



Excel|Mate Mono

High Voltage with Inter-Lock

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ExcelMate Mono (HVBI)

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HVS

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KEY FEATURES

- Unmated socket: IP67
- Salt Spray over 500H
- Rated current up to 300A
- Rated voltage up to 1500V

APPLICATIONS

CHD has been designed for high-power charging in harsh environments.

MECHANICAL

| | |
|------------|--------------------|
| Durability | > 50 mating cycles |
|------------|--------------------|

ELECTRICAL

| | |
|-------------------------------------|--------------------------|
| Rated voltage | 1500V Max. (DC) |
| <u>Rated current:</u> | |
| 35mm ² shield cable..... | 150A@ Ambient temp. 70°C |
| 50mm ² shield cable..... | 250A@ Ambient temp. 70°C |
| 70mm ² shield cable..... | 300A@ Ambient temp. 70°C |
| Shielding | Yes |

ENVIRONMENTAL

| | |
|-------------------|----------------------|
| Sealing | IP67, IP6K9K (mated) |
| Touch-proof | IP2XB |
| Temperature range | -40°C to 125°C |
| Salt spray | 500h Min. |

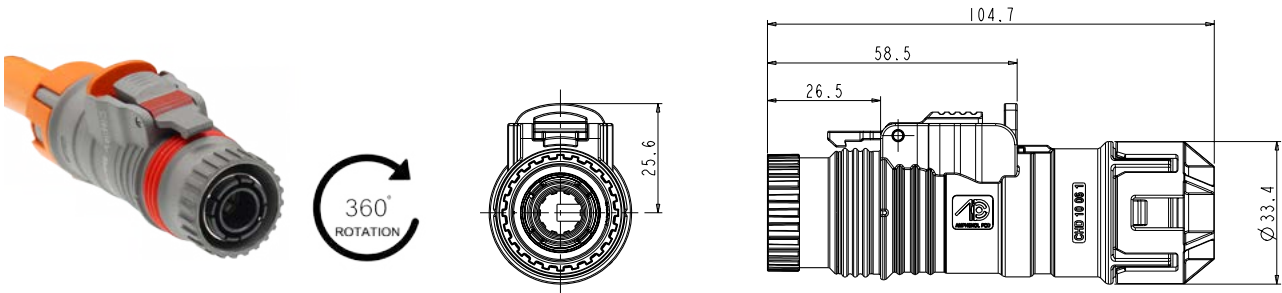
MATERIAL

| | |
|-----------|---|
| Housing | Aluminum alloy |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

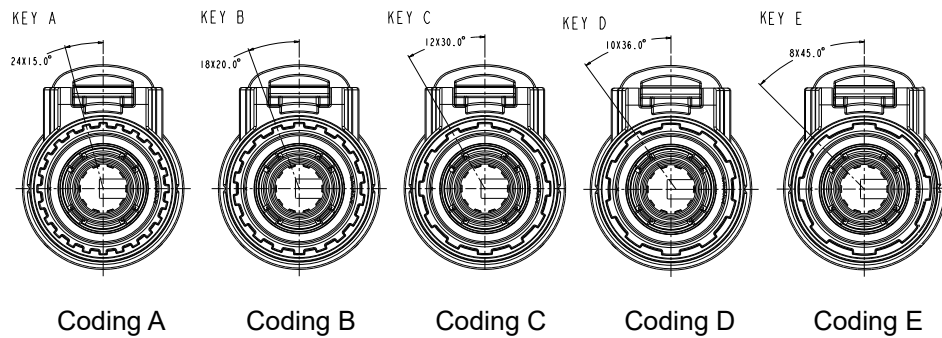
STANDARDS

| | |
|-----------------|--------------|
| Cable standard: | LV216 / H&S |
| Standards: | USCAR-2 / 37 |

Plug



Codings

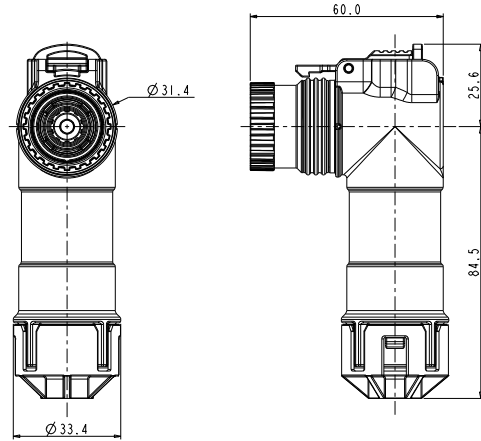


How to order:

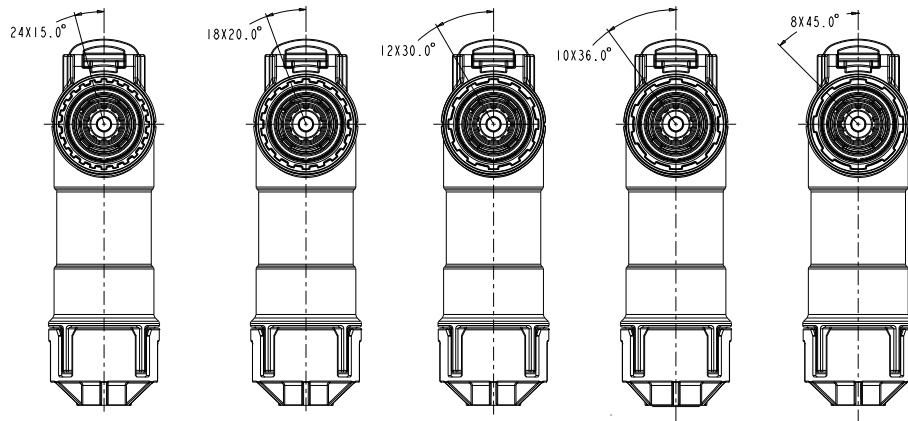
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|-----|----|----|---|---|---|----|
| CHD | 10 | 06 | 1 | X | 1 | XX |
|-----|----|----|---|---|---|----|

| | | |
|-------------|------|---|
| A: Coding A | HVIL | 01: 70mm ² (LV216) Wire OD: 17.8 ± 0.4mm |
| B: Coding B | | 02: 50mm ² (LV216) Wire OD: 15.5 ± 0.3mm |
| C: Coding C | | 03: 70mm ² (H&S) Wire OD: 17.0 ± 0.3mm |
| D: Coding D | | 04: 50mm ² (H&S) Wire OD: 14.9 ± 0.3mm |
| E: Coding E | | 05: 35mm ² (H&S) Wire OD: 12.7 ± 0.3mm |
| | | 06: 35mm ² (LV216) Wire OD: 14.1 ± 0.3mm |

Right-angle Plug



Codings



Coding A

Coding B

Coding C

Coding D

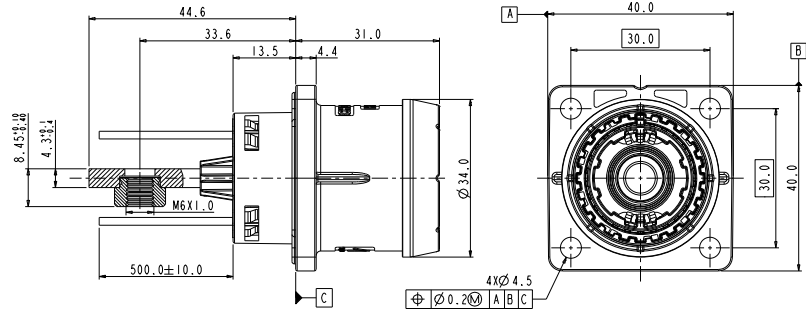
Coding E

How to order:

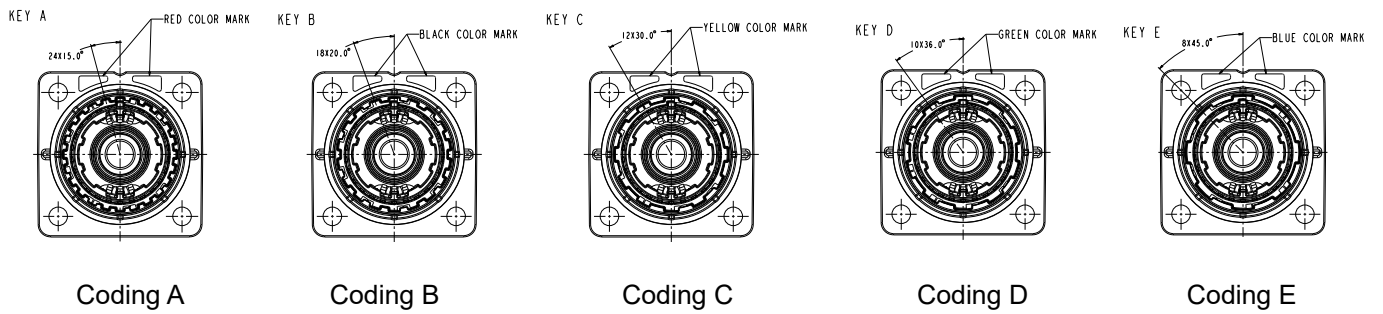
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|-----|----|----|---|---|---|----|
| CHD | 10 | 08 | 1 | X | 1 | XX |
|-----|----|----|---|---|---|----|

| | | |
|-------------|------|---|
| A: Coding A | HVIL | 01: 70mm ² (LV216) Wire OD: 17.8 ± 0.4mm |
| B: Coding B | | 02: 50mm ² (LV216) Wire OD: 15.5 ± 0.3mm |
| C: Coding C | | 03: 70mm ² (H&S) Wire OD: 17.0 ± 0.3mm |
| D: Coding D | | 04: 50mm ² (H&S) Wire OD: 14.9 ± 0.3mm |
| E: Coding E | | 05: 35mm ² (H&S) Wire OD: 12.7 ± 0.3mm |
| | | 06: 35mm ² (LV216) Wire OD: 14.1 ± 0.3mm |

Receptacle



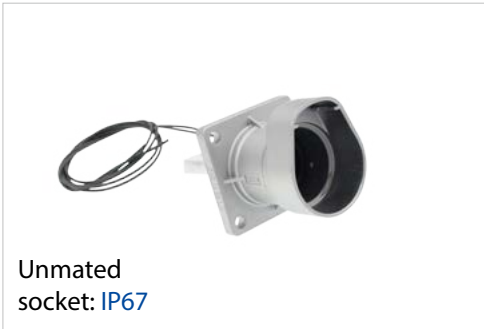
Codings



How to order:

| | | | | | | |
|-----|----|----|---|---|---|----|
| CHD | 10 | 02 | 1 | X | X | 01 |
|-----|----|----|---|---|---|----|

- A: Coding A
- B: Coding B
- C: Coding C
- D: Coding D
- E: Coding E
- 0: Without HVIL
- 1: Wit HVIL

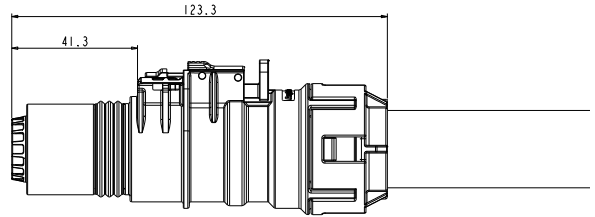
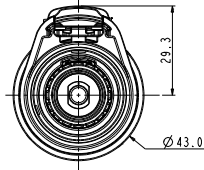


- KEY FEATURES**
- Unmated socket: IP67
 - Salt Spray over 500H
 - Rated current up to 500A
 - Rated voltage up to 1500V

| APPLICATIONS | |
|--|---|
| CHD has been designed for high-power charging in harsh environments. | |
| MECHANICAL | |
| Durability | > 50 mating cycles |
| ELECTRICAL | |
| Rated voltage | 1500V Max. (DC) |
| Rated current: | |
| 70mm ² shield cable..... | 300A@ Ambient temp. 70°C |
| 95mm ² shield cable..... | 350A@ Ambient temp. 70°C |
| 120mm ² shield cable..... | 430A@ Ambient temp. 70°C |
| 150mm ² shield cable..... | 500A@ Ambient temp. 70°C |
| Shielding | Yes |
| ENVIRONMENTAL | |
| Sealing | IP67, IP6K9K (mated) |
| Temperature range | -40°C to 125°C |
| Salt spray | 500h Min. |
| MATERIAL | |
| Housing | Aluminum alloy |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

