



# Ferrules

INSULATED FERRULES & TERMINALS:  
UL-APPROVED & LISTED, CSA-CERTIFIED



[zf-usa.com](http://zf-usa.com)

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Zoller + Fröhlich is the inventor of insulated wire end ferrules. All ferrules are produced in the headquarters in Wangen/Allgäu. Z+F ferrules are available in various different colours and lengths with a cross section from 0.14 mm<sup>2</sup> to 150 mm<sup>2</sup>.

Since 2012 nearly all Z+F insulated ferrules are certified according to UL and are also CSA-US certified. This feature applies to loose piece insulated Z+F ferrules and twin ferrules. Additionally, a wide range of uninsulated ferrules is also certified.

#### Material

Polypropylene sleeve, heat-resistant up to 105 °C (221 Fahrenheit). Material: tin-plated copper. We are also manufacturing ferrules made of other plastic material as well as other colours for plastic parts on request.

#### Type/connection length

|     |                       |      |                     |
|-----|-----------------------|------|---------------------|
| K   | short                 | S    | multinorm (AWG)     |
| N   | normal                | X    | short circuit proof |
| HLS | medium special length | XS-S | little collar       |
| HL  | medium long           |      |                     |
| L   | long                  |      |                     |
| LS  | long special length   |      |                     |

#### CSA-US Certification

Z+F ferrules are certified according to CSA-US. It applies to all ferrules from 0.14 up to 50 mm<sup>2</sup> (AWG 26 – 1/0). For further information about the CSA-US certification please see page 28.

#### UL Certification

Z+F ferrules are certified according to UL 486F. It applies to most loose piece insulated and uninsulated Z+F ferrules. For further information about the UL certification please see page 29.

#### Individual Labelling

All ferrules are delivered in bags with the Z+F logo printed on them. The labelling can be customized individually according to your requests.



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## Insulated ferrules, single bag with euro hole punch

### Aderendhülsen mit Kunststoffkragen

Für Leiter von 0,14 bis 150 mm<sup>2</sup> (AWG 26 – 300 kcmil).

Material: E-Cu, galvanisch verzinkt.

Maßtoleranzen nach DIN 46228 Teil 4

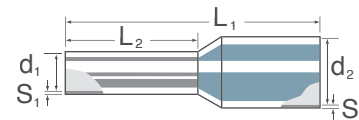


### Ferrules with insulating collar

For conductor cross-sections from 0.14 up to 150 mm<sup>2</sup> (AWG 26 – 300 kcmil).

Material: tin-plated copper.

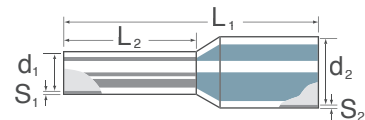
Tolerances according to DIN 46228 part 4



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> | VPE             |
| 0,14                       | 6              | N             | 26  | V30AE001667                                   |             | V30AE001669 | 10                           | 6              | 0,6            | 0,15           | 1,5            | 0,25           | 500             |
| 0,14                       | 8              | L             | 26  | V30AE001668                                   |             | V30AE001661 | 12                           | 8              | 0,6            | 0,15           | 1,5            | 0,25           | 500             |
| 0,25                       | 6              | N             | 24  | V30AE000001                                   |             | V30AE001662 | 10                           | 6              | 0,85           | 0,15           | 1,8            | 0,25           | 500             |
|                            |                |               |     |                                               |             | V30AE001644 |                              |                |                |                |                |                |                 |
| 0,25                       | 8              | L             | 24  | V30AE000002                                   |             | V30AE001663 | 12                           | 8              | 0,85           | 0,15           | 1,8            | 0,25           | 500             |
|                            |                |               |     |                                               |             | V30AE001645 |                              |                |                |                |                |                |                 |
| 0,25                       | 12             | LS            | 24  | V30AE004155                                   |             | V30AE004154 | 16                           | 12             | 0,85           | 0,15           | 1,8            | 0,25           | 500             |
| 0,34                       | 6              | N             | 22  | V30AE000003                                   |             | V30AE001664 | 10                           | 6              | 0,85           | 0,15           | 2              | 0,25           | 500             |
|                            |                |               |     |                                               |             | V30AE000535 |                              |                |                |                |                |                |                 |
| 0,34                       | 8              | L             | 22  | V30AE000004                                   |             | V30AE001665 | 12                           | 8              | 0,85           | 0,15           | 2              | 0,25           | 500             |
|                            |                |               |     |                                               |             | V30AE006677 |                              |                |                |                |                |                |                 |
| 0,34                       | 12             | LS            | 22  | V30AE004156                                   |             | V30AE004157 | 16                           | 12             | 0,85           | 0,15           | 2              | 0,25           | 500             |
| 0,5                        | 6              | K             | 20  | V30AE000005                                   | V30AE000037 | V30AE000037 | 12                           | 6              | 1              | 0,15           | 2,6            | 0,25           | 500             |
| 0,5                        | 8              | N             | 20  | V30AE000006                                   | V30AE000038 | V30AE000038 | 14                           | 8              | 1              | 0,15           | 2,6            | 0,25           | 500             |
| 0,5                        | 10             | HL            | 20  | V30AE000007                                   | V30AE000039 | V30AE000039 | 16                           | 10             | 1              | 0,15           | 2,6            | 0,25           | 500             |
| 0,5                        | 12             | L             | 20  | V30AE004158                                   | V30AE004159 | V30AE004159 | 18                           | 12             | 1              | 0,15           | 2,6            | 0,25           | 500             |
| 0,75                       | 6              | K             | 18  | V30AE000008                                   | V30AE000040 | V30AE000546 | 12                           | 6              | 1,2            | 0,15           | 2,8            | 0,25           | 500             |
| 0,75                       | 8              | N             | 18  | V30AE000009                                   | V30AE000041 | V30AE000537 | 14                           | 8              | 1,2            | 0,15           | 2,8            | 0,25           | 500             |
| 0,75                       | 9              | HLS           | 18  | V30AE006687                                   | V30AE006686 | V30AE006688 | 15                           | 9              | 1,2            | 0,15           | 2,8            | 0,25           | 500             |
| 0,75                       | 10             | HL            | 18  | V30AE000010                                   | V30AE000042 | V30AE000547 | 16                           | 10             | 1,2            | 0,15           | 2,8            | 0,25           | 500             |
| 0,75                       | 12             | L             | 18  | V30AE000011                                   | V30AE000043 | V30AE000548 | 16                           | 12             | 1,2            | 0,15           | 2,8            | 0,25           | 500             |
| 1                          | 6              | K             | 18  | V30AE000012                                   | V30AE000044 | V30AE000044 | 12                           | 6              | 1,4            | 0,15           | 3              | 0,25           | 500             |
| 1                          | 8              | N             | 18  | V30AE000013                                   | V30AE000045 | V30AE000045 | 14                           | 8              | 1,4            | 0,15           | 3              | 0,25           | 500             |
| 1                          | 10             | HL            | 18  | V30AE000014                                   | V30AE000046 | V30AE000046 | 16                           | 10             | 1,4            | 0,15           | 3              | 0,25           | 500             |
| 1                          | 12             | L             | 18  | V30AE000015                                   | V30AE000047 | V30AE000047 | 18                           | 12             | 1,4            | 0,15           | 3              | 0,25           | 500             |
| 1,5                        | 6              | K             | 16  | V30AE003704                                   | V30AE003705 | V30AE003705 | 12                           | 6              | 1,7            | 0,15           | 3,5            | 0,25           | 500             |
| 1,5                        | 8              | N             | 16  | V30AE000016                                   | V30AE000048 | V30AE000048 | 14                           | 8              | 1,7            | 0,15           | 3,5            | 0,25           | 500             |
| 1,5                        | 10             | HL            | 16  | V30AE000017                                   | V30AE000049 | V30AE000049 | 16                           | 10             | 1,7            | 0,15           | 3,5            | 0,25           | 500             |

\* Erläuterung siehe Seite 6

\* Explanation see page 7



| Bezeichnung<br>Description |                |               | AWG      | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|----------|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm²                        | L <sub>2</sub> | Typ*<br>Type* |          | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 1,5                        | 12             | HLS           | 16       | V30AE002114                                   | V30AE000050 | V30AE000050 | 18                           | 12             | 1,7            | 0,15           | 3,5            | 0,25           | 500             |
| 1,5                        | 18             | L             | 16       | V30AE000018                                   | V30AE000051 | V30AE000051 | 24                           | 18             | 1,7            | 0,15           | 3,5            | 0,25           | 500             |
| 2,08                       | 8              | N             | 14       | V30AE004700                                   |             | V30AE004929 | 15                           | 8              | 2,05           | 0,15           | 4,2            | 0,3            | 500             |
| 2,08                       | 12             | HL            | 14       |                                               |             | V30AE004927 | 19                           | 12             | 2,05           | 0,15           | 4,2            | 0,3            | 500             |
| 2,5                        | 6              | K             | 14       | V30AE004103                                   | V30AE004103 | V30AE004107 | 13                           | 6              | 2,2            | 0,15           | 4,2            | 0,25           | 500             |
| 2,5                        | 8              | N             | 14       | V30AE000052                                   | V30AE000052 | V30AE000538 | 15                           | 8              | 2,2            | 0,15           | 4,2            | 0,25           | 500             |
| 2,5                        | 10             | HLS           | 14       | V30AE003702                                   | V30AE003702 | V30AE003703 | 17                           | 10             | 2,2            | 0,15           | 4,2            | 0,25           | 500             |
| 2,5                        | 12             | HL            | 14       | V30AE000053                                   | V30AE000053 | V30AE000549 | 19                           | 12             | 2,2            | 0,15           | 4,2            | 0,25           | 500             |
| 2,5                        | 18             | L             | 14       | V30AE000054                                   | V30AE000054 | V30AE000550 | 25                           | 18             | 2,2            | 0,15           | 4,2            | 0,25           | 500             |
| 4                          | 8              | K             | 12       | V30AE004104                                   | V30AE004104 | V30AE004106 | 16                           | 8              | 2,8            | 0,2            | 4,8            | 0,3            | 500             |
| 4                          | 10             | N             | 12       | V30AE000055                                   | V30AE000055 | V30AE000539 | 18                           | 10             | 2,8            | 0,2            | 4,8            | 0,3            | 500             |
| 4                          | 12             | HL            | 12       | V30AE000056                                   | V30AE000056 | V30AE000551 | 20                           | 12             | 2,8            | 0,2            | 4,8            | 0,3            | 500             |
| 4                          | 18             | L             | 12       | V30AE000057                                   | V30AE000057 | V30AE000552 | 26                           | 18             | 2,8            | 0,2            | 4,8            | 0,3            | 100             |
| 6                          | 12             | N             | 10       | V30AE000025                                   | V30AE000058 | V30AE000540 | 20                           | 12             | 3,5            | 0,2            | 6,3            | 0,3            | 100             |
| 6                          | 18             | L             | 10       | V30AE000026                                   | V30AE000059 | V30AE000553 | 26                           | 18             | 3,5            | 0,2            | 6,3            | 0,3            | 100             |
| 10                         | 12             | N             | 8        | V30AE000027                                   | V30AE000060 | V30AE000541 | 22                           | 12             | 4,5            | 0,2            | 7,6            | 0,4            | 100             |
| 10                         | 18             | L             | 8        | V30AE000028                                   | V30AE000061 | V30AE000554 | 28                           | 18             | 4,5            | 0,2            | 7,6            | 0,4            | 100             |
| 16                         | 12             | N             | 6        | V30AE000029                                   | V30AE000062 | V30AE000542 | 22                           | 12             | 5,8            | 0,2            | 8,8            | 0,4            | 100             |
| 16                         | 18             | L             | 6        | V30AE000030                                   | V30AE000063 | V30AE000555 | 28                           | 18             | 5,8            | 0,2            | 8,8            | 0,4            | 100             |
| 25                         | 16             | N             | 4        | V30AE000031                                   | V30AE000064 | V30AE000543 | 30                           | 16             | 7,3            | 0,2            | 11,2           | 0,4            | 50              |
| 25                         | 18             | HL            | 4        | V30AE002115                                   | V30AE000065 | V30AE000556 | 32                           | 18             | 7,3            | 0,2            | 11,2           | 0,4            | 50              |
| 25                         | 22             | L             | 4        | V30AE000032                                   | V30AE000066 | V30AE000557 | 36                           | 22             | 7,3            | 0,2            | 11,2           | 0,4            | 50              |
| 35                         | 16             | N             | 2        | V30AE000033                                   | V30AE000067 | V30AE000033 | 30                           | 16             | 8,3            | 0,2            | 12,7           | 0,4            | 50              |
| 35                         | 18             | HL            | 2        | V30AE003721                                   | V30AE000068 | V30AE003721 | 32                           | 18             | 8,3            | 0,2            | 12,7           | 0,4            | 50              |
| 35                         | 25             | L             | 2        | V30AE000034                                   | V30AE000069 | V30AE000034 | 39                           | 25             | 8,3            | 0,2            | 12,7           | 0,4            | 50              |
| 50                         | 20             | N             | 1/0      | V30AE000035                                   | V30AE000070 | V30AE000035 | 36                           | 20             | 10,3           | 0,3            | 15             | 0,5            | 50              |
| 50                         | 25             | HL            | 1/0      | V30AE001627                                   | V30AE001628 | V30AE001627 | 41                           | 25             | 10,3           | 0,3            | 15             | 0,5            | 50              |
| 50                         | 30             | L             | 1/0      | V30AE000036                                   | V30AE000071 | V30AE000036 | 46                           | 30             | 10,3           | 0,3            | 15             | 0,5            | 50              |
| 70**                       | 21             | N             | 2/0      | V30AE001658                                   |             |             | 37                           | 21             | 12,7           | 0,35           | 16             | 0,6            | 25              |
| 95**                       | 25             | N             | 3/0      | V30AE001659                                   |             |             | 44                           | 25             | 14,7           | 0,35           | 18             | 0,6            | 25              |
| 120**                      | 30             | N             | 250kcmil | V30AE002896                                   |             |             | 50                           | 30             | 16,5           | 0,5            | 21             | 0,7            | 25              |
| 150**                      | 32             | N             | 300kcmil | V30AE003102                                   |             |             | 54                           | 32             | 18,5           | 0,5            | 23,5           | 0,75           | 25              |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

\*\* Keine CSA-US/UL Zertifizierung, siehe Seite 28/29

\*\* Not certified according to CSA-US/UL, see page 28/29

## Insulated ferrules, single bag with euro hole punch

### Aderendhülsen mit Kunststoffkragen

Für Leiter von 0,14 bis 10 mm<sup>2</sup> (AWG 26 – 8).

