

# ArmorConnect® Power and Control Media Specifications

Bulletin Numbers 280, 888, 889, 898

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## Additional Resources






These documents contain additional information concerning related products from Rockwell Automation.

| Resource  | Description   |
|---|---|
| Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a> | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website, <a href="http://www.ab.com">http://www.ab.com</a>           | Provides declarations of conformity, certificates, and other certification details. |





You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.



Three-Phase Power Media

|                                  | <br><b>Three-Phase Power Trunk Cable</b>   | <br><b>Three-Phase Power Drop Cable</b>  | <br><b>Three-Phase Power Tees and Reducers</b>  | <br><b>Three-Phase Power Receptacles</b>   | <br><b>Accessories</b>  |
|----------------------------------|---|---|--|---|--|
| <b>Description</b>               | <ul style="list-style-type: none"> <li>Cordset - Cable with integral female or male connector on one end</li> <li>PatchCord - Cable with integral female or male connector on each end</li> </ul>   | <ul style="list-style-type: none"> <li>Cordset - Cable with integral female or male connector on one end</li> <li>PatchCord - Cable with integral female or male connector on each end</li> </ul>   | <ul style="list-style-type: none"> <li>Tee - Connects to a single drop line to trunk with M35 connectors</li> <li>Reducing Tee - Connects to a single M22 drop line to trunk M35 connector</li> <li>Reducer - Connects from M35 male connector to M22 female connector</li> </ul>  | <ul style="list-style-type: none"> <li>Female receptacles are a panel mount connector with flying leads</li> <li>Male receptacles are a motor junction box mounted connector with flying leads</li> <li>Field-installable receptacle for custom length cable</li> </ul>   | <ul style="list-style-type: none"> <li>Sealing Caps offered in versions to interface with female or male connectors</li> <li>Locking Clips clamshell design clips over three power phase connector to limit customer access</li> </ul> |
| <b>Features</b>                  | <ul style="list-style-type: none"> <li>Rated for Motor Branch Circuits                             <ul style="list-style-type: none"> <li>Meets UL 2237 for Industrial Machinery</li> <li>65 kA High fault rating (SCCR)</li> <li>Rated for wash down environments</li> </ul> </li> <li>Straight or right angle connectors</li> <li>4-pin connector type</li> <li>Cable rating: TC-ER/STOOW</li> <li>Multiple standard lengths</li> </ul> | <ul style="list-style-type: none"> <li>Rated for Motor Branch Circuits                             <ul style="list-style-type: none"> <li>Meets UL 2237 for Industrial Machinery</li> <li>65 kA High fault rating (SCCR)</li> <li>Rated for wash down environments</li> </ul> </li> <li>Straight or right angle connectors</li> <li>4-pin connector type</li> <li>Cable rating: TC-ER/STOOW</li> <li>Multiple standard lengths</li> </ul> | <ul style="list-style-type: none"> <li>Rated for Motor Branch Circuits                             <ul style="list-style-type: none"> <li>Meets UL 2237 for Industrial Machinery</li> <li>65 kA High fault rating (SCCR)</li> <li>Rated for wash down environments</li> </ul> </li> <li>Trunk Tee, Reducing Tee and Reducer</li> <li>4-pin connector type</li> </ul> | <ul style="list-style-type: none"> <li>Rated for Motor Branch Circuits                             <ul style="list-style-type: none"> <li>Meets UL 2237 for Industrial Machinery</li> <li>65 kA High fault rating (SCCR)</li> <li>Rated for wash down environments</li> </ul> </li> <li>Male and female configurations</li> <li>4-pin connector type</li> <li>1/2 in. NPT</li> <li>Available in 1 meter length</li> </ul> | <ul style="list-style-type: none"> <li>Sealing Caps - Available in M35 and M22 styles</li> <li>Locking Clips - Designed for M35 and M22 connectors</li> </ul>  |
| <b>Rated Voltage</b>             | 600V  | 600V  | 600V   | 600V  | —  |
| <b>Connector Body Dimensions</b> | <ul style="list-style-type: none"> <li>Straight: 88.9 mm x 38.6 mm</li> <li>Right Angle: 75.5 mm x 74 mm</li> </ul>   | <ul style="list-style-type: none"> <li>Straight: 56. mm x 25.4 mm</li> <li>Right Angle: 44.9 mm x 40.4 mm</li> </ul>  | <ul style="list-style-type: none"> <li>Trunk Tee: 108 mm x 73.6 mm</li> <li>Reducing Tee: 108 mm x 65.5 mm</li> <li>Reducer: 112.5 mm x 38.1 mm</li> </ul>   | <ul style="list-style-type: none"> <li>M22 Female: 33.45 mm x 25.45 mm</li> <li>M22 Male: 28.04 mm x 25.45 mm</li> <li>M35 Female: 71.12 mm x 38.10 mm</li> <li>M35 Male: 63.50 mm x 38.10 mm</li> </ul>  | —  |
|                                  | <b>Page 8</b>   | <b>Page 9</b>   | <b>Page 10</b>   | <b>Page 12</b>  | <b>Page 18</b>   |

Control Power Media

|                                  | <br><b>Control Power Cordsets &amp; Patchcords</b>  | <br><b>Control Power T-ports</b>   | <br><b>Control Power Receptacles</b>  | <br><b>Control Power Shorting Plugs</b>                                |
|----------------------------------|--|---|---|---|
| <b>Description</b>               | <ul style="list-style-type: none"> <li>Cable with integral connector on either one or both ends</li> </ul>   | <ul style="list-style-type: none"> <li>Cable with single male connector attached to two female connectors</li> </ul>  | <ul style="list-style-type: none"> <li>Panel mount connector with flying leads</li> </ul>   | <ul style="list-style-type: none"> <li>Integral connector with leads shorted for specific application requirements</li> </ul>                               |
| <b>Features</b>                  | <ul style="list-style-type: none"> <li>6-pin/5-used configuration</li> <li>Male and female versions</li> <li>16 AWG conductors, cable dual rated UL TC/Open Wiring and STOOW</li> <li>Multiple standard lengths</li> </ul> | <ul style="list-style-type: none"> <li>6-pin/5-used configuration</li> <li>Compact design</li> <li>Color-coded E-stop in and E-stop out configurations</li> </ul> | <ul style="list-style-type: none"> <li>6-pin/5-used configuration</li> <li>Male and female</li> <li>16 AWG conductors</li> <li>1/2 NPT mounting threads</li> <li>Multiple standard lengths</li> </ul> | <ul style="list-style-type: none"> <li>6-pin/5-used configuration</li> <li>Male</li> <li>Multiple versions color coded for simple identification</li> </ul> |
| <b>Rated Voltage</b>             | 600V   | 600V  | 600V  | 600V  |
| <b>Connector Body Dimensions</b> | <ul style="list-style-type: none"> <li>Straight: 56 x 25 mm (2.2 x 1 in.)</li> <li>Right Angle: 40 x 45 mm (1.6 x 1.8 in.)</li> </ul>  | 72 x 64 mm (2.8 x 2.5 in.)  | 30 x 25 mm (1.2 x 1 in.)  | 56 x 25 mm (2.2 x 1 in.)  |
|                                  | <b>Page 14</b>   | <b>Page 15</b>  | <b>Page 16</b>  | <b>Page 17</b>  |

### Description

The power media offers both three-phase and control power cable systems of cordsets, patchcords, receptacles, tees, reducers and accessories, to be used with the ArmorStart Distributed Motor Controller. These cable system components allow quick connection of ArmorStart Distributed Motor Controllers, thereby reducing installation time. They provide for repeatable, reliable connection of the three-phase and control power to the ArmorStart Distributed Motor Controller and motor, by providing a plug and play environment that also avoids system mis-wiring.

Compared to the traditional conduit installations, with power media you profit and benefit from:

- Reduce commissioning time
- Plug and play design eliminates wiring errors
- Increased system design flexibility
- No special tools required
- Reduced labor costs

### Three-Phase Power Media

The three-phase power media offers quick disconnect cables that provide a secure connection to the ArmorStart Distributed Motor Controller. The connectors can be straight or right angled and are physically keyed to prevent wiring mishaps. The cabling options include:

- **Cordsets:** Cable with integral male or female connector at one end and flying leads at the other
- **Patchcords:** Cable with integral connector at each end (one male, one female)

The three-phase power tee, reducing tee, and reducer offers flexibility in system design.