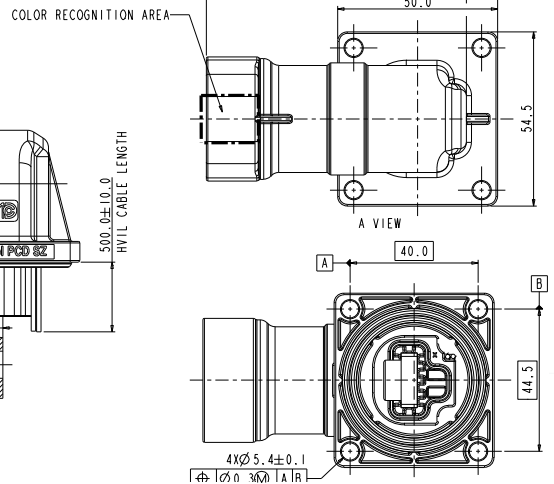
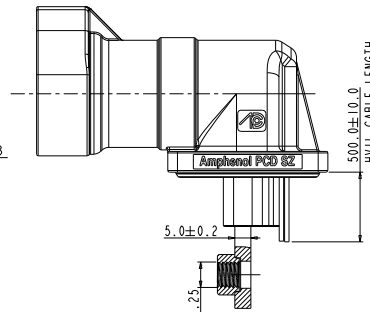
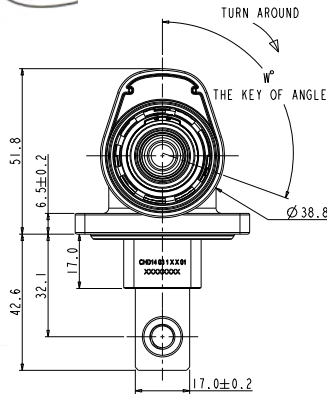
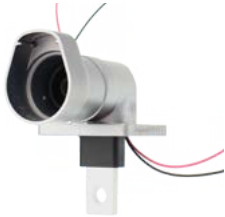
CHD 14 1-PIN | STRAIGHT PLUG

| | | | | | | |
|-----|----|----|---|---|----------------------------|---|
| CHD | 14 | 06 | 1 | X | X | XX |
| | | | | A: coding A B: coding B C: coding C | D: coding D E: coding E | 0: without HVIL 1: with HVIL 01: 150mm ² 02: 120mm ² 03: 95mm ² 04: 70mm ² |

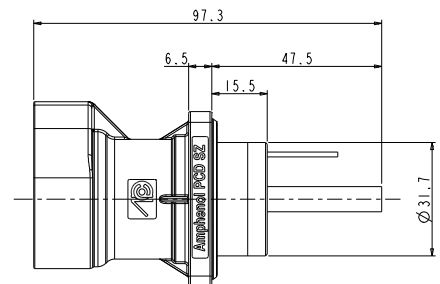
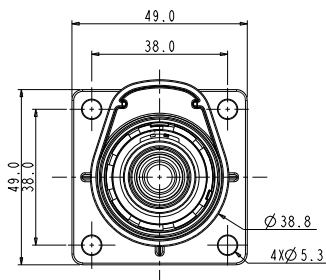


CHD 1-PIN | RECEPTACLES

| | | | | | | |
|-----|----|----|---|---|----------------------------|---------------------------------|
| CHD | 14 | 03 | 1 | X | X | 01 |
| | | | | A: coding A B: coding B C: coding C | D: coding D E: coding E | 0: without HVIL 1: with HVIL |



| | | | | | | |
|-----|----|----|---|---|----------------------------|---------------------------------|
| CHD | 14 | 02 | 1 | X | X | 01 |
| | | | | A: coding A B: coding B C: coding C | D: coding D E: coding E | 0: without HVIL 1: with HVIL |



比例 1:1



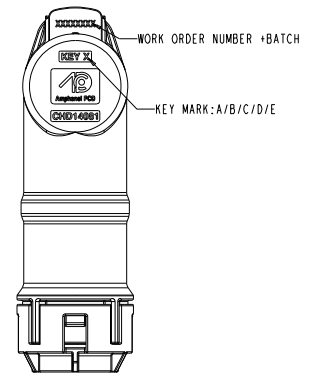
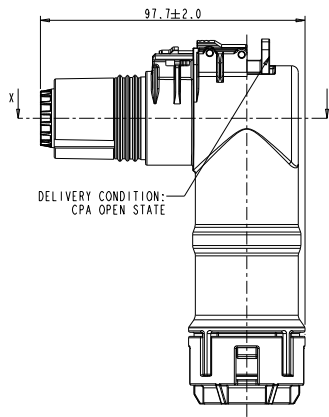
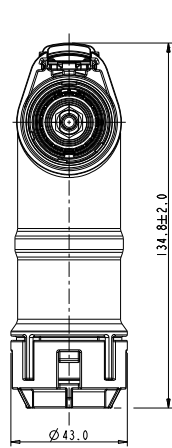
KEY FEATURES

- Salt Spray over 500H
- Rated current up to 450A
- Rated voltage up to 1500V

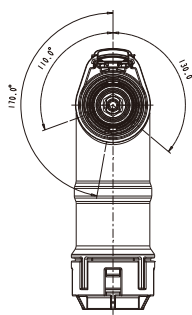
| APPLICATIONS | |
|--|---|
| CHD has been designed for high-power charging in harsh environments. | |
| MECHANICAL | |
| Durability | > 50 mating cycles |
| ELECTRICAL | |
| Rated voltage | 1500V Max. (DC) |
| <u>Rated current:</u> | |
| 70mm ² shield cable..... | 300A@ Ambient temp. 70°C |
| 95mm ² shield cable..... | 350A@ Ambient temp. 70°C |
| 120mm ² shield cable..... | 430A@ Ambient temp. 70°C |
| 150mm ² shield cable..... | 450A@ Ambient temp. 70°C |
| Shielding | Yes |
| ENVIRONMENTAL | |
| Sealing | IP67, IP6K9K (mated) |
| Temperature range | -40°C to 125°C |
| Salt spray | 500h Min. |
| MATERIAL | |
| Housing | Aluminum alloy |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

CHD 14 1-PIN | 90° PLUG

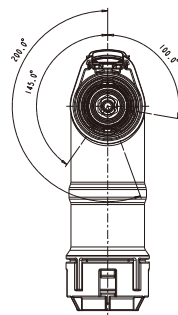
| | | | | | | |
|-----|----|----|---|-------------|-----------------|------------------------|
| CHD | 14 | 08 | 1 | X | X | XX |
| | | | | A: coding A | 0: without HVIL | 01: 150mm ² |
| | | | | B: coding B | 1: with HVIL | 02: 120mm ² |
| | | | | C: coding C | | 03: 95mm ² |
| | | | | D: coding D | | 04: 70mm ² |
| | | | | E: coding E | | |



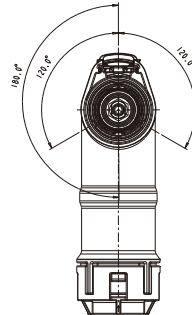
CODING



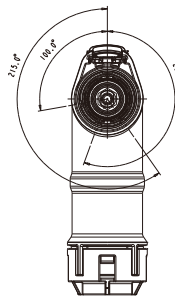
Coding A



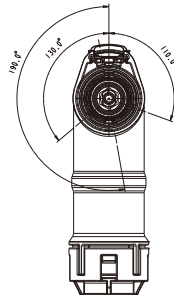
Coding B



Coding C



Coding D

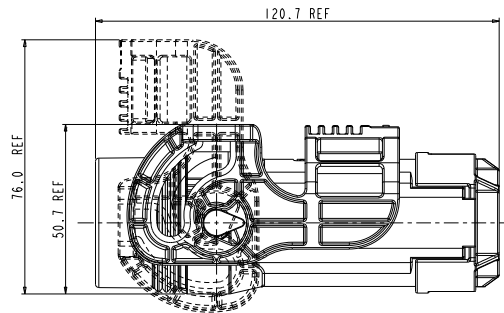
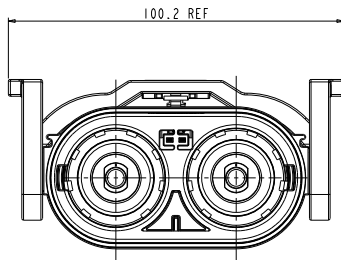


Coding E

CHD 2-PIN | STRAIGHT PLUG



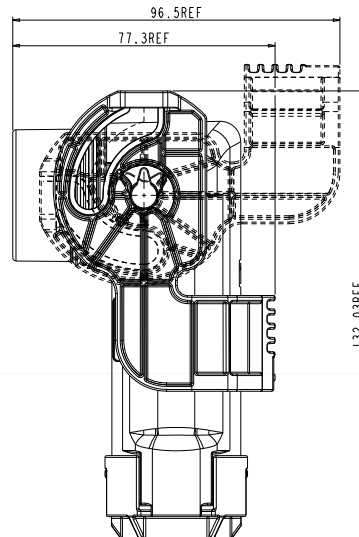
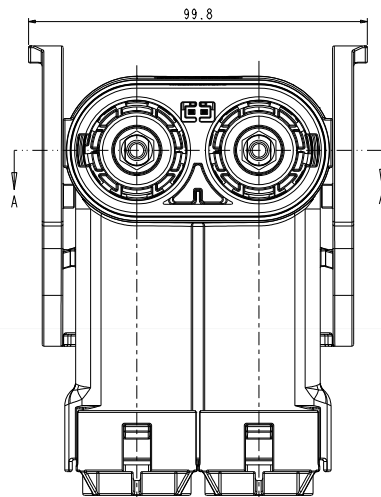
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|-------------|----|----|---|---|-----------------|------------------------|
| CHD | 14 | 06 | 2 | X | X | XX |
| A: coding A | | | | | 0: without HVIL | 01: 150mm ² |
| B: coding B | | | | | 1: with HVIL | 02: 120mm ² |
| C: coding C | | | | | | 03: 95mm ² |
| | | | | | | 04: 70mm ² |



CHD 2-PIN | 90° PLUG



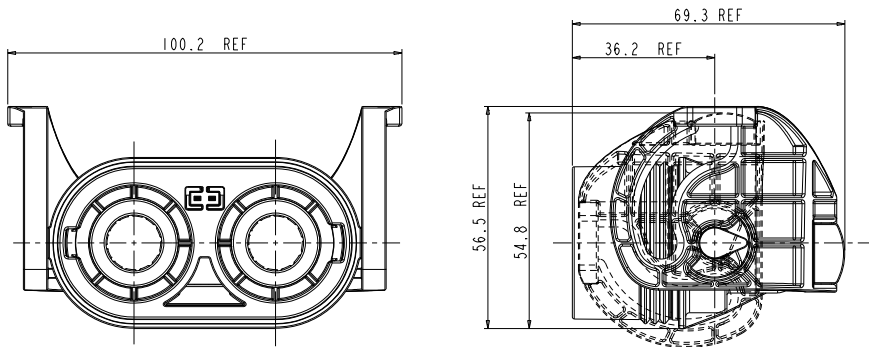
| | | | | | | |
|-------------|----|----|---|---|-----------------|--|
| CHD | 14 | 08 | 2 | X | X | 01 |
| A: coding A | | | | | 0: without HVIL | 01: 150mm ² Wire OD: 24.9 ± 0.5mm |
| B: coding B | | | | | 1: with HVIL | 02: 120mm ² (LV216) Wire OD: 22.6 ± 0.4mm |
| C: coding C | | | | | | 03: 95mm ² (LV216) Wire OD: 20.5 ± 0.4mm |
| | | | | | | 04: 70mm ² (LV216) Wire OD: 17.8 ± 0.4mm |
| | | | | | | 05: 95mm ² (H&S) Wire OD: 19.9 ± 0.5mm |



CHD 2-PIN SHUNT | PLUG



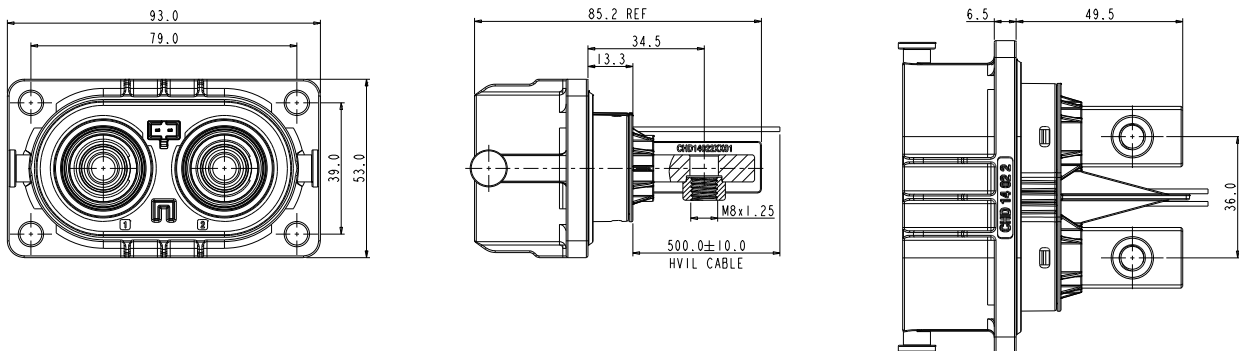
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|-----|----|----|---|---|---------------------------------|---|----------------------|
| CHD | 14 | 06 | 2 | N | X | X | SC |
| | | | | | 0: without HVIL 1: with HVIL | 0: without power terminal 1: with power terminal | SC: Short connection |



CHD 2-PIN | RECEPTACLE



| | | | | | | |
|-----|----|----|---|---|---------------------------------|----|
| CHD | 14 | 02 | 2 | X | X | 01 |
| | | | | A: coding A B: coding B C: coding C | 0: without HVIL 1: with HVIL | |



ExcelMate Mono (HVBI)



KEY FEATURES

- High voltage with interlock
- Easy to install in a limited space
- Push-pull locking system with audible "click"
- EMI shielding
- No tool required for unmating
- Sealing, IP67, IP6K9K (mated)
- Touch-proof IP2XB
- RoHS compliant
- Multiple coding positions

MECHANICAL

| | |
|-----------------|-------------------------|
| Durability | > 200 mating cycles |
| Wire range | 16 to 70mm ² |
| Connection type | Crimping |

ELECTRICAL

| | |
|------------------------------|-------------------------------------|
| Rated voltage | 1000V DC |
| Rated current | 250A Max @ Ambient temperature 70°C |
| Insulator resistance | > 2000MΩ |
| Dielectric withstand voltage | 3000V AC |

