

# Excel|Mate Mono

## High Voltage with Inter-Lock



## CONTENT

### ExcelMate Mono (HVBI)

PRODUCT INTRODUCTION.....	2
HOW TO ORDER: RECEPTACLE.....	3
ALTERNATE KEYING POSITIONS.....	4
RECEPTACLE .....	5
HOW TO ORDER: PLUG .....	6
PLUG.....	7

### HVG

PRODUCT INTRODUCTION.....	8
INSERT ARRANGEMENT.....	9
HOW TO ORDER: RECEPTACLE.....	10
HOW TO ORDER: PLUG.....	11
ALTERNATE KEYING POSITIONS.....	12
RECEPTACLE & PLUG.....	13

### HVS

PRODUCT INTRODUCTION.....	16
RECEPTACLE & PLUG.....	17
CONTACT .....	18
TEMPERATURE RISE CURVE.....	19

## ExcelMate Mono (HVBI)



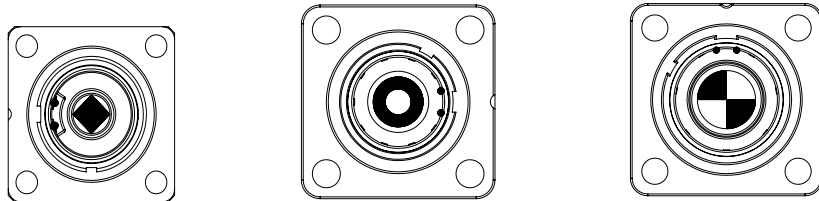
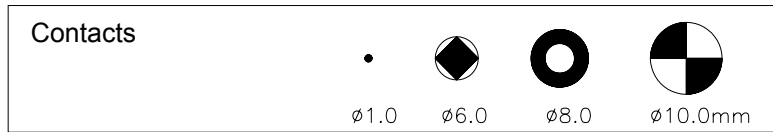
### KEY FEATURES

- 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
- Touch-proof IP2X
- Sealing, IP67 (mated), IP6K9K
- RoHS compliant
- Multiple coding positions

MECHANICAL	
Durability	> 200 mating cycles
Wire range	16 to 70mm <sup>2</sup>
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 (mated)
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

