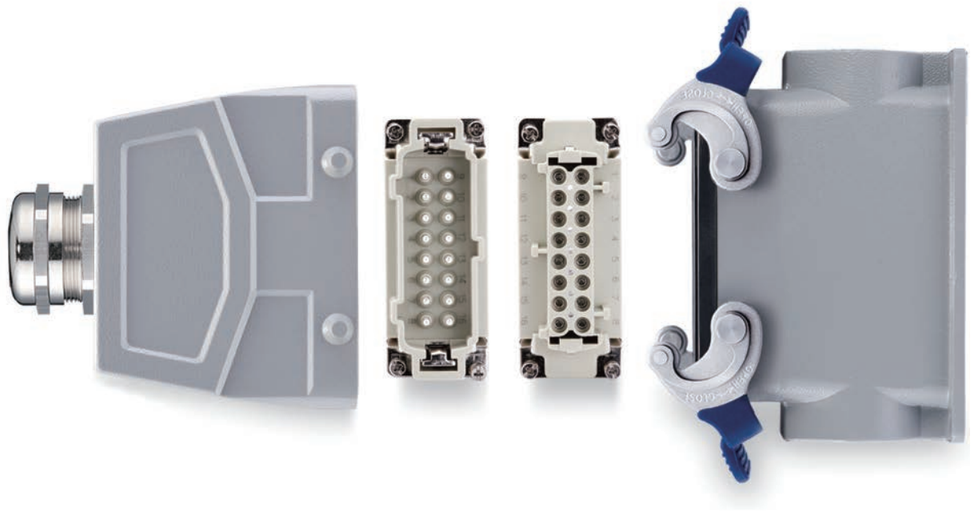
# HE SERIES

Standard products





# HE SERIES Standard inserts

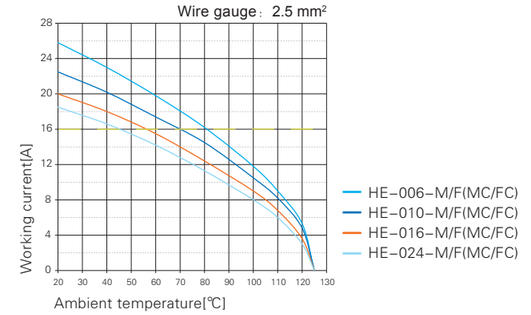
## Technical characteristics

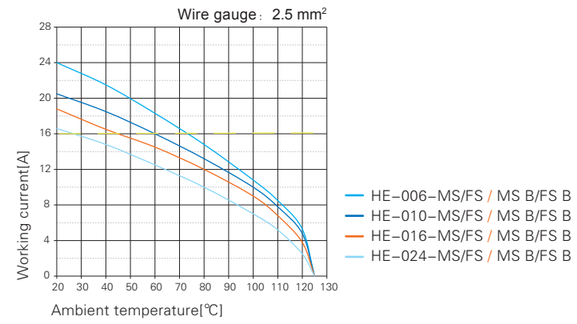
| | |
|---|---|
| Specifications | DIN EN 60 664<br>DIN EN 61 984 |
| Approvals | |
| **Inserts** | |
| Number of contacts | 6,10,16,24,32(2X16),48(2X24)+PE |
| Electrical data acc. to DIN EN 61 984 | |
| –Rated current | 16A |
| –Rated voltage | 500V |
| –Rated impulse voltage | 6KV |
| –Pollution degree | 3 |
| –Pollution degree 2 also | 16A 400/690V 6kV 2 |
| Rated voltage acc. to UL | 600V |
| Insulation resistance | ⩾$10^{10}$Ω |
| Material | polycarbonate |
| Limiting temperatures | –40℃...+125℃ |
| Flammability acc. to UL 94 | V0 |
| Mechanical working life(mating cycles) | ⩾500 |
| **Contacts** | |
| Material | copper alloy |
| Surface | hard–gold plated |
| | hard–silver plated |
| Contact resistance | ⩽1mΩ |
| Screw terminal | |
| –Wrie gauge | 0.75–2.5mm² |
| –AWG | 18–14 |
| –Tightening/Test torque | 0.5Nm |
| –Stripping length | 7.0mm |
| Crimp terminal | |
| –Wrie gauge | 0.14–4.0mm² |
| –AWG | 26–12 |
| –Stripping length | 7.5mm |
| Spring terminal | |
| –Wrie gauge | 0.14–2.5mm² |
| –AWG | 26–14 |
| –Stripping length | 7–9mm |

