

3M™ Scotchlok™ Copper/ Aluminum Compression Connectors 20000 Series



Data Sheet

October 2015

Description

3M Scotchlok Copper/Aluminum Compression Connectors, 20000 Series are made of high conductivity aluminum and are designed to cover a wide range of conductor sizes from 6 AWG through 1000 kcmil (MCM). They are designed to connect either aluminum and/or copper conductors. Each connector is electro-tin plated to resist electrolytic corrosion. They are installed using standard industry tooling. Chamfered ends, and an integral solid center barrier,* ensure simplicity and ease of conductor insertion.

*NOTE: 20001 and 20002 connectors have bore protrusions rather than a solid center barrier.

Agency Approvals

UL Listed, UL Standard 486A-486-B, File No. E23438

Features

- Simple installation using readily available tools
- Unique integral solid barrier center stop (NOTE: 20001 and 20002 connectors have bore protrusions rather than a solid center barrier.)
- Manufactured using high conductivity aluminum
- Color-coded end caps for easy connector identification
- Antioxidant material (compatible with solid insulations) inside connector barrel to facilitate clean conductor to connector contact

Applications

- To connect aluminum and/or copper conductors from 6 AWG through 1000 kcmil (MCM)
- For low and medium voltage up to 35 kV
- For indoor and outdoor use

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Connector Dimensions and Selection Guide

NOTE: All listed connectors are UL Listed.

| 3M™ Scotchlok™ Connector Number | Conductor Size AWG or kcmil (MCM) | Color Code | Length inches (mm) | I.D. inches (mm) | O.D. inches (mm) |
|---------------------------------|-----------------------------------|------------|--------------------|------------------|------------------|
| 20001 | 6 AWG | Gray | 1.620 (41,14) | .200 (5,08) | .344 (8,73) |
| 20002 | 4 AWG | Green | 2.125 (53,97) | .272 (6,93) | .480 (12,19) |
| 20003 | 2 AWG | Pink | 2.000 (50,80) | .307 (7,79) | .531 (13,48) |
| 20004 | 1 AWG | Gold | 2.000 (50,80) | .350 (8,89) | .531 (13,48) |
| 20005 | 1/0 AWG | Tan | 2.125 (53,97) | .394 (10,00) | .635 (16,12) |
| 20006 | 2/0 AWG | Olive | 2.312 (58,72) | .445 (11,30) | .690 (17,52) |
| 20007 | 3/0 AWG | Ruby | 2.625 (66,67) | .484 (12,29) | .760 (19,30) |
| 20008 | 4/0 AWG | White | 2.750 (69,85) | .547 (13,89) | .875 (22,22) |
| 20009 | 250 kcmil | Red | 2.937 (74,59) | .594 (15,06) | .906 (23,01) |
| 20010 | 300 kcmil | Dark Blue | 3.125 (79,37) | .650 (16,51) | 1.000 (25,40) |
| 20011 | 350 kcmil | Brown | 3.380 (85,85) | .720 (18,28) | 1.125 (28,57) |
| 20012 | 400 kcmil | Green | 3.750 (95,25) | .762 (19,35) | 1.187 (30,14) |
| 20014 | 500 kcmil | Pink | 3.875 (98,42) | .843 (21,41) | 1.320 (33,52) |
| 20016 | 600 kcmil | Black | 4.125 (104,77) | .923 (23,44) | 1.438 (36,52) |
| 20019 | 750 kcmil | Yellow | 4.680 (118,87) | 1.031 (26,18) | 1.600 (40,64) |
| 20020 | 800 kcmil | Light Blue | 4.750 (120,65) | 1.062 (26,97) | 1.652 (42,96) |
| 20024 | 1000 kcmil | Brown | 5.250 (133,35) | 1.193 (30,30) | 1.847 (46,91) |

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

3M Scotchlok Copper/Aluminum Compression Connectors 20000 Series, when crimped with approved die sets, can be used on cables with an operating temperature of 194°F (90°C) and an emergency overload rating of 266°F (130°C). The connectors pass the requirements of UL486B (Underwriters Laboratories standard for safety). The current rating of these connectors meets or exceeds the current rating of the conductor size for which it is intended.

Tool/Installation Information

Connectors shall be crimped with one of the approved die sets according to the engineering information supplied with the connectors. (Also see Crimping Tool-Die Sets table below). If different crimping tools and die sets are used, consult the tool and die manufacturer.