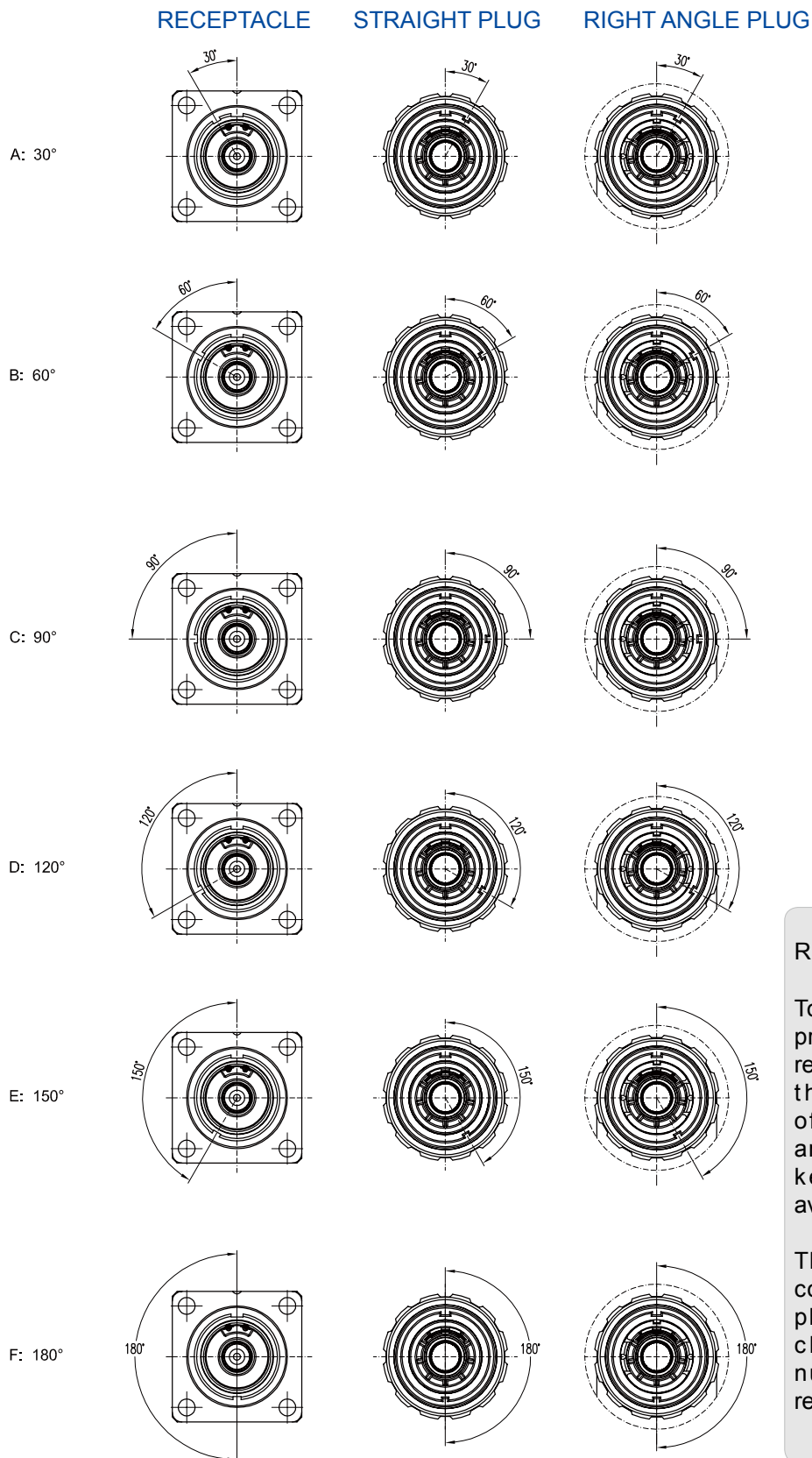


Insert arrangement	HVBI R6	HVBI R8	HVBI R10
Rated voltage	1000V DC	1000V DC	1000V DC
Rated current	120A +2 x 7.5A	180A +2 x 7.5A	250A +2 x 7.5A
Contact number	Power: 1 / Signal: 2	Power: 1 / Signal: 2	Power: 1 / Signal: 2
Withstanding voltage	3000V AC	3000V AC	3000V AC

## HOW TO ORDER: RECEPTACLE

	<b>HVBI</b>	<b>0</b>	<b>02R6</b>	<b>A</b>	<b>M</b>	<b>H</b>	<b>BBK</b>
<b>Shell type:</b>							
<b>0:</b> Receptacle							
<b>Insert size:</b>							
<b>02R6:</b> 6mm Male contact (Rated current 120A)							
<b>03R8:</b> 8mm Male contact (Rated current 180A)							
<b>05R10:</b> 10mm Male contact (Rated current 250A)							
<b>HVIL:</b>							
<b>A:</b> With HVIL							
<b>B:</b> Without HVIL							
<b>Insert type:</b>							
<b>M:</b> Male contact							
<b>Termination:</b>							
<b>H:</b> Copper bar							
<b>T:</b> Screw							
<b>Alternate keying positions &amp; Color of locking nut:</b>							
<b>ARD:</b> 30°, Red							
<b>BBK:</b> 60°, Black							
<b>CYL:</b> 90°, Yellow							
<b>DGR:</b> 120°, Green							
<b>EBL:</b> 150°, Blue							
<b>FPU:</b> 180°, Purple							

## ALTERNATE KEYING POSITIONS

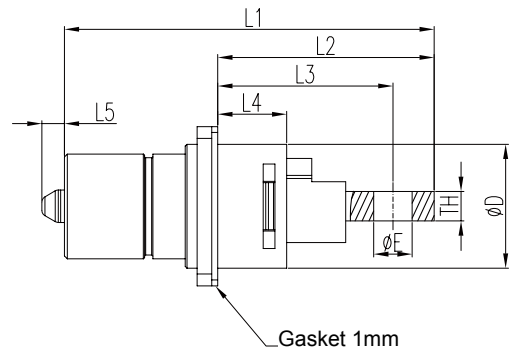
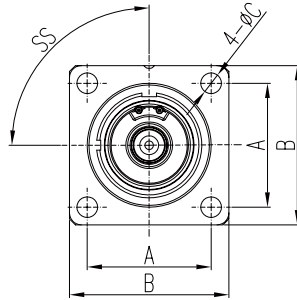


**REMARK**

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

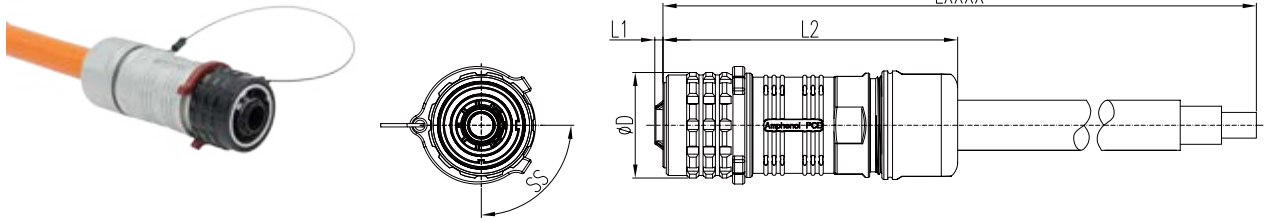


Part number	A	B	C	D	E	L1	L2	L3	L4	L5	TH
HVBI-0-02R6-XMHX-XX	21.0	27.0	3.5	21.0	6.5	62.7	37.7	30.7	12.7	3.8	5.0
HVBI-0-03R8-XMHX-XX	23.0	31.0	4.5	23.0	8.5	76.7	43.7	35.7	15.9	/	5.0
HVBI-0-05R10-XMHX-XX	24.6	33.0	4.5	26.0	10.5	85.9	52.6	40.6	18.4	0.8	6.0