ENVIRONMENTAL

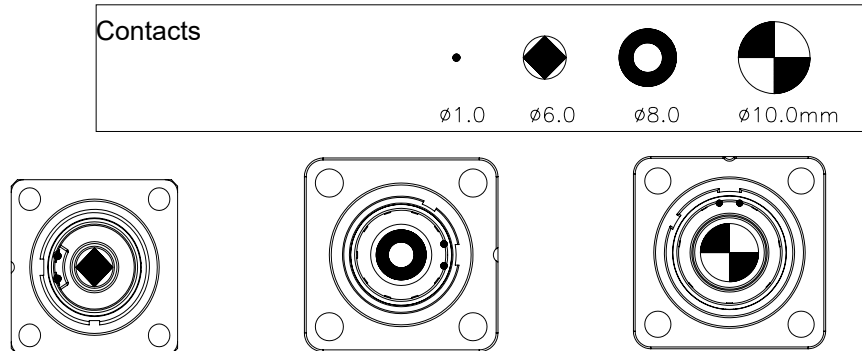
| | |
|-----------------------|----------------------|
| Sealing | IP67, IP6K9K (mated) |
| Touch-proof | IP2XB |
| Operating temperature | -40°C to 125°C |
| Inflammability | UL94V0 |
| Salt spray | 48h, 96h |

MATERIAL

| | |
|-----------|---|
| Shell | Zinc alloy, zinc plating and anodic oxidation |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

INSERT ARRANGEMENT

From front face of receptacle

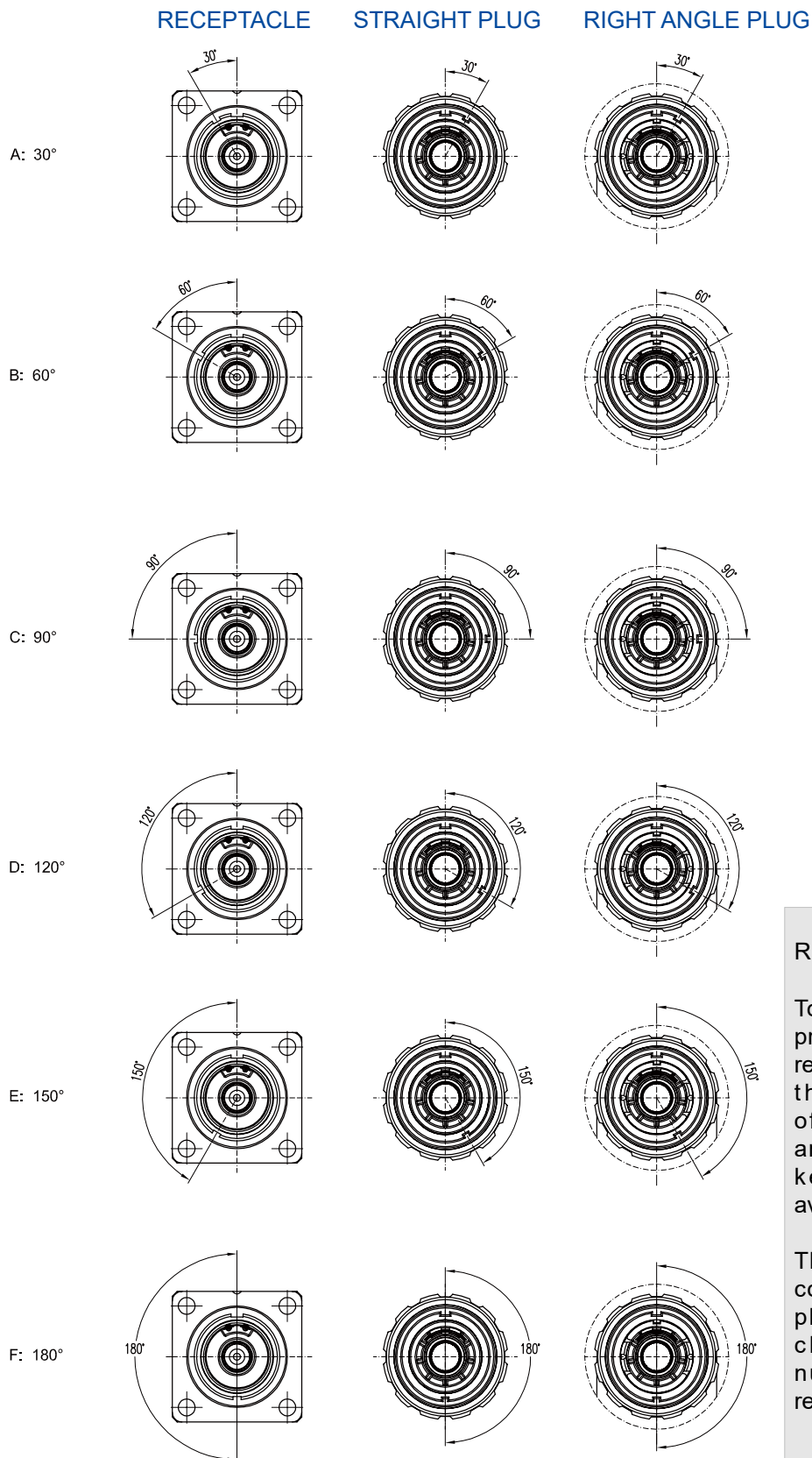


| Insert arrangement | HVBI R6 | HVBI R8 | HVBI R10 |
|----------------------|----------------------|----------------------|----------------------|
| Rated voltage | 1000V DC | 1000V DC | 1000V DC |
| Rated current | 120A +2 x 7.5A | 180A +2 x 7.5A | 250A +2 x 7.5A |
| Contact number | Power: 1 / Signal: 2 | Power: 1 / Signal: 2 | Power: 1 / Signal: 2 |
| Withstanding voltage | 3000V AC | 3000V AC | 3000V AC |

HOW TO ORDER: RECEPTACLE

| | HVBI | 0 | 02R6 | A | M | H | BBK |
|---|------|---|------|---|---|---|-----|
| Shell type: | | | | | | | |
| 0: Receptacle | | | | | | | |
| Insert size: | | | | | | | |
| 02R6: 6mm Male contact (Rated current 120A) | | | | | | | |
| 03R8: 8mm Male contact (Rated current 180A) | | | | | | | |
| 05R10: 10mm Male contact (Rated current 250A) | | | | | | | |
| HVIL: | | | | | | | |
| A: With HVIL | | | | | | | |
| B: Without HVIL | | | | | | | |
| Insert type: | | | | | | | |
| M: Male contact | | | | | | | |
| Termination: | | | | | | | |
| H: Copper bar | | | | | | | |
| H6: M6 Thread (For contact insert R6, R8) | | | | | | | |
| H8: M8 Thread (For contact insert R10) | | | | | | | |
| Alternate keying positions & Color of locking nut: | | | | | | | |
| ARD: 30°, Red | | | | | | | |
| BBK: 60°, Black | | | | | | | |
| CYL: 90°, Yellow | | | | | | | |
| DGR: 120°, Green | | | | | | | |
| EBL: 150°, Blue | | | | | | | |
| FPU: 180°, Purple | | | | | | | |

ALTERNATE KEYING POSITIONS

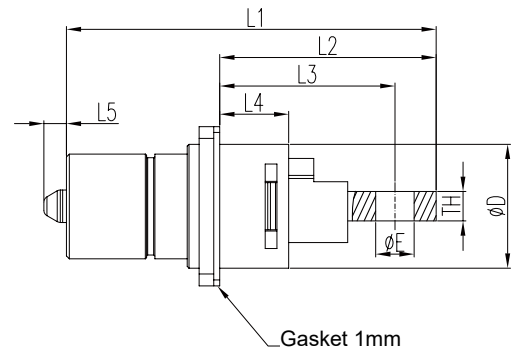
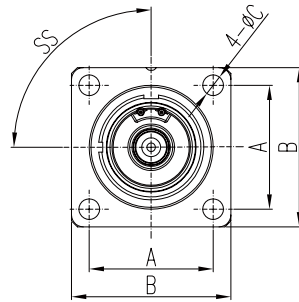


REMARK

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available.

The shell key is rotated counter-clockwise. The plug would be rotated clockwise the same number of degrees in respect to the shell key.

RECEPTACLE WITH COPPER BAR

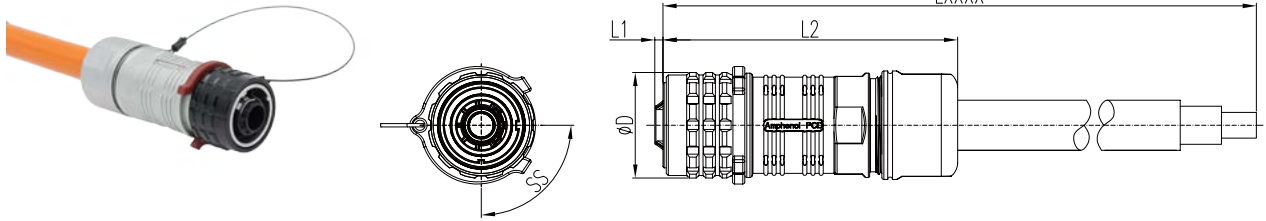


| Part number | A | B | C | D | E | L1 | L2 | L3 | L4 | L5 | TH |
|-----------------------|------|------|-----|------|------|------|------|------|------|-----|-----|
| HVBI-0-02R6-XMHX-XX | 21.0 | 27.0 | 3.5 | 21.0 | 6.5 | 62.7 | 37.7 | 30.7 | 12.7 | 3.8 | 5.0 |
| HVBI-0-03R8-XMHX-XX | 23.0 | 31.0 | 4.5 | 23.0 | 8.5 | 76.7 | 43.7 | 35.7 | 15.9 | / | 5.0 |
| HVBI-0-05R10-XMHX-XX | 24.6 | 33.0 | 4.5 | 26.0 | 10.5 | 85.9 | 52.6 | 40.6 | 18.4 | 0.8 | 6.0 |
| HVBI-0-02R6-XMH6X-XX | 21.0 | 27.0 | 3.5 | 21.0 | M6 | 62.7 | 37.7 | 30.7 | 12.7 | 3.8 | 5.0 |
| HVBI-0-03R8-XMH6X-XX | 23.0 | 31.0 | 4.5 | 23.0 | M6 | 76.7 | 43.7 | 35.7 | 15.9 | / | 5.0 |
| HVBI-0-05R10-XMH8X-XX | 24.6 | 33.0 | 4.5 | 26.0 | M8 | 85.9 | 52.6 | 40.6 | 18.4 | 0.8 | 6.0 |

HOW TO ORDER: PLUG

| | | | | | | | | | | |
|--|-------------|----------|-------------|----------|----------|----------|------------|-----------|-----------|--------------|
| | HVBI | 9 | 02R6 | A | F | C | ARD | FG | 25 | LXXXX |
| Shell type: 7: Straight plug 9: Right angle plug | | | | | | | | | | |
| Insert size: 02R6: 6mm Radsok (Rated current 120A) 03R8: 8mm Radsok (Rated current 180A) 05R10: 10mm Radsok (Rated current 250A) | | | | | | | | | | |
| HVIL: A: With HVIL B: Without HVIL | | | | | | | | | | |
| Insert type: F: Female contact | | | | | | | | | | |
| Contact type: C: Crimp | | | | | | | | | | |
| Alternate keying positions: ARD: 30°, Red BBK: 60°, Black CYL: 90°, Yellow DGR: 120°, Green EBL: 150°, Blue FPU: 180°, Purple | | | | | | | | | | |
| FG: Shielded PC: Unshielded | | | | | | | | | | |
| Cable section: 16: 16mm ² cable 25: 25mm ² cable 35: 35mm ² cable 50: 50mm ² cable 70: 70mm ² cable | | | | | | | | | | |
| Cable length: LXXXX: Cable length (Unit in mm) | | | | | | | | | | |