Material: E-Cu, galvanisch verzinkt.

Maßtoleranzen nach DIN 46228 Teil 4

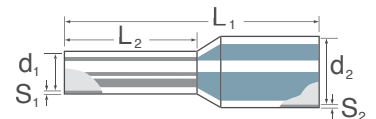


### Ferrules with insulating collar

For conductor cross-sections from 0.14 up to 10 mm<sup>2</sup> (AWG 26 – 8).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 0,14                       | 6              | N             | 26  | V30AE003882                                   |             | V30AE003883 | 10                           | 6              | 0,6            | 0,15           | 1,5            | 0,25           | 100             |
| 0,25                       | 6              | N             | 24  | V30AE003884                                   |             | V30AE003885 | 10                           | 6              | 0,85           | 0,15           | 1,8            | 0,25           | 100             |
|                            |                |               |     |                                               |             | V30AE003886 |                              |                |                |                |                |                |                 |
| 0,34                       | 6              | N             | 22  | V30AE003887                                   |             | V30AE003888 | 10                           | 6              | 0,85           | 0,15           | 2              | 0,25           | 100             |
|                            |                |               |     |                                               |             | V30AE003889 |                              |                |                |                |                |                |                 |
| 0,5                        | 8              | N             | 20  | V30AE003890                                   | V30AE003891 | V30AE003891 | 14                           | 8              | 1              | 0,15           | 2,6            | 0,25           | 100             |
| 0,75                       | 8              | N             | 18  | V30AE003892                                   | V30AE003893 | V30AE003894 | 14                           | 8              | 1,2            | 0,15           | 2,8            | 0,25           | 100             |
| 1                          | 8              | N             | 18  | V30AE003895                                   | V30AE003896 | V30AE003896 | 14                           | 8              | 1,4            | 0,15           | 3              | 0,25           | 100             |
| 1,5                        | 8              | N             | 16  | V30AE003897                                   | V30AE003898 | V30AE003898 | 14                           | 8              | 1,7            | 0,15           | 3,5            | 0,25           | 100             |
| 2,5                        | 8              | N             | 14  | V30AE003899                                   | V30AE003899 | V30AE003900 | 15                           | 8              | 2,2            | 0,15           | 4,2            | 0,25           | 100             |
| 4                          | 10             | N             | 12  | V30AE003901                                   | V30AE003901 | V30AE003902 | 18                           | 10             | 2,8            | 0,2            | 4,8            | 0,3            | 50              |
| 6                          | 12             | N             | 10  | V30AE003903                                   | V30AE003904 | V30AE003905 | 20                           | 12             | 3,5            | 0,2            | 6,3            | 0,3            | 20              |
| 10                         | 12             | N             | 8   | V30AE003906                                   | V30AE003907 | V30AE003908 | 22                           | 12             | 4,5            | 0,2            | 7,6            | 0,4            | 20              |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

### Aderendhülsen mit Kunststoffkragen

Für Leiter von 0,14 bis 10 mm<sup>2</sup> (AWG 26 – 8).

Material: E-Cu, galvanisch verzinkt.

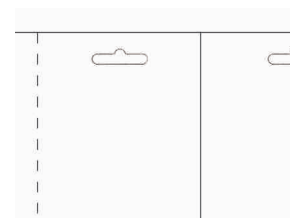
Maßtoleranzen nach DIN 46228 Teil 4

### Ferrules with insulating collar

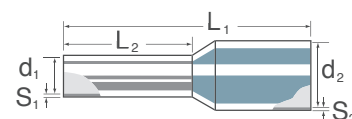
For conductor cross-sections from 0.14 up to 10 mm<sup>2</sup> (AWG 26 – 8).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



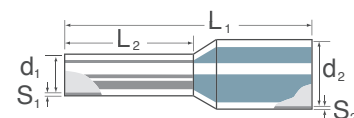
Eurolochstanzung  
Euro Hole Punch



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |     |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-----|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> | VPE             |
| 0,14                       | 6              | N             | 26  | V30AE004798                                   |     | V30AE004809 | 10                           | 6              | 0,6            | 0,15           | 1,5            | 0,25           | 10 x 100        |
| 0,14                       | 8              | L             | 26  | V30AE004799                                   |     | V30AE004810 | 12                           | 8              | 0,6            | 0,15           | 1,5            | 0,25           | 10 x 100        |
| 0,25                       | 6              | N             | 24  | V30AE000072                                   |     | V30AE003793 | 10                           | 6              | 0,85           | 0,15           | 1,8            | 0,25           | 10 x 100        |
|                            |                |               |     |                                               |     | V30AE006705 |                              |                |                |                |                |                |                 |
| 0,25                       | 8              | L             | 24  | V30AE000617                                   |     | V30AE004811 | 12                           | 8              | 0,85           | 0,15           | 1,8            | 0,25           | 10 x 100        |
|                            |                |               |     |                                               |     | V30AE006706 |                              |                |                |                |                |                |                 |
| 0,25                       | 12             | LS            | 24  | V30AE006219                                   |     | V30AE006220 | 16                           | 12             | 0,85           | 0,15           | 1,8            | 0,25           | 10 x 100        |

\* Erläuterung siehe Seite 6

\* Explanation see page 7



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> | VPE             |
| 0,34                       | 6              | N             | 22  | V30AE000073                                   |             | V30AE003795 | 10                           | 6              | 0,85           | 0,15           | 2              | 0,25           | 10 x 100        |
|                            |                |               |     |                                               |             | V30AE006678 |                              |                |                |                |                |                |                 |
| 0,34                       | 8              | L             | 22  | V30AE000618                                   |             | V30AE004812 | 12                           | 8              | 0,85           | 0,15           | 2              | 0,25           | 10 x 100        |
|                            |                |               |     |                                               |             | V30AE006679 |                              |                |                |                |                |                |                 |
| 0,34                       | 12             | LS            | 22  | V30AE006221                                   |             | V30AE006222 | 16                           | 12             | 0,85           | 0,15           | 2              | 0,25           | 10 x 100        |
| 0,5                        | 6              | K             | 20  | V30AE001156                                   | V30AE004813 | V30AE004813 | 12                           | 6              | 1              | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,5                        | 8              | N             | 20  | V30AE000074                                   | V30AE000079 | V30AE000079 | 14                           | 8              | 1              | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,5                        | 10             | HL            | 20  | V30AE001159                                   | V30AE004801 | V30AE004801 | 16                           | 10             | 1              | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,5                        | 12             | L             | 20  | V30AE006223                                   | V30AE006224 | V30AE006224 | 18                           | 12             | 1              | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,75                       | 6              | K             | 18  | V30AE001157                                   | V30AE004802 | V30AE004814 | 12                           | 6              | 1,2            | 0,15           | 2,8            | 0,25           | 10 x 100        |
| 0,75                       | 8              | N             | 18  | V30AE000075                                   | V30AE000080 | V30AE000619 | 14                           | 8              | 1,2            | 0,15           | 2,8            | 0,25           | 10 x 100        |
| 0,75                       | 10             | HL            | 18  | V30AE001160                                   | V30AE004803 | V30AE004815 | 16                           | 10             | 1,2            | 0,15           | 2,8            | 0,25           | 10 x 100        |
| 0,75                       | 12             | L             | 18  | V30AE001163                                   | V30AE004804 | V30AE004816 | 18                           | 12             | 1,2            | 0,15           | 2,8            | 0,25           | 10 x 100        |
| 1                          | 6              | K             | 18  | V30AE001158                                   | V30AE003796 | V30AE003796 | 12                           | 6              | 1,4            | 0,15           | 3              | 0,25           | 10 x 100        |
| 1                          | 8              | N             | 18  | V30AE000076                                   | V30AE000081 | V30AE000081 | 14                           | 8              | 1,4            | 0,15           | 3              | 0,25           | 10 x 100        |
| 1                          | 10             | HL            | 18  | V30AE001161                                   | V30AE004805 | V30AE004805 | 16                           | 10             | 1,4            | 0,15           | 3              | 0,25           | 10 x 100        |
| 1                          | 12             | L             | 18  | V30AE001164                                   | V30AE004806 | V30AE004806 | 18                           | 12             | 1,4            | 0,15           | 3              | 0,25           | 10 x 100        |
| 1,5                        | 6              | K             | 16  | V30AE006225                                   | V30AE006226 | V30AE006226 | 12                           | 6              | 1,7            | 0,15           | 3,5            | 0,25           | 10 x 100        |
| 1,5                        | 8              | N             | 16  | V30AE000077                                   | V30AE000082 | V30AE000082 | 14                           | 8              | 1,7            | 0,15           | 3,5            | 0,25           | 10 x 100        |
| 1,5                        | 10             | HL            | 16  | V30AE001162                                   | V30AE004807 | V30AE004807 | 16                           | 10             | 1,7            | 0,15           | 3,5            | 0,25           | 10 x 100        |
| 1,5                        | 12             | HLS           | 16  | V30AE004800                                   | V30AE004808 | V30AE004808 | 18                           | 12             | 1,7            | 0,15           | 3,5            | 0,25           | 10 x 100        |
| 2,08                       | 8              | N             | 14  | V30AE006209                                   |             | V30AE006210 | 15                           | 8              | 2,05           | 0,15           | 4,2            | 0,3            | 10 x 100        |
| 2,08                       | 12             | HL            | 14  |                                               |             | V30AE006228 | 19                           | 12             | 2,05           | 0,15           | 4,2            | 0,3            | 10 x 100        |
| 2,5                        | 6              | K             | 14  | V30AE006229                                   | V30AE006229 | V30AE006230 | 13                           | 6              | 2,2            | 0,15           | 4,2            | 0,25           | 10 x 100        |
| 2,5                        | 8              | N             | 14  | V30AE000083                                   | V30AE000083 | V30AE000620 | 15                           | 8              | 2,2            | 0,15           | 4,2            | 0,25           | 10 x 100        |
| 2,5                        | 10             | HLS           | 14  | V30AE006231                                   | V30AE006231 | V30AE006232 | 17                           | 10             | 2,2            | 0,15           | 4,2            | 0,25           | 10 x 100        |
| 2,5                        | 12             | HL            | 14  | V30AE006233                                   | V30AE006233 | V30AE006234 | 19                           | 12             | 2,2            | 0,15           | 4,2            | 0,25           | 10 x 100        |
| 4                          | 8              | K             | 12  | V30AE006235                                   | V30AE006235 | V30AE006236 | 16                           | 8              | 2,8            | 0,2            | 4,8            | 0,3            | 10 x 50         |
| 4                          | 10             | N             | 12  | V30AE000589                                   | V30AE000589 | V30AE000621 | 18                           | 10             | 2,8            | 0,2            | 4,8            | 0,3            | 10 x 50         |
| 6                          | 12             | N             | 10  | V30AE006239                                   | V30AE006240 | V30AE006241 | 20                           | 12             | 3,5            | 0,2            | 6,3            | 0,3            | 10 x 20         |
| 10                         | 12             | N             | 8   | V30AE006242                                   | V30AE006243 | V30AE006244 | 22                           | 12             | 4,5            | 0,2            | 7,6            | 0,4            | 10 x 20         |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

### Zwilling-Aderendhülsen mit Kunststoffkragen

Für Leiter von je 2 x 0,34 bis 2 x 16 mm<sup>2</sup> (AWG 2 x 22 – 2 x 6).

Material: E-Cu, galvanisch verzinkt.