## HOW TO ORDER: PLUG

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

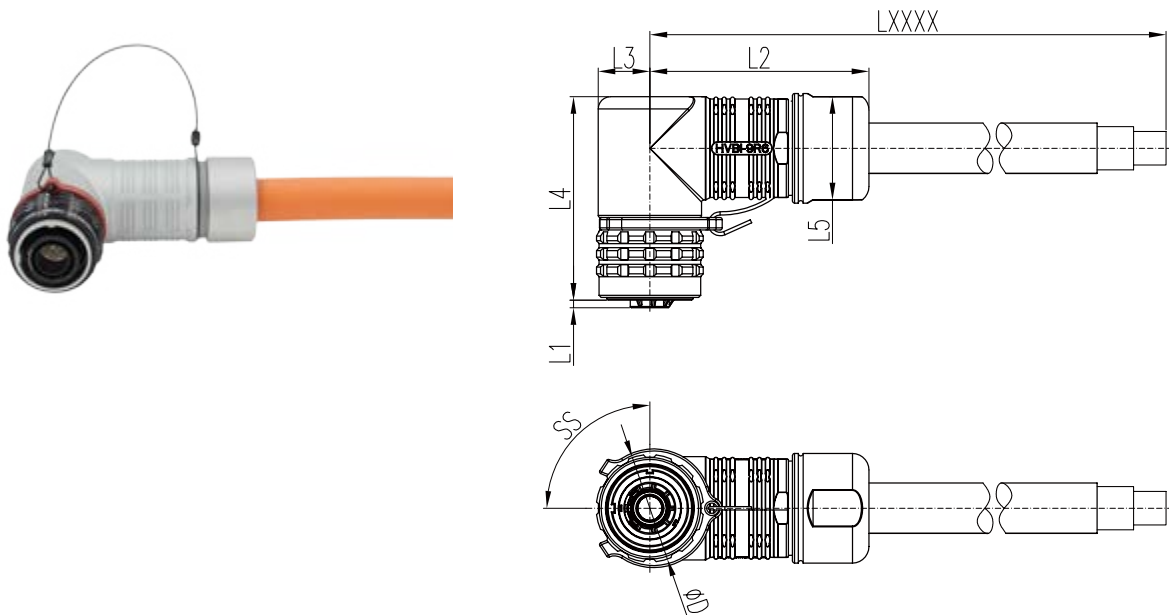
## STRAIGHT PLUG



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

Notes: FG: Shielded type PC: Unshielded type

## RIGHT ANGLE PLUG



Part number	D	L1	L2	L3	L4	L5	LXXXX	Cable section (mm <sup>2</sup> )
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 <sup>2</sup> to 25mm <sup>2</sup>
HVBI-9-03R8-XFC-X-XX-FG / PC-XX....	27.5	2.0	62.0	13.9	58.5	27.3		35mm <sup>2</sup> to 50mm <sup>2</sup>
HVBI-9-05R10-XFC-X-XX-FG / PC-XX....	32.5	1.5	69.5	16.0	64.0	31.5		50mm <sup>2</sup> to 70mm <sup>2</sup>

Notes: FG: Shielded type PC: Unshielded type



## 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 (mated)
- Multiple coding positions
- RoHS compliant

APPLICATIONS	
xEV air-conditioner	
DCDC	
PTC	
Power distribution boxes	
MECHANICAL	
Durability	> 200 mating cycles
Connection type	Crimping
ELECTRICAL	
Rated voltage	690V to 800V DC
Rated current	50A Max @ Ambient temperature 70°C
Insulator resistance	> 2000MΩ
Dielectric withstand voltage	3000V AC
Shielding	Yes
ENVIRONMENTAL	
Sealing	IP67 (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

## INSERT ARRANGEMENT

From front face of receptacle

Contacts

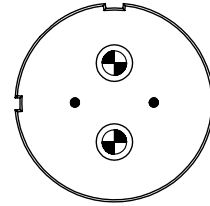
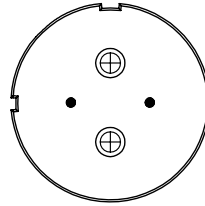
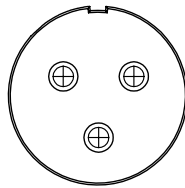


∅1.0

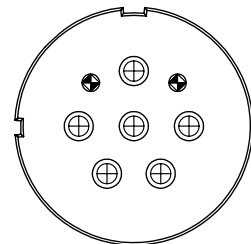
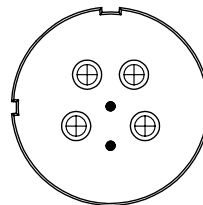
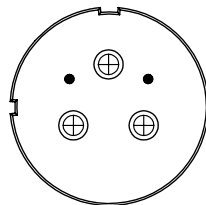
∅1.6

∅3.0

∅3.6mm



Insert arrangement	HVS203	HVG402	HVG492
Rated voltage	400V	690V	690V
Rated current	3 x 32A	2 x 40A + 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	3000V	3000V	3000V



Insert arrangement	HVG403	HVG404	HVG406
Rated voltage	690V	800V	800V
Rated current	3 x 40A + 2 x 7.5A	4 x 40A + 2 x 7.5A	6 x 40A + 2 x 7.5A
Contact number	Power: 3 / Signal: 2	Power: 4 / Signal: 2	Power: 6 / Signal: 2
Withstanding voltage	3000V	3000V	3000V

## HOW TO ORDER

### RECEPTACLE

	<b>HVG</b>	<b>1S</b>	<b>402</b>	<b>M</b>	<b>C</b>	<b>XRD</b>	<b>2</b>
<b>Product series:</b> <b>HVG series</b> <b>HVS series</b>							
<b>Product type:</b> <b>1S:</b> Flange receptacle							
<b>Insert arrangement:</b> (HVG Series not include contact, oder seperately, P/N please refer to page 18): <b>203:</b> 3 X 32A <b>402:</b> 2 X (23A to 40A) + 2 X 7.5A <b>403:</b> 3 X (23A to 40A) + 2 X 7.5A <b>404:</b> 4 X (23A to 40A) + 2 X 7.5A <b>406:</b> 6 X (23A to 40A) + 2 X 7.5A <b>492:</b> 2 X (40A to 50A) + 2 X 7.5A							
<b>Contact type:</b> <b>M:</b> Male contact <b>F:</b> Female contact							
<b>C:</b> Crimp version							
<b>Alternate keying positions &amp; Shell color:</b> <b>NBK:</b> Without, Black <b>XRD:</b> 270°, Red <b>YGR:</b> 315°, Green <b>ZBL:</b> 90°, Blue <b>WYL:</b> 45°, Yellow							
<b>Cable section:</b> <b>2:</b> 2.5mm <sup>2</sup> <b>4:</b> 4mm <sup>2</sup> <b>6:</b> 6mm <sup>2</sup>							