The receptacles provide a termination point at the panel and motor junction box. The female receptacles can be used for a panel mount connection. The male receptacles can be used for a quick disconnect at the motor junction box.

Field-installable receptacles allow for custom power cable lengths. This reduces the amount of excess cable and provides a neater appearance to machines. Selecting just a few cordsets provides the sufficient cable lengths needed to meet the required applications. This minimizes project costs and complexity by reducing the number of different part numbers that are necessary.

Three-phase power media components are rated for motor branch circuits per UL 2237.

### Control Power Media

The control power media offers a mini disconnect cable that provides a secure connection to the ArmorStart Distributed Motor Controller. The control power media components are a 6-pin/5-used configuration to prevent mis-wiring with network connectors. The connectors can be straight or right angled and are physically keyed to prevent wiring mishaps. The cabling options include:

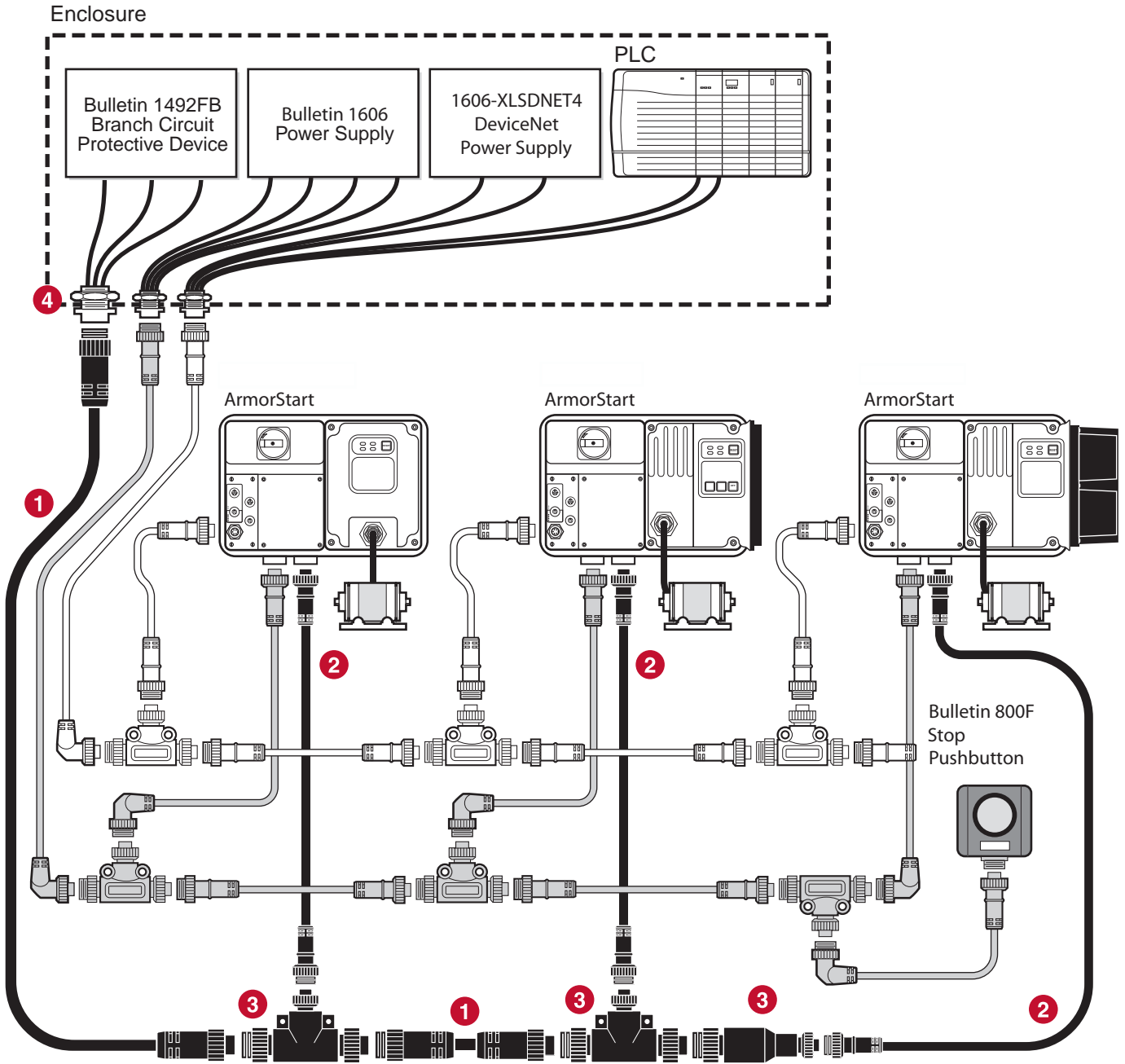
- **Cordsets:** Cable with integral male or female connector at one end and flying leads at the other
- **Patchcords:** Cable with integral connector at each end (one male, one female)

The control power tees offers flexibility in system design. The T-port connects a single drop line to the trunk. Three types of tees are offered. The E-stop In tee is used to connect to the Bulletin 800F On-Machine E-Stop station using a control power media patchcord. The E-stop Out tee is used with cordset or patchcord to connect to the ArmorStart Distributed Motor Controller. And the ArmorStart Auxiliary tees allow users to apply standard 4 wire auxiliary power down the trunk to other tees and devices.

The receptacles provide a termination point at the panel and ArmorStart Distributed Motor Controller. The female receptacles can be used for a panel mount connection. The male receptacles can be used for a quick disconnect at the ArmorStart Distributed Motor Controller with gland plate design.

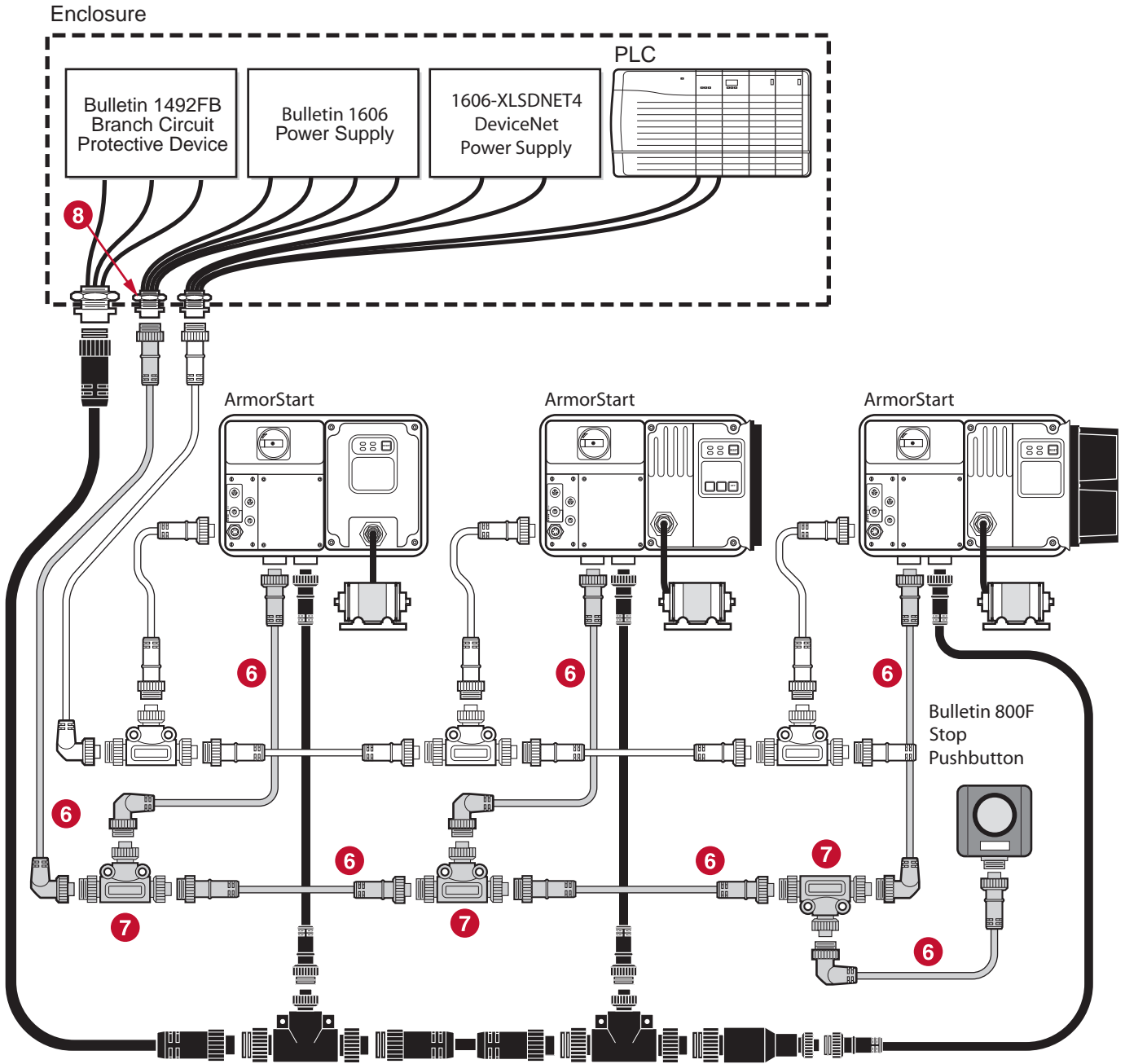
**Note:** Refer to your local electrical code for proper application and protection of long length power cable to minimize physical damage and appropriate short-circuit or ground-fault protection for the assembly. See application note 290-AP001 for additional information.