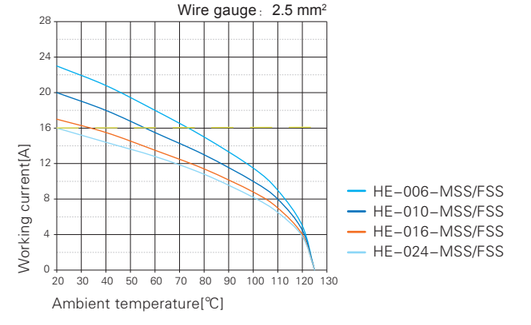
## Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512–5



500V 16A 6+⏚

## Inserts

Hoods/Housings: size 6B, please find the details on page 15-25~15-38.

### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–006–M | 122 006 011 0001 |
| Female | HE–006–F | 122 006 021 0001 |

### Crimp terminal

Order crimp contacts separately



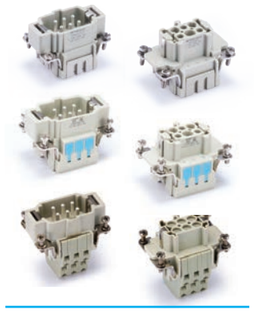
| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–006–MC[1)] | 122 006 010 0001 |
| Female | HE–006–FC[1)] | 122 006 020 0001 |

1).can match PCB adapter,see page 14–04~14–05.

| | | |
|---|---|---|
| Male | HE–006–MC/N[2)] | 122 006 010 0101 |
| Female | HE–006–FC/N[2)] | 122 006 020 0101 |

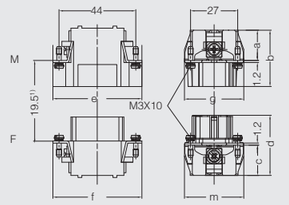
2).for crimp contacts 16A–Enhanced Ⅱ,see page 13–04.

### Spring terminal, See P00–35 for the structural characteristics of spring.



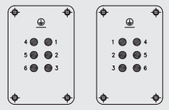
| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–006–MS | 122 006 012 0001 |
| Female | HE–006–FS | 122 006 022 0001 |
| Male | HE–006–MS B | 122 006 012 0101 |
| Female | HE–006–FS B | 122 006 022 0101 |
| Double spring connection(Two terminal per contact ) Only suitable for high structure shells | | |
| Male | HE–006–MSS | 122 006 012 0201 |
| Female | HE–006–FSS | 122 006 022 0201 |

1) Distance for contact max. 21 mm

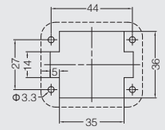



| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 16 | 32.4 | 51 | 34 | 16.8 | 34.5 | 50.5 | 34 |
| MC/FC | 18 | 33 | 51 | 34 | 18 | 35 | 50.5 | 34 |
| MC/N / FC/N | 18.3 | 34 | 51 | 34 | 19 | 36 | 51 | 34 |
| MS/FS | 18 | 33.3 | 51 | 34 | 18.2 | 35.4 | 50.5 | 34 |
| MSS/FSS | 34.5 | 49.5 | 50 | 34 | 33.4 | 50 | 50 | 34 |
| MS B / FS B | 19.5 | 34.7 | 51 | 34 | 19 | 36.5 | 51 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ

silver plated

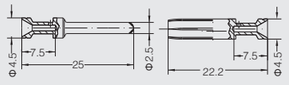


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



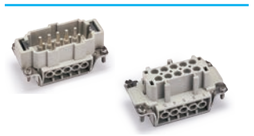


500V 16A 10+⏚

## Inserts

Hoods/Housings: size 10B, please find the details on page 15-39~15-69.

### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–010–M | 122 010 011 0001 |
| Female | HE–010–F | 122 010 021 0001 |

### Crimp terminal

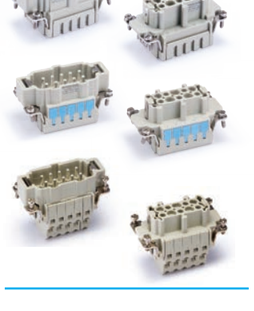
Order crimp contacts separately



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–010–MC[1)] | 122 010 010 0001 |
| Female | HE–010–FC[1)] | 122 010 020 0001 |

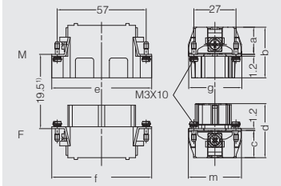
1).can match PCB adapter,see page 14–04~14–05.

### Spring terminal, See P00–35 for the structural characteristics of spring.



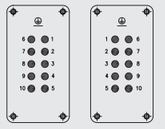
| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–010–MS | 122 010 012 0001 |
| Female | HE–010–FS | 122 010 022 0001 |
| Male | HE–010–MS B | 122 010 012 0101 |
| Female | HE–010–FS B | 122 010 022 0101 |
| Double spring connection(Two terminal per contact ) Only suitable for high structure shells | | |
| Male | HE–010–MSS | 122 010 012 0201 |
| Female | HE–010–FSS | 122 010 022 0201 |

1) Distance for contact max. 21 mm

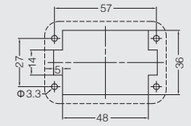



| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 16.5 | 32 | 64.5 | 34 | 16.8 | 34.2 | 64 | 34 |
| MC/FC | 18 | 33 | 64 | 34 | 17.5 | 35.2 | 64 | 34 |
| MS/FS | 18.5 | 33.5 | 64 | 34 | 18.5 | 35.6 | 64 | 34 |
| MSS/FSS | 34 | 49 | 64 | 34 | 33.5 | 49.5 | 63 | 34 |
| MS B / FS B | 19 | 34.5 | 64 | 34 | 18.6 | 36 | 64 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ

silver plated

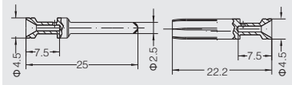


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

# HE-016 Standard inserts

500V 16A 16+⏚

## Inserts

Hoods/Housings: size 16B, please find the details on page 15-70~15-107.

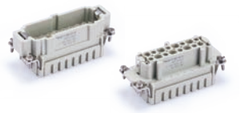
### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–M | 122 016 011 0001 |
| Female | HE–016–F | 122 016 021 0001 |

### Crimp terminal

Order crimp contacts separately



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–MC[1)] | 122 016 010 0001 |
| Female | HE–016–FC[1)] | 122 016 020 0001 |

1).can match PCB adapter,see page 14–04~14–05.

### Spring terminal, See P00–35 for the structural characteristics of spring.

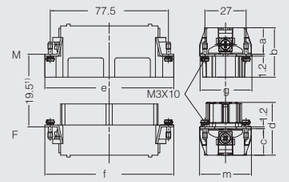


| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–MS | 122 016 012 0001 |
| Female | HE–016–FS | 122 016 022 0001 |
| Male | HE–016–MS B | 122 016 012 0101 |
| Female | HE–016–FS B | 122 016 022 0101 |

Double spring connection(Two terminal per contact )
Only suitable for high structure shells

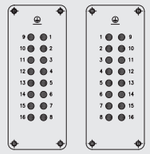
| | | |
|---|---|---|
| Male | HE–016–MSS | 122 016 012 0201 |
| Female | HE–016–FSS | 122 016 022 0201 |

1) Distance for contact max. 21 mm




| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 17 | 32.5 | 84.2 | 34 | 17 | 34.5 | 84.2 | 33.5 |
| MC/FC | 18 | 33.5 | 84.5 | 34 | 18 | 35 | 84.5 | 34 |
| MS/FS | 18 | 33.7 | 84.5 | 34 | 18.2 | 35.5 | 84.5 | 34 |
| MSS/FSS | 34.3 | 49 | 84.5 | 34 | 32.2 | 49 | 84.5 | 34 |
| MS B / FS B | 19.6 | 34.7 | 84.3 | 34 | 18.6 | 36 | 84.5 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ
silver plated

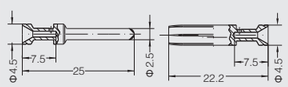


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.