## HOW TO ORDER

### PLUG

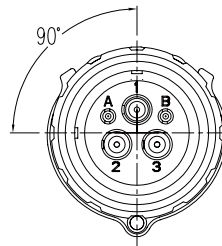
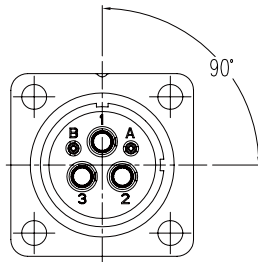
	<b>HVG</b>	<b>1P</b>	<b>402</b>	<b>M</b>	<b>C</b>	<b>XRD</b>	<b>D</b>	<b>2</b>	<b>A</b>	<b>2</b>
<b>Product series:</b> HVG series HVS series										
<b>Product type:</b> 1P: Plug										
<b>Insert arrangement</b> (HVG series not include contact, order separately, P/N please refer to page 18): <b>203:</b> 3 X 32A <b>402:</b> 2 X (23A to 40A) + 2 X 7.5A <b>403:</b> 3 X (23A to 40A) + 2 X 7.5A <b>404:</b> 4 X (23A to 40A) + 2 X 7.5A <b>406:</b> 6 X (23A to 40A) + 2 X 7.5A <b>492:</b> 2 X (40A to 50A) + 2 X 7.5A										
<b>Contact type:</b> M: Male contact F: Female contact										
<b>Contact type:</b> C: Crimp version										
<b>Alternate keying positions &amp; Locking nut color:</b> NBK: Without, Black XRD: 270°, Red YGR: 315°, Green ZBL: 90°, Blue WYL: 45°, Yellow										
<b>Gland type:</b> /: Straight metal gland D: Straight plastic gland										
<b>Cable quantity:</b> 2 / 3 / 4 / 6										
<b>Cable type:</b> A: Core shielded cable B: Core unshielded cable D: Single unshielded wire										
<b>Cable section:</b> 2: 2.5mm <sup>2</sup> 4: 4mm <sup>2</sup> 6: 6mm <sup>2</sup>										

## ALTERNATE KEYING POSITIONS

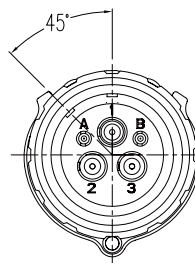
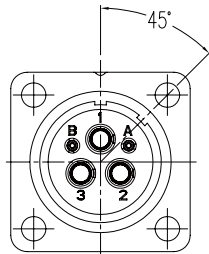
RECEPTACLE

STRAIGHT PLUG

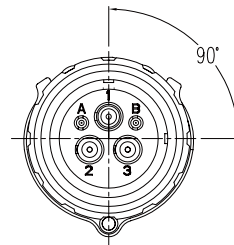
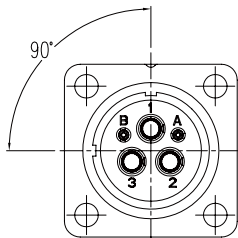
X: 270°



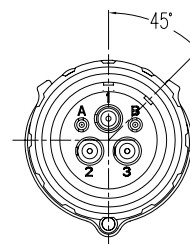
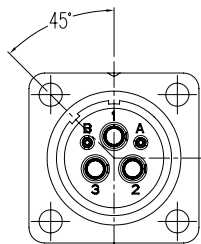
Y: 315°



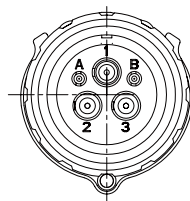
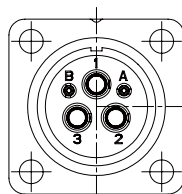
Z: 90°



W: 45°



N: NORMAL

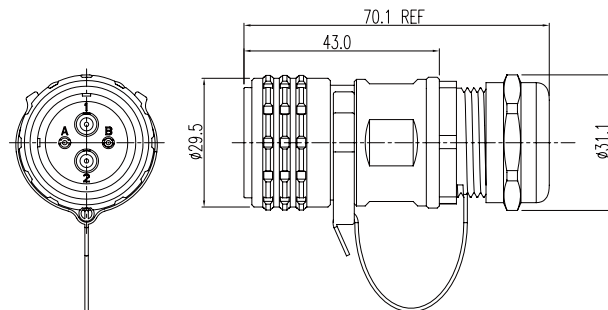
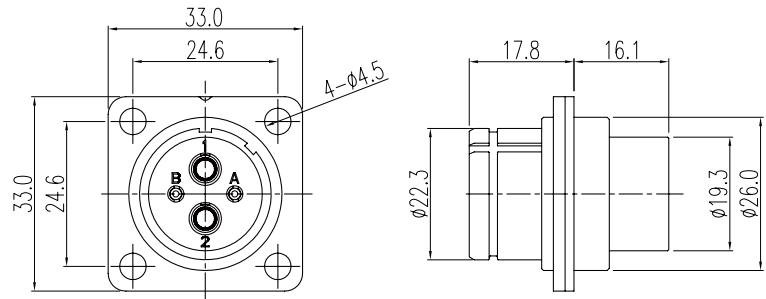


