RETURNS: Pacer strives to serve our customers to the best of our ability. Most products can be returned for a full refund within 15 days of receipt. Contact customer service to obtain an approved RMA (Return Material Authorization). Product returned without an RMA will not be accepted. After 15 days, a 20% restocking fee will apply. Sales of non-standard products (cut-to-length, striped, cable assemblies, etc.) or after 90 days are non-returnable, non-refundable. Please inspect all items received for transport damage as freight claims are against the carrier.

WARRANTY & DISCLAIMER: All statements, technical information, and recommendations related to the Sellers (Pacer Group) product line are based upon information believed to be true and correct. The accuracy and completeness thereof are not guaranteed. Before using a product, User should determine the suitability of the product for its intended use. User assumes all risks and liability whatsoever in connection with such use. Where Seller is acting as a distributor of products manufactured by other companies, Seller expressly limits its liabilities to any guarantees Seller will pass through to the customer. No warranty will apply if its products are in any way altered or modified after delivery by Seller. Pacer reserves the right to substitute a specified product listed in this catalog with an equivalent product if the listed manufacturer’s product is not available at the time of the order.

At Pacer Group we’re not about the transaction - we’re about the relationship.

At Pacer Group we’re able to keep minimums low & our prices competitive across all our product lines.

Price gets us in the door, commitment to quality keeps us there, and day to day service builds long term relationships.

Our Vision:
Since the very beginning, our focus has been on quality and customer experience. We do not just sell products, we offer solutions. With forty years experience in the marine industry, we have mastered our craft and cultivated a product line of the highest caliber. Every single item you will find in this catalog has undergone a battery of tests. We trust each of these products enough to put them into our own boats. Why choose Pacer Group? It’s simple. When you see Pacer Group, you know it means quality.

- Manufacturer for some of the biggest names in the marine industry such as;

- Supplier for OEMs, Wholesalers, Repair shops, marinas, boat yards and boating enthusiasts around the world.

- All Pacer Group internally engineered and manufactured products are Made in the USA.

Pacer Group offers an unparalleled inventory of marine wire, cable & electrical products.
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UL 2-CONDUCTOR BOAT CABLE 600V 105°C

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<thead>
<tr>
<th>PART #</th>
<th>AWG NO.</th>
<th>NO. OF COND.</th>
<th>CONDUCTOR STRANDING</th>
<th>NOM. JACKET THICKNESS (IN.)</th>
<th>NOM. CABLE O.D. (IN.)</th>
<th>STANDARD PUT-UPS</th>
<th>APPROX LENGTH</th>
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<td>W18/2DC</td>
<td>18 2</td>
<td>16/0.0100</td>
<td>0.035 0.185 x 0.300</td>
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**“DC” Rod + Black Conductors, White Jacket**

- **Conductor:** Annealed Fine Stranded Tinned Copper ASTM B172 Class K
- **Temperature Rating:** 105°C Dry, 75°C Wet, 60°C Oil
- **Voltage Rating:** 600V
- **Resistant to:** Acid, Alkali, Abrasion, Flame, Gasoline, Oil and Moisture

Pacer’s manufacturing process extrudes a flexible yet tough PVC jacket. The extrusion process fills the voids between the conductors leaving no airspace for condensation to accumulate. The finished product is flexible, durable and easy to install.

**FEATURES:**
- Two conductor boat cable is a durable product for use in DC circuits as well as low voltage AC applications.
- Highly flexible
- Easy to stripe & route
- UL compliant

**APPLICATIONS:**
- Pacer’s UL triplex cable is perfect for AC circuits in boats and recreational vehicles.
- Suitable for 120V AC US wiring, tan jacket is typical for 230V AC European wiring, and blue jacket is typical of 240V AC US wiring.

**COMPLIANCES:**
- UL standard 1426
- ABYC: E-11.14
- Coast Guard: 33 CFR part 183
- RoHS compliant
- UL compliant

**CHARACTERISTICS:**
- Conductor: Annealed Fine Stranded Tinned Copper ASTM B172 Class K
- Insulation: 500V, 60°C Oil
- Voltage Rating: 600V
- Resistant to: Acid, Alkali, Abrasion, Flame, Gasoline, Oil and Moisture

**PRINT:** Pacer E157097 (UL) BOAT CABLE _AWG/#_COND 600V 105°C

---

Wire & Cable
UL 3-CONDUCTOR BOAT CABLE 600V 105°C

<table>
<thead>
<tr>
<th>PART #</th>
<th>AWG NO.</th>
<th>NO. OF COND.</th>
<th>CONDUCTOR STRANDING</th>
<th>NOM. JACKET THICKNESS (IN.)</th>
<th>NOM. CABLE O.D. (IN.)</th>
<th>STANDARD PUT-UPS</th>
<th>APPROX LENGTH</th>
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<td>14 3</td>
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<td></td>
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<td>128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W8/3</td>
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<td>72x0.0100</td>
<td>0.045 0.375 x 0.930</td>
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<td>180</td>
<td></td>
<td></td>
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<td>73x0.0100</td>
<td>0.045 0.450 x 1.140</td>
<td>C, TL, D</td>
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</table>

**UL TRIPLEX CABLE - Black, Green, White Conductors, White Jacket**

- **Conductor:** Annealed Fine Stranded Tinned Copper UL standard 1426
- **Temperature Rating:** 105°C Dry, 75°C Wet, 60°C Oil
- **Voltage Rating:** 600V
- **Resistant to:** Acid, Alkali, Abrasion, Flame, Gasoline, Oil and Moisture

**PRINT:** Pacer E157097 (UL) BOAT CABLE _AWG/#_COND 600V 105°C

---

**WEB ENHANCED - Reel Measurements:** Available at PacerGroup.net/reel-measurement-tables/

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Pacer Boatt Cable is designed for maximum durability and ease of installation. Type 3 Class K tinned copper wire and PVC jackets provide maximum protection from moisture and fatigue due to vibration and flexing. White jacketing is typical of 120V AC US wiring, tan jacket is typical for 230V AC European wiring, and blue jacket is typical of 240V AC US wiring.

**APPLICATIONS:**
- Pacer’s UL triplex cable is perfect for AC circuits in boats and recreational vehicles.
- Suitable for 230V AC US wiring, tan jacket is typical for 230V AC European wiring, and blue jacket is typical of 240V AC US wiring.

**COMPLIANCES:**
- UL standard 1426
- ABYC: E-11.14
- Coast Guard: 33 CFR part 183
- RoHS compliant
- UL compliant

**CHARACTERISTICS:**
- Conductor: Annealed Fine Stranded Tinned Copper ASTM B172 Class K
- Insulation: 20°C to 105°C Flexible, Color Coded PVC
- Voltage Rating: 600V
- Resistant to: Acid, Alkali, Abrasion, Flame, Gasoline, Oil and Moisture

**PRINT:** Pacer E157097 (UL) BOAT CABLE _AWG/#_COND 600V 105°C
**Wire & Cable**

**UL Round Boat Cable**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS** | **APPRX LB/M**
---|---|---|---|---|---|---|---
WR16/20G | 16 | 2 | 0.030 0.380 | 26/0.0010 | C, TL, D, M | 50 | 2<br>WR14/20G | 14 | 2 | 0.030 0.390 | 41/0.0010 | C, TL, D, M | 67 | 2
WR12/20G | 12 | 2 | 0.040 0.410 | 65/0.0010 | C, TL, D, M | 85 | 2<br>WR10/12G | 10 | 2 | 0.045 0.470 | 105/0.0010 | C, TL, D, M | 130 | 2

**3 Conductor, Grey Jacket**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS** | **APPRX LB/M**
---|---|---|---|---|---|---|---
WR16/3G | 16 | 3 | 0.045 0.395 | 26/0.0010 | C, TL, D, M | 73 | 3<br>WR14/3G | 14 | 3 | 0.045 0.410 | 41/0.0010 | C, TL, D, M | 96 | 3<br>WR12/3G | 12 | 3 | 0.045 0.470 | 65/0.0010 | C, TL, D, M | 131 | 3<br>WR10/3G | 10 | 3 | 0.045 0.545 | 105/0.0010 | C, TL, D, M | 178 | 3

**4 Conductor, Grey Jacket**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS** | **APPRX LB/M**
---|---|---|---|---|---|---|---
WR16/4G | 16 | 4 | 0.045 0.420 | 26/0.0010 | C, TL, D, M | 108 | 4<br>WR14/4G | 14 | 4 | 0.045 0.465 | 41/0.0010 | C, TL, D, M | 136 | 4<br>WR12/4G | 12 | 4 | 0.045 0.560 | 65/0.0010 | C, TL, D, M | 185 | 4<br>WR10/4G | 10 | 4 | 0.045 0.600 | 105/0.0010 | C, TL, D, M | 253 | 4<br>WR8/4G | 8 | 4 | 0.080 0.830 | 168/0.0010 | C, TL, D, M | 675 4<br>WR6/4G | 6 | 4 | 0.080 0.985 | 410/0.0010 | C, TL, D, M | 650 | 4<br>WR4/4G | 4 | 4 | 0.115 1.155 | 680/0.0010 | C, TL, D, M | 920 | 4

**6 Conductor, Grey Jacket**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS** | **APPRX LB/M**
---|---|---|---|---|---|---|---
WR16/6G | 16 | 6 | 0.045 0.495 | 26/0.0010 | C, TL, D, M | 130 | 6<br>WR14/6G | 14 | 6 | 0.045 0.530 | 41/0.0010 | C, TL, D, M | 200 | 6

**9 Conductor, Grey Jacket**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS** | **APPRX LB/M**
---|---|---|---|---|---|---|---
WR16/9G | 16 | 9 | 0.045 0.680 | 26/0.0010 | C, TL, D | 280 | 9<br>WR14/12G | 14 | 12 | 0.060 0.700 | 41/0.0010 | C, TL, D | **375** | 12

**10 Conductor, Grey Jacket**

**PART NUMBER** | **AWG** | **NO. OF COND.** | **DIA. (IN.)** | **NO. OF COND.** | **STANDARD** | **CIRCULAR MILS**
---|---|---|---|---|---|---
WR16/10G | 16 | 10 | 0.060 0.700 | 26/0.0010 | C, TL, D | **375**

**22 AWG – 18 AWG UL1015/1230 CSA TFEW 600V 105°C Dry, 60°C Wet**

<table>
<thead>
<tr>
<th>NO. OF COND.</th>
<th><strong>STANDARD</strong></th>
<th><strong>CIRCULAR MILS</strong></th>
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<tr>
<td>6</td>
<td>C, TL, D, M</td>
<td>700</td>
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<tr>
<td>8</td>
<td>C, TL, D, M</td>
<td>780</td>
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<td>12</td>
<td>C, TL, D, M</td>
<td>1600</td>
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<td>18</td>
<td>C, TL, D, M</td>
<td>2600</td>
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<tr>
<td>25</td>
<td>C, TL, D, M</td>
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</tbody>
</table>

**22 AWG – 18 AWG UL Standard 1246 BC-SW2 600V 105°C Dry, 75°C Wet**

<table>
<thead>
<tr>
<th>NO. OF COND.</th>
<th><strong>STANDARD</strong></th>
<th><strong>CIRCULAR MILS</strong></th>
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<tbody>
<tr>
<td>6</td>
<td>C, TL, D, M</td>
<td>700</td>
</tr>
<tr>
<td>8</td>
<td>C, TL, D, M</td>
<td>780</td>
</tr>
<tr>
<td>12</td>
<td>C, TL, D, M</td>
<td>1600</td>
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<tr>
<td>18</td>
<td>C, TL, D, M</td>
<td>2600</td>
</tr>
<tr>
<td>25</td>
<td>C, TL, D, M</td>
<td>4700</td>
</tr>
</tbody>
</table>

**UL Tinned Copper Primary Wire**

**Ordering Information:**

- **Select Wire Gauge**
- **Select Jacket Color**
- **Select Spool Size**
- **Select Stripe Color:** Optional

 nosso wire is constructed from Type 3 Class K tinned copper conductor and is insulated with flexible vinyl. pacers ul wire has been the choice of hundreds of boat builders for over 30 years.
# Wire & Cable

**UL Tinned Copper Battery Cable**

**Application:** Connecting a battery or generator to a switch, starter or ground, windlass, inverter or in any high amperage equipment.

**Conductor:** Soft Annealed Stranded Bare Copper

**Insulation:** Flexible PVC, 105°C

**Characteristics:**
- Resistant to: Acid, Alkal, Abrasion, Flame, Gasoline, Oil and Moisture
- Flexible SGT offers speed and easy installation.
- Marine SAE SGT Flexible Battery Cable Ordering Information: Build the part number. Select (A) Wire Gauge, (B) Jacket Color, (C) Spool Size

## Table: UL Tinned Copper Battery Cable Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Size</th>
<th>Wire Gauge</th>
<th>Jacket Color</th>
<th>Spool Size</th>
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<td>W6L6</td>
<td>6</td>
<td>6</td>
<td>Black</td>
<td>50 FT</td>
</tr>
<tr>
<td>W6L4</td>
<td>4</td>
<td>4</td>
<td>Red</td>
<td>100 FT</td>
</tr>
<tr>
<td>W6L2</td>
<td>2</td>
<td>2</td>
<td>Orange</td>
<td>250 FT</td>
</tr>
<tr>
<td>W6L1</td>
<td>1</td>
<td>1</td>
<td>Yellow</td>
<td>500 FT</td>
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<td>W6L0</td>
<td>0</td>
<td>0</td>
<td>Green</td>
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**WEB ENHANCED - Real Measurements Available at PacerGroup.net/real-measurement-tables/**

**Pacer’s Flexible SGT Battery cable offers dramatic ease of installation and usability. All battery cables are insulated with Pacer’s high flex PVC compound. By replacing traditional coarse copper stranded with flexible fine stranded rope conductors of equivalent circular mil area our SGT cable is economical and efficient to install. Intended for applications operating at potentials of 60V DC or less.**

**APPLICATIONS:** Automotive battery cable, connecting a battery or generator to a switch, windlass, starter or ground, operating at potentials of less than 60V.

**FEATURES:**
- Twist stranded rope conductors combined with a highly flexible PVC jacket redefines traditional SGT cable while remaining economical.

**COMPLIANCES:**
- SAE SGT J1127 & J378
- ABYC: E-11.14
- Coast Guard: 33 CFR part 183.430

**CHARACTERISTICS:**
- Conductor: Soft Annealed Stranded Bare Copper
- Insulation: Flexible PVC, 105°C

**Temperature/Voltage Rating:**
- 105°C Dry / 60V DC
- 150°C Wet / 60V DC

**Print:** Pacer No. - TYPE SGT 105°C 60V J1127 AND J378

**Length of Print is 1 FT**

**PACER TO PACER = 1 FT**

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**Table: Marine SAE SGT Flexible Battery Cable Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Size</th>
<th>Wire Gauge</th>
<th>Jacket Color</th>
<th>Spool Size</th>
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<td>(W)/A</td>
<td>Red</td>
<td>500 FT</td>
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<td>1/0</td>
<td>(W)/M</td>
<td>Green</td>
<td>100 FT</td>
</tr>
</tbody>
</table>

**WEB ENHANCED - Real Measurements Available at PacerGroup.net/real-measurement-tables/**

---

**Pacer’s Flexible SGT Battery cable offers dramatic ease of installation and usability. All battery cables are insulated with Pacer’s high flex PVC compound. By replacing traditional coarse copper stranded with flexible fine stranded rope conductors of equivalent circular mil area our SGT cable is economical and efficient to install. Intended for applications operating at potentials of 60V DC or less.**

**APPLICATIONS:** Automotive battery cable, connecting a battery or generator to a switch, windlass, starter or ground, operating at potentials of less than 60V.

**FEATURES:**
- Twist stranded rope conductors combined with a highly flexible PVC jacket redefines traditional SGT cable while remaining economical.

**COMPLIANCES:**
- SAE SGT J1127 & J378
- ABYC: E-11.14
- Coast Guard: 33 CFR part 183.430

**CHARACTERISTICS:**
- Conductor: Soft Annealed Stranded Bare Copper
- Insulation: Flexible PVC, 105°C

**Temperature/Voltage Rating:**
- 105°C Dry / 60V DC
- 150°C Wet / 60V DC

**Print:** Pacer No. - TYPE SGT 105°C 60V J1127 AND J378

**Length of Print is 1 FT**

**PACER TO PACER = 1 FT**
Battery Cable Assembly Ordering Information:

(A) Cable Style

SAE (A)  UL (B)

(B) Gauge Size

6 AWG  4 AWG  2 AWG  1 AWG  1/0  2/0  3/0  4/0

(C) Cable Color

Red (B)  Black (C)  Yellow (D)

(D) Boot Type

Alternator (A)  Marine (M)  Straight (N)

(E) Lug Type

#10  1/4"  5/16"  3/8"  1/2"  Positive (P)  Negative (N)

(F) Length

(Length in Inches)

10  12  18  24  36  42  48  54  60

Marine SAE Tinned Copper Wire Ordering Information:

(A) Select Wire Size

16  14  12  10  8  6

(WST16)  (WST14)  (WST12)  (WST10)  (WST8)  (WST6)

(B) Select Jacket Color

Black (BK)  Brown (BR)  Red (RD)  Orange (OR)  Yellow (YL)  Green (GN)  Lt Green (LG)  Blue (BL)  Lt Blue (LB)  Violet (VI)  White (WH)  Tan (TN)  Pink (PK)

(C) Select Stripe Color: Optional

-0  -1  -2  -3  -4  -5  -6  -7  -8  -9  -10  -11  -12

(Length in Inches)

100  250  500  1000

(W)  (C)  (T)  (D)  (M)

Larger lengths available. Please call or email a Pacer expert.

Example: SAE No. 14, Violet, 250 ft = WST14VI-TL

WEB ENHANCED - Real Measurements: Available at PacerGroup.net/real-measurement-tables/

SAE flexible tinned copper wire provides an excellent cost effective alternative to traditional bare copper automotive wire. Its tinned copper, highly flexible stranding and premium insulation offer superior corrosion resistance. This highly flexible wire made to SAE specifications, fits all major connector systems, and is intended for use at potentials under 60V DC.

COMPATIBILITIES: ABYC: E-11:14 "Coast Guard: 33 CFR part 183.430 CHARACTERISTICS: Conductor: No. 16 to No. 6 Soft Annealed Tinned Copper Insulation: 20°C to 105°C Flexible, Color Coded PVC Temperature/Voltage Rating: 105°C Dry / 60V DC Resistant to: Acid, Alkali, Alkene, Flare, Gasoline, Oil and Moisture

PRINT: PASCER MARINE TINNED COPPER MARINE SAE No. _TYPE GPT 105°C 60V J1128 & J378

Length of Spool is 1 FT Prior to Pack = 1 FT

Pacsafe manufactures cable assemblies using a precision cut and strip machine for repeatability and accurate cuts. Our hydraulic-pneumatic crimper creates a superior gas tight crimp. We combine this process with epoxy lined heat shrink to give you a moisture and air tight connection.
### Teflon Insulated Primary Wire

**NEMA HP-3, formerly “MIL-W 16878/4 TYPE E” 600V 200°C**

**Conductor:** Annealed stranded bare copper (Type II)

**Insulation:** Teflon color coded insulation, silver plated copper conductors. Rated for 200°C 600V wiring-soldering applications where insulation melt back is a specific problem.

**Applications:** Are characterized by extreme thermal or chemical conditions. Teflon is rated for continuous operating temperatures from -50°C to 200°C. It is resistant to exposure from nearly all chemicals. Teflon wire also carries a low coefficient of friction and has outstanding electrical properties. Teflon wire is RoHS, VW-1 compliant.

**Compliance:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AWG No.</th>
<th>No. Of Conductors</th>
<th>Conductor Stranding</th>
<th>Conductor Colors</th>
<th>Temp. Range:</th>
<th>Apprx. LF/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE-2419</td>
<td>24</td>
<td>18/16</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>-50°C to 105°C</td>
<td>10</td>
</tr>
<tr>
<td>WE-2219</td>
<td>22</td>
<td>18/14</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>-50°C to 105°C</td>
<td>11</td>
</tr>
<tr>
<td>WE-2019</td>
<td>20</td>
<td>18/12</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>-50°C to 105°C</td>
<td>12</td>
</tr>
<tr>
<td>WE-1819</td>
<td>18</td>
<td>18/10</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>60°C to 180°C</td>
<td>13</td>
</tr>
<tr>
<td>WE-1619</td>
<td>16</td>
<td>18/8</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>60°C to 180°C</td>
<td>14</td>
</tr>
<tr>
<td>WE-1419</td>
<td>14</td>
<td>18/6</td>
<td>0.010</td>
<td>Black, Red, White, Green</td>
<td>60°C to 180°C</td>
<td>15</td>
</tr>
</tbody>
</table>

**Ordering Information:**

Order in multiples of 100 ft. Stripped wire available in 25 ft reels. Stocked Colors: Black, Red, White, Green. Other colors are available upon request.

### SEOOW "Ship-to-Shore" Flexible Cord

**Conductor:** Fully annealed stranded bare copper per ASTM B-174

**Insulation:** TPE, Color: Yellow

**Temp. Range:** 60°C to 105°C

**Voltage Rating:** 600V

**Ordering Information:**

Order by the foot. No minimums, non-refundable, non-returnable.

SEOOW cords are ideal for custom or replacement shore power cords in harsh environments where the highest degree of oil and extended service life are essential. These cables are lightweight and offer an O-ring coated jacket. The jacket is also water-resistant as it is the insulation and non-wicking plastic fibers. They are non-marking and offer very good flexibility with excellent molding characteristics.

**Characteristics:**

- Fully annealed stranded bare copper per ASTM B-174
- Insulation: TPE, Color: Yellow
- RoHS Compliant Directive 2002/95/EC
- Temp. Range: 60°C to 105°C
- Voltage Rating: 600V

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AWG No.</th>
<th>No. Of Conductors</th>
<th>Conductor Stranding</th>
<th>Conductor Colors</th>
<th>Temp. Range:</th>
<th>Apprx. LF/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>MST010/3</td>
<td>10</td>
<td>3</td>
<td>0.010</td>
<td>105/30</td>
<td>60°C to 105°C</td>
<td>16</td>
</tr>
<tr>
<td>MST06/3</td>
<td>6</td>
<td>3</td>
<td>0.010</td>
<td>266/30</td>
<td>60°C to 105°C</td>
<td>17</td>
</tr>
<tr>
<td>MST06/4</td>
<td>6</td>
<td>4</td>
<td>0.010</td>
<td>266/30</td>
<td>60°C to 105°C</td>
<td>18</td>
</tr>
<tr>
<td>MST02/4</td>
<td>2</td>
<td>4</td>
<td>0.010</td>
<td>665/30</td>
<td>60°C to 105°C</td>
<td>19</td>
</tr>
</tbody>
</table>

**Ordering Information:**

Sold by the foot. Minimum 25 ft.

This flexible wire is for use with digital radio, stereo speakers, jukeboxes, and home theaters but is not rated for in-wall use. It is constructed from finely stranded tinned and bare copper wire and insulated with premium clear PVC.

**Compliance:** RoHS Compliant Directive 2002/95/EC

**Characteristics:**

- Fully annealed stranded bare copper per ASTM B-174
- Insulation: Clear PVC
- Temp. Range: 60°C to 80°C
- Voltage Rating: 600V

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AWG No.</th>
<th>No. Of Conductors</th>
<th>Conductor Stranding</th>
<th>Conductor Colors</th>
<th>Temp. Range:</th>
<th>Apprx. LF/M</th>
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</thead>
<tbody>
<tr>
<td>W18-2ACLR</td>
<td>18</td>
<td>16/0.0100</td>
<td>0.100 X 0.187</td>
<td>17</td>
<td>60°C to 105°C</td>
<td>17</td>
</tr>
<tr>
<td>W16-2ACLR</td>
<td>16</td>
<td>26/0.0100</td>
<td>0.112 X 0.210</td>
<td>25</td>
<td>60°C to 105°C</td>
<td>18</td>
</tr>
<tr>
<td>W14-2ACLR</td>
<td>14</td>
<td>41/0.0100</td>
<td>0.120 X 0.230</td>
<td>35</td>
<td>60°C to 105°C</td>
<td>19</td>
</tr>
<tr>
<td>M12-2AWHT</td>
<td>12</td>
<td>65/0.0100</td>
<td>0.160 X 0.335</td>
<td>55</td>
<td>60°C to 105°C</td>
<td>20</td>
</tr>
</tbody>
</table>

**Ordering Information:**

Sold by the foot. Minimum 25 ft.

This flexible wire is for use with digital radio, stereo speakers, jukeboxes, and home theaters but is not rated for in-wall use. It is constructed from finely stranded tinned and bare copper wire and insulated with premium clear PVC.

**Compliance:** RoHS Compliant Directive 2002/95/EC

**Characteristics:**

- Fully annealed stranded bare copper per ASTM B-174
- Insulation: Clear PVC
- Temp. Range: 60°C to 80°C
- Voltage Rating: 600V

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AWG No.</th>
<th>No. Of Conductors</th>
<th>Conductor Stranding</th>
<th>Conductor Colors</th>
<th>Temp. Range:</th>
<th>Apprx. LF/M</th>
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</thead>
<tbody>
<tr>
<td>WBB22</td>
<td>22</td>
<td>6</td>
<td>0.026</td>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>WBB20</td>
<td>20</td>
<td>10</td>
<td>0.033</td>
<td>3.1</td>
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<tr>
<td>WBW18</td>
<td>18</td>
<td>16</td>
<td>0.041</td>
<td>6</td>
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</tr>
<tr>
<td>WBW16</td>
<td>16</td>
<td>26</td>
<td>0.052</td>
<td>9</td>
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<td></td>
</tr>
<tr>
<td>WBW14</td>
<td>14</td>
<td>45</td>
<td>0.025</td>
<td>14</td>
<td></td>
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<tr>
<td>WBW12</td>
<td>12</td>
<td>68</td>
<td>0.083</td>
<td>23</td>
<td></td>
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</tbody>
</table>

**Ordering Information:**

Order in multiples of 100 ft.