# HE-024 Standard inserts

500V 16A 24+⏚

## Inserts

Hoods/Housings: size 24B, please find the details on page 15-108~15-150.

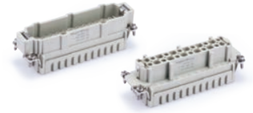
### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–M | 122 024 011 0001 |
| Female | HE–024–F | 122 024 021 0001 |

### Crimp terminal

Order crimp contacts separately



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–MC[1)] | 122 024 010 0001 |
| Female | HE–024–FC[1)] | 122 024 020 0001 |

1).can match PCB adapter,see page 14–04~14–05.

### Spring terminal, See P00–35 for the structural characteristics of spring.

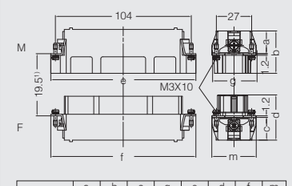


| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–MS | 122 024 012 0001 |
| Female | HE–024–FS | 122 024 022 0001 |
| Male | HE–024–MS B | 122 024 012 0101 |
| Female | HE–024–FS B | 122 024 022 0101 |

Double spring connection(Two terminal per contact )
Only suitable for high structure shells

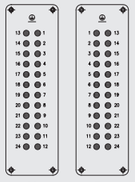
| | | |
|---|---|---|
| Male | HE–024–MSS | 122 024 012 0201 |
| Female | HE–024–FSS | 122 024 022 0201 |

1) Distance for contact max. 21 mm




| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 17 | 32.5 | 111 | 33.5 | 17 | 34.5 | 111 | 33.5 |
| MC/FC | 18.3 | 33.5 | 111 | 34 | 18.3 | 35.5 | 111 | 34 |
| MS/FS | 18.5 | 33.6 | 111 | 34 | 18.5 | 35.6 | 111 | 34 |
| MSS/FSS | 34 | 49 | 110 | 34 | 32 | 49 | 110 | 34 |
| MS B / FS B | 19.6 | 34.7 | 111 | 34 | 19 | 36.2 | 111 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ
silver plated

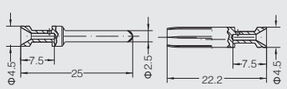


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

# HE-032 Standard inserts

500V 16A 32+⏚

VDE CE EAC CQC

## Inserts

Hoods/Housings: size 32B, please find the details on page 15-151~15-159.

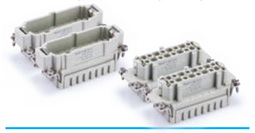
### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–M | 122 016 011 0001 |
| | HE–016–M(17–32) | 122 016 011 0002 |
| Female | HE–016–F | 122 016 021 0001 |
| | HE–016–F(17–32) | 122 016 021 0002 |

### Crimp terminal

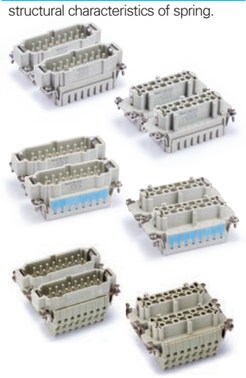
Order crimp contacts separately



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–MC | 122 016 010 0001 |
| | HE–016–MC(17–32)[1)] | 122 016 010 0002 |
| Female | HE–016–FC | 122 016 020 0001 |
| | HE–016–FC(17–32)[1)] | 122 016 020 0002 |

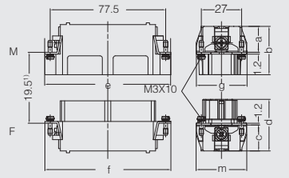
1).can match PCB adapter,see page 14–04~14–05.

