

SBX® Connectors

The Anderson Power SBX® Connector Concept

Anderson Power Products® SBX® 2 pole connector is available in 175 and 350 amps ratings for use to 600 Volts continuous AC or DC operation. Mechanical keys in connectors of the same color will mate and different colors may be selected to identify other voltages, thus preventing the mismatching of the power supply to the electrical output.

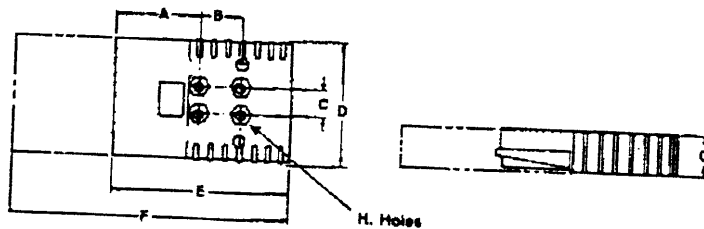
The single piece housing and unitized construction provide industrial quality and durability.

Individually replaceable contacts enable easy replacement of contacts.

Spring loaded silver plated contoured contacts have a self-wiping cleaning action, which ensures greater conductivity and longer life.

The auxiliary contact provides for a secondary circuit.

The recessed contacts minimize the potential contact with live contacts.



Dimensions

| Model | A | | B | |
|--------|------|-------|------|-------|
| | in. | mm | in. | mm |
| SBX175 | 1.94 | 49.2 | 1.13 | 28.5 |
| SBX350 | 2.44 | 61.9 | 1.13 | 28.5 |
| Model | C | | D | |
| | in. | mm | in. | mm |
| SBX175 | .63 | 15.9 | 2.80 | 71.2 |
| SBX350 | .63 | 15.9 | 3.37 | 85.7 |
| Model | E | | F | |
| | in. | mm | in. | mm |
| SBX175 | 3.63 | 85.3 | 5.76 | 146.3 |
| SBX350 | 4.94 | 125.4 | 7.88 | 200.0 |
| Model | G | | H | |
| | in. | mm | in. | mm |
| SBX175 | 1.00 | 25.4 | .26 | 6.7 |
| SBX350 | 1.31 | 33.3 | .26 | 6.7 |

Voltage Key Color Code

| Color | Voltage Recommended: | Color | Voltage Recommended |
|--------|----------------------|-------|---------------------|
| Yellow | 12V | Gray | 36V |
| Orange | 18V | Blue | 48V |
| Red | 24V | Green | 72V |

SBX[®] Connectors

Contacts & Housings

175 amp Series Connectors 2-Pole with auxiliary contacts

| Catalog Number | Description | Housing Color | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|--------------|---------------|----------|---------------------|------|-------------------|
| | | | | in. | mm | |
| 6370G1 | Housing with | Gray | 1/0 | .44 | 11.1 | 53.5 |
| 6371G1 | springs | Blue | 1/0 | .44 | 11.1 | 53.5 |
| 6372G1 | 2 contacts & | Orange | 1/0 | .44 | 11.1 | 53.5 |
| 6373G1 | auxiliary | Yellow | 1/0 | .44 | 11.1 | 53.5 |
| 6378G1 | contact kit | Red | 1/0 | .44 | 11.1 | 53.5 |
| 6387G1 | | Green | 1/0 | .44 | 11.1 | 53.5 |
| 6378G2 | Housing with | Red | 35MM | | | |
| 6387G2 | springs, 2 | Green | 35MM | | | |
| 6370G2 | contacts & | Gray | 35MM | | | |
| 6371G2 | auxiliary | Blue | 35MM | | | |
| 6372G2 | contacts | Orange | 35MM | | | |
| 6373G2 | | Yellow | 35MM | | | |