Bus bar wire has one conductor. It is an unsheathed, unsheathed and solid tinned copper wire that is made in accordance to QQ-W-334-F.
### Multi-Conductor Cable

**SHIELDED MULTI-CONDUCTOR**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NO. OF COND.</th>
<th>NOM. O.D. (IN.)</th>
<th>NOM. CAP (PFR)**</th>
<th>NOM. INSULATION THICKNESS (IN.)</th>
<th>NOM. JACKET THICKNESS (IN.)</th>
<th>NOM. STRAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>M22/10**</td>
<td>10</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.190</td>
</tr>
<tr>
<td>M22/12**</td>
<td>12</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.213</td>
</tr>
<tr>
<td>M22/14**</td>
<td>14</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.236</td>
</tr>
</tbody>
</table>

**APPLICATIONS:**
- Power Limited Tray Cable, NEC Type PLTC, 105°C, Sunlight resistant.
- **Capacitance between conductors**

**FEATURES:**
- Stranded tinned copper drain wire
- Between Conductors and Shield
- Between Conductor and Shield
- Suitable for EIA RS-232 applications

**COMPLIANCES:**
- UL Style 2464 (UL: 300V, VW-1) *CSA C22.2 #60-
- Vertical tray flame test per UL1581 and IEEE 383 (70,000 BTU)

---

### Multi-Conductor Cable

**UNSHIELDED MULTI-CONDUCTOR**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NO. OF COND.</th>
<th>NOM. O.D. (IN.)</th>
<th>NOM. CAP (PFR)**</th>
<th>NOM. INSULATION THICKNESS (IN.)</th>
<th>NOM. JACKET THICKNESS (IN.)</th>
<th>NOM. STRAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>M22/10**</td>
<td>10</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.190</td>
</tr>
<tr>
<td>M22/12**</td>
<td>12</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.213</td>
</tr>
<tr>
<td>M22/14**</td>
<td>14</td>
<td>7/30</td>
<td>40.0</td>
<td>0.010</td>
<td>0.032</td>
<td>0.236</td>
</tr>
</tbody>
</table>

**APPLICATIONS:**
- Power Limited Tray Cable, NEC Type PLTC, 105°C, Sunlight resistant.
- **Capacitance between conductors**

**FEATURES:**
- Stranded tinned copper drain wire
- Between Conductors and Shield
- Vertical tray flame test per UL1581 and IEEE 383 (70,000 BTU)

**COMPLIANCES:**
- UL Style 2464 (UL: 300V, VW-1) *CSA C22.2 #60-
- Vertical tray flame test per UL1581 and IEEE 383 (70,000 BTU)
Multi-Conductor Cable

CONDUCTOR SWITCHES & ACTUATORS

MATERIALS ROUTING & BUNDLING

BUS BARS BLOCKS & TERMINAL TOOLS

ID PRODUCTS & LABELERS

COAX & LMR CABLES WIRE & CABLE

WIRE CABLE

Multi-Conductor Cable

MULTI-CONDUCTOR COAX & LMR CABLES

CONDUCTOR SWITCHES & ACTUATORS

MATERIALS ROUTING & BUNDLING

BUS BARS BLOCKS & TERMINAL TOOLS

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WIRE CABLE

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MULTI-CONDUCTOR COAX & LMR CABLES

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WIRE CABLE

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MULTI-CONDUCTOR COAX & LMR CABLES

CONDUCTOR SWITCHES & ACTUATORS

MATERIALS ROUTING & BUNDLING

BUS BARS BLOCKS & TERMINAL TOOLS

ID PRODUCTS & LABELERS

COAX & LMR CABLES WIRE & CABLE

WIRE CABLE
Coaxial Cables

Coax Connectors

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>CONNECTOR</th>
<th>FOR CABLE TYPE</th>
<th>PLATING TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF59</td>
<td>F-Connector</td>
<td>Plug</td>
<td>RG 59</td>
</tr>
<tr>
<td>EF6</td>
<td>F-Connector</td>
<td>Plug</td>
<td>RG 6</td>
</tr>
<tr>
<td>EF59TW</td>
<td>F-Connector</td>
<td>Twist On</td>
<td>RG 59</td>
</tr>
<tr>
<td>EF6TW</td>
<td>F-Connector</td>
<td>Twist On</td>
<td>RG 6</td>
</tr>
<tr>
<td>EF81</td>
<td>F-to-F Connector</td>
<td>Coupler</td>
<td>-</td>
</tr>
<tr>
<td>EPL258</td>
<td>Jack to Jack PL259</td>
<td>Coupler</td>
<td>-</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

Compression Seal Connectors

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>CONNECTOR</th>
<th>FOR CABLE TYPE</th>
<th>PLATING TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBNC-58</td>
<td>BNC Series</td>
<td>3 Pc</td>
<td>RG 58</td>
</tr>
<tr>
<td>EBNC-59</td>
<td>BNC Series</td>
<td>3 Pc</td>
<td>RG 59, 62</td>
</tr>
<tr>
<td>ETNC-58</td>
<td>TNC Series</td>
<td>3 Pc</td>
<td>RG 58</td>
</tr>
<tr>
<td>ETNC-59</td>
<td>TNC Series</td>
<td>3 Pc</td>
<td>RG 59</td>
</tr>
<tr>
<td>EPL259</td>
<td>UHF Series</td>
<td>Plug</td>
<td>RG, 11, 213, 214, LMR-400</td>
</tr>
<tr>
<td>EPL259S</td>
<td>UHF Series</td>
<td>Plug</td>
<td>RG, 11, 213, 214, LMR-400</td>
</tr>
<tr>
<td>EUG175S</td>
<td>PL259</td>
<td>Reducer</td>
<td>RG 58</td>
</tr>
<tr>
<td>EUG175</td>
<td>PL259</td>
<td>Reducer</td>
<td>RG 58</td>
</tr>
<tr>
<td>EUG176</td>
<td>PL259</td>
<td>Reducer</td>
<td>RG 59, 62, 8X, LMR-240</td>
</tr>
<tr>
<td>EUG176S</td>
<td>PL259</td>
<td>Reducer</td>
<td>RG 59, 62, 8X, LMR-240</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

Properly using coaxial compression seal connectors:

Step 1: Make sure that all coaxial cables are properly stripped to the correct length. For coaxial stripping tool, please refer to page 54.

Step 2: Using the release screw and adjusting screw on the side of the tool, set the tool to the proper setting based on the connector you intend to use.

Step 3: Insert the properly stripped coaxial cable into the connector making sure the center conductor is the correct length.

Step 4: Line up the center conductor of the coaxial cable into the alignment hole on the crimper. Slide the cable into the tool opening making sure it is parallel to the crimper head.

Step 5: Squeeze both handles engaging the ratcheting action and complete a full cycle.

Making sure that you have the proper crimping or compression tool is essential to achieving a high-quality, proper connection. If a connector on your cable has not been properly crimped or connected, the quality of the connection is reduced. This has the potential to compromise an entire electrical system. Using the proper tool guarantees the correct crimp each and every time. Regardless of the type of connector you are working with, Pacer Group has the tool you need. Each tool carried has been tested and retested to make sure it is of the highest quality. To see Pacer Group’s selection of tools, refer to pages 53 - 59.

PACER PRO TIP:
Compression seal connectors may not be what you’re looking for. Pacer Group carries a wide range of terminals and connectors to handle any job. For a full list of options, please refer to pages 33 - 49.
### Network Cables

#### Category 5 (CABLES)

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>M24/4PRF-CAT5E</td>
<td>UNSHIELDED</td>
<td>25 PER PACK</td>
</tr>
<tr>
<td>M24/PRF-CAT5E</td>
<td>UNSHIELDED</td>
<td>ERJ-25</td>
</tr>
<tr>
<td>M24/4PRPFS-CAT5</td>
<td>UNSHIELDED</td>
<td>8 POS</td>
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</table>

#### Category 6 (CABLES)

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>M26/4PRFS-CAT6</td>
<td>O/ALL SHIELD</td>
<td>1000 FT</td>
</tr>
<tr>
<td>M24/4PRFS-CAT6</td>
<td>O/ALL SHIELD</td>
<td>1000 FT</td>
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</tbody>
</table>

#### Category 6 RJ-45 MODULAR PLUG

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>M26/4PRFS-CAT5</td>
<td>UNSHIELDED</td>
<td>1000 FT</td>
</tr>
</tbody>
</table>

### How to wire a 10BaseT or 100BaseT connector with Category 5 cable and RJ45 connectors using USOC Wiring Standard

1. **Ordering Information:**
   - Sold per foot, minimum of 1000 ft.
   - Order shown above.

2. **Wiring:**
   - Use a modular connector that will support Category 5 applications.
   - Use RJ45 connectors.
   - Use Category 5 cables.

3. **Step 1:**
   - Strip the cable 1.5” to 2” from the end. This will give you room to work with the wire pairs. Separate the pairs and align them in the order shown above. Begin flattening the wires into a “ribbon” so that it will easily slip into the connector and into the individual channelled areas.

4. **Step 2:**
   - Once you have all the wires aligned and ready to insert, you must trim them to approximately 1/2” in order to have as little “untwisted” wire in the connection as possible.

5. **Step 3:**
   - Insert the wires into the connector making sure that each wire goes into its appropriate “channel” and extends all the way to the end of the connector under the ground circuit mates before other contacts.

6. **Step 4:**
   - Press the cable and the jacket into the connector firmly so that the jacket will be crimped by the plastic wedge near the rear of the connector and the cable will be securely held in position for insertion into the RJ45 modular plugs.

7. **Step 5:**
   - Repeat steps 1 thru 4 for the other end of the cable for a standard ethernet cable.

---

**Micro-Change Cordset**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NB4854-6034</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4854-6035</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4854-6036</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
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<tr>
<td>NB4854-6037</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
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<tr>
<td>NB4854-6038</td>
<td>M26/4PRFS-CAT5</td>
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<tr>
<td>NB4854-6039</td>
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<td>6 POS</td>
</tr>
<tr>
<td>NB4854-6040</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
</tr>
</tbody>
</table>

**Micro-Change Power Tap, Female Left to Female Right Tee with Pigtail Drop**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NB4863-9001</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4863-9002</td>
<td>M26/4PRFS-CAT5</td>
<td>6 POS</td>
</tr>
</tbody>
</table>

**Adaptors, Connectors, Resistors, and Receptacles**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NB4856-0017</td>
<td>T-ADAPTOR, FEMALE, (DOP)</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4857-0005</td>
<td>MICRO CHANGE</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4856-0016</td>
<td>MICRO TERMINATION RESISTOR</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4856-0019</td>
<td>MICRO-C BUSHEAD FEED THROUGH RECEPTACLE</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4854-9317</td>
<td>MICRO-C TRUNK FIELD ATTACHABLE CONNECTOR</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4854-9318</td>
<td>MICRO-C TRUNK FIELD ATTACHABLE CONNECTOR</td>
<td>6 POS</td>
</tr>
<tr>
<td>NB4854-9319</td>
<td>MICRO-C INLINE TERMINATOR</td>
<td>6 POS</td>
</tr>
</tbody>
</table>

**NMEA 2000 (DeviceNet) Connector**

- **Description:**
  - For NMEA 2000 devices.
  - Connectors are CAN (Controller Area Network) protocol used to create a network of electronic devices.
  - Supports CAN Bus and CAN FD.
  - Compliant with NMEA 2000 specification.

**Additional Information:**

- **Compliance:**
  - COMPLIANCES: IEC 60603-3 Standard

- **Characteristics:**
  - Molded Connector: PVC Coupling Ring: Brass, Nickel
  - Contacts: Brass Alloy, Gold Plated
  - Cable: PVC Grey Jacket
### 3-TO-1 HEAVY WALL TUBING

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>EXPANDED I.D.</th>
<th>RECOVERED I.D.</th>
<th>APPLICATION RANGE AWG*</th>
<th>RECOVERED WALL THICKNESS</th>
<th>AVAILABLE COLORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHS-1/8</td>
<td>0.125</td>
<td>0.0417</td>
<td>20, 18</td>
<td>0.038</td>
<td>BK, CL, RD</td>
</tr>
<tr>
<td>BHS-3/16</td>
<td>0.188</td>
<td>0.0625</td>
<td>16, 14</td>
<td>0.045</td>
<td>BK, CL, RD, YL</td>
</tr>
<tr>
<td>BHS-1/4</td>
<td>0.250</td>
<td>0.0830</td>
<td>12, 10</td>
<td>0.047</td>
<td>BK, CL, GN, WH, RD, YL</td>
</tr>
<tr>
<td>BHS-3/8</td>
<td>0.375</td>
<td>0.1250</td>
<td>8, 6</td>
<td>0.050</td>
<td>BK, CL, GN, WH, RD, YL</td>
</tr>
<tr>
<td>BHS-1/2</td>
<td>0.500</td>
<td>0.1670</td>
<td>4, 2</td>
<td>0.055</td>
<td>BK, CL, GN, WH, RD, YL</td>
</tr>
<tr>
<td>BHS-3/4</td>
<td>0.750</td>
<td>0.2500</td>
<td>1, 1/0, 2/0</td>
<td>0.065</td>
<td>BK, CL, GN, WH, RD, YL</td>
</tr>
<tr>
<td>BHS-1</td>
<td>1.000</td>
<td>0.4000</td>
<td>3/0, 4/0</td>
<td>0.075</td>
<td>BK, CL, GN, WH, RD, YL</td>
</tr>
<tr>
<td>BHS-1.5</td>
<td>1.500</td>
<td>0.6000</td>
<td></td>
<td>0.120</td>
<td>BK, RD</td>
</tr>
<tr>
<td>BHS-2</td>
<td>2.000</td>
<td>1.0000</td>
<td></td>
<td>0.150</td>
<td>BK</td>
</tr>
<tr>
<td>BHS-2.5</td>
<td>2.500</td>
<td>1.5000</td>
<td></td>
<td>0.180</td>
<td>BK</td>
</tr>
</tbody>
</table>

* Insulation varies with different types of wire, different diameter of tubing may actually be required. When choosing a size, consider any components or connectors that may need to be covered.

### APPLICATIONS:
- Environment/moisture protection
- Sealing electrical connections
- Encapsulate splices
- Sealing cable ends
- Strain relief

### FEATURES:
- Shrink ratio 3:1
- *Semi-flexible* moisture sealing
- Flame retardant (except clear)

### COMPLIANCES:
- MIL-23053/4 Class 3

### CHARACTERISTICS:
- Operating Temperature: -55°C to 110°C

---

### 3-TO-1 SEMI-RIGID HEAT SHRINK TUBING

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>EXPANDED I.D.</th>
<th>RECOVERED I.D.</th>
<th>APPLICATION RANGE AWG*</th>
<th>RECOVERED WALL THICKNESS</th>
<th>AVAILABLE COLORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHS-1/16</td>
<td>0.062</td>
<td>0.031</td>
<td>24, 22, 20</td>
<td>0.018</td>
<td>BK, BL, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-1/8</td>
<td>0.125</td>
<td>0.063</td>
<td>20, 18</td>
<td>0.020</td>
<td>BK, BL, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-3/16</td>
<td>0.188</td>
<td>0.094</td>
<td>16, 14</td>
<td>0.020</td>
<td>BK, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-1/4</td>
<td>0.250</td>
<td>0.125</td>
<td>12, 10</td>
<td>0.025</td>
<td>BK, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-3/8</td>
<td>0.375</td>
<td>0.188</td>
<td>8, 6</td>
<td>0.025</td>
<td>BK, CL, GN, GN/YL**, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-1/2</td>
<td>0.500</td>
<td>0.375</td>
<td>4, 2</td>
<td>0.030</td>
<td>BK, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-3/4</td>
<td>0.750</td>
<td>0.375</td>
<td>1, 1/0, 2/0</td>
<td>0.030</td>
<td>BK, CL, GN, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-1</td>
<td>1.000</td>
<td>0.500</td>
<td>3/0, 4/0</td>
<td>0.035</td>
<td>BK, CL, RD</td>
</tr>
<tr>
<td>BHS-1.5</td>
<td>1.500</td>
<td>0.750</td>
<td></td>
<td>0.040</td>
<td>BK, RD, WH, YL</td>
</tr>
<tr>
<td>BHS-2</td>
<td>2.000</td>
<td>1.000</td>
<td></td>
<td>0.045</td>
<td>BK</td>
</tr>
<tr>
<td>BHS-3</td>
<td>3.000</td>
<td>1.500</td>
<td></td>
<td>0.050</td>
<td>BK</td>
</tr>
<tr>
<td>BHS-4</td>
<td>4.000</td>
<td>2.000</td>
<td></td>
<td>0.055</td>
<td>BK</td>
</tr>
</tbody>
</table>

* Insulation varies with different types of wire, different diameter of tubing may actually be required. When choosing a size, consider any components or connectors that may need to be covered.

** GN/YL is a green tube with yellow tracer. To order, use part number BHS-3/8GN/YL.

### APPLICATIONS:
- *Insulation* wire identification
- Wire bundling
- Mechanical protection
- Physical/electrical protection of components

### FEATURES:
- 2:1 shrink ratio
- Flexible
- High tensile strength
- Flame retardant (except clear)

### COMPLIANCES:
- UL 224, 120°C
- CSA 120°C
- AMS-DTL 23053/5

### CHARACTERISTICS:
- *Min. Shrink Temp.: 100°C
- Dielectric Strength: 400V/mil

---

### HEAT SHRINK SIZE SELECTOR GUIDE
**FOR 2-TO-1 OR 3-TO-1 TUBING**

<table>
<thead>
<tr>
<th>WIRE AWG</th>
<th>RECOMMENDED TUBING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>1/16”</td>
</tr>
<tr>
<td>22</td>
<td>1/16”</td>
</tr>
<tr>
<td>20</td>
<td>3/32”</td>
</tr>
<tr>
<td>18</td>
<td>1/8”</td>
</tr>
<tr>
<td>16</td>
<td>3/16”</td>
</tr>
<tr>
<td>14</td>
<td>3/32”</td>
</tr>
<tr>
<td>12</td>
<td>1/8”</td>
</tr>
<tr>
<td>10</td>
<td>1/4”</td>
</tr>
<tr>
<td>8</td>
<td>1/4” or 3/32”</td>
</tr>
<tr>
<td>6</td>
<td>3/32” or 1/32”</td>
</tr>
<tr>
<td>4</td>
<td>1/32” or 1/4”</td>
</tr>
<tr>
<td>2</td>
<td>3/4” or 1/16”</td>
</tr>
</tbody>
</table>

*The chart above is only a general recommendation. Insulation varies with different types of wire, different diameter or tubing may actually be required. Also, when choosing a size, consider any components or connectors that may need to be covered.*
### Routing & Bundling Materials

#### SPLIT CONDUIT & SPIRAL WRAP

<table>
<thead>
<tr>
<th>NATURAL</th>
<th>BLACK</th>
<th>OUTSIDE DIAMETER (Inches)</th>
<th>BUNDLE DIAMETER (Inches)</th>
<th>PACKAGE (Roll)</th>
<th>WEIGHT LB/Roll</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>0.125</td>
<td>1/16 to 1/2</td>
<td>100</td>
<td>0.61</td>
</tr>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>0.250</td>
<td>3/16 to 2</td>
<td>100</td>
<td>1.93</td>
</tr>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>0.350</td>
<td>5/16 to 3</td>
<td>100</td>
<td>4.29</td>
</tr>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>0.500</td>
<td>3/8 to 4</td>
<td>100</td>
<td>5.45</td>
</tr>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>0.750</td>
<td>5/8 to 5</td>
<td>100</td>
<td>10.01</td>
</tr>
<tr>
<td>BSW1/BC</td>
<td>BSW1/BB</td>
<td>1.000</td>
<td>7/8 to 6</td>
<td>100</td>
<td>12.80</td>
</tr>
</tbody>
</table>

**Ordering Information:** Quantity of 1 = 100 ft roll.

Ordering: Part number listed for black conduit. White conduit is available for special order, please contact one of Pacer's customer service experts.

Spiral wrap provides abrasion protection for wire and cable insulation as well as hydraulic and pneumatic tubing. Spiral wrap is also handy for kink-proofing all types of tubing. The spiral cut allows for expandability, easy wire breakout at any point and excellent flexibility. For maximum abrasion resistance, butt the edges together while installing, for flexibility leave a gap between the edges.

**Applications:** Spiral wrap offers abrasion protection for wire, cables, hoses and tubing.

**Features:** Flexible, heat and fast. *Easy wire breakouts*  *Tool supplied with each package*

**Characteristics:** Operating Temp: -40°F to 200°F

#### EXPANDABLE SLEEVING & BRAIDED TUBE

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NOM. INSIDE DIAMETER (Inches)</th>
<th>EXPANSION RANGE</th>
<th>STANDARD LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF6-1/4</td>
<td>1/4</td>
<td>1/8</td>
<td>7/16</td>
</tr>
<tr>
<td>BF6-3/8</td>
<td>3/8</td>
<td>1/2</td>
<td>12</td>
</tr>
<tr>
<td>BF6-1/2</td>
<td>1/2</td>
<td>1/4</td>
<td>10</td>
</tr>
<tr>
<td>BF6-3/4</td>
<td>3/4</td>
<td>1/4</td>
<td>8</td>
</tr>
<tr>
<td>BF6-1</td>
<td>1</td>
<td>5/8</td>
<td>8</td>
</tr>
<tr>
<td>BF6-1.5</td>
<td>1.5</td>
<td>2 1/8</td>
<td>25</td>
</tr>
</tbody>
</table>

**Ordering Information:** Colors: B = Black, CW = Clear

Ordering part number with color abbreviation and standard length.

BF6’s unique split, semi-rigid braided sleeving makes it the ideal solution for situations where ease of installation is of primary importance. The lateral split allows the tube to open up to accommodate a wide variety of bundling requirements, and the semi-rigid braid configuration simply closes around the entire installation without the need for any additional fasteners. It is more flexible than split conduit or spiral wrap.

**Applications:** Engine compartment dress-up ♦ Home theater wire management ♦ Office wire management  ♦ Automotive harness ♦ Customizing computer case wiring ♦ Office wire management  ♦ Customizing computer case wiring ♦ Office wire management  ♦ Customizing computer case wiring ♦ Office wire management  ♦ Customizing computer case wiring ♦ Office wire management  ♦ Customizing computer case wiring

**Features:** Flexible, heat and fast. *Easy wire breakouts*  *Tool supplied with each package*

**Characteristics:** Operating Temp: -94°F / -70°C  *Flame retardant and durable*  *Easy to install*  *Provides impact and abrasion protection*  *Meets UL listings*  *Sleeve is flexible*  *Easy to install*  *Provides impact and abrasion protection*  *Maximizes ARcy standards*  *Operating Temp: -40°F / 200°C*

**Compliance:** UL, CSA, RoHS, W-V, ABC

**Flammability Rating:** UL-94
Routing & Bundling Materials

Routing & Bundling Materials

**WIRING DUCT**

**CONDUCTOR MATERIALS**

- Deutsch & Terminals
- Breakers
- Bus Bars
- Blocks & Labelers
- Actuators
- Lights & Fuses
- Meters
- Cables
- Multi-Lugs
- Heat Shrink

Routing & Bundling Materials

Follow the formula below to determine the maximum number of wires used in various sizes of wiring duct. Formula based upon a 50% fill capacity.

\[ \text{Number of wires} = \left( \text{Duct Width} \times \text{Height} \right) \div \left(2 \times \text{Wire O.D.}\right)^2 \]

**Ordering Information:**

Contact a Pacer Group Customer Service Expert for pricing. Order in multiples of 6 ft. Duct and Cover are sold separately. Due to the 6 ft. length, additional shipping charges may apply. Other sizes are available.

**Features:**

- Rigid, non-flammable lead-free PVC
- UL, CSA, RoHS compliant
- Cuttable for small quantities
- Mounts with a #10 screw
- 1/4" mounting hole
- Suits pipes from 1/4" to 4"

**Applications:**

- Stainless steel clamps are used for mounting wires, cable or hoses where weight and vibration are a factor.
- Features: 1/4" mounting hole
- Stainless steel clamps combined with the protection of EPDM provide a long term, reliable mounting solution.

**Materials:**

- Stainless steel clamps
- EPDM cushions

**Ordering Information:**

Combine part number and package size. Example: 1/4" diameter, 100 pieces = BSSC04-100.

**Compliance:**

- SAE J200 BC715
- General purpose EPDM per SAE J200 BC715
- UL, CSA, RoHS compliant

**Tools:**

- Battery Cable Clamp Hulls
- Stainless Steel Cushion Clamps
- Nylon Clamps
- Heat Shrink

**Rigging Cables:**

- Coax cables
- Network cables
- Heat shrink

**WIRE & CABLE**

- Wire & cable
- Multi-conductor
- Coax cables
- Network cables

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Cable Ties

CABLE TIES & DOME TOP TIES

ID PRODUCTS

CONDUCTOR & LABELERS

TERMINALS

MATERIALS

ROUTING & BUNDLING MATERIALS

NETWORK CABLES

TERMINALS & BOOTS

METERS

LIGHTS & METERS

CABLES

DEUTSCH & DELPHI

ID PRODUCTS & LABELERS

TOOL

BREAKERS & FUSES

TERMINAL BLOCKS & BUS BARS

SWITCHES & ACTUATORS

LIGHTS & METERS

WIRE & CABLE

MULTI-CONDUCTOR

COAX CABLES

HEAT SHRINK

WIRE & CABLE

MULTI-CONDUCTOR

COAX CABLES

HEAT SHRINK

WIRE & CABLE

MULTI-CONDUCTOR

COAX CABLES

HEAT SHRINK

DOME-TOP® BARB TY – CABLE TIES

PART NUMBER SYSTEM

CTMR

CT=Standard

CTMR=Mouting Ring

CTM=Mative Steel

PART NUMBER

STANDARD PKG

BLK PKG

PART NUMBER

PKG

SIZE

PKG

SIZE

NATURAL

BLACK

NATURAL

BLACK

BUNDLE (IN.)

MAX TENSILE STRENGTH (LB

CTMR1S6 CTM1S6BK 0.51 0.32 0.23 M #6 Screw 100, 1000

CTM2S8 CTM2S8BK 0.63 0.43 0.28 M, I, S #8 Screw (1000), 5000

CABM5 0.50 0.50 0.16 M 0.13 100

CABM1 1.00 1.00 0.16 M, S 0.50 100

Ordering Information: Order by standard or bulk packages.

ADHESIVE BACKED MOUNTS

PART NUMBER

STANDARD PKG

BLK PKG

PART NUMBER

PKG

SIZE

PKG

SIZE

NATURAL

BLACK

NATURAL

BLACK

BUNDLE (IN.)

MAX TENSILE STRENGTH (LB

CTMTP3-10 0.62 0.72 0.61 I, S, LH 1/4” Screw #10 Screw 100, 1000

CTMTP6-10 0.99 0.72 0.61 I, S, LH 1/4” Screw #10 Screw 100, 1000

MULTIPLE MOUNTING PLATES

PART NUMBER

STANDARD PKG

BLK PKG

PART NUMBER

PKG

SIZE

PKG

SIZE

NATURAL

BLACK

NATURAL

BLACK

BUNDLE (IN.)

MAX TENSILE STRENGTH (LB

CTMP3-10 0.42 0.50 0.13 1.25 0.30 0.20 M, S #10 Screw 100, 1000

CTMP6-10 0.99 0.63 0.13 1.25 0.30 0.20 M, S, LH #10 Screw 100, 1000

Ordering Information: Order by the piece. CTMP3-10 holds 3 cable ties. CTMP6-10 holds 6 cable ties.
STAINLESS STEEL CABLE TIES

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>LENGTH (Inches)</th>
<th>WIDTH (Inches)</th>
<th>MAX. BUNDLE</th>
<th>MIN. LOOP TENSILE STRENGTH</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM7T-SP-316</td>
<td>5.00</td>
<td>0.18</td>
<td>1.00</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>CM7T-SP-316</td>
<td>7.00</td>
<td>0.18</td>
<td>2.00</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>CM7T-7SP-316</td>
<td>10.2</td>
<td>0.18</td>
<td>2.70</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>CM7T-CP-316</td>
<td>14.3</td>
<td>0.18</td>
<td>4.00</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>CM7T-CP-316</td>
<td>14.3</td>
<td>0.31</td>
<td>450</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>CM7T-CP-316</td>
<td>20.5</td>
<td>0.18</td>
<td>6.00</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information: Order by standard package.

FEATURES: Order by standard package.
- Self-locking head design speeds installation
- Provides a strong and durable method of cable bundling
- Smooth surface and rounded edges assures cable protection and worker safety
- AISI 316 stainless steel for the most corrosive environments

STAINLESS STEEL CABLE TIE SLEEVES

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>FOR USE WITH TIE WIDTH (Inches)</th>
<th>SLEEVE WIDTH (Inches)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM-PCSS</td>
<td>0.18</td>
<td>0.33</td>
<td>100 FT REEL</td>
</tr>
<tr>
<td>CM-PCHS</td>
<td>0.31</td>
<td>0.47</td>
<td>100 FT REEL</td>
</tr>
</tbody>
</table>

Ordering Information: Order by standard package.

High quality, black cushion sleeve series is used with stainless steel cable ties. It is used in applications requiring improved gripping, separation of dissimilar metals and added bundle protection. It has excellent ultraviolet resistance.