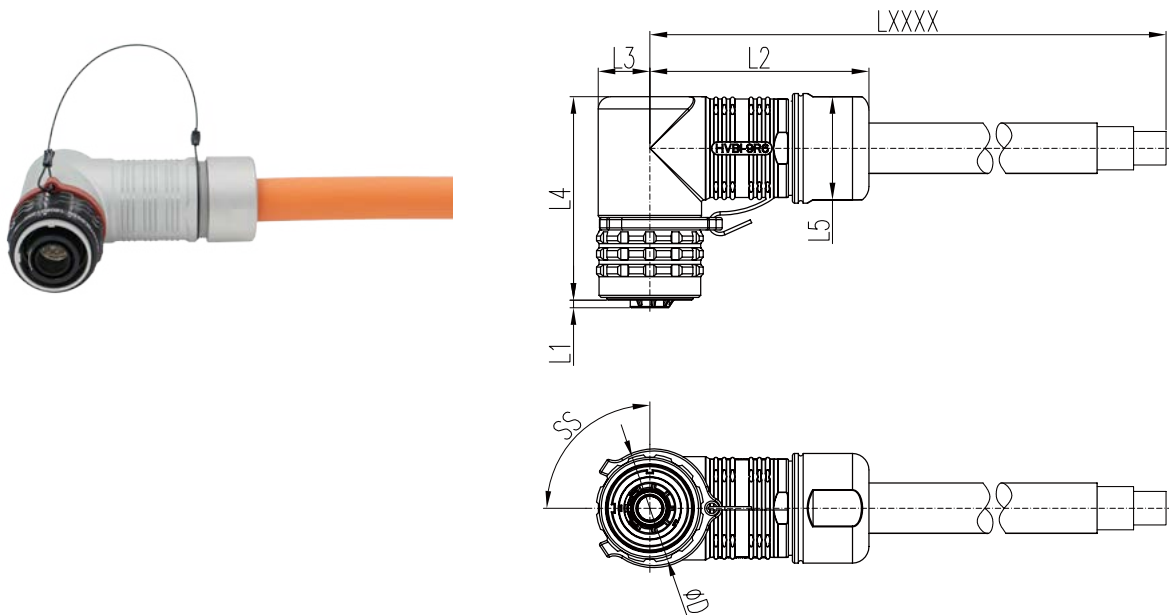
STRAIGHT PLUG



| Part number | D | L1 | L2 | LXXXX | Cable section(mm ²) |
|--------------------------------------|------|-----|----|--|--|
| HVBI-7-02R6-XFC-X-XX-FG / PC-XX.... | 26.0 | 2.0 | 70 | Cable length (mm), custom orders are available | 16mm ² to 25mm ² |
| HVBI-7-03R8-XFC-X-XX-FG / PC-XX.... | 27.5 | 2.0 | 82 | | 35mm ² to 50mm ² |
| HVBI-7-05R10-XFC-X-XX-FG / PC-XX.... | 32.5 | 1.5 | 92 | | 50mm ² to 70mm ² |

Notes: FG: Shielded type PC: Unshielded type

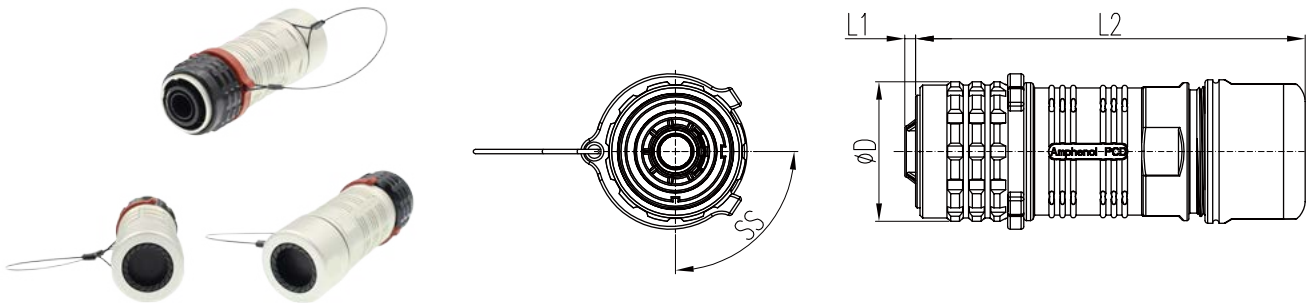
RIGHT ANGLE PLUG



| Part number | D | L1 | L2 | L3 | L4 | L5 | LXXXX | Cable section (mm ²) |
|--------------------------------------|------|-----|------|------|------|------|---|--|
| HVBI-9-02R6-XFC-X-XX-FG / PC-XX.... | 26.0 | 1.8 | 53.0 | 12.5 | 49.3 | 25.0 | Cable length (mm), custom orders are available | 16mm ² to 25mm ² |
| HVBI-9-03R8-XFC-X-XX-FG / PC-XX.... | 27.5 | 2.0 | 62.0 | 13.9 | 58.5 | 27.3 | | 35mm ² to 50mm ² |
| HVBI-9-05R10-XFC-X-XX-FG / PC-XX.... | 32.5 | 1.5 | 69.5 | 16.0 | 64.0 | 31.5 | | 50mm ² to 70mm ² |

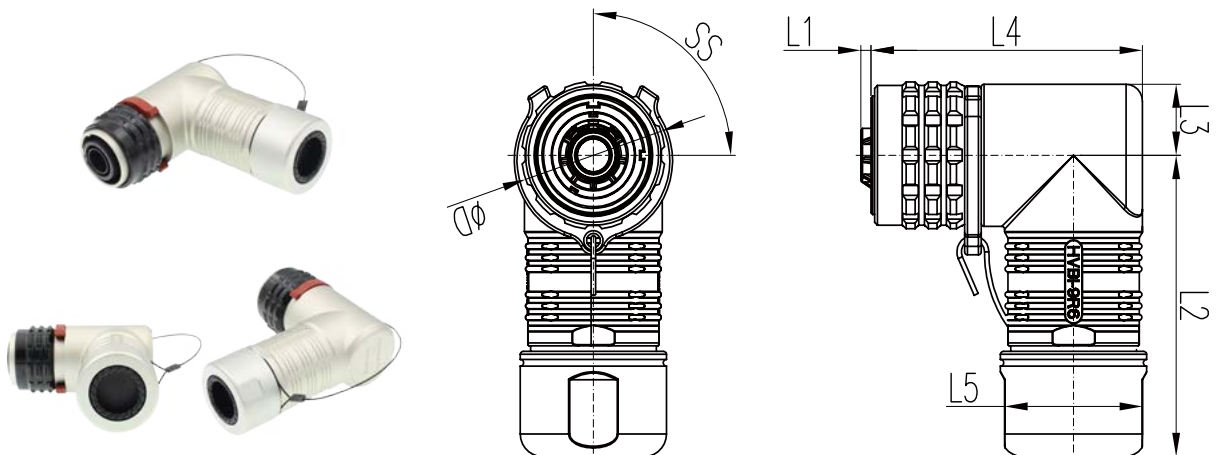
Notes: FG: Shielded type PC: Unshielded type

STRAIGHT DUMMY PLUG



| Part number | D | L1 | L2 |
|--------------------------|------|-----|----|
| HVBI-7-03R8-XFC-X-XX-S1 | 27.5 | 2.0 | 82 |
| HVBI-7-05R10-XFC-X-XX-S1 | 32.5 | 1.5 | 92 |

RIGHT ANGLE DUMMY PLUG



| Part number | D | L1 | L2 | L3 | L4 | L5 |
|--------------------------|------|-----|------|------|------|------|
| HVBI-9-03R8-XFC-X-XX-S1 | 27.5 | 2.0 | 62.0 | 13.9 | 58.5 | 27.3 |
| HVBI-9-05R10-XFC-X-XX-S1 | 32.5 | 1.5 | 69.5 | 16.0 | 64.0 | 31.5 |

EX series

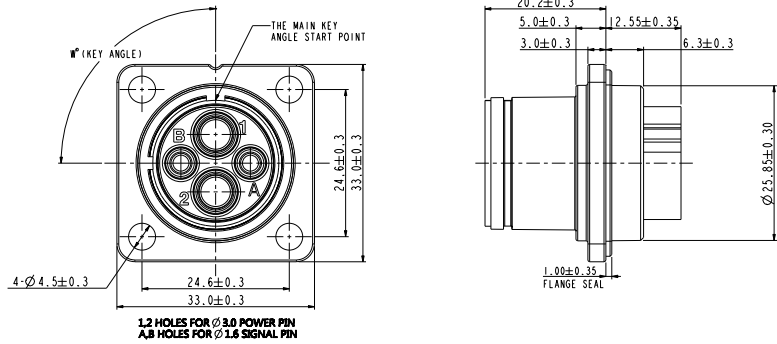


KEY FEATURES

- Easy to install in a limited space
- Push-pull locking system with audible "click"
- EMI shielding
- No tool required to unmate
- Sealing, IP68, IP6K9K (mated)
- Touch-proof IP2XB
- Multiple coding positions
- RoHS compliant

| APPLICATIONS | |
|------------------------------|--|
| EV air-conditioner | |
| DCDC | |
| PTC | |
| Power distribution boxes | |
| MECHANICAL | |
| Durability | 50 mating cycles |
| Wire range | 2.5 to 6mm ² (RA plug: 2.5 to 4mm ²) |
| Connection type | Crimping |
| ELECTRICAL | |
| Rated voltage | 1000V DC |
| Rated current | 6.0mm ² cable shield: 40A Max @ Ambient temperature 70°C 4.0mm ² cable shield: 32A Max @ Ambient temperature 70°C 2.5mm ² cable shield: 23A Max @ Ambient temperature 70°C |
| Insulator resistance | > 2000MΩ |
| Dielectric withstand voltage | 3000V AC |
| ENVIRONMENTAL | |
| Sealing | IP68, IP6K9K (mated) |
| Touch-proof | IP2XB |
| Operating temperature | -40°C to 125°C |
| Inflammability | UL94V0 |
| Salt spray | 96h |
| MATERIAL | |
| Shell | Aluminum alloy with zinc, nickel plating and anodic oxidation |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

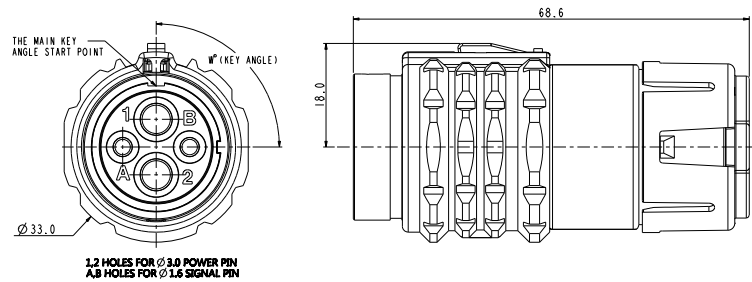
RECEPTACLE EX 402



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Socket contact ($\varnothing 3.0$): crimping | Socket signal contact ($\varnothing 1.6$) |
|---|---|
| P/N: EX30F4 (for 2.5 to 4 mm ²) P/N: EX30F6 (for 6 mm ²) | P/N: EX16F1 |
| | |

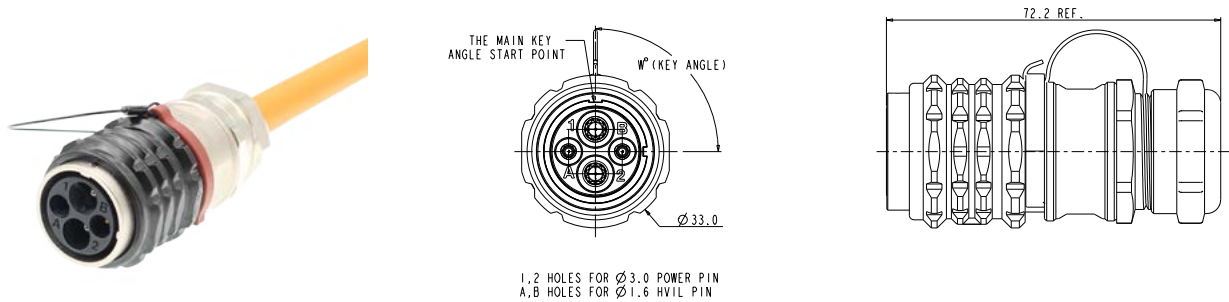
STRAIGHT PLUG EX 402 (Individual shielded wire)



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Pin contact ($\varnothing 3.0$): crimping | Pin signal contact ($\varnothing 1.6$) |
|---|--|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

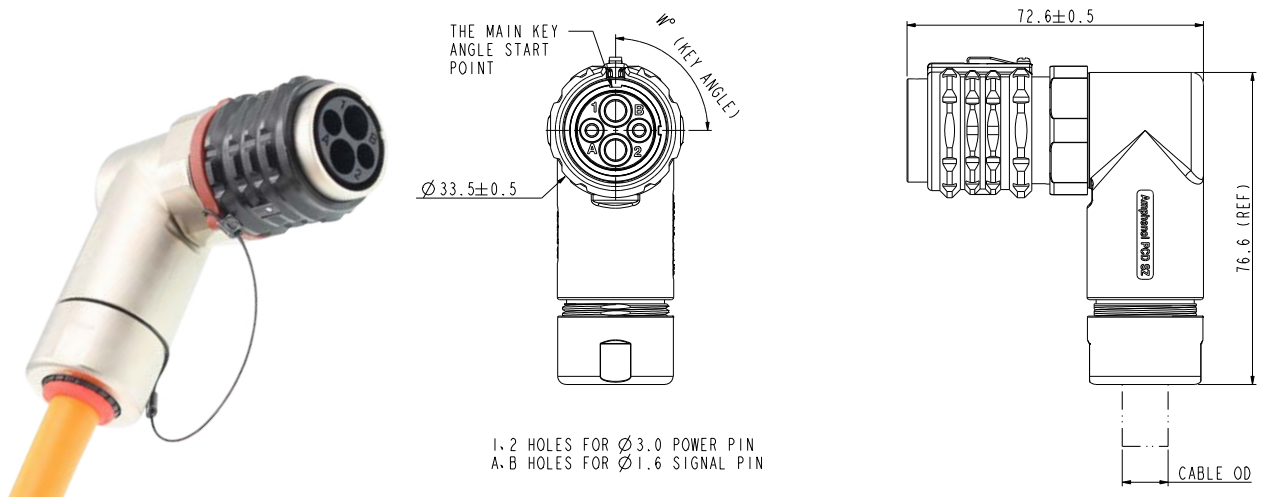
STRAIGHT PLUG EX 402 (Multicore shielded wire)



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Pin contact (Ø 3.0): crimping | Pin signal contact (Ø 1.6) |
|---|----------------------------|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

RIGHT-ANGLE PLUG EX 402



All connectors do not include contacts. Please order them separately (ref: P/N below)