### REMARK

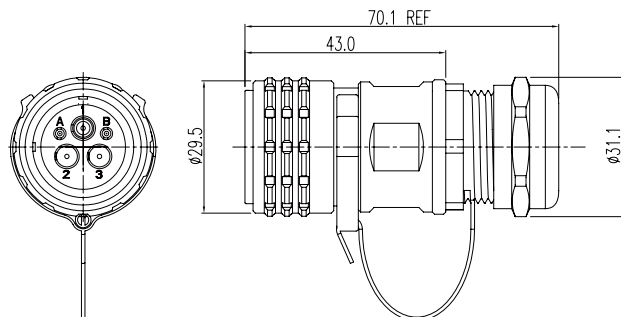
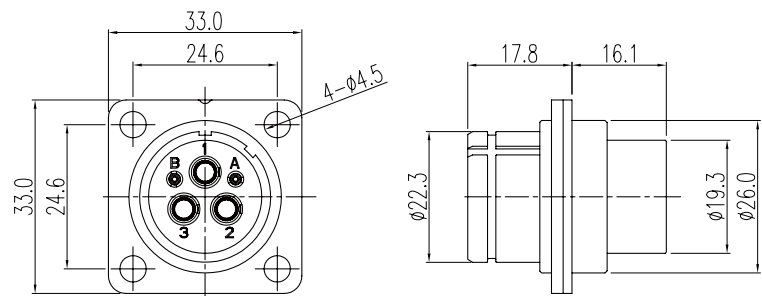
To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available.

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

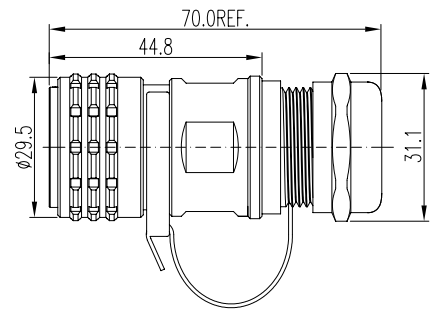
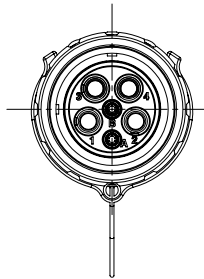
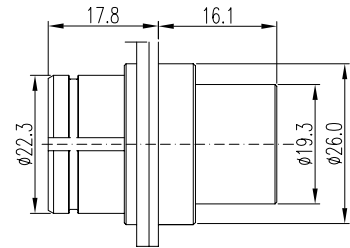
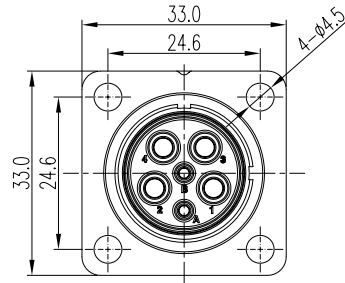
## RECEPTACLE AND PLUG: 402



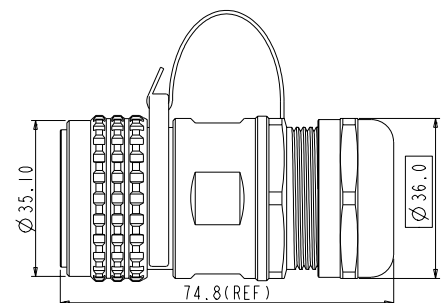
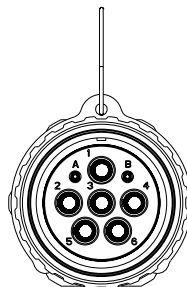
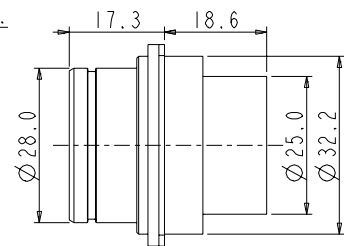
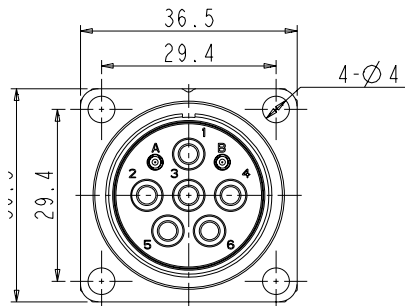
## RECEPTACLE AND PLUG: 403



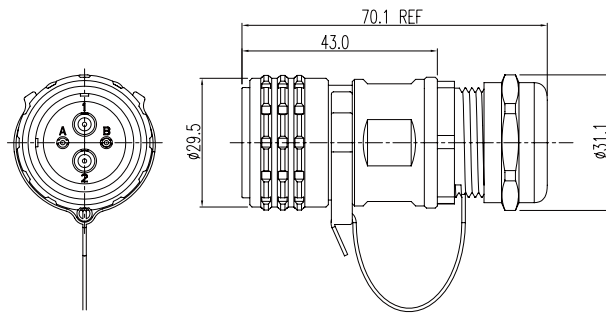
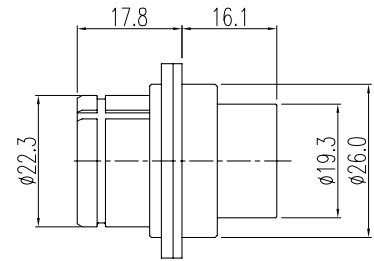
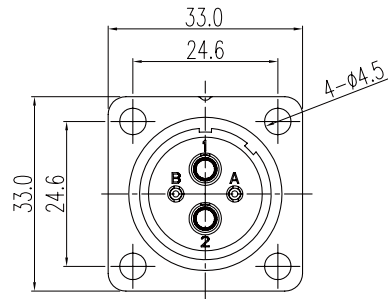
RECEPTACLE AND PLUG: 404