COMPLIANCES: AISI 316 stainless steel

SNAP BUSHINGS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>MOUNTING HOLE DIA. (Inches)</th>
<th>(A) INSIDE DIAMETER (Inches)</th>
<th>(B) HEAD DIAMETER (Inches)</th>
<th>(C) OVERALL HEIGHT (Inches)</th>
<th>MAX. PANEL THICKNESS (Inches)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>B58-1/4</td>
<td>1/4</td>
<td>0.125</td>
<td>0.312</td>
<td>0.312</td>
<td>0.062</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-3/8</td>
<td>3/8</td>
<td>0.250</td>
<td>0.468</td>
<td>0.406</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1/2</td>
<td>1/2</td>
<td>0.391</td>
<td>0.570</td>
<td>0.406</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-5/8</td>
<td>5/8</td>
<td>0.550</td>
<td>0.718</td>
<td>0.406</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-3/4</td>
<td>3/4</td>
<td>0.609</td>
<td>0.850</td>
<td>0.406</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-7/8</td>
<td>7/8</td>
<td>0.867</td>
<td>0.953</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1</td>
<td>1</td>
<td>0.766</td>
<td>1.125</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1.125</td>
<td>1 1/8</td>
<td>0.875</td>
<td>1.218</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1.25</td>
<td>1 1/4</td>
<td>0.937</td>
<td>1.359</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1.375</td>
<td>1 3/8</td>
<td>1.000</td>
<td>1.490</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1.5</td>
<td>1 1/2</td>
<td>1.125</td>
<td>1.609</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-1.75</td>
<td>1 3/4</td>
<td>1.375</td>
<td>1.875</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-2</td>
<td>2</td>
<td>1.640</td>
<td>2.125</td>
<td>0.453</td>
<td>0.125</td>
<td>10, 25, 100</td>
</tr>
<tr>
<td>B58-2.5</td>
<td>2 1/2</td>
<td>1.970</td>
<td>2.660</td>
<td>0.720</td>
<td>0.250</td>
<td>10, 25, 100</td>
</tr>
</tbody>
</table>

Ordering Information: Order by part number and package size.


BUSHINGS are used to seal sharp edges and to protect wires when passing through holes. Designed to accommodate a variety of panel or box thickness, snap bushings will easily snap into place and resist up to 35 pounds of pull.

FEATURES: Converts raw edge holes into smooth, neat insulated holes
- Withstands a push back force of 15 lbs
- Locking fingers snap into holes with fingertip pressure
- Self-locking head design speeds installation
- Provides a strong and durable method of cable bundling
- Smooth surface and rounded edges assures cable protection and worker safety
- AISI 316 stainless steel for the most corrosive environments
**3M ScotchLock®**

This product is a 1" wide, self-adhering, re closable fastening system. 3M Dual Lock™ locking system is five times stronger than conventional hook and loop fasteners. The adhesive backing will adhere instantly to many surfaces.

**Part Number:** BOLOCK-BK

2 - 1" wide rolls, 1 @ 170 stems, 1@ 400 stems. 4.9 yards each

**Ordering Information:** Order in mini packs of 4.9 yards.

---

**3M Scotch 35**

3M Scotch 35 is color coded, American made electrical tapes that are general purpose insulating tapes. They are economical and durable with excellent resistance to a wide range of contaminants and weather conditions.

**Part Numbers:**

<table>
<thead>
<tr>
<th>Color</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BROWN</td>
<td>ETRYBN0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>YELLOW</td>
<td>ETYELB0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>VIOLET</td>
<td>ETVIOB0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>RED</td>
<td>ETRED0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>GREEN</td>
<td>ETRGB0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>GREY</td>
<td>ETRGBY0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>ORANGE</td>
<td>ETORGB0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>BLUE</td>
<td>ETBRBL0</td>
<td>1/2&quot; X 60'</td>
</tr>
<tr>
<td>WHITE</td>
<td>ETWHBT0</td>
<td>1/2&quot; X 60'</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the roll.

---

**3M 130C Linerless Rubber Splicing Tape**

3M 130C is a highly conformable linerless rubber (EPR), high-voltage insulating tape formulated to provide excellent thermal dissipation of splice heat. It is designed for use in splicing and terminating wires and cables, moisture sealing, electrical connections, bus bar insulating and end-sealing cables.

**Part Numbers:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; X 30'</td>
<td>ET130C-1</td>
</tr>
<tr>
<td>1.5&quot; X 30'</td>
<td>ET130C-1.5</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the roll.

---

**TERMINALS**

- **HEAT SHRINK TERMINAL KIT**
  - A durable, portable plastic case filled with 180 heat shrink terminals. Each compartment contains 10 butt splices or ring terminals. Ring terminals come with stud sizes: #8, #10, 1/4", 5/16" and 3/8".
  - **Ordering Information:** Order by the kit. For empty cases see page 50.

- **NYLON TERMINAL KIT**
  - A durable, portable plastic case filled with 450 nylon insulated terminals. Each compartment contains 25 butt splices or ring terminals. Ring terminals come with stud sizes: #8, #10, 1/4", 5/16" and 3/8".
  - **Ordering Information:** Order by the kit.
Heat shrink terminals and splices provide a rugged, environmentally sealed connection for wire sizes 22 to 8 AWG. They insulate, seal and protect joints from physical abuse and abrasion, water, salt and other corrosive compounds. The NiAc insulation material shrinks up to 40% faster than comparable nylon or polyolefin products, saving time in new wiring or for repairs. Shrinking at 90°C half that of nylon, polyolefin prevents wire insulation damage or degradation due to overheating.

### Butts Splices

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE RANGE</th>
<th>INSULATION COLOR</th>
<th>MAX WIRE DIAMETER (IN.)</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSDE11-12-18</td>
<td>#12-18 AWG</td>
<td>RED</td>
<td>0.19</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TSDE14-12-14</td>
<td>#12-14 AWG</td>
<td>BLUE</td>
<td>0.21</td>
<td>10, 25, 100, 500 (2000 WHITE)</td>
</tr>
<tr>
<td>TSDE10-12-10</td>
<td>#12-10 AWG</td>
<td>YELLOW</td>
<td>0.28</td>
<td>10, 25, 100, 500 (1000 WHITE)</td>
</tr>
<tr>
<td>TSDEB9</td>
<td>#9 AWG</td>
<td>PINK</td>
<td>0.35</td>
<td>4, 10, 50, 500</td>
</tr>
</tbody>
</table>

**Step Down Butts Splices - Colorized Heat Shrink**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SIDE ONE COLOR STRIP / WIRE (AWG)</th>
<th>SIDE TWO COLOR STRIP / WIRE (AWG)</th>
<th>INSULATION COLOR</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSDE14E-18</td>
<td>#18-14 AWG</td>
<td>BLUE</td>
<td>0.28</td>
<td>10, 25, 100, 250</td>
</tr>
<tr>
<td>TSDE10E-14</td>
<td>#14-10 AWG</td>
<td>YELLOW</td>
<td>0.28</td>
<td>10, 25, 100, 250</td>
</tr>
</tbody>
</table>

**Step Down Butts Splices - Clear Heat Shrink**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SIDE ONE COLOR STRIP / WIRE (AWG)</th>
<th>SIDE TWO COLOR STRIP / WIRE (AWG)</th>
<th>INSULATION COLOR</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSDE11B-218</td>
<td>RED/0-20-18</td>
<td>BLUE/20-20-18</td>
<td>CLEAR/RED DASHES</td>
<td>5</td>
</tr>
<tr>
<td>TSDE11E-214</td>
<td>BLUE/16-16-14</td>
<td>YELLOW/20-20-16</td>
<td>CLEAR/BLUE DASHES</td>
<td>5</td>
</tr>
<tr>
<td>TSDE110-210</td>
<td>YELLOW/12-10</td>
<td>RED/12-10</td>
<td>CLEAR/YELLOW DASHES</td>
<td>5</td>
</tr>
</tbody>
</table>

Step down butt connectors join two wires to one. Color dash on the tubing indicates the wire AWG for the connector. Color strips on the terminal indicate which crimp die to use.

### Fully Insulated Disconnect Terminals

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE RANGE</th>
<th>INSULATION COLOR</th>
<th>DISC. / BULLET DIAMETER (IN.)</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDE18-250F</td>
<td>#8</td>
<td>RED</td>
<td>0.25</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TDE14-250F</td>
<td>#10</td>
<td>BLUE</td>
<td>0.25</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TDE10-250F</td>
<td>#12</td>
<td>YELLOW</td>
<td>0.25</td>
<td>10, 25, 100, 500</td>
</tr>
</tbody>
</table>

**Partially Insulated Disconnect Terminals**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE RANGE</th>
<th>INSULATION COLOR</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDE18-250</td>
<td>#8</td>
<td>RED</td>
<td>0.25</td>
</tr>
<tr>
<td>TDE14-250</td>
<td>#10</td>
<td>BLUE</td>
<td>0.25</td>
</tr>
<tr>
<td>TDE10-250</td>
<td>#12</td>
<td>YELLOW</td>
<td>0.25</td>
</tr>
</tbody>
</table>

### Bullet Terminals

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE RANGE</th>
<th>INSULATION COLOR</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRBE18-156</td>
<td>#18-156</td>
<td>BLUE</td>
<td>0.156</td>
</tr>
<tr>
<td>TRBE14-156</td>
<td>#14-156</td>
<td>BLUE</td>
<td>0.156</td>
</tr>
</tbody>
</table>

### Closed End Connectors (Wire Joints) With Heat Shrink

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE RANGE (MIN/MAX)</th>
<th>INSULATION COLOR</th>
<th>PACKAGING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSE12-216</td>
<td>40-2/0.016</td>
<td>CLEAR/BLUE DASH</td>
<td>5</td>
</tr>
<tr>
<td>TSE18-212</td>
<td>48/0.012</td>
<td>CLEAR/YELLOW DASH</td>
<td>5</td>
</tr>
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</table>

### 22 AWG - 18 AWG Heat Shrink Ring Terminals - Red

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>STUD SIZE</th>
<th>TERMINAL PACK WIDTH (INCHES)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE18-6R</td>
<td>#6</td>
<td>0.32</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TE18-8R</td>
<td>#8</td>
<td>0.32</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TE18-10R</td>
<td>#10</td>
<td>0.32</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TE18-14R</td>
<td>1/4&quot;</td>
<td>0.48</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TE18-5SR</td>
<td>5/16&quot;</td>
<td>0.48</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>TE18-3BR</td>
<td>3/8&quot;</td>
<td>0.54</td>
<td>10, 25, 100, 500</td>
</tr>
</tbody>
</table>

**Ordering Information:** Combine part number and package size. Example: Heat Shrink Terminals, 22 AWG, 1/4" stud size, 50 pieces = TE18-14R-50.

**Features:** Protects terminations from water, condensation, salt spray and corrosion. *Vibration protection in rugged environments. *Provides strain relief

**Compliance:** UL, CSA*, RoHS

**Characteristics:** *Shrink Ratio: Approx. 3:1 at 135°C *Operating Temp.: -55°C/110°C *Dielectric Strength: 900V/mil *Voltage Rating: 600V
**Terminals**

**DISTRIBUTION & PROTECTION**

<table>
<thead>
<tr>
<th>Products</th>
<th>Terminals and Connectors</th>
<th>Connectors and Devices</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ID PRODUCTS</strong></td>
<td><a href="#">DISTRIBUTION &amp; PROTECTION</a></td>
<td><a href="#">Connectors and Devices</a></td>
<td><a href="#">Function</a></td>
</tr>
<tr>
<td><em><strong>PRODUCTS</strong></em></td>
<td><strong>TERMINALS</strong></td>
<td><strong>CONDUCTOR</strong></td>
<td><strong>SWITCHES &amp; LABELERS</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### SEAMLESS BARREL SPLICES

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22 - 18</td>
<td>TSBN18</td>
<td>TSBN18</td>
<td>TSBN18</td>
<td>RED</td>
<td>0.059</td>
<td>25, 100, 1000</td>
</tr>
<tr>
<td>16 - 14</td>
<td>TSBN14</td>
<td>TSBN14</td>
<td>TSBN14</td>
<td>BLUE</td>
<td>0.091</td>
<td>25, 100, 1000</td>
</tr>
<tr>
<td>12 - 10</td>
<td>TSBN10</td>
<td>TSBN10</td>
<td>TSBN10</td>
<td>YELLOW</td>
<td>0.138</td>
<td>25, 100, 500</td>
</tr>
</tbody>
</table>

### Locking Fork Terminals

**Ordering Information:**
- Combine part number and package size.
- Example: 16 AWG, nylon insulated, 100 pieces = TBSN14-100

### Flanged Fork Terminals

**Ordering Information:**
- Combine part number and package size.
- Example: 16 AWG, #10 stud size, nylon insulated, 500 pieces = TNF18-10FF-500

---

**Features:**
- Available in nylon insulated, vinyl insulated or non-insulated.
- Tin plated ETP copper for corrosion resistance.

**Compliance:**
- UL
- CSA
- ELV
- RoHS compliant

**Characteristics:**
- Base Material: C11000 electrolytic-tough pitch (ETP) copper.
- Plating: Electrodeposited tin.
**TERMINALS**

- Switches & Labelers
- Actuators
- Deutsch & Routing & Breakers
- Network Cables
- Terminals
- Deutsch & Delphi
- Lug & Boots
- Id Products & Labels
- Tools
- Breakers & Fuses
- Terminal Blocks & Bus Bars
- Switches & Actuators
- Lights & Meters
- Wire & Cable

---

**TERMINALS**

- Switches & Labelers
- Actuators
- Deutsch & Routing & Breakers
- Network Cables
- Terminals
- Deutsch & Delphi
- Lug & Boots
- Id Products & Labels
- Tools
- Breakers & Fuses
- Terminal Blocks & Bus Bars
- Switches & Actuators
- Lights & Meters
- Wire & Cable

---

**NON-INSULATED FEMALE/MALE DISCONNECTS**

- # 22 - 18 AWG 0.250 X 0.032 TD18-250 TD18-250F N/A 0.66 0.30 25, 100, 1000
- # 16 - 14 AWG 0.250 X 0.032 TD14-250 TD14-250F N/A 0.66 0.30 25, 100, 1000

**NYLON FULLY INSULATED DISCONNECTS**

- # 22 - 18 AWG 0.250 X 0.032 TD18-250PB TD18-250PB-100 YELLOW 1.04 0.38 25, 100, 500
- # 16 - 14 AWG 0.250 X 0.032 TD14-250PB TD14-250PB-100 BLUE 0.89 0.38 25, 100, 500

---

**SPECIALTY TERMINALS**

- Pin terminals are primarily designed for compression type terminal blocks and are available in vinyl insulation only.

---

**WIRE FERRULES**

- TFR24-6MM 24-22 (0.34) 6 (0.24) 8 (0.31) TURQUOISE 25, 100, 500
- TFR22-5MM 22-20 (0.50) 6 (0.24) 8 (0.31) ORANGE 25, 100, 500
- TFR20-6MM 20-18 (0.75) 6 (0.24) 8 (0.31) WHITE 25, 100, 500
- TFR18-6MM 18 (1.0) 6 (0.24) 8 (0.31) YELLOW 25, 100, 500
- TFR16-6MM 16 (1.5) 8 (0.31) 10 (0.39) RED 25, 100, 500
- TFR14-6MM 14 (2.5) 8 (0.31) 10 (0.39) BLUE 25, 100, 500
- TFR12-6MM 12 (4.0) 10 (0.39) 12 (0.47) GREY 25, 100, 500
- TFR10-6MM 10 (6.0) 12 (0.47) 14 (0.59) BLACK 25, 50, 100
- TFR12-12MM 8 (10.0) 12 (0.47) 14 (0.59) IVORY 10, 25, 50
- TFR12-12MM 6 (16.0) 12 (0.47) 14 (0.59) GREEN 10, 25, 50
- TFR14-6MM 4 (25.0) 16 (0.63) 18 (0.75) BROWN 4, 10, 50
- TFR16-6MM 2 (25.0) 16 (0.63) 18 (0.75) BEIGE 4, 10, 50

---

**WIRE FERRULES KITS**

- TFR-CC1 (50) AWG WHITE, (10) AWG GREY, (10) AWG RED, (10) AWG BLACK, (10) AWG IVORY, (10) AWG GREEN

---

*Dimensions A and B refer to female disconnects only.*

**Ordering Information:** Combine part number and package size. 

**Example:** Nylon disconnect, 14 AWG, female, 100 pieces = TDNF14-250FI-100

**Example:** Vinyl piggyback disconnect, 12 AWG, 500 pieces = TDV12-250PB-500

**Ordering Information:** Combine part number and package size. 

**Example:** Vinyl piggyback disconnect, 12 AWG, 500 pieces = TDV12-250PB-500

---

*Insulated ferrules provide additional electrical insulation.*

**Ordering Information:** Combine part number and package size. 

**Example:** Vinyl piggyback disconnect, 12 AWG, 500 pieces = TDV12-250PB-500

---

*Wire ferrules are typically used on wires being inserted into M6 (European) style terminal blocks. No special or restraining wire is required. Additional electrical insulation. *
**Sealed Connectors**

**DEUTSCH & MOLEX REPAIR PACKS**

**DTM, DT and DTP Series**

- Environmentally-sealed connectors are built for cable to cable applications, where signal level circuits must withstand harsh conditions. DTM and DT series connectors provide reliability and performance at low cost.
- DTP series connectors deliver environmentally sealed performance for power applications.
- DT kits and DTP kits contain Ladd Distribution (Deutsch) connectors. DTM kits contain Molex connectors.

**Repair Packs Contain:**

- A Housing
- A Wedgelock
- Contacts
- Cavity Plugs

**DTM Series**

- Connectors are designed for smaller wire gauge applications. The DT series offers electrical designers the ability to use multiple size 20 contacts (22-16 AWG), each with 7.5 amp continuous capacity, within a single shell.
- Pacer Group’s DT repair kits use the larger size 20 contacts (Deutsch Pin P/N 0460-204-12141, Socket P/N 0462-203-12141) for applications using 20 AWG wire.

**DTM Receptacle Repair Packs (20 AWG Applications)**

<table>
<thead>
<tr>
<th># of Cavities</th>
<th>Part Number</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TDT04-2RP</td>
<td>1) 2 POS. RECEPTACLE, (1) 2 POS. WEDGE LOCK, (3) PINS</td>
</tr>
<tr>
<td>3</td>
<td>TDT04-3RP</td>
<td>1) 3 POS. RECEPTACLE, (1) 3 POS. WEDGE LOCK, (4) PINS, (1) RED CAVITY PLUG</td>
</tr>
<tr>
<td>4</td>
<td>TDT04-4RP</td>
<td>1) 4 POS. RECEPTACLE, (1) 4 POS. WEDGE LOCK, (5) PINS, (2) RED CAVITY PLUGS</td>
</tr>
<tr>
<td>6</td>
<td>TDT04-6RP</td>
<td>1) 6 POS. RECEPTACLE, (1) 6 POS. WEDGE LOCK, (9) PINS, (3) RED CAVITY PLUGS</td>
</tr>
<tr>
<td>8</td>
<td>TDT04-8RP</td>
<td>1) 8 POS. RECEPTACLE, (1) 8 POS. WEDGE LOCK, (10) PINS, (4) RED CAVITY PLUGS</td>
</tr>
<tr>
<td>12</td>
<td>TDT04-12RP</td>
<td>1) 12 POS. RECEPTACLE, (1) 12 POS. WEDGE LOCK, (14) PINS, (6) RED CAVITY PLUGS</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the pack. For individual item details, see page 42.

**DTM Plug Repair Packs (20 AWG Applications)**

<table>
<thead>
<tr>
<th># of Cavities</th>
<th>Part Number</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TDT04-2RS</td>
<td>1) 2 POS. PLUG, (1) 2 POS. WEDGE LOCK, (3) SOCKETS</td>
</tr>
<tr>
<td>3</td>
<td>TDT04-3RS</td>
<td>1) 3 POS. PLUG, (1) 3 POS. WEDGE LOCK, (4) SOCKETS, (1) CAVITY PLUG</td>
</tr>
<tr>
<td>4</td>
<td>TDT04-4RS</td>
<td>1) 4 POS. PLUG, (1) 4 POS. WEDGE LOCK, (5) SOCKETS, (2) CAVITY PLUGS</td>
</tr>
<tr>
<td>6</td>
<td>TDT04-6RS</td>
<td>1) 6 POS. PLUG, (1) 6 POS. WEDGE LOCK, (8) SOCKETS, (3) CAVITY PLUGS</td>
</tr>
<tr>
<td>8</td>
<td>TDT04-8RS</td>
<td>1) 8 POS. PLUG, (1) 8 POS. WEDGE LOCK, (10) SOCKETS, (4) CAVITY PLUGS</td>
</tr>
<tr>
<td>12</td>
<td>TDT04-12RS</td>
<td>1) 12 POS. PLUG, (1) 12 POS. WEDGE LOCK, (14) SOCKETS, (6) CAVITY PLUGS</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the pack. For individual item details, see page 42.

**DT Series**

- Connectors are designed for 20-14 wire gauge applications. The DT series offers electrical designers the ability to use multiple size 16 contacts (20-14 AWG), each with 13 amp continuous capacity, within a single shell.
- Pacer Group’s DT repair kits use the larger size 16 contacts (Deutsch Pin P/N 0460-215-16141, Socket P/N 0462-209-16141) for applications using 14 AWG wire.

**DT Receptacle Repair Packs (14 AWG Applications)**

<table>
<thead>
<tr>
<th># of Cavities</th>
<th>Part Number</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TDT04-2RP</td>
<td>1) 2 POS. RECEPTACLE, (1) 2 POS. WEDGE LOCK, (3) PINS</td>
</tr>
<tr>
<td>3</td>
<td>TDT04-3RP</td>
<td>1) 3 POS. RECEPTACLE, (1) 3 POS. WEDGE LOCK, (4) PINS, (1) CAVITY PLUG</td>
</tr>
<tr>
<td>4</td>
<td>TDT04-4RP</td>
<td>1) 4 POS. RECEPTACLE, (1) 4 POS. WEDGE LOCK, (5) PINS, (2) CAVITY PLUGS</td>
</tr>
<tr>
<td>6</td>
<td>TDT04-6RP</td>
<td>1) 6 POS. RECEPTACLE, (1) 6 POS. WEDGE LOCK, (6) PINS, (2) CAVITY PLUGS</td>
</tr>
<tr>
<td>8</td>
<td>TDT04-8RP</td>
<td>1) 8 POS. RECEPTACLE, (1) 8 POS. WEDGE LOCK, (10) PINS, (4) CAVITY PLUGS</td>
</tr>
<tr>
<td>12</td>
<td>TDT04-12RP</td>
<td>1) 12 POS. RECEPTACLE, (1) 12 POS. WEDGE LOCK, (14) PINS, (6) CAVITY PLUGS</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the pack. For individual item details, see page 42.

**DT Plug Repair Packs (14 AWG Applications)**

<table>
<thead>
<tr>
<th># of Cavities</th>
<th>Part Number</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TDT06-2RS</td>
<td>1) 2 POS. PLUG, (1) 2 POS. WEDGE LOCK, (3) SOCKETS</td>
</tr>
<tr>
<td>3</td>
<td>TDT06-3RS</td>
<td>1) 3 POS. PLUG, (1) 3 POS. WEDGE LOCK, (4) SOCKETS, (1) CAVITY PLUG</td>
</tr>
<tr>
<td>4</td>
<td>TDT06-4RS</td>
<td>1) 4 POS. PLUG, (1) 4 POS. WEDGE LOCK, (5) SOCKETS, (2) CAVITY PLUGS</td>
</tr>
<tr>
<td>6</td>
<td>TDT06-6RS</td>
<td>1) 6 POS. PLUG, (1) 6 POS. WEDGE LOCK, (8) SOCKETS, (3) CAVITY PLUGS</td>
</tr>
<tr>
<td>8</td>
<td>TDT06-8RS</td>
<td>1) 8 POS. PLUG, (1) 8 POS. WEDGE LOCK, (10) SOCKETS, (4) CAVITY PLUGS</td>
</tr>
<tr>
<td>12</td>
<td>TDT06-12RS</td>
<td>1) 12 POS. PLUG, (1) 12 POS. WEDGE LOCK, (14) SOCKETS, (6) CAVITY PLUGS</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the pack. For individual item details, see page 42.

**DT Series Characteristics:**

- *See page 42 for complete performance characteristics*

German Contact Crimp Tool part numbers are listed on pg. 42 within the Machined Contact chart.
Sealed Connectors
DEUTSCH & MOLEX KITS & PARTS

MACHINED CONTACTS - PINS & SOCKETS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>WIRE SIZE</th>
<th>WIRE AMPS</th>
<th>CONTACT SIZE</th>
<th>PKG SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2DDTM-P</td>
<td>2 DD DTM PINS</td>
<td>18-22 AWG</td>
<td>40</td>
<td>62-300</td>
<td>100</td>
</tr>
<tr>
<td>T2DDTM-S</td>
<td>2 DD DTM SOCKETS</td>
<td>18-22 AWG</td>
<td>40</td>
<td>62-300</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Information:
- Order by the piece.
- DKIT Series is for hand insertable/removable contacts.
- HD Series is for field serviceable conductor removal tools.
- Field serviceable CONTACT REMOVAL TOOLS
- Environmentally sealed disconnectable power wire splicing
- *Easy to install
- Hand insertable/removable contacts
- Easy to install
- Manufactured for Deutsch Industrial connectors

DEUTSCH INDUSTRIAL CONTACT REMOVAL TOOLS

<table>
<thead>
<tr>
<th>WIRE AMPS</th>
<th>CONTACT SIZE</th>
<th>WIRE AMPS RANGE</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-22</td>
<td>16-22-30 AWG</td>
<td>22-22</td>
<td>RED</td>
</tr>
<tr>
<td>16-18</td>
<td>18-16-30 AWG</td>
<td>22-22</td>
<td>LIGHT BLUE</td>
</tr>
<tr>
<td>16-18</td>
<td>18-16-30 AWG</td>
<td>22-22</td>
<td>GREEN</td>
</tr>
<tr>
<td>12-14</td>
<td>12-14-30 AWG</td>
<td>22-22</td>
<td>YELLOW</td>
</tr>
<tr>
<td>8-10</td>
<td>10-8-30 AWG</td>
<td>22-22</td>
<td>DARK GREEN</td>
</tr>
<tr>
<td>6-8</td>
<td>6-8-30 AWG</td>
<td>22-22</td>
<td>WHITE</td>
</tr>
</tbody>
</table>

Ordering Information:
- Order by the piece.
- Deutsch Industrial removal tools are designed to simplify contact removal and field service repair for the DTM, DT, DTP and DTHD series.
- They can also be used for HD10, HD30, BRC, AEC, and WT series.
WEATHER PACK CONNECTION KITS (16-14 AWG APPLICATIONS)

CAVITIES | PART NUMBER | CONTENTS
--- | --- | ---
TWP-2POS | T12015791 | (1) 4 POS. TOWER, (1) 4 POS. SHROUD, (5) MALE TERMINALS, (5) FEMALE TERMINALS, (10) LT. GREY 16-14 SEALS

Ordering Information: Order by the kit.

Features: 
* Improved system design orientation  
* Female terminals with one or two extras and wire seals for 16-14 AWG wire (Light Grey).

Weather pack crimp tools and terminal removal tools can be found on page 55.

Ordering Information: Combine part number and package size. Example: 6 AWG, 1/2" stud, 4 pieces = TAE6-1/2R-4

Features: 
* Tin plated  
* No exposed seams

Compliance: 
* E.T.P. (Electrolytic Tough Pitch)CDA-110  
* ASTM:B-152 copper rated at 100% conductivity

UL & CSA approved  
* RoHS compliant

WEATHER PACK HOUSING

NO. OF CAVITIES | SHROUD HOUSING CONNECTOR | TOWER HOUSING CONNECTOR | COLOR | PACKAGE SIZE
--- | --- | --- | --- | ---
1 | T12010596 | T12015791 | BLACK | 5
2 | T12010597 | T12015792 | BLACK | 5
3 | T12010596 | T12015793 | BLACK | 5
4 | T12010597 | T12015794 | BLACK | 5

WEATHER PACK TERMINALS

MALE TERMINALS (Shroud Housing) | FEMALE TERMINALS (Tower Housing) | WIRE AWG | PACKAGE SIZE | FIELD SERVICE CRIMP TOOL
--- | --- | --- | --- | ---
T12002240 | T12002188 | 20 - 18 | 25 | VT12014254
T12124982 | T12124980 | 16 - 14 | 25 | VT12150975
T12124981 | T12124981 | 12 | 25 | VT12150975

WEATHER PACK CABLE SEALS & CAVITY PLUG

SEAL | PART NUMBER | WIRE SIZE | WIRE D.O.A. RANGE (Inches) | COLOR | PACKAGE SIZE
--- | --- | --- | --- | --- | ---
T15324983 | 22-20 | 1.70-1.29 (.066-.050) | RED | 25
T15324985 | 22-18 | 2.15-1.60 (.084-.063) | PURPLE | 25
T15324984 | 24-20 | 2.42-2.01 (.098-.079) | TAN | 25
T15324982 | 18-16 | 2.85-2.03 (.112-.080) | GREEN | 25
T15324980 | 16-14 | 3.49-2.81 (.137-.111) | LT. GREY | 25
T15324981 | 14-12 | 4.30-3.45 (.169-.136) | BLUE | 25

CAVITY PLUG PART NUMBER | T12018350 | LT. GREEN | 25

Ordering Information: Order by package.