Three-Phase Power Media System Overview



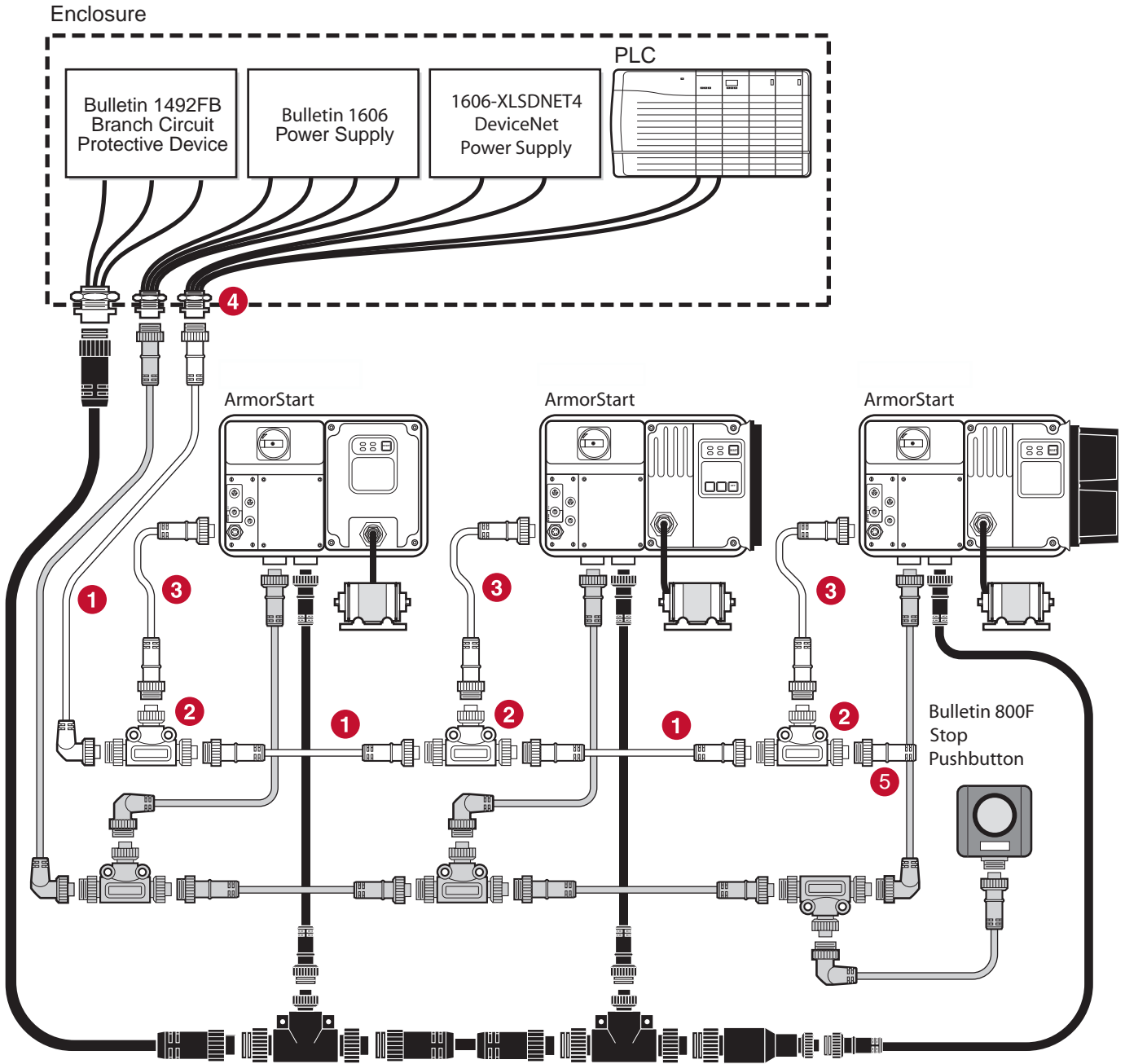
1. Three-Phase Power Trunk - Patchcord cable with integral female or male connector on each end (Example Cat. No.: 280-PWRM35A-M\*)
2. Three-Phase Drop Cable - PatchCord cable with integral female or male connector on each end (Example Cat. No.: 280-PWRM22A-M\*)
3. Three-Phase Power Tees and Reducer - Tee connects to a single drop line to trunk with quick change connectors (Cat. No.: 280-T35)  
 Reducing Tee connects to a single drop line (Mini) to trunk (Quick change) connector (Cat. No.: 280-RT35)  
 Reducer connects from quick change male connector to mini female connector (Cat. No.: 280-RA35)
4. Three-Phase Power Receptacles - Female receptacles are a panel mount connector with flying leads (Cat. No.: 280-M35F-M1)

Control Power Media System Overview



- 6. Control Power Media Patchcords - PatchCord cable with integral female or male connector on each end (Example Cat. No.: 889N-F65GFNM-\*)
- 7. Control Power Tees - The E-stop In Tee (Cat. No.: 898N-653ST-NKF) is used to connect to the Bulletin 800F On-Machine E-Stop station using a control power media patchcord. The E-stop Out tee (Cat. No.: 898N-653ES-NKF) is used with cordset or patchcord to connect to the ArmorStart Distributed Motor Controller.
- 8. Control Power Receptacles - Female receptacles are a panel mount connector with flying leads (Cat. No.: 888N-D65AF1-\*)

DeviceNet Media System Overview

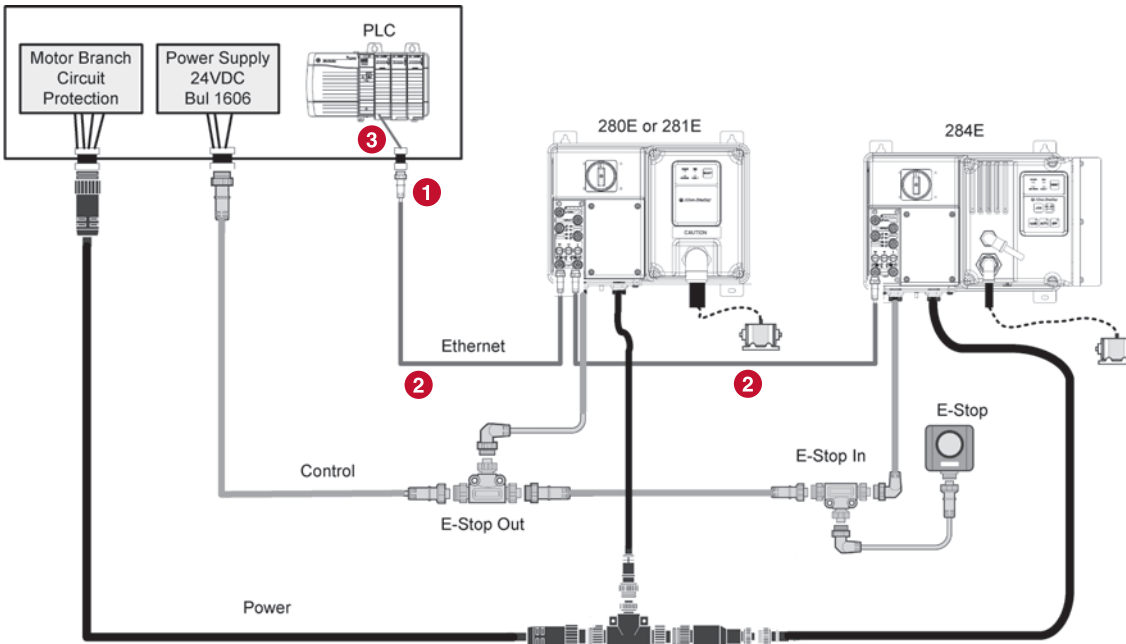


1. DeviceNet Trunk Cable - Patchcord trunk cable with integral female or male connector on each end (example 1485C-P\*N5-M5)
2. DeviceNet Mini- T-Port Tap - T-ports are used for connecting drops to the trunk line (example 1485P-P1N5-MN5KM)
3. DeviceNet Drop Cable - Drop cables and patch cords are used to connect devices to the network (example 1485G-P\*M5-Z5)
4. DeviceNet Receptacle - Receptacles are used when connections present but required (example 1485A-CXN5-M5)
5. DeviceNet Terminator - Properly designed DeviceNet networks require terminating resistors (example 1485A-T1N5)