### Spring terminal, See P00–33 for the structural characteristics of spring.



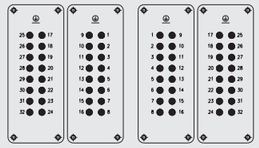
| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–016–MS | 122 016 012 0001 |
| | HE–016–MS(17–32) | 122 016 012 0002 |
| Female | HE–016–FS | 122 016 022 0001 |
| | HE–016–FS(17–32) | 122 016 022 0002 |
| Male | HE–016–MS B | 122 016 012 0101 |
| | HE–016–MS B(17–32) | 122 016 012 0102 |
| Female | HE–016–FS B | 122 016 022 0101 |
| | HE–016–FS B(17–32) | 122 016 022 0102 |
| Double spring connection(Two terminal per contact ) Only suitable for high structure shells | | |
| Male | HE–016–MSS | 122 016 012 0201 |
| | HE–016–MSS(17–32) | 122 016 012 0202 |
| Female | HE–016–FSS | 122 016 022 0201 |
| | HE–016–FSS(17–32) | 122 016 022 0202 |

1) Distance for contact max. 21 mm

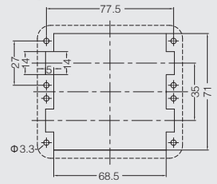



| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 17 | 32.5 | 84.2 | 34 | 17 | 34.5 | 84.2 | 33.5 |
| MC/FC | 18 | 33.5 | 84.5 | 34 | 18 | 35 | 84.5 | 34 |
| MS/FS | 18 | 33.7 | 84.5 | 34 | 18.2 | 35.5 | 84.5 | 34 |
| MSS/FSS | 34.3 | 49 | 84.5 | 34 | 32.2 | 49 | 84.5 | 34 |
| MS B / FS B | 19.6 | 34.7 | 84.3 | 34 | 18.6 | 36 | 84.5 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ
silver plated

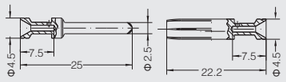


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.





# HE-048 Standard inserts

500V 16A 48+⏚

VDE CE EAC CQC

## Inserts

Hoods/Housings: size 48B, please find the details on page 15-160~15-162.

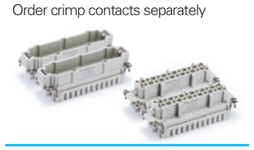
### Screw terminal



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–M | 122 024 011 0001 |
| Female | HE–024–M(25–48) | 122 024 011 0002 |
| | HE–024–F | 122 024 021 0001 |
| | HE–024–F(25–48) | 122 024 021 0002 |

### Crimp terminal

Order crimp contacts separately



| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–MC | 122 024 010 0001 |
| | HE–024–MC(25–48)[1)] | 122 024 010 0002 |
| Female | HE–024–FC | 122 024 020 0001 |
| | HE–024–FC(25–48)[1)] | 122 024 020 0002 |

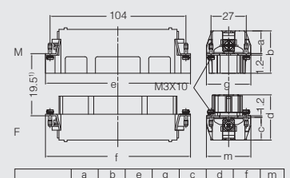
1).can match PCB adapter,see page 14–04~14–05.

### Spring terminal, See P00–33 for the structural characteristics of spring.



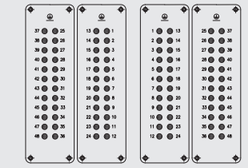
| Insert | Designation | Order No. |
|---|---|---|
| Male | HE–024–MS | 122 024 012 0001 |
| | HE–024–MS(25–48) | 122 024 012 0002 |
| Female | HE–024–FS | 122 024 022 0001 |
| | HE–024–FS(25–48) | 122 024 022 0002 |
| Male | HE–024–MS B | 122 024 012 0101 |
| | HE–024–MS B(25–48) | 122 024 012 0102 |
| Female | HE–024–FS B | 122 024 022 0101 |
| | HE–024–FS B(25–48) | 122 024 022 0102 |
| Double spring connection(Two terminal per contact ) Only suitable for high structure shells | | |
| Male | HE–024–MSS | 122 024 012 0201 |
| | HE–024–MSS(25–48) | 122 024 012 0202 |
| Female | HE–024–FSS | 122 024 022 0201 |
| | HE–024–FSS(25–48) | 122 024 022 0202 |