Weather pack crimp tools and terminal removal tools can be found on page 55.
# Lugs & Boots

## SEAMLESS, STEP DOWN & NYLON BUTT SPLICES

### WIRE AWG

<table>
<thead>
<tr>
<th>WIRE AWG</th>
<th>PART NUMBER</th>
<th>I.D. MAX (Inches)</th>
<th>O.D. MAX (Inches)</th>
<th>LENGTH (Inches)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>TBS8</td>
<td>0.165</td>
<td>0.265</td>
<td>1.473</td>
<td>4, 25, 250</td>
</tr>
<tr>
<td>6</td>
<td>TBS6</td>
<td>0.230</td>
<td>0.374</td>
<td>1.045</td>
<td>4, 25, 250</td>
</tr>
<tr>
<td>4</td>
<td>TBS4</td>
<td>0.277</td>
<td>0.457</td>
<td>1.155</td>
<td>4, 10, 100</td>
</tr>
<tr>
<td>2</td>
<td>TBS2</td>
<td>0.357</td>
<td>0.538</td>
<td>1.280</td>
<td>100</td>
</tr>
<tr>
<td>1/0</td>
<td>TBS1/0</td>
<td>0.439</td>
<td>0.620</td>
<td>1.440</td>
<td>50</td>
</tr>
<tr>
<td>1/2</td>
<td>TBS1/2</td>
<td>0.496</td>
<td>0.697</td>
<td>1.440</td>
<td>50</td>
</tr>
<tr>
<td>4/0</td>
<td>TBS4/0</td>
<td>0.621</td>
<td>0.860</td>
<td>1.540</td>
<td>50</td>
</tr>
</tbody>
</table>

### Ordering Information:
- Combine part number and package size.
- Example: 4 AWG splice, 25 pieces = TBS4-25

### COMPLIANCES:
- UL & CSA approved
- RoHS compliant

## STEP DOWN TINNED BUTT SPLICES

### WIRE AWG

<table>
<thead>
<tr>
<th>WIRE AWG</th>
<th>PART NUMBER</th>
<th>SM (A) MAX (Inches)</th>
<th>LR (B) MAX (Inches)</th>
<th>O.D. MAX (Inches)</th>
<th>LENGTH (Inches)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-18 to 16-14</td>
<td>TBS10D14</td>
<td>0.071</td>
<td>0.137</td>
<td>0.160</td>
<td>0.675</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>16-14 to 12-10</td>
<td>TBS10D10</td>
<td>0.097</td>
<td>0.172</td>
<td>0.223</td>
<td>0.827</td>
<td>10, 25, 100, 500</td>
</tr>
<tr>
<td>12-10 to 8</td>
<td>TBS8-10</td>
<td>0.139</td>
<td>0.246</td>
<td>0.291</td>
<td>0.854</td>
<td>1, 250</td>
</tr>
</tbody>
</table>

### Ordering Information:
- Combine part number and package size.
- Example: 10 AWG to 14 AWG wire splice, 25 pieces = TBS10D10-14-25

### FEATURES:
- Tin plated
- Insulation: Nylon
- Barrel Type: Closed

### COMPLIANCES:
- UL & CSA approved
- RoHS compliant

## NYLON BUTT SPLICES

### WIRE AWG

<table>
<thead>
<tr>
<th>WIRE AWG</th>
<th>PART NUMBER</th>
<th>COLOR</th>
<th>MAX WIRE INSUL. (A)</th>
<th>O.D. MAX (Inches)</th>
<th>LENGTH (Inches)</th>
<th>PACKAGE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>TBSN8</td>
<td>RED</td>
<td>0.245</td>
<td>0.315</td>
<td>1.473</td>
<td>4, 25, 250</td>
</tr>
<tr>
<td>6</td>
<td>TBSN6</td>
<td>BLUE</td>
<td>0.342</td>
<td>0.480</td>
<td>1.785</td>
<td>4, 25, 100</td>
</tr>
<tr>
<td>4</td>
<td>TBSN4</td>
<td>GREEN</td>
<td>0.429</td>
<td>0.579</td>
<td>2.035</td>
<td>4, 10, 25</td>
</tr>
</tbody>
</table>

### Ordering Information:
- Combine part number and package size.
- Example: 4 AWG splice, 25 pieces = TBSN4-25

### FEATURES:
- Tin plated
- Insulation: Nylon
- Barrel Type: Closed
- Braided
- Seamless

### COMPLIANCES:
- UL & CSA approved
- RoHS compliant
Lugs & Boots

**BATTERY POST TERMINALS**

<table>
<thead>
<tr>
<th>WIRE</th>
<th>STRAIGHT</th>
<th>LEFT ELBOW</th>
<th>RIGHT ELBOW</th>
<th>FLAG</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>TC-6-U</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>UNIVERSAL</td>
</tr>
<tr>
<td>4</td>
<td>TC-4-P</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>POSITIVE</td>
</tr>
<tr>
<td>4</td>
<td>TC-4-N</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NEGATIVE</td>
</tr>
<tr>
<td>1/0</td>
<td>TC-1-P</td>
<td>-</td>
<td>-</td>
<td>TF-2-P</td>
<td>UNIVERSAL</td>
</tr>
<tr>
<td>1/0</td>
<td>TC-1-N</td>
<td>-</td>
<td>-</td>
<td>TF-2-N</td>
<td>NEGATIVE</td>
</tr>
<tr>
<td>2/0</td>
<td>TC-2-P</td>
<td>-</td>
<td>-</td>
<td>TF-2-P</td>
<td>POSITIVE</td>
</tr>
<tr>
<td>2/0</td>
<td>TC-2-N</td>
<td>-</td>
<td>-</td>
<td>TF-2-N</td>
<td>POSITIVE</td>
</tr>
<tr>
<td>4/0</td>
<td>TC-4-P</td>
<td>-</td>
<td>-</td>
<td>TF-4-P</td>
<td>POSITIVE</td>
</tr>
<tr>
<td>4/0</td>
<td>TC-4-N</td>
<td>-</td>
<td>-</td>
<td>TF-4-N</td>
<td>NEGATIVE</td>
</tr>
</tbody>
</table>

**MARINE TYPE TOP POST TERMINALS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>STUD SIZE (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-200-P</td>
<td>POSITIVE</td>
<td>3/16</td>
</tr>
<tr>
<td>TC-200-N</td>
<td>NEGATIVE</td>
<td>5/16</td>
</tr>
<tr>
<td>TC-210-U</td>
<td>UNIVERSAL</td>
<td>-</td>
</tr>
</tbody>
</table>

**ALTERNATOR TYPE**

<table>
<thead>
<tr>
<th>WIRE RANGE</th>
<th>PART NUMBER</th>
<th>(A) TERMINAL O.D. (Inches)</th>
<th>(B) POST HEIGHT (Inches)</th>
<th>(C) CABLE ENTRY MIN/ MAX (Inches)</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-6 AWG</td>
<td>TBCA6-R</td>
<td>0.48</td>
<td>0.75</td>
<td>0.18/0.50</td>
<td>RED</td>
</tr>
<tr>
<td>6-2 AWG</td>
<td>TBCA2-R</td>
<td>0.87</td>
<td>1.05</td>
<td>0.30/0.50</td>
<td>BLACK</td>
</tr>
<tr>
<td>1-2/0 AWG</td>
<td>TBCA20-N</td>
<td>0.87</td>
<td>1.05</td>
<td>0.50/0.70</td>
<td>RED</td>
</tr>
<tr>
<td>3/0-4/0 AWG</td>
<td>TBCA40-B</td>
<td>1.37</td>
<td>1.60</td>
<td>0.70/0.90</td>
<td>RED</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**STRAIGHT TYPE**

<table>
<thead>
<tr>
<th>WIRE RANGE</th>
<th>PART NUMBER</th>
<th>(C) CABLE ENTRY (Inches)</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-4 AWG</td>
<td>TBCS2-R</td>
<td>0.500</td>
<td>RED</td>
</tr>
<tr>
<td>1-2/0 AWG</td>
<td>TBCS2-B</td>
<td>0.625</td>
<td>BLACK</td>
</tr>
<tr>
<td>3/0-4/0 AWG</td>
<td>TBCS40-B</td>
<td>0.700</td>
<td>RED</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**MARINE TYPE**

<table>
<thead>
<tr>
<th>WIRE RANGE</th>
<th>PART NUMBER</th>
<th>(C) CABLE ENTRY MIN/ MAX (Inches)</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-2 AWG</td>
<td>TBCM2-R</td>
<td>0.30/0.50</td>
<td>RED</td>
</tr>
<tr>
<td>1-2/0 AWG</td>
<td>TBCM20-R</td>
<td>0.50/0.70</td>
<td>BLACK</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

Battery terminal insulator boots increase product safety by preventing electrical shorts and shock, avoiding injury and potential liability. Protective boots and caps extend battery life by protecting against corrosion. It is constructed from durable, heavy-duty PVC and is available in straight, alternator and marine types.

**APPLICATIONS:** Used for the protection of continuously energized parts, such as positive battery terminals and both ends of wires connected to continuously energized sources. **ALTERNATOR TYPE** can be used to cover a power or ground on an alternator or starter.

**STRAIGHT TYPE:** Commonly used to connect to a post on a battery. **MARINE TYPE:** Can be used with secondary power or ground.

**FEATURES:** *Protects against electrical shorts and shock* *Recommended per ARBY E-10.6(1)* *PVC 105°C*

**COMPLIANCES:** *Meets Coast Guard 33 CFR Part 163 Subpart 1* *Meets S.A.E. J378 and J1128 (low voltage caps)* *Meets UL 94 V2 Rated 105°C*
I.D. Products & Labelers

STORAGE SOLUTIONS

<table>
<thead>
<tr>
<th>STORAGE BOXES</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBOX-MS</td>
<td></td>
<td>Small metal box. Ideal for holding small pieces such as terminals. Box outside dimensions: Height=12”, Width=12 1/4”, Depth=4 1/4” Number of compartments=21, Overall Weight=6 lbs.</td>
</tr>
<tr>
<td>VBOX-ML</td>
<td></td>
<td>Large metal box. Efficient storage and organization for a variety of parts and components. Box outside dimensions: Height=12”, Width=18”, Depth=12” Number of compartments=21, Overall Weight=9 lbs.</td>
</tr>
<tr>
<td>VBOX-PL</td>
<td></td>
<td>Small plastic box. Ideal for holding small pieces such as terminals. Lightweight and easy to use. Box outside dimensions: Height=1”, Width=11”, Depth=3 1/4” Number of compartments=18, Overall Weight=0.7 lbs.</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece. Terminals and/or wire NOT included.

<table>
<thead>
<tr>
<th>RACKS &amp; CABINETS</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBOXRK-SM</td>
<td></td>
<td>This cabinet is designed for use with VBOX-MS (see above). Rugged steel, all-welded cabinets are reinforced for rigidity. Easy glide slide racks hold up to 40 lbs. per cradle. Dimensions: Height=11 1/4”, Width=15 1/4”, Depth=11 3/4”, Overall Weight=22 lbs.</td>
</tr>
<tr>
<td>VBOXRK-L</td>
<td></td>
<td>This larger cabinet is designed specifically for use with VBOX-ML (see above). Use on the workbench, counter, or the job site with convenient access to storage boxes. Dimensions: Height=10”, Width=20 1/4”, Depth=12 1/2”, Overall Weight=30 lbs.</td>
</tr>
<tr>
<td>WIRE-RK4</td>
<td></td>
<td>Simplify wire access by utilizing four separate rods to hold spools. This wire rack can support multiple spools per rod. Durable, yet small enough for transport, this wire rack is ideal for workshops or job sites. Dimensions: Height=37”, Width=26 1/8”, Depth=6”, Overall Weight=15 lbs.</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece. Terminals and/or wire NOT included.

I.D. Products & Labelers

RHINO® DYMO LABELERS

<table>
<thead>
<tr>
<th>RHINO LABEL CARTRIDGES</th>
<th>PART NUMBER</th>
<th>WIDTH (IN.)</th>
<th>LENGTH (FT)</th>
<th>DESCRIPTION</th>
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<tbody>
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<td>VT-4200</td>
<td>VTM180541</td>
<td>1/4</td>
<td>3</td>
<td>White Vinyl</td>
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<tr>
<td>VT-4200</td>
<td>VTM180542</td>
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<td>5</td>
<td>Black Vinyl</td>
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</tr>
<tr>
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<td>VTM180543</td>
<td>1/2</td>
<td>3</td>
<td>White Vinyl</td>
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<tr>
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<tr>
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<td>5</td>
<td>Yellow Heat Shrink Tubing*</td>
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<tr>
<td>VT-5200</td>
<td>VTM180553</td>
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<td>5</td>
<td>White Heat Shrink Tubing*</td>
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<tr>
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<td>VTM180554</td>
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<td>5</td>
<td>Yellow Heat Shrink Tubing*</td>
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<td>X</td>
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<tr>
<td>VT-5200</td>
<td>VTM180555</td>
<td>1/2</td>
<td>5</td>
<td>White Heat Shrink Tubing*</td>
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<td>X</td>
</tr>
<tr>
<td>VT-5200</td>
<td>VTM180556</td>
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<td>5</td>
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<tr>
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<td>VTM180557</td>
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<td>5</td>
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<td>X</td>
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<tr>
<td>VT-5200</td>
<td>VTM180558</td>
<td>3/4</td>
<td>5</td>
<td>Yellow Heat Shrink Tubing*</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

*Heat Shrink Tubing carries a shrink ratio of 3:1.

Ordering Information: Order by the piece.

FEATURES:
- RHINO 4200
  - “QWERTY” keyboard
  - “One-Touch” Print Keys
  - Code 39 and Code 128 bar codes
  - Can print directly on heat shrink tubing
- RHINO 5200
  - “One-Touch” Print Keys
  - Code 39 and Code 128 bar codes
  - Ideal for asset management
  - Meets all ANSI and TIA/EIA-606-B industry labeling standards

KIT INCLUDES:
- Durable Hand Carry Case
- Rhino 5200 Printer
- One White Vinyl Tape
- One Yellow Nylon Tape
- Lithium-Ion Battery/Charger
- User Manual/CDC Rom

RHINO 5200

FEATURES:
- One-Touch “Hot Keys”
- QWERTY keyboard
- Code 39 and Code 128 bar codes
- Can print directly on heat shrink tubing
- Meets all ANSI and TIA/EIA-606-B industry labeling standards

KIT INCLUDES:
- Soft Carrying Case
- Rhino 4200 Printer
- One White Vinyl Tape
- One Yellow Nylon Tape
- Lithium-Ion Battery/Charger
- Quick Reference Guide

RHINO 4200

KIT INCLUDES:
- One-Touch “Hot Keys”
- Code 39 and Code 128 bar codes
- Can print directly on heat shrink tubing
- Meets all ANSI and TIA/EIA-606-B industry labeling standards

KIT INCLUDES:
- Durable Hand Carry Case
- Rhino 5200 Printer
- One White Vinyl Tape
- One Yellow Nylon Tape
- Lithium-Ion Battery/Charger
- User Manual/CDC Rom

Lithium-Ion Battery/Charger

KIT INCLUDES:
- Printer Only

ORDERING INFORMATION:
- Order by the piece. Terminals and/or wire NOT included.

Quick Reference Guide

KIT INCLUDES:
- Printer Only

ORDERING INFORMATION:
- Order by the piece. Terminals and/or wire NOT included.
MARKER BOOKS

PART NUMBER  ALPHA NUMERIC  LEGEND EXAMPLES  SYMBOLS CODES  NO. OF LEGENDS
VPCM-1  0-9  0-9  45 each
VPCM-2  0-15  0-15  10 each
VPCM-3  1-45  1-45  10 each
VPCM-4  1-3  1-3  150 each
VPCM-5  A-C  A-C  150 each
VPCM-6  1-15, 16-90  1-15, 16-90  10 each
VPCM-8  A-C  A-C  1-3  45, 45, 30
VPCM-11  1-30  1-30  15 each
VPCM-12  A-C  A-C  + +  Blanks  15, 8, 7, 2
VPCM-13  + +  + +  AC, DC, POL, NEG, GND, MUTE, SPARE  45, 33
VPCM-14  46-90  46-90  10 each
VPCM-16  A-C  A-C  0-33  + +  LI-3, TI-3  10 each

Ordering Information: Order by the book.
FEATURES: *Convenient, pocket-sized books  Pre-printed black on white vinyl cloth, adhesive back markers  Resists oil and abrasion  *Durable, temperature resistant and stable for rough surfaces  *Compliance: *RoHS compliant

DISPENSER KITS

PART NUMBER  DESCRIPTION  MARKERS PER ROLL  WRITE-ON AREA (INCHES)  TOTAL AREA (INCHES)  PACKAGE
VRL-1  Kit, Disp, Tape, Pen  200  0.375 x 1  1.25 x 1  1
VRL-2  Kit, Disp, Tape, Pen  100  0.75 x 1  3.00 x 1  1

Ordering Information: Order by standard package.
FEATURES: *Quick drying & non-smearing  Great for nylon & other glossy surfaces

WRITE ON MARKERS & MARKER CARDS

PART NUMBER  DESCRIPTION  LEGEND OR COLOR  PACKAGE SIZE
VPX-0  Regular Tip  Black  1
VPX-2  Regular Tip  Red  1
VPX-10  Regular Tip  White  1
VPCH-1”-enter #”  Choose between 0-9  Choose: 0,1,2,3,4  5, 25 Cards
VPCM-1-9  Markers  1-9  5, 25 Cards
VPMD  Empty Dispenser  1
VPMD-0-9  Filled Dispenser  0-9  1
VPMDR-1”-enter #”  Choose between 0-9  Choose: 0,1,2,3,4  5, 25 Cards

Ordering Information: Order by standard package.
FEATURES: *Vinyl cloth  - White background, black legend  *Temps: Range -50°F to 170°F  *Compliance: *Rohs compliant

MULTI-PURPOSE TOOLS

PART NUMBER  DESCRIPTION
VT1000  SOUTHERN® 8-30 AWG MULTI-CUTTER TOOLS Stainless steel construction is durable and rust-proof. Cuts insulated and non-insulated terminals, connectors and sleeves. Shears and handles 24-10, 32-10, 32-6, 32-4 and 40-4.4 screws. Cuts bolts, strips 22-8 AWG solid and 24-10 AWG stranded wire.
VT1010  SOUTHERN® 8” LONG NOSE MULTI-CUTTER TOOLS Stainless steel construction is durable and rust-proof. Cuts and strips 10-10 AWG solid and 22-12 AWG stranded wire. Cuts insulating and non-insulated terminals and connectors. Long nose design is for forming and looping wire and handling small parts. Shears 24-10, 32-10, 32-6, 32-4, 40-5 and 40-4 screws.
VT1007  SOUTHERN® 8” CRIMPING/CUTTING PLIERS 22-10 AWG insulated terminals and connectors. Cuts and strips 10-10 AWG solid and 22-12 AWG stranded wire. Cuts insulating and non-insulated terminals and connectors. Specially hardened wire cutter in cutter. Tapered nose for working in confined spaces.
VT1220CT  SOUTHERN® CONTROLED CYCLE CRIMP TOOL Simply, trouble-free cycle mechanism assures consistent terminations. All cavities are fully machined in high carbon steel then heat treated. The VT1220CT crimps the conductor portion of insulated terminals, crimp cavities are color coded. Red 22-18 AWG, Blue 16-14 AWG, Yellow 12-10 AWG. Excellent for use with犯罪 heat shrink terminals.
VTR-460  3M RATCHET CRIMP TOOL. Ruggedly built, this tool crimps the barrel and the insulation grip independently for 22-10 AWG insulated and non-insulated terminals and connectors.
VTR-506  RATCHET CRIMP TOOL. Ensures uniform crimp termination regardless of user. Release switch if terminal or wire is inserted improperly. High quality, economical tool. Alignment guide dies won’t slip during crimping. For #4 crimp needs 22-18, 16-14, 12-10, 8-8, 6-6, 4-4 AWG.
VT30-500  IDEAL® CRIMPMASTER CRIMP TOOL. High quality ratchet-type crimp tool for electricians, contractors and installers. The ratcheted crimp action provides repeatability and reliability. Interchangeable dies provide versatility. Cushioned comfort grip handles. Crimps 22-10 AWG (.324 mm² - 5.261 mm²). Insulated ring tongue terminals and splices.
VT30-506  IDEAL® CRIMPMASTER CRIMP TOOL - FRAME ONLY. Frame is constructed from high grade, stamp-hardened steel and put together with steel jaws that will not stretch with use. The tool is full cycle, compound leverage, and triple ratcheted to give exact precision to every crimp. Crimps insulated and non-insulated terminals and splices. Shears 24-10, 32-10, 32-6, 32-4, 40-5, 40-4 and 40-4 screws. Cuts bolts, strips 22-8 AWG solid and 24-10 AWG stranded wire.
VT30-507  IDEAL® CRIMPMASTER DIE SET ONLY for RG-8/11, RG-213, RG-216 Ethernet thick-wire, N-series plugs and jacks
VT30-509  IDEAL® CRIMPMASTER DIE SET ONLY for RG-58, RG-59/62AU, BNC/TNC 3-piece hex connectors
VT30-580  IDEAL® CRIMPMASTER DIE SET ONLY for CATV RG-58 and RG-6 captive ring F-connectors
VT30-586  IDEAL® CRIMPMASTER DIE SET ONLY for 22-12 AWG non-insulated open barrel crimp style conn.
VT30-594  IDEAL® CRIMPMASTER DIE SET ONLY for 22-10 AWG fully insulated slide-on connectors

Ordering Information: Order by the tool.
## CABLE CUTTERS & WIRE STRIPPERS

### PART NUMBER | DESCRIPTION
--- | ---
VT6305S | SOUTHN WIRE® COMPACT CABLE CUTTER. Precision, one-hand, shearing action cuts 24-8 AWG copper, aluminum multi-strand cable and wire, and 100 pair telephone cable. Heat treated, high-carbon steel shearing edges for long life. Not designed for cutting steel or ACSR.

VT6305A | SOUTHWIRE® HIGH-LEVERAGE CABLE CUTTER. High-leverage design for exceptional cutting capability. Thoroughly hardened for longer-lasting cutting surfaces. Maximum cable cutting capacity: 3/8” aluminum, 100 pair 24 AWG cable, 2-1/2” soft copper. This tool is not designed for cutting steel or ACSR. Length: 11-3/8”.

### RATCHET CABLE CUTTER

### PART NUMBER | DESCRIPTION
--- | ---
VT6306 | SOUTHWIRE® RATCHETING CABLE CUTTER. Patented two-step ratchet mechanism requires fewer strokes per cut. Quick release lever opens blades easily in every cutting position (allows removal of the cable before completion of the cut). Maximum cable cutting capacity: 750 MCM copper and aluminum (Max. jaw opening 1 1/8”). This tool is not designed for cutting steel or ACSR. Length: 10-1/4”.

VT35-053 | IDEAL® RATCHETING CABLE CUTTER. Designed to cut 750 KCMIL (MCM) and smaller hard-drawn copper and aluminum cables. Hardened steel blades ensure long term durability. Quick release mechanism simplifies blade back-out. Max. jaw opening 2”. Not designed for cutting steel or ACSR. Length: 14 1/2”.

### CABLE SWIVEL/SPLIT BLADE STRIPPERS

### PART NUMBER | DESCRIPTION
--- | ---
VT45-128 | IDEAL® SWIVEL BLADE STRIPPER. For 3/4” and smaller outside diameter cables. Single or Multi-Conductor Cables, blade adjusts for jacket thicknesses up to 1/8 inch.

**Replacement Blades:** VTL-7486

VT45-605 | IDEAL® Multi-Strap Coax/UTP Cable Stripper. Strips UTP, RG-59 and RG-6 coax cable. Provides a 1/4 in (minimum) x 1/4 in. strip on coax. Spare cartridge compartment provided. Push-on ring for easy connector termination. Features a primary and secondary strip cartridge.

**Replacement Blades:** VTLR-1274

VT45-144 | IDEAL® SWIVEL BLADE/ROUND CABLE SLITTING TOOL. Single or Multi-Conductor Cables up to 1.75” O.D. Blade adjusts for jacket thickness up to 1/8”. Spare blade in handle base.

**Replacement Blades:** VTLR-1274

### WIRE & CABLE STRIPPERS & CUTTERS

### PART NUMBER | DESCRIPTION
--- | ---
VT45-121 | SOUTHWIRE® COMPACT STRAIGHT WIRE STRIPPER. Specially designed stainless steel cutting blades provide fast and easy wire stripping. Strips, cuts, and loops 26-16 AWG stranded cable. Spring loaded for self-opening action. Not intended for cutting bolts or steel cable.

**Wire Range:** Stranded 26-16 AWG.

VT45-124 | SOUTHWIRE® 8" COMPACT WIRE STRIPPER. Specially designed stainless steel cutting blades provide fast and easy wire stripping. Serrated nose holds cable for easy twisting and pulling. Spring loaded for self-opening action. Not intended for cutting bolts or steel cable.

**Wire Range:** Solid 10-8 AWG, Stranded 20-12 AWG.

### WIRE STRIPPERS

### PART NUMBER | DESCRIPTION
--- | ---
VT45-292 | IDEAL® STRIPMASTER. Wire stripper for 22-10 AWG stranded wire. Clearly strips wire up to 7/8” removal of insulation. Eliminates raking, cutting and fraying of commercial. Wire gripper will hold wire centered in stripping hole.

**Replacement Blades:** VTL-4421

VT45-671 | IDEAL® STRIPMASTER LTE. Wire stripper for 32-16 AWG stranded wire. Cleverly strips wire up to 7/8” removal of insulation. Eliminates raking, cutting and fraying of commercial wire. Wire gripper will hold wire centered in stripping hole.

**Replacement Blades:** VTL-1001

VT45-265 | IDEAL® COAX STRIPMASTER. Strips for RG-59. One-step stripping enhances productivity. Spring-action motion increases leverage and reduces operator fatigue. Wire gripper will hold wire centered in stripping hole.

**Replacement Blades:** VTL-743

VT45-262 | IDEAL® COAX STRIPMASTER. Strips for RG-59. One-step stripping enhances productivity. Spring-action motion increases leverage and reduces operator fatigue. Wire gripper will hold wire centered in stripping hole.

**Replacement Blades:** VTL-740

### Ordering Information: Order by the tool.

### LARGE GAUGE CRIMPING TOOLS

### PART NUMBER | DESCRIPTION
--- | ---
VT0280C | CRIMP-MASTER COMPACT BATTERY LUG CRIMPER. Universal, adjustable crimping tool 1/0 - 8 AWG. Characteristics: High-Leverage Handles, Compound-Action Mechanism, Adjustment Screw Allows User To Control Crimp Depth, Application For Crimping Lugs and Terminals, Function Crimps 1/0 - 8 AWG Battery Lugs And Terminals. Length: 16”.