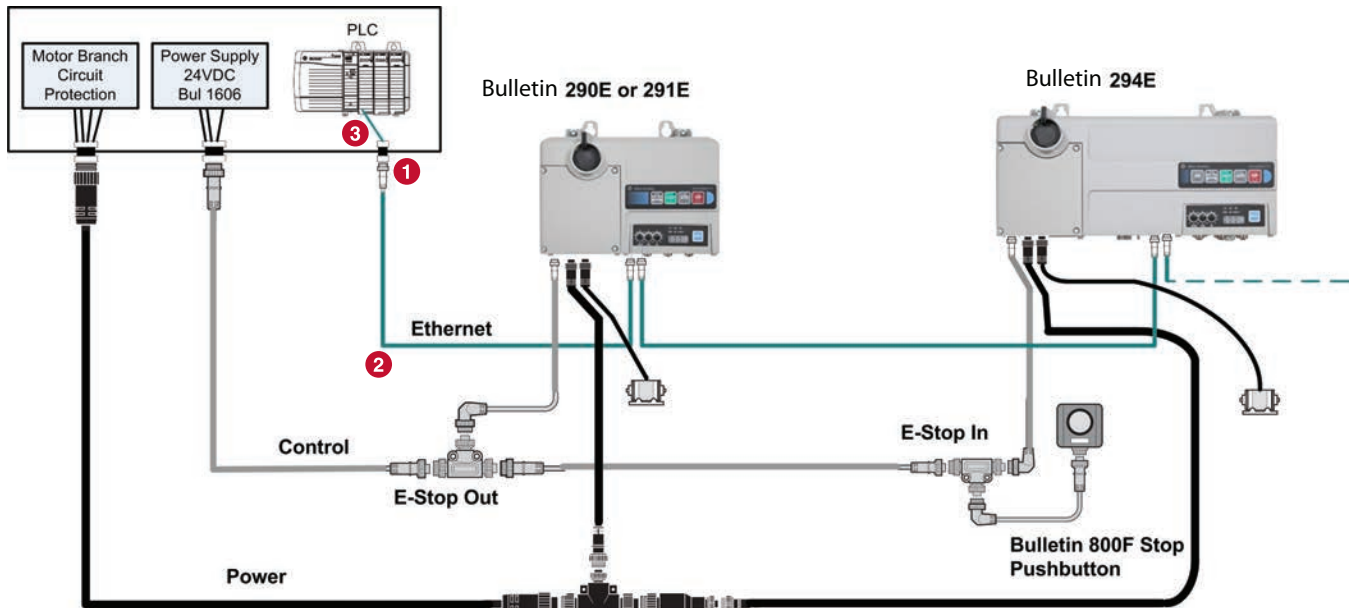
**Note:** See the On-Machine Connectivity catalog for specific DeviceNet media components.

Ethernet Power Media System Overview

ArmorStart



ArmorStart LT



Ethernet Cat5e Connections:

1. CAT5e Bulkhead Connector and Receptacle (Example Cat. No.:1585A-DD4JD)
2. CAT5e Patch Cord, IP67, M12 D-Code, Male Straight, Male Right Angle (Example Cat. No.: 1585D-M4TBDE-\*)
3. CAT5e, Patch Cable, IP20, RJ45 Male to RJ45 Male (Example Cat. No. 1585J-M4TB-\*)

**Note:** See the On-Machine Connectivity catalog for specific Ethernet media components.

Pinout and Color Code

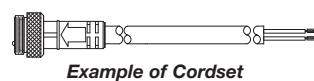
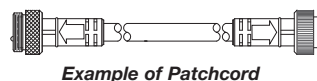
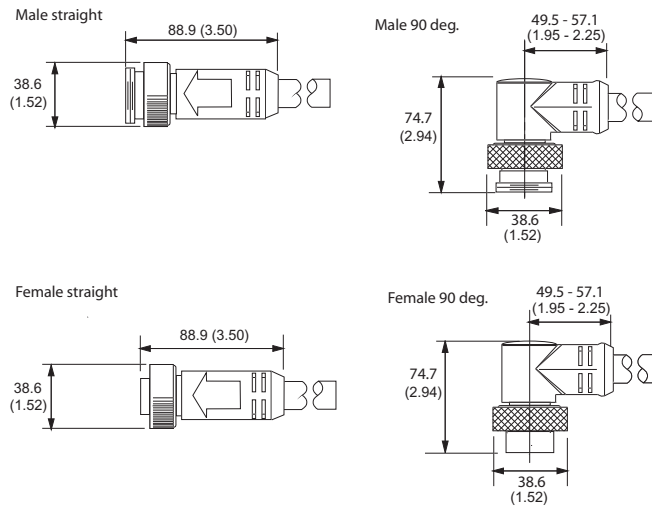
|            |   | Face View Pinout |      |
|------------|---|------------------|------|
|            |   | 4-Pin            |      |
|            |   |                  |      |
|            |   | Female           | Male |
| Color Code | 1 Black<br>2 Green/Yellow<br>Extended PIN | 3 Red<br>4 White |      |

Specifications

| Mechanical                          |   |
|-------------------------------------|---|
| Coupling Nut                        | Black anodized aluminum   |
| Housing                             | Black PVC   |
| Insert                              | Black PVC   |
| Cable Diameter                      | 0.775 in. +/- 0.12 in. (19.68 mm +/- 0.5 mm) with four 10 AWG conductors  |
| Bend Radius                         | Not to exceed 10x the cable diameter  |
| Electrical                          |   |
| Contacts                            | Copper alloy with gold over nickel plating  |
| Cable                               | Black PVC, dual rated UL TC/Open Wiring and STOOW   |
| Cable Rating                        | 600V AC/DC  |
| Assembly Rating                     | 4-pin — 10 AWG, 600V @ 32 A   |
| Short Circuit Current Rating (SCCR) | <p><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 480V AC maximum when protected by Bul. 140U-H frame circuit breaker, not rated more than 480V, 100 A and a maximum interrupting of 65 000 RMS symmetrical amperes.</p> <p><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses.</p> |
| Environmental                       |   |
| Enclosure Rating                    | IP67, UL Type 4/12 & NEMA 6P; 1200 psi washdown   |
| Operating Temperature               | UL Type TC 600V 90 °C Dry 75 °C Wet, Exposed Run (ER) or MTW 600V 90 °C or STOOW 105 °C 600V - CSA STOOW 600V FT2   |



Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.