RECEPTACLE AND PLUG: 406



## RECEPTACLE AND PLUG: 492





## HVS SERIES



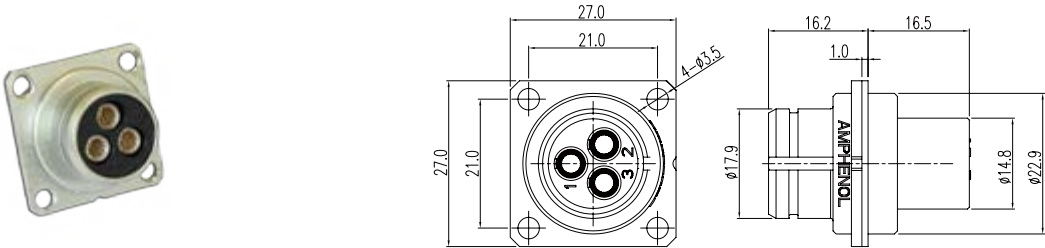
### KEY FEATURES

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

APPLICATIONS	
xEV 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 (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

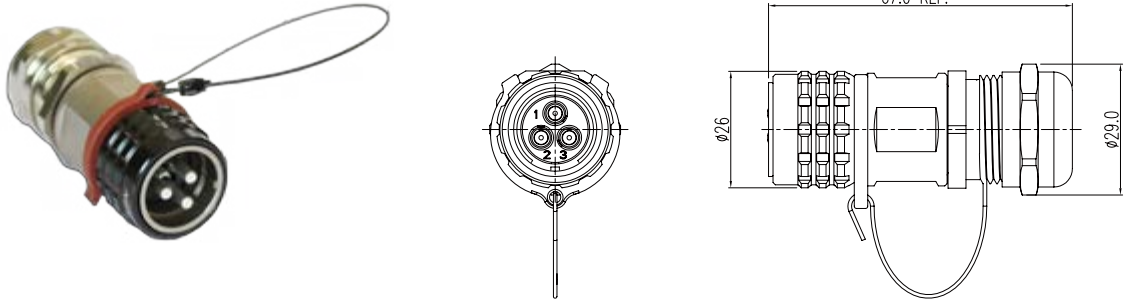
RECEPTACLE

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



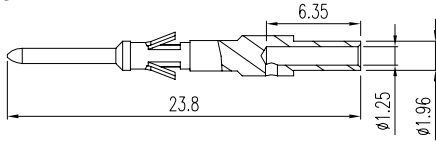
PLUG

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

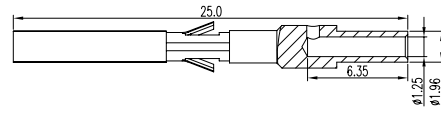


**CONTACTS** Notice: HVG series connectors are not include contact, please order separately.

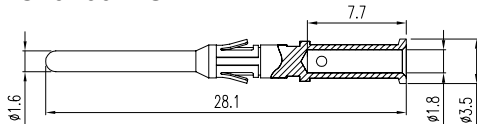
HVG20M1



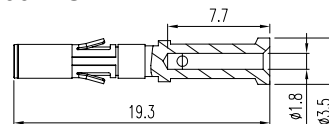
HVG20F1



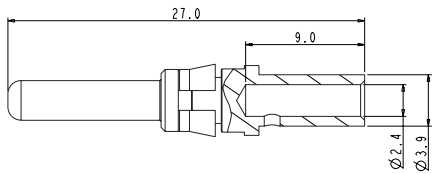
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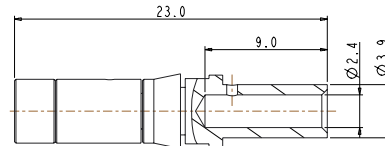
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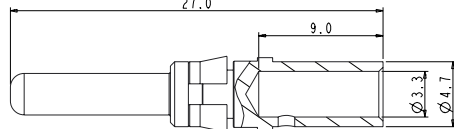
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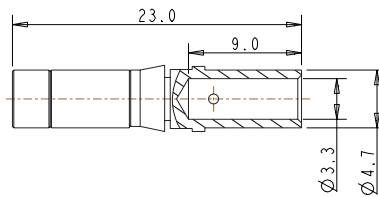
HVG30F2



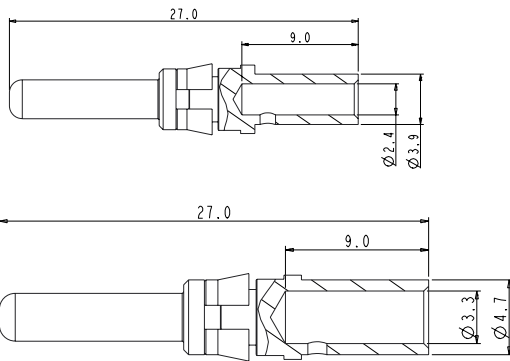
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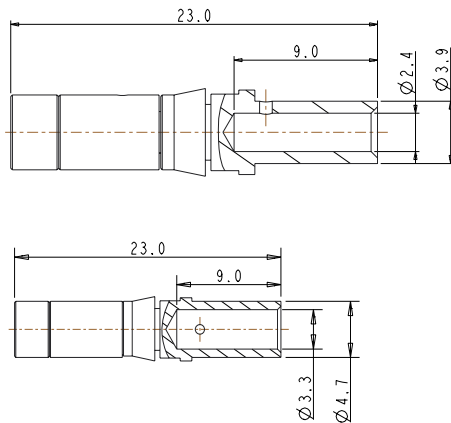
HVG30F4