VTX05-SY/NCR | GREENLEE® ROTATING DIE CABLE CRIMPER. 1/0 - 8 AWG crimps smaller copper connectors. New design eliminates crimping errors from mismatched dies. It’s laser cut dies are more dimensionally accurate than stamped dies. 50% reduced set up time when changing dies. Allows for rotating dies with one hand. Length: 35 3/4”.

VTX025GL | GREENLEE® ROTATING DIE CABLE CRIMPER. Long length results in low hand efforts. For 4/0 - 8 AWG cable. Color-coded, hexagonal rotating dies, the full cycle mechanism releases only after full crimp cycle is completed. Length: 20 1/2”.

### DEUTSCH TOOLS

### Additional Deutsch Removal Tools on page 43.

### VT-HDT-48 | DEUTSCH PRODUCTION CRIMP TOOL. Crimps solid style pins and sockets only. Provides eight-inch, mid-size style crimp. For use with 22-12 AWG wires, size 20-12 Solid Pins and Sockets in DT, DTM, DTP and size 12 DTHD Series connectors.

### VT-HDT-1561 | DEUTSCH FIELD SERVICE CRIMP TOOL. Crimps solid style pins and sockets. Two--indent crimp. For use with 24-12 AWG wires, size 20-12 Solid Pins and Sockets in DT, DTM, DTP and size 12 DTHD Series connectors.

### VT-HDT-04-08 | DEUTSCH LARGE CONTACT CRIMPER. Tool crimps size 8 and 4 size solid style pins and sockets (10 - 6 AWG) in DTHD Series. Two-indent crimp.

### VT-DT/KT | DEUTSCH CONTACT/WEDEKLOCK REMOVAL TOOL. A multi-use tool with a small hook on one end to remove the wedgelock, and a small screwdriver on the other end to push back the locking fingers and release the contact. Order by the tool.

### DELPHI WEATHER PACK TOOLS

### PART NUMBER | DESCRIPTION
--- | ---

VT12155975 | Designed to crimp the core and insulation wings in a separate motion. 22-14 AWG for metri-pack 150 & 280 series terminals. Length: 9”. Made in the USA.

VT12014012 | DELPHI WEATHER PACK TERMINAL REMOVAL TOOL. Weather Pack terminal release tool. This tool depresses the terminal retention bars so the terminals can be removed from the housing. Works with all three sizes of Weather Pack Terminals 22-18, 16-14 & 12-10 AWG.

### Ordering Information: Order by the tool.
**FERRULE CRIMPING TOOLS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>VT-92US</td>
<td>CONTRA-CLIP SIDE WIRE ENTRY FERRULE CRIMPING TOOL. For 26 - 10 AWG wire. Ratcheted controlled crimp action provides repeatability and reliability. Multiple cavity die crimps wires from 26-10 AWG (mm² female size 0.14 - 6.0).</td>
</tr>
<tr>
<td>VT-92UI6E</td>
<td>CONTRA-CLIP SIDE WIRE ENTRY FERRULE CRIMPING TOOL. For 20 - 6 AWG wire. The ratcheted controlled crimp action provides repeatability and reliability. Multiple cavity die crimps wires from 20-6 AWG (mm² female size 0.5 - 16.0).</td>
</tr>
<tr>
<td>VT-92US5</td>
<td>CONTRA-CLIP SIDE WIRE ENTRY FERRULE CRIMPING TOOL. For 4 - 2 AWG wire. The ratcheted controlled crimp action provides repeatability and reliability. Multiple cavity die crimps wires 4 - 2 AWG (mm² female size 25 &amp; 35).</td>
</tr>
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**TELEPHONE/DATA CABLE CRIMPERS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT30-496</td>
<td>IDEAL® TELEMASTER CRIMP TOOL. For Rj-11/12/14 (6 position-1,2,3 pair) and Rj-45 (8 position-4 pair) modular plugs. Multi-function tool for round voice/data cables. Cuts, strips and crimps for easy on-the-job, one-tool application. Round cable stripping chamber for CAT5E/s cables. Length: 13&quot;.</td>
</tr>
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**COAX CABLE COMPRESSION CRIMP TOOL**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTC-4000</td>
<td>PROFESSIONAL COMPRESSION TOOL. Ratchet controlled, adjustments for crimping R/A, F and RCA length connectors.</td>
</tr>
</tbody>
</table>

**CABLE TIE TOOLS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGT5</td>
<td>PANDENT CABLE TIE INSTALLATION TOOL. Body Width Range 0.070 to 0.225&quot;, Tool Code E, For 18 to 50 B-Tone Selectable Cable Tool, Impact-Resistant Box Housing, Narrow Nose and Cushion Handle, Installs Cable Ties To Correct Tension and Trims Tails Flush, Tension Locking Mechanism, Easy Tension Knob, Adjustable Wheel. Use with sub miniature, miniature, intermediate, and standard size.</td>
</tr>
<tr>
<td>VT-HTMT</td>
<td>PANDENT STAINLESS STEEL TENSIONING AND COILING TOOL INSTALLATION tool. Installation tool for use with the following stainless steel cross section ties: Type MCT (Pearl CHMT): Standard, light heavy, and heavy. Can be used for any size cable tie.</td>
</tr>
<tr>
<td>VT-ST2MT</td>
<td>PANDENT STAINLESS STEEL INSTALLATION TOOL: Cable tie side entry for immediate positioning of tie, one hand operation, lightweight, easy removal of excess tie, tool tension is controlled by installer, twist action cut-off, rugged, lightweight, easy-to-operate pliers-type tool that provides mechanical advantage over standard installation tools. Dimensions: 7.8&quot; x 5.8&quot;.</td>
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**STAINLESS STEEL FISH TAPES**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>LENGTH (FT)</th>
<th>HEIGHT X WIDTH (IN.)</th>
<th>DIAMETER (IN.)</th>
<th>WEIGHT</th>
<th>REPL. TAPE</th>
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<tbody>
<tr>
<td>VT31-066</td>
<td>125</td>
<td>17 x 13</td>
<td>0.177&quot;</td>
<td>2.50 LBS</td>
<td>VT31-073</td>
</tr>
<tr>
<td>VT31-067</td>
<td>240</td>
<td>17 x 13</td>
<td>0.118&quot;</td>
<td>3.00 LBS</td>
<td>VT31-074</td>
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**CIRCUIT AND VOLTAGE TESTERS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT61-051</td>
<td>GPCI RECEPISTACLE CIRCUIT TESTER. No-rip ergonomic design maximizes comfort and premium neon lamps prevents false readings. Constructed with a tough, impact-resistant case. This tool tests GFCI receptacles for proper operation, correct wiring, open ground, open neutral, open hot, reverse hot/ground and reverse hot/neutral in 3-wide 125 VAC circuits.</td>
</tr>
<tr>
<td>VT61-063</td>
<td>VOLT SENSOR POCKET TESTER. Checks non-contact voltage from 40 - 600 VAC, CAT III - 600V, audible and visual indication, tests for energized circuits, over-molded rubber cushion grip, compact rugged housing and covered by a manufacturer 1-year warranty.</td>
</tr>
</tbody>
</table>

**MULTIMETERS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT61-484</td>
<td>AUTO-RANGING MULTIMETER. True RMS, auto AC/DC voltage. Has the ability to detect with low impedance. Efficient for capacitance, frequency, with an analog bar graph, smart data hold, min/max, IP67, dustproof and waterproof for demanding applications. Easy to read backlit 4,000-count display with bargraph. Low battery indication, auto power off. INCLUDES: Test Leads and Carrying Case. Case included</td>
</tr>
</tbody>
</table>

**CLAMP METERS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT61-746</td>
<td>MaintenancePRO™ 1000A AC/DC CLAMP METER. A rugged high end AC/DC clamp meter for the serious electrician who needs both AC and DC current measurements. With a UL listed safety rating of CAT IV 600V / CAT III 1000V, this clamp meter is built to get the tough jobs done. INCLUDES: Test leads, Type K temperature probe with banana plug adapters. Carrying case &amp; 9-volt battery. Case included</td>
</tr>
<tr>
<td>VT61-775</td>
<td>MaintenancePRO™ Smart 1000A CLAMP METER. Utilize Bluetooth® connectivity with your rugged high end clamp meter. Used with the MaintenancePRO™ mobile app, the VT61-775 lets electricians safely get the measurements they need even in hostile environments. INCLUDES: Test leads, Type K temperature probe with banana plug adapters. Carrying case &amp; 9-volt battery. Case included</td>
</tr>
</tbody>
</table>

**Micro Torch**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMT-4F</td>
<td>This small, lightweight, self-igniting micro torch heat tool is perfect for heat shrink terminals, tubing and soldering. This product requires battery to operate. (Not included) Out: 220V (181W) Input: 220V 50Hz (181W) Total Weight: 450g</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the tool.
SELF-IGNITING, BUTANE-POWERED SOLDERING IRON AND HEAT TOOL

- Light weight for easy handling & extended use
- Built-in fuel filter for consistent fuel ignition
- Adaptable temperature up to 1200°F
- Built-in window indicates fuel level
- UL & GS/TUV Listed for user safety
- Use to pinpoint heat, remove surface mount components, repair vinyl, shrink heat shrink tubing, solder and repair solder and spot dry.
- Kit contains unit, solder tip, heat tip, shrink attachment, and sponge and stand packed in a metal storage/carrying case.

SPECIFICATIONS:
- Dimensions: 10.3" L (260 mm)
- Equivalent to Electric Iron: 20 to 80 Watt
- Recommended Fuel: Master Ultratane® Butane
- Gas Tank Capacity: 1 fl. oz. (28 cc)
- Approx. Operating Time: 2hrs.
- Net Weight: 5.5 oz. (150 g)
- Approx. Heat Temp. Temp.: 1202°F (650°C)
- Approx. Solder Temp. Temp.: 482°F to 932°F (250°C to 500°C)
- Shipping Weight: 1 lb.
- Shipped empty

Ordering Information:
Order by the piece.

VUT100SI

VUT100S(I) (KIT)
BREAKERS & FUSES
MAGNETIC CIRCUIT BREAKERS "A" SERIES

FEATURES:
• Trip Free: Trips on overload, cannot be forcibly held on or restrained.

PERCENTAGE OVERLOAD VS. TRIP TIME IN SECONDS AT +25°C (VERTICAL MOUNT)

MAX RATING VOLTAGE FREQUENCY PHASE CURRENT RATING FULL LOAD AMPS INTERRUPTING CAPACITY UL/CSA WITHOUT BACKUP FUSE

*A SERIES INTERRUPTING CAPACITY (AMPS)

80 DC - 0.02 - 30 3000
65 DC - 31 - 50 3000
125/250 50/60 Hz 1Ø 0.02 - 30 3000
125/250 50/60 Hz 1Ø 31 - 50 3000

*A SERIES HYDRAULIC/MAGNETIC CIRCUIT BREAKERS

5 EAAI-5 - - - - -
10 EAAI-10 EAB2-10 EAA2-10 BK, WH
15 EAAI-15 EAB2-15 EAA2-15 BK, WH
20 EAAI-20 EAB2-20 EAA2-20 BK, WH
25 EAAI-25 EAB2-25 EAA2-25 BK, WH
30 EAAI-30 EAB2-30 EAA2-30 BK, WH
40 EAAI-40 EAB2-40 EAA2-40 BK, WH
50 (50) EAAI-50 EAB2-50 EAA2-50 BK, WH

Ordering Information: Combine the part number and the color abbreviation.

Example: Single Pole, 30 AMP: White toggle = EAAI-30WH. All breakers are available by the piece.

Magnetic circuit breakers offer a low cost answer to power switching and reliable circuit protection. Temperature will not affect the operation of magnetic circuit breakers, as is the case with fuses or thermal breakers. The opening of the circuit is accomplished by the amount of current passing through an electromagnetic coil. As the current exceeds the amount specified by the breaker, the circuit opens (See chart "Percentage overload vs. trip time"). "A" series breakers are designed to have long trip delays to avoid nuisance tripping.

Series "A" Breaker Accessories

PART NUMBER DESCRIPTION

EG-GUARD Fits all "A" Frame Breakers. Mounts on the surface of the panel with two (2) 6-32 x 3/8" screws, which are included. Protects critical function circuits from being accidentally switched off at the breaker.

EG-SLIDE Fits all Double Pole "A" Frame circuit breakers. AC Lockout slides allow only one breaker to be activated at a time. EG-SLIDE uses circuit breaker mounting screw holes, no special modifications required.

Ordering Information: Order by the piece.

BREAKERS & FUSES
MAGNETIC CIRCUIT BREAKERS "C" SERIES

FEATURES:
• Trip Free: Trips on overload, cannot be forcibly held on or restrained.

PERCENTAGE OVERLOAD VS. TRIP TIME IN SECONDS AT +25°C (VERTICAL MOUNT)

MAX RATING VOLTAGE FREQUENCY PHASE CURRENT RATING FULL LOAD AMPS INTERRUPTING CAPACITY UL/CSA WITHOUT BACKUP FUSE

*C SERIES INTERRUPTING CAPACITY (AMPS)

80 DC - 0.02 - 70 7000
65 DC - 71 - 100 5000
125/250 50/60 Hz 1Ø 0.02 - 50 3000
125/250 50/60 Hz 1Ø 31 - 50 2000

*C SERIES HYDRAULIC/MAGNETIC CIRCUIT BREAKERS

15 ECA1-15BK - - - -
20 ECA1-20BK - - - -
25 ECA1-25BK - - - -
30 ECA1-30BK ECA2-30BK ECA3-30BK
40 ECA1-40BK - - - -
50 ECA1-50BK ECA2-50BK ECA3-50BK
60 ECA1-60BK ECA2-60BK ECA3-60BK
70 ECA1-70BK - - - -
80 ECA1-80BK ECA2-80BK ECA3-80BK
90 ECA1-90BK - - - -
100 ECA1-100BK ECA2-100BK ECA3-100BK

Ordering Information: Order by the piece. White (WH) "C" series breakers are available upon request.

Designed for use in industrial, military and marine applications, "C" series breakers are suitable for use in any situation where precision operation is required. Magnetic circuit breakers are a low cost answer to power switching and reliable circuit protection. Temperature will not affect the operation of magnetic circuit breakers, as it does with thermal breakers or fuses. Boots are available on page 63.

Breaker Accessories

PART NUMBER DESCRIPTION

EL-SLIDE Fits all Double Pole "C" Frame circuit breakers. AC Lockout slides allow only one breaker to be activated at a time. EL-SLIDE uses circuit breaker mounting screw holes, no special modifications are required.

Ordering Information: Order by the piece. Boots are available for circuit breakers on page 63.
### Breakers & Fuses
#### Panel Mount Thermal Breakers

**Features:**
- **Type:** 1658
  - Very cost effective design to meet international requirements
  - No potential current carrying exposed metal parts, except for terminals.
  - Manual reset
  - Circuit trip free mechanism
  - Extremely small and lightweight
  - UL, CSA, VDE and EN 60934 (IEC 60947) approved

**Specifications:**
- Rating: 2000 Amps @ 120V AC, 2500 Amps @ 250V DC
- UL, CSA, VDE and EN 60934
- Manual reset
- No potential current carrying exposed metal parts, except for terminals.

**Ordering Information:**
- Order by the piece.
- ETS658 Series
- ETS41 Series

**Part Numbers:**
- ETS658 Series
- ETS41 Series

### Breakers & Fuses
#### Breakers Accessories & Components

**Series 187**

**Marine Rated Circuit Breakers**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>RATED AMPS</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>FOR USE WITH</th>
</tr>
</thead>
<tbody>
<tr>
<td>658</td>
<td>5/16&quot; - 0.2</td>
<td>ETS658-5/16</td>
<td>ETS658-5/16</td>
<td>ETS658 Series</td>
</tr>
<tr>
<td>70</td>
<td>0.2 - 18</td>
<td>ETS70-0.2</td>
<td>ETS70-0.2</td>
<td>ETS658 Series</td>
</tr>
</tbody>
</table>

**Busmann Series 187 Manual Reset Circuit Breakers with Switch Function**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>RATED AMPS</th>
<th>PART NUMBER</th>
<th>CAP P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>658</td>
<td>5/16&quot; - 0.2</td>
<td>ETS658-5/16</td>
<td>ES-PRCAB</td>
</tr>
<tr>
<td>658</td>
<td>0.2 - 18</td>
<td>ETS658-0.2</td>
<td>ES-PRLCAB</td>
</tr>
<tr>
<td>658</td>
<td>0.2 - 18</td>
<td>ETS658-0.2</td>
<td>ES-PRLCAB</td>
</tr>
</tbody>
</table>

**Ordering Information:**
- Order by the piece.
- ETS658 Series

**Features:**
- A manual reset circuit breaker with On-Off switch capability
- **Trip-Free** design cannot be held on during fault current conditions
- *Ignition protected, all components meet SAE J1171 external circuit protection requirements
- Large clearance around terminals accepts heavy gauge wire lugs

**Compliance:**
- ABYC E-11; CE; SAE J1171 (Ignition protected)

**Applications:**
- These breakers are typically used in DC power systems in marine applications.
**Breakers & Fuses**

**MARINE RATED CIRCUIT BREAKERS**

**BUSSMANN SERIES 185 MANUAL & SWITCHABLE RESET CIRCUIT BREAKERS**

<table>
<thead>
<tr>
<th>RATED Amps</th>
<th>PART NUMBER</th>
<th>RATED Amps</th>
<th>PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>ESM-30</td>
<td>70</td>
<td>ESM-70</td>
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<tr>
<td>40</td>
<td>ESM-40</td>
<td>80</td>
<td>ESM-80</td>
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<tr>
<td>50</td>
<td>ESM-50</td>
<td>100</td>
<td>ESM-100</td>
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<tr>
<td>60</td>
<td>ESM-60</td>
<td>150</td>
<td>ESM-150</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**BLUE SEA ST5 GLASS 6 CIRCUIT FUSE BLOCK WITH NEGATIVE BUS AND COVER**

**AGC GLASS FUSES**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VOLTAGE RATING #</th>
<th>AMPERAGE RATING</th>
<th>VOLTAGE RATING AC</th>
<th>AMPERAGE RATING AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAGC5</td>
<td>250</td>
<td>.5</td>
<td>EAGC7.5</td>
<td>250</td>
</tr>
<tr>
<td>EAGC1</td>
<td>250</td>
<td>1</td>
<td>EAGC10</td>
<td>250</td>
</tr>
<tr>
<td>EAGC1.5</td>
<td>250</td>
<td>1.5</td>
<td>EAGC15</td>
<td>32</td>
</tr>
<tr>
<td>EAGC2.5</td>
<td>250</td>
<td>2.5</td>
<td>EAGC20</td>
<td>32</td>
</tr>
<tr>
<td>EAGC3</td>
<td>250</td>
<td>3</td>
<td>EAGC25</td>
<td>32</td>
</tr>
<tr>
<td>EAGC4</td>
<td>250</td>
<td>4.5</td>
<td>EAGC30</td>
<td>32</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**KLIXON® THERMAL CIRCUIT PROTECTORS**

<table>
<thead>
<tr>
<th>RATED Amps</th>
<th>PART NUMBER Style 1</th>
<th>PART NUMBER Style 2</th>
<th>PART NUMBER Style 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>EPTR-5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>EPTR-10</td>
<td>-</td>
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<tr>
<td>15</td>
<td>EPTR-15</td>
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<td>-</td>
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<tr>
<td>20</td>
<td>EPTR-20</td>
<td>-</td>
<td>-</td>
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<tr>
<td>25</td>
<td>EPTR-25</td>
<td>-</td>
<td>-</td>
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<tr>
<td>30</td>
<td>EPTR-30</td>
<td>-</td>
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<tr>
<td>40</td>
<td>EPTR-40</td>
<td>-</td>
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</tr>
<tr>
<td>50</td>
<td>-</td>
<td>EPTR-50</td>
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<tr>
<td>60</td>
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<td>EPTR-60</td>
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<tr>
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<td>EPTR-70</td>
</tr>
<tr>
<td>80</td>
<td>-</td>
<td>-</td>
<td>EPTR-80</td>
</tr>
<tr>
<td>90</td>
<td>-</td>
<td>-</td>
<td>EPTR-90</td>
</tr>
<tr>
<td>105</td>
<td>-</td>
<td>-</td>
<td>EPTR-105</td>
</tr>
<tr>
<td>120</td>
<td>-</td>
<td>-</td>
<td>EPTR-120</td>
</tr>
<tr>
<td>150</td>
<td>-</td>
<td>-</td>
<td>EPTR-150</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**BRASS FUSE BLOCKS WITH INDEPENDENT BUS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NO. OF CIRCUITS</th>
<th>MAX VOLTS</th>
<th>MAX AMPS PER CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB22-4IB</td>
<td>4</td>
<td>32V DC</td>
<td>25 A</td>
</tr>
<tr>
<td>EFB22-6IB</td>
<td>6</td>
<td>32V DC</td>
<td>35 A</td>
</tr>
<tr>
<td>EFB22-8IB</td>
<td>8</td>
<td>32V DC</td>
<td>50 A</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

**AGC FUSE HOLDERS**

| P/N: EFH-WP | Water-resistant, accepts 18 through 12 AWG, 30 AMP maximum, one piece construction. |

| P/N: EFH-PMKT | Panel mount “knob-type” recommended panel cutout 0.355 diameter, terminals 0.250 quick connects. |

| P/N: EFH-KT | In-line, spring loaded, “knob-type” with wire included. |

**AGC FUSES, FUSE BLOCKS & HOLDERS**

**TERMINALS & MOUNTING MATERIALS**

**WIRE & CABLE**
**Breakers & Fuses**

**ATO/ATC FUSES, BLOCKS & HOLDERS**

<table>
<thead>
<tr>
<th>ATO/ATC TYPE FUSES</th>
<th>PART NUMBER</th>
<th>CIRCUITS</th>
<th>MAX VOLTS</th>
<th>MAX AMPS</th>
<th>RATED AMPS</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EATC1</td>
<td>1</td>
<td>2</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>10</td>
<td>RED</td>
</tr>
<tr>
<td>EATC2</td>
<td>2</td>
<td>4</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>15</td>
<td>LT. BLU</td>
</tr>
<tr>
<td>EATC3</td>
<td>3</td>
<td>6</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>20</td>
<td>YELLO</td>
</tr>
<tr>
<td>EATC4</td>
<td>5</td>
<td>12</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>25</td>
<td>NATU</td>
</tr>
<tr>
<td>EATC5</td>
<td>6</td>
<td>24</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>30</td>
<td>LT. GREEN</td>
</tr>
<tr>
<td>EATC5S</td>
<td>7</td>
<td>5</td>
<td>32V DC</td>
<td>30 AMPS</td>
<td>40</td>
<td>AMBER</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order in multiples of 5.

**Features:**
- Delivers fast-acting protection for electronics and other small loads
- Standard 1/4" blade-type automotive fuses
- Tin-plated connector blades for corrosion resistance
- *Welds or exceeds OEM and SAE standards

Introduced in the late 70's, ATO blade fuses are widely used by automotive OEMs. Clear, easy to read amp legend and color coding make for easy identification.

**BLUE SEA ST BLADE FUSE BLOCK - 6 or 12 CIRCUITS WITH NEGATIVE BUS AND COVER**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>CIRCUITS</th>
<th>SPACE STORAGE</th>
<th>MAX VOLTS</th>
<th>MAX AMPS PER CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB30-5025</td>
<td>6</td>
<td>2</td>
<td>32V DC</td>
<td>30 AMPS (100 AMP Max per Block)</td>
</tr>
<tr>
<td>EFB30-5026</td>
<td>12</td>
<td>2</td>
<td>32V DC</td>
<td>30 AMPS (100 AMP Max per Block)</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece.

**Features:**
- Positive distribution bus with #10-32 stud
- Cover satisfies ABYC/USCG requirements for insulation
- Cover incorporates an easy to open push button latch providing easy access to fuses, storage for two spare fuses, and label recesses
- Tin-plated copper buses and fuse clips
- Accepts ATO® and ATC® fast acting blade fuses

**MAXI FUSE BLOCK WITH COMMON HOT FEED AND INDEPENDENT NEGATIVE BUS FUSE BLOCKS**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>CIRCUITS</th>
<th>MAX VOLTS</th>
<th>MAX AMPS PER CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB30-4ATC</td>
<td>4</td>
<td>24V</td>
<td>30 AMPS (160 AMP Max)</td>
</tr>
<tr>
<td>EFB30-6ATC</td>
<td>6</td>
<td>24V</td>
<td>30 AMPS (160 AMP Max)</td>
</tr>
<tr>
<td>EFB30-10ATC</td>
<td>10</td>
<td>24V</td>
<td>30 AMPS (160 AMP Max)</td>
</tr>
<tr>
<td>EFB30-14ATC</td>
<td>14</td>
<td>24V</td>
<td>30 AMPS (160 AMP Max)</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece.

**Features:**
- For ATO/ATC fuse and circuit breakers, various sizes will snap together
- Fuses/breaker contacts are tin plated & recessed for safety
- Recessed area in the center accepts a label
- Electrical ratings: 30 AMPS maximum per circuit at 12V to 24V DC 160 AMPS maximum total for the block at 12V DC
- Black thermoplastic block. Blade terminals are .25" wide (6.4 mm). Stud terminal is 10-32.

**ATO/ATC FUSE HOLDERS**

**Ordering Information:** Order by the piece.

**Features:**
- Tin-plated connector blades for corrosion resistance
- Ring terminal screws compress fuse blades within blocks for extremely low resistance connections
- Maximum Amperage: 300 AMPS
- Maximum Voltage: 58V DC
- Terminal Stud: M8 (5/16”)
- Weight: 0.14 lb (0.07 kg)
- Space-saving ignition protected fuse for 30 to 300 AMP loads. Must use with Terminal Fuse Block
- High interrupt rating 10000 AMPs @ 12V DC, 5000 AMPs @ 32V DC, 2000 AMPs @ 58V DC satisfies ATC requirements for DC main circuit protection on large battery banks
- Clear window—visual indication of blown condition, use for main or auxiliary circuits.

**MARINE RATED BATTERY FUSES**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
<th>COLOR</th>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBRBF00</td>
<td>30</td>
<td>RED</td>
<td>EMBRBF175</td>
<td>175</td>
<td>RED</td>
</tr>
<tr>
<td>EMBRBF00</td>
<td>40</td>
<td>ORANGE</td>
<td>EMBRBF225</td>
<td>225</td>
<td>ORANGE</td>
</tr>
<tr>
<td>EMBRBF00</td>
<td>50</td>
<td>BLACK</td>
<td>EMBRBF250</td>
<td>250</td>
<td>BLACK</td>
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<tr>
<td>EMBRBF00</td>
<td>60</td>
<td>GREEN</td>
<td>EMBRBF300</td>
<td>300</td>
<td>GREEN</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece.