Pinout and Color Code

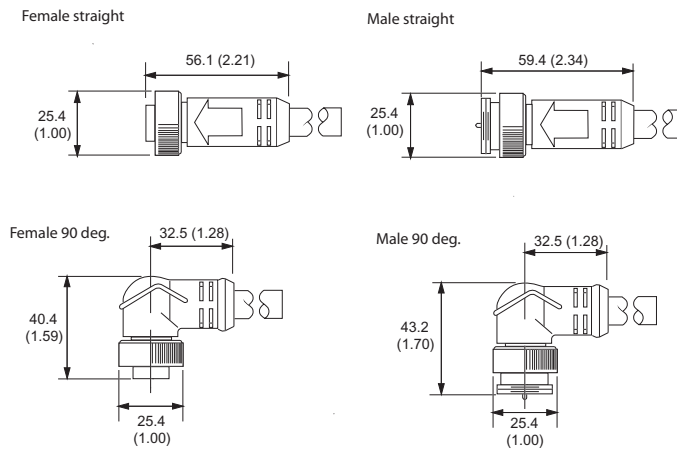
|            |                    | Face View Pinout  |   |
|------------|--------------------|---|---|
|            |                    | 4-Pin   |   |
|            |                    |  |  |
|            |                    | Female  | Male  |
| Color Code | 1 Black<br>2 White | 3 Red<br>4 Green/Yellow<br>Extended PIN   |   |

Specifications

| Mechanical                          |  |
|-------------------------------------|--|
| Coupling Nut                        | Black anodized aluminum  |
| Housing                             | Black PVC  |
| Insert                              | Black PVC  |
| Cable Diameter                      | 0.43 in. +/- 0.12 in. (10.9 mm +/- 0.5 mm) with four 16 AWG conductors<br>0.58 in. +/- 0.12 in. (14.7 mm +/- 0.5 mm) with four 14 AWG conductors   |
| Bend Radius                         | Not to exceed 10x the cable diameter   |
| Electrical                          |  |
| Contacts                            | Brass with gold over nickel plating  |
| Cable                               | Black PVC, dual rated UL TC/Open Wiring and STOOW  |
| Cable Rating                        | 600V AC/DC   |
| Assembly Rating                     | 4-pin — 16 AWG, 600V @ 10 A<br>4-pin — 14 AWG, 600V @ 15 A   |
| Short Circuit Current Rating (SCCR) | <b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses, rated 40 A non-time delay or 20 A time delay.<br><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 45 000 RMS symmetrical amperes at 480Y/277V AC maximum when protected by Cat. No. 140U-D6D3-C30 circuit breaker, not rated more than 480Y/277V, 30 A, having an interrupting rating not less than 45 000 RMS symmetrical amperes, 480Y/277V maximum. |
| Environmental                       |  |
| Enclosure Rating                    | IP67, UL Type 4/12 & NEMA 6P; 1200 psi washdown  |
| Operating Temperature               | UL Type TC 600V 90 °C Dry 75 °C Wet, Exposed Run (ER) or MTW 600V 90 °C or STOOW 105 °C 600V - CSA STOOW 600V FT2  |

Approximate Dimensions

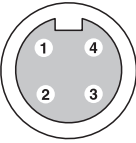
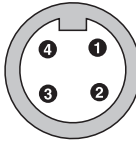
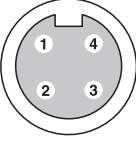
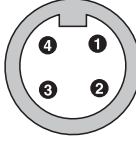

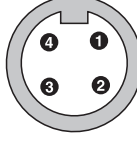

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.



Specifications

| Mechanical                          |   |
|-------------------------------------|---|
| Coupling Nut                        | Black anodized aluminum (Trunk), black zinc diecast (Drop)  |
| Housing                             | Black PVC   |
| Insert                              | Black PVC   |
| Electrical                          |   |
| Contacts                            | Copper alloy with gold over nickel plating  |
| Voltage                             | 600V AC/DC  |
| Assembly Rating                     | Trunk Tee: 32 A<br>Reducing Tee: Trunk 32 A/Drop 13 A<br>Reducer: 15 A  |
| Short Circuit Current Rating (SCCR) | Trunk Tee: 32 A<br><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses.<br><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 480V AC maximum when protected by Bulletin 140U-H frame circuit breaker, not rated more than 480V, 100 A and a maximum interrupting of 65 000 RMS symmetrical amperes.<br><i>Reducing Tee 32 A/Drop 13 A and Reducer</i><br><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses, rated 40 A non-time delay or 20 A time delay.<br><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 45 000 RMS symmetrical amperes at 480Y/277V AC maximum when protected by Cat. No. 140U-D6D3-C30 circuit breaker, not rated more than 480Y/277V, 30 A, having an interrupting rating not less than 45 000 RMS symmetrical amperes, 480Y/277V maximum. |
|                                     |   |
|                                     |   |
| Environmental                       |   |
| Enclosure Rating                    | IP67, UL Type 4/12 & NEMA 6P; 1200 psi washdown   |

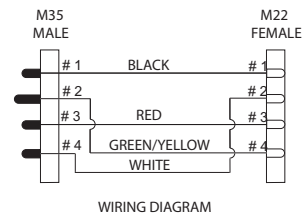
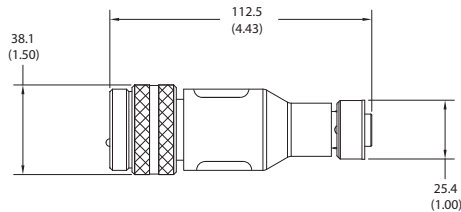
Pinout and Color Code

| Assembly Rating                    | Color Code | Face View Pinout   |   |   |
|------------------------------------|------------|--|---|---|
|                                    |            | 4-Pin  |   |   |
|                                    |            | M35 Connector  | M22 Connector   |   |
| Trunk Tee: 32 A                    | A          | <br>Female | <br>Male   | —   |
|                                    |            | 1 Black<br>2 Green/Yellow<br>Extended PIN  | 3 Red<br>4 White  |   |
| Reducing Tee: Trunk 32 A/Drop 15 A | B          | <br>Female | <br>Male   | <br>Female |
|                                    |            | 1 Black<br>2 Green/Yellow<br>Extended PIN  | 3 Red<br>4 White  | 1 Black<br>2 White<br>3 Red<br>4 Green/Yellow<br>Extended PIN                                 |
| Reducer: Trunk 32 A/Drop 15 A      | C          | <br>Male  | <br>Female |   |
|                                    |            | 1 Black<br>2 Green/Yellow<br>Extended PIN  | 3 Red<br>4 White  | 1 Black<br>2 White<br>3 Red<br>4 Green/Yellow<br>Extended PIN                                 |

Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.

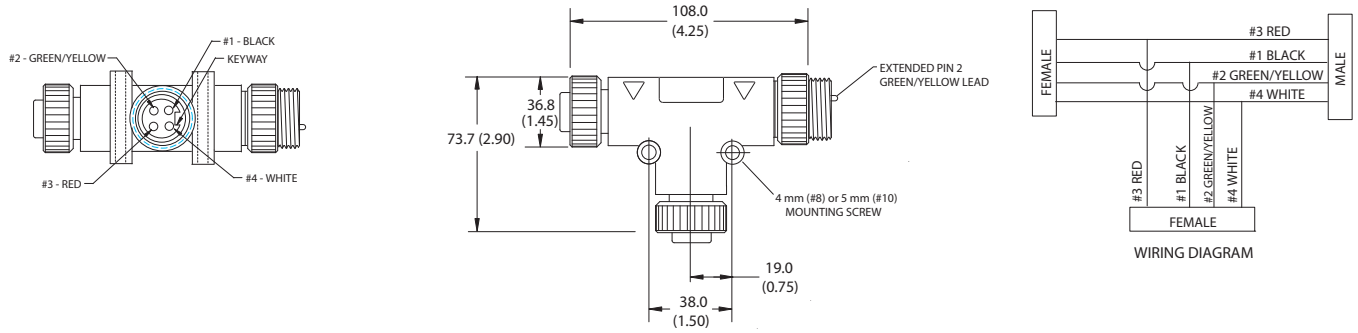
Reducer



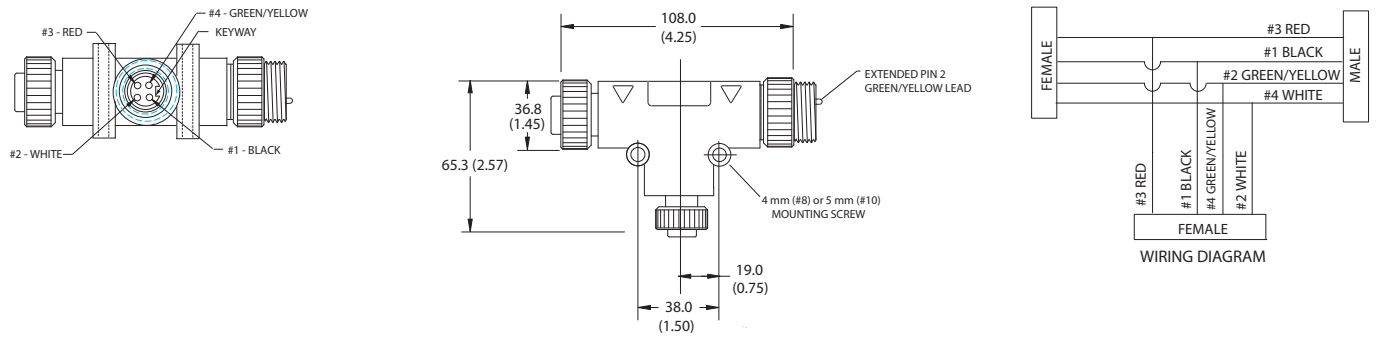
Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.