Housings & Contacts

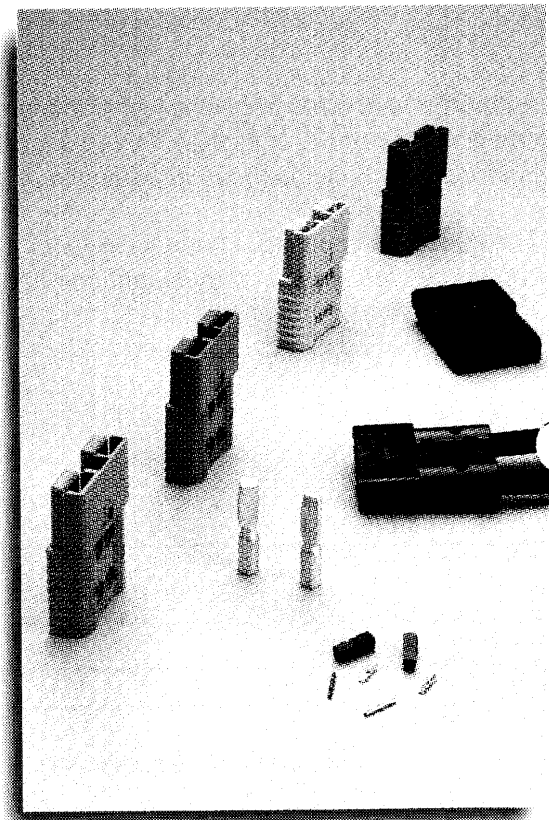
| Catalog Number | Description | Housing Color | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|---------------|---------------|----------|---------------------|------|-------------------|
| | | | | in. | mm | |
| 6374G1 | Housings with | Gray | 1/0 | .44 | 11.1 | 3.5 |
| 6375G1 | springs & | Blue | 1/0 | .44 | 11.1 | 53.5 |
| 6376G1 | 2 contacts | Orange | 1/0 | .44 | 11.1 | 53.5 |
| 6377G1 | | Yellow | 1/0 | .44 | 11.1 | 53.5 |
| 6379G1 | | Red | 1/0 | .44 | 11.1 | 53.5 |
| 6391G1 | | Green | 1/0 | .44 | 11.1 | 53.5 |
| 6374G2 | Housings with | Gray | 35MM | | | |
| 6375G2 | springs & | Blue | 35MM | | | |
| 6376G2 | 2 contacts | Orange | 35MM | | | |
| 6377G2 | | Yellow | 35MM | | | |
| 6379G2 | | Red | 35MM | | | |
| 6391G2 | | Green | 35MM | | | |

Housings

| Catalog Number | Description | Housing Color |
|----------------|---------------|---------------|
| 6380G1 | Housings with | Gray |
| 6381G1 | springs | Blue |
| 6382G1 | | Orange |
| 6383G1 | | Yellow |
| 6385G1 | | Red |
| 6390G1 | | Green |

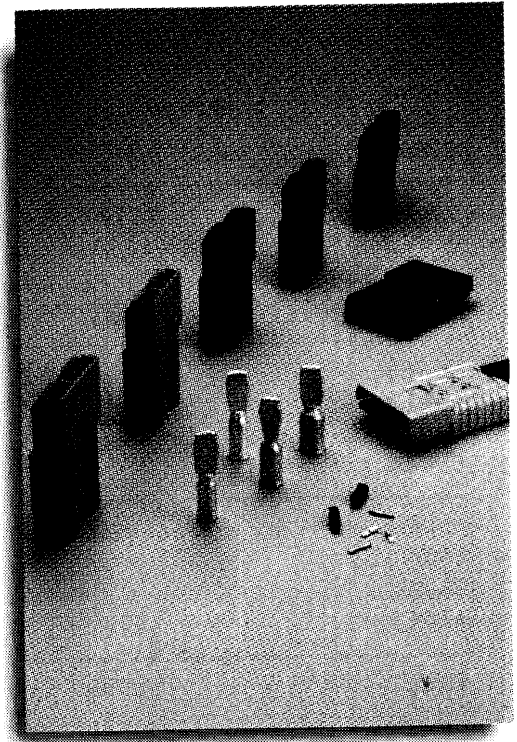
Contacts

| Catalog Number | Description | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|-------------|----------|---------------------|------|-------------------|
| | | | in. | mm | |
| 6384G1 | 2 contacts | 1/0 | .44 | 11.1 | 53.5 |
| 6384G2 | 2 contacts | 35MM | | | |