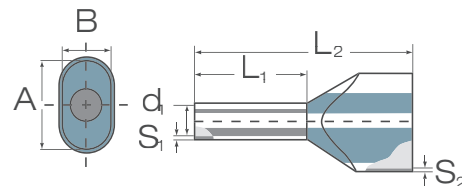
Maßtoleranzen nach DIN 46228 Teil 4

### Twin ferrules with insulating collar

For conductor cross-sections from 2 x 0.34 up to 2 x 16 mm<sup>2</sup> (AWG 2 x 22 – 2 x 6).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



| Bezeichnung<br>Description |                |               | AWG    | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |      | Stück<br>Pieces |     |
|----------------------------|----------------|---------------|--------|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|------|-----------------|-----|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |        | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | A    | B               | VPE |
| 2 x 0,34                   | 8              | N             | 2 x 22 | V30AE006564                                   | V30AE006564 |             | 15                           | 8              | 1,2            | 0,15           | 0,25           | 3,5  | 2               | 500 |
| 2 x 0,5                    | 8              | N             | 2 x 20 | V30AE001134                                   | V30AE001145 | V30AE001145 | 14                           | 8,2            | 1,4            | 0,15           | 0,3            | 5    | 3               | 500 |
| 2 x 0,5                    | 10             | HL            | 2 x 20 | V30AE001135                                   | V30AE001146 | V30AE001146 | 16                           | 10             | 1,4            | 0,15           | 0,3            | 5    | 3               | 500 |
| 2 x 0,5                    | 12             | L             | 2 x 20 | V30AE001136                                   | V30AE001147 | V30AE001147 | 18                           | 12             | 1,4            | 0,15           | 0,3            | 5    | 3               | 500 |
| 2 x 0,75                   | 8              | N             | 2 x 18 | V30AE000606                                   | V30AE000607 | V30AE003106 | 14                           | 8              | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 500 |
| 2 x 0,75                   | 10             | HL            | 2 x 18 | V30AE000733                                   | V30AE000734 | V30AE003107 | 16                           | 10             | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 500 |
| 2 x 0,75                   | 12             | HLS           | 2 x 18 | V30AE006298                                   | V30AE006297 | V30AE006299 | 18                           | 12             | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 500 |
| 2 x 0,75                   | 18             | L             | 2 x 18 | V30AE000740                                   | V30AE000741 | V30AE003108 | 24                           | 18             | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 500 |
| 2 x 1                      | 8              | N             | 2 x 18 | V30AE000608                                   | V30AE000609 | V30AE000609 | 15                           | 8              | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 500 |
| 2 x 1                      | 12             | HL            | 2 x 18 | V30AE000735                                   | V30AE000736 | V30AE000736 | 19                           | 12             | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 500 |
| 2 x 1                      | 14             | HLS           | 2 x 18 | V30AE006655                                   | V30AE006654 | V30AE006654 | 21                           | 14             | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 500 |
| 2 x 1                      | 18             | L             | 2 x 18 | V30AE000742                                   | V30AE000743 | V30AE000743 | 25                           | 18             | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 500 |
| 2 x 1,5                    | 8              | N             | 2 x 16 | V30AE000623                                   | V30AE000625 | V30AE000625 | 16                           | 8              | 2,2            | 0,15           | 0,3            | 6,5  | 3,6             | 500 |
| 2 x 1,5                    | 12             | HL            | 2 x 16 | V30AE000737                                   | V30AE000738 | V30AE000738 | 20                           | 12             | 2,2            | 0,15           | 0,3            | 6,5  | 3,6             | 500 |
| 2 x 1,5                    | 18             | L             | 2 x 16 | V30AE000744                                   | V30AE000745 | V30AE000745 | 26                           | 18             | 2,2            | 0,15           | 0,3            | 6,5  | 3,6             | 100 |
| 2 x 2,5                    | 10             | N             | 2 x 14 | V30AE000611                                   | V30AE000611 | V30AE003115 | 19                           | 10             | 2,8            | 0,2            | 0,4            | 8    | 4,5             | 500 |
| 2 x 2,5                    | 12             | HL            | 2 x 14 | V30AE000748                                   | V30AE000748 | V30AE003116 | 21                           | 12             | 2,8            | 0,2            | 0,4            | 8    | 4,5             | 100 |
| 2 x 2,5                    | 18             | L             | 2 x 14 | V30AE000750                                   | V30AE000750 | V30AE003117 | 27                           | 18             | 2,8            | 0,2            | 0,4            | 8    | 4,5             | 100 |
| 2 x 4                      | 12             | N             | 2 x 12 | V30AE001148                                   | V30AE001148 | V30AE003118 | 22                           | 12             | 3,5            | 0,2            | 0,5            | 9    | 5,2             | 100 |
| 2 x 4                      | 18             | L             | 2 x 12 | V30AE001149                                   | V30AE001149 | V30AE003119 | 28                           | 18             | 3,5            | 0,2            | 0,5            | 9    | 5,2             | 100 |
| 2 x 6                      | 12             | N             | 2 x 10 | V30AE001139                                   | V30AE001150 | V30AE003120 | 23                           | 12             | 4,5            | 0,2            | 0,5            | 11,4 | 6,2             | 100 |
| 2 x 6                      | 18             | L             | 2 x 10 | V30AE001140                                   | V30AE001151 | V30AE003121 | 29                           | 18             | 4,5            | 0,2            | 0,5            | 11,4 | 6,2             | 100 |
| 2 x 10                     | 12             | N             | 2 x 8  | V30AE001141                                   | V30AE001152 | V30AE003122 | 24                           | 12             | 5,8            | 0,2            | 0,5            | 13,4 | 7,6             | 100 |
| 2 x 10                     | 18             | L             | 2 x 8  | V30AE001142                                   | V30AE001153 | V30AE003123 | 30                           | 18             | 8,3            | 0,2            | 0,5            | 13,4 | 7,6             | 100 |
| 2 x 16                     | 16             | N             | 2 x 6  | V30AE001143                                   | V30AE001154 | V30AE003124 | 29                           | 16             | 8,3            | 0,3            | 0,6            | 17,2 | 9,5             | 50  |
| 2 x 16                     | 25             | L             | 2 x 6  | V30AE001144                                   | V30AE001155 | V30AE003125 | 38                           | 25             | 8,3            | 0,3            | 0,6            | 17,2 | 9,6             | 50  |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

## Twin ferrules, multiple bag with euro hole punch

### Zwilling-Aderendhülsen mit Kunststoffkragen

Für Leiter von je 2 x 0,34 bis 2 x 10 mm<sup>2</sup> (AWG 2 x 22 – 2 x 8).

Material: E-Cu, galvanisch verzinkt.

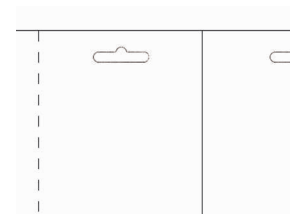
Maßtoleranzen nach DIN 46228 Teil 4

### Twin ferrules with insulating collar

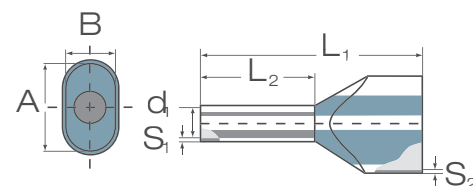
For conductor cross-sections from 2 x 0.34 up to 2 x 10 mm<sup>2</sup> (AWG 2 x 22 – 2 x 8).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



Eurolochstanzung  
Euro Hole Punch



| Bezeichnung<br>Description |                |               | AWG    | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |      | Stück<br>Pieces |          |
|----------------------------|----------------|---------------|--------|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|------|-----------------|----------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |        | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | S <sub>2</sub> | A    | B               | VPE      |
| 2 x 0,34                   | 8              | N             | 2 x 22 | V30AE006664                                   | V30AE006664 |             | 15                           | 8              | 1,2            | 0,15           | 0,25           | 3,5  | 2               | 10 x 100 |
| 2 x 0,5                    | 8              | N             | 2 x 20 | V30AE000980                                   | V30AE000992 | V30AE000992 | 14                           | 8,2            | 1,4            | 0,15           | 0,3            | 5    | 3               | 10 x 100 |
| 2 x 0,5                    | 10             | HL            | 2 x 20 | V30AE001002                                   | V30AE001014 | V30AE001014 | 16                           | 10             | 1,4            | 0,15           | 0,3            | 5    | 3               | 10 x 100 |
| 2 x 0,5                    | 12             | L             | 2 x 20 | V30AE001024                                   | V30AE001036 | V30AE001036 | 18                           | 12             | 1,4            | 0,15           | 0,3            | 5    | 3               | 10 x 100 |
| 2 x 0,75                   | 8              | N             | 2 x 18 | V30AE000558                                   | V30AE000560 | V30AE003771 | 14                           | 8              | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 10 x 100 |
| 2 x 0,75                   | 10             | HL            | 2 x 18 | V30AE000719                                   | V30AE000720 | V30AE006245 | 16                           | 10             | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 10 x 100 |
| 2 x 0,75                   | 12             | HLS           | 2 x 18 | V30AE006570                                   | V30AE006247 | V30AE006248 | 18                           | 12             | 1,7            | 0,15           | 0,3            | 5,5  | 3               | 10 x 100 |
| 2 x 1                      | 8              | N             | 2 x 18 | V30AE000559                                   | V30AE000561 | V30AE000561 | 15                           | 8              | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 10 x 100 |
| 2 x 1                      | 12             | HL            | 2 x 18 | V30AE000721                                   | V30AE000722 | V30AE000722 | 19                           | 12             | 2              | 0,15           | 0,3            | 5,8  | 3,2             | 10 x 100 |
| 2 x 1,5                    | 8              | N             | 2 x 16 | V30AE000622                                   | V30AE000624 | V30AE000624 | 16                           | 8              | 2,2            | 0,15           | 0,3            | 6,5  | 3,6             | 10 x 100 |
| 2 x 1,5                    | 12             | HL            | 2 x 16 | V30AE000723                                   | V30AE000724 | V30AE000724 | 20                           | 12             | 2,2            | 0,15           | 0,3            | 6,5  | 3,6             | 10 x 100 |
| 2 x 2,5                    | 10             | N             | 2 x 14 | V30AE000605                                   | V30AE000605 | V30AE003772 | 19                           | 10             | 2,8            | 0,15           | 0,4            | 8    | 4,5             | 10 x 50  |
| 2 x 2,5                    | 12             | HL            | 2 x 14 | V30AE000747                                   | V30AE000747 | V30AE006251 | 21                           | 12             | 2,8            | 0,15           | 0,4            | 8    | 4,5             | 10 x 50  |
| 2 x 4                      | 12             | N             | 2 x 12 | V30AE006252                                   | V30AE006252 | V30AE006253 | 22                           | 12             | 3,5            | 0,2            | 0,5            | 9    | 5,2             | 10 x 20  |
| 2 x 6                      | 12             | N             | 2 x 10 | V30AE006254                                   | V30AE006255 | V30AE006256 | 23                           | 12             | 4,5            | 0,2            | 0,5            | 11,4 | 6,2             | 10 x 20  |
| 2 x 10                     | 12             | N             | 2 x 8  | V30AE006257                                   | V30AE006258 | V30AE006259 | 24                           | 12             | 5,8            | 0,2            | 0,5            | 13,4 | 7,6             | 10 x 20  |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

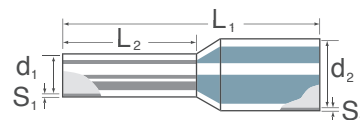
### Aderendhülsen für Multinorm-Leitungen (AWG)

Für Leiter von 0,34 – 1,5 mm<sup>2</sup> (AWG 22 – 16) und 35 mm<sup>2</sup>.  
Material: E-Cu, galvanisch verzinkt.

### Ferrules for multi standard conductors (AWG)

For conductor cross-sections from 0.34 – 1.5 mm<sup>2</sup> (AWG 22 – 16) and 35 mm<sup>2</sup>.  
Material: tin-plated copper.

### Aderendhülsen für Multinorm-Leitungen (AWG) Einzelbeutel Insulated ferrules for multi standard conductors (AWG), single bag



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> | VPE             |
| 0,34                       | 6              | S-N           | 22  | V30AE003635                                   |             | V30AE003636 | 11                           | 6              | 0,85           | 0,15           | 2,6            | 0,25           | 500             |
| 0,34                       | 8              | S-L           | 22  | V30AE003637                                   |             | V30AE003638 | 12                           | 8              | 0,85           | 0,15           | 2,6            | 0,25           | 500             |
| 0,5                        | 8              | S-N           | 20  | V30AE003544                                   | V30AE003545 | V30AE003545 | 14                           | 8              | 1              | 0,15           | 2,9            | 0,25           | 500             |
| 0,5                        | 10             | S-HL          | 20  | V30AE003755                                   | V30AE006656 | V30AE006656 | 16                           | 10             | 1              | 0,15           | 2,9            | 0,25           | 500             |
| 0,5                        | 12             | S-L           | 20  | V30AE003846                                   | V30AE003847 | V30AE003847 | 18                           | 12             | 1              | 0,15           | 2,9            | 0,25           | 500             |
| 0,75                       | 8              | S-N           | 18  | V30AE002288                                   | V30AE003547 | V30AE003548 | 14                           | 8              | 1,2            | 0,15           | 3,4            | 0,25           | 500             |
| 0,75                       | 10             | S-HL          | 18  | V30AE006689                                   | V30AE006601 | V30AE006690 | 16                           | 10             | 1,2            | 0,15           | 3,4            | 0,25           | 500             |
| 0,75                       | 12             | S-L           | 18  | V30AE003848                                   | V30AE003849 | V30AE003850 | 18                           | 12             | 1,2            | 0,15           | 3,4            | 0,25           | 500             |
| 1                          | 8              | S-N           | 18  | V30AE000655                                   | V30AE003549 | V30AE003549 | 14                           | 8              | 1,4            | 0,15           | 3,5            | 0,25           | 500             |
| 1                          | 10             | S-HL          | 18  | V30AE006695                                   | V30AE003756 | V30AE003756 | 16                           | 10             | 1,4            | 0,15           | 3,5            | 0,25           | 500             |
| 1                          | 12             | S-L           | 18  | V30AE003851                                   | V30AE003852 | V30AE003852 | 18                           | 12             | 1,4            | 0,15           | 3,5            | 0,25           | 500             |
| 1,5                        | 8              | S-N           | 16  | V30AE000654                                   | V30AE003551 | V30AE003551 | 14                           | 8              | 1,7            | 0,15           | 4              | 0,25           | 500             |
| 1,5                        | 10             | S-HL          | 16  |                                               | V30AE006696 | V30AE006696 | 16                           | 10             | 1,7            | 0,15           | 4              | 0,25           | 500             |
| 1,5                        | 12             | S-HLS         | 16  | V30AE003853                                   | V30AE003854 | V30AE003854 | 18                           | 12             | 1,7            | 0,15           | 4              | 0,25           | 500             |
| 35                         | 16             | S-N           | 2   | V30AE006691                                   | V30AE006692 | V30AE006691 | 30                           | 16             | 8,3            | 0,3            | 12,7           | 0,4            | 50              |
| 35                         | 18             | S-HL          | 2   | V30AE006693                                   | V30AE006694 | V30AE006693 | 32                           | 18             | 8,3            | 0,3            | 12,7           | 0,4            | 50              |

### Aderendhülsen für Multinorm-Leitungen (AWG) Bandware Insulated ferrules for multi standard conductors (AWG), multiple bag

| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> | VPE             |
| 0,34                       | 6              | S-N           | 22  | V30AE003639                                   |             | V30AE003640 | 11                           | 6              | 0,85           | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,34                       | 8              | S-L           | 22  | V30AE003641                                   |             |             | 13                           | 8              | 0,85           | 0,15           | 2,6            | 0,25           | 10 x 100        |
| 0,5                        | 8              | S-N           | 20  | V30AE005116                                   | V30AE005117 | V30AE005117 | 14                           | 8              | 1,1            | 0,15           | 2,9            | 0,25           | 10 x 100        |
| 0,75                       | 8              | S-N           | 18  | V30AE005118                                   | V30AE005119 | V30AE005120 | 14                           | 8              | 1,2            | 0,15           | 3,4            | 0,25           | 10 x 100        |
| 1                          | 8              | S-N           | 18  | V30AE005121                                   | V30AE005122 | V30AE005122 | 14                           | 8              | 1,4            | 0,15           | 3,5            | 0,25           | 10 x 100        |
| 1,5                        | 8              | S-N           | 18  | V30AE005123                                   | V30AE005124 | V30AE005124 | 14                           | 8              | 1,7            | 0,15           | 3,9            | 0,25           | 10 x 100        |

\* Erläuterung siehe Seite 6

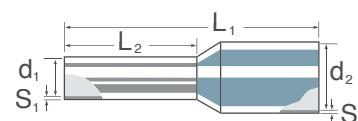
\* Explanation see page 7

**Sonder-Aderendhülsen**Für Leiter von 1,5 bis 16 mm<sup>2</sup> (AWG 16 – 6).

Material: E-Cu, galvanisch verzinkt.