**Features:**
- Maximum Ampere: 300 AMPS
- Maximum Voltage: 58V DC
- Terminal Stud: M8 (5/16”)

**MRB TERMINAL FUSE BLOCK**

**Features:**
- New isolated stud design uses standard M8 (5/16”) hardware
- Compact, high-amp fuse—appropriate for DC Main, inverter, windlass, and bow throttle circuit protection
- Provides high current protection in tight space constraints
- Insulating cap prevents accidental shorts

**Ordering Information:** Order by the piece.

**Note:** Fuses are NOT included when purchasing the MRBF Terminal Fuse Block.

---

**Delphi**

**EFB-MRBF1**

**EFB-MRBF2**

---

**Maxi Blade-Type Fuses**

**Ordering Information:** Order by the piece.

**Features:**
- The most economical fuse block for 30-80 Ampere fusing Maxi fuse holder and cover include
- Snap-on terminal cover insulates all conductive parts, satisfying ABYC/USCG requirements
- Accepts wire sizes 18-4 AWG from sides or bottom
- Ring terminal screws compress fuse blades within blocks for extremely low resistance connections

**Maxi Fuse Holder**

**Ordering Information:** Order by the piece.

**Features:**
- Maxi fuse holder & cover provides an efficient installation method for Maxi fuses

---

**Blue Sea**

**EFP-MFH**

**EPH-5006**

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**Breakers & Fuses**

**ATO/ATC FUSES & MAXI RATED BATTERY FUSES**

---

**Wire & Cable**

**Multi-conductor**

**Coax Cables**

**Network Cables**

**Heat Shrink**

**Routing & Bundling Materials**

**Cable Ties**

**Terminals**

** Deutsch & Delphi**

**Light & Boots**

**ID Products & Labelers**

**Tools**

**Breakers & Fuses**

**Terminal Blocks & Bus Bars**

**Switches & Actuators**

**Lights & Meters**
**WIRE & CABLE**

**MULTI-CONDUCTOR**

**COAX CABLES**

**NETWORK CABLES**

**HEAT SHRINK**

**ROUTING & BUNDLING MATERIALS**

**CABLE TIES**

**TERMINALS**

**DEUTSCH & DELPHI**

**LUGS & BOOTS**

**ID PRODUCTS & LABELERS**

**TOOLS**

**BREAKERS & FUSES**

**TERMINAL BLOCKS & BUS BARS**

**SWITCHES & ACTUATORS**

**LIGHTS & METERS**

---

**Breakers & Fuses**

**ANL FUSES & HOLDERS**

---

**LIMITER ANL LOW VOLTAGE, NON-TIME-DELAY FUSE**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
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<tbody>
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<td>EANL35</td>
<td>35</td>
<td>EANL130</td>
<td>130</td>
<td>EANL275</td>
<td>275</td>
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<tr>
<td>EANL40</td>
<td>40</td>
<td>EANL150</td>
<td>150</td>
<td>EANL300</td>
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<td>50</td>
<td>EANL175</td>
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<td>EANL350</td>
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</tr>
<tr>
<td>EANL60</td>
<td>60</td>
<td>EANL200</td>
<td>200</td>
<td>EANL400</td>
<td>400</td>
</tr>
<tr>
<td>EANL80</td>
<td>80</td>
<td>EANL225</td>
<td>225</td>
<td>EANL500</td>
<td>500</td>
</tr>
<tr>
<td>EANL100</td>
<td>100</td>
<td>EANL250</td>
<td>250</td>
<td>EANL600</td>
<td>600</td>
</tr>
</tbody>
</table>

**ANL FUSE BLOCKS**

**EFB-ANL**
- ANN & ANL fuse block with lock nuts
- High-strength thermoplastic base
- Two countersunk mounting holes on 1" centers for #10 flat head screws
- 400 AMP max, 80 volts DC, 125 volts AC
- Bolt down fuses are vibration resistant and ideal for heavy equipment application

**EFB-ANL-LT**
- Cover included
- Accepts 5/16" (M8) ring terminals
- Rated 35 - 300 AMPS, for use on systems up to 32 Volts DC
- Swing out design allows replacement of the fuse without removing fasteners
- Stainless steel studs provide resistance to corrosion and high torquing for excellent electrical contact
- UL 94-V0 base resists high heat
- Insert molded studs ensure secure fuse mounting
- Insulating cover satisfies ABYC/USCG requirements
- Cover breakouts allow wire access in any direction

**EFB-ANL-HD**
- Cover included
- Accepts 5/16" (M8) ring terminals
- Rated 35 - 750 AMPS, for use on systems up to 32 Volts DC
- Swing out design allows replacement of the fuse without removing fasteners
- Stainless steel studs provide resistance to corrosion and high torquing for excellent electrical contact
- UL 94-V0 base resists high heat
- Insert molded studs ensure secure fuse mounting
- Insulating cover satisfies ABYC/USCG requirements
- Cover breakouts allow wire access in any direction

---

**Breakers & Fuses**

**CLASS T FUSES & HOLDERS**

**CLASS T FUSES**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>RATED AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETF-225</td>
<td>225</td>
</tr>
<tr>
<td>ETF-250</td>
<td>250</td>
</tr>
<tr>
<td>ETF-300</td>
<td>300</td>
</tr>
<tr>
<td>ETF-350</td>
<td>350</td>
</tr>
<tr>
<td>ETF-400</td>
<td>400</td>
</tr>
</tbody>
</table>

**CLASS T FUSE BLOCK WITH INSULATING COVER**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>MAX AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBF-T</td>
<td>The fuse system recommended by most inverter manufacturers for high speed response to short circuits</td>
<td>400 AMPS</td>
</tr>
</tbody>
</table>
- Clear insulated cover, satisfies ABYC/USCG requirements
- For use on systems up to 160 Volts DC
- 3/8"-16 stud terminals accept ring terminals for wire up to 4/0 AWG
- Large heat dissipating tin-plated copper mounting blocks
- Two # 8 accessory terminals located on each end

---

**Ordering Information:**
- Order the piece.
- Packaged in boxes of 24.

---

**FEATURES:**
- Extremely fast short-circuit response
- 20,000 AMP interrupt capacity (AIC)
- UL rated for DC applications under UL 198L

**COMPLIANCES:**
- UL 248-15
- UL rated for DC applications under UL 198L
## Terminal Blocks & Bus Bars

### Terminal Blocks

**E20TB2**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>E20TB2</th>
<th>E20TB2</th>
<th>E20TB2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of Positions</strong></td>
<td>20 AMP</td>
<td>30 AMP</td>
<td>50 AMP*</td>
</tr>
<tr>
<td><strong>Rated Volts</strong></td>
<td>300V</td>
<td>300V</td>
<td>600V</td>
</tr>
<tr>
<td><strong>Wire Range</strong></td>
<td>16-14 AWG</td>
<td>8-22 x 3/8&quot;</td>
<td>22 x 3/8&quot;</td>
</tr>
<tr>
<td><strong>Screw Type</strong></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>1.12 x 0.53 x 0.75</td>
<td>1.31 x 0.71 x 0.94</td>
<td>1.81 x 0.75 x 1.06</td>
</tr>
</tbody>
</table>

### Terminal Jumper Block Jumper-Used to combine circuits on a terminal block

- **E20TBJ2**: 20 AMP JUMPER
- **E20TB2**: 30 AMP JUMPER
- **E20TBJ5**: 50 AMP JUMPER
- **E20TB5**: PACKAGE SIZE

**Ordering Information:** Order by the piece. *Open back design.

### European Terminal Blocks

**E20TB2**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>13 AMP</th>
<th>44 AMP MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of Positions</strong></td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Rated Volts</strong></td>
<td>300V</td>
<td>600V</td>
</tr>
<tr>
<td><strong>Wire Range</strong></td>
<td>14 AWG</td>
<td>8 AWG</td>
</tr>
<tr>
<td><strong>Screw Type</strong></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>1.12 x 0.53 x 0.75</td>
<td>1.31 x 0.71 x 0.94</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece. *Closed back design.

## Terminal Blocks & Bus Bars

### Power Posts & Feed Through Connectors

**ESB1-1/4B**

| Part Number | 1/4" Power Post
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong></td>
<td>1/4&quot;</td>
</tr>
</tbody>
</table>

**ESB1-3/8B**

| Part Number | 3/8" Power Post
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong></td>
<td>3/8&quot;</td>
</tr>
</tbody>
</table>

**ESB1-5/16B**

| Part Number | 5/16" Power Post
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong></td>
<td>5/16&quot;</td>
</tr>
</tbody>
</table>

### Power Post Plus

- **ESB1-1/4B**
- **ESB1-3/8B**
- **ESB1-5/16B**

**Ordering Information:** Order by the piece.

- **Max Voltage:** 48V DC
- **Recommended Torque:** 100 in-lb (11.3 N-m)
- **Rated IP66 - withstands heavy seas water

## Terminal Blocks & Bus Bars

### Power Post Plus

**EFC1-5/16R**

| Part Number | 5/16" Mini Power Post
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max. Voltage</strong></td>
<td>48V DC</td>
</tr>
</tbody>
</table>

**EFC1-3/8B**

| Part Number | 3/8" Mini Power Post
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max. Voltage</strong></td>
<td>48V DC</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece. *Not Rated - Amperage flow is between terminals stacked on the post and is dependent on the wire and terminals used.

###词语纠错

- **CONDUCTOR & LABELERS**
- **ACTUATORS**
- **DEUTSCH & TERMINALS**
- **ROUTING & BUS BARS**
- **TERMINAL BLOCKS**
- **BUNDLING**
- **SHRINK**
- **HEAT**
- **CABLES**
- **ID PRODUCTS & LABELERS**
- **TOOL**
- **BREAKERS & FUSES**
- **SWITCHES & ACTUATORS**
- **LIGHTS & METERS**
Terminal Blocks & Bus Bars

### POWER POSTS & MINI BUS BARS

#### DUAL POWER POST

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>BOOTS INCLUDED</th>
<th>CURRENT RATING</th>
<th>STUD TYPE</th>
<th>CONFIGURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDB2-5/16</td>
<td>(1) BLACK, (1) RED</td>
<td>N/A</td>
<td>5/16”</td>
<td>Dual Power Post</td>
</tr>
<tr>
<td>EDB2-3/8</td>
<td>(1) BLACK, (1) RED</td>
<td>N/A</td>
<td>3/8”</td>
<td>Dual Power Post</td>
</tr>
</tbody>
</table>

*Not Rated - Amperage flow is between terminals stacked on the post and is dependent on the wire and terminals used.

**Ordering Information:** Order by the piece.

**FEATURES:**
- Designed for connecting high amp conductors
- Includes one black and one red insulator
- Tin plated brass bus
- 48V DC

Provides a termination point for extending the length of outboard harnesses or other conductors.

#### DUAL POWER BUS BAR

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>BOOTS INCLUDED</th>
<th>CURRENT RATING</th>
<th>STUD TYPE</th>
<th>CONFIGURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPB2</td>
<td>(2) RED</td>
<td>N/A</td>
<td>3/8”</td>
<td>Dual Stud Bus Bar</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece.

**FEATURES:**
- Provides compact high-ampere busing with 3/8-16 terminal studs
- Designed for connecting high amp conductors
- Includes two red insulators
- 48V DC Max

#### 100 AMP MINI BUS BARS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>AMPS</th>
<th>CONFIGURATION</th>
<th>COVER</th>
<th>PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMB0-6</td>
<td>100</td>
<td>Non-Insulated Grounding Bar with (6) #8-32 Screws</td>
<td>N/A</td>
<td>EMB0-6C</td>
</tr>
<tr>
<td>EMB2-5</td>
<td>100</td>
<td>Common Bus Bar with (2) #10-32 Studs &amp; (5) #8-32 Screws</td>
<td>N/A</td>
<td>EMB2-5C</td>
</tr>
<tr>
<td>EMBH4</td>
<td>100</td>
<td>Common Bus Bar with (4) #10-32 Studs</td>
<td>EMBC</td>
<td>EMBHC</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece.

**FEATURES:**
- Great for limited space applications
- 100 AMP continuous rating
- 48V DC Max
- 300V AC Max (EMB2-5 & EMBH4 only)
- Bus Material: Tin-plated copper CDA 110/UNS11000

#### 150 AMP COMMON BUS BAR COVER

**Sold Separately**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>AMPS</th>
<th>CONFIGURATION</th>
<th>COVER</th>
<th>PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBB2-10</td>
<td>150</td>
<td>Common bus bar with (10) #8-32 screws</td>
<td>EBB2-10C</td>
<td>EBB2-10C</td>
</tr>
<tr>
<td>EBB2-20</td>
<td>150</td>
<td>Common bus bar with (20) #8-32 screws</td>
<td>EBB2-20C</td>
<td>EBB2-20C</td>
</tr>
<tr>
<td>EBB4</td>
<td>150</td>
<td>Common bus bar with (4) 1/4” studs</td>
<td>EBB4</td>
<td>EBB4</td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece. Bus bars and covers are sold separately.

**FEATURES:**
- Industry standard 150 AMP continuous rating
- 48V DC Max
- 300V AC Max
- Bus Material: Tin-plated copper CDA 110/UNS11000
- Base Material: Reinforced polycarbonate
- Lock washers and nuts included on studs
Terminal Blocks & Bus Bars
MAXI BUS BARS & POWER BUS BARS

250 AMPS MAXI BUS BARS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>AMPS</th>
<th>DESCRIPTION</th>
<th>COVER PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMXB2-12</td>
<td>250</td>
<td></td>
<td>EMXBCi</td>
</tr>
<tr>
<td>EMXB4</td>
<td>250</td>
<td></td>
<td>EMXBC4</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

FEATURES:
- 250A continuous rating 
- 48V DC Max 
- 300V AC Max 
- Bus Material: Tin-plated copper CDA 110/UNS11000
- UL 94-V0 rated base material resists high heat
- Raised bus provides easy access to multiple wires on a single screw or stud
- Four #8-32 screws located at the end of the bus allows for easy small gauge wire connections.

600 AMPS POWER BUS BARS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>AMPS</th>
<th>DESCRIPTION</th>
<th>COVER PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPB8-4</td>
<td>600</td>
<td></td>
<td>EPB8-4C</td>
</tr>
<tr>
<td>EPB4-4</td>
<td>600</td>
<td></td>
<td>EPB4-4C</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

FEATURES:
- 600A DC - 545A AC continuous rating 
- 48V DC Max 
- 300V AC Max 
- Bus Material: Tin-plated copper CDA 110/UNS11000
- UL 94-V0 rated base material resists high heat
- Raised bus provides easy access to multiple wires on a single screw or stud
- Four #8-32 screws located at the end of the bus allows for easy small gauge wire connections.

Sealed bus bars are constructed from tinned plate CDA110 copper with a reinforced polycarbonate base. Lugs can be stacked and (4) #8-32 screws allow for easy connection of smaller conductors.

Switches & Actuators
CONTURA SWITCHES

SINGLE POLE SWITCHES

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SWITCH FUNCTION</th>
<th>LAMPS / VOLTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES-VDA</td>
<td>ON - OFF</td>
<td>1 DEP / 12-V</td>
<td>S.P.D.T.</td>
</tr>
<tr>
<td>ES-VDA</td>
<td>ON - ON</td>
<td>2 DEP / 12-V</td>
<td>S.P.D.T.</td>
</tr>
<tr>
<td>ES-VDA</td>
<td>ON - OFF - ON</td>
<td>2 DEP / 12-V</td>
<td>S.P.D.T. Center Off</td>
</tr>
</tbody>
</table>

DOUBLE POLE SWITCHES

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SWITCH FUNCTION*</th>
<th>LAMPS / VOLTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES-VDA</td>
<td>ON - OFF - ON</td>
<td>2 DEP / 12-V</td>
<td>D.P.D.T.</td>
</tr>
<tr>
<td>ES-VDA</td>
<td>ON - OFF - OFF</td>
<td>2 DEP / 12-V</td>
<td>D.P.D.T. Center Off</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece. 
*For more available options, contact a Pacer Group expert today. Actuators sold separately.

Multiple illumination options
- Multiple lens styles
- Multi-color LED options
- Recessed or surface mount options

Breaker + Fusible Devices

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPB4-4C</td>
<td>Panel Seals</td>
</tr>
<tr>
<td>EPB8-4C</td>
<td>Actuator Removal Tool</td>
</tr>
</tbody>
</table>

Ordering Information: Order by the piece.

The V-Series CONTURA with sealed front panel components are certified to IP66 and IP68, signifying complete protection against dust, prolonged spray and submersion under pressure. Contura switches are recognized at UL1500 - Ignition Protection for Marine Products.

Sealed bus bars finish the electrical system with a corrosion resistant design that is not prone to loose screws. Quick installation takes less than 10% of the time of a traditional bus bar.
**Actuator Ordering Information:**

Build the part numbers. Select (A) Body Style, (B) Number of Lenses, (C) Lens Color, (D) Actuator Color, (E) Part Number Extension. For Printed Actuators see available ISO symbols on pages 77-79.

### (A) Body Style

| Contura II ES | 1 | Red | BL | WA | ACC |
| Contura III EC | 1 | Blue | BL | WA | RA |
| Contura V EV | 2 | White | WL | WA |

### (B) Number of Lenses (for no lens leave blank)

<table>
<thead>
<tr>
<th>Body Style</th>
<th>No. of Lenses</th>
<th>Lens Color (if not red)</th>
<th>Actuator Color (if not black)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>1</td>
<td>BL (Red)</td>
<td>-</td>
</tr>
<tr>
<td>EC</td>
<td>1</td>
<td>BL, Blue</td>
<td>BL (Red)</td>
</tr>
<tr>
<td>EV</td>
<td>2</td>
<td>WA, White</td>
<td>WA (White)</td>
</tr>
</tbody>
</table>

### (C) Lens Color (for red lens or no lens leave blank)

<table>
<thead>
<tr>
<th>Lens Color</th>
<th>(A) Body Style</th>
<th>(B) Number of Lenses</th>
<th>(C) Lens Color</th>
<th>(D) Actuator Color</th>
<th>(E) Part Number Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>ES</td>
<td>1</td>
<td>Red</td>
<td>Black</td>
<td>BLANK</td>
</tr>
<tr>
<td>Blue</td>
<td>EC</td>
<td>1</td>
<td>Blue</td>
<td>BL</td>
<td>BLANK</td>
</tr>
<tr>
<td>White</td>
<td>EV</td>
<td>2</td>
<td>White</td>
<td>BL</td>
<td>BLANK</td>
</tr>
</tbody>
</table>

**Examples of Common Actuators:**

- **ES1BLWA-ACC**
- **ES1BA-HRN**
- **EC-BLANK**
- **EC1WA-ACC1**
- **EV2WL-NAVANC**
- **EV-CRPT**

**Features:**

- **Contura II (ES):** Styling consists of raised bumps or finger traction
- **Contura III (EC):** Styling consists of three rows of bars on top and bottom
- **Contura V (EV):** Styling consists of a symmetrically curved design

Contura actuators are designed of thermoplastic polycarbonate with a hard nylon overlay. All three body styles are removable and interchangeable on V-Series Contura Switches. Available non-illuminated or with a single or double lens. Over 100 ISO symbols are available for print on any switch cover.

---

**Switches & Actuators ACTUATOR SYMBOLS**

### ISO Print

<table>
<thead>
<tr>
<th>PART NUMBER EXTENSION</th>
<th>A2LG</th>
<th>ACC</th>
<th>ACC1</th>
<th>ACC2</th>
<th>ACC1T</th>
<th>ANC</th>
<th>ARCH</th>
<th>ARTR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information:** Order by the piece. See Page 76 for details.
### Switches & Actuators

#### ACTUATOR SYMBOLS

<table>
<thead>
<tr>
<th>PART NUMBER EXTENSION</th>
<th>GLY</th>
<th>HHR</th>
<th>HTC</th>
<th>HTP</th>
<th>INT</th>
<th>JPT</th>
<th>LT</th>
<th>LWVL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO PRINT</td>
<td>GALLEY</td>
<td>HORN</td>
<td>PATCH</td>
<td>HARDTOP</td>
<td>INTERIOR</td>
<td>JACK PLATE</td>
<td>LIGHT</td>
<td>LIVEWELL</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>LWVL</th>
<th>LWRO</th>
<th>LZTT</th>
<th>MAC</th>
<th>LAP</th>
<th>MFG</th>
<th>MCM</th>
<th>MFUELA</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVEWELL</td>
<td>LIGHT</td>
<td>LIVEWELL</td>
<td>RECIRC</td>
<td>LAZARETT</td>
<td>MAGNETOR</td>
<td>LAP</td>
<td>MID</td>
<td>BLUESPACE</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>NAV</th>
<th>NAVANC</th>
<th>OC</th>
<th>OC</th>
<th>OH</th>
<th>OIL</th>
<th>PSLG</th>
<th>PENG</th>
<th>PFBK</th>
<th>PFBKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAVIGATION</td>
<td>NAVANC</td>
<td>OPEN</td>
<td>CLOSE</td>
<td>OPEN</td>
<td>CLOSE</td>
<td>OVER</td>
<td>HEAD</td>
<td>LIGHTS</td>
<td>PORT</td>
<td>BISLE</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>PFUELS</th>
<th>PMAC</th>
<th>PNL</th>
<th>PPWR</th>
<th>PSTP</th>
<th>PTRM</th>
<th>PVNT</th>
<th>PWPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORT FUEL</td>
<td>STRIP</td>
<td>PORT</td>
<td>MACRATOR</td>
<td>PORT</td>
<td>ENG</td>
<td>POWER</td>
<td>PORT</td>
<td>STOP</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>PWSTR</th>
<th>RAE</th>
<th>RCP</th>
<th>RDR</th>
<th>SALT</th>
<th>SBLG</th>
<th>SENL</th>
<th>STBK</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWSTR</td>
<td>PORT</td>
<td>RAIN</td>
<td>WATER</td>
<td>RAC</td>
<td>RADAR</td>
<td>SALT</td>
<td>WATER</td>
<td>STBD</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>SLN</th>
<th>SMC</th>
<th>SPD</th>
<th>SPT</th>
<th>SWPR</th>
<th>STTP</th>
<th>STR</th>
<th>STRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAIL</td>
<td>LIGHTS</td>
<td>SAIL</td>
<td>MAST</td>
<td>WINDSPRERL</td>
<td>LIGHTS</td>
<td>SPOT</td>
<td>STR</td>
<td>RING</td>
</tr>
</tbody>
</table>

#### PART NUMBER EXTENSION

<table>
<thead>
<tr>
<th>ISO PRINT</th>
<th>SLN</th>
<th>SMC</th>
<th>SPD</th>
<th>SPT</th>
<th>SWPR</th>
<th>STTP</th>
<th>STR</th>
<th>STRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAIL</td>
<td>LIGHTS</td>
<td>SAIL</td>
<td>MAST</td>
<td>WINDSPRERL</td>
<td>LIGHTS</td>
<td>SPOT</td>
<td>STR</td>
<td>RING</td>
</tr>
</tbody>
</table>

### Ordering Information:

Ordering Information: Order by the piece. See Page 76 for details.
CONTURA SWITCH PANEL BLanks

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>POSITIONS</th>
<th>ROWS</th>
<th>WIDTH (Inches)</th>
<th>HEIGHT (Inches)</th>
<th>AVAILABLE COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC-11</td>
<td>1</td>
<td>1</td>
<td>1.750</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-21</td>
<td>2</td>
<td>1</td>
<td>3.000</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-22</td>
<td>4</td>
<td>2</td>
<td>3.000</td>
<td>4.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-31</td>
<td>3</td>
<td>1</td>
<td>4.250</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-41</td>
<td>4</td>
<td>1</td>
<td>5.500</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-61</td>
<td>6</td>
<td>1</td>
<td>8.000</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSC-81</td>
<td>8</td>
<td>1</td>
<td>10.500</td>
<td>2.750</td>
<td>BK, WH</td>
</tr>
</tbody>
</table>

Ordering Information: **Combine part numbers with color.**
Example: PSC-11 in Black + PSC-11-BK. Order by the piece.

FEATURES: *Cut from .060 thick 5052 H32 marine grade aluminum alloy  
  *Powder coated on all sides for maximum durability  
  *Powder coat colors are textured black or smooth gloss white

CONTURA SWITCH AND BREAKER PANEL BLanks

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>POSITIONS</th>
<th>ROWS</th>
<th>WIDTH (Inches)</th>
<th>HEIGHT (Inches)</th>
<th>AVAILABLE COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSBC-11</td>
<td>1</td>
<td>1</td>
<td>1.750</td>
<td>4.250</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSBC-21</td>
<td>2</td>
<td>1</td>
<td>3.000</td>
<td>4.250</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSBC-41</td>
<td>4</td>
<td>1</td>
<td>4.250</td>
<td>4.250</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSBC-61</td>
<td>6</td>
<td>1</td>
<td>8.000</td>
<td>4.250</td>
<td>BK, WH</td>
</tr>
<tr>
<td>PSBC-81</td>
<td>8</td>
<td>1</td>
<td>10.500</td>
<td>4.250</td>
<td>BK, WH</td>
</tr>
</tbody>
</table>

Ordering Information: **Order by the piece.**

FEATURES: *Cutouts fit standard Contura switches  
  *See page 75 for selection  
  *Cutouts for standard 3/8 push to reset breakers. See page 62 for selection  
  *Choose from 658 on 45 series  
  *Choose black or clear boots. See page 81

A-FRAME BREAKER PANEL BLanks

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>A-FRAME POSITIONS</th>
<th>WIDTH (Inches)</th>
<th>HEIGHT (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-BRK-1</td>
<td>1</td>
<td>3.500</td>
<td>3.500</td>
</tr>
<tr>
<td>EP-BRK-2</td>
<td>2</td>
<td>3.500</td>
<td>3.500</td>
</tr>
<tr>
<td>EP-BRK-3</td>
<td>3</td>
<td>5.375</td>
<td>6.000</td>
</tr>
<tr>
<td>EP-BRK-4</td>
<td>4</td>
<td>5.375</td>
<td>6.000</td>
</tr>
</tbody>
</table>

Ordering Information: **Order by the piece.**

FEATURES: *Made from durable 3/16 black Lexan  
  *Cutouts fit standard A-frame breakers. See page 60  
  *Uses screw EGF-6-32-375 to mount breakers to panel Sold separately. See page 63

Terminals & Connectors

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>HEIGHT (Inches)</th>
<th>THREAD (Inches)</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES-BOOT</td>
<td>15/16</td>
<td>15/32</td>
<td>Black</td>
</tr>
<tr>
<td>ES-BOOT-W</td>
<td>15/16</td>
<td>15/32</td>
<td>White</td>
</tr>
</tbody>
</table>

Ordering Information: **Order by the piece.**

SATISFACTION GUARANTEED
See page 51 for typical uses of switches on boats.
Switches & Actuators

**E-SERIES & HD-SERIES BATTERY SWITCHES**

**M-SERIES & E-SERIES BATTERY SWITCHES**

**CONDUCTOR**

**SWITCHES & ACTUATORS**

**DEUTSCH & TERMINALS**

**MATERIALS**

**ROUTING & BUNDLING**

**NETWORK CABLES**

**HEAT SHRINK**

**WIRE & CABLE**

**MULTI-CONDUCTOR**

**COAX CABLES**

**CABLE TIES**

**ID PRODUCTS & LABELERS**

**TOOLS**

**BREAKERS & FUSES**

**TERMINAL BLOCKS & BUS BARS**

**SWITCHES & ACTUATORS**

**LIGHTS & METERS**

---

**M-SERIES MINI BATTERY SWITCHES**

300 Amps continuous, 450 Amps per circuit (5 min.) intermittent rating, Crank rating (30 sec.) 675 Amps per circuit.

**M-SERIES MINI DUAL CIRCUIT BATTERY SWITCHES**

Switches two isolated battery banks to all loads or combines battery banks to all loads.

**E-SERIES FEATURES:**

- 1200 Amps (5 min) intermittent rating
- Crank rating (30 sec.) 1650 Amps per circuit

**CASE DESIGN:** Allows surface, rear, or front panel mounting options.

**TACTILE INDICATOR:** Conveys knob position by feel.

**IP 66:** Dust and water proof.

**SAE J1171:** Marine

**ABYC E-11:** Marine

---

**E-SERIES DUAL CIRCUIT PLUS BATTERY SWITCH**

550 Amps continuous, 825 Amps (5 min.) intermittent rating, Crank rating (30 sec.) 700 Amps per circuit.

---

**E-SERIES & HD-SERIES BATTERY SWITCHES**

Up to 600 Amps continuous rating for large diesel engines.

**TIN-PLATED COPPER STUDS:** For maximum conductivity and corrosion resistance.

**SAE J1171:** Marine

**ABYC E-11:** Marine

---

**HD-SERIES COMPLIANCES:**

- UL 1107, UL 1500
- CE
- IP 66
- ISO 8846 Marine
- SAE J1171 Marine
- ABYC E-11

---

Blue Sea Systems compact high-amperage switches are vapor/ignition protected and UL Listed. The M-Series are 300 Amps continuous rating for outboards and small gasoline or diesel engines.