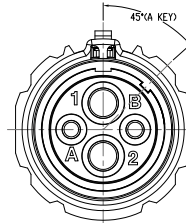
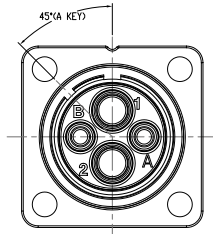
| Pin contact (Ø 3.0): crimping | Pin signal contact (Ø 1.6) |
|---|----------------------------|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

EX 402: ALTERNATE KEYING POSITIONS

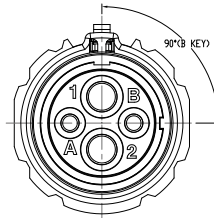
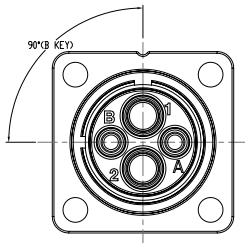
RECEPTACLE

STRAIGHT PLUG

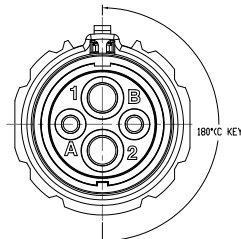
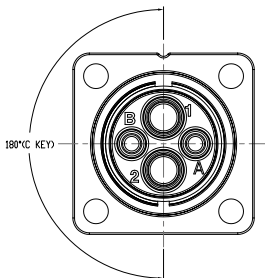
A: 45°



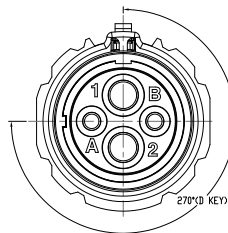
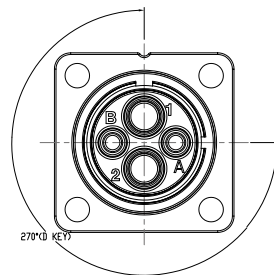
B: 90°



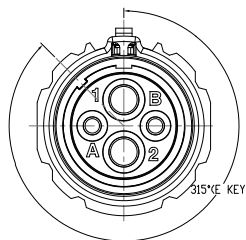
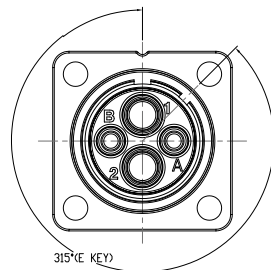
C: 180°



D: 270°



E: 315°

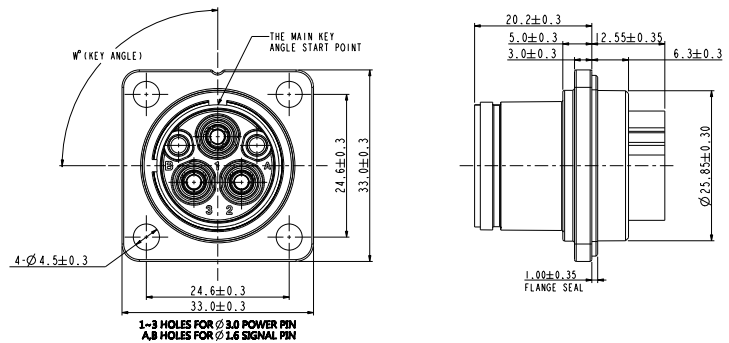


REMARK

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available.

The shell key is rotated counter-clockwise. The plug would be rotated clockwise the same number of degrees in respect to the shell key.

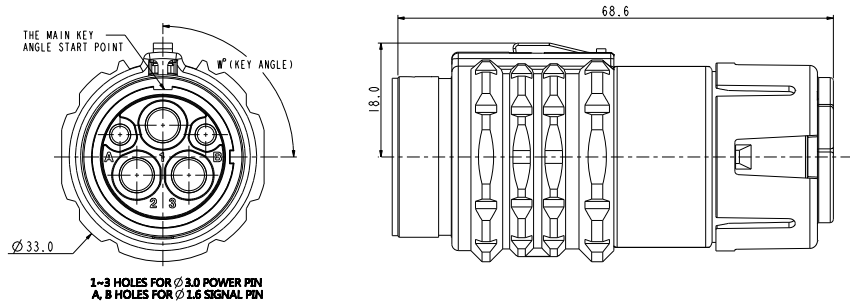
RECEPTACLE EX 403



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Socket contact (Ø 3.0): crimping | Socket signal contact (Ø 1.6) |
|---|-------------------------------|
| P/N: EX30F4 (for 2.5 to 4 mm ²) P/N: EX30F6 (for 6 mm ²) | P/N: EX16F1 |
| | |

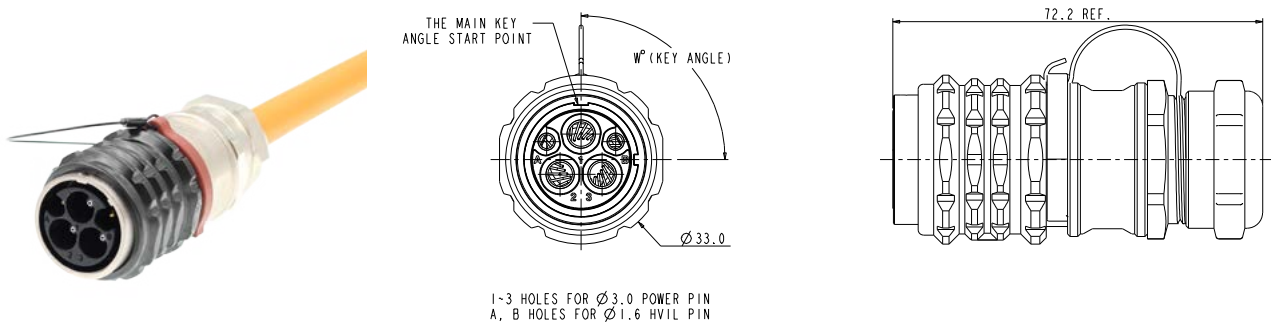
STRAIGHT PLUG EX 403 (Individual shielded wire)



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Pin contact (Ø 3.0): crimping | Pin signal contact (Ø 1.6) |
|---|----------------------------|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

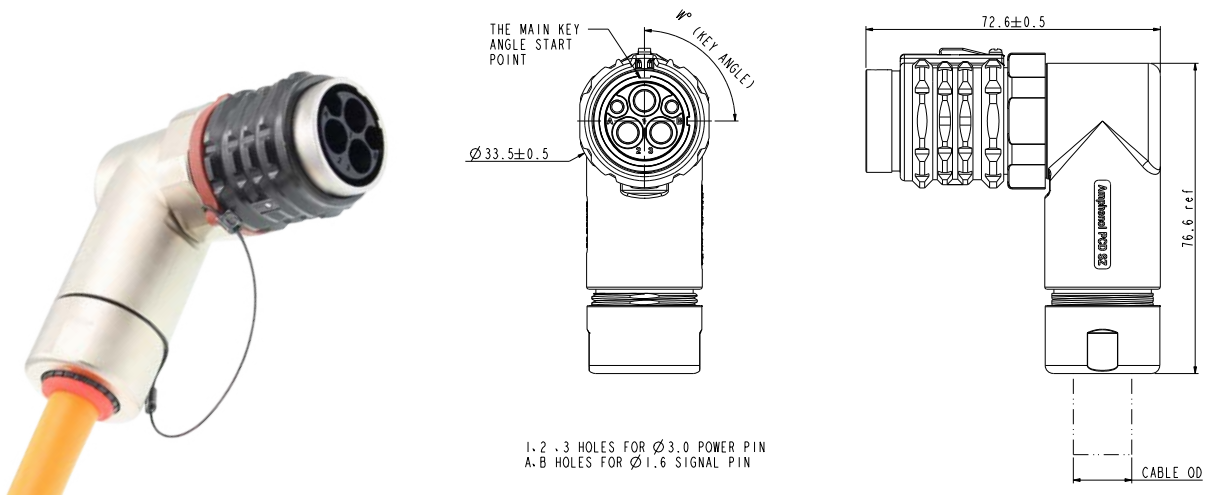
STRAIGHT PLUG EX 403 (Multicore shielded wire)



All connectors do not include contacts. Please order them separately (ref: P/N below)

| Pin contact (Ø 3.0): crimping | Pin signal contact (Ø 1.6) |
|---|----------------------------|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

RIGHT-ANGLE PLUG EX 403



All connectors do not include contacts. Please order them separately (ref: P/N below)

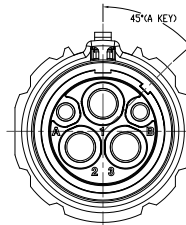
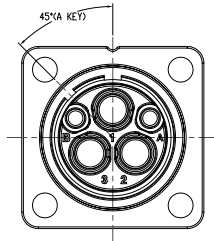
| Pin contact (Ø 3.0): crimping | Pin signal contact (Ø 1.6) |
|---|----------------------------|
| P/N: EX30M4 (for 2.5 to 4 mm ²) P/N: EX30M6 (for 6 mm ²) | P/N: EX16M1 |
| | |

EX 403: ALTERNATE KEYING POSITIONS

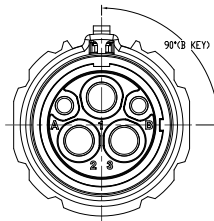
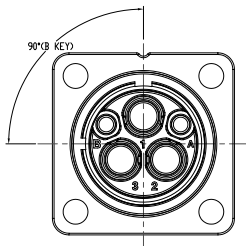
RECEPTACLE

STRAIGHT PLUG

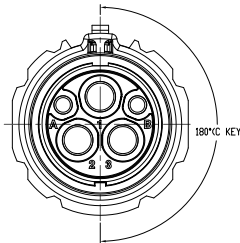
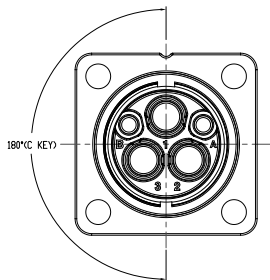
A: 45°



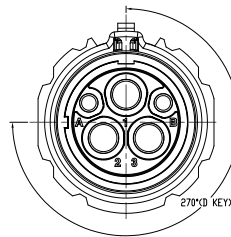
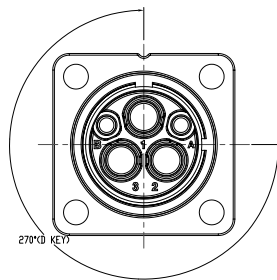
B: 90°



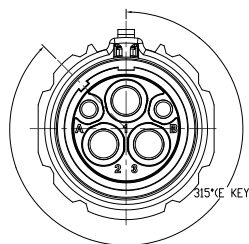
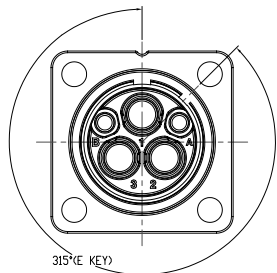
C: 180°



D: 270°



E: 315°



REMARK

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available.

The shell key is rotated counter-clockwise. The plug would be rotated clockwise the same number of degrees in respect to the shell key.

HOW TO ORDER

STRAIGHT PLUG (Individual shielded wire)

| | | | | | | | |
|---|-----------|------------|-----------|----------|----------|----------|----------|
| | EX | 402 | 06 | A | 1 | 2 | I |
| Product series: 402 (2 pin), 403 (3 pin) | | | | | | | |
| Product type: 06: Straight plug | | | | | | | |
| Alternate keying positions & Locking nut color: A: Coding A, Red D: Coding D, Green B: Coding B, Black E: Coding E, Blue C: Coding C, Yellow | | | | | | | |
| Interlock 0: Without interlock 1: With internal interlock 2: With external interlock | | | | | | | |
| Cable section: 2: 2.5mm ² (23A) 4: 4.0mm ² (32A) 6: 6.0mm ² (40A) | | | | | | | |
| Cable type: I: Individually | | | | | | | |

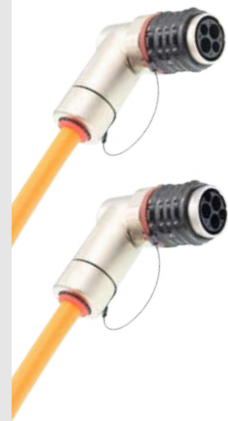


STRAIGHT PLUG (Multicore shielded wire)

| | | | | | |
|---|-----------|------------|-----------|----------|----------|
| | EX | 402 | 06 | A | M |
| Product series: 402 (2 pin), 403 (3 pin) | | | | | |
| Product type: 06: Straight plug | | | | | |
| Alternate keying positions & Locking nut color: A: Coding A, Red D: Coding D, Green B: Coding B, Black E: Coding E, Blue C: Coding C, Yellow | | | | | |
| Cable type: M: Multicore | | | | | |



| | | | | | | | |
|---|-----------|------------|-----------|----------|----------|-----------|----------|
| | EX | 402 | 08 | A | 1 | 11 | M |
| Product series: 402 (2 pin), 403 (3 pin) | | | | | | | |
| Product type: 08: Right-angle plug | | | | | | | |
| Alternate keying positions & Locking nut color: A: Coding A, Red D: Coding D, Green B: Coding B, Black E: Coding E, Blue C: Coding C, Yellow | | | | | | | |
| Interlock 0: Without interlock 1: With internal interlock 2: With external interlock | | | | | | | |
| Cable section: 11: Cable OD 10 to 10.8mm 13: Cable OD 11.9 to 12.8mm 12: Cable OD 10.9 to 11.8mm 14: Cable OD 12.9 to 14mm | | | | | | | |
| Cable type: M: Multicore | | | | | | | |