350 Series Connectors 2-Pole with auxiliary contacts

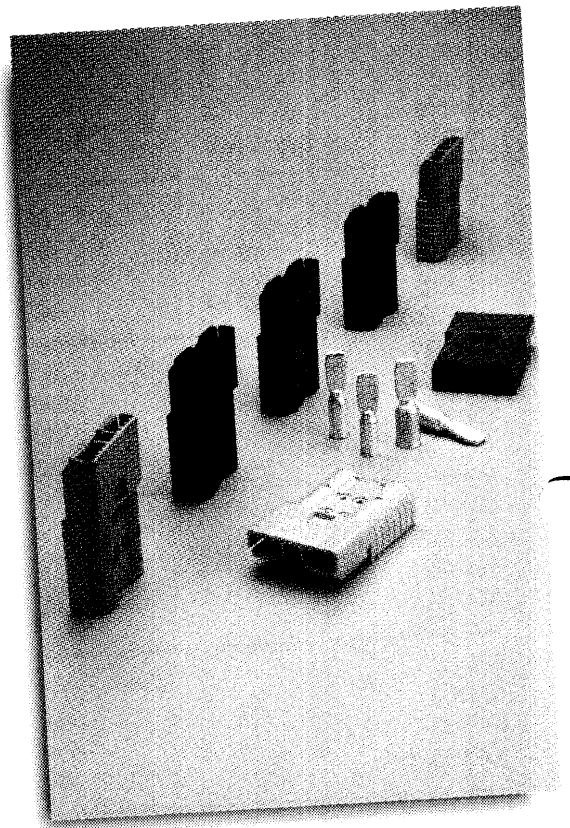
| Catalog Number | Description | Housing Color | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|--|---------------|----------|---------------------|-------|-------------------|
| | | | | in. | mm | |
| 6340G1 | Housing with springs 2 contacts & auxiliary contact kit | Gray | 2/0 | .48 | 12.3 | 67.4 |
| 6340G2 | | | 3/0 | .58 | 14.7 | 85.0 |
| 6340G3 | | | 4/0 | .64 | 16.3 | 107.2 |
| 6340G5 | | | 300MCM | .77 | 19.4 | 152.0 |
| 6341G1 | | | Blue | 2/0 | .48 | 12.3 |
| 6341G2 | 3/0 | .58 | | 14.7 | 85.0 | |
| 6341G3 | 4/0 | .64 | | 16.3 | 107.2 | |
| 6341G5 | 300MCM | .77 | | 19.4 | 152.0 | |
| 6342G1 | Red | 2/0 | | .48 | 12.3 | 67.4 |
| 6342G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6342G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6342G5 | | 300MCM | .77 | 19.4 | 152.0 | |
| 6343G1 | | Green | 2/0 | .48 | 12.3 | 67.4 |
| 6343G2 | 3/0 | | .58 | 14.7 | 85.0 | |
| 6343G3 | 4/0 | | .64 | 16.3 | 107.2 | |
| 6343G5 | 300MCM | | .77 | 19.4 | 152.0 | |
| 6359G1 | Black | | 2/0 | .48 | 12.3 | 67.4 |
| 6359G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6359G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6359G5 | | 300MCM | .77 | 19.4 | 152.0 | |
| 6360G1 | | Yellow | 2/0 | .48 | 12.3 | 67.4 |
| 6360G2 | 3/0 | | .58 | 14.7 | 85.0 | |
| 6360G3 | 4/0 | | .64 | 16.3 | 107.2 | |
| 6360G5 | 300MCM | | .77 | 19.4 | 152.0 | |
| 6368G1 | Orange | | 2/0 | .48 | 12.3 | 67.4 |
| 6368G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6368G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6368G5 | | 300MCM | .77 | 19.4 | 152.0 | |



SBX® Connectors

350 Series Connectors 2-Pole

| Catalog Number | Description | Housing Color | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|-----------------------------------|---------------|----------|---------------------|-------|-------------------|
| | | | | in. | mm | |
| 6345G1 | Housing with springs & 2 contacts | Gray | 2/0 | .48 | 12.3 | 67.4 |
| 6345G2 | | | 3/0 | .58 | 14.7 | 85.0 |
| 6345G3 | | | 4/0 | .64 | 16.3 | 107.2 |
| 6345G5 | | | 300MCM | .77 | 19.4 | 152.0 |
| 6346G1 | | | Blue | 2/0 | .48 | 12.3 |
| 6346G2 | 3/0 | .58 | | 14.7 | 85.0 | |
| 6346G3 | 4/0 | .64 | | 16.3 | 107.2 | |
| 6346G5 | 300MCM | .77 | | 19.4 | 152.0 | |
| 6347G1 | Red | 2/0 | | .48 | 12.3 | 67.4 |
| 6347G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6347G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6347G5 | | 300MCM | .77 | 19.4 | 152.0 | |
| 6348G1 | | Green | 2/0 | .48 | 12.3 | 67.4 |
| 6348G2 | 3/0 | | .58 | 14.7 | 85.0 | |
| 6348G3 | 4/0 | | .64 | 16.3 | 107.2 | |
| 6348G5 | 300MCM | | .77 | 19.4 | 152.0 | |
| 6363G1 | Black | | 2/0 | .48 | 12.3 | 67.4 |
| 6363G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6363G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6363G5 | | 300MCM | .77 | 19.4 | 152.0 | |
| 6364G1 | | Yellow | 2/0 | .48 | 12.3 | 67.4 |
| 6364G2 | 3/0 | | .58 | 14.7 | 85.0 | |
| 6364G3 | 4/0 | | .64 | 16.3 | 107.2 | |
| 6364G5 | 300MCM | | .77 | 19.4 | 152.0 | |
| 6369G1 | Orange | | 2/0 | .48 | 12.3 | 67.4 |
| 6369G2 | | 3/0 | .58 | 14.7 | 85.0 | |
| 6369G3 | | 4/0 | .64 | 16.3 | 107.2 | |
| 6369G5 | | 300MCM | .77 | 19.4 | 152.0 | |