**Special ferrules**For conductor cross-sections from 1,5 up to 16 mm<sup>2</sup> (AWG 16 – 6).

Material: tin-plated copper.

**Aderendhülsen für kleine Anschlussräume****Ferrules with little collar for terminals with reduced width**

| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 2,08                       | 8              | XS-S          | 14  | V30AE004973                                   | V30AE006571 | V30AE006571 | 14                           | 8              | 2,05           | 0,15           | 3,6            | 0,3            | 500             |
| 2,5                        | 8              | XS-S          | 14  | V30AE003213                                   | V30AE003213 | V30AE003709 | 14                           | 8              | 2,2            | 0,15           | 4              | 0,15           | 500             |
| 4                          | 12             | XS-S          | 12  | V30AE003857                                   |             |             | 19,5                         | 12             | 2,8            | 0,2            | 4,7            | 0,25           | 500             |
| 10**                       | 12             | XS-S          | 8   | V30AE003858                                   |             |             | 21,5                         | 12             | 4,5            | 0,2            | 7,1            | 0,4            | 100             |

**Aderendhülsen für kurz- und erdschluss sichere Leitungen****Ferrules for short circuit proof and earth fault current proof wires**

| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |  | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|--|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | DIN                                           |             |  | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 1,5                        | 8              | X-N           | 16  |                                               | V30AE003481 |  | 18                           | 8              | 1,8            | 0,15           | 7,0            | 0,3            | 100             |
| 1,5                        | 10             | X-HL          | 16  |                                               | V30AE003482 |  | 20                           | 10             | 1,8            | 0,15           | 7,0            | 0,3            | 100             |
| 1,5                        | 14,5           | X-L           | 16  |                                               | V30AE003476 |  | 24,6                         | 14,5           | 1,8            | 0,15           | 7,0            | 0,3            | 100             |
| 2,5                        | 8              | X-N           | 14  |                                               | V30AE003483 |  | 18                           | 8              | 2,3            | 0,15           | 7,9            | 0,3            | 100             |
| 2,5                        | 12             | X-HL          | 14  |                                               | V30AE003484 |  | 22                           | 12             | 2,3            | 0,15           | 7,9            | 0,3            | 100             |
| 2,5                        | 14,5           | X-L           | 14  |                                               | V30AE003477 |  | 24,2                         | 14,5           | 2,3            | 0,15           | 7,9            | 0,3            | 100             |
| 4                          | 10             | X-N           | 12  |                                               | V30AE003485 |  | 19,5                         | 10             | 2,9            | 0,2            | 7,9            | 0,3            | 100             |
| 6                          | 12             | X-N           | 10  |                                               | V30AE003486 |  | 23                           | 12             | 3,6            | 0,2            | 8,8            | 0,3            | 100             |
| 10                         | 12             | X-N           | 8   |                                               | V30AE003487 |  | 24                           | 12             | 4,6            | 0,2            | 9,8            | 0,3            | 100             |
| 16                         | 12             | X-N           | 6   |                                               | V30AE003488 |  | 25,5                         | 12             | 6              | 0,2            | 12,1           | 0,3            | 100             |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

\*\* Keine CSA-US/UL Zertifizierung, siehe Seite 28/29

\*\* Not certified according to CSA-US/UL, see page 28/29

### Aderendhülsen auf Rollen

Für Leiter von 0,34 – 2,5 mm<sup>2</sup> (AWG 22 – 14).

Material: E-Cu, galvanisch verzinkt.

Maßtoleranz nach DIN 46228 Teil 4

### Ferrules on reel

For conductor cross-sections from 0.34 – 2.5 mm<sup>2</sup> (AWG 22 – 14).

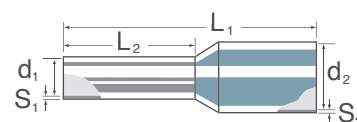
Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



### Aderendhülse auf Rollen

### Ferrules on reel



| Bezeichnung<br>Description |                |               | AWG | Trommel<br>ø mm<br>Reel<br>ø mm | Farbcode/Bestell-Nr.<br>Colour code/Order no. |              |              | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|---------------------------------|-----------------------------------------------|--------------|--------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     |                                 | Z+F                                           | DIN          | KDS          | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 0,34                       | 6              | N             | 22  | 240                             | V30MA0000312                                  |              |              | 10                           | 6              | 0,85           | 0,15           | 2              | 0,25           | 5000            |
| 0,34                       | 8              | L             | 22  | 240                             | V30MA0000032                                  |              |              | 12                           | 8              | 0,85           | 0,15           | 2              | 0,25           | 5000            |
| 0,5                        | 8              | N             | 20  | 320                             | V30MA0000034                                  | V30MA0000033 | V30MA0000033 | 14                           | 8              | 1              | 0,15           | 2,6            | 0,25           | 5000            |
| 0,5                        | 10             | HL            | 20  | 320                             | V30MA0004816                                  | V30MA0004817 | V30MA0004817 | 16                           | 10             | 1              | 0,15           | 2,6            | 0,25           | 5000            |
| 0,75                       | 8              | N             | 18  | 320                             | V30MA0000036                                  | V30MA0000035 | V30MA0000037 | 14                           | 8              | 1,2            | 0,15           | 2,8            | 0,25           | 5000            |
| 0,75                       | 10             | HL            | 18  | 320                             | V30MA0004818                                  | V30MA0004819 | V30MA0004820 | 16                           | 10             | 1,2            | 0,15           | 2,8            | 0,25           | 5000            |
| 1                          | 8              | N             | 18  | 320                             | V30MA0000039                                  | V30MA0000038 | V30MA0000038 | 14                           | 8              | 1,4            | 0,15           | 3              | 0,25           | 5000            |
| 1                          | 10             | HL            | 18  | 320                             | V30MA0004821                                  | V30MA0004822 | V30MA0004822 | 16                           | 10             | 1,4            | 0,15           | 3              | 0,25           | 5000            |
| 1,5                        | 8              | N             | 16  | 320                             | V30MA0000041                                  | V30MA0000040 | V30MA0000040 | 14                           | 8              | 1,7            | 0,15           | 3,5            | 0,25           | 5000            |
| 1,5                        | 10             | HL            | 16  | 320                             | V30MA0004823                                  | V30MA0004824 | V30MA0004824 | 16                           | 10             | 1,7            | 0,15           | 3,5            | 0,25           | 5000            |
| 2,5                        | 8              | N             | 14  | 320                             | V30MA0000030                                  | V30MA0000030 | V30MA0000031 | 14                           | 8              | 2,2            | 0,15           | 4,2            | 0,25           | 3000            |
| 2,5                        | 10             | HLS           | 14  | 320                             | V30MA0004825                                  | V30MA0004825 | V30MA0004826 | 16                           | 10             | 2,2            | 0,15           | 4,2            | 0,25           | 3000            |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

## Ferrules for multi standard conductors (AWG) on reel

Die Aderendhülsen sind mit einem erweiterten Kunststoffkragen versehen und ermöglichen somit die flexible Verarbeitung verschiedener Leiter. Ab sofort werden, als weltweite Neuheit, auch Aderendhülsen auf Rollen zur Verarbeitung von Multinorm-Leitungen angeboten. Im Folgenden die Details:

### Querschnitte und Farben

Die Aderendhülsen auf Rollen sind in den Querschnitten 0,5 - 2,5 mm<sup>2</sup> (AWG 20 – 14), den Crimplängen 8 und 10 mm, sowie in den bisherigen Farben verfügbar. Kundenspezifische Farben oder individuelles Branding sind auf Wunsch ebenfalls möglich. Kontaktieren Sie dazu Ihren lokalen Z+F Partner.

### Vorteile

- + Verarbeitung ohne Werkzeugwechsel möglich
- + Keine Anschaffung einer neuen Maschine erforderlich
- + Verarbeitung von Standard-Aderendhülsen ist weiterhin möglich

Z+F has been offering loose ferrules for multi standard conductors for some time. The ferrules come with an extended plastic collar and allow flexible processing of various conductors. From now on, as a world's first, ferrules on reel will also be available for processing multi standard conductors. The details are as follows:

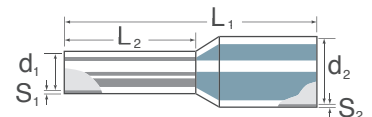
### Cross sections and colors

The ferrules on reel will be available with cross sections from 0.5 - 2.5 mm<sup>2</sup> (AWG 20 – 14), crimping lengths from 8 - 10 mm and in the established colors. Customer specific colors or branding are also available upon request. Please contact your local Z+F partner for details.

### Benefits

- + Ferrules for multi standard conductors can be processed without a tool change
- + The acquisition of a new machine is not necessary
- + Processing standard ferrules will still be possible

### Aderendhülsen auf Rollen für Multinorm-Leitungen (AWG) Ferrules on reel for multi standard conductors (AWG)



| Bezeichnung<br>Description |                |               | AWG | Trommel<br>ø mm<br>Reel<br>ø mm | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Nennmaße mm<br>Dimensions mm |                |                |                |                |                | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|---------------------------------|-----------------------------------------------|-------------|-------------|------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     |                                 | Z+F                                           | DIN         | KDS         | L <sub>1</sub>               | L <sub>2</sub> | d <sub>1</sub> | S <sub>1</sub> | d <sub>2</sub> | S <sub>2</sub> |                 |
| 0,5                        | 8              | S-N           | 20  | 320                             | V30MA004933                                   | V30MA004934 | V30MA004934 | 14,6                         | 8,4            | 1,06           | 0,15           | 2,9            | 0,25           | 4200            |
| 0,5                        | 10             | S-HL          | 20  | 320                             | V30MA004971                                   | V30MA004972 | V30MA004972 | 16,6                         | 10,4           | 1,06           | 0,15           | 2,9            | 0,25           | 4200            |
| 0,75                       | 8              | S-N           | 18  | 320                             | V30MA004935                                   | V30MA004936 | V30MA004937 | 14,6                         | 8,1            | 1,2            | 0,15           | 3,4            | 0,25           | 4200            |
| 0,75                       | 10             | S-HL          | 18  | 320                             | V30MA004973                                   | V30MA004974 | V30MA004975 | 16,6                         | 10,1           | 1,2            | 0,15           | 3,4            | 0,25           | 4200            |
| 1                          | 8              | S-N           | 18  | 320                             | V30MA004938                                   | V30MA004939 | V30MA004939 | 14,6                         | 8,3            | 1,4            | 0,15           | 3,5            | 0,28           | 4200            |
| 1                          | 10             | S-HL          | 18  | 320                             | V30MA004976                                   | V30MA004977 | V30MA004977 | 16,6                         | 10,3           | 1,4            | 0,15           | 3,5            | 0,28           | 4200            |
| 1,5                        | 8              | S-N           | 16  | 320                             | V30MA004940                                   | V30MA004941 | V30MA004941 | 14,6                         | 8,2            | 1,7            | 0,15           | 3,9            | 0,25           | 4200            |
| 1,5                        | 10             | S-HL          | 16  | 320                             | V30MA004978                                   | V30MA004979 | V30MA004979 | 16,6                         | 10,2           | 1,7            | 0,15           | 3,9            | 0,25           | 4200            |
| 2,5*                       | 8              | N             | 14  | 320                             | V30MA000030                                   | V30MA000030 | V30MA000031 | 14                           | 8              | 2,2            | 0,15           | 4,2            | 0,25           | 3000            |
| 2,5*                       | 10             | HLS           | 14  | 320                             | V30MA004825                                   | V30MA004825 | V30MA004826 | 16                           | 10             | 2,2            | 0,15           | 4,2            | 0,25           | 3000            |

\* 2,5 mm<sup>2</sup> (8/N und 10/HL) entspricht unserer Standardware, siehe Seite 17

\* 2.5 mm<sup>2</sup> (8/N and 10/HL) correspond to our standard products, see page 17

### Aderendhülsen mit Kunststoffkragen als Gurtstreifen

Für Leiter von 0,5 – 2,5 mm<sup>2</sup> (AWG 20 – 14).

Material: E-Cu, galvanisch verzinkt.