RECEPTACLE

| | | | | |
|---|-----------|------------|-----------|----------|
| | EX | 402 | 02 | A |
| Product series: 402 (2 pin), 403 (3 pin) | | | | |
| Product type: 02: Flange receptacle | | | | |
| Alternate keying positions & Locking nut color: A: Coding A, Red D: Coding D, Green B: Coding B, Black E: Coding E, Blue C: Coding C, Yellow | | | | |



HVG SERIES



KEY FEATURES

- Easy to install in a limited space
- Push-pull locking system with audible "click"
- EMI shielding
- No tool required to unmate
- Sealing, IP67, IP6K9K (mated)
- Multiple coding positions
- RoHS compliant

APPLICATIONS

EV air-conditioner

DCDC

PTC

Power distribution boxes

MECHANICAL

Durability > 200 mating cycles

Connection type Crimping

ELECTRICAL

Rated voltage 800V DC

Rated current
 2.5mm²: 23A @Ambient temp. 70°C
 4mm²: 32A @Ambient temp. 70°C
 6mm²: 40A @Ambient temp. 70°C
 10mm²: 50A @Ambient temp. 70°C

Insulator resistance > 2000MΩ

Dielectric withstand voltage 3000V AC

Shielding Yes

ENVIRONMENTAL

Sealing IP67, IP6K9K (mated)

Temperature range -40°C to 125°C, short term to 150°C

Inflammability UL94V0

Salt spray 96h

MATERIAL

Shell Aluminum alloy with zinc, nickel plating and anodic oxidation

Contacts Copper alloy, silver plating

Insulator Flame-retardant thermoplastic composition

Sealing Rubber

INSERT ARRANGEMENT

From front face of receptacle

Contacts

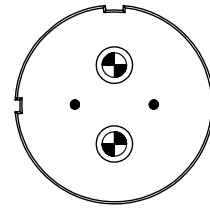
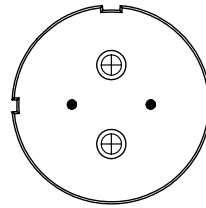
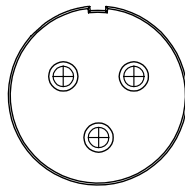


∅1.0

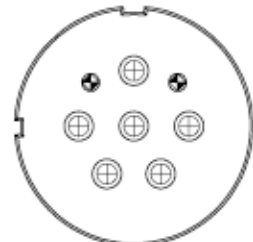
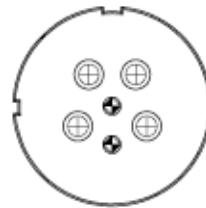
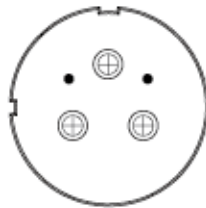
∅1.6

∅3.0

∅3.6mm



| | | | |
|----------------------|----------|----------------------|----------------------|
| Insert arrangement | HVS203 | HVG402 | HVG492 |
| Rated voltage | 800V DC | 800V DC | 800V DC |
| Rated current | 3 x 32A | 2 x 32A + 2 x 7.5A | 2 x 50A + 2 x 7.5A |
| Contact number | Power: 3 | Power: 2 / Signal: 2 | Power: 2 / Signal: 2 |
| Withstanding voltage | 2500V | 3000V | 3000V |



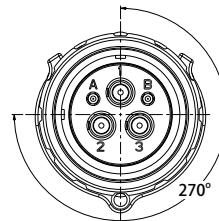
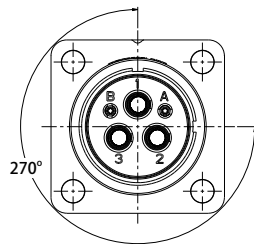
| | | | |
|----------------------|----------------------|----------------------|----------------------|
| Insert arrangement | HVG403 | HVG404 | HVG406 |
| Rated voltage | 800V DC | 800V DC | 800V DC |
| Rated current | 3 x 32A + 2 x 7.5A | 4 x 32A + 2 x 7.5A | 6 x 32A + 2 x 7.5A |
| Contact number | Power: 3 / Signal: 2 | Power: 4 / Signal: 2 | Power: 6 / Signal: 2 |
| Withstanding voltage | 3000V | 3000V | 3000V |

ALTERNATE KEYING POSITIONS

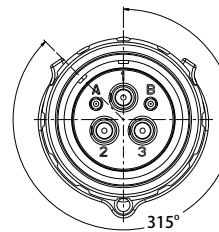
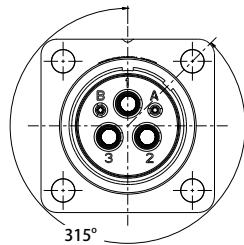
RECEPTACLE

STRAIGHT PLUG

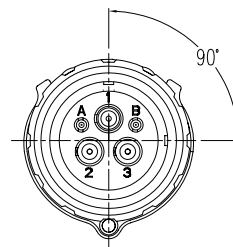
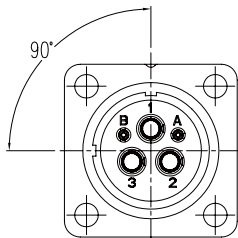
X: 270°



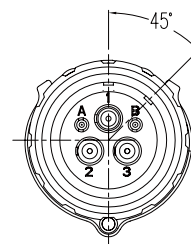
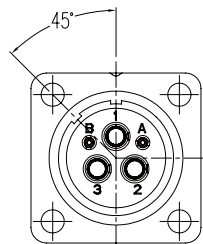
Y: 315°



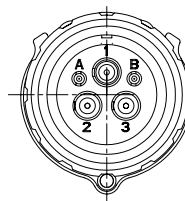
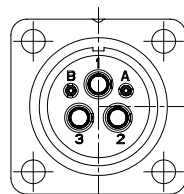
Z: 90°



W: 45°



N: NORMAL

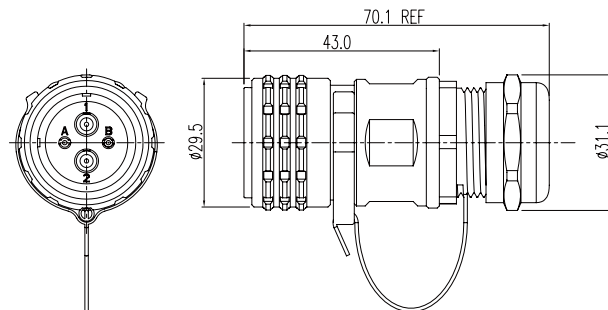
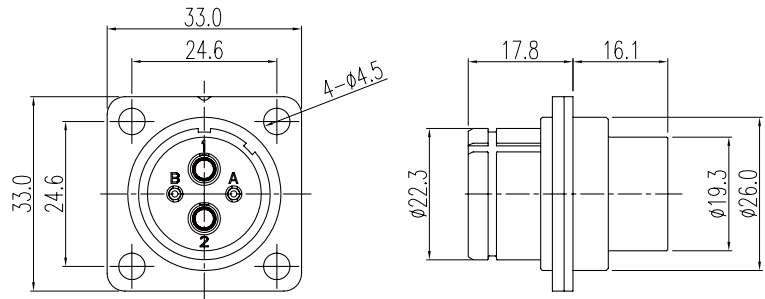


REMARK

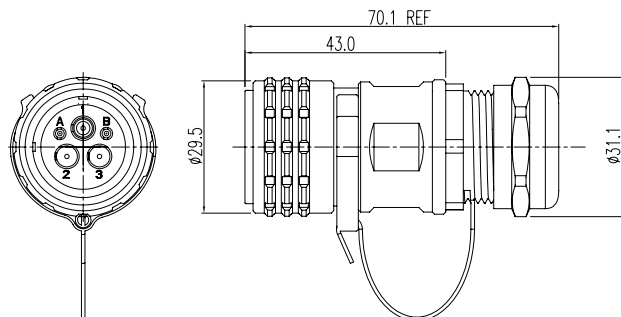
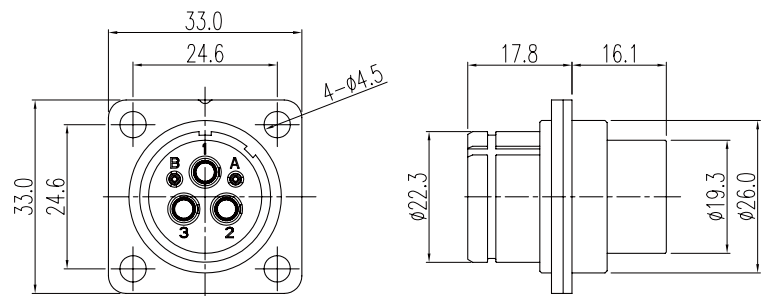
To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available.

The shell key is rotated counter-clockwise. The plug would be rotated clockwise the same number of degrees in respect to the shell key.

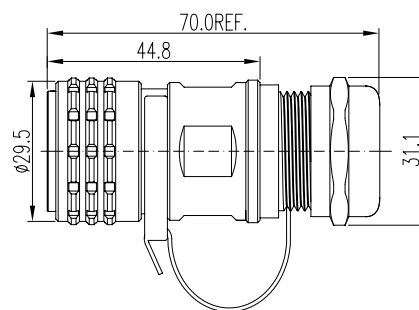
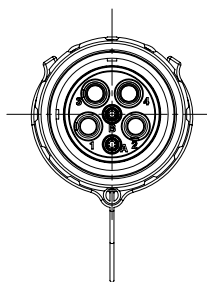
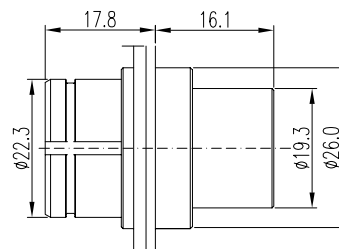
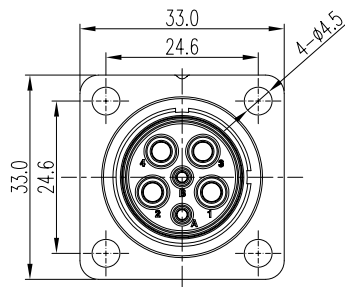
RECEPTACLE AND PLUG: 402



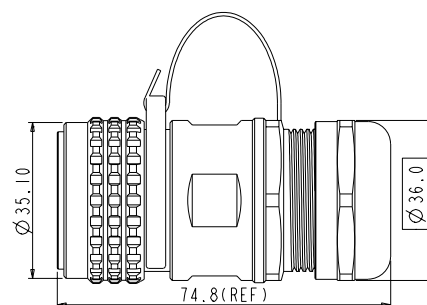
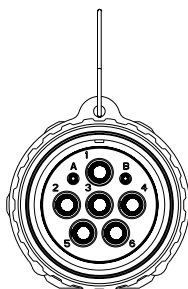
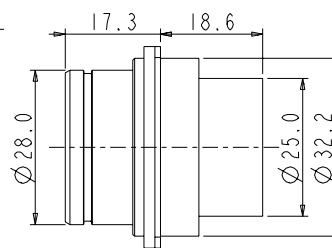
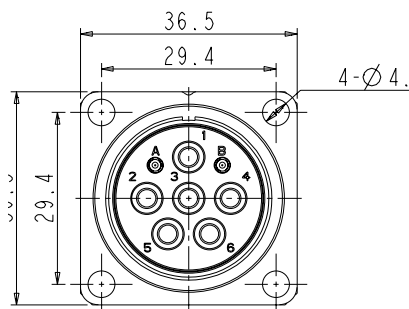
RECEPTACLE AND PLUG: 403



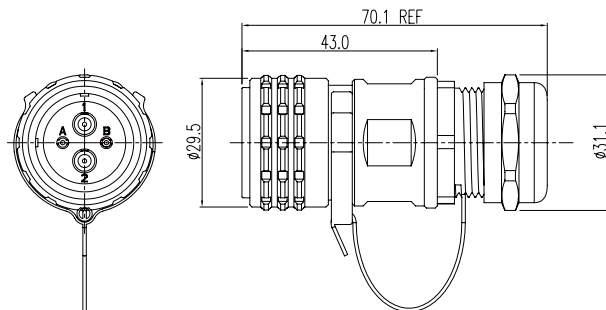
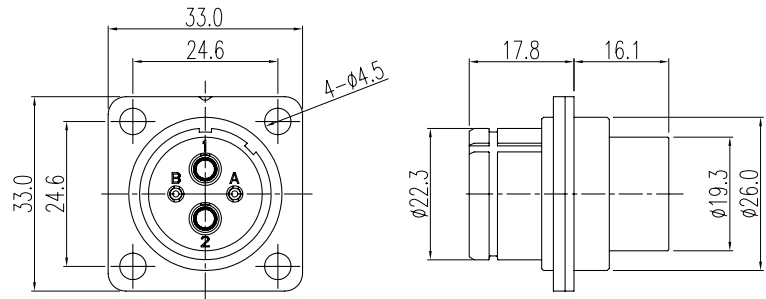
RECEPTACLE AND PLUG: 404



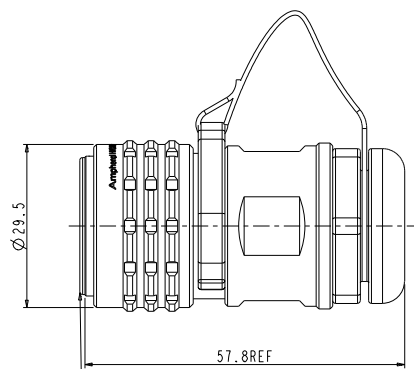
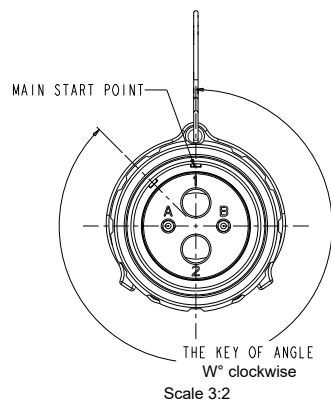
RECEPTACLE AND PLUG: 406



RECEPTACLE AND PLUG: 492



DUMMY PLUG: 402



The protective cap must be assembled before the finished product is shipped. This protective cap is hidden on this drawing to conveniently mark the angle.