Power Tee



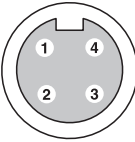
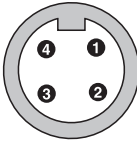


Power Tee - reducing drop



Specifications

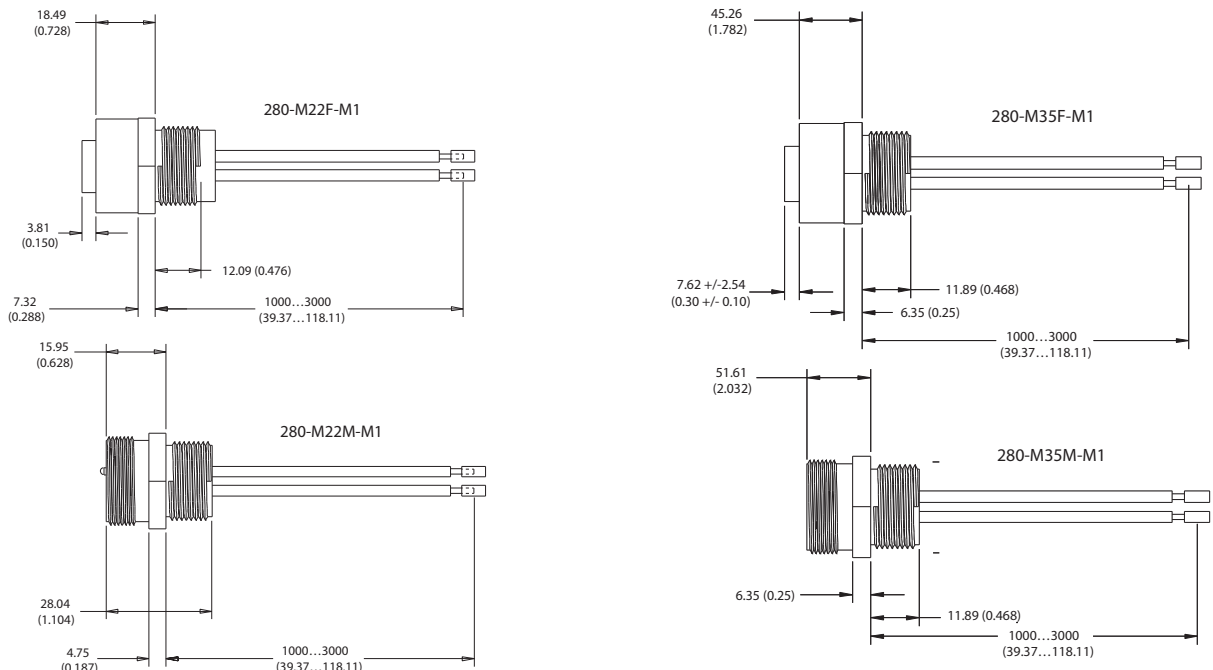
| Mechanical                          |  |
|-------------------------------------|--|
| Insert                              | Black PVC  |
| Receptacle Shell Material           | Black anodized aluminum (female) and zinc diecast, black E-coat (male)   |
| Electrical                          |  |
| Contacts                            | Copper alloy with gold over nickel plating (Trunk), brass with gold over nickel plating (Drop)   |
| Cable Rating                        | 600V AC/DC   |
| Assembly Rating                     | 4-pin — 16 AWG, 600V @ 10 A<br>4-pin — 14 AWG, 600V @ 15 A<br>4-pin — 10 AWG, 600V @ 32 A  |
| Short Circuit Current Rating (SCCR) | 4-pin — 10 AWG<br><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses<br><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 480V AC maximum when protected by Bul. 140U-H frame circuit breaker, not rated more than 480V, 100 A and a maximum interrupting of 65 000 RMS symmetrical amperes.  |
|                                     | 4-pin — 16 or 14 AWG<br><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses, rated 40 A non-time delay or 20 A time delay.<br><b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 45 000 RMS symmetrical amperes at 480Y/277V AC maximum when protected by Cat. No. 140U-D6D3-C30 circuit breaker, not rated more than 480Y/277V, 30 A, having an interrupting rating not less than 45 000 RMS symmetrical amperes, 480Y/277V maximum. |
| Environmental                       |  |
| Enclosure Rating                    | IP67, UL Type 4/12 & NEMA 6P; 1200 psi washdown  |

Pinout and Color Code

| Assembly Rating    | Color Code | Face View Pinout   |  |  |  |
|--------------------|------------|--|--|--|--|
|                    |            | 4-Pin  |  |  |  |
|                    |            | M35 Connector  |  | M22 Connector  |  |
|                    |            |  |  |  |  |
|                    |            | Female   | Male   | Female   | Male   |
| 16 AWG, 600V, 10 A | A          | —  | —  | 1 Black<br>2 White   | 3 Red<br>4 Green/Yellow<br>Extended PIN  |
| 10 AWG, 600V, 25 A | B          | 1 Black<br>2 Green/Yellow<br>Extended PIN  | 3 Red<br>4 White   | —  | —  |

Approximate Dimensions

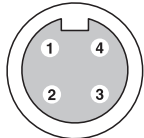
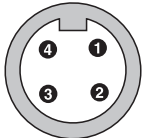


Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.



Specifications

| <b>Mechanical</b>                          |  |
|--|--|
| <b>Insert</b>                              | Black PVC  |
| <b>Receptacle Shell Material</b>           | Black anodized aluminum (female) and zinc diecast, black E-coat (male)   |
| <b>Electrical</b>                          |  |
| <b>Contacts</b>                            | Copper alloy with gold over nickel plating (Trunk), brass with gold over nickel plating (Drop)   |
| <b>Cable Rating</b>                        | 600V AC/DC: 14 AWG Listed TC, 16 AWG Listed TC-ER/STOOW, 10 AWG Listed TC-ER/STOOW   |
| <b>Assembly Rating</b>                     | <p><b>Note:</b> When applied with 14 AWG or larger wire, this is suitable for use on Motor Branch Circuits, per NFPA 79.</p> <p>4-pin — 16 AWG, 600V @ 10 A (0.28...0.47 in. cable dia.)<br/>                     4-pin — 14 AWG, 600V @ 15 A (0.28...0.47 in. cable dia.)<br/>                     4-pin — 10 AWG, 600V @ 25 A (0.48...0.81 in. cable dia.)</p>   |
| <b>Short Circuit Current Rating (SCCR)</b> | <p style="text-align: center;"><i>4-pin — 10 AWG</i></p> <p><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses<br/> <b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 480V AC maximum when protected by Bul. 140U-H frame circuit breaker, not rated more than 480V, 100 A and a maximum interrupting of 65 000 RMS symmetrical amperes.</p> <p style="text-align: center;"><i>4-pin — 16 and 14 AWG</i></p> <p><b>Fusing:</b> Suitable for use on a circuit capable of delivering not more than 65 000 RMS symmetrical amperes at 600V AC maximum when protected by CC, J, and T class fuses, rated 40 A non-time delay or 20 A time delay.<br/> <b>Circuit Breaker:</b> Suitable for use on a circuit capable of delivering not more than 45 000 RMS symmetrical amperes at 480V AC maximum when protected by Cat. No. 140U-D6D3-C30 circuit breaker, not rated more than 480Y/277V, 30 A, having an interrupting rating not less than 45 000 RMS symmetrical amperes, 480Y/277V maximum.</p> |
| <b>Environmental</b>                       |  |
| <b>Enclosure Rating</b>                    | IP67, UL Type 4/12 & NEMA 6P; 1200 psi washdown  |

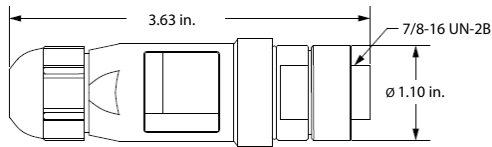
Pinout and Color Code

|  | Face View Pinout   |  |  |  |
|--|--|--|--|--|
|  | 4-Pin  |  |  |  |
|  | M35 Connector  |  | M22 Connector  |  |
|  |  |  |  |  |
| <b>Assembly Rating</b>                   | Female   | Male   | Female   | Male   |
| 16 AWG, 600V, 10 A<br>14 AWG, 600V, 15 A | —  |  | 1 Black<br>2 White   | 3 Red<br>4 Green/Yellow<br>Extended PIN  |
| 10 AWG, 600V, 25 A                       | 1 Black<br>2 Green/Yellow<br>Extended PIN  | 3 Red<br>4 White   | —  |  |

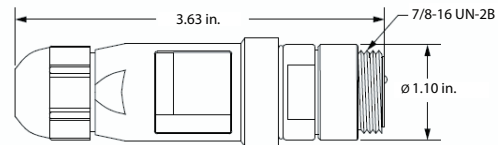
Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.