1) Distance for contact max. 21 mm

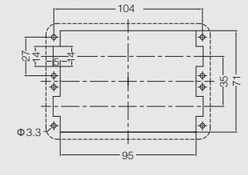



| | a | b | e | g | c | d | f | m |
|---|---|---|---|---|---|---|---|---|
| M/F | 17 | 32.5 | 111 | 33.5 | 17 | 34.5 | 111 | 33.5 |
| MC/FC | 18.3 | 33.5 | 111 | 34 | 18.3 | 35.5 | 111 | 34 |
| MS/FS | 18.5 | 33.6 | 111 | 34 | 18.5 | 35.6 | 111 | 34 |
| MSS/FSS | 34 | 49 | 110 | 34 | 32 | 49 | 110 | 34 |
| MS B / FS B | 19.6 | 34.7 | 111 | 34 | 19 | 36.2 | 111 | 34 |

Contact arrangement view from termination side




Panel cut out for inserts for use without hoods/housings




## Crimp contacts

### Crimp contacts 16A

Contact resistance≤1mΩ
silver plated

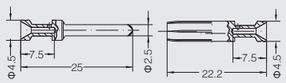


gold plated



More crimp contacts16A see P13–04.

| Male | Order No. | Female | Order No. |
|---|---|---|---|
| CESM–0.37 | 101 019 110 0301 | CESF–0.37 | 101 019 120 0301 |
| CESM–0.50 | 101 019 110 0401 | CESF–0.50 | 101 019 120 0401 |
| CESM–0.75 | 101 019 110 0601 | CESF–0.75 | 101 019 120 0601 |
| CESM–1.0 | 101 019 110 0801 | CESF–1.0 | 101 019 120 0801 |
| CESM–1.5 | 101 019 110 0901 | CESF–1.5 | 101 019 120 0901 |
| CESM–2.5 | 101 019 110 1001 | CESF–2.5 | 101 019 120 1001 |
| CESM–3.0 | 101 019 110 1101 | CESF–3.0 | 101 019 120 1101 |
| CESM–4.0 | 101 019 110 1201 | CESF–4.0 | 101 019 120 1201 |
| | | | |
| CEGM–0.37 | 101 019 210 0301 | CEGF–0.37 | 101 019 220 0301 |
| CEGM–0.50 | 101 019 210 0401 | CEGF–0.50 | 101 019 220 0401 |
| CEGM–0.75 | 101 019 210 0601 | CEGF–0.75 | 101 019 220 0601 |
| CEGM–1.0 | 101 019 210 0801 | CEGF–1.0 | 101 019 220 0801 |
| CEGM–1.5 | 101 019 210 0901 | CEGF–1.5 | 101 019 220 0901 |
| CEGM–2.5 | 101 019 210 1001 | CEGF–2.5 | 101 019 220 1001 |
| CEGM–3.0 | 101 019 210 1101 | CEGF–3.0 | 101 019 220 1101 |
| CEGM–4.0 | 101 019 210 1201 | CEGF–4.0 | 101 019 220 1201 |




| Identification | Wire gauge | | Stripping length |
|---|---|---|---|
| no groove | 0.14–0.37 mm² | AWG 26–22 | 7.5mm |
| no groove | 0.5 mm² | AWG 20 | 7.5mm |
| 1 groove | 0.75 mm² | AWG 18 | 7.5mm |
| 1 groove | 1 mm² | AWG 18 | 7.5mm |
| 2 grooves | 1.5 mm² | AWG 16 | 7.5mm |
| 3 grooves | 2.5 mm² | AWG 14 | 7.5mm |
| wide groove | 3 mm² | AWG 12 | 7.5mm |
| no groove | 4 mm² | AWG 12 | 7.5mm |

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

### Tools

Crimping tool



Contact removal tool



| Wire gauge | Designation | Order No. |
|---|---|---|
| 0.5–4mm² | TL02G | 198 001 001 0011 |

Wire gauge: 0.14–0.37mm² please select TL02 Crimping tool.

| Application | Designation | Order No. |
|---|---|---|
| for crimp contacts16A | TL01 | 198 001 000 0002 |

More tools detail please find the page32–03~32–06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Tools

HE B Spring open machine[1)]



| Description | Designation | Order NO. |
|---|---|---|
| for all HE B spring inserts | SOM01 | 198 001 003 0008 |

1) It can open all the shrapnel windows of insert at one time;suitable for using in mass assembly, greatly imporving the efficiency of the connection.