**E-SERIES FEATURES:**

- 300 Amps continuous rating for outboards and small gasoline or diesel engines
- Studs accept 1/2" (M12) ring terminals
- Studs accept multiple cable terminals
- Mounting holes: #10 screw
- Blue Sea Systems one-piece terminal stud does not loosen over time
- Case design allows surfaces, rear, or front panel mounting options
- Selector type switch with "make before break" contact design allows switching between battery banks without power interruption
- Single Circuit - ON-OFF
- Selectors 4 Position

---

**E-SERIES BATTERY SWITCHES**

350 Amps continuous, 525 Amps (5 min.) intermittent rating, Crank rating (30 sec.) 560 Amps per circuit.

**E-SERIES MINI DUAL CIRCUIT BATTERY SWITCHES**

900 Amps (5 min) intermittent rating

**HD-SERIES MINI DUAL CIRCUIT BATTERY SWITCHES**

1200 Amps (5 min) intermittent rating

**HD-SERIES BATTERY SWITCHES**

900 Amps (5 min) intermittent rating

**E-SERIES & HD-SERIES BATTERY SWITCHES**

900 Amps (5 min) intermittent rating

---

**ORDERING INFORMATION:**

- Order by the piece.
- Studs accept 1/2" (M12) ring terminals
- Studs accept multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- Case design allows surfaces, rear, or front panel mounting options
- Tactile indicator conveys knob position by feel

---

**HD-SERIES COMPLIANCES:**

- UL 1107, UL 1500
- CE
- IP 66
- ISO 8846 Marine
- SAE J1171 Marine
- ABYC E-11
**GUEST UNIVERSAL MOUNT BATTERY SWITCHES**

**EB2-2111**

- Universal Selector
- Universal ON-OFF
- Heavy-Duty Selector
- Heavy-Duty ON/OFF with AFD (Alternate Field Disconnect)

**EB2-2300A**

- Switches battery bank 1 or bank 2 to a single load using one switch (12V Max)
- Switches a single battery to a single load group (12V Max)

**EB2-2303A / EB2-2304A**

- Continuous AMPs: 230
- Momentary AMPs: 345
- Cable Lug Size: 3/8”
- Dimensions: 5.6” x 2.75”

**ORDERING INFORMATION:** Order by the piece.

**FEATURES:**

- New ergonomically styled turn knob provides easy On/Off switching
- Updated color scheme and graphics make it easier to determine switch status
- Longer stud lengths for improved assembly and easier cable routing
- Built with heavy-duty copper sweep contacts to ensure positive circuit control
- Rugged internal components protected by a tough, impact resistant polycarbonate housing that is impervious to the elements

*Positive click-stop on all positions*  
*Make before break* contacts allow selection of all positions except “Off” while engine is running

All Guest Battery Switches safely provide battery disconnect, isolate all circuits and conform to USCG safety standard 183.410 for ignition protection.

**SPECIFICATIONS**

- Interim AMPs: 210 Amps 210 Amps
- Continuous AMPs: 120 Amps DC 120 Amps DC
- (Combined) Ampereage Op. Current: 175 mA 115 mA
- (Open) Ampereage Op. Current: 15 mA 15 mA
- Maximum Cable Size: 1/0 AWG
- Terminal Stud Size: 3/8”-16 (M10)
- Maximum Terminal Size: 24/0 on “Off”, 20/0 rated
- Multipole: 2 or 3 Poles

**ORDERING INFORMATION:** Order by the piece.

**FEATURES:**

- Protects sensitive electronics by temporary isolation of house loads from engine circuit during engine cranking  
- Designed for 12 or 24 volt systems  
- *12/24 volt auto reverse voltage input*  
- *Hydraulically sealed contacts/vapor proof*  
- *Ignition protected—safe for installation aboard gasoline powered boats*  
- *Integrated coil control maximizes heat and ampere draw*  
- *450 Amp Class*  
- *Activated by a low ampere On-Off switch mounted anywhere*  
- *Designed for 12 or 24 volt systems*

**L-SERIES SOLENOID SWITCH with COIL ECONOMIZER 12/24V DC 250 AMPs**

**P/N: ESOL-9012**

- **COIL CIRCUIT**
  - Input Voltage: 9 - 36V DC Maximum
  - Power Consumption: 12 - 36V / 3.80A
  - - Inrush max: 130ms
  - - Holding: 24V / 0.07A

- **MAIN POWER CONTACTS**
  - Inrush Rating: 0.25 sec (10 repeats) 2,000A
  - Voltage Rating: 60V DC
  - Stud Terminal Size: 5/16” (1 mill)

**SPECIFICATIONS**

- Stud Terminal Size: 3/8”-16 (M10)
- Maximum Cable Size: 1/0 AWG
- Terminal Stud Size: 3/8”-16 (M10)
- Voltage Rating: 60V DC
- Inrush Rating: 0.25 sec (10 repeats) 2,000A
- Momentary AMPs: 600 450
- Continuous AMPs: 175 120
- (Open) AMPs: 15 15

**ORDERING INFORMATION:** Order by the piece.

**FEATURES:**

- Hermetically sealed contacts/vapor-proof
- Integrated coil control maximizes heat and ampere draw
- Meets: UL 1077, UL 1500, CE, IP67, ISO 8846, SAE J1171
- Designed for 12 or 24 volt systems

**MULTI-STEP “SHORE 1, SHORE 1 & 2, GEN”**

**P/N: MGSSA**

- Shore 1, Shore 1 & 2, Gen
- Input Voltage: 9 - 40V DC
- Power Consumption: 12 - 40V / 3.80A
- - Inrush max: 130ms
- - Holding: 24V / 0.07A

- **FUNCTIONS**
  - Under Voltage Lockout: 9.5V DC 19.0V DC
  - Combine ( 30 sec ) 12.75V DC 25.5V DC
  - ( 90 sec ) 13.0V DC 26.0V DC
  - Inrush Rating: 0.25 sec (10 repeats) 2,000A
  - Voltage Rating: 60V DC
  - Stud Terminal Size: 5/16” (1 mill)

**ORDERING INFORMATION:**

**FEATURES:**

- Activated by a low amperage On-Off switch mounted anywhere
- Designed for 12 or 24 volt systems

**SHORE-SAFE SYSTEMS EXPERTS**
**Switches & Actuators**

**BATTERY CHARGERS**

- **Features:**
  - Lead acid, Gel, AGM or new TPPL (Thin Plate Pure Lead) supported.
  - Rugged, finned aluminum case, universal line voltage 90-265V AC, 45/65 Hz.
  - Pre-Floating stage prevents overcharging.

**Ordering Information:**
- **Ordering Code:**
  - EBC-28210: 14 Snaps in spring clip
  - EBC-3613A: 28 Snaps in spring clip
  - EBC-3720A: 50 AMPS/50 MV

**Specifications:**
- **Maximum Output Current:**
  - 25 AMPS
  - 40 AMPS

**Dimensions:**
- 7.0” x 9.6” x 2.6”

---

**Lights & Meters**

**INDICATOR LIGHTS & DC ANALOG AMMETERS**

### E3L Series

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VOLTAGE RATING</th>
<th>MOUNTING METHOD</th>
<th>MOUNTING HOLE SIZE (INCHES)</th>
<th>COVERED PANEL DEPTH (INCHES)</th>
<th>PANEL THICKNESS (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3L-14*</td>
<td>14</td>
<td>Snap In / Spring Clip</td>
<td>5/16</td>
<td>1.430</td>
<td>0.030 Mm</td>
</tr>
<tr>
<td>E3L-28</td>
<td>28</td>
<td>Snap In / Spring Clip</td>
<td>5/16</td>
<td>1.430</td>
<td>0.030 Mm</td>
</tr>
<tr>
<td>E3L-125</td>
<td>125</td>
<td>Snaps in spring clip</td>
<td>5/16</td>
<td>1.430</td>
<td>0.030 Mm</td>
</tr>
<tr>
<td>E3S-14</td>
<td>14</td>
<td>Self-Locking Ears</td>
<td>1/2</td>
<td>1.090</td>
<td>0.030 to 0.093</td>
</tr>
<tr>
<td>E3S-28</td>
<td>28</td>
<td>Self-Locking Ears</td>
<td>1/2</td>
<td>1.090</td>
<td>0.030 to 0.093</td>
</tr>
<tr>
<td>E3S-125</td>
<td>125</td>
<td>Self-Locking Ears</td>
<td>1/2</td>
<td>1.090</td>
<td>0.030 to 0.093</td>
</tr>
</tbody>
</table>

**Ordering Information:**
- **Safety Certification:**
  - UL Listed
  - S5 Series lights snap fit into 1/2" hole, Silver plated bezel.

**Compliance:**
- UL Listed
- 3L Series are compact, sealed lights that snap-fit into a 5/16" hole and are secured into place with self-locking ears. These lights have a built-in resistor, available with 14, 28 and 125 volt incandescent bulb, flux type lenses and translucent lens. All lights come with a six inch 100°C tinned copper wire leads.
- Micro and standard size meters with back lighting for low light conditions
- Rugged, tin plated, aluminum case, universal line voltage 90-265V AC, 45/65 Hz. Float stage prevents overcharging by allowing each battery to end absorption stage individually.

---

**Micro Ammeter (Shunt Incl.)**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DC SHUNTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-926A-50B</td>
<td>50 AMPS</td>
<td>Simple 2-wire connection from shunt (Included). Meter senses and powers from shunt connection. Face dimension: 2.75&quot;</td>
</tr>
<tr>
<td>EM-926A-50B</td>
<td>50 AMPS</td>
<td>Simple 4-wire connection from shunt (Included). Meter senses and powers from shunt connection. Face dimension: 2.75&quot;</td>
</tr>
<tr>
<td>EM-926A-100B</td>
<td>100 AMPS</td>
<td>Simple 4-wire connection from shunt (Included). Meter senses and powers from shunt connection. Face dimension: 2.75&quot;</td>
</tr>
<tr>
<td>EM-926A-50B</td>
<td>50 AMPS</td>
<td>For continuous operation, it is recommended that shunts not be run at more than two-thirds (66%) the rated current under normal conditions.</td>
</tr>
<tr>
<td>EM-926A-50B</td>
<td>50 AMPS</td>
<td>For continuous operation, it is recommended that shunts not be run at more than two-thirds (66%) the rated current under normal conditions.</td>
</tr>
</tbody>
</table>

**Ordering Information:**
- **Order by the Meter:**
  - Micro and standard size meters with back lighting for low light conditions
  - Rugged, tin plated, aluminum case, universal line voltage 90-265V AC, 45/65 Hz. Float stage prevents overcharging by allowing each battery to end absorption stage individually.

---

**DC Resistive Shunts**

**Features:**
- Multiple voltage ratings
- 6” UL tinned copper lead wires
- Available in red, green, amber and blue
- Micro and standard size meters with back lighting for low light conditions

**Compliance:**
- UL Listed
- S5 Series lights snap fit into 1/2" hole, Silver plated bezel.

---

**Tools & Accessories**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DC SHUNTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBC-3613A</td>
<td>28 Snaps in spring clip</td>
<td>5/16</td>
</tr>
<tr>
<td>EBC-3720A</td>
<td>50 AMPS/50 MV</td>
<td>Snap In / Spring Clip</td>
</tr>
</tbody>
</table>

**Specifications:**
- **Maximum Output Current:**
  - 25 AMPS
  - 40 AMPS

**Dimensions:**
- 7.0” x 9.6” x 2.6”

---

**Micro Ammeter (Shunt Incl.)**

<table>
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<tr>
<td>EM-926A-50B</td>
<td>50 AMPS</td>
<td>For continuous operation, it is recommended that shunts not be run at more than two-thirds (66%) the rated current under normal conditions.</td>
</tr>
</tbody>
</table>

**Ordering Information:**
- **Order by the Meter:**
  - Micro and standard size meters with back lighting for low light conditions
  - Rugged, tin plated, aluminum case, universal line voltage 90-265V AC, 45/65 Hz. Float stage prevents overcharging by allowing each battery to end absorption stage individually.

**Compliance:**
- UL Listed
- S5 Series lights snap fit into 1/2" hole, Silver plated bezel.

---

**DC Resistive Shunts**

**Features:**
- Multiple voltage ratings
- 6” UL tinned copper lead wires
- Available in red, green, amber and blue
- Micro and standard size meters with back lighting for low light conditions

**Compliance:**
- UL Listed
- S5 Series lights snap fit into 1/2" hole, Silver plated bezel.

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**Tools & Accessories**

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- **Order by the Meter:**
  - Micro and standard size meters with back lighting for low light conditions
  - Rugged, tin plated, aluminum case, universal line voltage 90-265V AC, 45/65 Hz. Float stage prevents overcharging by allowing each battery to end absorption stage individually.

**Compliance:**
- UL Listed
- S5 Series lights snap fit into 1/2" hole, Silver plated bezel.

---

**DC Resistive Shunts**

**Features:**
- Multiple voltage ratings
- 6” UL tinned copper lead wires
- Available in red, green, amber and blue
- Micro and standard size meters with back lighting for low light conditions

**Compliance:**
- UL Listed
- S5 Series lights snap fit into 1/2" hole, Silver plated bezel.
## Analog DC Voltmeters

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| EMD-ACV-8-168S | 8 to 16V Meter. Current: 1 mA at full scale. Face dimension: 2" |}

## Analog AC Meters

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| EMD-ACA-100BS | 0 to 100 AMPS. Simple 4-wire connection. Face dimension: 2.75" |}

### Ordering Information
Ordering Information: Order by the meter.

## ANALOG DC & AC VOLT METERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Volts</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-DCV-6-168S</td>
<td>6 to 16V</td>
<td>Meter Current: 1 mA at full scale. Face dimension: 2&quot;</td>
</tr>
<tr>
<td>EMD-DCV-8-168S</td>
<td>8 to 16V</td>
<td>Meter Current: 1 mA at full scale. Face dimension: 2.75&quot;</td>
</tr>
<tr>
<td>EMD-ACV-150BS</td>
<td>0 to 150V</td>
<td>Dial marked in 5 volt increments. 2-wire connections to AC hot and neutral. Meter senses and powers from same connection. Face dimension: 2.75&quot;</td>
</tr>
</tbody>
</table>

### Ordering Information
Ordering Information: Order by the meter.

## ANALOG AC AMMETERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-ACA-50BS</td>
<td>0 to 50 AMPS. Simple 4-wire connection. Face dimension: 2.75&quot;</td>
</tr>
<tr>
<td>EMD-ACA-100BS</td>
<td>0 to 100 AMPS. Simple 4-wire connection. Face dimension: 2.75&quot;</td>
</tr>
</tbody>
</table>

### Ordering Information
Ordering Information: Order by the meter.

## LIGHTS & METERS

### ANALOG DC & AC METERS

#### ANALOG DC VOLTMETERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Volts</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-DCV-6-168S</td>
<td>6 to 16V</td>
<td>Meter Current: 1 mA at full scale. Face dimension: 2&quot;</td>
</tr>
<tr>
<td>EMD-DCV-8-168S</td>
<td>8 to 16V</td>
<td>Meter Current: 1 mA at full scale. Face dimension: 2.75&quot;</td>
</tr>
</tbody>
</table>

#### ANALOG AC VOLTMETERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Volts</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-ACV-150BS</td>
<td>0 to 150V</td>
<td>Dial marked in 5 volt increments. 2-wire connections to AC hot and neutral. Meter senses and powers from same connection. Face dimension: 2.75&quot;</td>
</tr>
</tbody>
</table>

### Ordering Information
Ordering Information: Order by the meter.

#### TRANSFORMER COIL

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| EMD-ACV-8-240BS | 80 to 270V, 270 Watts. |}

### Ordering Information
Ordering Information: Order by the meter.

## JUNCTION BOXES WITH KNOCKOUTS

<table>
<thead>
<tr>
<th>Box</th>
<th>Part Number</th>
<th>Outside Dimension (Inches)</th>
<th>Inside Dimension (Inches)</th>
<th>Cover Style</th>
<th>Mounting Plate (Part Number/Description)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCL332</td>
<td>EMD332</td>
<td>11.75 x 7.81 x 4.75</td>
<td>9.25 x 5.75 x 3.25</td>
<td>SOLID</td>
<td>N/A</td>
</tr>
<tr>
<td>ENCL333</td>
<td>EMD333</td>
<td>13.75 x 8.81 x 5.75</td>
<td>11.25 x 7.75 x 4.25</td>
<td>SOLID</td>
<td>EMD333</td>
</tr>
<tr>
<td>ENCL335</td>
<td>EMD335</td>
<td>15.75 x 9.81 x 6.75</td>
<td>13.25 x 8.75 x 5.25</td>
<td>CLEAR</td>
<td>6.21 x 4.21</td>
</tr>
</tbody>
</table>

### Ordering Information
Ordering Information: Order by the piece.

## ENCLOSURES

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Part Number</th>
<th>Outside Dimension (Inches)</th>
<th>Inside Dimension (Inches)</th>
<th>Cover Style</th>
<th>Mounting Plate (Part Number/Description)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCL606W</td>
<td>EMD606W</td>
<td>9.32 x 5.32 x 3.97</td>
<td>7.32 x 3.32 x 2.97</td>
<td>HINGE &amp; SCREW</td>
<td>EMD606A</td>
</tr>
<tr>
<td>ENCL1008W</td>
<td>EMD1008W</td>
<td>11.32 x 7.32 x 5.39</td>
<td>9.32 x 5.32 x 4.39</td>
<td>HINGE &amp; SCREW</td>
<td>EMD1008A</td>
</tr>
<tr>
<td>ENCL1008HW</td>
<td>EMD1008HW</td>
<td>11.32 x 7.32 x 5.39</td>
<td>9.32 x 5.32 x 4.39</td>
<td>HINGE &amp; LATCH</td>
<td>EMD1008A</td>
</tr>
<tr>
<td>ENCL1210W</td>
<td>EMD1210W</td>
<td>13.75 x 11.75 x 7.51</td>
<td>11.75 x 9.75 x 5.51</td>
<td>HINGE &amp; SCREW</td>
<td>EMD1210A</td>
</tr>
<tr>
<td>ENCL1210HW</td>
<td>EMD1210HW</td>
<td>13.75 x 11.75 x 7.51</td>
<td>11.75 x 9.75 x 5.51</td>
<td>HINGE &amp; LATCH</td>
<td>EMD1210A</td>
</tr>
<tr>
<td>ENCL1412W</td>
<td>EMD1412W</td>
<td>15.75 x 13.75 x 9.32</td>
<td>13.75 x 11.75 x 7.32</td>
<td>HINGE &amp; SCREW</td>
<td>EMD1412A</td>
</tr>
<tr>
<td>ENCL1412HW</td>
<td>EMD1412HW</td>
<td>15.75 x 13.75 x 9.32</td>
<td>13.75 x 11.75 x 7.32</td>
<td>HINGE &amp; LATCH</td>
<td>EMD1412A</td>
</tr>
<tr>
<td>ENCL1614W</td>
<td>EMD1614W</td>
<td>17.75 x 15.75 x 11.32</td>
<td>15.75 x 13.75 x 9.32</td>
<td>HINGE &amp; SCREW</td>
<td>EMD1614A</td>
</tr>
<tr>
<td>ENCL1614HW</td>
<td>EMD1614HW</td>
<td>17.75 x 15.75 x 11.32</td>
<td>15.75 x 13.75 x 9.32</td>
<td>HINGE &amp; LATCH</td>
<td>EMD1614A</td>
</tr>
</tbody>
</table>

### Ordering Information
Ordering Information: Order by the piece.

## ENCLOSURES

#### DIGITAL DC & AC METERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-DOWN</td>
<td>Multi-Function Meter with Alarm. Displays amperage from -500 to +500 Amps. Displays voltage from 0 to 60 Volts in 0.01 Volt increments. Includes 500 Amp shunt</td>
</tr>
<tr>
<td>EMD-DCV-U-608S</td>
<td>DC Digital Voltmeter. Displays voltage from 0 to 60 Volts</td>
</tr>
<tr>
<td>EMD-ACV-U</td>
<td>Multi-Function Meter with Alarm. Displays amperage from 0 to 150. Displays voltage from 80 to 270. Displays power from 0 to 15 Kilowatts. Displays freq. from 40 to 90 Hertz.</td>
</tr>
</tbody>
</table>

#### DIGITAL AC VOLTMETERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMD-ACV-U-608S</td>
<td>DC Digital Voltmeter. Displays voltage from 80 to 270.</td>
</tr>
</tbody>
</table>
### Lights & Meters

#### CEILING DOWN LIGHT ASSEMBLIES

**Pacer Group LED Lighting** is designed with the marine environment in mind. Our line of LED lights are built around ideas of customizability, durability, & longevity making them ideal for boaters. Many color & finish options are available.

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIDTH OF ASSEMBLY</th>
<th>DEPTH OF ASSEMBLY</th>
<th>AVAILABLE BULB COLORS</th>
<th>AVAILABLE FINISHES</th>
<th>BULB SOCKET</th>
<th>SOCKET VOLTAGE</th>
<th>WATTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-KINGSTON-G4</td>
<td>4.125&quot;</td>
<td>1.250&quot;</td>
<td>RD/GN/BL/WH</td>
<td>PS</td>
<td>G4</td>
<td>12V / 24V</td>
<td>20W</td>
</tr>
<tr>
<td>EL-LBIMINI-G4</td>
<td>3.125&quot;</td>
<td>1.375&quot;</td>
<td>MULTI-COLOR</td>
<td>PC/PB/NS/WH</td>
<td>G4</td>
<td>12V / 24V</td>
<td>20W</td>
</tr>
</tbody>
</table>

**Ordering Information:** To order, simply combine part number with selected voltage, color, and finish. When ordering multi-color assemblies, combine part number with selected finish and voltage. Example: Anacortes, 12 volt, Red, Polished Stainless = EL-ANACORTES-G4-12V-RED-PS. Available Finishes: PS=Polished Stainless, PB=Polished Brass, NS=Nickel Satin, WH=White, GP=Gold Polish, PC=Polished Chrome, BS=Brushed Satin.

Available colors: RD=Red, G4=Green, BL=Blue, WH=White, CW=Cool White, CWBL=Cool White/Blue, CWGN=Cool White/Green, WS=Warm White, WW=Warm White, WWRD=Warm White Red.

**Example:**

- Anacortes, 12 volt, Red, Polished Stainless = EL-ANACORTES-G4-12V-RED-PS.
- El-Kingston, 12 volt, Red, Polished Stainless = EL-KINGSTON-G4-12V-RED-PS.
- El-Lbimini, 12 volt, Red, Polished Stainless = EL-LBIMINI-G4-12V-RED-PS.
- El-Negril, 12 volt, Red, Polished Stainless = EL-NEGRIL-G4-12V-RED-PS.
- El-Voyager, 12 volt, Red, Polished Stainless = EL-VOYAGER-G4-12V-RED-PS.

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**Lights & Meters**

**LED FRONT END FIXTURES**

- **Anacortes**
- **Antigua**
- **Bimini**
- **Capella**
- **Corisca**
- **Jamaica**
- **Kingston**

**PART NUMBER** | **WIDTH OF ASSEMBLY** | **DEPTH OF ASSEMBLY** | **ASSEMBLY GROUP** | **AVAILABLE FINISHES**
--- | --- | --- | --- | ---
EL-ANACORTES | 4.750” / 120MM | 2.500” / 64MM | ANACORTES | PS/PB/NS/WH
EL-ANTIGUA | 4.000” / 102MM | 1.625” / 42MM | ANTIGUA | PS/PB/NS/WH
EL-BIMINI | 1.437” / 36MM | 2.187” / 55MM | BIMINI | PS/GP/NS/WH
EL-CAPELLA | 2.500” / 64MM | 1.600” / 40MM | CAPELLA | PS/BS/NS/WH
EL-CORISCA | 3.937” / 100MM | 2.687” / 71MM | CORISCA | PS/BS/NS/WH
EL-JAMAICA | 6.062” / 156MM | 1.625” / 41MM | JAMAICA | PS/PB/NS/WH
EL-KINGSTON | 4.125” / 105MM | 1.313” / 34MM | KINGSTON | PS/GP/NS/WH

**Ordering Information:** To order, simply Combine part number with the selected finish.

**Example:** Bimini, Nickel Satin = EL-BIMINI-NS.

**Available Finishes:** PS=Polished Stainless, PB=Polished Brass, NS=Nickel Satin, WH=White, GP=Gold Polish, BS=Brushed Satin.

---

**Lights & Meters**

**LED ASSEMBLY BACK BODIES**

- **Anacortes**
- **Antigua**
- **Bimini**
- **Capella**
- **Corisca**
- **Jamaica**

**PART NUMBER** | **WIDTH OF ASSEMBLY** | **DEPTH OF ASSEMBLY** | **ASSEMBLY GROUP** | **AVAILABLE BULB COLORS**
--- | --- | --- | --- | ---
EL-LB-EACH-BACK | 2.563” / 65MM | 1.063” / 27MM | LITTLE BEACH | CW/WW/BU/GR/RE
EL-LOSHERMANOS-BACK | 6.875” / 175MM | 1.375” / 35MM | LOS HERMANOS | CW/WW/BU/GR/RE
EL-MONT-BACK | 3.250” / 83MM | 1.250” / 32MM | MONTserrat | CW/WW
EL-NEGRIL-BACK | 3.437” / 88MM | 1.063” / 27MM | NEGRIL | CW/WW/BL/GP/RE
EL-NBEACH-BACK | 3.125” / 80MM | 1.187” / 30MM | NORTH BEACH | CW/WW/BU/GR/RE
EL-VOYAGER-BACK | 3.125” / 80MM | 1.750” / 45MM | VOYAGER | PC/PB/NS/WH

**Ordering Information:** To order, simply Combine part number with the selected bulb color.

**Example:** Loshermanos, Cool white = EL-LOSHERMANOS-BACK-CW.

## Lights & Meters
### Engine Room & Specialty Lighting

#### TriProof LED

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>LENGTH</th>
<th>HEIGHT</th>
<th>VOLTAGE</th>
<th>WATTAGE</th>
<th>BULB COLORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-TRI-2</td>
<td>2'</td>
<td>609MM</td>
<td>100-277V AC</td>
<td>30W</td>
<td>BRIGHT WHITE</td>
</tr>
<tr>
<td>EL-TRI-4</td>
<td>4'</td>
<td>2199MM</td>
<td>100-277V AC</td>
<td>40W</td>
<td>BRIGHT WHITE</td>
</tr>
<tr>
<td>EL-TRI-5</td>
<td>5'</td>
<td>1524MM</td>
<td>100-277V AC</td>
<td>60W</td>
<td>BRIGHT WHITE</td>
</tr>
</tbody>
</table>

#### Pacific Utility LED

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>LENGTH</th>
<th>HEIGHT</th>
<th>VOLTAGE</th>
<th>WATTAGE</th>
<th>BULB COLORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-G3-DC</td>
<td>11'</td>
<td>350MM</td>
<td>10-30V</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
<tr>
<td>EL-G3-AC12DC</td>
<td>11''</td>
<td>350MM</td>
<td>12V DC</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
<tr>
<td>EL-G3-AC24DC</td>
<td>11''</td>
<td>350MM</td>
<td>24V DC</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
<tr>
<td>EL-G3-UP-DC</td>
<td>12''</td>
<td>305MM</td>
<td>10-30V</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
<tr>
<td>EL-G3-UP-AC12DC</td>
<td>12''</td>
<td>305MM</td>
<td>12V DC</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
<tr>
<td>EL-G3-UP-AC24DC</td>
<td>12''</td>
<td>305MM</td>
<td>24V DC</td>
<td>14W</td>
<td>CW/DW</td>
</tr>
</tbody>
</table>

#### Specialty Lighting

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION OF PIECES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-ENDCAP-2</td>
<td>2-Wire (one solid, one with 2 holes)</td>
</tr>
<tr>
<td>EL-ENDCAP-4</td>
<td>4-Wire (one solid, one with 4 holes)</td>
</tr>
</tbody>
</table>

### Ordering Information:

To order Pacific Utility LED lights, simply combine part number with selected voltage, height, and color.