HVG IP 402 M C

X

X

S1

Key code:

See table below

Color code:

See table below

Dummy plug:

S1

| KEY CODE | ANGLE OF KEY (W°) | COLOR CODE | COLOR OF LOCKING RING | P/N (FOR EXAMPLE) |
|----------|-------------------|------------|-----------------------|-------------------|
| NO CODE | 0° | NO CODE | BLACK | HVGIP402MC |
| X | 270° | R | RED | HVGIP402MC X R |
| Y | 315° | Y | YELLOW | HVGIP402MC Y Y |
| Z | 90° | B | BLUE | HVGIP402MC Z B |
| W | 45° | G | GREEN | HVGIP402MC W G |
| X | 270° | NO CODE | BLACK | HVGIP402MC X |
| Y | 315° | | | HVGIP402MC Y |
| Z | 90° | | | HVGIP402MC Z |
| W | 45° | | | HVGIP402MC W |
| X | 270° | B | BLUE | HVGIP402MC X B |
| Y | 315° | | | HVGIP402MC Y B |
| Z | 90° | R | RED | HVGIP402MC Z R |

RECEPTACLE

| | HVG | 1S | 402 | M | C | XRD |
|---|-----|----|-----|---|---|-----|
| HVG series | | | | | | |
| Product type: 1S: Flange receptacle | | | | | | |
| Insert arrangement: (HVG Series not include contact, order seperately, P/N please refer to page 30) 402: 2 X (23A to 32A) + 2 X 7.5A 403: 3 X (23A to 32A) + 2 X 7.5A 492: 2 X (40A to 50A) + 2 X 7.5A | | | | | | |
| Contact type: M: Male contact F: Female contact | | | | | | |
| C: Crimp version | | | | | | |
| Alternate keying positions & Shell color: XRD: 270°, Red YYL: 315°, Yellow ZBL: 90°, Blue WGR: 45°, Green | | | | | | |

HOW TO ORDER: 402, 403, 492 - Shielded cable

PLUG - shielded cable

| | HVG | 1P | 402 | M | C | XRD |
|---|-----|----|-----|---|---|-----|
| HVG series | | | | | | |
| Product type: 1P: 1-PIN Plug | | | | | | |
| Insert arrangement: (HVG Series not include contact, order seperately, P/N please refer to page 30) 402: 2 X (23A to 32A) + 2 X 7.5A 403: 3 X (23A to 32A) + 2 X 7.5A 492: 2 X (40A to 50A) + 2 X 7.5A | | | | | | |
| Contact type: M: Male contact F: Female contact | | | | | | |
| C: Crimp version | | | | | | |
| Alternate keying positions & Shell color: XRD: 270°, Red YYL: 315°, Yellow ZBL: 90°, Blue WGR: 45°, Green | | | | | | |

HOW TO ORDER: 402, 403, 492 - unshielded cable

PLUG - unshielded cable

| | | | | | | | | | | |
|--|------------|-----------|------------|----------|----------|------------|----------|----------|----------|--------------|
| | HVG | 1P | 402 | M | C | XRD | 2 | D | 4 | L0000 |
| HVG series | | | | | | | | | | |
| Product type: 1P: 1-PIN Plug | | | | | | | | | | |
| Insert arrangement (HVG series not include contact, order seperately, P/N please refer to page 30) 402: 2 X (23A to 32A) + 2 X 7.5A 403: 3 X (23A to 32A) + 2 X 7.5A 492: 2 X (40A to 50A) + 2 X 7.5A | | | | | | | | | | |
| Contact type: M: Male contact F: Female contact | | | | | | | | | | |
| C: Crimp version | | | | | | | | | | |
| Alternate keying positions & Locking nut color: XRD: 270°, Red YYL: 315°, Yellow ZBL: 90°, Blue WGR: 45°, Green | | | | | | | | | | |
| Cable cores: 2, 3 | | | | | | | | | | |
| Cable gland type: D: Unshielded wire | | | | | | | | | | |
| Cable section: 2: 2.5mm ² (rated voltage of 23A) 4: 4mm ² (rated voltage of 32A) 6: 6mm ² (rated voltage of 40A) A: 10mm ² (rated voltage of 50A) | | | | | | | | | | |
| Cable length: L0000: Cable length (Unit in mm) | | | | | | | | | | |

RECEPTACLE

| | HVS | 1S | 203 | M | C | X |
|---|-----|----|-----|---|---|---|
| HVS series | | | | | | |
| Product type: 1S: Flange receptacle | | | | | | |
| Insert arrangement: 203: 3 X 32A | | | | | | |
| Contact type: M: Male contact F: Female contact | | | | | | |
| C: Crimp version | | | | | | |
| Alternate keying positions: Omit: Without X: 270° Y: 315° Z: 90° W: 45° | | | | | | |

PLUG

| | HVS | 1P | 203 | M | C | X |
|---|-----|----|-----|---|---|---|
| HVS series | | | | | | |
| Product type: 1P: 1-PIN Plug | | | | | | |
| Insert arrangement: 203: 3 X 32A | | | | | | |
| Contact type: M: Male contact F: Female contact | | | | | | |
| C: Crimp version | | | | | | |
| Alternate keying positions: Omit: Without X: 270° Y: 315° Z: 90° W: 45° | | | | | | |

RECEPTACLE

| | HVG | 1S | 404 | M | C | XRD | 4 | D | 4 | L0000 |
|--|-----|----|-----|---|---|-----|---|---|---|-------|
| HVG series | | | | | | | | | | |
| Product type: 1S: Flange receptacle | | | | | | | | | | |
| Insert arrangement: (HVG Series not include contact, order seperately, P/N please refer to page P30) 404: 4 X (23A to 32A) + 2 X 7.5A | | | | | | | | | | |
| Contact type: M: Male contact C: Crimp version | | | | | | | | | | |
| Alternate keying positions & Shell color: XRD: 270°, Red YGR: 315°, Green ZBL: 90°, Blue WYL: 45°, Yellow | | | | | | | | | | |
| Cable cores: 4 | | | | | | | | | | |
| Cable gland type: D: Unshielded wire | | | | | | | | | | |
| Cable section: 2: 2.5mm ² (rated voltage of 23A) 4: 4mm ² (rated voltage of 32A) | | | | | | | | | | |
| Cable length: L0000: Cable length (Unit in mm) | | | | | | | | | | |

RECEPTACLE

| | HVG | 1S | 406 | M | C | XRD |
|---|-----|----|-----|---|---|-----|
| HVG series | | | | | | |
| Product type: 1S: Flange receptacle | | | | | | |
| Insert arrangement (HVG series not include contact, order separately, P/N please refer to page P30) 406: 6 X (23A to 32A) + 2 X 7.5A | | | | | | |
| Contact type: M: Male contact | | | | | | |
| C: Crimp version | | | | | | |
| Alternate keying positions & Locking nut color: XRD: 270°, Red YGR: 315°, Green ZBL: 90°, Blue WYL: 45°, Yellow | | | | | | |

PLUG

| | | | | | | | | | | |
|--|------------|-----------|------------|----------|----------|------------|----------|----------|----------|--------------|
| | HVG | 1P | 404 | F | C | XRD | 4 | D | 4 | L0000 |
| HVG series | | | | | | | | | | |
| Product type: 1P: 1-PIN Plug | | | | | | | | | | |
| Insert arrangement (HVG series not include contact, order seperately, P/N please refer to page 32) 404: 4 X (23A to 32A) + 2 X 7.5A 406: 6 X (23A to 32A) + 2 X 7.5A | | | | | | | | | | |
| Contact type: F: Female contact | | | | | | | | | | |
| C: Crimp version | | | | | | | | | | |
| Alternate keying positions & Locking nut color: XRD: 270°, Red YGR: 315°, Green ZBL: 90°, Blue WYL: 45°, Yellow | | | | | | | | | | |
| Cable cores: 4, 6 | | | | | | | | | | |
| Cable gland type: A: Shielded cable D: Unshielded wire | | | | | | | | | | |
| Cable section: 2: 2.5mm ² (rated voltage of 23A) 4: 4mm ² (rated voltage of 32A) | | | | | | | | | | |
| Cable length: L0000: Cable length (Unit in mm) | | | | | | | | | | |

HVS SERIES



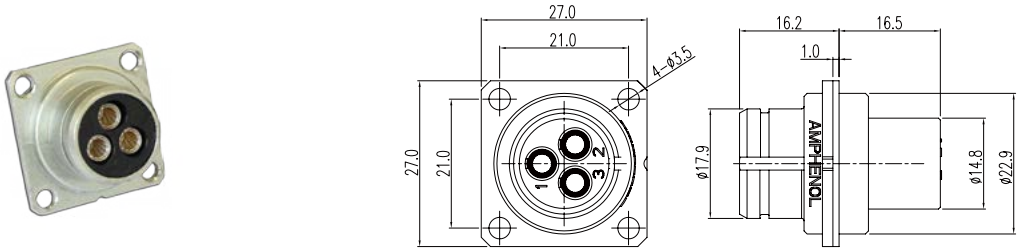
KEY FEATURES

- Easy to install in a limited space
- Push-pull locking system with audible "click"
- EMI shielding
- No tool required for unmating
- Sealing, IP67, IP6K9K (mated)
- Multiple coding positions
- RoHS compliant

| APPLICATIONS | |
|------------------------------|---|
| EV air-conditioner | |
| DCDC | |
| PTC | |
| Power distribution boxes | |
| MECHANICAL | |
| Durability | > 200 mating cycles |
| Connection type | Crimping |
| ELECTRICAL | |
| Rated voltage | 230V AC / 400V DC |
| Rated current | 32A Max @ Ambient temperature 70°C |
| Insulator resistance | > 2000MΩ |
| Dielectric withstand voltage | 2500V AC |
| Shielding | Yes |
| ENVIRONMENTAL | |
| Sealing | IP67, IP6K9K (mated) |
| Temperature range | -40°C to 125°C, short term to 150°C |
| Inflammability | UL94V0 |
| Salt spray | 48h, 96h |
| MATERIAL | |
| Shell | Aluminum alloy with zinc, nickel plating and anodic oxidation |
| Contacts | Copper alloy, silver plating |
| Insulator | Flame-retardant thermoplastic composition |
| Sealing | Rubber |

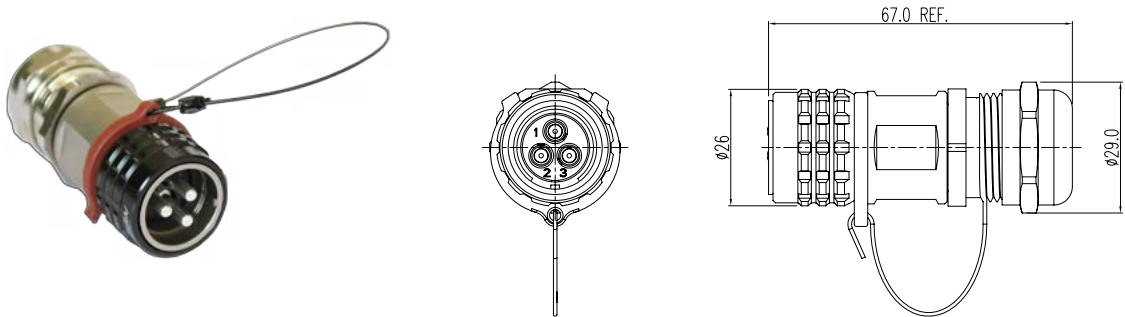
RECEPTACLE

P/N: **HVS1S-203FC** (socket) / **HVS1S-203MC** (pin)



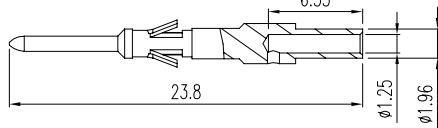
PLUG

P/N: **HVS1P-203MC** (pin) / **HVS1P-203FC** (socket)

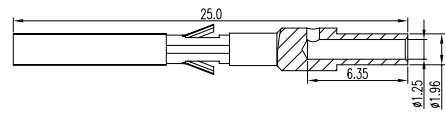


CONTACTS Notice: HVG series connectors do not include contacts, please order separately.