Housings

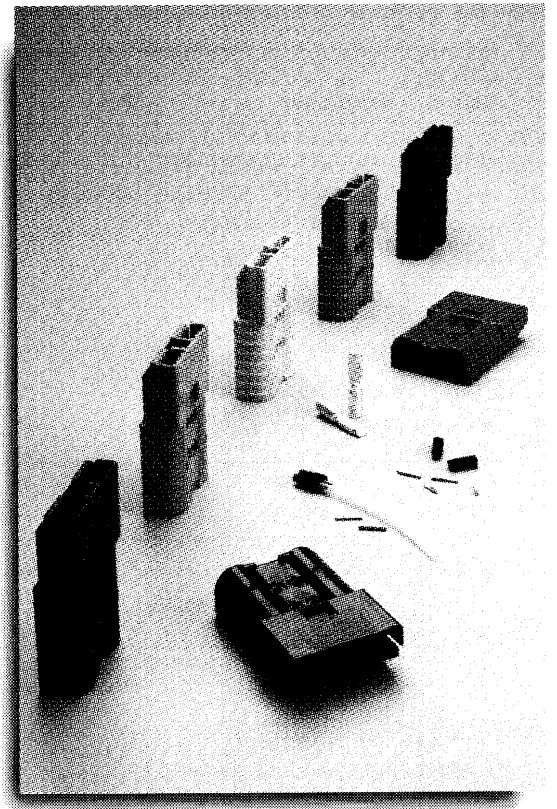
| Catalog Number | Description | Housing Color |
|----------------|----------------------|---------------|
| 6350 | Housing with springs | Gray |
| 6351 | | Blue |
| 6352 | | Red |
| 6353 | | Green |
| 6361 | | Black |
| 6362 | | Yellow |
| 6339 | | Orange |

Contacts

| Catalog Number | Description | Wire AWG | Cable Well Diameter | | Cable Size sq. mm |
|----------------|-------------|----------|---------------------|------|-------------------|
| | | | in. | mm | |
| 6354 | 2 Contacts | 2/0 | .48 | 12.3 | 67.4 |
| 6355 | | 3/0 | .58 | 14.7 | 85.0 |
| 6356 | | 4/0 | .64 | 16.3 | 107.2 |
| 6358 | | 300MCM | .77 | 19.4 | 152.0 |

350 Series Connectors 2-Pole

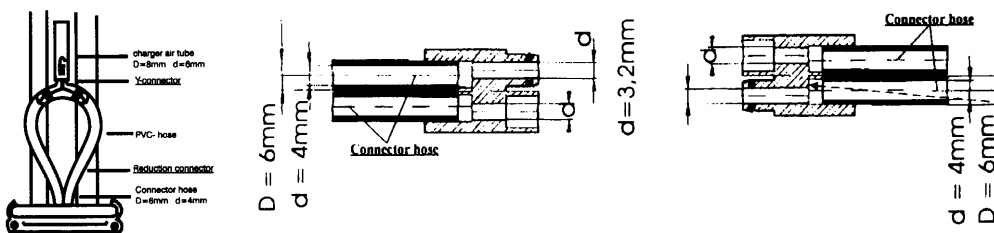
| Catalog Number | Description | Housing Color | Cable Well Diameter mm | Cable Size sq. mm |
|----------------|--------------|---------------|------------------------|-------------------|
| 6345G6 | Housing with | Gray | .44 | 11.2 |
| 6346G6 | springs | Blue | .44 | 11.2 |
| 6347G6 | & 2 35MM | Red | .44 | 11.2 |
| 6348G6 | contacts | Green | .44 | 11.2 |
| 6363G6 | | Black | .44 | 11.2 |
| 6364G6 | | Yellow | .44 | 11.2 |
| 6369G6 | | Orange | .44 | 11.2 |
| 6340G6 | Housing with | Gray | .44 | 11.2 |
| 6341G6 | springs, | Blue | .44 | 11.2 |
| 6342G6 | 2 35MM | Red | .44 | 11.2 |
| 6343G6 | contacts | Green | .44 <td 11.2 | |
| 6359G6 | & auxiliary | Black | .44 | 11.2 |
| 6360G6 | contact kit | Yellow | .44 | 11.2 |
| 6380G6 | | Orange | .44 | 11.2 |



Air Supply System

| Catalog Number | For Use With |
|----------------|---------------|
| 75071-00 | SBX 175 & 350 |

For supply of air to battery during charge.



SBX® Connectors

Accessories

Auxiliary Contact Kit

| Catalog Number | Description | For Use With | Wire Size | |
|----------------|--|------------------|-----------|--------------|
| | | | AWG | Sq. mm |
| 6344 | 2 each of: Powerpole*® housing with springs, contacts, retaining pins & cable ties | SBX175 SBX350 | 18 to 12 | 0.82 to 3.31 |

*POWERPOLE modular connector: 20 ampere. 600 volt rating.

Charger Key

Prevents charger and truck connector halves from engaging.

| Catalog Number | Description | For Use With | Hardware Kit Includes |
|----------------|-----------------|----------------------------------|-----------------------|
| 6337G1 | Charger Key Kit | SBX175 & SBX350 connectors | 1 key 2 pins |



"A" Frame Handles

Polycarbonate handle relieves unnecessary strain on cables when disconnecting.

| Catalog Number | Description | For Use With | Hardware Kit Includes |
|----------------|--------------------------|--------------|----------------------------------|
| 995G1 | One handle with hardware | SBX175 | 4 screws 4 nuts 4 lockwashers |
| 995G2 | One handle with hardware | SBX350 | 4 screws 4 nuts 4 lockwashers |