Maßtoleranz nach DIN 46228 Teil 4

### Ferrules, belt-strips with plastic collar

For conductor cross-sections from 0.5 – 2.5 mm<sup>2</sup> (AWG 20 – 14).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 4



### Werkzeuge

Zur Verarbeitung von Gurtware (Details Seite 103)

### Tools

For processing belt-strip ferrules (details page 103)



| Bezeichnung<br>Description |                |               | AWG | Farbcode/Bestell-Nr.<br>Colour code/Order no. |             |             | Stück<br>Pieces |
|----------------------------|----------------|---------------|-----|-----------------------------------------------|-------------|-------------|-----------------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ*<br>Type* |     | Z+F                                           | DIN         | KDS         |                 |
| 0,5                        | 8              | N             | 20  | V30MA000070                                   | V30MA000069 | V30MA000069 | 10 x 50         |
| 0,75                       | 8              | N             | 18  | V30MA000072                                   | V30MA000071 | V30MA000073 | 10 x 50         |
| 1                          | 8              | N             | 18  | V30MA000075                                   | V30MA000074 | V30MA000074 | 10 x 50         |
| 1,5                        | 8              | N             | 16  | V30MA000077                                   | V30MA000076 | V30MA000076 | 10 x 50         |
| 2,5                        | 8              | N             | 14  | V30MA000078                                   | V30MA000078 | V30MA000079 | 10 x 50         |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

### Unisolierte Aderendhülsen

Für Leiter von 0,14 bis 240 mm<sup>2</sup> (AWG 26 – 500 kcmil).

Material: E-Cu, galvanisch verzinkt.

Maßtoleranz nach DIN 46228 Teil 1

### Uninsulated ferrules

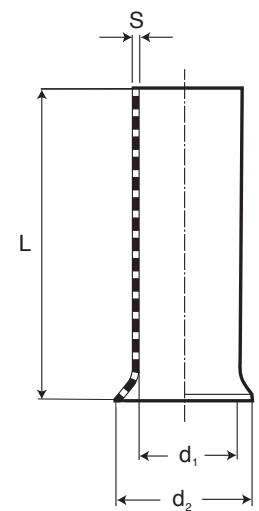
For conductor cross-sections from 0,14 up to 240 mm<sup>2</sup> (AWG 26 – 500 kcmil).

Material: tin-plated copper.

Tolerances according to DIN 46228 part 1



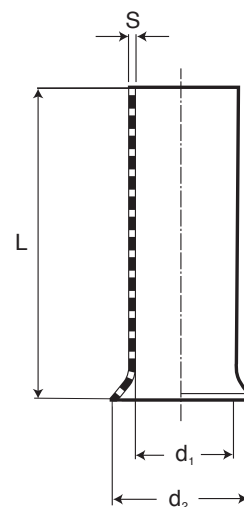
| Bezeichnung<br>Description |    | AWG | Bestell-Nr.<br>Order no. | Nennmaße mm<br>Dimensions mm |                |                |      | Stück<br>Pieces |
|----------------------------|----|-----|--------------------------|------------------------------|----------------|----------------|------|-----------------|
| mm <sup>2</sup>            | L* |     |                          | L*                           | d <sub>1</sub> | d <sub>2</sub> | S    | VPE             |
| 0,14**                     | 7  | 26  | V30AE009399              | 7                            | 0,65           | 1,6            | 0,15 | 1000            |
| 0,25                       | 5  | 24  | V30AE009047              | 5                            | 0,75           | 1,7            | 0,15 | 1000            |
| 0,25                       | 7  | 24  | V30AE009552              | 7                            | 0,75           | 1,7            | 0,15 | 1000            |
| 0,34                       | 5  | 22  | V30AE009398              | 5                            | 0,85           | 1,8            | 0,15 | 1000            |
| 0,34                       | 7  | 22  | V30AE009365              | 7                            | 0,85           | 1,8            | 0,15 | 1000            |
| 0,5                        | 6  | 20  | V30AE009048              | 6                            | 1              | 2,1            | 0,15 | 1000            |
| 0,5                        | 7  | 20  | V30AE009653              | 7                            | 1              | 2,1            | 0,15 | 1000            |
| 0,5                        | 8  | 20  | V30AE009481              | 8                            | 1              | 2,1            | 0,15 | 1000            |
| 0,5                        | 10 | 20  | V30AE009049              | 10                           | 1              | 2,1            | 0,15 | 1000            |
| 0,5                        | 12 | 20  | V30AE009192              | 12                           | 1              | 2,1            | 0,15 | 1000            |
| 0,75                       | 6  | 18  | V30AE009050              | 6                            | 1,2            | 2,3            | 0,15 | 1000            |
| 0,75                       | 8  | 18  | V30AE009427              | 8                            | 1,2            | 2,3            | 0,15 | 1000            |
| 0,75                       | 10 | 18  | V30AE009051              | 10                           | 1,2            | 2,3            | 0,15 | 1000            |
| 0,75                       | 12 | 18  | V30AE009323              | 12                           | 1,2            | 2,3            | 0,15 | 1000            |
| 0,75                       | 15 | 18  | V30AE009193              | 15                           | 1,2            | 2,3            | 0,15 | 1000            |
| 1                          | 6  | 18  | V30AE009052              | 6                            | 1,4            | 2,5            | 0,15 | 1000            |
| 1                          | 7  | 18  | V30AE009194              | 7                            | 1,4            | 2,5            | 0,15 | 1000            |
| 1                          | 8  | 18  | V30AE009395              | 8                            | 1,4            | 2,5            | 0,15 | 1000            |
| 1                          | 10 | 18  | V30AE009053              | 10                           | 1,4            | 2,5            | 0,15 | 1000            |
| 1                          | 12 | 18  | V30AE009643              | 12                           | 1,4            | 2,5            | 0,15 | 1000            |
| 1                          | 15 | 18  | V30AE009195              | 15                           | 1,4            | 2,5            | 0,15 | 1000            |
| 1,5**                      | 6  | 16  | V30AE009429              | 6                            | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 7  | 16  | V30AE009054              | 7                            | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 8  | 16  | V30AE009430              | 8                            | 1,7            | 2,8            | 0,15 | 1000            |



\* Andere Längen und Ausführungen auf Anfrage  
\* Other lengths and specifications on request

\*\* Keine CSA-US/UL Zertifizierung, siehe Seite 28/29  
\*\* Not certified according to CSA-US/UL, see page 28/29

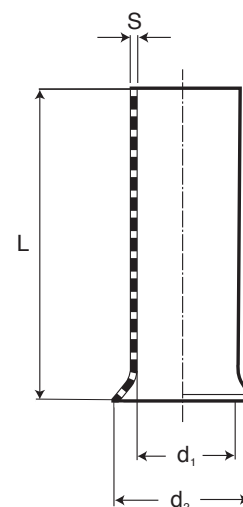
| Bezeichnung<br>Description |    | AWG | Bestell-Nr.<br>Order no. | Nennmaße mm<br>Dimensions mm |                |                |      | Stück<br>Pieces |
|----------------------------|----|-----|--------------------------|------------------------------|----------------|----------------|------|-----------------|
| mm <sup>2</sup>            | L* |     |                          | L*                           | d <sub>1</sub> | d <sub>2</sub> | S    | VPE             |
| 1,5                        | 10 | 16  | V30AE009055              | 10                           | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 12 | 16  | V30AE009056              | 12                           | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 15 | 16  | V30AE009196              | 15                           | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 18 | 16  | V30AE009057              | 18                           | 1,7            | 2,8            | 0,15 | 1000            |
| 1,5                        | 20 | 16  | V30AE009197              | 20                           | 1,7            | 2,8            | 0,15 | 1000            |
| 2,5                        | 7  | 14  | V30AE009058              | 7                            | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 8  | 14  | V30AE009432              | 8                            | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 10 | 14  | V30AE009059              | 10                           | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 12 | 14  | V30AE009060              | 12                           | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 15 | 14  | V30AE009198              | 15                           | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 18 | 14  | V30AE009061              | 18                           | 2,2            | 3,4            | 0,15 | 1000            |
| 2,5                        | 20 | 14  | V30AE009199              | 20                           | 2,2            | 3,4            | 0,15 | 1000            |
| 4                          | 9  | 12  | V30AE009062              | 9                            | 2,8            | 4              | 0,2  | 500             |
| 4                          | 10 | 12  | V30AE009648              | 10                           | 2,8            | 4              | 0,2  | 1000            |
| 4                          | 12 | 12  | V30AE009063              | 12                           | 2,8            | 4              | 0,2  | 1000            |
| 4                          | 15 | 12  | V30AE009064              | 15                           | 2,8            | 4              | 0,2  | 500             |
| 4                          | 18 | 12  | V30AE009065              | 18                           | 2,8            | 4              | 0,2  | 500             |
| 4                          | 20 | 12  | V30AE009200              | 20                           | 2,8            | 4              | 0,2  | 500             |
| 6                          | 10 | 10  | V30AE009066              | 10                           | 3,5            | 4,7            | 0,2  | 500             |
| 6                          | 12 | 10  | V30AE009067              | 12                           | 3,5            | 4,7            | 0,2  | 500             |
| 6                          | 15 | 10  | V30AE009068              | 15                           | 3,5            | 4,7            | 0,2  | 500             |
| 6                          | 18 | 10  | V30AE009069              | 18                           | 3,5            | 4,7            | 0,2  | 500             |
| 6                          | 20 | 10  | V30AE009201              | 20                           | 3,5            | 4,7            | 0,2  | 500             |
| 10                         | 12 | 8   | V30AE009070              | 12                           | 4,5            | 5,8            | 0,2  | 500             |
| 10                         | 15 | 8   | V30AE009071              | 15                           | 4,5            | 5,8            | 0,2  | 500             |
| 10                         | 18 | 8   | V30AE009072              | 18                           | 4,5            | 5,8            | 0,2  | 500             |
| 10                         | 20 | 8   | V30AE009424              | 20                           | 4,5            | 5,8            | 0,2  | 500             |
| 10                         | 25 | 8   | V30AE009320              | 25                           | 4,5            | 5,8            | 0,2  | 500             |
| 16                         | 12 | 6   | V30AE009073              | 12                           | 5,8            | 7,5            | 0,2  | 500             |
| 16                         | 15 | 6   | V30AE009074              | 15                           | 5,8            | 7,5            | 0,2  | 500             |
| 16                         | 18 | 6   | V30AE009075              | 18                           | 5,8            | 7,5            | 0,2  | 100             |
| 16                         | 20 | 6   | V30AE009202              | 20                           | 5,8            | 7,5            | 0,2  | 100             |
| 16                         | 25 | 6   | V30AE009076              | 25                           | 5,8            | 7,5            | 0,2  | 100             |
| 16                         | 32 | 6   | V30AE009077              | 32                           | 5,8            | 7,5            | 0,2  | 100             |



\* Andere Längen und Ausführungen auf Anfrage  
\* Other lengths and specifications on request

\*\* Keine CSA-US/UL Zertifizierung, siehe Seite 28/29  
\*\* Not certified according to CSA-US/UL, see page 28/29

| Bezeichnung<br>Description |    | AWG      | Bestell-Nr.<br>Order no. | Nennmaße mm<br>Dimensions mm |                |                |     | Stück<br>Pieces |
|----------------------------|----|----------|--------------------------|------------------------------|----------------|----------------|-----|-----------------|
| mm <sup>2</sup>            | L* |          |                          | L*                           | d <sub>1</sub> | d <sub>2</sub> | S   | VPE             |
| 25**                       | 12 | 4        | V30AE009425              | 12                           | 7,3            | 9,5            | 0,2 | 250             |
| 25                         | 15 | 4        | V30AE009078              | 15                           | 7,3            | 9,5            | 0,2 | 250             |
| 25                         | 18 | 4        | V30AE009079              | 18                           | 7,3            | 9,5            | 0,2 | 100             |
| 25                         | 25 | 4        | V30AE009080              | 25                           | 7,3            | 9,5            | 0,2 | 250             |
| 25                         | 32 | 4        | V30AE009081              | 32                           | 7,3            | 9,5            | 0,2 | 100             |
| 35**                       | 12 | 2        | V30AE009203              | 12                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 18 | 2        | V30AE009082              | 18                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 20 | 2        | V30AE009650              | 20                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 22 | 2        | V30AE009204              | 22                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 25 | 2        | V30AE009083              | 25                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 30 | 2        | V30AE009084              | 30                           | 8,3            | 11             | 0,2 | 100             |
| 35                         | 32 | 2        | V30AE009085              | 32                           | 8,3            | 11             | 0,2 | 100             |
| 50                         | 18 | 1/0      | V30AE009086              | 18                           | 10,3           | 13             | 0,3 | 100             |
| 50                         | 22 | 1/0      | V30AE009087              | 22                           | 10,3           | 13             | 0,3 | 100             |
| 50                         | 25 | 1/0      | V30AE009775              | 25                           | 10,3           | 13             | 0,3 | 100             |
| 50                         | 32 | 1/0      | V30AE009088              | 32                           | 10,3           | 13             | 0,3 | 100             |
| 70**                       | 25 | 2/0      | V30AE009089              | 25                           | 12,5           | 15             | 0,4 | 50              |
| 70**                       | 32 | 2/0      | V30AE009090              | 32                           | 12,5           | 15             | 0,4 | 50              |
| 95**                       | 25 | 3/0      | V30AE009091              | 25                           | 14,5           | 17             | 0,4 | 50              |
| 95**                       | 30 | 3/0      | V30AE009205              | 30                           | 14,5           | 17             | 0,4 | 50              |
| 95**                       | 32 | 3/0      | V30AE009092              | 32                           | 14,5           | 17             | 0,4 | 50              |
| 120**                      | 32 | 250kcmil | V30AE009371              | 32                           | 16,5           | 19             | 0,5 | 25              |
| 150**                      | 32 | 300kcmil | V30AE009393              | 32                           | 18,5           | 21             | 0,5 | 25              |
| 150**                      | 38 | 300kcmil | V30AE009800              | 38                           | 18,5           | 21             | 0,5 | 25              |
| 185**                      | 32 | 350kcmil | V30AE009397              | 32                           | 20             | 23,5           | 0,6 | 25              |
| 185**                      | 40 | 350kcmil | V30AE009801              | 40                           | 20             | 23,5           | 0,6 | 25              |
| 240**                      | 40 | 500kcmil | V30AE009321              | 40                           | 22,8           | 25,8           | 0,6 | 25              |



