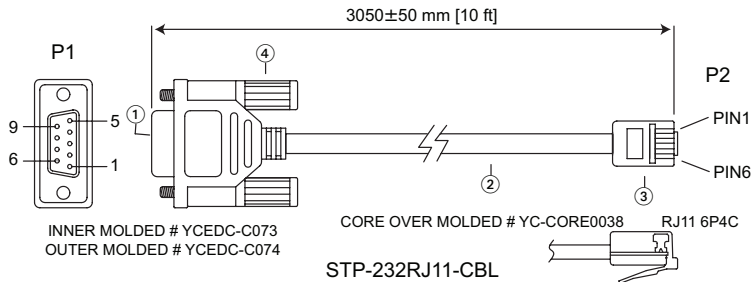
### STP-EXTW-0xx and STP-EXTHW-0xx Extension Cable Wiring Diagram



# Stepping System Cables

## SureStep® Cables, continued

### STP-232RJ11-CBL Programming Cable Wiring Diagram

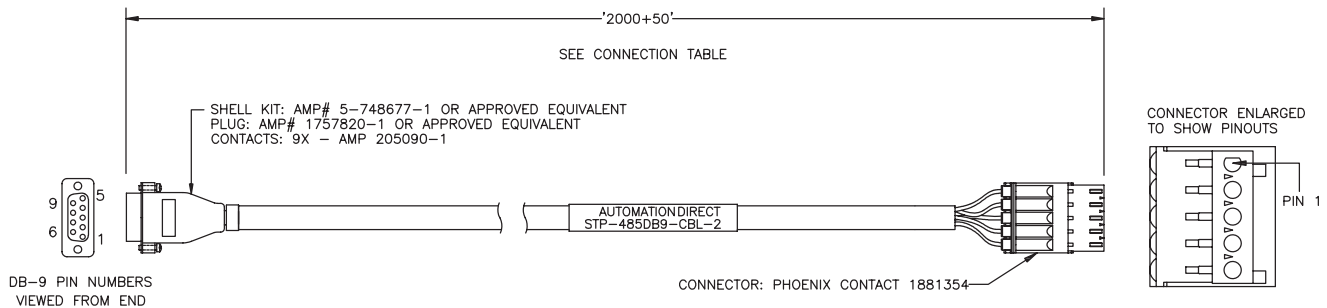


| WIRE CONNECTION |     |     |                |
|-----------------|-----|-----|----------------|
| (DB9) P1        |     |     | P2 (RJ11 6P4C) |
| 2               | RX  | TX  | 3              |
| 3               | TX  | RX  | 5              |
| 4               | nc  | nc  | 4              |
| 5               | GND | GND | 2              |

|   |                                                                               |
|---|-------------------------------------------------------------------------------|
| ① | DB 9P FEMALE CONNECTOR SHELL: FRONT NICKEL BACK TIN<br>INSULATOR COLOR: BLACK |
| ② | CABLE: CAT-5 UTP 24AWG (7/0.203BA*2PR) 100MHz<br>COLOR: BLACK OD: 4.5mm       |
| ③ | RJ11 6P4C PLATED GOLD 3U"                                                     |
| ④ | SCREW: #4-40UNC PD40*175TNP COLOR: BLACK                                      |

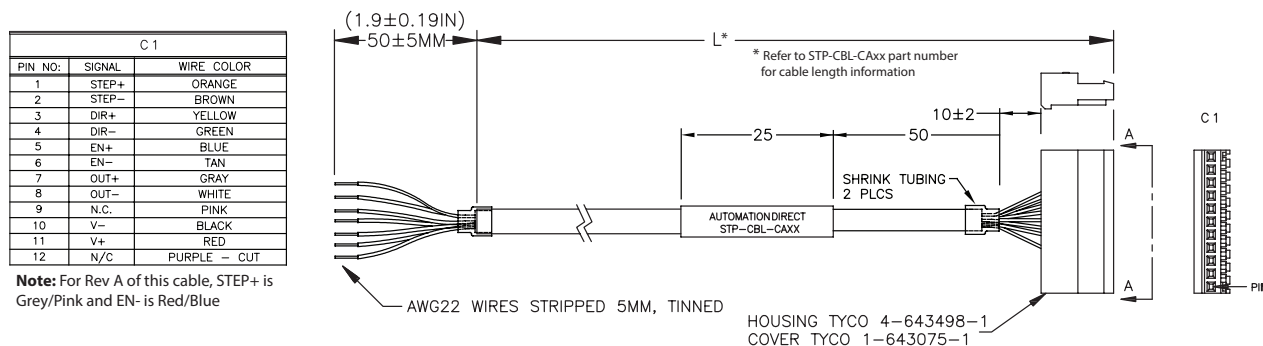
### STP-485DB9-CBL-2 4-wire Programming Cable Wiring Diagram