HVG30M6



HVG30F6

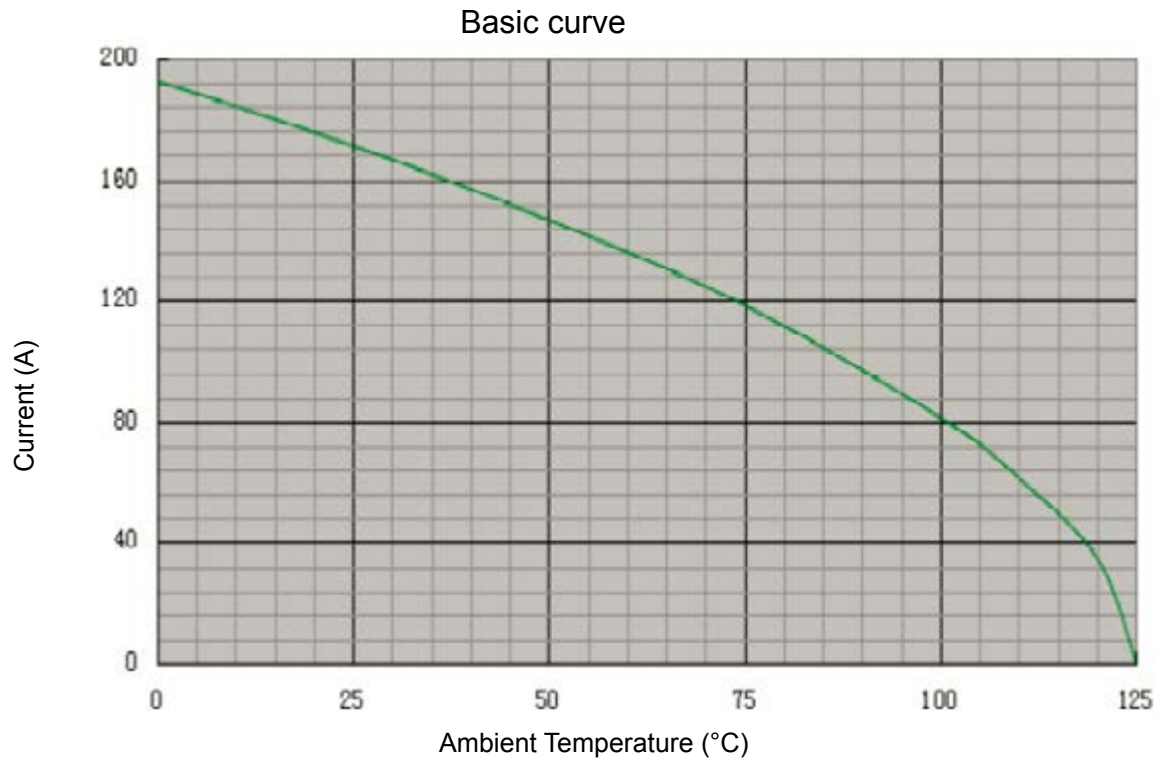


**PART NUMBER**

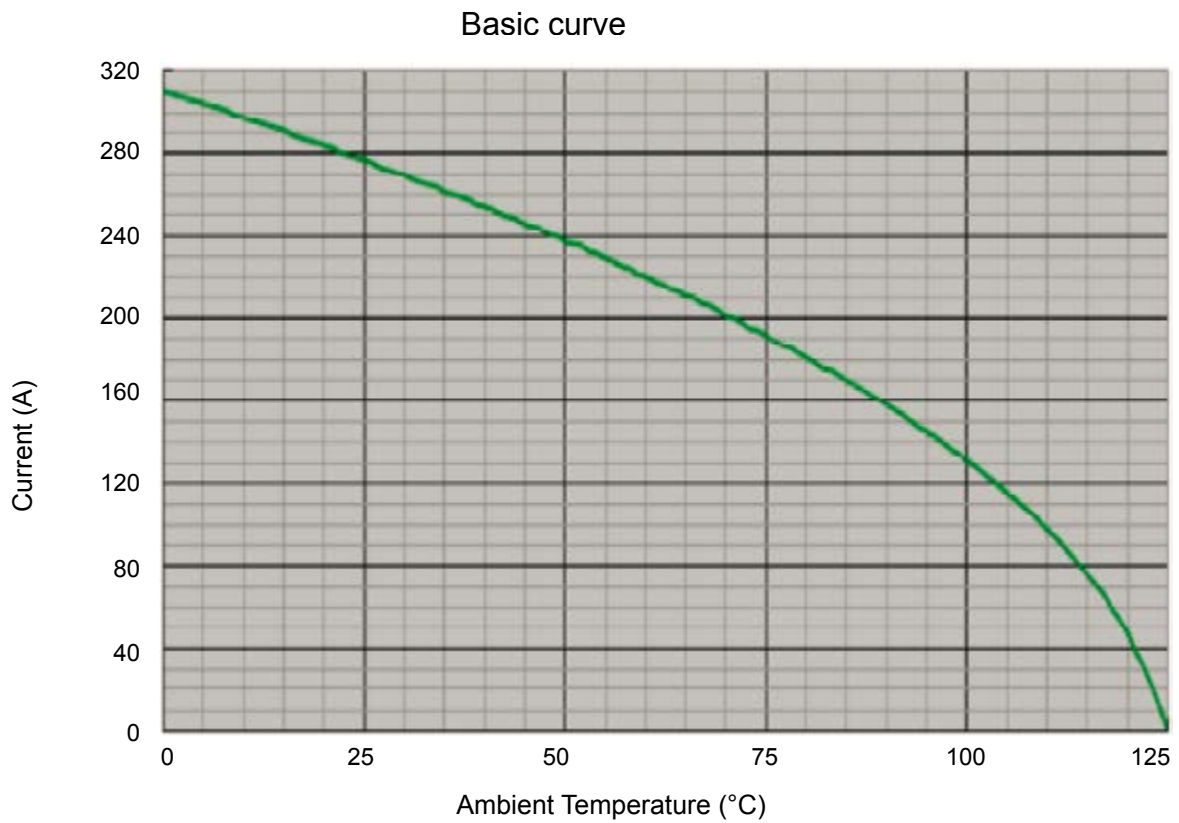
Contact type for connector	Contact size	Part number		Rated Current	For cable section	Extraction tool
		Pin	Socket			
Signal: HVG402/403/492	1.0mm	HVG20M1	HVG20F1	7.5A max	0.5 to 1.0 mm <sup>2</sup>	HV-TOOL-20R
Signal: HVG404/406	1.6mm	ASRC16PC001AU	ASRC16SC001AU	13A max	0.75 to 1.5 mm <sup>2</sup>	ASGTC-R-16S