\* Andere Längen und Ausführungen auf Anfrage  
\* Other lengths and specifications on request

\*\* Keine CSA-US/UL Zertifizierung, siehe Seite 28/29  
\*\* Not certified according to CSA-US/UL, see page 28/29

#### Hinweis

- + Verarbeitung ohne Werkzeugwechsel möglich
- + Bei größeren Stückzahlen kann die Farbe des Dosenunterteils gewählt werden.  
Mögliche Farben siehe Farben der Z+F-Aderendhülsen
- + Bestell-Nummern beziehen sich auf Z+F Standardverpackungen
- + Im Sortimentskasten liefern wir auf Anfrage auch andere Sortimente
- + Alle Dosen mit Klarsichtdeckel und Streuvorrichtung

#### Note

- + On demand we supply euro hole hangers for assortment boxes
- + If large quantities are ordered, the colour of the base of the box can be chosen.  
Possible colours see Z+F ferrules colours
- + Item numbers are referring to Z+F standard shipping units
- + Assortment cases could include other items on request
- + All boxes are supplied with transparent cover and dispenser



## Sortimentsdosen

### Assortment boxes

**Sortimentsdose, Unterteil blau, gefüllt mit Aderendhülsen**  
**Assortment box, blue base, filled with ferrules**

| Größe in mm <sup>2</sup><br>Size in mm <sup>2</sup> | AWG | Stück<br>Pieces          | Stück<br>Pieces          | Stück<br>Pieces          | Stück<br>Pieces          |
|-----------------------------------------------------|-----|--------------------------|--------------------------|--------------------------|--------------------------|
| 0,14                                                | 26  | 30                       |                          |                          |                          |
| 0,25                                                | 24  | 30                       | 30                       |                          |                          |
| 0,34                                                | 22  | 30                       | 30                       |                          |                          |
| 0,5                                                 | 20  | 30                       | 30                       | 50                       |                          |
| 0,75                                                | 18  | 30                       | 30                       | 100                      |                          |
| 1                                                   | 18  |                          | 30                       | 100                      |                          |
| 1,5                                                 | 16  |                          |                          | 100                      |                          |
| 2,5                                                 | 14  |                          |                          | 50                       |                          |
| 4                                                   | 12  |                          |                          |                          | 50                       |
| 6                                                   | 10  |                          |                          |                          | 20                       |
| 10                                                  | 8   |                          |                          |                          | 20                       |
| 16                                                  | 6   |                          |                          |                          | 10                       |
| Farbcode<br>Colour code                             |     | Bestell-Nr.<br>Order no. | Bestell-Nr.<br>Order no. | Bestell-Nr.<br>Order no. | Bestell-Nr.<br>Order no. |
| Z+F                                                 |     | V30SO000114              | V30SO000002              | V30SO000001              | V30SO000003              |
| DIN                                                 |     |                          |                          | V30SO000041              | V30SO000043              |



**Sortimentsdose, Unterteil weiß, gefüllt mit Zwillings-Aderendhülsen**  
**Assortment box, white base, filled with twin ferrules**

| Größe in mm <sup>2</sup><br>Size in mm <sup>2</sup> | AWG    | Stück<br>Pieces          |
|-----------------------------------------------------|--------|--------------------------|
| 2 x 0,5                                             | 2 x 20 | 50                       |
| 2 x 0,75                                            | 2 x 18 | 50                       |
| 2 x 1                                               | 2 x 18 | 50                       |
| 2 x 1,5                                             | 2 x 16 | 50                       |
| 2 x 2,5                                             | 2 x 14 | 25                       |
| Farbcode<br>Colour code                             |        | Bestell-Nr.<br>Order no. |
| Z+F                                                 |        | V30SO000051              |
| DIN                                                 |        | V30SO000052              |



**Sortimentsdose, Unterteil schwarz, gefüllt mit unisolierten Aderendhülsen**  
**Assortment box, black base, filled with uninsulated ferrules**

| Größe in mm <sup>2</sup><br>Size in mm <sup>2</sup> | AWG | L* | Inhalt, Stück<br>Quantity, Pieces | Inhalt, Stück<br>Quantity, Pieces |
|-----------------------------------------------------|-----|----|-----------------------------------|-----------------------------------|
| 0,5                                                 | 20  | 6  | 100                               |                                   |
| 0,75                                                | 18  | 6  | 200                               |                                   |
| 1                                                   | 18  | 6  | 300                               |                                   |
| 1,5                                                 | 16  | 7  | 300                               |                                   |
| 2,5                                                 | 14  | 7  | 100                               |                                   |
| 4                                                   | 12  | 9  |                                   | 50                                |
| 6                                                   | 10  | 12 |                                   | 30                                |
| 10                                                  | 8   | 12 |                                   | 30                                |
| 16                                                  | 6   | 12 |                                   | 20                                |
|                                                     |     |    | Bestell-Nr.<br>Order no.          | Bestell-Nr.<br>Order no.          |
|                                                     |     |    | V30SO009007                       | V30SO009008                       |

\* Längen der Aderendhülsen, andere auf Anfrage  
\* Lengths of the ferrules, others on request



**Sortimentsdose, Unterteil blau, ungefüllt**  
**Assortment box, blue base, empty**

| Höhe der Dose in mm<br>Height in mm | Anzahl der Unterteilungen<br>Number of subdivisions | Bestell-Nr.<br>Order no. |
|-------------------------------------|-----------------------------------------------------|--------------------------|
| 40                                  | 0                                                   | V30SO000017              |
| 40                                  | 5                                                   | V30SO000018              |
| 30                                  | 5                                                   | V30SO000019              |
| 40                                  | 4                                                   | V30SO000023              |
| 40                                  | 5*                                                  | V30SO000004              |

\* farbige Einsätze (weiß, grau, rot, schwarz, blau), andere auf Anfrage  
\* coloured divisions (white, grey, red, black, blue), others on request



**Sortimentsdose, Unterteil blau, ungefüllt**  
**Assortment box, blue base, empty**

| Sortimentdose Nr.<br>Assortment box no. | Anzahl der Dosen<br>Quantity of boxes | Bestell-Nr. für Trageeinheit<br>Order no. for carrying unit |
|-----------------------------------------|---------------------------------------|-------------------------------------------------------------|
| V30SO000018                             | 5                                     | V30SO000021                                                 |
| V30SO000017                             | 5                                     | V30SO000111                                                 |
| V30SO000023                             | 5                                     | V30SO000112                                                 |
| V30SO000015                             | 5                                     | V30SO000113                                                 |





| Größe in mm <sup>2</sup><br>Size in mm <sup>2</sup> | AWG    | L <sub>2</sub> | Typ*<br>Type* | Stück<br>Pieces          | Stück<br>Pieces          | Stück<br>Pieces          |
|-----------------------------------------------------|--------|----------------|---------------|--------------------------|--------------------------|--------------------------|
| 0,34                                                | 22     | 6              | N             |                          |                          | 500                      |
| 0,34                                                | 22     | 8              | L             |                          |                          | 500                      |
| 0,5                                                 | 20     | 6              | K             |                          |                          | 500                      |
| 0,5                                                 | 20     | 8              | N             | 500                      | 500                      | 500                      |
| 0,5                                                 | 20     | 10             | HL            |                          |                          | 500                      |
| 0,75                                                | 18     | 6              | K             |                          |                          | 500                      |
| 0,75                                                | 18     | 8              | N             | 500                      | 500                      | 300                      |
| 0,75                                                | 18     | 12             | L             |                          |                          | 300                      |
| 1                                                   | 18     | 6              | K             |                          |                          | 300                      |
| 1                                                   | 18     | 8              | N             | 500                      | 500                      | 300                      |
| 1                                                   | 18     | 10             | HL            |                          |                          | 300                      |
| 1                                                   | 18     | 12             | L             |                          |                          | 300                      |
| 1,5                                                 | 16     | 6              | K             |                          |                          | 300                      |
| 1,5                                                 | 16     | 8              | N             | 500                      | 500                      | 300                      |
| 1,5                                                 | 16     | 10             | HL            |                          |                          | 100                      |
| 1,5                                                 | 16     | 18             | L             |                          |                          | 100                      |
| 2,5                                                 | 14     | 8              | N             | 400                      | 400                      | 200                      |
| 2,5                                                 | 14     | 12             | HL            |                          |                          | 100                      |
| 2,5                                                 | 14     | 18             | L             |                          |                          | 100                      |
| 4                                                   | 12     | 10             | N             | 250                      | 250                      | 100                      |
| 4                                                   | 12     | 12             | HL            |                          |                          | 100                      |
| 4                                                   | 12     | 18             | L             |                          |                          | 100                      |
| 6                                                   | 10     | 12             | N             | 100                      | 100                      |                          |
| 10                                                  | 8      | 12             | N             | 100                      |                          |                          |
| 16                                                  | 6      | 12             | N             | 50                       |                          |                          |
| 25                                                  | 4      | 16             | N             | 30                       |                          |                          |
| 35                                                  | 2      | 16             | N             | 20                       |                          |                          |
| 50                                                  | 1/0    | 20             | N             | 10                       |                          |                          |
| 2 x 0,5                                             | 2 x 20 | 8              | N             |                          | 500                      |                          |
| 2 x 0,75                                            | 2 x 18 | 8              | N             |                          | 500                      |                          |
| 2 x 1                                               | 2 x 18 | 8              | N             |                          | 400                      |                          |
| 2 x 1,5                                             | 2 x 16 | 8              | N             |                          | 300                      |                          |
| 2 x 2,5                                             | 2 x 14 | 10             | N             |                          | 150                      |                          |
| Farbcode<br>Colour code                             |        |                |               | Bestell-Nr.<br>Order no. | Bestell-Nr.<br>Order no. | Bestell-Nr.<br>Order no. |
| Z+F                                                 |        |                |               | V30SO000201              | V30SO000203              | V30SO000205              |
| DIN                                                 |        |                |               | V30SO000202              | V30SO000204              | V30SO000206              |

\* Erläuterung siehe Seite 6

\* Explanation see page 7

### Schneiden

Zuerst muss der Leiter durchtrennt werden. Ein glatter, gerader Schnitt ohne Leiterverformung ist der Grundstein für eine korrekte Weiterverarbeitung.

**Richtig**



**Falsch**



schräger Schnitt  
oblique cut



abgescherter Leiter  
deformed wire



zurückstehender Leiter  
wire standing back



abgequetschter Leiter  
squeezed wire



herausgezogener Leiter  
wires sticking out

### Cutting

First the wire has to be cut. A straight and even cut without deformation of the wire is the basis for correct further processing.

### Abisolieren

Vor dem Aufbringen der Aderendhülse muss abisoliert werden. Hierunter versteht man das Durchtrennen und Entfernen einer definierten Länge der Isolation ohne Beschädigung des Leiters und der verbleibenden Isolation.

- + Abisolierlänge: Die exakte Abisolierlänge bestimmt sich anhand des Leiterquerschnitts und der Crimplänge der Aderendhülse. Leichte Abweichungen können je nach Isolationsstärke des Leiters notwendig sein.
- + Abisolierqualität: Das Abisoliermaß muss eingehalten werden und der Leiter darf nicht beschädigt werden.
- + Normen: Die DIN EN 60352-2 enthält Hinweise auf Abisolierfehler, die es zu vermeiden gilt.

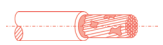
**Richtig**



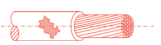
**Falsch**



Isolation nicht richtig eingeschnitten  
Insulation not cut correctly



Reste der Isolation auf dem Leiter  
Remaining insulation on the wire



Leiterisolation beschädigt  
Insulation damaged



Einzellitzen beschädigt oder abgeschnitten  
Single strands cut or damaged



Einzellitzen nicht verdreht  
Single strands too straight



Einzellitzen zu intensiv verdreht  
Single strands twisted too strongly

### Stripping

Before installing the ferrule, the wire has to be stripped. Stripping means to cut and remove the wire insulation at a certain length without damaging the wire and the remaining wire insulation.

- + Stripping length: The exact stripping length results out of the cross-section and the crimping length of the ferrule. Small variations can be necessary depending on the insulation thickness.
- + Stripping quality: It is important to guarantee the stripping depth and not to damage the conductor.
- + Standard: In the DIN EN 60352-2 stripping errors are listed which should be avoided.

### Crimpen

Unter "Crimpen" versteht man die Erstellung einer homogenen, nicht lösbaren Verbindung zwischen Leiter und Aderendhülse. Das Resultat ist eine elektrisch und mechanisch sichere Verbindung.

Bei der Verarbeitung mit Handwerkzeugen oder Automaten ist darauf zu achten, dass die Isolation des Leiters bis zum Anschlag in den Kunststoffkragen geschoben und das Rohr der Hülse vollständig vom Leiter ausgefüllt ist. Dabei darf der Leiter je nach Querschnitt zwischen 0 und 0,5 mm überstehen.

Beim Crimpen können verschiedene Fehler auftreten: Rissbildung an den Längskanten und Stempelabdrücke, Aufplatzen der Aderendhülse, unsymmetrische Crimpform, starke Gratbildung an den Längskanten, Einzellitzen zurückgeschoben, Einzellitzen abgequetscht, Kunststoffkragen durch Crimp-stempel beschädigt, Aderendhülse nach dem Crimpen in Längsrichtung durchgebogen.

Eine perfekte Crimpung wird ausschliesslich mit hochwertigen Präzisionswerkzeugen und Maschinen erreicht.