| CONNECTION CHART |            |            |             |                |
|------------------|------------|------------|-------------|----------------|
| DB-9 CONN PIN    | DB9 SIGNAL | WIRE COLOR | PHOENIX PIN | PHOENIX SIGNAL |
| 2                | TX+        | RED        | 5           | RX+            |
| 1                | TX-        | ORANGE     | 4           | RX-            |
| 3                | RX+        | BLACK      | 3           | TX+            |
| 4                | RX-        | BROWN      | 2           | TX-            |
| 5                | GND        | YELLOW     | 1           | GND            |
| METAL HOUSING    | SHIELD     | SHIELD     | N/C         | N/C            |

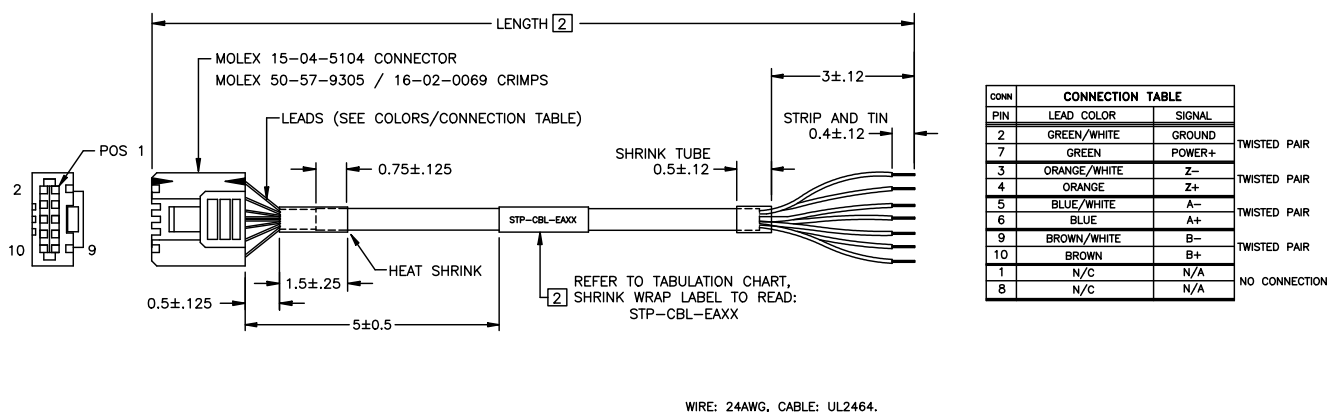


## SureStep® Cables, continued

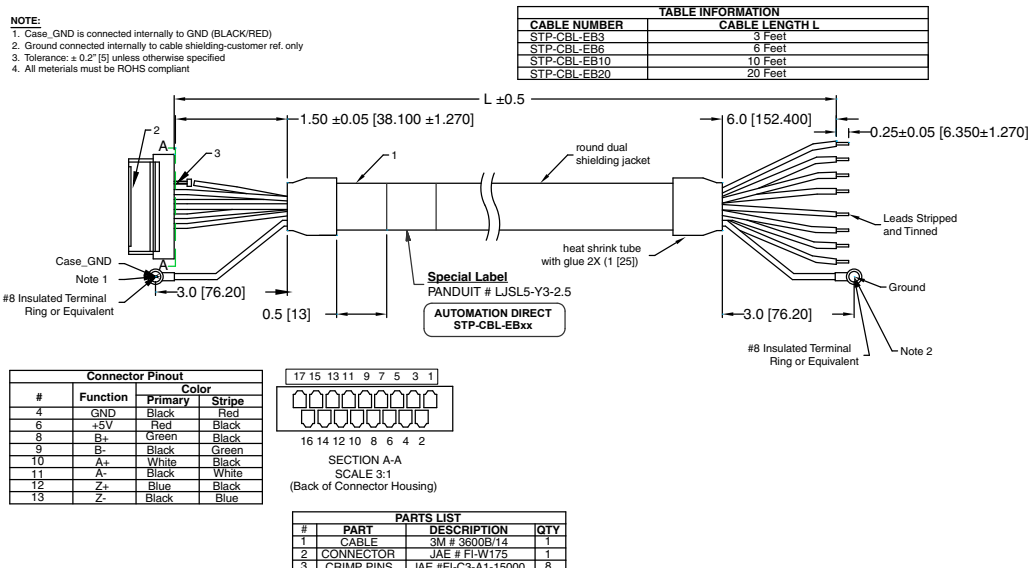
## STP-CBL-CAxx Control Cable Wiring Diagram