Power: HVS, HVG402/403/404/406	3.0mm	HVG30M2	HVG30F2 / HVG30FS2	23A max	2.5 mm <sup>2</sup>	HV-TOOL-30R
Power: HVS HVG402/403/404/406	3.0mm	HVG30M4	HVG30F4 / HVG30FS4	40A max	4.0 mm <sup>2</sup>	HV-TOOL-30R
Power: HVG492	3.6mm	HVG30M6	HVG30F6	50A max	6.0 mm <sup>2</sup>	HV-TOOL-36R
		HVG30M10	HVG30F10		10.0 mm <sup>2</sup>	

## TEMPERATURE RISE CURVE

### HVBI R6

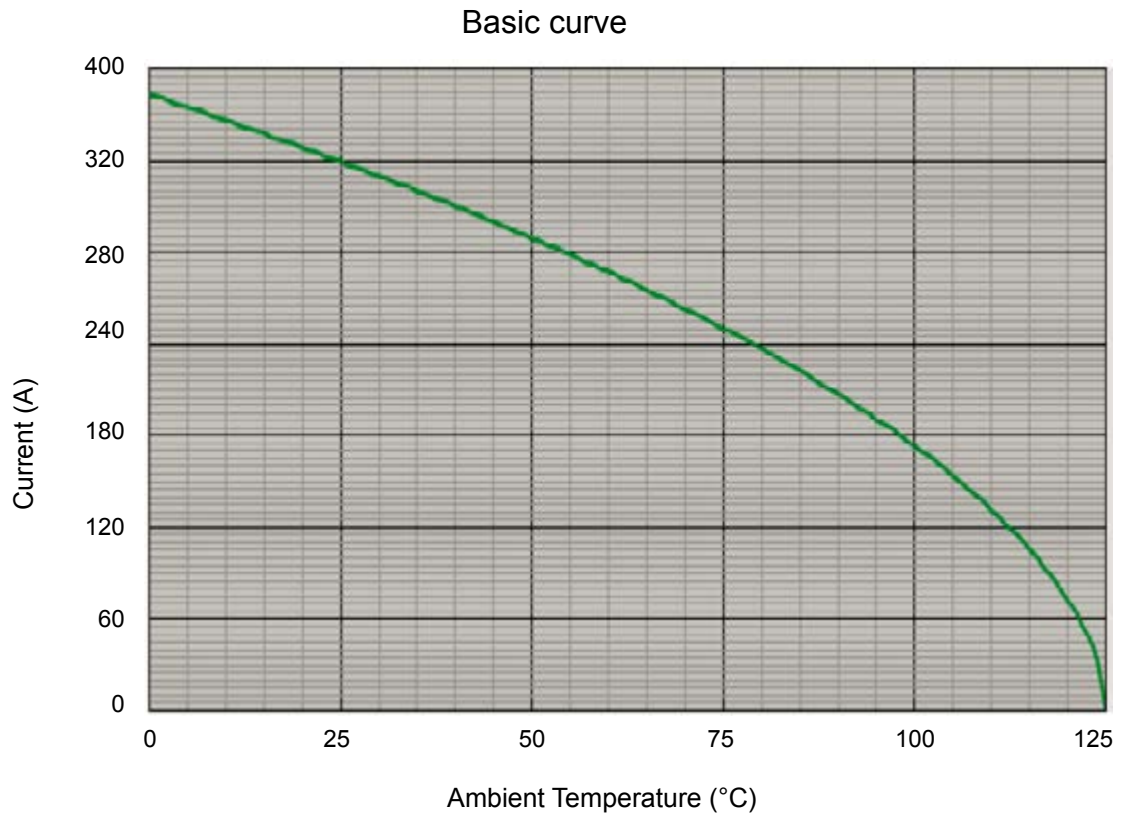


### HVBI R8



## TEMPERATURE RISE CURVE

HVBI R10



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