Manual Releases

Insulated non-corrosive steel structure. Provides smooth and efficient power connection/disconnection, maintains connector alignment.

| Catalog Number | Description | Hardware Kit Includes | |
|----------------|-------------|-------------------------------------|----------------------------------|
| 175 | 350 | | |
| 993G2 | 993G1 | Battery bracket with hardware | 2 screws 2 nuts 2 lockwashers |
| 994G2 | 994G1 | Charger/Truck bracket with hardware | 2 screws 2 nuts 2 lockwashers |

Charger Key

| Catalog Number | Description | For Use With |
|----------------|-----------------------|--------------|
| 6365G1 | Charger key & housing | SBX175 |
| 6366G2 | Charger key & socket | SBX350 |
| 6367G1 | Charger key & pin | |

Cable Clamps

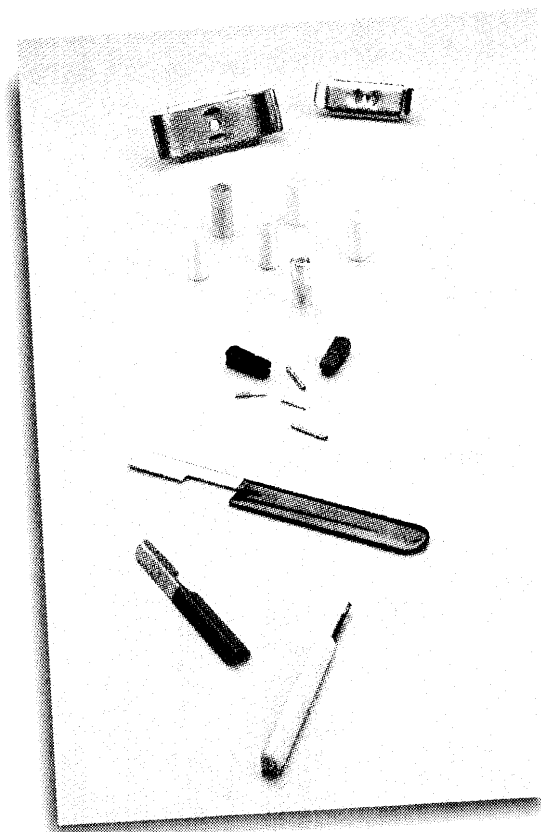
| Catalog Number | Description | For Use With | Hardware Kit Includes |
|----------------|--|--------------|-------------------------------|
| 945G2 | Use alone, with manual release or "A" Frame Handle | SBX175 | 1 screw 1 nut 1 lockwasher |
| 911G2 | | SBX350 | 1 screw 1 nut 1 lockwasher |

Underwriters Laboratories Inc.® requires use of cable clamps when contacts are soldered to unsupported leads.

Reducing Bushings

Assures proper fit for smaller cable sizes when crimping contacts.

| Catalog Number | For Use With | AWG Wire Size |
|----------------|--------------|---------------|
| 5687 | SBX175 | 1/0 to 1 |
| 5690 | | 1/0 to 2 |
| 5693 | | 1/0 to 4 |
| 5663 | | 1/0 to 6 |
| 5648 | | 1/0 to 10 |
| 5918 | SBX350 | 2/0 to 1/0 |



C

Extraction Tools

To simplify disassembly procedures when removing contacts from housings.

| Catalog Number | Tool Description | For Use With | Wire Size |
|----------------|---------------------------------------|-----------------------------------|-----------|
| 969P1 | Extraction tool with insulated handle | SBX175 | |
| 970P1 | | SBX350 | |
| 111038G2 | Contact insertion/extraction tool | Auxiliary Contact Kit (Powerpole) | |

SBX[®] Connectors

Operating Characteristics

Ampere/Temperature Curves *(See Figures 1 through 4)*

Ampere/Temperature curves help to evaluate and rate SBX[®] connectors in terms of applied current load versus temperature rise.

Each graph shows the curves resulting from loading the smallest and largest cables (AWG size) normally recommended for a particular connector; curves for cables between the smallest and largest can be easily estimated. Thus, with consideration of both ampere and temperature characteristics, connectors can be selected according to load and temperature limits or requirements of particular installations.