Z+F Produkte werden nach den höchsten Anforderungen entwickelt, gefertigt und erfüllen die gängigen internationalen Normen: DIN46228 Teil 1 und 4, EN60947-1, VG95211, UL486F und CSA C22.2-291.

### Crimping

„Crimping“ is creating a homogeneous and tight connection between wire and ferrule. The result is an electrical and mechanical safe connection.

While processing wire ferrules with tools or machines, it is important to ensure, that the wire insulation is inserted until the bottom of the plastic collar and that all the wire strands fill out the ferrule, hereby it is acceptable that the wire sticks between 0 and 0.5 mm out of the ferrule.

During Crimping, different issues can occur: cracks on the edges and stamp indents, bursting of the ferrule, asymmetrical crimp shape, strong burrs on the longitudinal edges, individual strands pushed back, individual strands squeezed off, plastic collar damaged by crimping dies, wire ferrule bent in the longitudinal direction after crimping.

A perfect crimp can only be realized with high quality and precision crimping tools and machines.

Z+F products are designed and manufactured to the highest requirements and in compliance with the most common international standards: DIN46228 part 1 and 4, EN60947-1, VG95211, UL486F and CSA C22.2-291.

### CSA-US Zertifizierung auf Grundlage geltender CSA- und UL-Normen

Z+F Aderendhülsen sind zertifiziert nach CSA-US. Diese Zulassung gilt für fast alle Aderendhülsen der Querschnittsbereiche von 0,14 bis 50 mm<sup>2</sup> (AWG 26 – 1/0) der folgenden Ausführungen in fast allen Längen und DIN-Farbcodes:

- + Aderendhülsen mit Kunststoffkragen (lose Ware, Gurtstreifen, auf Rollen)
- + Aderendhülsen ohne Kunststoffkragen
- + Zwillings-Aderendhülsen
- + Unisolierte Aderendhülsen im Bereich 0,25 - 50 mm<sup>2</sup> (AWG 24 - 1/0)

### Zertifikat

Unsere CSA-US-Zertifizierungsnummer lautet 1176867 (Zertifikat vom 30.04.2018 – Nummer des Gesamtvertrags: 209623).

### CSA-US Certification based on valid CSA and UL standards

Z+F ferrules are certified according to CSA-US. It applies to almost all ferrules from 0.14 up to 50 mm<sup>2</sup> (AWG 26 – 1/0) cross-section of the following versions of nearly all lengths and DIN colour codes:

- + ferrules with plastic collar (loose ones, belt-strips and on reel)
- + ferrules without plastic collar
- + twin ferrules
- + uninsulated ferrules from 0.25 to 50 mm<sup>2</sup> (AWG 24 - 1/0)

### Certificate

Our CSA-US certificate number is 1176867 (certificate of 2018-04-30 – master contract number: 209623).

### Kennzeichnung

Alle nach CSA-US zertifizierten Z+F Produkte sind folgendermaßen gekennzeichnet:

### Marking

All Z+F products certified according to CSA-US are marked as follows:



|                                                                                                                                                                                                                                                                                                                                                                                                                  |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                                                                                                                                                                                                                                                                                                                               |                                |
| <h2>Certificate of Compliance</h2>                                                                                                                                                                                                                                                                                                                                                                               |                                |
| <b>Certificate:</b> 1176867                                                                                                                                                                                                                                                                                                                                                                                      | <b>Master Contract:</b> 209623 |
| <b>Project:</b> 70180890                                                                                                                                                                                                                                                                                                                                                                                         | <b>Date Issued:</b> 2018-04-30 |
| <b>Issued to:</b> Zoller + Froehlich GmbH<br>Simoniustrasse 22<br>Wangen in Allgäu, 88239<br>GERMANY<br>Attention: Dr. C. Froehlich                                                                                                                                                                                                                                                                              |                                |
| <i>The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.</i>                                                                                                                                                                                        |                                |
|                                                                                                                                                                                                                                                                                                                               |                                |
| <b>PRODUCTS</b><br>CLASS 6223 01 - WIRE CONNECTING DEVICES - Bare and Covered Ferrules<br>CLASS 6223 81 - WIRE CONNECTING DEVICES - Bare and Covered Ferrules-Cert. to US Sids.<br><br>Ferrules Series V30AE, V30MA for use with stranded copper conductors:<br>Insulated type, for use with (1) No 26 to 1 AWG wire or (2) Nos 22 to 6 AWG wires.<br>Non-insulated type, for use with (1) No 24 to 1 AWG wires. |                                |
| <b>Notes:</b><br>1. Insulated wire ferrules are color coded to indicate wire section.<br>2. Insulation of wire ferrules is considered to be wire support only.<br>3. Type designation may be followed by four suffix numbers for specific type indication.                                                                                                                                                       |                                |
| <b>APPLICABLE REQUIREMENTS</b><br>CSA Std. C22.2 No. 291-14, 1 <sup>st</sup> Ed - Bare and covered ferrules<br>UL Std. 486F, 1 <sup>st</sup> Ed - Bare and covered ferrules                                                                                                                                                                                                                                      |                                |

## UL Zertifizierung

Zoller + Fröhlich besitzt seit vielen Jahren neben der CSA-US- und der VDE-Zertifizierung auch eine UL-Zertifizierung für isolierte Aderendhülsen. Unsere UL-Zertifizierungsnummer lautet E491449 (UL 486 F) und 1176867 (CSA).

Mit diesen Zertifizierungen ermöglichen wir unseren Kunden die hohe Qualität ihrer Endprodukte zu steigern und weitere Absatzpotenziale zu erschließen.

Bitte beachten Sie, dass die UL Zertifizierung nur dann gilt, wenn die Aderendhülsen mit zertifizierten Handwerkzeugen oder Z+F Maschinen aus der entsprechenden Werkzeugliste verarbeitet wurden.

## UL Certification

In addition to our CSA-US and VDE Certification, Zoller + Fröhlich has the UL Certification for insulated ferrules since many years. Our UL certificate numbers are E491449 (UL 486 F) and 1176867 (CSA).

With these certifications, we enable our customers a very high quality of their final products to increase their markets.

Please note that the UL certification only applies if ferrules are processed with certified tools or Z+F machines, which can be found in the corresponding tooling list.

## Kennzeichnung

Alle nach UL zertifizierten Z+F Produkte sind folgendermaßen gekennzeichnet:

## Marking

All Z+F products certified according to UL are marked as follows:



| CERTIFICATE OF COMPLIANCE                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Certificate Number</b>                                                                                                                                                                                                                                                                                                                                                                                                                                        | UL-US-2013185-0                                                                                                                                |
| <b>Report Reference</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | E491449-20170929                                                                                                                               |
| <b>Date</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 25-Jan-2021                                                                                                                                    |
| <b>Issued to:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                | Zoller & Fröhlich GmbH<br>Simoniusstrasse 22 Wangen Im Allgäu<br>Germany 88239                                                                 |
| <b>This is to certify that representative samples of</b>                                                                                                                                                                                                                                                                                                                                                                                                         | ZMLF - Bare and Covered Ferrules<br>See Addendum Page for Product Designation(s).                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.                                                 |
| <b>Standard(s) for Safety:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   | UL 486F, 2nd Ed., Issue Date: 2019-09-09                                                                                                       |
| <b>Additional Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   | See the UL Online Certifications Directory at <a href="https://iq.ulprospector.com">https://iq.ulprospector.com</a> for additional information |
| This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.                                                                                                                                                                                                                                                                                        |                                                                                                                                                |
| Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                |
| Look for the UL Certification Mark on the product.                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                |
| <br><small>Bruce McKeown, Director, North American Certification Program<br/>UL LLC<br/>Any information and documentation bearing the UL Mark service are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact your local UL Customer Service Representative at <a href="mailto:UL@ul.com">UL@ul.com</a> or 800.451.4861</small> |                                                                                                                                                |

**Standard Aderendhülsen, Einzelbeutel, Bandware**  
**Standard insulated ferrules, single bag, multiple bag**

| Bezeichnung<br>Description |                |     | AWG | Abisolierlänge mm<br>Stripping length mm | Leiterklasse f. UL 486F<br>Wire Class f. UL486F | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |             |             |             |           |
|----------------------------|----------------|-----|-----|------------------------------------------|-------------------------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|-------------|-------------|-------------|-----------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ |     |                                          |                                                 | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16/F16L | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series         | AM02 Series | UNIC Series | AM04 Series | SC Series |
| 0.14                       | 6              | N   | 26  | 7                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.14                       | 8              | L   | 26  | 9                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.25                       | 6              | N   | 24  | 7                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.25                       | 8              | L   | 24  | 9                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.25                       | 12             | LS  | 24  | 13                                       | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.34                       | 6              | N   | 22  | 7                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.34                       | 8              | L   | 22  | 9                                        | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.34                       | 12             | LS  | 22  | 13                                       | B, C, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 6              | K   | 20  | 9,5                                      | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 8              | N   | 20  | 12                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 10             | HL  | 20  | 14                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 12             | L   | 20  | 16                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 6              | K   | 18  | 9,5                                      | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 8              | N   | 18  | 12                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 9              | HLS | 18  | 13                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 10             | HL  | 18  | 14                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 12             | L   | 18  | 16                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 6              | K   | 18  | 9,5                                      | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 8              | N   | 18  | 12                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 10             | HL  | 18  | 14                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 12             | L   | 18  | 16                                       | B, K, Q, 5                                      |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 6              | K   | 16  | 9,5                                      | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 8              | N   | 16  | 12                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 10             | HL  | 16  | 14                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 12             | HLS | 16  | 16                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 18             | L   | 16  | 22                                       | B, K, 5                                         |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |

 = Zertifiziert nach UL486F / CSA  
 = certified to UL486F / CSA

 = Zertifiziert nach UL486F / CSA, Kabelklasse K  
 = certified to UL486F / CSA , wire class K

| Bezeichnung<br>Description |                |     | AWG | Absolierlänge mm<br>Stripping length mm | Leiterklasse f. UL486F<br>Wire Class f. UL486F | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |             |             |             |           |
|----------------------------|----------------|-----|-----|-----------------------------------------|------------------------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|-------------|-------------|-------------|-----------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ |     |                                         |                                                | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16/F16L | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series         | AM02 Series | UNIC Series | AM04 Series | SC Series |
| 2.08                       | 8              | N   | 14  | 12                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.08                       | 12             | HL  | 14  | 16                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 6              | K   | 14  | 9,5                                     | B, K, 5                                        |                            |            |                 |                 |               | 1            |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 8              | N   | 14  | 12                                      | B, K, 5                                        |                            |            |                 |                 |               | 1            |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 10             | HLS | 14  | 14                                      | B, K, 5                                        |                            |            |                 |                 |               | 1            |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 12             | HL  | 14  | 16                                      | B, K, 5                                        |                            |            |                 |                 |               | 1            |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 18             | L   | 14  | 22                                      | B, K, 5                                        |                            |            |                 |                 |               | 1            |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 8              | K   | 12  | 12                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 10             | N   | 12  | 14                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 12             | HL  | 12  | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 18             | L   | 12  | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 6                          | 12             | N   | 10  | 12                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 6                          | 18             | L   | 10  | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 10                         | 12             | N   | 8   | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 10                         | 18             | L   | 8   | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 16                         | 12             | N   | 6   | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 16                         | 18             | L   | 6   | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 25                         | 16             | N   | 4   | 20                                      | C, I, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 25                         | 18             | HL  | 4   | 22                                      | C, I, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 25                         | 22             | L   | 4   | 26                                      | C, I, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 35                         | 16             | N   | 2   | 20                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 35                         | 18             | HL  | 2   | 22                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 35                         | 25             | L   | 2   | 29                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 50                         | 20             | N   | 1/0 | 24                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 50                         | 25             | HL  | 1/0 | 29                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 50                         | 30             | L   | 1/0 | 34                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |

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= certified to UL486F / CSA

 = Zertifiziert nach UL486F / CSA, Kabelklasse K  
= certified to UL486F / CSA, wire class K

**Zwilling-Aderendhülsen, Einzelbeutel, Bandware**  
**Twin ferrules, single bag, multiple bag**

| Bezeichnung<br>Description |                |     | AWG  | Absolierlänge mm<br>Stripping length mm | Leiterklasse f. UL486F<br>Wire Class f. UL486F | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |             |         |                |               |               | Maschinen<br>Machines |             |             |           |  |
|----------------------------|----------------|-----|------|-----------------------------------------|------------------------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|-------------|---------|----------------|---------------|---------------|-----------------------|-------------|-------------|-----------|--|
| mm²                        | L <sub>2</sub> | Typ |      |                                         |                                                | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16 | PZ ZH16 | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series | AM02 Series           | UNIC Series | AM04 Series | SC Series |  |
| 2x0.34                     | 8              | N   | 2x22 | 11                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.5                      | 8              | N   | 2x20 | 11                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.5                      | 10             | HL  | 2x20 | 14                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.5                      | 12             | L   | 2x20 | 16                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.75                     | 8              | N   | 2x18 | 11                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.75                     | 10             | HL  | 2x18 | 14                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.75                     | 12             | HLS | 2x18 | 16                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x0.75                     | 18             | L   | 2x18 | 22                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1                        | 8              | N   | 2x18 | 11                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1                        | 12             | HL  | 2x18 | 16                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1                        | 14             | HLS | 2x18 | 18                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1                        | 18             | L   | 2x18 | 22                                      | B, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1.5                      | 8              | N   | 2x16 | 11                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1.5                      | 12             | HL  | 2x16 | 16                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x1.5                      | 18             | L   | 2x16 | 22                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x2.5                      | 10             | N   | 2x14 | 14                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x2.5                      | 12             | HL  | 2x14 | 16                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x2.5                      | 18             | L   | 2x14 | 22                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x4                        | 12             | N   | 2x12 | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x4                        | 18             | L   | 2x12 | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x6                        | 12             | N   | 2x10 | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x6                        | 18             | L   | 2x10 | 22                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x10                       | 12             | N   | 2x8  | 16                                      | K, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x10                       | 18             | L   | 2x8  | 22                                      | K, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x16                       | 16             | N   | 2x6  | 22                                      | K, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |
| 2x16                       | 25             | L   | 2x6  | 31                                      | K, 5                                           |                            |            |                 |                 |               |              |             |           |           |             |         |                |               |               |                       |             |             |           |  |