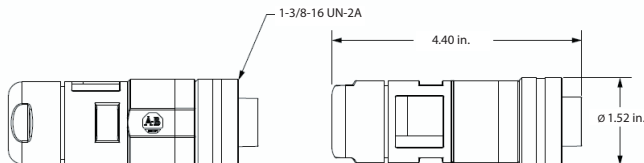
M22, 16 AWG, Female



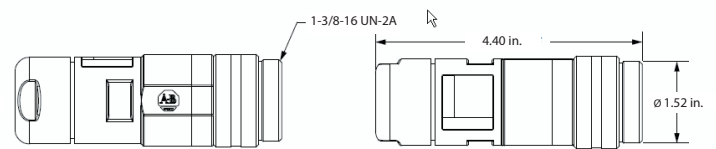
M22, 16 AWG, Male



M35, 10 AWG, Female





M35, 10 AWG, Male



**Specifications**

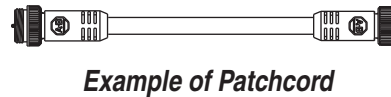
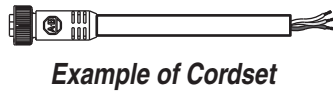
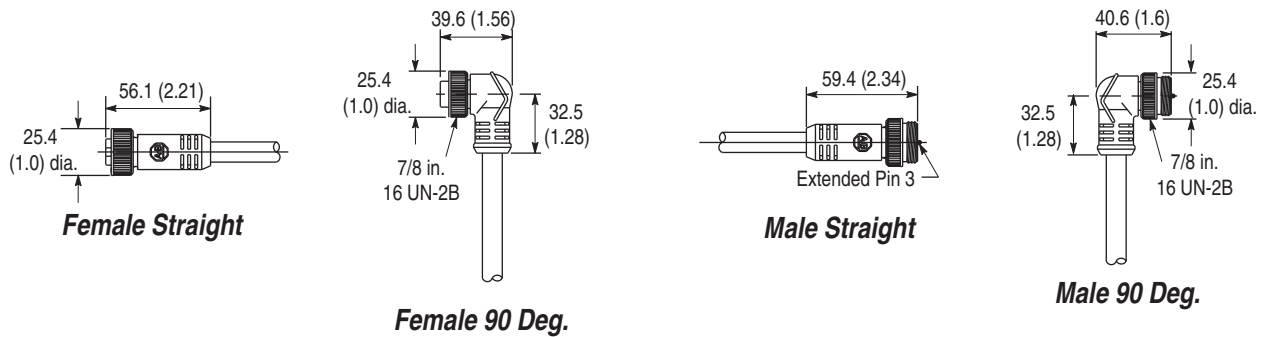
| <b>Mechanical</b>            |  |
|------------------------------|--|
| <b>Coupling Nut</b>          | Black epoxy coated zinc  |
| <b>Overmold</b>              | Black Riteflex TPE   |
| <b>Insert</b>                | Yellow Riteflex TPE  |
| <b>Contacts</b>              | Brass/gold over palladium nickel   |
| <b>Cable</b>                 | Grey PVC, 16 AWG, dual rated UL TC/Open Wiring and STOOW   |
| <b>Cable Diameter</b>        | 0.44 in. +/- 0.12 in. (11.18 mm +/- 0.5 mm)  |
| <b>Electrical</b>            |  |
| <b>Cable Rating</b>          | UL Type TC 600V 90 °C Dry 75 °C Wet, Open Wiring or MTW 600V 90 °C or STOOW 105 °C 600V - CSA STOOW 600V FT2 |
| <b>Assembly Rating</b>       | 16 AWG, 600V, 10 A   |
| <b>Environmental</b>         |  |
| <b>Enclosure Type Rating</b> | IP67, NEMA 6P, 1200 psi washdown   |
| <b>Operating Temperature</b> | -20...+90 °C (-4...+194 °F)  |

**Pinout and Color Code**

| <b>Face View Pinout</b> |   |   |
|-------------------------|---|---|
| <b>6-pin/5-used</b>     |   |   |
|                         |  |  |
|                         | Female  | Male  |
| <b>Color Code</b>       | 1 Red (+)<br>2 Black (-)<br>3 Green (GND)   | 4 Blank/Not Used<br>5 Blue (S1)<br>6 White (S2)                                     |

**Approximate Dimensions**



Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.



Specifications

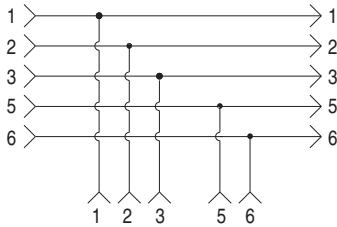
| Mechanical            |                                  |
|-----------------------|----------------------------------|
| Coupling Nut          | Black epoxy coated zinc          |
| Housing               | Riteflex TPE                     |
| Insert                | Yellow Riteflex TPE              |
| Contacts              | Brass/gold over palladium nickel |
| Electrical            |                                  |
| Assembly Rating       | 600V, 10 or 8 A                  |
| Environmental         |                                  |
| Enclosure Type Rating | IP67, NEMA 6P, 1200 psi washdown |
| Operating Temperature | -20...+90 °C (-4...+194 °F)      |

Pinout and Color Code

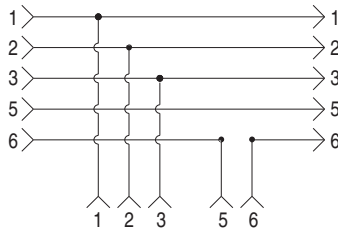
|            | Face View Pinout  |                                       |   |                 |
|------------|---|---------------------------------------|---|-----------------|
|            | 6-pin/5-used  |                                       | 4-pin/4-used  |                 |
|            | Cat. No. 898N-653ES-NKF or 898N-653ST-NKF   |                                       | Cat. No. 898N-543ES-NKF   |                 |
|            |  <p>Female</p> |                                       |  <p>Female</p> |                 |
| Color Code | 1 Red<br>2 Black<br>3 Green   | 4 Blank/Not Used<br>5 Blue<br>6 White | 1 White<br>2 Black  | 3 Blue<br>4 Red |

Wiring Diagrams

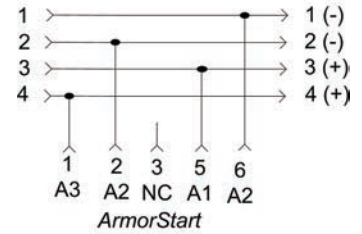
E-stop out



E-stop in

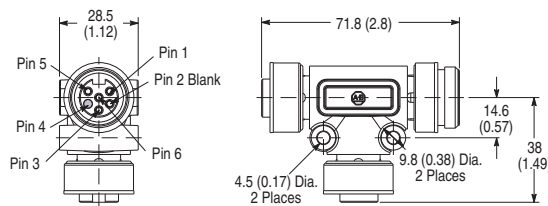


AarmorStart auxilliary

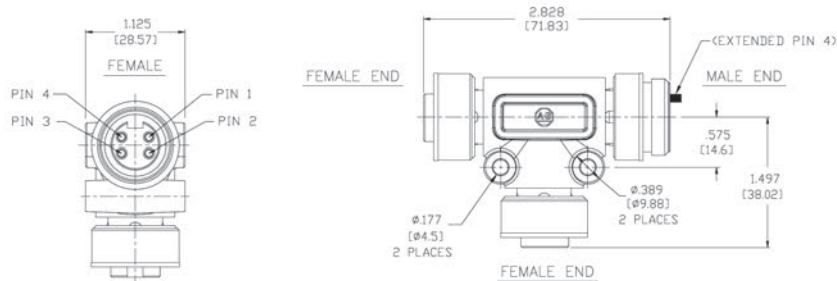


Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.