Typical Characteristics

| Connector Model | SB50 | SB175 | SB350 | SBX175 | SBX350 | SBE160 | SBE320 | SB175 3-POLE |
|--|-------------------|-----------------|-----------------------|-----------------|-----------------------|-----------------|----------------------------|-----------------|
| UL Current Rating (Ampere)* | 50 | 175 | 350 | 175 | 350 | 160 | 320 | 175 |
| UL Voltage Rating (Volts)** | 600 | 600 | 600 | 600 | 600 | 150 | 150 | 600 |
| Contact Barrel Wire Size Accommodation (AWG)* <i>(see table under wiring guide)</i> | 6 to 16 | 1/0 | 2/0 TO 4/0 300 mcm | 1/0 | 2/0 TO 4/0 300 mcm | 35 mm 1/0 | 2/0 to 4/0 2 Awg/300mcm | 1/0 |
| AVG Contact Resistance* (microhms) | 200 | 100 | 50 | 100 | 50 | 100 | 50 | 100 |
| Insulation Withstanding Test Voltage (Volts DC) | 2200 | 2200 | 2200 | 2200 | 2200 | 1300 | 1300 | 2200 |
| Maximum Wire Insulation Diameter (inches) | 0.44 | 0.75 | 1.10 | 0.75 | 1.10 | 0.75 | 1.10 | 0.75 |
| Contact Retention Force (lbs) | 50 | 300 | 500 | 300 | 500 | 300 | 500 | 300 |
| Avg. Connection/Disconnect Force (lbs) | 15 | 25 | 30 | 25 | 30 | 25 | 30 | 35 |
| Operating Temperature Range °C*** | -20° to 105° | -20° to 105° | -20° to 105° | -20° to 105° | -20° to 105° | -20° to 105° | -20° to 105° | -20° to 105° |
| Flammability Rating of Housing Material | UL 94V2 & UL 94V0 | | | | | | | |

* For largest 65°C rated wire or cable size

** Both AC & DC Voltage

*** Contact factory for higher temperature rated connectors

SBX UL and CSA Reference

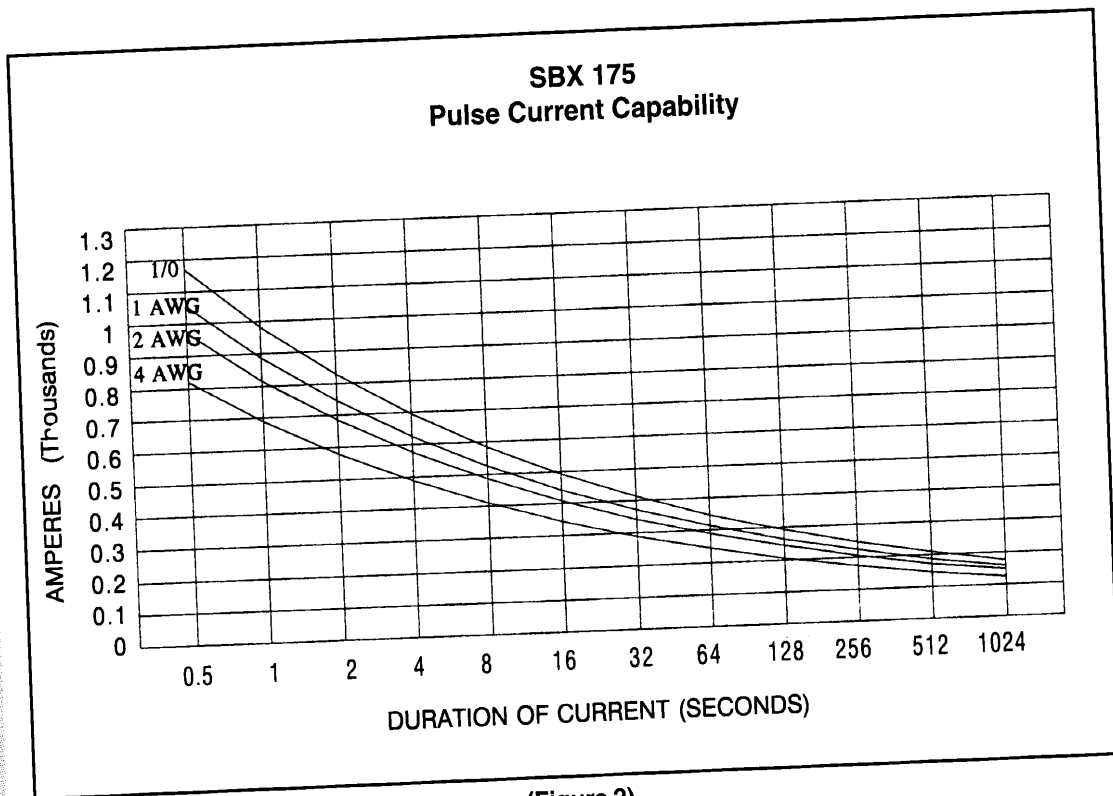
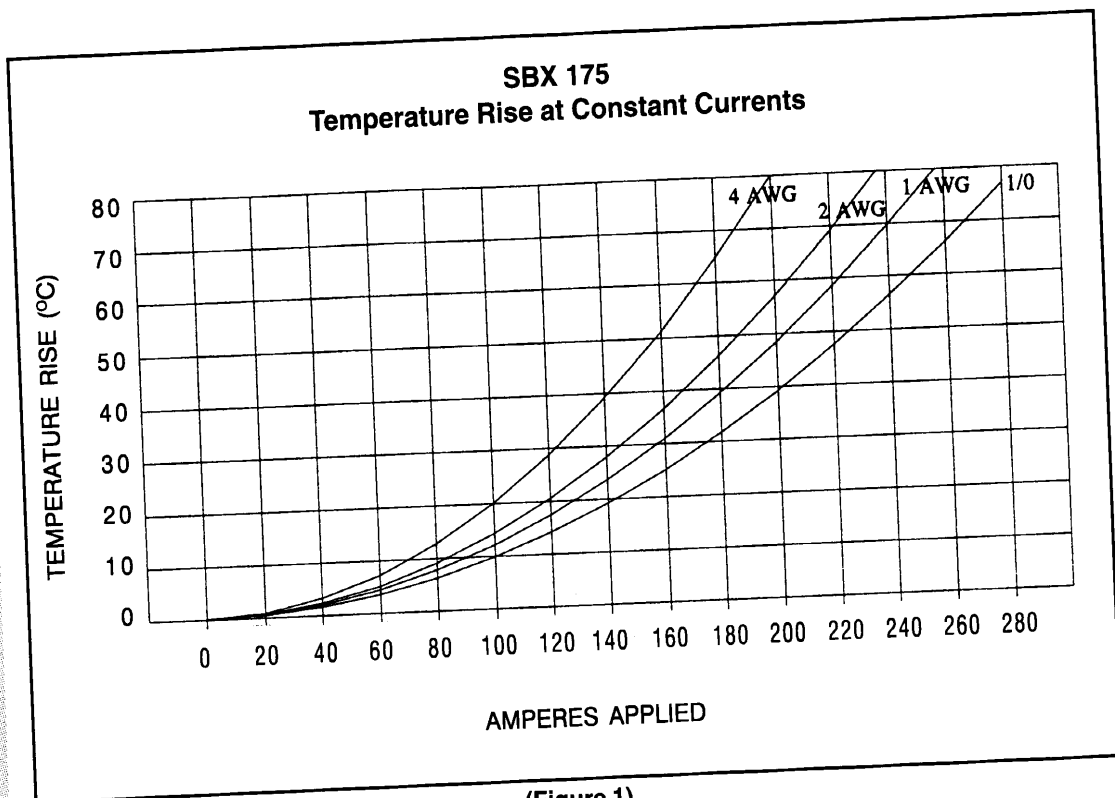
This equipment is an Underwriters Laboratories Inc.[®] recognized component, File E26226; it is also listed by the Canadian Standards Association as certified, Report LR25154.