 = Zertifiziert nach UL486F / CSA  
 = certified to UL486F / CSA

**Aderendhülsen für AWG-Leitungen und kleine Anschlussräume, Einzelbeutel, Bandware**  
**Insulated ferrules for AWG-conductors and terminals with reduced width, single bag, multiple bag**

| Bezeichnung<br>Description |                |       | AWG | Absolierlänge mm<br>Stripping length mm | Leiterklasse f. UL486F<br>Wire Class f. UL486F | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |             |             |             |           |
|----------------------------|----------------|-------|-----|-----------------------------------------|------------------------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|-------------|-------------|-------------|-----------|
| mm <sup>2</sup>            | L <sub>2</sub> | Typ   |     |                                         |                                                | CrimpIt 2.4/2.4Z           | CrimpIt F4 | CrimpIt F6 auto | CrimpIt F6 gyra | CrimpIt F6 EN | CrimpIt F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | CrimpIt F16/F16L | CrimpIt F50 EN | CrimpIt F25 L | CR/ CM Series         | AM02 Series | UNIC Series | AM04 Series | SC Series |
| 0.34                       | 6              | S-N   | 22  | 9.5                                     | B, C, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.34                       | 8              | S-L   | 22  | 9.5                                     | B, C, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 8              | S-N   | 20  | 12                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 10             | S-HL  | 20  | 14                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.5                        | 12             | S-L   | 20  | 16                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 8              | S-N   | 18  | 12                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 10             | S-HL  | 18  | 14                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 0.75                       | 12             | S-L   | 18  | 16                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 8              | S-N   | 18  | 12                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 10             | S-HL  | 18  | 14                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1                          | 12             | S-L   | 18  | 16                                      | B, K, Q, 5                                     |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 8              | S-N   | 16  | 12                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 8              | X-N   | 16  | 12                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 10             | S-HL  | 16  | 14                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 10             | X-HL  | 16  | 14                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 12             | S-HLS | 16  | 16                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 1.5                        | 14.5           | X-L   | 16  | 19                                      | B, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.08                       | 8              | XS-S  | 14  | 12                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 8              | XS-S  | 14  | 12                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 8              | X-N   | 14  | 12                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 12             | X-HL  | 14  | 16                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 2.5                        | 14.5           | X-L   | 14  | 19                                      | B, K, 5                                        |                            |            |                 |                 | 1             |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 10             | X-N   | 12  | 14                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 4                          | 12             | XS-S  | 12  | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 6                          | 12             | X-N   | 10  | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 10                         | 12             | X-N   | 8   | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 16                         | 12             | X-N   | 6   | 16                                      | C, K, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 35                         | 16             | S-N   | 2   | 20                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |
| 35                         | 18             | S-HL  | 2   | 22                                      | K, H, 5                                        |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |             |             |             |           |

 = Zertifiziert nach UL486F / CSA  
 = certified to UL486F / CSA

 = Zertifiziert nach UL486F / CSA, Kabelklasse K  
 = certified to UL486F / CSA , wire class K

## Tooling list

### Aderendhülsen auf Rollen Ferrules on reels

| Bezeichnung<br>Description |                |     | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Maschinen<br>Machines |             |                |
|----------------------------|----------------|-----|-----|-----------------------------------------|----------------------------------|-----------------------|-------------|----------------|
| mm²                        | L <sub>2</sub> | Typ |     |                                         |                                  | ECM / EVOCRIMP Series | UNIC Series | CR / CM Series |
| 0,34                       | 8              | L   | 22  | 9                                       | B, C, 5                          |                       |             |                |
| 0,5                        | 8              | N   | 20  | 12                                      | B, K, 5                          |                       |             |                |
| 0,5                        | 10             | HL  | 20  | 14                                      | B, K, 5                          |                       |             |                |
| 0,75                       | 8              | N   | 18  | 12                                      | B, K, Q, 5                       |                       |             |                |
| 0,75                       | 10             | HL  | 18  | 14                                      | B, K, Q, 5                       |                       |             |                |
| 1                          | 8              | N   | 18  | 12                                      | B, K, Q, 5                       |                       |             |                |
| 1                          | 10             | HL  | 18  | 14                                      | B, K, Q, 5                       |                       |             |                |
| 1,5                        | 8              | N   | 16  | 12                                      | B, K, 5                          |                       |             |                |
| 1,5                        | 10             | HL  | 16  | 14                                      | B, K, 5                          |                       |             |                |
| 2,5                        | 8              | N   | 14  | 12                                      | B, K, 5                          |                       |             |                |
| 2,5                        | 10             | HLS | 14  | 14                                      | B, K, 5                          |                       |             |                |

### AWG / Multinorm-Aderendhülsen auf Rollen AWG-Ferrules on reels

| Bezeichnung<br>Description |                |      | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Maschinen<br>Machines |                |
|----------------------------|----------------|------|-----|-----------------------------------------|----------------------------------|-----------------------|----------------|
| mm²                        | L <sub>2</sub> | Typ  |     |                                         |                                  | UNIC Series           | CR / CM Series |
| 0,5                        | 8              | S-N  | 20  | 12                                      | B, K, 5                          |                       |                |
| 0,5                        | 10             | S-HL | 20  | 14                                      | B, K, 5                          |                       |                |
| 0,75                       | 8              | S-N  | 18  | 12                                      | B, K, Q, 5                       |                       |                |
| 0,75                       | 10             | S-HL | 18  | 14                                      | B, K, Q, 5                       |                       |                |
| 1                          | 8              | S-N  | 18  | 12                                      | B, K, Q, 5                       |                       |                |
| 1                          | 10             | S-HL | 18  | 14                                      | B, K, Q, 5                       |                       |                |
| 1,5                        | 8              | S-N  | 16  | 12                                      | B, K, 5                          |                       |                |
| 1,5                        | 10             | S-HL | 16  | 14                                      | B, K, 5                          |                       |                |
| 2,5 **                     | 8              | N    | 14  | 12                                      | B, K, 5                          |                       |                |
| 2,5 **                     | 10             | HLS  | 14  | 14                                      | B, K, 5                          |                       |                |

### Gegurtete Aderendhülsen, Streifen Ferrules, belt-strips

| Bezeichnung<br>Description |                |     | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Handwerkzeug<br>Handtool |
|----------------------------|----------------|-----|-----|-----------------------------------------|----------------------------------|--------------------------|
| mm²                        | L <sub>2</sub> | Typ |     |                                         |                                  | Crimpfit F multi         |
| 0,5                        | 8              | N   | 20  | 12                                      | B, K, 5                          |                          |
| 0,75                       | 8              | N   | 18  | 12                                      | B, K, Q, 5                       |                          |
| 1                          | 8              | N   | 18  | 12                                      | B, K, Q, 5                       |                          |
| 1,5                        | 8              | N   | 16  | 12                                      | B, K, 5                          |                          |
| 2,5                        | 8              | N   | 14  | 12                                      | B, K, 5                          |                          |

 = Zertifiziert nach UL486F / CSA  
= certified to UL486F / CSA

\*\* Identisch zur Standard 2,5 mm²-Version  
\*\* identical with the standard 2,5 mm²-version

# Unisolierte Aderendhülsen Uninsulated, bare ferrules

| Bezeichnung<br>Description |    | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |              |              |           |
|----------------------------|----|-----|-----------------------------------------|----------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|--------------|--------------|-----------|
| mm <sup>2</sup>            | L  |     |                                         |                                  | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16/F16L | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series         | AM2.1 Series | AM4.1 Series | SC Series |
| 0.14*                      | 7  | 26  | 7                                       |                                  |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.25                       | 5  | 24  | 5                                       | B, C, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.25                       | 7  | 24  | 7                                       | B, C, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.34                       | 5  | 22  | 5                                       | B, C, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.34                       | 7  | 22  | 7                                       | B, C, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.5                        | 6  | 20  | 6                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.5                        | 7  | 20  | 7                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.5                        | 8  | 20  | 8                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.5                        | 10 | 20  | 10                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.5                        | 12 | 20  | 12                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.75                       | 6  | 18  | 6                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.75                       | 8  | 18  | 8                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.75                       | 10 | 18  | 10                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.75                       | 12 | 18  | 12                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 0.75                       | 15 | 18  | 15                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 6  |     | 6                                       | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 7  |     | 7                                       | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 8  |     | 8                                       | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 10 |     | 10                                      | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 12 |     | 12                                      | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1                          | 15 |     | 15                                      | 5, 6**                           |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5*                       | 6  | 16  | 6                                       |                                  |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 7  | 16  | 7                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 8  | 16  | 8                                       | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 10 | 16  | 10                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 12 | 16  | 12                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 15 | 16  | 15                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 18 | 16  | 18                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 1.5                        | 20 | 16  | 20                                      | B, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |

 = Empfohlene Kombination, nicht zertifiziert  
= recommended combination, not certified

\* Größe nicht nach UL486F / CSA zertifiziert  
\* ferrule size not certified to UL486F / CSA

 = Zertifiziert nach UL486F / CSA  
= certified to UL486F / CSA

\*\* DIN / IEC Kabelklasse  
\*\* DIN / IEC wire class

**Unisolierte Aderendhülsen**  
**Uninsulated, bare ferrules**

| Bezeichnung<br>Description |    | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |              |              |           |
|----------------------------|----|-----|-----------------------------------------|----------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|--------------|--------------|-----------|
| mm²                        | L  |     |                                         |                                  | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16/F16L | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series         | AM2.1 Series | AM4.1 Series | SC Series |
| 2.5                        | 7  | 14  | 7                                       | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 8  | 14  | 8                                       | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 10 | 14  | 10                                      | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 12 | 14  | 12                                      | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 15 | 14  | 15                                      | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 18 | 14  | 18                                      | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 2.5                        | 20 | 14  | 20                                      | B, K, 5                          |                            | 1          |                 | 1               | 1             | 1            |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 9  | 12  | 9                                       | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 10 | 12  | 10                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 12 | 12  | 12                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 15 | 12  | 15                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 18 | 12  | 18                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 4                          | 20 | 12  | 20                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 6                          | 10 | 10  | 10                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 6                          | 12 | 10  | 12                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 6                          | 15 | 10  | 15                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 6                          | 18 | 10  | 18                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 6                          | 20 | 10  | 20                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 10                         | 12 | 8   | 12                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 10                         | 15 | 8   | 15                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 10                         | 18 | 8   | 18                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 10                         | 20 | 8   | 20                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 10                         | 25 | 8   | 25                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 12 | 6   | 12                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 15 | 6   | 15                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 18 | 6   | 18                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 20 | 6   | 20                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 25 | 6   | 25                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 16                         | 32 | 6   | 32                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |

 = Zertifiziert nach UL486F / CSA  
 = certified to UL486F / CSA

 1 = Zertifiziert nach UL486F / CSA, Kabelklasse C, K  
 = certified to UL486F / CSA, wire class C, K

 2 = Zertifiziert nach UL486F / CSA, Kabelklasse K  
 = certified to UL486F / CSA, wire class K

| Bezeichnung<br>Description |    | AWG | Absolierlänge mm<br>Stripping length mm | UL Leiterklasse<br>UL Wire Class | Handwerkzeuge<br>Handtools |            |                 |                 |               |              |             |           |           |                  |                |               | Maschinen<br>Machines |              |              |           |
|----------------------------|----|-----|-----------------------------------------|----------------------------------|----------------------------|------------|-----------------|-----------------|---------------|--------------|-------------|-----------|-----------|------------------|----------------|---------------|-----------------------|--------------|--------------|-----------|
| mm <sup>2</sup>            | L  |     |                                         |                                  | Crimpit 2.4/2.4Z           | Crimpit F4 | Crimpit F6 auto | Crimpit F6 gyra | Crimpit F6 EN | Crimpit F6 L | PZ 6 Roto L | PZ 10 HEX | PZ 10 SQR | Crimpit F16/F16L | Crimpit F50 EN | Crimpit F25 L | CR/ CM Series         | AM2.1 Series | AM4.1 Series | SC Series |
| 25*                        | 12 | 4   | 12                                      |                                  |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 25                         | 15 | 4   | 15                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                | 2             |                       |              |              |           |
| 25                         | 18 | 4   | 18                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                | 2             |                       |              |              |           |
| 25                         | 25 | 4   | 25                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                | 2             |                       |              |              |           |
| 25                         | 32 | 4   | 32                                      | C, K, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                | 2             |                       |              |              |           |
| 35*                        | 12 | 2   | 12                                      |                                  |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 18 | 2   | 18                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 20 | 2   | 20                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 22 | 2   | 22                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 25 | 2   | 25                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 30 | 2   | 30                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 35                         | 32 | 2   | 32                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 50                         | 18 | 1/0 | 18                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 50                         | 22 | 1/0 | 22                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 50                         | 25 | 1/0 | 25                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |
| 50                         | 32 | 1/0 | 32                                      | K, H, 5                          |                            |            |                 |                 |               |              |             |           |           |                  |                |               |                       |              |              |           |

 = Zertifiziert nach UL486F / CSA  
= certified to UL486F / CSA

\* Größe nicht nach UL486F / CSA zertifiziert  
\* ferrule size not certified to UL486F / CSA

 = Zertifiziert nach UL486F / CSA, Kabelklasse K  
= certified to UL486F / CSA, wire class K

 = Empfohlene Kombination, nicht zertifiziert  
= recommended combination, not certified

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