## STP-CBL-EAxx Encoder Cable Wiring Diagram



## STP-CBL-EBxx Encoder Cable Wiring Diagram





# Stepping System Cables

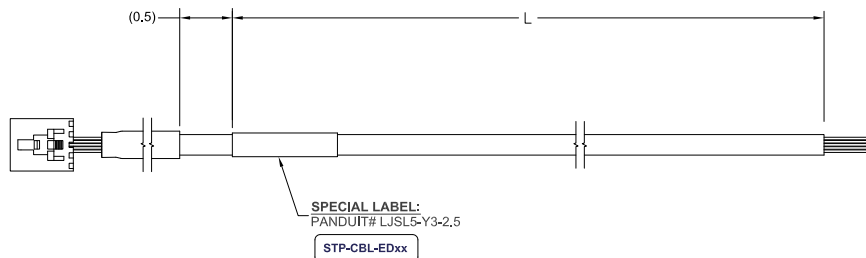
## SureStep® Cables, continued

### STP-CBL-EDxx Encoder Cable Wiring Diagram

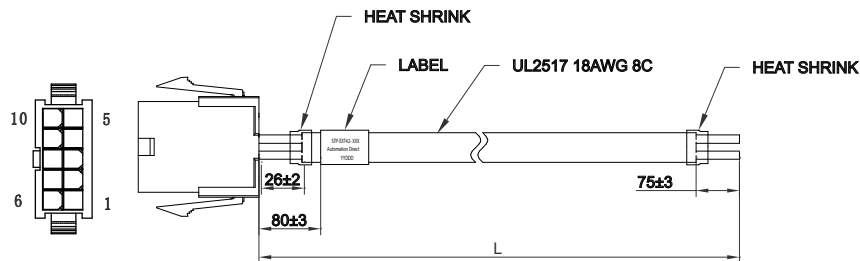
STP-EDxx CABLES

| PIN# | Function    | Color |
|------|-------------|-------|
| 1    | Ground      | Black |
| 2    | Index       | Green |
| 3    | A Channel   | White |
| 4    | +5VDC Power | Red   |
| 5    | B Channel   | Brown |

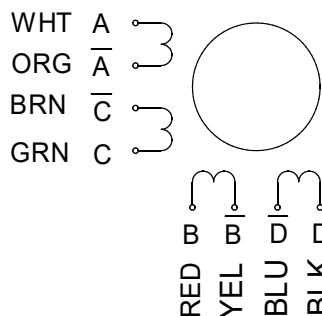
| TABLE INFORMATION |                |
|-------------------|----------------|
| CABLE NUMBER      | CABLE LENGTH L |
| STP-CBL-ED6       | 6 Feet         |
| STP-CBL-ED10      | 10 Feet        |
| STP-CBL-ED20      | 20 Feet        |



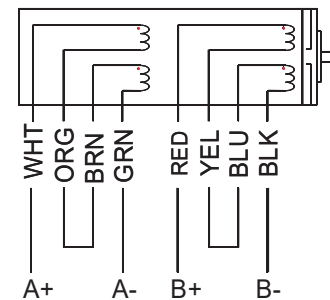
### STP-EXT42(H)-xxx Cable Wiring Diagram



| Pin | Wire Description   |
|-----|--------------------|
| 1   | A - White          |
| 2   | $\bar{A}$ - Orange |
| 3   | C - Green          |
| 4   | $\bar{C}$ - Brown  |
| 5   | B - Red            |
| 6   | $\bar{B}$ - Yellow |
| 7   | D - Black          |
| 8   | $\bar{D}$ - Blue   |
| 9   | GND - Drain wire   |



Bi-polar series



Bi-polar parallel