Conversion Chart of American Wire Gauge to Metric System

| Size AWG or MCM | Amperes Single Cond. 75°C Copper (NFA) | Circular Mils | Area | | Approx. Diameter | |
|--------------------------|---|------------------|------------------|--------------|----------------------------|-------|
| | | | Square Inches | Square mm | Inches ClassM (NEMA) | mm |
| 20 | 7 | 1020 | .0008 | .52 | .038 | .97 |
| 18 | 10 | 1620 | .0013 | .82 | .048 | 1.22 |
| 16 | 15 | 2580 | .0020 | 1.31 | .060 | 1.52 |
| 14 | 20 | 4110 | .0032 | 2.08 | .078 | 1.98 |
| 12 | 25 | 6530 | .0051 | 3.31 | .101 | 2.57 |
| 10 | 40 | 10380 | .0082 | 5.26 | .126 | 3.20 |
| 8 | 65 | 16510 | .0130 | 8.37 | .162 | 4.11 |
| 6 | 95 | 26240 | .0206 | 13.30 | .215 | 5.46 |
| 4 | 125 | 41740 | .0328 | 21.15 | .269 | 6.83 |
| 2 | 170 | 66360 | .0521 | 33.62 | .337 | 8.56 |
| 1 | 195 | 83690 | .0657 | 42.41 | .376 | 9.55 |
| 1/0 | 230 | 105600 | .0829 | 53.50 | .423 | 10.74 |
| 2/0 | 265 | 133100 | .1045 | 67.43 | .508 | 12.90 |
| 3/0 | 310 | 167800 | .1318 | 85.01 | .576 | 14.63 |
| 4/0 | 360 | 211600 | .1662 | 107.20 | .645 | 16.38 |
| 250 MCM | 405 | 250000 | .1964 | 126.70 | .713 | 18.11 |
| 300 MCM | 445 | 300000 | .2356 | 152.00 | .768 | 19.51 |
| 500 MCM | 620 | 500000 | .3927 | 253.40 | .997 | 25.32 |
| 750 MCM | 785 | 750000 | .5891 | 380.00 | 1.207 | 30.66 |
| 1000 MCM | 935 | 1000000 | .7854 | 506.70 | 1.404 | 35.66 |