E-stop out or E-stop in





AarmorStart auxilliary

Specifications

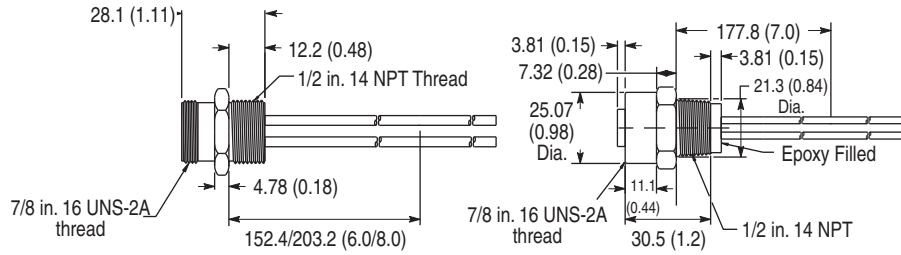
| Mechanical            |  |
|-----------------------|--|
| Receptacle Shell      | Male: Black epoxy coated zinc diecast<br>Female: Black anodized aluminum |
| Insert                | Yellow PVC   |
| Contacts              | Brass/gold over palladium nickel   |
| Electrical            |  |
| Assembly Rating       | 16 AWG, 600V, 10 A   |
| Environmental         |  |
| Enclosure Type Rating | IP67, NEMA 6P, 1200 psi washdown   |
| Operating Temperature | -20...+90 °C (-4...+194 °F)  |

Pinout and Color Code

|            | Face View Pinout  |   |
|------------|---|---|
|            | 6-pin/5-used  |   |
|            |  |  |
|            | Female  | Male  |
| Color Code | 1 Red (+)<br>2 Black (-)<br>3 Green (GND)   | 4 Blank/Not Used<br>5 Blue (S1)<br>6 White (S2)                                     |

Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.







Specifications

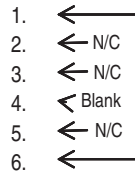
| Mechanical            |                                  |
|-----------------------|----------------------------------|
| Coupling Nut          | Black epoxy coated zinc          |
| Overmold              | Riteflex TPE                     |
| Insert                | Yellow Riteflex TPE              |
| Contacts              | Brass/gold over palladium nickel |
| Electrical            |                                  |
| Assembly Rating       | 600V, 10 A                       |
| Environmental         |                                  |
| Enclosure Type Rating | IP67, NEMA 6P, 1200 psi washdown |
| Operating Temperature | -20...+90 °C (-4...+194 °F)      |

Pinout and Color Code

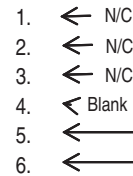
| Face View Pinout |   |   |
|------------------|---|---|
| 6-pin/5-used     |   |   |
|                  |  |  |
|                  | Female  | Male  |
| Color Code       | 1 Red (+)<br>2 Black (-)<br>3 Green (GND)   | 4 Blank/Not Used<br>5 Blue (S1)<br>6 White (S2)                                     |

Wiring Diagrams

E-stop out

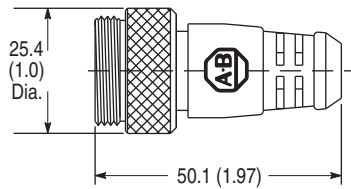


E-stop in



Approximate Dimensions

Dimensions in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes and are subject to change.



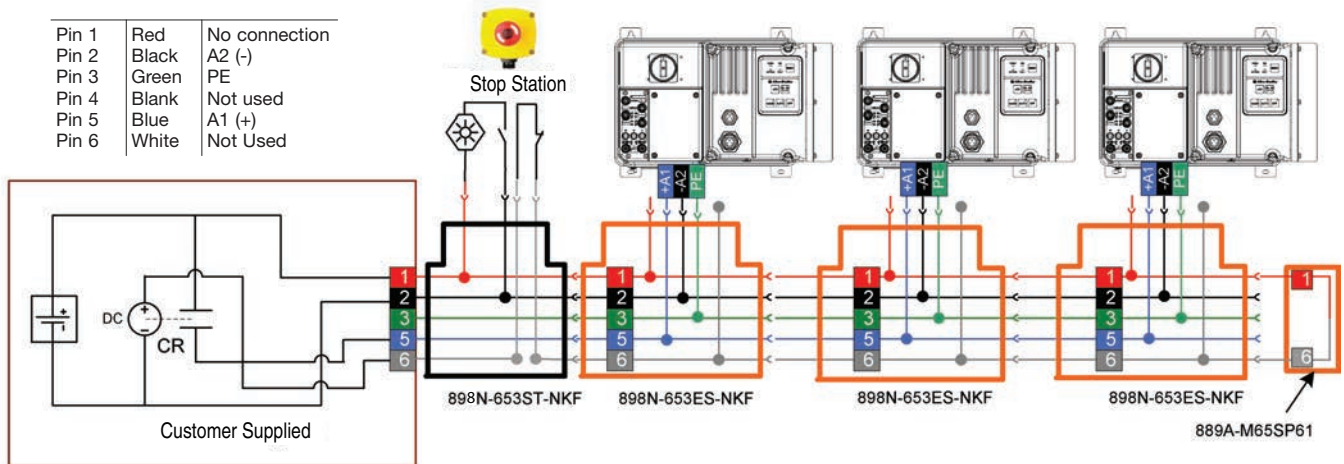
**Locking Clips**

| Description   | Material        | Connector Styles               |
|---|-----------------|--------------------------------|
| Clam shell design clips over the three-phase power media drop connection, to limit customer access. | ABS/PC plastics | M22 Connector<br>M35 Connector |

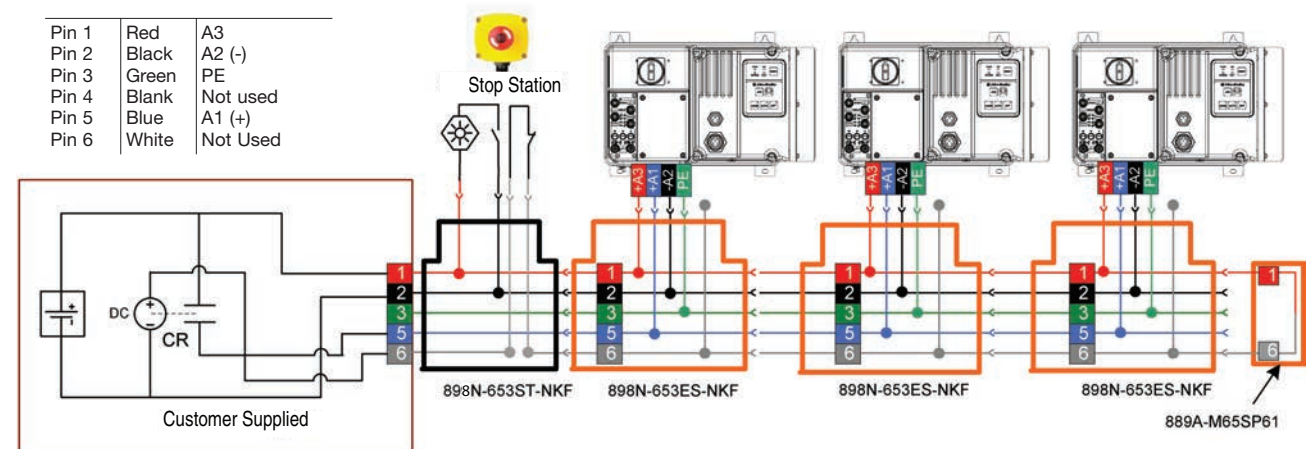
**Sealing Caps**

| Connector Style     | Material                | Enclosure Type Rating                | Thread Configuration | Dimensions |
|---------------------|-------------------------|--------------------------------------|----------------------|------------|
| Control Power (M22) | Aluminum grey, anodized | IP20                                 | External, male       |            |
|                     |                         |                                      | Internal, female     |            |
| 3-Phase Power (M35) |                         | IP67, NEMA 4 & 6P: 1200 psi washdown | External, male       |            |
|                     |                         |                                      | Internal, female     |            |

**Example Stop Circuit for DeviceNet/ArmorPoint Bus Version**



**Example Stop Circuit for EtherNet/IP Bus Version**





## Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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