**Example:** Pacific utility, 24 volt, low profile, daylight white = EL-G3-UP-AC24DC-DW

## Lighting Accessories

### Grommets

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>HOLE DIAMETER</th>
<th>OUTSIDE DIAMETER</th>
<th>WIDTH</th>
<th>GROOVE WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-MICRO-GROMMET</td>
<td>0.3100&quot;</td>
<td>0.5750&quot;</td>
<td>0.2000&quot;</td>
<td>0.0675&quot;</td>
</tr>
<tr>
<td>EL-MICRO-HDGROMMET</td>
<td>0.3100&quot;</td>
<td>0.6200&quot;</td>
<td>0.3000&quot;</td>
<td>0.0860&quot;</td>
</tr>
</tbody>
</table>

### Beauty Rings

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DIAMETER</th>
<th>BODY SHAPE</th>
<th>NO. OF PIECES</th>
<th>DESCRIPTION OF PIECES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-MICRO-20END</td>
<td>20MM CIRCULAR</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>EL-MICRO-20SQ</td>
<td>20MM SQUARE</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>EL-MICRO-30DRING</td>
<td>20MM SQUARE</td>
<td>NO</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

### End Caps

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>NO. OF PIECES</th>
<th>DESCRIPTION OF PIECES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-ENDCAP-3</td>
<td>2</td>
<td>2-Wire (one solid, one with 2 holes)</td>
</tr>
<tr>
<td>EL-ENDCAP-4</td>
<td>2</td>
<td>4-Wire (one solid, one with 4 holes)</td>
</tr>
</tbody>
</table>

### Silicon Mounting Clip

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>FLEXIBLE</th>
<th>MOUNTING OF SCREW HOLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-SILCLIPS</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

### POWER ACCESSORIES

#### DC Wizard PWM Dimmer

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VOLTAGE</th>
<th>AMPERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-DCW600</td>
<td>6-30VDC</td>
<td>5A</td>
</tr>
<tr>
<td>EL-DCW850</td>
<td>6-30VDC</td>
<td>8.5A</td>
</tr>
<tr>
<td>EL-DCW1200</td>
<td>6-30VDC</td>
<td>12A</td>
</tr>
<tr>
<td>EL-DCW500-48V</td>
<td>30-48VDC</td>
<td>5A</td>
</tr>
</tbody>
</table>

#### AC to DC Power Supply

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>VOLTAGE</th>
<th>AMPERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-AC2DC-12V</td>
<td>12W 90-264V AC</td>
<td>24 VDC 0.5A</td>
</tr>
</tbody>
</table>

**Ordering Information:** Simply order by part number.

Lighting accessories are a simple way to enhance the functionality and even the longevity of our products. Most of these are easy to install making them an obvious choice for both professional boaters and recreational boaters alike.
### LED Bulbs (Parallel, Side, & Straight Pin)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Voltage</th>
<th>WATTAGE</th>
<th>Color</th>
<th>Dimming</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-B15-ANCHOR-WH</td>
<td>12-24V</td>
<td>-</td>
<td>White</td>
<td>-</td>
</tr>
<tr>
<td>EL-B15W</td>
<td>Warm White</td>
<td>120V AC</td>
<td>3.6W</td>
<td>-</td>
</tr>
<tr>
<td>EL-B15-WW</td>
<td>Warm White</td>
<td>120V AC</td>
<td>5W</td>
<td>-</td>
</tr>
<tr>
<td>EL-B15-WW-O</td>
<td>Warm White</td>
<td>110/300V DC</td>
<td>3.6W</td>
<td>-</td>
</tr>
<tr>
<td>EL-B15DS-WW-O</td>
<td>Warm White</td>
<td>110/300V DC</td>
<td>5W</td>
<td>-</td>
</tr>
<tr>
<td>EL-SPI-10W-CW</td>
<td>Cool White</td>
<td>10-30V DC</td>
<td>10W</td>
<td>-</td>
</tr>
<tr>
<td>EL-SPI-10W-RR</td>
<td>Warm White</td>
<td>10-30V DC</td>
<td>10W</td>
<td>-</td>
</tr>
<tr>
<td>EL-SPI-10W-BL</td>
<td>Blue</td>
<td>10-30V DC</td>
<td>10W</td>
<td>-</td>
</tr>
<tr>
<td>EL-SPI-10W-GN</td>
<td>Green</td>
<td>10-30V DC</td>
<td>10W</td>
<td>-</td>
</tr>
<tr>
<td>EL-SPI-10W-RD</td>
<td>Red</td>
<td>10-30V DC</td>
<td>10W</td>
<td>-</td>
</tr>
<tr>
<td>EL-G4SP-20W-CW</td>
<td>Cool White</td>
<td>10-30V DC</td>
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</tr>
<tr>
<td>EL-G4SP-20W-WW</td>
<td>Warm White</td>
<td>10-30V DC</td>
<td>20W</td>
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<tr>
<td>EL-G4SP-20W-RR</td>
<td>Blue</td>
<td>10-30V DC</td>
<td>20W</td>
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<tr>
<td>EL-G4SP-20W-BL</td>
<td>Green</td>
<td>10-30V DC</td>
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<tr>
<td>EL-G4SP-20W-RD</td>
<td>Red</td>
<td>10-30V DC</td>
<td>20W</td>
<td>-</td>
</tr>
<tr>
<td>EL-GX5-12V-WH-WW</td>
<td>Warm White</td>
<td>12-24V</td>
<td>5W</td>
<td>-</td>
</tr>
<tr>
<td>EL-GX5-120V-WH-WW</td>
<td>Warm White</td>
<td>120V</td>
<td>5W</td>
<td>-</td>
</tr>
</tbody>
</table>

### LED Bulbs (Twist Pin)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Voltage</th>
<th>WATTAGE</th>
<th>Color</th>
<th>Dimming</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-GU10-12V-WH-WW</td>
<td>12V</td>
<td>10W</td>
<td>White</td>
<td>-</td>
</tr>
<tr>
<td>EL-GU10-24V-WH-WW</td>
<td>24V</td>
<td>10W</td>
<td>White</td>
<td>-</td>
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<tr>
<td>EL-GU10-120V-WH-WW</td>
<td>120V</td>
<td>10W</td>
<td>White</td>
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<tr>
<td>EL-GU10-12V-SH-WW</td>
<td>12V</td>
<td>10W</td>
<td>Silver</td>
<td>-</td>
</tr>
<tr>
<td>EL-GU10-24V-SH-WW</td>
<td>24V</td>
<td>10W</td>
<td>Silver</td>
<td>-</td>
</tr>
<tr>
<td>EL-GU10-120V-SH-WW</td>
<td>120V</td>
<td>10W</td>
<td>Silver</td>
<td>-</td>
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<tr>
<td>EL-GU10-12V-WH-WW</td>
<td>12V</td>
<td>5W</td>
<td>White</td>
<td>Yes</td>
</tr>
<tr>
<td>EL-GU10-24V-WH-WW</td>
<td>24V</td>
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<td>White</td>
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<tr>
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<td>120V</td>
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<td>White</td>
<td>Yes</td>
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<tr>
<td>EL-GU10-12V-SH-WW</td>
<td>12V</td>
<td>5W</td>
<td>Silver</td>
<td>Yes</td>
</tr>
<tr>
<td>EL-GU10-24V-SH-WW</td>
<td>24V</td>
<td>5W</td>
<td>Silver</td>
<td>Yes</td>
</tr>
<tr>
<td>EL-GU10-120V-SH-WW</td>
<td>120V</td>
<td>5W</td>
<td>Silver</td>
<td>Yes</td>
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</table>

### LED Bulbs (Bi-Color)

<table>
<thead>
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<th>Part Number</th>
<th>Voltage</th>
<th>Color</th>
<th>Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL-BP-12V-BI-CW</td>
<td>Cool White</td>
<td>10W</td>
<td>Blue</td>
</tr>
<tr>
<td>EL-BP-12V-BI-GN</td>
<td>Cool White</td>
<td>10W</td>
<td>Green</td>
</tr>
<tr>
<td>EL-BP-12V-BI-WH</td>
<td>Warm White</td>
<td>10W</td>
<td>Red</td>
</tr>
<tr>
<td>EL-BP-24V-BI-CW</td>
<td>Cool White</td>
<td>20W</td>
<td>Blue</td>
</tr>
<tr>
<td>EL-BP-24V-BI-GN</td>
<td>Cool White</td>
<td>20W</td>
<td>Green</td>
</tr>
<tr>
<td>EL-BP-24V-BI-WH</td>
<td>Warm White</td>
<td>20W</td>
<td>Red</td>
</tr>
</tbody>
</table>

### Ordering Information:
- Pacer Group's LED bulbs are designed to handle the toughest marine conditions. Easy to install and built to last, we offer all the bulbs you could ever need and then some. Each bulb is built with longevity and durability in mind.
- Simply order by the part number.
LED BULBS (ARROW, QUAD, FESTOON & G4)

**Arrow End Bulbs**
- EL-G41-AE-CW: Cool White, 10-30V DC, 1W
- EL-G41-AE-WW: Warm White, 10-30V DC, 1W
- EL-G42-AE-CW: Cool White, 10-30V DC, 2W
- EL-G42-AE-WW: Warm White, 10-30V DC, 2W

**Quad Color Bulbs**
- EL-12V-QUAD-WW: Warm White - Blue/Red/Green, 12V, 56MM, 20
- EL-12V-QUAD-CW: Cool White - Blue/Red/Green, 12V, 56MM, 20
- EL-24V-QUAD-WW: Warm White - Blue/Red/Green, 24V, 56MM, 20
- EL-24V-QUAD-CW: Cool White - Blue/Red/Green, 24V, 56MM, 20

**Festoon Bulbs**
- EL-SV8-12V-WW: Warm White, 12V, 36MM
- EL-SV8-12V-CW: Cool White, 12V, 36MM
- EL-SV8-12V-24-BL: Blue, 12V, 36MM
- EL-SV8-12V-24-GN: Green, 12V, 36MM
- EL-SV8-12V-24-RD: Red, 12V, 36MM
- EL-SV8-24V-WW: Warm White, 24V, 36MM
- EL-SV8-24V-CW: Cool White, 24V, 36MM
- EL-SV8-24V-24-BL: Blue, 24V, 36MM
- EL-SV8-24V-24-GN: Green, 24V, 36MM
- EL-SV8-24V-24-RD: Red, 24V, 36MM

**G4 LED Bulbs**
- EL-G412-12BLCW: Cool White/Blue, 12V DC, G4
- EL-G412-24BLCW: Cool White/Blue, 24V DC, G4

**4 Inch LED Boards**
- EL-BOARD-WW: Warm White, 2700K, 580 LM
- EL-BOARD-CW: Cool White, 6500K, 600 LM

**LED Pucks**
- EL-PUCK-WW: Warm White, 10-30V DC / 10-24V AC, 5.5W
- EL-PUCK-CW: Natural White, 10-30V DC / 10-24V AC, 5.5W
- EL-PUCK-RD: Daylight White, 10-30V DC / 10-24V AC, 5.5W

**LED Micro Light**
- EL-MICRO-CW: Cool White, 12V, 1.5W
- EL-MICRO-WW: Warm White, 12V, 1.5W
- EL-MICRO-BL: Blue, 12V, 1.5W
- EL-MICRO-GN: Green, 12V, 1.5W
- EL-MICRO-RD: Red, 12V, 1.5W
- EL-MICRO-AM: Amber, 12V, 1.5W

Ordering Information:
- Simply order by the part number.

Pacer Group's LED boards, pucks, and micro lights are the ideal solution when it comes to replacing marine lighting. Each of these are built for ease of installation and longevity in the toughest marine environments.
INTRODUCING

WIRE+

WIRE + HIGH VOLUME PRODUCTS = SAVINGS

Pacer Group’s new WIRE+ program helps our customers achieve their goals. By researching the highest volume parts, and purchasing bulk products in large quantities; we are able to reduce the price for our customers. Bundling wire and bulk products into one package means; no more dealing with multiple vendors, different delivery dates, and costly shipping. We have created a program that alleviates complex order. Pacer Group will ship all the products and your wire together saving time and money.

**High volume products will be reviewed as additions to the WIRE+ program.

- Heat Shrink
- Butt Splices
- Ring Terminals
- Cable Ties & Mounts
- Terminal Blocks
- Bus Bars
- Sealed Connectors
- Battery Boots
- Lugs

Terminal Blocks

E30TB6
- Eliminates Splicing
- No Exposed Seams
- Phenolic base
- Closed back

Screw Down Mounts

CTM2S88K
- Rugged Durability
- Low Profile
- UV Resistant
- Easy to Use

Bus Bars

EBB2-10
- 48V Max DC
- 300V Max AC
- 150 AMP rating
- Tin-plated copper

Battery Boots

TBCA20-R
- For Use with 2/0 Cable
- Protects Energized Parts
- Meets S.A.E. J378
- Meets S.A.E. J1128

TBCA2-R
- For Use with 2 AWG Cable
- Built for Harsh Environments
- Prevents Electrical Shocks
- Compliant to ABYC E-10.6(1)

Sealed Connectors

TDT04-2P
- Rugged Quality
- Shock Resistant

TDT06-2S
- Proven Reliability
- Durable Construction

TDT06-3S
- Environmentally Sealed
- Abrasion Resistant

TDT06-4S
- Field Serviceable
- Enclosed Connector

T14DT-P
- Removable Contacts
- Ensured Alignment

T14DT-S
- Easy to Crimp
- Hand Insertable

For more information about this or any Pacer Group program, contact us at: 941.378.5774 or Toll Free 1.800.424.9549

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**PRODUCT LINE**

**Lugs**
- TAE2/0-38R
  - Tin Plated
  - No Exposed Seams
  - Electrolytic Tough Pitch
  - CSA Approved

**TAE1/0-38R**
- UL Approved
- RoHS Compliant
- ASTM B-152 Copper
- Rated 100% Conductivity

**TAE2-38R**
- Strong Connections
- Can Use with Heat Shrink
- Built for Durability
- Easy to Install

**TAE4-38R**
- Ideal for Marine Usage
- For Use with 3/8" Stud
- Long Lasting
- Rugged Construction

**Heat Shrink**
- Found on Pg. 48

**Ring Terminals**
- TE14-10R
  - Durable Quality
  - Tinned Copper
  - UL Compliant
- CSA Approved

**Butt Splices**
- TE10-10R
  - Excellent Stability
  - Provides Strand Relief
  - Low Profile
- RoHS Compliant

**TE8-10R**
- Vibration Protection
- Excellent Rigidity
- Shrink Ratio: 3:1 at 135°C
- Voltage Rating: 600V

**BEHS-3/4-1.5RD**
- Impact Resistant
- 100% Conductivity
- Tinned Copper
- 600V Rating

**BEHS-3/4-1.5BK**
- Flame Retardant
- Moisture Protection
- Shrink Ratio 3:1
- Environmentally Sealed

**BEHS-1/2-1.5RD**
- Seals Connections
- Encapsulates Splices
- Seals Cable Ends
- Vibration Protection

**BEHS-1/2-1.5BK**
- Temp. -55°C to 110°C
- Easy to Use
- Encapsulates Breakouts
- Mechanical Protection

**CT2S-MO**
- Built from Nylon 6.6
- UV Resistant
- Max. Temp. 185°F
- Min. Temp. -76°F

**BEHS-10**
- Closed Type Barrel
- RoHS Compliant
- UL Compliant
- CSA Compliant

**Cable Ties**
- Found on Pg. 28

**TESE14**
- Impact Resistant
- 100% Conductivity
- Tinned Copper
- 600V Rating

**TESE10**
- Closed Type Barrel
- RoHS Compliant
- UL Compliant
- CSA Compliant

**Cushion Clamps, Stainless Steel**
- Cable Clamps...
- Cable Tie Mouts...
- Cable Tie Tools...
- Cable Ties...
- Cable Ties, Stainless Steel...
- Cable, Battery (SAE)...
- Cable, Battery (UL)...
- Cable, Multi-conductor...
- Cable, Ship-to-Showe...
- Carbs, Marker...
- CATSE, Cable...
- Cables, Nylon...
- Cables, Coastal...
- Compression Seal Connectors...
- Conduct, Split...
- Connectors, Coasatal...
- Connectors, Liquid Tight...
- Connectors, Feed Through...
- Connectors, Pin...

**Connectors for HEAT SHRINK**
- Actuators...
- Adapter Plates, Breaker...
- Adhesive, Cable Tie Mount...
- Adhesive, Tape...
- Adhesive, Termin...
- Adhesive, Tubing...
- AGC Fuse Blocks...
- AGC Fuse Holders...
- AGC Fuses...
- ANL Fuse Blocks...
- ATC Fuse Blocks...
- ATC Fuse Holders...
- Automatic Charge Relay (ACR)...
- Automotive Battery Cable...

**Connectors for STRAIN RELIEF**
- Battery Terminal, Boots...
- Battery Cable Assemblies...
- Battery Cable, SAE...
- Battery Cable, UL...
- Battery Charger...
- Battery Post Terminals...
- Battery Switches...
- Blocks, European...
- Blocks, Fuse AG...
- Blocks, Fuse AN...
- Blocks, Fuse ATC...
- Blocks, Terminal...
- Boat Cable, Flat...
- Boat Cable, Round...
- Blocks, Marker Screws...
- Blocks, Battery...
- Blocks, Breaker...
- Blocks, Thermal Breaker...
- Blocks, Switch...
- Boxes, Junction...
- Breaker Covers...
- Breaker "Lock-Out" Slides...
- Breaker Mounting Screws...
- Breaker Toggle Guard...
- Breakers, Magnetic...
- Breakers, Marine Rated Circuit...
- Breakers, Push-to-Reset...
- Breakers, Surface Mount...
- Breakers, Thermal...
- Bullet Connectors...
- Bus Bars...
- Bus Bar Wire...
- Bushings, Snap...
- Butane Heat Tools...
- Butt Splices, Heat Shrink...
- Butt Splices, Lugs...
- Butt Splices, Terminals...

**Connectors, R/H**
- Actuators...
- Contura, Actuators...
- Contura, Switches...
- Contura, Terminals...
- Covers, Breaker...
- Crimp, Tool...
- Cells, Current...
- Connectors, Wire & Cable...
- Delpco Connectors...
- Deutsch Connectors...
- DeviceTech™ Cables...
- Disconnect Terminals...
- Dual Lock, Splice...
- Duct, Wiring...

**Connectors, R/H**
- Electrical Tape...
- Enclosures...
- Ethernet Connectors (R/H)...
- European Terminal Blocks...
- Expandable Sleeving...

**Connectors, T/M**
- Ferrules, Wire...
- Fiberglass Enclosures...
- Flat Braid...
- Flexible Sleeving...
- Fork Terminals...
- Fuses, AG...
- Fuses, AN...
- Fuses, ATO/ATC...
- Fuses, Class "T"...
- Fuses, Maxi...

**Connectors, T/M**
- Heat Shrink Terminals...
- Heat Shrink Tubing...
- Heat Tools, Butane...
- Heat Tools, Electric...

**Identification Products**
- Indicator Lights...
- In-Line Fuse Holders, AGC...
- In-Line Fuse Holders, ATO/ATC...

**Insulation Spray**
- Insulation Powder...

**Joints**
- Joints, Terminal Block...
- Joints, Panel Switch Wire...

**Junction Boxes**
- Junction Boxes...

**Labels**
- LED Assemblies, Fixtures, Back Boxes...
- LED Specialty Items, Accessories...
- LED Bulbs...

**Lighting Switches**
- Lights, Indicator...
- Liquid Tight Connectors...
- UPR Cables...
- Locking Nuts...
- Lugs, Battery...
- Lugs, Brass Seamed...
- Lugs, Closed End...

**Marine Rated Circuit Breakers**
- Markers, Wire...
- Marking Pens...
- Markers...
- Meters...

**Mounts, Cable Tie**
- Multi-conductor, Pairs...
- Multi-conductor, Shielded...
- Multi-conductor, Unshielded...

**Network Cables**
- NPEA 2000...

**Paired Cables**
- Pens, Marking...

**Power Cables**
- Power Posts...
- Power Transfer Switches...

**Primary Wire**
- Ratchet Crimpers...
- Ratchet Cutters...
- Reel, Automatic Charge...
- RHOIN/Printers/Tapes...

**Rhino Printers/Tapes**
- Rhin...
### REEL MEASUREMENT TABLE

<table>
<thead>
<tr>
<th>REEL</th>
<th>FLANGE HUB HUB</th>
<th>TRAVERSE ARBOR T</th>
<th>MATERIAL</th>
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<td>4.5</td>
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<td>13.5</td>
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<td>17.5</td>
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<td>11</td>
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<td>6</td>
<td>11</td>
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</table>

### TERMINALS & CONNECTORS FOR MARINE APPLICATIONS

**Performance Requirements for #22 - #10 AWG Terminals on Copper Wire:**

<table>
<thead>
<tr>
<th>AWG</th>
<th>22</th>
<th>20</th>
<th>18</th>
<th>16</th>
<th>14</th>
<th>12</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>9</td>
<td>11</td>
<td>16</td>
<td>22</td>
<td>32</td>
<td>45</td>
<td>55</td>
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<tr>
<td>B</td>
<td>15</td>
<td>19</td>
<td>38</td>
<td>50</td>
<td>70</td>
<td>110</td>
<td>150</td>
</tr>
</tbody>
</table>

- A = Test Current (AMPS)
- B = Voltage Drop (MV) Max Allowable
- C = Min. Tensile Strength (lb) Pull-out force of the crimped terminal
- D = Test Current for Max 50 °C Rise (AMPS)

**Color Code Item Use**

- **Black (BK)**: 0 - Ground Negative / Neutral Main Return
- **Brown (BR)**: -1 - Alternator Charge Light Generator Armature Pumps
- **Red (RD)**: -2 - Instrument Feed Power Feeds
- **Orange (OR)**: -3 - Accessory Feed Common Feed
- **Yellow (YL)**: -4 - Generator Field Ground Negative / Neutral Main Return
- **Lt. Green (LG)**: -5 - Bonding System Grounding Wires (if insulated)
- **Blue (BL)**: -6 - Cabin & Instrument Lights
- **Lt. Blue (LB)**: -16 - Oil Pressure
- **Violet (VT)**: -7 - Ignition Instrument Feed
- **Grey (GY)**: -8 - Navigation Lights Tachometer
- **White (WH)**: -9 - Water Temperature
- **Tan (TN)**: -11 - Fuel Gauge
- **Lt. Green (LG)**: -15 - Oil Pressure
- **Blue (BL)**: -12 - Fuel Gauge

**AMERICAN BOAT and YACHT COUNCIL STANDARDS**

**ON-OFF**
- Accessories, Auto-Pilot, Bilge Pumps, Pre-Heat, Convert, Deck Wash Pump, Depth Finder, Loran, Radios, Recorder, Stereo, Water Pressure
- Horn, Head Flush, Macerator, Alarm Silence

**ON-ON**
- Meter Read, Battery 1, Battery 2, Bilge Pumps, Auto Man, Fuel Tank, Gauge Select, Port/Starboard
- Bilge Pump, Auto/Off/Man, Aerator, Timed/Off/Man, Spotlight, Spot/Off/Food, Navigation Lights, Run/Off/Anchor, Motor Control, Fwd/Off/Rev

**ON-OFF-ON**
- Bilge Pump, Auto/Off/Man, Wiper Washer, Lights

*The parenthesis mean that the action is momentary.*
**CALCULATING VOLTAGE DROP**

All wire has a finite resistance to current flow. This resistance causes voltage to develop across the length of a current carrying conductor. The result is specified by ABYC (E-11.16). Conductors shall be sized for a voltage drop not to exceed 3%. For conductors feeding panelboard to switchboards, bilge blowers, navigation lights, electronic equipment and any other circuit where voltage drop must be kept to a minimum. 10%: For conductors used for general lighting (other than navigational lights) and other non-critical circuits. To calculate the size of the wire required for a given voltage drop the following formula is used:

\[
CM = \frac{KLX}{E}
\]

**NOTE 1:** The round trip length of the wire measured in feet from the positive terminal of the source, to the load, and back to the negative terminal source.

**NOTE 2:** A fuse in series with and ahead of, a circuit breaker may be required by the circuit breaker manufacturer to achieve the interrupting capacity in the above table.

### TABLE 1: CONDUCTOR CIRCULAR MIL (CM) AREA

<table>
<thead>
<tr>
<th>AWG</th>
<th>Square mm</th>
<th>ISO MF</th>
<th>ABYC UL CM</th>
<th>SAE Wire CM Area</th>
</tr>
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<tbody>
<tr>
<td>18</td>
<td>0.8</td>
<td>0.75</td>
<td>1,620</td>
<td>1,537</td>
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<tr>
<td>16</td>
<td>1.0</td>
<td>1.50</td>
<td>2,583</td>
<td>2,336</td>
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<tr>
<td>14</td>
<td>2.0</td>
<td>2.50</td>
<td>4,110</td>
<td>3,702</td>
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<tr>
<td>12</td>
<td>3.0</td>
<td>4.00</td>
<td>6,530</td>
<td>5,833</td>
</tr>
<tr>
<td>10</td>
<td>5.0</td>
<td>6.00</td>
<td>10,380</td>
<td>9,943</td>
</tr>
<tr>
<td>8</td>
<td>8.0</td>
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<td>14,189</td>
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<td>6</td>
<td>13.0</td>
<td>16.0</td>
<td>24,538</td>
<td>24,051</td>
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<tr>
<td>4</td>
<td>18.0</td>
<td>-</td>
<td>41,740</td>
<td>37,360</td>
</tr>
<tr>
<td>2</td>
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<td>35.0</td>
<td>66,360</td>
<td>62,450</td>
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<tr>
<td>1</td>
<td>40.0</td>
<td>-</td>
<td>83,690</td>
<td>77,790</td>
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<td>50.0</td>
<td>50.0</td>
<td>105,600</td>
<td>98,980</td>
</tr>
<tr>
<td>2/0</td>
<td>62.0</td>
<td>70.0</td>
<td>133,100</td>
<td>125,100</td>
</tr>
<tr>
<td>3/0</td>
<td>81.0</td>
<td>95.0</td>
<td>167,800</td>
<td>158,100</td>
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<tr>
<td>4/0</td>
<td>103.0</td>
<td>-</td>
<td>211,600</td>
<td>205,500</td>
</tr>
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</table>

### TABLE 2: ALLOWABLE AMPERAGE OF CURRENT CARRYING CONDUCTORS UNDER 50 VOLTS FOR 105°C CABLES - ABYC E-11.16

#### (A) ALLOWABLE AMPERAGE OF CURRENT CARRYING CONDUCTORS UNDER 50 VOLTS FOR 105°C CABLES - ABYC E-11.16

<table>
<thead>
<tr>
<th>CONDUCTOR SIZE</th>
<th>SINGLE CIRCUIT</th>
<th>2 CIRCUI T</th>
<th>3 CIRCUIT</th>
<th>4 CIRCUIT</th>
<th>5 CIRCUIT</th>
<th>6-6 CIRCUIT</th>
<th>7-7 CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDFX (METRIC)</td>
<td>Engine Space</td>
<td>Engine Space</td>
<td>Engine Space</td>
<td>Engine Space</td>
<td>Engine Space</td>
<td>Engine Space</td>
<td>Engine Space</td>
</tr>
</tbody>
</table>

### WIRE GAUGE & VOLTAGE DROP TABLES

- **WIRE GAUGE BASED ON MIN CIRCULAR MIL (CM) AREA, 12 VOLT, 3% DROP**
- **WIRE GAUGE BASED ON MIN CIRCULAR MIL (CM) AREA, 12 VOLT, 10% DROP**
- **WIRE GAUGE BASED ON MIN CIRCULAR MIL (CM) AREA, 24 VOLT, 3% DROP**
- **WIRE GAUGE BASED ON MIN CIRCULAR MIL (CM) AREA, 24 VOLT, 10% DROP**

**NOTE:** The main circuit breaker is considered to be the first circuit breaker connected to a source of AC power. All subsequent breakers, including sub-main breakers, connected in series with a main circuit breaker shall be considered to be branch circuit breakers.