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Crimping Tool Recommendations

Crimping Tool – Die Sets (Minimum # of Crimps / End)

| 3M™ Scotchlok™ Connector | Conductor Size AWG or kcmil (MCM) | Burdny Corporation | | | | | | Thomas & Betts | | | Kearney |
|--------------------------|-----------------------------------|--------------------------|----------------------------------|----------------------------------|------------------------------------|--|--|----------------|-----------|----------|-------------|
| | | Die Index | MD6 | Y35 | Y39 | Y45 | Y46 | TBM5 | TBM 8 | TBM15 | WH2,052 |
| 20001 | 6 AWG | 161 346 | W161 (1) ----- | U161 (1) U6CABT (1) | ----- U6CABT (1) | U161 (1) U6CABT (1) | U161 (1) U6CABT (1) | Grey (1) | Grey (1) | 29 (1) | 5/16 (1) |
| 20002 | 4 AWG | 162 375 | W162 (2) ----- | U162 (1) U4CABT (1) | ----- U4CABT (1) | U162 (1) U4CABT (1) | U162 (1) U4CABT (1) | Green (2) | Green (2) | 37 (1) | ----- |
| 20003 | 2 AWG | 163 348 | W163 (3) ----- | U163 (1) U2CABT (1) | ----- U2CABT (1) | U163 (1) U2CABT (1) | U163 (1) U2CABT (1) | Gold (2) | Gold (2) | 45 (2) | 1/2 (2) |
| 20004 | 1 AWG | 163 348 | W163 (3) ----- | U163 (1) U2CABT (1) | ----- U2CABT (1) | U163 (1) U2CABT (1) | U163 (1) U2CABT (1) | Gold (2) | Gold (2) | 45 (1) | 1/2 (2) |
| 20005 | 1/0 AWG | BG 243 | W-BG (2) W243 (2) | U-BG (2) U243 (1) | ----- ----- | U-BG (2) U243 (1) | U-BG (2) U243 (1) | Tan (3) | Tan (3) | 52 (1) | 5/8 (3) |
| 20006 | 2/0 AWG | 297 | ----- | U26ART (2) | U26ART (2) | U26ART (2) | U26ART (2) | Olive (3) | Olive (3) | 58 (2) | 5/8-1 (3) |
| 20007 | 3/0 AWG | 167 467 | ----- ----- | U167 (2) U27ART (3) | ----- U27ART (3) | U167 (2) U27ART (3) | U167 (2) U27ART (3) | Ruby (3) | Ruby (3) | 66 (1) | ----- |
| 20008 | 4/0 AWG | 296 | ----- | U28ART (2) | U28ART (2) | U28ART (2) | U28ART (2) | ----- | White (3) | 71H (3) | 640 (3) |
| 20009 | 250 kcmil | 249 | W249 (2) | U249 (1) | ----- | U249 (1) | U249 (1) | ----- | Red (2) | 76 (1) | 640 (3) |
| 20010 | 300 kcmil | 251 470 | ----- ----- | U251 (2) U30ART (2) | ----- U30ART (2) | U251 (2) U30ART (2) | U251 (2) U30ART (2) | ----- | Blue (3) | 87H (2) | 1 (3) |
| 20011 | 350 kcmil | 299 655 | ----- ----- | U31ART (2) U655 (2) | U31ART (2) ----- | U31ART (2) U655 (2) | U31ART (2) U655 (2) | ----- | Brown (4) | 96 (2) | 1 1/8-1 (2) |
| 20012 | 400 kcmil | 472 655 | ----- ----- | U32ART (3) U655 (2) | U32ART (3) ----- | U32ART (3) U655 (2) | U32ART (3) U655 (2) | ----- | ----- | 96 (2) | 1 1/8-1 (2) |
| 20014 | 500 kcmil | 300 317 | ----- ----- | U34ART (4) U317 (3) | U34ART (4) ----- | U34ART (4) U317 (3) | U34ART (4) U317 (3) | ----- | ----- | 106A (2) | 1 5/16 (3) |
| 20016 | 600 kcmil | 473 786 936 | ----- ----- ----- | U36ART (3) U786* ----- | U36ART (3) ----- U39ART-2(2) | U36ART (3) S786* U39ART-2 (2) | U36ART (3) P786* U39ART-2 (2) | ----- | ----- | 115H (3) | 1 5/16 (3) |
| 20019 | 750 kcmil | 608 786 936 | ----- ----- ----- | U608 (2) U786* ----- | ----- ----- U39ART-2(3) | U608 (2) S786* U39ART-2 (3) | U608 (2) P786* U39ART-2 (3) | ----- | ----- | 125H (4) | 1 1/2 (3) |
| 20020 | 800 kcmil | 342 474 | ----- ----- | ----- ----- | ----- ----- | S342 (2) S40ART (2) | P342 (2) P40ART (2) | ----- | ----- | 140H (2) | 1 1/2 (3) |
| 20024 | 1000 kcmil | 292 302 319 352 | ----- ----- ----- ----- | ----- ----- ----- ----- | ----- ----- ----- ----- | S292 (4) S44ART (4) S319 (3) S352 (3) | P292 (2) P44ART (2) P319 (2) P352 (2) | ----- | ----- | 161 (2) | 1 3/4 (3) |

*Install as many crimps as possible without overlapping.
() Indicates minimum number of crimps for each cable insertion.

Storage

Components of the connectors are not impaired by freezing or overheating due to ambient temperatures found in typical storage or shipping. Normal stock rotation procedures are recommended.

Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.

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