SBX[®] Connectors

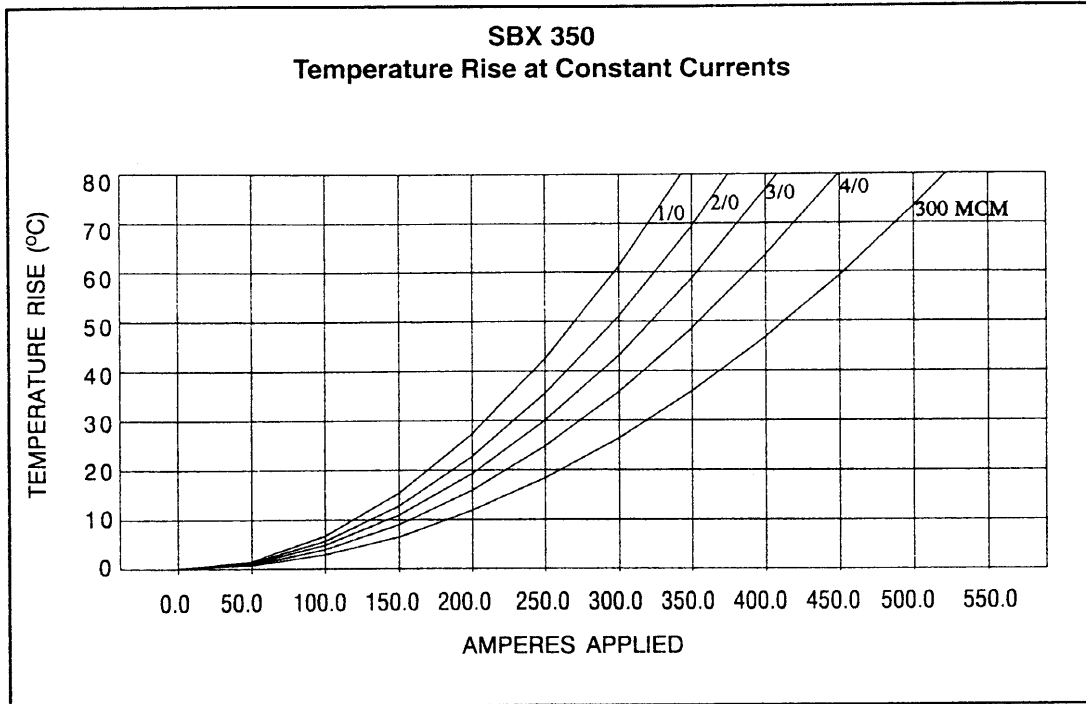
Operating Characteristics



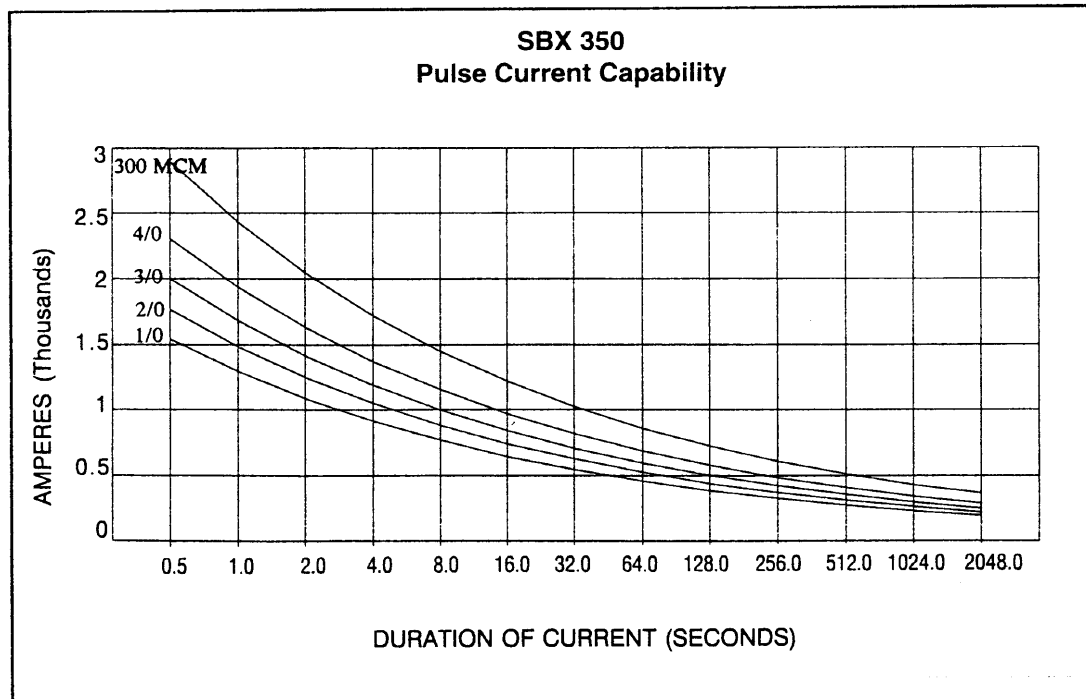
For equivalent millimeter wire sizes, reference the "Conversion Chart of American Wire Gauge to Metric System" in this section. Contact Anderson Power Products or authorized representative for graphs of wire sizes not shown.

SBX[®] Connectors

Operating Characteristics



(Figure 3)



(Figure 4)

For equivalent millimeter wire sizes, reference the "Conversion Chart of American Wire Gauge to Metric System" in this section. Contact Anderson Power Products or authorized representative for graphs of wire sizes not shown.