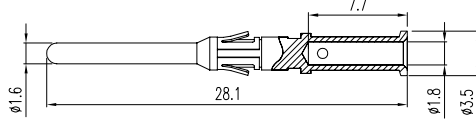
HVG20M1



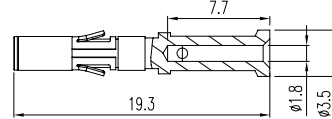
HVG20F1



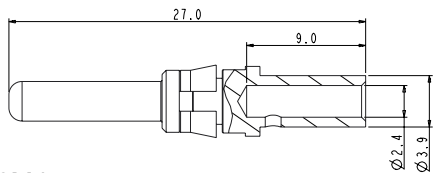
ASRC16P001AU



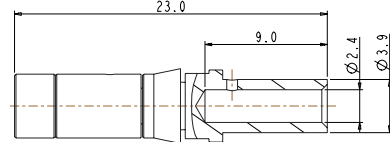
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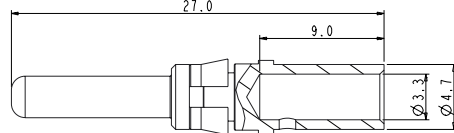
HVG30M2



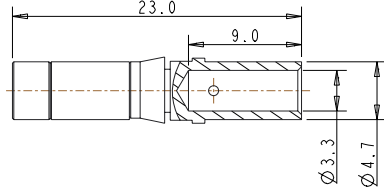
HVG30F2



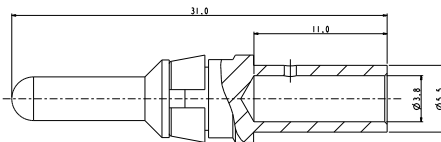
HVG30M4



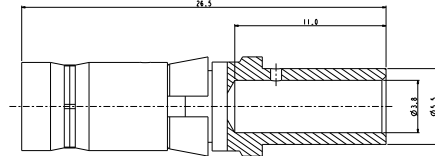
HVG30F4



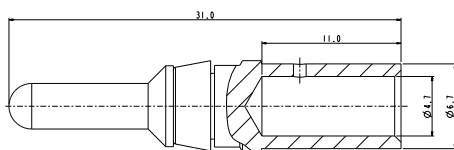
HVG30M6



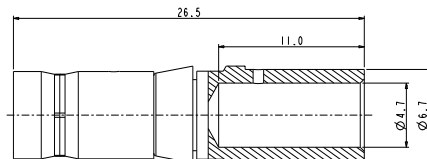
HVG30F6



HVG30M10



HVG30F10

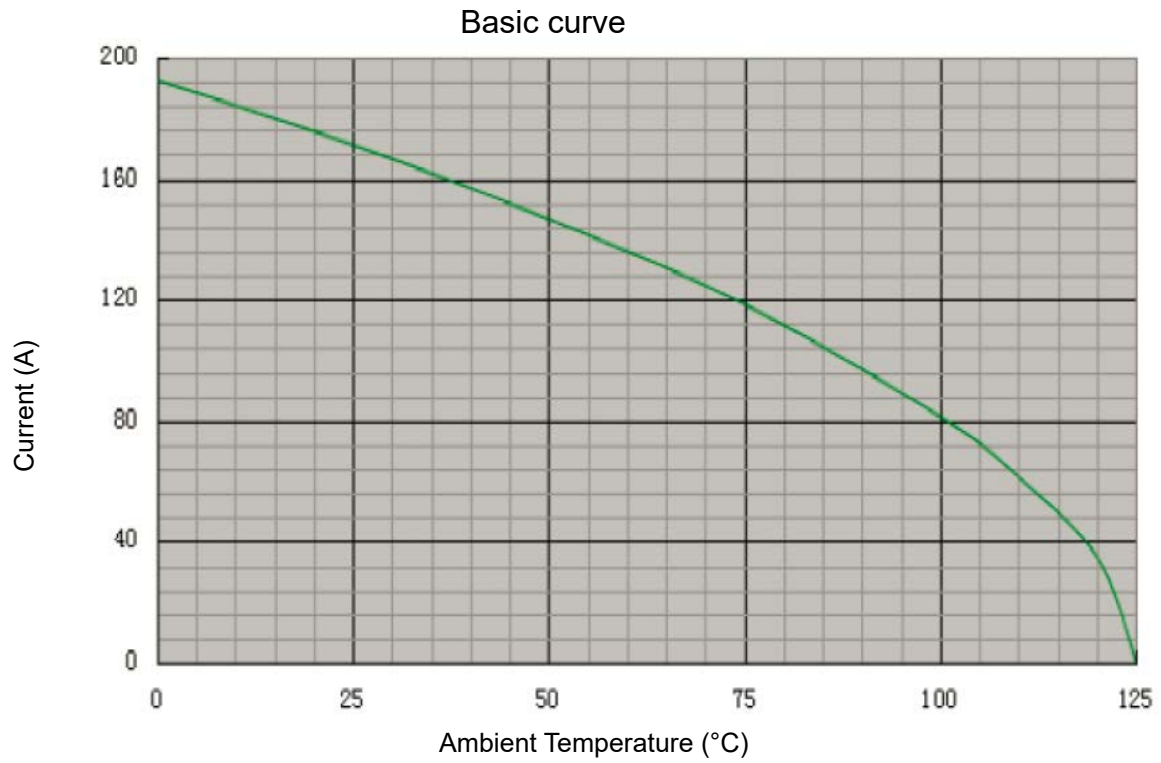


PART NUMBER

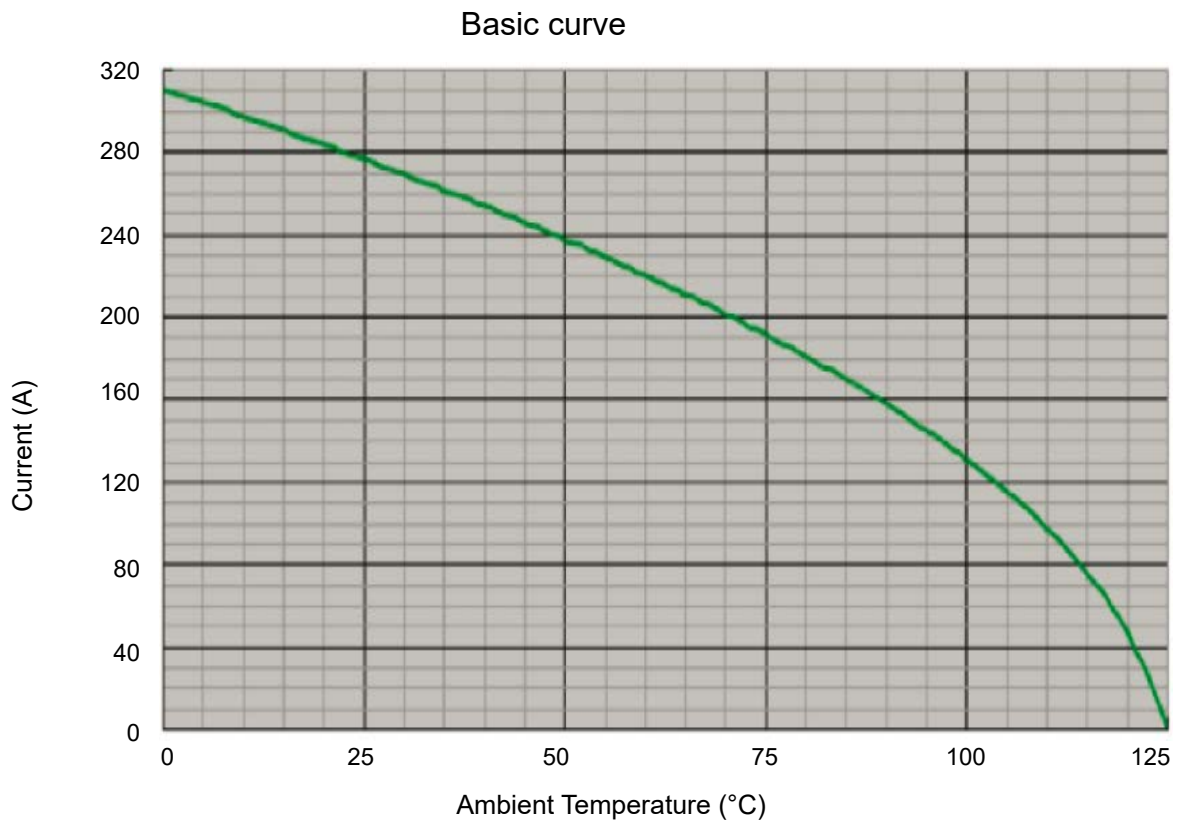
| Contact type for connector | Contact size | Part number | | Rated Current | For cable section | Extraction tool |
|-----------------------------------|--------------|---------------|--------------------|---------------|-----------------------------|-----------------|
| | | Pin | Socket | | | |
| Signal: HVG402/403/492 | 1.0mm | HVG20M1 | HVG20F1 | 7.5A max | 0.5 to 1.0 mm ² | HV-TOOL-10R |
| Signal: HVG404/406 | 1.6mm | ASRC16PC001AU | ASRC16SC001AU | 13A max | 0.75 to 1.5 mm ² | ASGTC-R-16S |
| Power: HVS, HVG402/403/404/406 | 3.0mm | HVG30M2 | HVG30F2 / HVG30FS2 | 23A max | 2.5 mm ² | HV-TOOL-30R |
| Power: HVS HVG402/403/404/406 | 3.0mm | HVG30M4 | HVG30F4 / HVG30FS4 | 40A max | 4.0 mm ² | HV-TOOL-30R |
| Power: HVG492 | 3.6mm | HVG30M6 | HVG30F6 | 50A max | 6.0 mm ² | HV-TOOL-36R |
| | | HVG30M10 | HVG30F10 | | 10.0 mm ² | |
| Signal: EX SERIES | 1.6mm | EX16M1 | EX16F1 | 7.5A max | 0.75 to 1.5 mm ² | ASGTC-R-16S |
| | 3.0mm | EX30M4 | - | 32A max | 2.5 to 4.0 mm ² | HV-TOOL-30R |
| | 3.0mm | EX30M6 | - | 40A max | 6.0 mm ² | HV-TOOL-30R |
| Power: EX SERIES | 3.0mm | - | EX30F4 | 32A max | 2.5 to 4.0 mm ² | EX-TOOL-30R |
| | 3.0mm | - | EX30F6 | 40A max | 6.0 mm ² | EX-TOOL-30R |

TEMPERATURE RISE CURVE

HVBI R6 (25mm²)

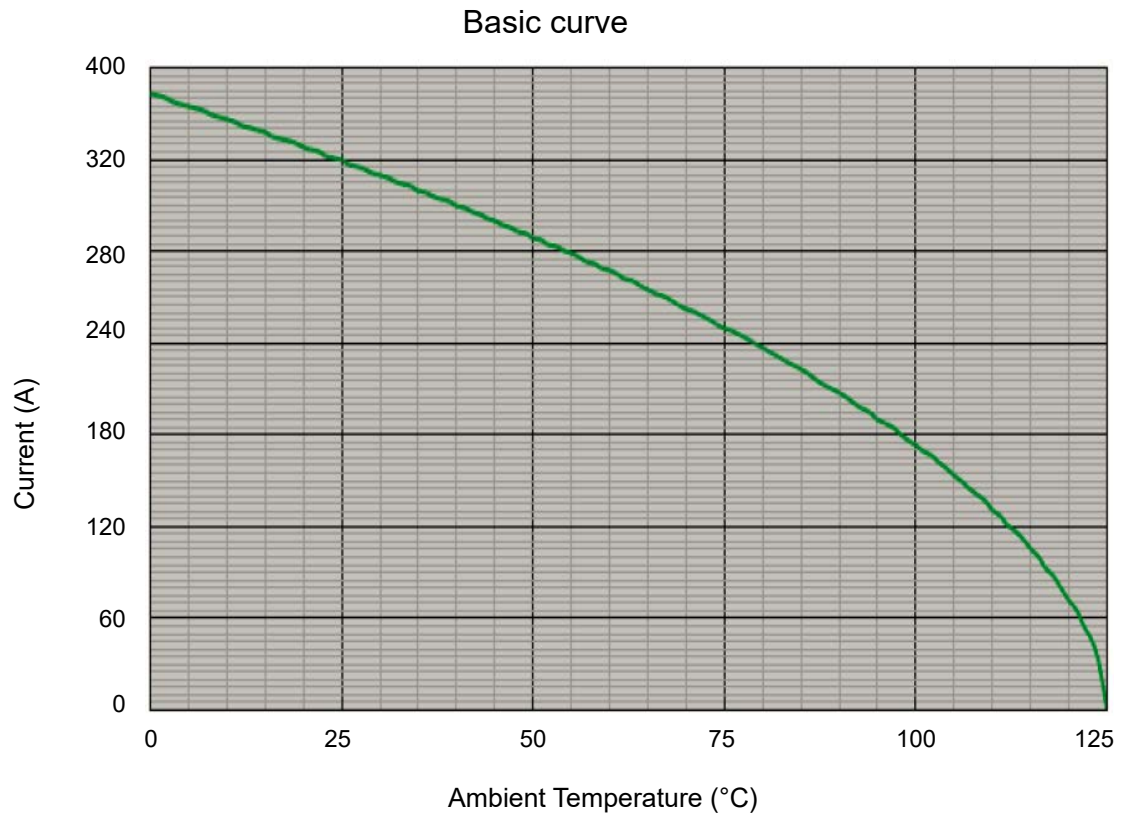


HVBI R8 (50mm²)



TEMPERATURE RISE CURVE

HVBI R10 (70mm²)





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